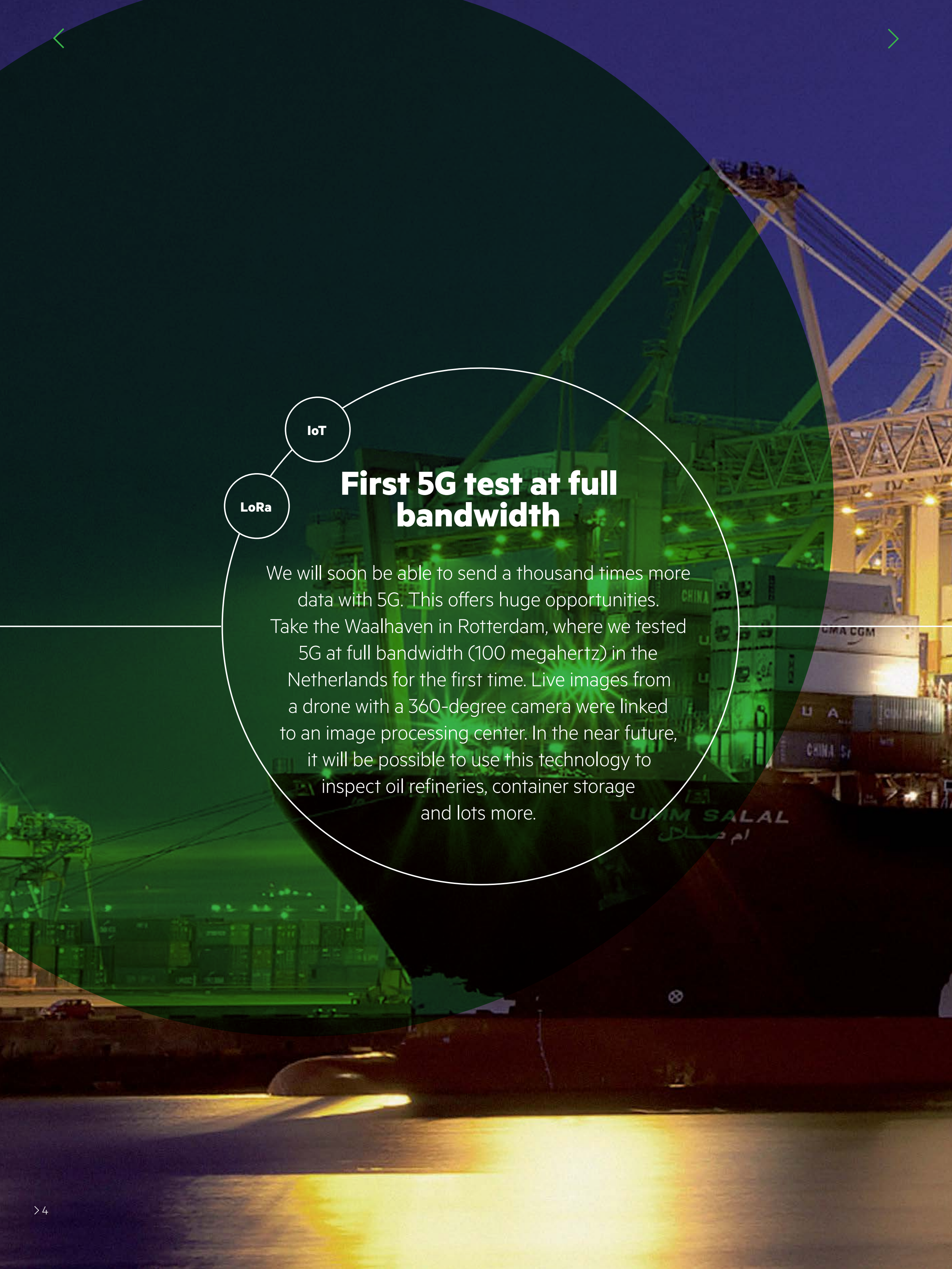
KPN

Integrated Annual Report 2018

The power of connection

Every day, new technologies offer new opportunities. KPN makes life more free, fun and easy by connecting people



IoT

LoRa

First 5G test at full bandwidth

We will soon be able to send a thousand times more data with 5G. This offers huge opportunities. Take the Waalhaven in Rotterdam, where we tested 5G at full bandwidth (100 megahertz) in the Netherlands for the first time. Live images from a drone with a 360-degree camera were linked to an image processing center. In the near future, it will be possible to use this technology to inspect oil refineries, container storage and lots more.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For an overview of our social and environmental figures (Appendices 6 and 7) and GRI Index (Appendix 8), please see www.kpn.com/annualreport.

For the Board of Management Report reference is made to pages 1 - 94, including Appendix 4.

In preparing this Integrated Annual Report, we have taken the principles of the International Integrated Reporting Council (IIRC) into account. For the CSR information included in this report, we followed the Global Reporting Initiative (GRI) Standards - Option: Comprehensive. We have detailed our reporting approach in Appendix 3.
KPN participates in several sustainability benchmarks, like the Dow Jones Sustainability Index (DJSI), CDP and the Transparency Benchmark (TB). Our ambition is to maintain a leading position in these benchmarks. This way, we keep improving our performance by comparing it with that of peers.

> Introduction by CEO Maximo Ibarra

At the heart of the connected world

Every day, new technologies are bringing new opportunities. For KPN and the Netherlands. And this is just the beginning.

Technologies such as 5G will soon enable companies in the port of Rotterdam to optimize manufacturing, better predict industrial maintenance and further improve safety. Among the life-changing technologies we are seeing are those that enable patients and healthcare specialists to exchange data, so that people who need care can stay in their home. The Internet of Things (IoT) is providing precision agriculture solutions, aligning sensors and drones, which results in less use of soil, water and pesticides. These technologies are creating a society in which people and devices are increasingly connected. In this society, connecting is our core mission. We want to be our customers' trusted companion by offering undisputed quality in access, service and customer experience.

For me, this year was also a new beginning, since I assumed the CEO role in April 2018. After an in-depth introduction to the company and a thorough analysis of its market position, we outlined an updated strategy for the future. I'm proud to be part of this great company, with its strong reputation, solid financial position, skilled people and global leadership in sustainability.

We are determined to become the undisputed quality leader in the Netherlands

From our store assistant to our webcare specialist, from our field engineer to our senior manager, our employees work hard – day in, day out – to make KPN the undisputed quality leader of the Netherlands. Our customer-centric and service-driven approach is underpinned by high customer satisfaction (NPS) in both Business and Consumer segments.

The Netherlands leads the way in the development and adoption of digital technologies, but there are undoubtedly challenges ahead. The Dutch telecommunications market is highly regulated, we face fierce competition and people expect excellent networks. Both consumers and businesses increasingly want converged propositions, over which they can be in full control. They are looking for one-stop-shop service delivery, a seamless connectivity experience and the highest quality products and services. This is further driven by the broader trends of IoT and cloud services. This evolving landscape means we need to be more flexible, improve our time to market and deliver innovation to our customers faster than ever.

To ensure KPN delivers growth again, we kickstarted several initiatives to shape our strategy for the period 2019-2021. Our ambition for the next three years – as announced in November 2018 – is to deliver organic sustainable growth of adjusted EBITDA and free cash flow. We are positioning KPN as a future-proof, high-quality, lean telco with strong premium consumer and business customer relations. To further strengthen our execution power, we now manage our operations through an Executive Committee. My main message is that we want to build the best converged smart infrastructure, focus on the best customer experience and profitable converged services and accelerate simplification and digitalization within the company.

We operate in a capital-intensive industry. As data usage continues to grow exponentially and the world becomes more and more connected, we need to invest in our core asset: infrastructure. In line with our ambition to have the best infrastructure in the country, we will accelerate the roll-out of Fiber to the Home. An additional 1 million households will be powered by KPN by the end of 2021. In doing so, we will connect more than 40% of Dutch households to fiber, the most future-proof technology. Also, business parks will be powered by KPN because we will improve access speed to them and deliver >100 Mbps to 70% of these parks by the end of 2019.

We will modernize our mobile network through a 5G-ready equipment upgrade. With the launch of four different 5G Field Labs, we are exploring, together with our customers and tech partners, the value of the new-generation mobile networks through a variety of use cases. Crucially, we will continue to invest in the development of our security requirements. We want to contribute to a safe digital society and make sure that our customers trust us to handle their data with care.

We want to build the best converged smart infrastructure, focus on the best customer experience and profitable converged services and accelerate simplification and digitalization within the company

Building the best converged smart infrastructure is key in what we want to achieve in both the Consumer segment and the Business segment. In the Consumer segment, our aim is to add another 300,000 households to our converged propositions and to have 70% of our postpaid base converged by the end of 2021. In the Business segment, our aim is to have 100% of our SME customers on KPN ÉÉN, our innovative and easily scalable OTT platform for fixed and mobile business communications by mid-2020. We will reduce our product portfolio in the Business segment with 50% by end of 2021, to be more efficient, to improve our time to market and to create more value. Furthermore, we want to transform our operations to be more lean and digital. Our aim is to grow profitable revenues by leveraging our leading market positions.

We must ensure that KPN is efficient and has lean operations. We must be super-fast because speed is key to success. Faster digitalization and automation, which are inherent to the

telecom industry, will lead to more organizational simplification and result in around EUR 350m net indirect opex savings over the period 2019–2021.
It is in this context and in the current competitive environment that we are rationalizing our brand portfolio and focusing on our strong KPN-brand. The KPN brand is ready to serve all customer groups in the various segments, from budget services to premium services.
To introduce the new strategy to our employees, I visited all KPN locations in the Netherlands towards the end of 2018. During these sessions, we gained ideas and received feedback from our employees. This is valuable because it's the people who make the difference in our business. Now that our strategy is clear, everyone will focus on executing it, which is the best recipe for success.

Doing business in a sustainable manner remains our top priority. In 2018, KPN was ranked third in the World Index of the Dow Jones Sustainability Index. By 2025, we plan to have circular operations of close to 100%. Our KPN Mooiste Contact Fonds, which sits at the heart of the company, celebrated its 10-year anniversary in 2018. The fund has, over the years, connected socially isolated people with our technologies and with more than 20,000 voluntary contributions from KPN employees.

I hope you enjoy reading this Integrated Annual Report. It offers insight into our achievements over the past year, our new strategic focus, segment performance and especially how we create value – for the company and for society. KPN has been the Netherlands' connectivity partner for more than a century. In that role, we will continue to innovate and invest in our strong network to create the future digital highway of the Netherlands. We want the country's households and businesses to be powered by KPN because we believe in the power of connection. Now and for decades to come.

We will continue to innovate and invest in our strong network to create the digital highway of the future


AJAX
PERRY

Amsterdam Zuidoost becoming a smart city

Together with the Municipality of Amsterdam, KPN is working on smart 5G applications in the area of the Johan Cruijff ArenA. We are testing technologies that make visitors to this area feel safer and more comfortable. Crowd control, for instance: thanks to artificial intelligence, which recognizes patterns on the basis of image, you can see where potential problems may arise at major events. And there are many more possibilities.

> Our main achievements

Delivering value through solid results

In 2018, we delivered a solid set of results in a dynamic environment. Most key figures show that we continue to deliver value in financial, commercial, operational and sustainable areas.

1 Based on continuing operations.
2 EBITDA adjusted for the impact of restructuring costs and incidentals. Reconciliations can be found in Appendix 1.
3 Free cash flow excluding Telefónica Deutschland dividend.
4 Second wave of Simplification program, realized end 2017 resp. end 2018 vs. end 2016.
5 Net operating profit less adjustments for taxes divided by capital employed.
6 Rebased to KPN's closing price of the last trading day of prior year.

Adjusted EBITDA[1, 2]

€ million

2,285 2017

2,303 2018

Adjusted EBITDA margin[1, 2]

€ million

39.7% 2017

40.8% 2018

Free cash flow[1, 3]

€ million

730 2017

804 2018

Capital expenditure[1]

€ million

1,131 2017

1,106 2018

Realized run-rate Capex and opex savings Simplification program[4]

€ million

~110 2017

~225 2018

Shareholder return

Return on capital employed[5]

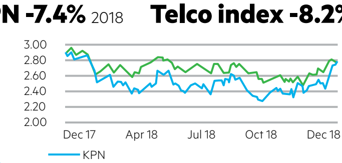
8.8% 2017 **8.9%** 2018

Regular dividend ordinary share

€ 11ct 2017 **€ 12ct** 2018

Total shareholder return (TSR)

KPN -7.4% 2018 **Telco index -8.2%** 2018



Energy consumption

In petajoules

Energy consumed by KPN
Estimated energy consumption savings by KPN customers[2]

3.382 2016
3.232 2017
3.234 2018

1.817 2016
1.926 2017
2.631 2018

Reputation[1]

RepTrak Pulse score

67.4 2016
70.5 2017
72.6 2018

Customer satisfaction

Net Promoter Score in The Netherlands

6 2016
8 2017
9 2018

Net Promoter Score in Consumer

10 2016
13 2017
14 2018

Net Promoter Score in Business

-3 2016
-1 2017
0 2018

Converged services

Households in fixed-mobile bundles[3]
Postpaid customers in fixed-mobile bundles

37% 2016
42% 2017
46% 2018

43% 2016
51% 2017
57% 2018

Transformation of operating platform

% SME base migrated from legacy services[4]

9% 2017
41% 2018

Network speed

Average 4G download speed mobile network

51Mbps 2016
58Mbps 2017
53Mbps 2018

Average maximum download speed broadband fixed

202Mbps 2017
221Mbps 2018

1 Figures are the fourth quarterly average, which is in line with NPS KPIs. See Appendix 3 for further details.
2 Estimated energy consumption saved by customers from using our IT solutions. See Appendix 3 for further details.
3 As percentage of broadband customers.
4 Percentage of SME customers migrated from traditional fixed-voice or legacy broadband services starting August 2017.

IoT

How a smart potato can save the world

To continue meeting the growing demand for food, we have to cultivate more with less land, less water and fewer pesticides. Difficult? Not if you ask a couple of the smart potato growers in the north of the Netherlands. Together we are testing the precision agriculture of the future, with sensors and drones that transmit data on the health of the fields and the crops, so the farmer knows exactly where he needs to fertilize or water the land.

> Review of the year

What we did in 2018

Company and business

- KPN agreed on divestment of its US-based subsidiary iBasis Inc. to Tofane Global.
- Maximo Ibarra succeeded Eelco Blok as CEO.
- KPN changed its management structure, including the Board of Management. To further strengthen KPN's execution power, KPN manages its operations now through an Executive Committee.
- Strategy update 2019-2021 announced with the aim to become undisputed quality leader.

Products and services

- KPN brand proclaimed 'Best all-in-one provider' on fiber and 'Best mobile provider' in the Netherlands by the Consumentenbond.
- KPN introduced the WiFi Tuner, an online tool that optimizes WiFi coverage in the home.
- KPN introduced new mobile subscriptions for small business customers.
- KPN passed the milestone of 2 million converged customers in Consumer in the third quarter.
- Number of iTV customers higher than ever.

Network and IT infrastructure

- KPN continued investing in its networks, infrastructure and underlying systems to improve the user experience.
- KPN increased the capacity and speed of the 4G mobile network by carrier aggregation by 2100 MHz band.
- KPN's LTE-M network was made available nationwide for IoT applications.
- KPN announced the intention to stop using its 3G network as of January 2022.
- With Sneller Internet Buitengebied (Faster Internet in Rural Areas) KPN boosted the internet speeds in designated rural areas by combining the fixed and mobile 4G network.

Innovations

- KPN and Delft University of Technology entered into a strategic partnership to develop new technology in the field of 5G, blockchain and artificial intelligence.
- KPN partnered in exploring the value of 5G in four different field labs.
- KPN Ventures continued investing in projects on cyber security, digital health and IoT.

Privacy and security

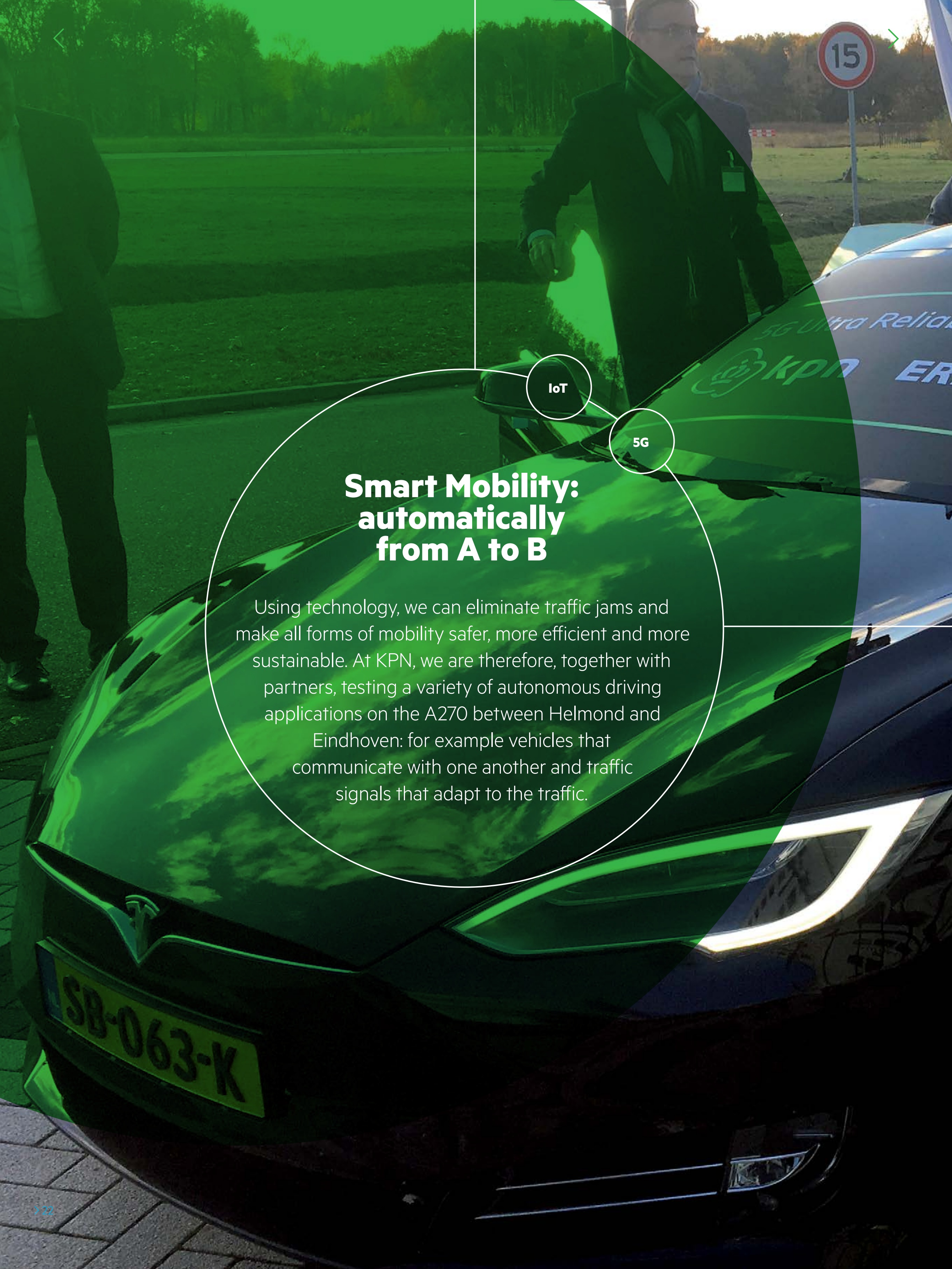
- KPN published the fifth edition of the European Cyber Security Perspectives.
- KPN's ethical hacker team became world champion at the Global Cyberlympics.

Society

- KPN and FutureNL taught children how to code and program using FutureNL learning materials with School of Code.
- KPN Mooiste Contact Fonds and the Papageno Foundation launched a music app for autistic children.
- KPN Circular Manifesto signed by 11 suppliers.
- Vereniging Bartiméus Sonneheerdt launched Scribit.tv to make online videos accessible to the blind and visually impaired with the help of KPN Mooiste Contact Fonds.

External recognition

- KPN won two Computable awards: 'Service Integrator of the Year' and 'Digital Transformation of the Year'.
- KPN listed for the seventh consecutive year on the World Index of the Dow Jones Sustainability Index (DJSI).
- KPN listed in the top 'SEP Europe's Corporate Startup Stars' for stimulating cooperation with startups.
- KPN's 'Besturing 2.0' project is awarded the 'Corporate Recognition Award' from the Institute of Management Accountants (IMA)..



IoT

5G

Smart Mobility: automatically from A to B

Using technology, we can eliminate traffic jams and make all forms of mobility safer, more efficient and more sustainable. At KPN, we are therefore, together with partners, testing a variety of autonomous driving applications on the A270 between Helmond and Eindhoven: for example vehicles that communicate with one another and traffic signals that adapt to the traffic.

ble Low Latency
ERICSSON
TU/e
5G Ultra Reliable Low Latency
RED BEE
kpn
ERICSSON
TEAM FAST
40 - 49

> Our purpose and the world around us

Understanding the impact of digitalization

Smart homes, chatbots, remote monitoring of embankments, precision farming and autonomous cars: our society is being transformed by digitalization and the implementation of new technologies. The world is becoming more and more connected. With our networks, we strive to provide secure, reliable and future-proof solutions. We enable people and 'things' to be interconnected. At the same time, we are working hard to become a circular telecommunications provider.

Digitalization comes with major interlinked trends that influence society

The world around us

More than ten years ago, the first smartphones were released, webshops were in their infancy and social media was still exotic. Nowadays there are self-driving cars on the road, robots vacuum our houses and drones inspect crops at farms.

Digital innovation is accelerating, driven by new technologies and an increasingly interconnected world. This is boosting economic growth, creating new value by opening up new possibilities and combinations. It is also helping to reduce our shared ecological footprint, making society more sustainable. Digitalization comes with major interlinked trends that influence society: the ability to interconnect, instant access to services and concerns about privacy and security.

The connected society

The first trend, and potentially the most influential, is the rapidly growing number of connected, data-generating devices, and the massive, continuously growing data streams resulting from them. Networks and technology need to be available to facilitate this growth in data traffic.

Instant high-quality demand

In a connected society, consumers and businesses expect to have a seamless connectivity experience. They also want instant access to services that provide immediate results at the highest possible standard. We call this the ‘service me now’ mentality.

Trust and ethics

Trust and ethics become more important as people become aware of the downsides of social media and other products and services that rely on monetizing big data and personal data. This is fueling concerns about privacy and security. People are looking for partners they can trust.

KPN in Dutch society

KPN operates at the center of a dynamic environment, helping to shape new business models and markets where technology interacts with societal trends.

As the Dutch incumbent, KPN has a natural bond with Dutch society that stretches back over a century. We are closely linked to the Netherlands in every way and in almost every sector. As Dutch society grows ever more dependent on IT and telecom services, the new services we deliver become more relevant, helping the economy and society to advance and become more sustainable. This includes providing crucial services for the police, defense force, transport and healthcare sector.

Our market position

The Dutch telecommunications market is mature and highly competitive. The Netherlands is one of the leading countries in telecom, with three converged players. Moreover, the mobile networks in the Netherlands are among the best networks in the world.

In today's market, there are two high-speed fixed access networks with nationwide coverage (KPN, VodafoneZiggo), three mobile network operators and numerous mobile virtual network operators (MVNO) exerting pressure on the mobile-only market. There is an accelerating shift towards fixed-mobile convergence, with rising expectations of in-home WiFi access quality. The business market is highly competitive and the traditional connectivity market is shrinking.

Acting on the changes in society is an important factor in the success of our business and in strengthening our market position as a leading supplier of IT services. Digitalization affects KPN at its core: our networks, interface with customers and operational processes. It holds great opportunities, particularly because KPN is a large player in the Dutch IT market. The following summary of our strengths, weaknesses, opportunities and threats (SWOT) provides a brief overview of the evaluation of our competitive position in the environment in which we operate.

Digitalization holds great opportunities for KPN as a large player in the Dutch IT market

Strengths

- Increased customer satisfaction demonstrated by a higher Net Promoter Score (NPS).
- Advanced converged telecommunication networks throughout the Netherlands to provide high-quality service.
- Trusted provider of critical communication services.
- Externally recognized for sustainability contribution, as illustrated by positive benchmark results.
- Very strong brand within the Dutch telecommunications and IT market.
- Strong competences in network security and cyber security to protect customer data.
- Attractive combination of bundled services and broad business and consumer market portfolio for fixed, mobile and IT services.
- Skilled and motivated employees.

Opportunities

- Digitalization of customer interactions offers opportunities to improve processes, but also to help customers to operate digitally.
- Through innovative partnerships, creating solutions to meet social challenges that come with urbanization, higher life expectancy and individualization.
- Leverage data and analytics capabilities to create value in the current business model and develop new business models.
- Technological developments in infrastructure, software and virtual networks and IoT may lead to better products and services.
- Ability to deliver the key enabling technology for the technology stimulus and demand pull.
- Exponential growth in data traffic makes us highly relevant.

Weaknesses

- Solid, but still too complex IT systems and processes.
- Extensive customized business market portfolio and processes for large enterprises.
- Lack of sufficient gender diversity, especially in middle management functions.
- Organizational chains are too long, resulting in high costs and slower time to market than desirable.
- Requirement to keep investment at high levels to maintain network quality.
- Dependency on large international suppliers.

Threats

- Fierce competition from international network providers and over-the-top (OTT) players.
- Confidentiality, integrity and availability of networks, systems or customer data increasingly under threat.
- New restrictive regulation in the EU and the Netherlands for telecommunication companies.
- Disruptive technologies and new business models that we need to adapt to.
- Challenging labor market for sufficient qualified staff.
- Dependency for telecommunications equipment on suppliers that arouse concerns regarding security, amongst other things, due to international geopolitical developments.
- Data growth and network expansions challenge our energy reduction targets.

> Our strategy and activities

Becoming the undisputed quality leader in the Netherlands

On the back of the 2016-2018 strategy - underpinned by the Simplify, Grow and Innovate pillars - we have built a stable and financially healthy KPN with increased customer satisfaction. KPN is active in a highly competitive environment. This requires a flexible organization that is capable of delivering a faster time to market and bringing innovation to its customers faster.

KPN is accelerating the execution of its strategy, positioning itself as a future-proof, high-quality, lean telco with premium consumer, business and wholesale customer relations.
KPN continues to invest in its infrastructure to become the undisputed quality leader in the Netherlands. KPN aims for organic and sustainable growth of adjusted EBITDA and free cash flow in 2019–2021, contributing to a progressive dividend and deleveraging.

Delivering organic sustainable growth by

Strategic priorities 2019-2021

Building the best converged smart infrastructure

Main pillars

- Acceleration of fiber roll-out
- Full mobile network modernization
- Moving to all-IP

Main goals

- +1 million FttH households by end 2021
- 100% 5G ready by end 2021
- ~45% of households at >1 Gbps
- ~70% of households at >200 Mbps
- ~50% virtualized network functions
- 100% all-IP by end 2021

Focusing on profitable growth segments

Main pillars

Consumer:
- Best household access and customer experience
- Growing converged customer base and product penetration
- Focus on delivering value

Business:
- Converged simplified product portfolio
- Transformation of operating platform
- Lean and digital operations

Main goals

Consumer:
- +300K converged households by end 2021
- 70% postpaid base converged in 2021

Business:
- Migrate 100% of SME base to KPN ÉÉN by mid 2020[1]
- Migrate 100% of LE base to KPN ÉÉN in 2020[1]
- Value over volume in LE & Corporate
- Stabilized end-to-end adj. EBITDA by mid 2020
- Reduce IT systems with 75% by 2021

Accelerating simplification and digitalization

Main pillars

- New multi-year opex reduction program
- Lean operating model
- Digital customer journeys
- Automated back-end tasks

Main goals

- ~€ 350 million net opex savings[2]
- From 20 to 2 converged IT stacks, one for consumer and one for business-to-business
- From 5 to 1 core networks
- Simplified end-to-end organization

1 Traditional fixed-voice and legacy broadband.
2 Indirect opex adjusted for the impact of restructuring costs and incidentals, savings compared to 31 December 2018.

Our core activities

Our core activities relate to providing fixed and mobile networks and IT infrastructure for rendering services to KPN's retail, business and wholesale customers in the Netherlands.

Building and maintaining the infrastructure

KPN builds and maintains its infrastructure in a continuous process with help from suppliers addressing coverage, capacity, speed, quality, continuity, and safety and privacy regulatory. Consequently, KPN's main investments and expenses are conducted to build and maintain its high quality infrastructure.

Delivering connectivity

We deliver connectivity services to end-users. We do this by making sure that we route calls, data and video streams between and towards the users of our networks in a reliable and secure manner, safeguarding high quality. For end-users, it's all about the quality of our core services.

Serving the customer

We serve our customers throughout the customer journey, taking care of all interaction between the customer and KPN for the duration of the relationship. We believe that our customers look for a one-stop-shop experience for integrated solutions and want us to simplify their life. We aim to serve our customers with the right products and the right customer experience.

Our services

Consumer

We are committed to offering KPN's retail customers a broad range of services in the areas of communication, information, entertainment and commercial services through single- and multi-play offerings. The services we offer across our different brands include fixed and mobile internet, TV and telephony.

Business

KPN offers its business customers (small, medium, large and corporate enterprises) a complete portfolio of services - from fixed and mobile telephony and internet to a range of end-to-end solutions in core connectivity and close-to-core IT services such as cloud services, security and workspace.

Wholesale

We provide connectivity solutions to KPN's wholesale partners via our fixed and mobile networks.

Read on page 85 how our strategy mitigates the risks that we face.

Our customers look for a one-stop-shop experience for integrated solutions

Our value creation model

Enabling people to be connected anytime, anywhere

Our capitals to operate

Purpose, ambition & business model

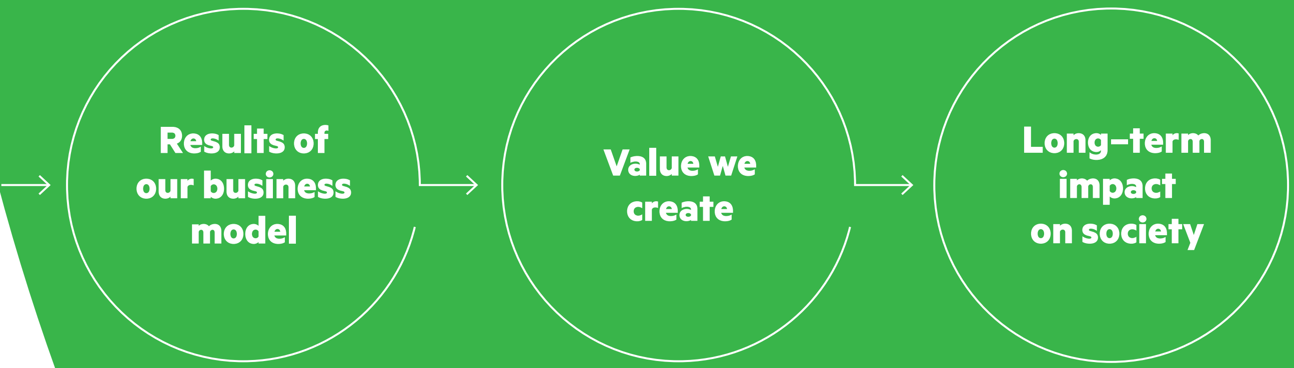
We are at the very heart of our customers' connected life. We are passionate about offering secure, reliable and future-proof networks and services, enabling people to be connected anytime, anywhere, whilst at the same time creating a more prosperous and cleaner world.

To properly understand the ways in which we impact society, we have visualized the value we create for our stakeholders as well as our impact on society, using the six capitals model of the International Integrated Reporting Council (IIRC).

We highlighted the assets that are most valuable to our business model and provide the necessary input for performing our core activities. We do this by following our strategy and ensuring responsible operations. The value we create for our stakeholders is the effect of our business models. With our business results and the effects on our stakeholders, we have an impact on society and on the realization of the UN's Sustainable Development Goals.

The chapters of our integrated Annual Report follow the structure of this value creation model, providing insights into our results and how this creates value for our stakeholders and society.

To investigate the topics that are most important from both our business perspective and our stakeholders' perspective, we perform a materiality assessment annually. Appendix 3 describes this process and presents the most material topics in the materiality matrix. Furthermore, the connectivity table in Appendix 2 shows how the most material topics are linked to our value creation model and how they are reported on in this report.



The value we create

Our capitals to operate

Customer base and demands

Partnerships and suppliers

Networks, IT infrastructure and mobile spectrum

Skilled and motivated workforce

Solid financial basis

Green energy

Purpose:
To connect everything and everybody in an **innovative, reliable** and **sustainable** way.

Ambition:
To be at the very heart of our customers' connected life, we want to be their trusted companion by offering best-in-class quality in terms of access, service and customer experience.

Strategic priorities
- Building the best converged smart infrastructure.
- Focusing on profitable growth segments.
- Accelerating simplification and digitalization.

Core activities:
- Invest in a future-proof secure, reliable, high-quality network.
- Offer high-quality products and services with a best-in-class customer experience.
- Automating and digitizing where possible, thereby simplifying IT stacks, networks and our organization.

How we operate:
Deliver end-to-end teamwork, speed in execution and first time right for our customers.

Governance

Compliance

Risk and control

Results of our business model

Products and services, that are simple, digital, flexible and move to converged

Converged smart infrastructure

Focused innovation and digitalization

Privacy and security

Sustainable employability

Environmental performance

Value we create

Customer value: Customer in control of secure, reliable and seamless connectivity

Shareholder value: Organic sustainable growth

Long–term impact on society

Future-proof connectivity — 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Social inclusion — 11 SUSTAINABLE CITIES AND COMMUNITIES

Environmental impact — 12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Healthcare of the future — 3 GOOD HEALTH AND WELL-BEING

> Our capitals to operate

Brief overview of our valuable assets

We allocate our six key assets or transform them to maximize the value we create for our organization, our stakeholders and society at large in the short and the long term.

Customer base and demands

We have a leading market position in the telecom industry, with commitments to millions of customers. Their demands constitute our license to operate.

	2018	2017
Consumer and Business postpaid customer base	**5,466k**	5,556k
Consumer and Business broadband customer base	**3,223k**	3,243k[1]
Interactive TV customer base	**2,168k**	2,116k
Fixed-mobile households	**1,343k**	1,253k
Wholesale fixed lines	**933k**	931k

1 Restated: including all Business broadband lines.

Partnerships and suppliers

We are always looking for new partnerships and partners to create new business with. We work with suppliers to improve our supply chain practices and with whom we work towards meeting our strategic goals.

	2018	2017
Partnering innovative startups & entrepreneurs	**~90**	~60
Partnering research centers & universities	**3**	2
KPN Ventures Fund size	**EUR 70 m**	EUR 70 m
#of critical suppliers	**53**	53

Networks, IT infrastructure and mobile spectrum

We continuously innovate and upgrade the capacity of our integrated network and IT infrastructure to serve KPN's consumer, business and wholesale customers.

	2018	2017
Capital expenditure	**EUR 1,106m**	EUR 1,131m
Average 4G download speed mobile network	**53Mbps**	58Mbps
Average maximum download speed broadband fixed	**221Mbps**	202Mbps

Solid financial basis

Capital providers provide us with the necessary capital for our capital-intensive business. We aim to realize a return on investment that outperforms the cost of capital while solidifying our financial position.

	2018	2017
Market capitalization	**EUR 10.8bn**	EUR 12.2bn
Net debt/EBITDA ratio	**2.5x**	2.6x
Credit rating Moody's/S&P/Fitch	**Baa3/BBB-/BBB**	Baa3/BBB-/BBB

Skilled and motivated workforce

Our people create and represent our company. With an engaged population of professionals, young talent, interim employees, our workforce is equipped to anticipate changing market needs and offer maximum added value.

	2018	2017[1]
Full-time domestic personnel	**12,412**	12,985
Full-time personnel abroad	**19**	19
Average training cost in EUR per FTE	**1,895**	1,517
Employee score for engagement	**77%**	80%

1 Restated: reclassification of iBasis as discontinued operations.

Green energy

We believe that sustainable business is better business. We are climate-neutral for our own operations and we use 100% green electricity.

	2018	2017
Green electricity consumption	**100%**	100%
Energy consumption	**3.234PJ**	3.232PJ

5G

AR

The eyes of a specialist always on hand

Imagine that an accident has happened on a country road. The ambulance gets there within five minutes and has exactly the right medical specialist on board to treat the injuries suffered. Impossible? Not if there is a way of allowing the specialist at the hospital to watch through the eyes of the paramedic. We are testing remote medical assistance with augmented reality and 5G, in collaboration with the Burn Centre at Martini Hospital and Ambulancezorg Nederland. This way, we can use expertise from a distance and the hospital knows even better what to prepare for.

› The value we create for stakeholders

Customer value

KPI	Result 2018	Result 2017
NPS NL	9	8
NPS Business	0	-1
NPS Consumer	14	13
NPS KPN Fixed-Mobile	25	25

Customer experience

We believe that sustainable customer value is created by building a happy and loyal customer base. Satisfied and loyal customers have an increased customer lifetime, take more services and provide word-of-mouth advertising.
To achieve this, it is increasingly important to create memorable experiences.

KPN uses Net Promoter Score (NPS) as a measure of the satisfaction of our customers and as an indicator of their loyalty. We improved our NPS in 2018 again, in both the Consumer and Business markets. We did not completely meet our NPS targets in 2018, due to setbacks in the last quarter in one of the service channels, the performance of iTV and the migration of Digitenne. In line with the changed management structure, as of 2019 only the NPS scores of Consumer and Business will be reported.

Understanding our customers

Our customers' expectations are not only being determined by their experience of the telecommunications industry. Previous experiences of other industries set the bar for experience expectations with KPN. It is important to understand what drives our customers, what is important in their lives, what role can KPN play and how do they perceive our services? For this deep level of customer understanding, we use various types of customer research.

- In our Experience Lab, we interview customers and observe customers' behavior to determine their needs and expectations, to test prototypes and to validate solutions. In 2018, we conducted about 200 Experience Lab experiments. In one of these experiments, we tested Voice Response System (VRS). We then introduced VRS in our customer service approach later in the year, allowing customers to ask their question right away instead of having to go through a selection menu.
- We continuously gather customer feedback on important customer journeys and touchpoints. In 2018, about 2 million customers responded to our surveys with valuable feedback which we use to improve customer experience. For example, we established a customer service team with a wide variety of expert knowledge to increase the pace of solving and addressing complaints.
- In 2019, we will continue to engage with our customer community to co-create valuable products, services and experiences.

Customer journey design

To deliver great customer experience, we design optimal customer journeys. New products and services are designed from scratch to match the intended customer journey. The desired customer experience is determined for target customer groups, e.g. for consumers and large corporate enterprises.

An important aspect is fair communication. Honest and clear communication is a vital aspect of all journey designs we deliver. We design with full transparency in mind, so our customers can make the right decisions. This motivates us to deliver on our promises.

In 2018, we introduced the WiFi Tuner, which facilitates increased in-home WiFi performance. Our customers increasingly have a > 50 Mbit wireless connection at home. Other key journey (re-)designs in 2018 were fiber roll-out, mobile subscription renewal and privacy & consent.

Alignment on delivering the best possible experience

We can only deliver the best possible customer experience when all our employees are aligned on what that experience should be and understand how to realize this. KPN eXperience is an initiative that engages KPN colleagues in various events, workshops and exercises. These help to boost maximum employee engagement for showing customer centric behavior. Over 350 KPN employees are currently involved in KPN eXperience as change agent. They inspire and challenge their work environment to become an ever-more customer-centric KPN. In 2018, we launched the 'JIJ'-campagne (YOU campaign) to underline customer impact and the importance of every single KPN employee in this.

Reputation & customer loyalty

2018 was a milestone year for KPN reputationally. It started with KPN elevating to number 2 in the industry-adjusted ranking of the 30 largest publicly traded companies in the Netherlands. In addition, the Dutch general public gave KPN a RepTrak Pulse score of 72.6. The year closed with our first ever six-month period of Pulse scores in the 70s.

Underlying these developments, KPN saw increased public appreciation of the qualities and behaviors in the RepTrak study which the Board of Management has identified as the most essential, reputationally and strategically.

Our impact on society

Including people who have difficulties fulfilling payments

KPN is still an active member of the coalition of creditors that is looking for solutions to help the growing number of customers with payment arrears and debts. We intend to sign a covenant with the NVVK (the Netherlands' association for debt counseling), resulting in a smoother process for people in debt to get the right support from KPN.

Including children by helping them to be safe online

Our website includes information to help parents better understand the online life of their children. In 2018, we posted items on the use of mobile phones, safety online, cyberbullying and understanding the games children play online. This awareness campaign is one of the initiatives which fits the KPN commitments in the Alliance. The Alliance is a joint initiative of The European Commission and ICT and media companies, NGOs and Unicef to better protect minors online.

Including elderly people who want to live at home longer in a safe way

With KPN Vitaal Thuis, we provide elderly people living on their own with a small number of motion sensors that signal their daily activities at home. This gives their informal caregivers a peace of mind and the possibility to keep an eye on things when they are not there. Consequently, the elderly may live independently and safely at home for a longer period of time.

Dementia-friendly stores

Since people are getting older, the number of dementia diagnoses is also increasing. Because we want to serve these customers in the best way we can, we invested in online training for our employees so that our stores are dementia-friendly. At the end of 2018, 91% of our stores are certified.

Sponsorship

Sports sponsorship

Speed skating

As the main sponsor of Dutch speed skating, KPN facilitated the Coolest Ice Rink of the Netherlands during the 2018 Winter Olympics for Dutch skating fans and customers. Together with Dutch Olympic Champion Sven Kramer, KPN developed a speed skating campaign to attract children to the sport and teach them to skate. In the Olympic Stadium in Amsterdam, KPN also celebrated 125 years of Dutch speed

> The value we create for stakeholders

skating history with the World Allround Speed Skating Championships. With our partner the Rijksmuseum, KPN put together a special exhibition about skating history and 40 former speed skating champions posed together in front of Rembrandt's world-famous The Night Watch. We decided to terminate our sponsorship of the Dutch Olympic/Paralympic team as of 2019.

Soccer
KPN is the proud sponsor of the Royal Dutch Football Association (KNVB) and the Dutch Premier League (Eredivisie). As soccer is one of the most popular sports in the Netherlands, KPN likes to associate itself with the sport. The goals of the partnerships are to increase brand preference and awareness, NPS, to upsell and cross-sell KPN products and services and to promote KPN's main partnership with the Dutch Eredivisie and Fox Sports.

TEAMKPN Sportfonds
Not all national team sports get the same opportunities, despite some great achievements. The TEAMKPN Sportfonds has been set up especially to support promising teams in need of a helping hand. This support of teams with limited resources, like the national men's volleyball team, means they can keep their Olympic dream alive.

Arts and culture

KPN main sponsor of the Rijksmuseum
The collection of the Netherlands' most important museum is a source of pride and can be seen as a national treasure. We, as the museum's main sponsor, contribute to making the Rijksmuseum's artwork accessible to everyone in the Netherlands, both at the museum and digitally. In 2018, Rijksmuseum and KPN launched the renewed Rijks app that provides guided tours through the museum and includes high-resolution images of the entire collection. Together with partner Samsung, KPN launched a campaign for the Samsung Galaxy S9 Rijksmuseum Limited Edition, including a Rembrandt's The Night Watch themed smart cover and free access to more than 600,000 works of art through the Rijks app.

The Royal Concertgebouw
Music connects people. That's why we support the Royal Concertgebouw in Amsterdam with our IT products and services. Via the KPN Mooiste Contact Fonds, we also help vulnerable groups in society get acquainted with classical music.

Museum Boijmans Van Beuningen
KPN is proud sponsor of the Depot Boijmans Van Beuningen in Rotterdam, of which construction started in 2017. This building will not only store the museums' artworks during the construction, visitors will also be able to view them here. The top pieces from the KPN art collection will also be housed in this special building. The expected opening is in 2020.

KPN Mooiste Contact Fonds

Connecting people for 10 years
Loneliness is a major social problem in the Netherlands, as more than one million Dutch adults feel lonely. This issue is not an easy one to discuss or to solve. With the KPN Mooiste Contactfonds, KPN has been supporting vulnerable groups dealing with loneliness since 2007 by funding a great number of projects in cooperation with NGOs. The foundation receives the help of KPN employees, our IT resources and financial support. In 2018, we received 1,766 voluntary contributions to our foundation..

To celebrate the 10th anniversary of the foundation KPN launched an integrated campaign in September 2017 to raise awareness about loneliness in the Netherlands. The anniversary was a central theme during the Rijksmuseum summit, the annual relationship event of our CEO. Other initiatives during the lustrum year 2017-2018 included our project KlasseContact and the KPN Mooiste Contact Fonds Jubilee Tour for lonely elderly people. We also made a film in 2017 to thank all our social partners, beneficiaries and volunteers. The real beneficiaries of the foundation played a key role in this film. The foundation's official mascot Maatje also played a key role during the anniversary celebrations. All these activities resulted in a higher awareness of KPN's social role, which led to a higher appreciation of our brand and reputation among our stakeholders.

> The value we create for stakeholders

Shareholder value

We delivered on our 2018 outlook: adjusted EBITDA grew with 0.8% y-on-y, Capex was € 1.1 billion and free cash flow was up 10% year-on-year reaching € 804 million. In 2018, we saw significant growth in our converged customer base, resulting in higher customer satisfaction and lower churn.

KPI	Result 2018	Result 2017 (Restated)
Adjusted EBITDA	**€ 2,303m**	€ 2,285m
Capex	**€ 1,106m**	€ 1,131m
Free cash flow (excl. TEFD dividend)	**€ 804m**	€ 730m

Financial review

KPN's focus on value and convergence further strengthened its position as the leading converged operator in the Netherlands. Increasing fixed-mobile penetration, as a result of a targeted household approach, is delivering higher customer satisfaction and lower churn.

Revenue and other income

Adjusted revenues and other income were 1.9% (EUR 111m) lower y-on-y in 2018. Residential revenues increased by 0.9% compared to 2017. KPN focused on strengthening household relationships through its continued focus and convergence. This was visible in the increased fixed-mobile penetration among broadband customers and more SIMs per household. Mobile service revenues declined 6.1% y-on-y, driven by regulation and continued price pressure on the mobile market.

Adjusted revenues in Business declined 1.9% y-on-y in 2018. Growth in Professional Services and IT services was offset by lower revenues from traditional single-play services and continued mobile price pressure.

KPN continues to upgrade customers to improved access speeds and focuses on a simplified product portfolio with converged services on the KPN ÉÉN platform. This allows for transformation of the operating platform with lean and digital operations. Furthermore, KPN will have a clear value-over-volume approach and focus on profitable growth.

Revenues from Communication Services declined 7.9% y-on-y in 2018, mainly driven by lower revenues from fixed-voice (-13% y-on-y) and lower Mobile service revenues (-6.3% y-on-y). Over the past 12 months, KPN's M2M base grew by 1.3m SIMs to ~5.0m at the end of December 2018. Furthermore, KPN continues to add customers to its fully integrated KPN Things platform.

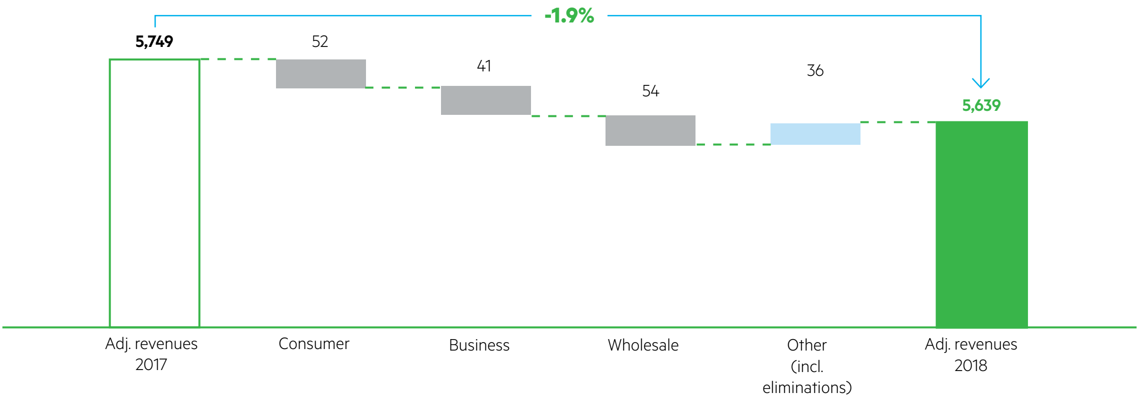
Revenues from IT Services increased 12% y-on-y in 2018, mainly driven by growth in security and cloud services. Revenues from Professional Services & Consultancy increased by 8.8% y-on-y, supported by additional project-based work in 2018.

In Wholesale, adjusted revenues decreased by 8.0% y-on-y in 2018, mainly due to lower regulated tariffs (MTA/FTA).

> The value we create for stakeholders

Adjusted revenues

in € million



In 2018, revenue was not impacted by incidentals. In 2017, the negative impact of incidentals (EUR 7m) related to revenue-related provisions in Wholesale.

Adjusted EBITDA

in € million

1 Adjusted EBITDA margin

Adjusted EBITDA increased by 0.8% (EUR 18m) y-on-y. Lower revenues were offset by ongoing savings from simplification and digitalization of services.
Cost of goods and services were positively impacted by lower traffic costs compared to 2017.

Due to simplification and digitalization initiatives, IT/TI costs declined 10% y-on-y in 2018. Personnel expenses were higher in 2018 compared to last year due to the impact from a new collective labor agreement. Other operating expenses were 4.4% lower y-on-y and benefitted mainly from less costs related to billing & collection and housing & facilities.

EBITDA was impacted by restructuring costs of EUR 102m (2017: EUR 86m). The net negative impact of incidentals in 2018 was EUR 16m (2017: EUR 29m net negative impact). The adjusted EBITDA margin increased to 40.8% (2017: 39.7%), supported by a strong cost focus in all areas of the business.

For information on financial and operational performance per segment, see Note 3 to the Financial Statements.

Operating profit

Group operating profit (EBIT) increased 4.4% y-on-y to EUR 789m in 2018. The increase was mainly driven by lower depreciation charges and higher adjusted EBITDA, partly offset by higher restructuring charges.

Financial income and expenses

Net finance expenses increased 7.9% in 2018 to EUR 267m. The EUR 20m decrease in finance expenses, mainly as a result from swapping the 2025/2028 bonds to a floating interest, was offset by the EUR 16m lower dividends received on KPN's stake in Telefónica Deutschland and other lower financial results (2017 included a EUR 30m gain recognized on the sale of our stake in Tecnocom).

Income taxes

In 2018, KPN recognized a tax expense of EUR 233m (2017: EUR 119m). KPN's effective tax rate for 2018 is 44.6% (2017: 23.4%) mainly due to a one-off EUR 107m revaluation of KPN's deferred tax asset driven by the lower corporate tax rate in the Netherlands (22.55% as of 2020 and 20.5% as of 2021). Excluding the one-off revaluation of KPN's deferred tax asset, the effective tax rate would have been ~23%. KPN continues to qualify as an innovative company and therefore benefits from the innovation box tax regime, a facility under Dutch corporate income tax law whereby profits attributable to innovation are taxed at an effective rate of 7%. For 2019, the effective tax rate is expected to continue to be ~23%. Due to the Dutch tax rate change, this rate is expected to reduce further to ~22% in 2020. See Note 8 to the Consolidated Financial Statements for further information on KPN's tax position.

Net profit

Net profit for 2018 (continuing operations) decreased by EUR 109m to EUR 280m, driven by a one-off revaluation of KPN's deferred tax asset. The result from discontinued operations (EUR -10m) comprises the result of iBasis (EUR -7m) and the unwinding of remaining positions related to BASE Company (EUR -9m) and E-Plus (EUR 6m).

Disposal group held for sale: iBasis

On 7 March 2018, KPN announced that it had reached an agreement to sell iBasis to Tofane Global. Therefore, KPN has accounted for iBasis as a discontinued operations since that date. See Notes 3 and 15 to the Financial Statements for further information.

Restatement of 2017 financial information

In 2018, KPN applied IFRS 9 'Financial Instruments' and IFRS 15 'Revenue from Contracts with Customers' for the first time. The 2017 financial information has been restated for comparison purposes.

The main impact of IFRS 15 is:

- Allocation of revenue to the handsets and recognition of revenue at delivery of the handsets under IFRS 15, whereas under the previous accounting policies revenue was recognized up to the non-contingent cash received upfront.
- Revenue for variable considerations, including revenue related to disputes, was recognized when it was probable that these would flow to the company. Under IFRS 15 such revenue is only recognized when this is highly probable, resulting in less revenue recognized. As a consequence, such revenue, although invoiced, is recognized later when this higher threshold is met.

A summary of the impact of IFRS 15 on equity and profit in 2017 is as follows (in € million):

	Equity at 1 January 2017	Profit for the year 2017	Equity at 31 December 2017
Allocation of revenue to handsets under IFRS 15	+304	-62	+242
Revenue for variable considerations not recognized under IFRS 15	-69	-47	-116
Other	+50	-5	+45
Tax impact (net)	-63	+21	-42
Total	**+222**	**-92**	**+129**

Under IFRS 9, an additional provision for expected credit losses is recognized for trade receivables not yet overdue and for contract assets recognized under IFRS 15, which mainly relates to the recognition of handset revenue. The impact of IFRS 9 on equity at 1 January 2017 and 31 December 2017 is an increase of EUR 5m after tax. Pages 119 to 123 provide a detailed description of the impact of IFRS 9 and IFRS 15 on the Consolidated Statement of Profit or Loss and Consolidated Statement of Financial Position in 2017.

Free cash flow

Free cash flow (FCF) for the full year 2018 of EUR 804m was EUR 74m (+10%) higher y-on-y, excluding the EUR 54m dividend received from Telefónica Deutschland (2017: EUR 70m). The increase was mainly driven by EUR 41m less interest paid, EUR 25m lower capex and EUR 17m higher EBITDA.

› The value we create for stakeholders

Solid financial position

Net debt to EBITDA

Net debt amounted to EUR 5.9bn at the end of 2018, a decrease of EUR 0.1bn compared to the end of 2017. The decrease is mainly driven by retained cash flow and proceeds from selling Telefónica Deutschland shares, partially offset by lower hybrid equity credit due to the redemption of the EUR 1.1bn hybrid bond.

KPN remains committed to an investment grade credit profile and aims for a net debt to EBITDA ratio of <2.5x in the medium term. As of 31 December 2018, the net debt to EBITDA ratio was 2.5x (2017: 2.6x). This includes the equity credit on the hybrid bonds representing 0.2x net debt to EBITDA. The average coupon on senior bonds declined y-on-y to 3.8% (2017: 3.9%), mainly due to an adjustment of the interest duration of KPN's bond portfolio.

Capital allocation and shareholder remuneration

Over the last few years, KPN has invested significantly in its network infrastructure, products and customers, resulting in high-quality fixed and mobile networks and improved customer satisfaction ratings across all segments. KPN will continue to focus on improving the customer experience by further investing in the capacity, reliability and stability of its integrated network. KPN generates FCF (after capital expenditure), which supports a progressive regular dividend and deleveraging.

KPN intends to pay a regular dividend per share of EUR 12.0ct in respect of 2018, which is subject to shareholder approval at the Annual General Meeting of Shareholders on 10 April 2019. The provisional ex-dividend date for the final dividend payment of EUR 8.0ct per share is 12 April 2019 and the provisional payment date is 18 April 2019.

At the end of 2018, KPN owned a 4.4% stake in Telefónica Deutschland, which provides KPN with additional financial flexibility and is treated as a financial investment.

Outlook 2019 (continuing operations)

- Adjusted EBITDA: in line with 2018
- Capex: EUR 1.1bn
- Free cash flow (excluding TEFD dividend): front-end loaded restructuring charges leading to incidentally lower FCF compared with 2018
- Regular dividend per share: EUR 12.5ct.

2019-2021 ambitions

- Adjusted EBITDA: organic growth
- Capex: stable at EUR 1.1bn annually
- Free cash flow (excluding TEFD dividend): three-year mid-single digit CAGR[1] driven by EBITDA growth
- Progressive dividend, supported by FCF

1 Three year Compound Annual Growth Rate calculated from the end of 2018 to the end of 2021.

Tax

The overall tax position and optimal use of subsidy opportunities is managed by KPN's Corporate Tax Department, whereby KPN adheres to its Tax Strategy and Policy (see ir.kpn.com).

It is important to KPN to create sufficient tax awareness throughout the organization. KPN regularly organizes meetings, knowledge updates and trainings, to ensure employees act with integrity and adhere to KPN's tax strategy and policy.

In line with the Tax Strategy and Policy, KPN's Tax Control Framework (TCF) is continuously monitored and optimized. A cornerstone of the TCF is our long-lasting covenant with the Dutch tax authorities to self-assess and transparently discuss KPN's current and potential future tax issues. This covenant is based on mutual trust and transparency.

In 2018, the following main developments and projects were relevant to KPN from a tax perspective:

- Changed Dutch corporate income tax rates; for the years 2019, 2020 and 2021 a gradual change in corporate income tax rates has been enacted which impacts the valuation of our deferred tax asset (see page 138).
- VAT calculation methodology regarding certain mobile consumer propositions; the introduction of new mobile consumer propositions in August 2016 led to discussions with the Dutch tax authorities (see also page 122).
- IFRS 15 and IFRS 9 restatement (see page 118-123); the change of accounting of our mobile propositions could lead to a tax impact which is currently under discussion with the Dutch tax authorities. The expected outcome of the discussion is already included in the company's tax position.
- Sale of iBasis; the major part of the US tax provisioning is booked as discontinued (see Notes 3 and 15).
- Foreign tax compliance; a review of tax returns filed for a foreign subsidiary led to corrective actions and filing of adjusted tax returns for the years 2014-2016.
- Decrease of the current tax paid; the consolidation of two fiscal unities for Dutch corporate income tax purposes led to a reduction of taxes paid.

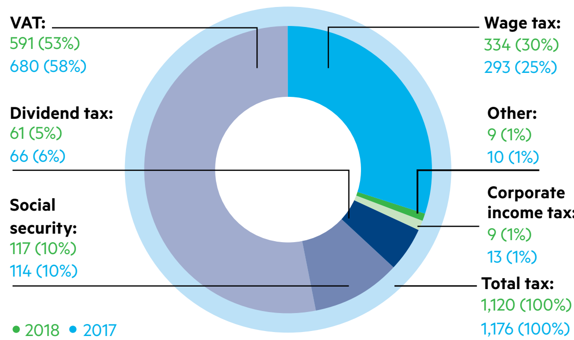
- Tax allowance for labor costs relating to R&D activities ("WBSO"); KPN is continuously monitoring its innovation activities to substantiate the tax allowance for labor costs.

Forward-looking

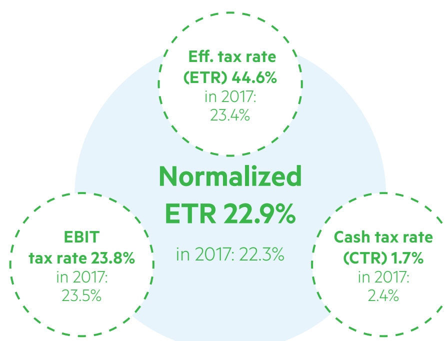
Through offset of available losses in the Netherlands, KPN expects to pay limited amounts of corporate income tax for the coming years. Based on current projections, KPN expects to fully utilize its Dutch realized and unrealized losses well within the expiration limits of applicable tax law.
KPN will continue to extend and optimize its tax control framework, supported by simplification and automation. To obtain additional third party tax assurance, KPN will engage a third party to perform an objective review of KPN's corporate income tax position.

KPN expects to continue the discussions with the Dutch tax authorities on the change in the VAT calculation methodology which resulted in a lower remittance of VAT from August 2016 onwards of approximately EUR 3m per month (see also page 122). Due to a change in applicable regulations, KPN is currently investigating the impact on its position going forward.

Taxes paid (€ million)



The following tax metrics apply for 2018



The reported difference between the effective tax rate and the cash tax rate is mainly caused by the impact of available tax losses (carry forward). The reported corporate income taxes paid relate to taxable profits that cannot be offset against these losses (payable by entities not part of the relevant tax group). The EBIT tax rate is lower than the statutory rate mainly due to the impact of the innovation box facility.

Tax overview for continuing operations per country

In € million or FTE		Total unrelated income[1]	Profit before tax excl. associates and joint ventures	Corporate income tax expense	Effective tax rate	Corporate income tax cash flow	Corporate cash tax receivable/ payable	Other tax cash flow mainly VAT & payroll	Property plant and equipment	Employees end of year
NL	2018	5,690	531	-232	43.7%	-9	1	-1,111	5,638	12,416
	2017	5,834	520	-119	22.9%	-13	-5	-1,155	5,793	12,991
US	2018	-	-1	-	-	-	-	-	-	-
	2017	-	-5	-	-	1	-7	-7	17	-
Other	2018	1	-8	-	0.8%	-	-1	-	2	15
	2017	1	-6	-	0.5%	-	1	-1	1	14
Total 2018		**5,691**	**522**	**-233**	**44.6%**	**-9**	**-**	**-1,111**	**5,641**	**12,431**
Total 2017		**5,835**	**508**	**-119**	**23.4%**	**-13**	**-11**	**-1,163**	**5,811**	**13,005**

1 Unrelated income is the total of revenues and (other) financial income.

› The value we create for stakeholders

Regulation affects our business

KPN is subject to sector-specific regulation and enforcement thereof by regulatory authorities, such as the Netherlands Authority for Consumers and Markets (ACM). As described in the chapter 'Compliance and risk', KPN's internal risk management and control systems are designed to minimize the risk of non-compliance with regulation.

European developments

Regulation of the electronic communications markets is largely based on European legislation. The EU's roaming and open internet access regulations are directly applicable in all member states. The application of the regulation of operators with significant market power is enforced nationally, but under coordination of the European Commission. This still affects KPN in some fixed markets and on fixed and mobile call termination services. Licensing regimes for frequencies are based on national law. Increasingly, also other regulation (such as privacy law and content-related law) has an impact.

In December 2018, the new European Electronic Communications Code entered into force, including amended regulation for the electronic communications sector. The scope of the regulation now includes all interpersonal communications services (including over-the-top), thereby creating an increased level playing field for comparable services. Implementation of the new rules in national law should be finalized on 21 December 2020, except for the regulation of international communication tariffs from home countries to other EU countries (capped by 15 May 2019 at EUR 19ct voice or EUR 6ct sms, excl. VAT). The impact of most of the many other detailed changes will only be clear after national implementation.

A draft of a new e-privacy regulation (in addition to the General Data Protection Regulation, replacing the existing e-Privacy Directive) is still being discussed by EU institutions. Various legislative instruments that will have lesser impact on KPN have entered into force (such as a new Audiovisual Media Services Directive) or are still being discussed (such as a draft e-evidence regulation).

Spectrum licenses

The preparations for an auction in 2019 or 2020 of the 700, 1,400 (L-band) and 2,100 MHz bands are ongoing, but no formal decisions on timing of the auction procedure are available yet. Although the 3.5GHz band at European level is seen as the primary band for 5G, in the Netherlands severe restrictions on the use of this spectrum still apply, to prevent interference with the use of this band by an earth satellite station of the Dutch Ministry of Defense. It was announced in December 2018 that this spectrum will be released for 5G. Although no formal date for actual use is defined, at least parts of this band are expected to be available by the end of 2022. An auction will be scheduled in 2021-2022.

International roaming on mobile networks

Since 15 June 2017, national retail tariffs must be applied for roaming within the EU/EEA. The roaming regulation will expire on 30 June 2022 and only changes if amended or replaced prior to that date. An evaluation by the European Commission will start in 2019.

Market analysis decisions in the Netherlands

A new decision related to the market for unbundled access to fixed networks came into effect on 1 October 2018. KPN and VodafoneZiggo were designated by ACM as having joint significant market power in this market. Consequently, both KPN and VodafoneZiggo must offer (virtual) access to their networks. KPN's obligations mainly remained the same, although with more flexibility to migrate from legacy technologies. VodafoneZiggo must first provide an offer, after which negotiations (and if necessary dispute resolution by ACM) can start. ACM's decision is under appeal.
ACM's prior decision to regulate the fixed-voice telephony market for dual calls (ISDN2) were annulled by the court, effective as of April 2019.

> The output of our business model: What we do

Moving to converged products and services

KPI	Result 2018	Result 2017
Average fixed revenue per household	€ 44	€ 43
Fixed-mobile households	1,343k	1,253k
% SME base migrating from legacy services	41%	9%
Wholesale mobile connections	777k	775k
Wholesale fixed connections	933k	931k

Consumer

The consumer market has become ever-more competitive. In 2018, we focused on further enhancing service quality, increasing access to and speeding up our networks, growing fixed-mobile convergence and new revenue streams. The continued drive to simplify our back-end systems and digitalize service delivery enabled KPN to achieve all this.

Quality service, clear communication

Service quality is a crucial factor in customer satisfaction and loyalty. Giving our customers control of their services, through digitalization of the customer journey, is key. Last year, we saw service handling through online instead of traditional channels increase strongly.

We strive to communicate in a simple, transparent and complete manner to customers, so they can take well-informed decisions and avoid unpleasant surprises. Calls to KPN call centers last year decreased by 12% and customer satisfaction (NPS) rose further to +14 in 2018 from +13 in 2017.

Going forward, we want to move towards a service that reduces problems and calls, such as proactively informing clients when our systems show their cables need to be replaced or when there is an outage in their area.

THINGS WE WANT TO IMPROVE

CUSTOMER COMPLAINTS

We aim to reduce the number of customer calls and complaints and increase the delivery of first time right for our customers .
We conduct root cause analyses to gain insight in the type of calls and complaints we receive. We are improving the administration process of the calls in order to better cross-correlate the input.

› The output of our business model: What we do

Access, speed and data

The quality and reliability of our network is our top priority, and we notice a direct link between customer satisfaction and the speed of our fixed network.

Last year, we further upgraded our network to increase access speeds to and beyond the modem and to make fast internet possible in all rooms of the house.

In our ambition to become the best service provider, data and analytics aim to be a game-changer. Within the boundaries of our strict privacy policy, we use them to garner ever-deeper insights into customer needs and to design and further optimize KPN customer journeys. With this as our basis, we work to develop and deliver products and services that truly fulfill consumer needs, with the aim to improve satisfaction and value per customer.

THINGS WE WANT TO IMPROVE

RURAL AREAS

Broadband speed is often a challenge in rural white spots. We launched a technology with a combination of DSL and 4G to enhance broadband speeds and deliver an optimal customer experience in designated areas. We intend to give more customers in all areas access to higher broadband speeds in the coming years.

THINGS WE WANT TO IMPROVE

IN HOUSE WIFI COVERAGE

Sometimes customers experience glitches in their TV or internet speed that is lower than expected, although technically feasible. The resulting dissatisfaction is an important reason for churn. Research showed that the root cause in most cases is in the customer domain. However, the problem is often not limited to one cause, so it is important to check the entire customer premises connection for realized WiFi speed to the modem. Consequently, we introduced the WiFi Tuner, an online tool that people can use to check WiFi coverage in their home and get customized advice to help improve the WiFi quality in rooms where needed. If necessary, we offered free new hardware, such as a modem and one or two additional WiFi points. Although this specific campaign is over, we will continue to support customers in optimizing their WiFi signal.

Fixed-mobile convergence

We continued to focus on fixed-mobile convergence in 2018 and increased fixed-mobile penetration through upselling and cross-selling. This is an important factor in customer loyalty: churn rates typically halve for KPN customers that combine fixed and mobile services.

The total number of fixed-mobile households rose to 1.34 million by year-end 2018 from 1.25 million at year-end 2017. This represented 46% of the broadband customer base (2017: 42%). The number of postpaid customers in fixed-mobile bundles grew to 2.1 million, equivalent to 57% penetration of the postpaid base (2017: 51%). Of the KPN brand postpaid base, 70% is now part of a fixed-mobile bundle (2017: 65%).

New revenue streams

Customers want choice in how, where and when they consume telecom and IT services. This results in new revenue streams for KPN. For example we continue to broaden our range of platforms for TV. We currently offer a set-top box for TV, an app for mobile devices and computers, and piloted a KPN smart TV app for this purpose.

Discontinued business

KPN has decided to stop KPN Play. KPN Play was introduced in 2015 as an innovative online TV service on the Dutch TV market. We have concluded that demand in the market is insufficient for this new way of watching TV. KPN has learned from the product and its users and is using this knowledge for other products, including the KPN Interactive TV app that is part of KPN's internet and TV packages.

Business

Whatever the size of the business customer we serve, we aim to deliver future-proof and easily scalable converged solutions that make the best use of our portfolio of services - from fixed and mobile telephony and internet to end-to-end solutions in infrastructure, workspace management and security cloud.

A clear example of how we are enabling businesses' future growth is the public cloud. Demand for public cloud services is growing strongly as companies shift away from private servers. KPN offers integrated public cloud services in the KPN ÉÉN platform. For these cloud services, enough bandwidth needs to be available. Therefore, KPN is improving its broadband networks, which includes the roll-out of fiber-optic networks.

Customers recognize that we are increasingly supplying the products and services they want at a quality they value, as is evident from the further increase in our NPS. Our NPS among business customers increased to 0 in 2018 and we expect this positive trend to continue. For the second year running, KPN was named leading business service provider in the Netherlands by the Dutch IT Partner Preference Survey of Dutch CIOs.

Simplification

We are further simplifying our portfolio by continuing to phase out products and services such as ISDN2 and PSTN, and moving customers from legacy network services to flexible, scalable solutions such as Hosted Voice.

A simpler product and services portfolio creates more clarity and comprehensibility for customers. We also continued to simplify our internal processes, a precondition for increased standardization and automation, which in turn improves our efficiency and enables digital transformation.

Customer-centric propositions

As the shift continued towards standardized and integrated solutions, away from tailor-made single-play services, our integrated KPN ÉÉN product for small and medium-sized companies (SMEs) grew strongly. New connections averaged 2,200 per week by year-end 2018.

We are working on strengthening the delivery of KPN ÉÉN by simplifying the underlying IT infrastructure to a single platform. This enables faster delivery of services and better digital customer interaction, resulting in higher customer satisfaction.

SMEs can choose from KPN's portfolio of telecom and IT products that fit their company's requirements. We believe that the number one need among SMEs at present is for high-speed broadband, and to that end we are investing in upgrading broadband speeds in all the Netherlands' more than 3,700 business parks.

Meeting future needs

KPN organized The Digital Dutch for the third consecutive year. This customer-centric event gives businesses from SMEs to large corporates a glimpse into future technologies, stimulating their imagination and ideas on how to do things differently. We get to hear customer challenges, needs and wishes first-hand, so we can serve them better now and in the future.

Listening to customers is key to understanding their present needs and future challenges, and so ensuring we develop the solutions they want.

5G is a prime example of our innovation for B2B. Together with customers and technology partners, we launched four separate field labs in 2018 to explore how 5G technology can optimize business processes and improve customer experience. These range from testing smart antennae in urban areas to studying connectivity of drones for precision agriculture, virtual reality in industry and connected vehicles.

We expect 5G to benefit many industries, sectors and areas. As the tests show, this will also become a new model of collaborative innovation, an ecosystem where we innovate together with customers, competitors, equipment manufacturers and public authorities.

Cyber security and cloud workspace

As small and medium-sized companies grow increasingly aware of cyber security, we are enhancing our security service offering to match companies of every size and share the need for cyber security risk awareness and protection.

Last year, we bundled the services of security companies acquired in 2017 into our business customer offering. We further grew our cloud and IT offering by acquiring StartReady, which delivers managed voice, video and chat services to our business clients based on Microsoft's Skype for Business software.

Customers continued moving from on-premises data storage to our data centers in the Netherlands, the public cloud or KPN's Managed Hybrid Cloud, which flexibly combines our data centers with the integrated solutions of leading international third-party IT companies.

New business

Launched in 2017, our new proposition ('Kleinzakelijk') for businesses with fewer than five employees gained traction. In 2018, 27,600 mobile connections were added to the base - both new customers and customers migrating from the Consumer and Business segment.
Besides our standardized solutions, we continue to win sizeable deals in the Netherlands with noteworthy customers. We were pleased to both welcome new customers and extend or expand existing contracts.

› The output of our business model: What we do

Examples of new deals

Royal Vopak and KPN have extended their IT outsourcing agreement for a number of years. Besides hosting, KPN also performs the technical application management for a large part of the Vopak applications in order to meet Vopak's desire to provide a stable and market-based IT service with the flexibility to be able to migrate to the public cloud in due time. Mobile telecommunications, connectivity and KPN IT Consulting services have also been extended.

UWV realized a digital transformation for its employees in 2018 with the help of KPN. The delivery and roll-out of laptops, Mobile Device Management services for the UWV smartphone base, the connection of a new printer park in the workplace environment and the installation of WiFi in all 75 offices made this possible.

Semiotic Labs has developed a solution for clever asset monitoring of electric motors and rotating equipment in factories. They signed a 3-year agreement for M2M services in order to unlock their sensor via 4G, regardless of the available connectivity at the various customer locations. The M2M service offers a scalable and reliable solution to unlock the sensor data.

Wholesale

Partnerships

In 2018, KPN entered into new partnerships with parties such as Oxxio and Teleena, and also the KNVB for the roll-out of the Video Assistant Referee to all clubs in the Eredivisie in the content and fixed connectivity domain. Together with China's largest internet software company Tencent, leading internet video operator Sunway and WeChat, KPN launched WeGo Europe in the WeChat ecosystem, extending the WeChat Go SIM card partnership. This allows Chinese tourists to easily find information on sightseeing, restaurants and shopping when in Europe. KPN implemented its agreements with Apple and Microsoft for direct carrier billing to enable KPN customers to pay in-store purchases via KPN's invoice.

Product development

KPN strives to further simplify its wholesale product portfolio. In 2018, KPN continued the migration of wholesale customers from regulated unbundled local loop (ULL) services to commercially agreed virtual unbundled local access (VULA) and wholesale broadband access (WBA) services, and remains committed to enable providers to deliver broadband speed to their end customers. In Mobile, wholesale customers are being migrated from 3G to 4G services. Furthermore, we announced the phasing out of services on legacy telephony platforms such as SDSL and ILL.

Market dynamics

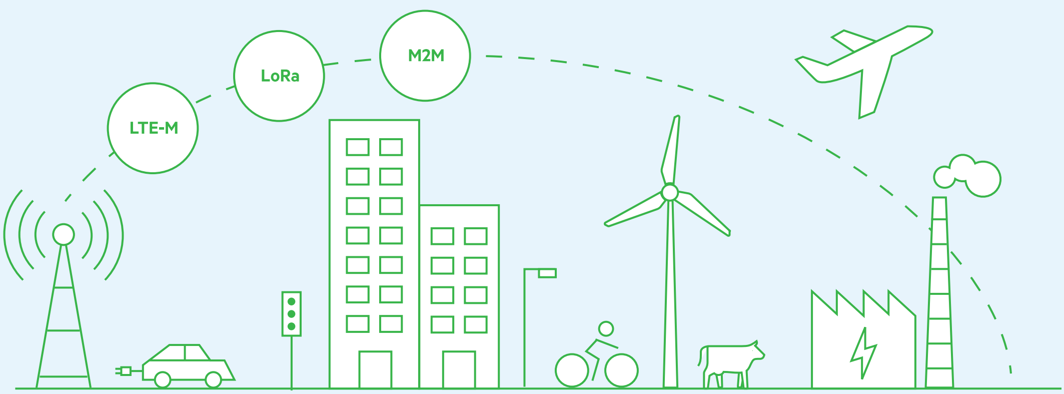
Fixed Wholesale revenues were impacted by regulation and lower international voice traffic, partly offset by a positive net intake of WBA and VULA services. Mobile Wholesale revenues continued to be impacted by competitive dynamics such as price pressure in the Dutch mobile market leading to lower revenues from MVNOs, partly offset by the increase in data usage from these MVNOs.

Focusing on operational excellence supports KPN's strategy to remain and enhance its position as a hub for international connectivity with voice, roaming, content delivery and peering. It also helps in becoming the preferred enabler for digital platforms such as WeChat.

EXAMPLE:

IoT solutions and M2M services

We combine our reliable network with our IoT portfolio and offer a complete ready-to-use and scalable IoT solution. This enables us to help customers innovate and to deliver real value with IoT for their business. Besides the reliable M2M and LoRa network, KPN achieved nationwide LTE-M coverage in 2018. KPN Things was introduced in 2017, a scalable and ready-to-use IoT solution delivering both hardware, connectivity and data services. KPN has been included for the fifth successive year in the Magic Quadrant for Managed M2M Services, Worldwide of Gartner Inc., an international research consultancy. We have improved our position on both the ability to execute axis and completeness of vision axis within the Niche Players quadrant compared to the previous year.

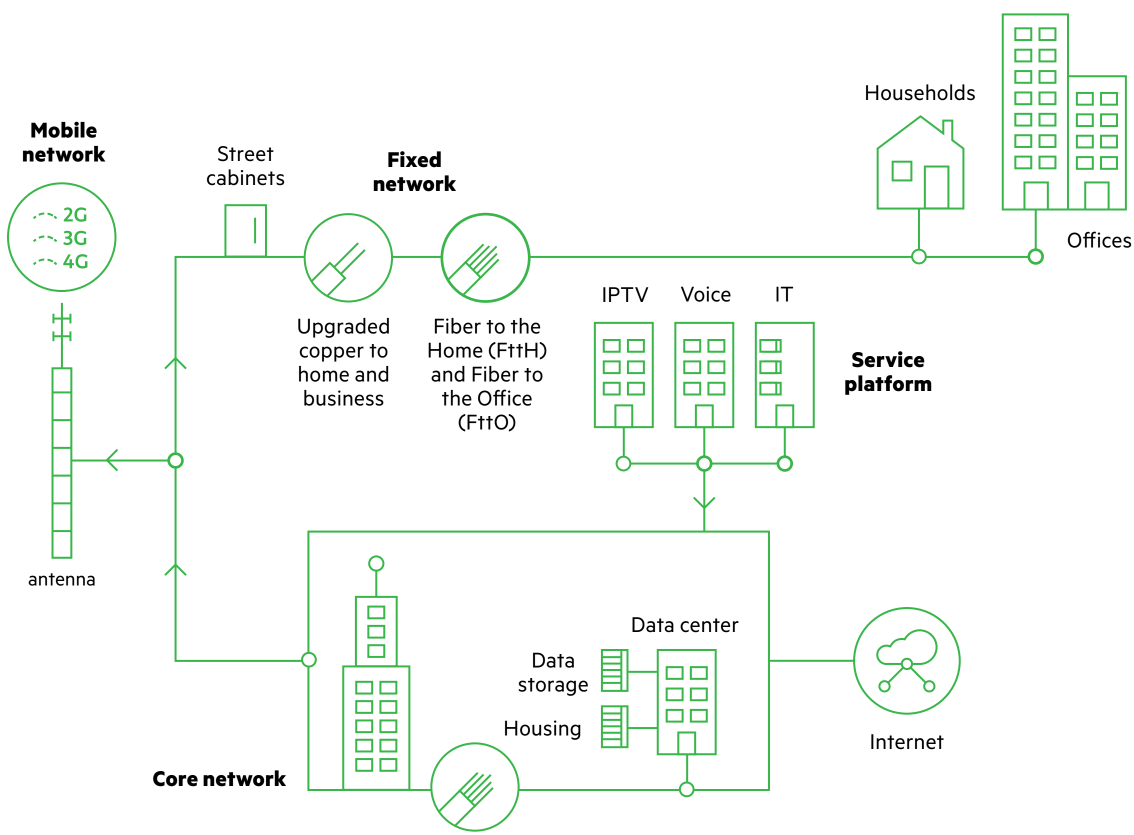


> The output of our business model: What we do

Converged smart infrastructure

How we connect

Our network will become more integrated, with hybrid networks and platforms on which we can deliver converged value propositions. We aim to reach a 100% all-IP infrastructure by the end of 2021 by switching off legacy technologies. In addition, we will be deploying Fiber to the Home and increasing fiber coverage in business parks and through upgrades of copper and hybrid access. In addition to our 4G network, we are modernizing our network in order to make it 5G-ready. We will also virtualize networks and move network functionalities to the cloud.



KPI	Result 2018	Result 2017
Average download speed 4G	53Mbps	58Mbps
Average maximum download speed broadband fixed	221Mbps	202Mbps
Weighted downtime	-25%	-38%
# of customers connected in rural areas with combined 4G/DSL solutions	27,492	n/a

As data usage across fixed and mobile grows exponentially, we are innovating and investing to upgrade our networks and IT infrastructure so that we maintain service levels and continue to further improve the customer experience.

Last year, we further upgraded capacity on hundreds of our mobile sites to absorb the vast growth in mobile data usage. A striking illustration of the increasing demand on our network is the fact that total data traffic based on data demand peak measurement across our network increased to 6.5 Tb in 2018. The average 4G download speed decreased to 53 Mbps by the end of 2018, mostly as a result of the extra capacity that was added to the network.
For 2019, we plan site extensions and network modernization activities to deliver the required extra capacity. More than speed, however, we focused on enhancing the quality of our 4G connections, especially voice quality. We have made voice calls on 4G widely available and introduced voice calls on WiFi to enhance user experience and improve capacity of the LTE network.
In addition, the roll-out of the next-gen DVB-T2 has started in the media services domain, allowing customers to benefit from HD-quality wireless TV services.

Network of the future

We are taking six main steps in our networks and infrastructure to maintain excellent customer experiences in the future. Three of these relate to our 'access' network, which connects users to KPN as service provider, and three relate to our 'core' network, which connects our main data centers and other core locations.

Access network

For our access network, the three steps are to combine, massify and verticalize.

Combine

Where phones or computers used to run on separate networks, the world is now moving towards a converged IP experience with a mix of combined technologies. Technologies and topology are moving ever closer together, increasingly enabling us to combine the power of different technologies, for example, combined VDSL and fiber roll-outs to deliver ever-faster internet speeds.

Last year, we continued to implement our hybrid access strategy to larger cities and business parks, ensuring optimized connections to deliver an excellent customer experience. We introduced VPlus technology, which enables internet speeds of up to 200 Mbps over copper wire, and piloted Bonded VPlus, which can twin two lines and so offer downlink speeds above 400 Mbps. By the end of 2018, VPlus was available at more than 800,000 addresses in the Netherlands.

To boost bandwidth and speeds for rural users, we began offering our service Sneller Internet Buitengebied, a combination of DSL and 4G LTE technology in one high-speed broadband internet service for designated rural areas. We acquired around 27,000 users by the end of 2018.

Massify

With the advent of IoT, devices will intercommunicate en masse. We operate a dedicated LoRa network, which is suitable for low-cost, high-volume sensors that consume little battery power and are used for street lamps, garbage containers or dykes, for example. At the other end of the spectrum, our 4G network enables high-value, battery-intensive devices such as high resolution security cameras requiring large bandwidth. To meet demand in the fast-growing mid-segment of this spectrum for devices such as mobile PIN machines or smart energy meters, last year we rolled out our LTE-M network nationwide. This makes KPN the first telecom operator in the Netherlands with a complete IoT connectivity offering.

EXAMPLES:

Clever acoustic fireworks detection
To reduce the noise pollution of fireworks, Breda uses a clever acoustic fireworks detection systems, making use of our LTE-M-Network. The fireworks detection system works with sound meters that interact with each other via our LTE-M network. Once a bang occurs, the enforcers are notified on their smartphone within 10 seconds. They are shown the exact location and given an indication of the strength of the bang. The system recognizes hotspots and patterns, useful information that helps the police, supervisors and youth workers maintain, finetune and develop the city's fireworks policy.

Verticalize
Where 4G connects people, the introduction of 5G also facilitates a connection between objects and so increases the number of possible connections in society. 5G is expected to benefit many industries, sectors and areas. In addition to higher speed, 5G explicitly focuses on flexibility in the network to support very short response times and greater reliability, making a wide range of new applications possible for customers and industries.

We began testing the added value of 5G in four industry verticals last year, with field labs for 5G applications in urban areas, agriculture, transport & logistics and the automotive sector.

Core network
For our core network, our three steps are to rationalize, virtualize and decentralize.

Rationalize
Rationalization of our networks is key to maintaining quality and continuity. When customers have migrated to more modern networks, we decommission legacy network-elements. This saves cost and energy, makes our network more future-proof and flexible, and improves the customer experience.

Last year, we finished building our multi-brand business support system for both Consumer and Business mobile customers by integrating the Telfort Business mobile IT system. This enables full decommissioning of legacy IT systems and allows easier customer migration between brands, improving time to market.

In July, we announced the decommissioning of our 3G network in 2022. Customer numbers for 3G have fallen sharply since the introduction of 4G, which has significantly improved mobile internet speed and quality. Almost 95% of the active KPN postpaid customers already have a 4G-enabled smartphone and we expect more postpaid and prepaid users to adopt 4G smartphones in future.

Virtualize

Where people once used an array of separate physical devices such as alarm clocks or radios, these are increasingly becoming software-based virtual applications. In line with this development, KPN is implementing what is called network function virtualization, which enables us to increase delivery speeds and reduce energy use.

We are working on software defined networking (SDN) – a way to automatically re-route data traffic or optimize network performance. We are also testing the use of SDN to be able to launch telecom and IT services in hours, rather than the several days this usually takes.

Decentralize

We are decentralizing our network to handle traffic closer to the customer. Our decentralized content delivery network of 161 'metro core' locations improves network efficiency by unburdening our four core network locations and creating virtual entry points for bandwidth-intensive services such as IPTV, YouTube and Netflix. Customers can enjoy high-quality video and faster responsiveness.

This decentralized network will also be beneficial for 5G, by making it possible to offer low latency services. These locations will grow in the coming years into a decentralized cloud: small centers where data can be processed fast, also known as edge computing. Combined with 5G technology, this will prepare the network for latency-sensitive use cases in the automotive, health and smart industries.

THINGS WE WANT TO IMPROVE

NETWORK DISTURBANCES

In 2018, the weighted network downtime decreased compared to 2017 by 25%, consequently we did not meet our target of -30%. The number of major disturbances in the network increased compared to 2017 by 12%, mainly due to power failures related to an increase in the installed base of fixed network elements. Each disturbance is one too many, so it is important not only to reduce the weighted downtime, but also to reduce the total number of disturbances.

Dilemma fiber roll-out

In the Integrated Annual Report 2017 we described our dilemma on fiber roll-out, our phased roll-out as part of our Hybrid Access Strategy, as the outcome of the choice between weighing the cost of roll-out versus deploying a best-in-class network and its benefits. In 2018, we presented our strategy update, stating that we will accelerate our roll-out of Fiber to the Home; hence in 2018 we made a clear choice for the latter. We now conclude that the benefits of accelerated roll-out outweigh the benefits of selective roll-out and concentrating on copper-upgrades, as broadband speed needs are increasing progressively. We use advanced analytics to determine where and when to roll-out and in specific cases partner to do so.

› The output of our business model: What we do

Focused innovation and digitalization

KPI	Result 2018	Result 2017
M2M subscribers (#SIMs)	~5.0m	~3.6m
IoT revenues	€ 47m	€ 45m
# people with secure digital access to healthcare	31,990	n/a

We work to constantly break new ground on technological innovation, so we can help Dutch society to progress further in connecting. Spearheading innovation at KPN are three interconnected, closely cooperating departments: KPN Ventures, KPN New Business and KPN Technology Labs.

KPN Ventures is our venture capital investment branch. It invests, both directly and indirectly, in proven and scalable innovations by providing capital and enabling access to KPN's expertise in connectivity, security and related technologies, as well as to our network infrastructure and our customer base.

KPN New Business develops the innovations of tomorrow, constantly seeking interesting companies to work with and ensuring our collaborations deliver products and services that can help customers. We can get promising ideas to market quickly via our internal incubator program.

KPN Technology Labs are our collection of multidisciplinary telecommunications labs. Here, KPN experts work together with customers, developers and suppliers to transform visionary ideas into concrete products or services that we then test with the public in our field labs.

Partnership and cooperation

By joining forces with ambitious technology companies that are working on the applications of tomorrow, we can provide better, more innovative products to our customers – or their customers – more quickly.

Through our KPN Innovation Partnerworld program we support startups, scale-ups and other partners in our innovation ecosystem to connect with KPN and get access to expertise, infrastructure, KPN partners and customers, and financial support.

Investments in so-called tech transfer funds - which focus on the early-stage financing of commercial spin-offs from university research centers - help expand KPN's network of potential innovative technology partners. In 2018, KPN Ventures invested in two tech transfer funds based in Belgium and France, spanning technology from sensors and network technology to artificial intelligence.
Imec.xpand is a technology investment fund focused on commercializing technological innovations spun off from, developed or co-developed at imec in Leuven, a leading research institute in nanoelectronics and IT technology.
France's PSL Innovation Fund invests in technology startups coming out of the Paris Sciences & Lettres ecosystem of academic and research centers.

In 2018, KPN was recognized as one of the top three European 'Corporate Startup Stars' by the European Commission's Startup Europe Partnership for its active startup cooperation practices, out of 36 awarded European corporates.

Our innovation focus areas

Our innovation efforts are focused on growth sectors connected to our telecom & IT activities. Last year, our focus areas for innovation were IoT, digital healthcare, data & analytics, cyber security and networks of the future.

Internet of Things

By 2020, some 20 billion objects are expected to be connected to the internet globally. KPN is keeping these devices connected.

We are also helping other organizations to develop new IoT applications through initiatives such as the Internet of Things Academy we co-founded. At this Academy, we show customers the possibilities of IoT and how it could create value for their businesses.

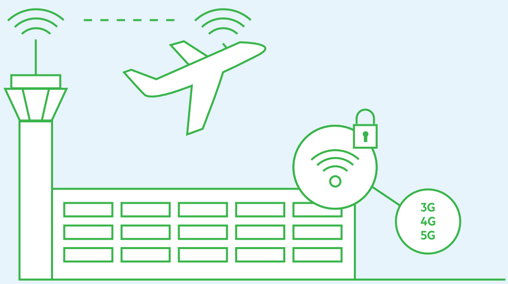
With KPN SmartLife, we offer a series of smart connected home services through a single app.

Last year, we worked with the Dutch automobile association ANWB to install IoT devices on bicycle locks that connect to our LoRa network. This helps in tracing and retrieving stolen bicycles. We partner with a pest control company to develop connected traps, with sensors that inform the pest control company when a rat is trapped, saving the time and money needed to check all traps every day.

EXAMPLES:

Future-proof network for Royal Schiphol Group

Royal Schiphol Group, KPN, T-Mobile and VodafoneZiggo are collaborating on a new mobile network in order to further improve the user experience of passengers and employees at the airport. The new mobile network must be ready by 2020 and more than 30 antennae will be installed at the airport to give outstanding mobile coverage. The new network is future-proof and will be suitable for the new generation of mobile networks, such as 5G. The network for emergency services and the portable two-way radio system that is used at Schiphol are also included in the plans. All mobile operators will make use of the same mobile network in all the terminals and on all the piers at Schiphol. The new mobile network will not only raise the quality, but will also save space and energy.



Digital healthcare

Healthcare costs in the Netherlands alone total some EUR 97.5 billion a year (2017), with costs increasing 3.5% annually. As the population ages, the occurrence of chronic illnesses rises and people live longer with those illnesses. At the same time, the healthcare workforce is declining and hospitals become smaller.

Bridging healthcare and IT

In response to the urgent challenges of the changing healthcare environment, we launched KPN Health in 2018. This New Business division is tasked with devising smart solutions and extending existing IT services used in other fields to the healthcare sector together with our partners.

Safe and secure connections will be needed to transfer data that the patient generates at home into their electronic patient file.

KPN Health offers solutions, such as ZorgCloud for data storage and ZorgVrijThuis, a self-learning monitoring system for elderly people. KPN subsidiary E-Zorg offers secure IT solutions such as the sharing of medical records between healthcare providers.

EXAMPLES:

Healthcare solutions

KPN Ventures has invested in Personal MedSystems (Germany) and Sensara (the Netherlands). Personal MedSystems has developed a mobile ECG-reading solution called CardioSecur, which enables people to take clinically validated ECGs anytime, anywhere using their mobile device. CardioSecur also requests assistance from medical professionals in case the smart algorithms detect unusual patterns in the ECG. KPN Health has created a partnership with Personal MedSystems, introducing the CardioSecur technology as part of its remote heart monitoring service for Dutch general practitioners (GPs) and their patients. This project won a Computable Award in 2018.

Sensara has developed a smart monitoring solution for homes for the elderly. Via sensors, Sensara monitors the lifestyle patterns of elderly people, providing care-givers with detailed insights about the health and real-time situation of the person in question. Sensara is partnering with KPN Health to pilot the solution with the municipality of Helmond to support elderly people with dementia, so they can live safely and independently at home for longer. This project was a finalist for the European Silver Economy Awards.

We deliver safe chatting and secure mail exchange of sensitive patient information, also with healthcare messenger API.

- **KPN connects** the majority of GPs, pharmacists and hospitals via its secure E-Zorg network.
- **CAM-IT solutions,** a KPN subsidiary, is one of the largest electronical workspace providers in the Dutch healthcare sector, serving more than 48,000 healthcare professionals.

Data and analytics

As KPN continues to develop extensive knowledge and experience of data and analytics, we increasingly use this to develop products and services for our customers. We have created the Data Services Hub, a real-time streaming platform service to facilitate the secure and reliable exchange of information between people, machines and organizations. Using this hub, public and private parties can cooperate digitally while still retaining control over their own datasets.

This has yielded applications such as Talking Traffic, where communication between vehicles with the environment will be enabled. KPN will deliver the data service hub to facilitate information exchange between companies to improve mobility, traffic flow, road safety and the liveability of cities.

We began piloting tailored TV advertising, a KPN Technology Labs innovation that uses data analytics to reduce irritation among customers by adjusting the adverts they see to their profile, if they give permission for use of this information.

Cyber security

KPN Ventures invested in three cyber security startups last year. It was lead investor in the USD 3.5 million seed round of ZecOps, a cyber security startup focusing on automated breach analysis, and it joined as co-investor alongside Charter Communications in the Series B round of CUJO.AI, a provider of home network security and analytics software. It also invested in the Dutch cyber security company Cybersprint. The minority shareholding in SecurityMatters was successfully sold to ForeScout Technologies. We now have four KPN Ventures investments in cyber security startups.
The integration of innovative companies like DearBytes and QSight IT is helping us build an increasingly strong and ambitious KPN Security Services unit.

Cyber Central foundation, co-founded by KPN in 2017 together with security companies Cisco, Dearbytes and McAfee, aims to make the Netherlands more aware in regards to cyber security. They do this by giving workshops and presentations. In 2018, Cyber Central engaged with about 245 companies. Cyber Central aims to make security accessible and comprehensible to everyone, so that all employees can anticipate digital threats.

> The output of our business model: Our value drivers

Privacy and security

KPI	Result 2018	Result 2017
% of customers helped (within eight hours) who were unintentionally infected by malware	99%	99%
% of Dutch people that believe their data is safe with KPN	69%	70%

Trust

As devices and systems become more interconnected and sophisticated, so do the threats to cyber security and privacy. Customers trust us to keep their data safe and private. We take this responsibility very seriously: we want everyone to enjoy the benefits of connectivity without having to worry about information security or violations of their privacy.

Privacy

It is crucial that customers can trust us to handle their data with great care and in a way that puts their interests first. In 2018, 69% of the Dutch people said they believe their information is safe with KPN (2017: 70%).

As a large company and a telecom provider, KPN is governed by extensive laws and regulations around privacy. Yet to KPN, safeguarding privacy goes beyond legislation or compliance frameworks. It is important to embed ethical awareness of and responsibility for privacy in the mindset of all employees.

Employee awareness

All employees are required to be aware of the privacy impact of everything they do. To ensure new products safeguard privacy by design, last year we implemented the privacy impact assessment: a questionnaire for employees who wish to develop new products or processes involving personal data, or adapt the use of an existing product or process. This is now a compulsory step in KPN's change management process.

Last March, we held a dedicated KPN Privacy Event in The Hague, livestreaming it throughout KPN offices in the Netherlands so all employees could learn and share knowledge. It included case studies and dilemmas illustrating different ethical considerations and perspectives.

All employees have for years now been required to complete our compliance and integrity e-learning Spot On, part of which relates to privacy. We additionally introduced a specific privacy e-training last year, making sure all employees are aware of privacy issues in their work.

Customer awareness

As part of our drive for fair marketing and communication, we want customers to understand fully how KPN handles data. In line with our strategic goal to simplify, we centralized the registration of our data processing. We simplified our privacy statement to make it clearer to customers how KPN uses different types of data, created a braille version of the privacy statement and made a two-minute subtitled animation about privacy at KPN.

GDPR introduction

Last May saw the introduction of the EU General Data Protection Regulation (GDPR), which imposes stricter requirements on the way companies process data and use and store customer information. KPN's GDPR implementation was led by a multidisciplinary team including experts in compliance and governance, commercial use of data, technology, program and project management and key business owners. KPN has had a privacy officer for many years, but last year we introduced the legally required role of Data Protection Officer.

The GDPR implementation revealed several areas where we needed to improve our processes. We subsequently ran projects to refine our operations in those areas. For example, we initiated a project on employee privacy. This project aimed at assessing the employee data that is collected, the robustness of processes and identifying areas that could be amended or improved. We will build on this in 2019.

Lawful intercept

We respect our customers' right to privacy. At the same time, we are legally obliged to disclose certain information, initially obtained by intercept, to national investigation agencies. Our infrastructure must facilitate this and we must cooperate with law enforcement agencies as specified in the Telecommunications Act. To this end, a liaison office is available 24/7 to facilitate interaction with law enforcement for all KPN brands. We assess incoming warrants and conduct checks to filter out any uncertainties. If we discover discrepancies, we reject the warrant, inform the agency involved and follow the relevant procedures. In 2018, a mismatch was found in 1.3% of warrants received. Of the interception orders, 99.5% concerned telephone numbers, 0% related to email addresses and in 0.5% of cases we were ordered to intercept IP addresses.

Within the context of KPN's Notice and Take Down code of conduct, KPN received four complaints in 2018. These complaints regarded copyright, intellectual property and slander disputes. In most instances, we were able to effectuate direct contact between the complainer and the accused in order to reach an understanding bilaterally. KPN provided the requested identifying information in zero cases.

Security

As the world is challenged with ever-more sophisticated cyber attacks, keeping KPN's systems safe demands constant vigilance and rapid adaptability. We continuously work to improve security for our customers and society, by making the KPN network and use of the network safer, now and for the future. This is vital to KPN's strategy of delivering the most secure and trusted networks.

KPN's security model is based on the security lifecycle approach: prevent, detect, respond and verify. Our Strategy & Policy team works to prevent vulnerabilities and incidents, while our REDteam of ethical hackers proactively detects vulnerabilities across the organization. We have a Security Operations Center (SOC) to monitor our systems and networks 24/7 and reactively detect vulnerabilities, a Computer Emergency Response Team (CERT) to provide rapid incident response, and a team of senior security officers to verify the implementation and effectiveness of our security measures. We integrated the SOC into our Chief Information Security Office (CISO), enabling closer cooperation between SOC and CERT.

Enhancing security for customers

We concluded a pilot to help customers better defend themselves against Border Gateway Protocol (BGP) anomalies, incorporating this into our overall threat intelligence program. Such anomalies typically occur when criminals hijack BGP traffic and redirect it, which can harm other companies. The pilot monitored BGP traffic to seek anomalies globally and analyze them so we can identify the attacks, enabling us and customers to act at a very early stage to counter a BGP attack.

We began extending our new SafeMail platform – which reduces spam and phishing mails coming from KPN.com domains – to customers, so they too can have a system of trusted mail from their own domains. We are developing a new service to enable the secure transfer of large files, both to customers and within KPN.

Enhancing security for – and with – society

The nature of cyber security is asymmetrical, which involves offensive and defensive activities between parties with significantly different cyber capabilities, strategy or tactics. This requires fundamental solutions that we can only achieve if organizations across the public and private domain work together and share knowledge.

At KPN, we share our security knowledge and innovations with the outside world to help improve security in society. We continued our Guest Hacker programs, hosting outside experts on topics such as high-tech crime to ensure that insights from inspiring speakers become widely available. For the sixth consecutive year, KPN was the main partner for the Dutch Alert Online campaign.
Our Chief Information Security Officer was appointed to the scientific advisory board that will supervise work coming from the EU's EUR 1 billion Quantum Technology Flagship initiative. Our ethical hackers team won the first prize in the Global Cyberlympics, a prestigious international cyber security championship.

Innovation for future-proof security

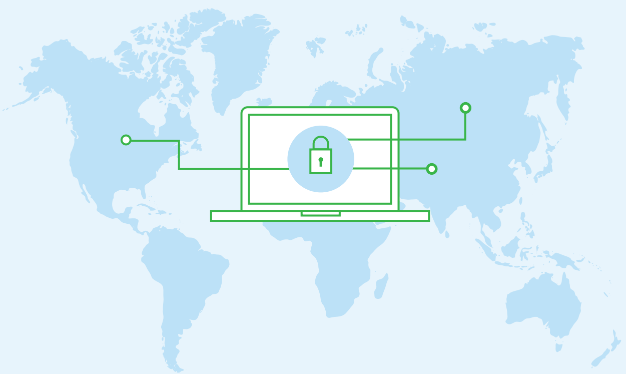
In 2018, we continued the CISO Labs, an R&D innovation unit aimed at improving and futureproofing the security of customers and KPN. We welcomed PhD students from the

› The output of our business model: Our value drivers

EXAMPLES:

Border Gateway Protocol monitoring

In 2018, we finished the pilot for BGP Monitoring together with three large enterprise customers. Border Gateway Protocol (BGP) is a standardized exterior gateway protocol designed to exchange routing and reachability information among autonomous systems (AS) on the internet. The pilot was initiated to improve BGP monitoring and threat intelligence capabilities for ourselves and customers. This should enable us and our customers to act at a very early stage to counter a BGP attack. A BGP anomaly typically occurs when other parties, such as criminals, hijack BGP traffic (the routing protocol of the internet). By redirecting BGP traffic, they can harm other companies. The conclusion of the pilot was that further research is required to create an envisioned prototype of a BGP observatory. The Delft University of Technology is, in cooperation with KPN, currently working on a long-term solution.



Vrije Universiteit Amsterdam and Eindhoven University of Technology to work on projects in the labs.
As part of the Quantum Internet Alliance we are creating with partners, we began building the Netherlands' first quantum backbone and set up the first link between The Hague and Delft.

Securing our network and operations

To improve the security of the KPN network, initiatives included working to enhance our anti-DDOS capabilities. We are looking at alternative techniques and cooperating with external partners to achieve this. We are exploring ways to simplify and standardize mechanisms for remote access to the KPN network, to reduce the risk of unauthorized access. We piloted standard endpoint protection for KPN servers, and work towards synchronizing time settings in our standard protocol, to enhance incident resolution. We enhanced our Domain Name System (DNS) platform and started implementing DNSSEC signing in KPN domains and DNSSEC validation for customers. DNSSEC is a security measure that protects KPN customers from malware or prevents them being sent to malicious websites (DNS spoofing). It is also a mandatory requirement set by the government.

Projects to enhance the security of our operations last year included improving our business continuity documentation tool Q-carbon to tighten control of business continuity management. We are also developing a project using robotics to automate the issuance of digital security certificates and thereby improve the resolution of common SSL vulnerabilities and minimize the risk of errors.

Detecting and resolving breaches

In 2018, 22,464 processed virus notifications were detected based on information from trusted partners. In 99.4% of cases, our KPN Abuse team could act on information within eight hours to help customers infected by malware, exceeding our 98% target.

THINGS WE WANT TO IMPROVE

SECURITY AND SAFETY INCIDENTS

This year, we again see a strong increase in the number of reports from customers who act aggressively (physically or verbally) to our employees, with a total of 188 incidents, including one robbery at a KPN shop. In the most severe cases this has led to the termination of the contract between the customer and KPN. Also, shop employees have received training on how to deal with aggression and robbery.

Bribery and corruption

We organize our stringent approach to bribery and corruption as shown in the table below.

	Our policy and outcomes	Risks and mitigating measures
Customers and employees	Our policy and the outcome of our policy is described in this paragraph. For more details, see: Subcode 2 - How we interact with third parties https://ir.kpn.com/websites/kpn/English/7050/code-of-conduct.html	See Compliance and risk, Appendix 4, GRI
Supply chain	Our policy and the outcome of our policy is described in 'Environmental performance', p71-72. For more details, see: https://overons.kpn/content/downloads/KPN_SUPPLIER-CODE-OF-CONDUCT.pdf, art 5.1, 5.2	Appendix 4 Appendix 2

We encourage our employees to report any suspicion of non-compliance with the Code of Conduct. Following a report, a KPN Security and/or KPN Risk & Compliance expert investigates the potential violation. The outcome may lead to a disciplinary action. The severity of the disciplinary action is determined by the nature and circumstances of the incident, and may include termination of employment. If necessary, KPN takes additional action to prevent a similar incident in the future.
Employees can also use the SpeakUp Line, an anonymous reporting procedure, which is managed externally by an independent organization.

In 2018, we performed the annual Fraud Risk Assessment (FRA) in order to comply with internal and external fraud regulations (incl. KPI GRI-G4 disclosure SO3), to increase fraud risk awareness, and to evaluate the control framework for Fraud (risks and controls). Fraud risk 2018 is in line with risk appetite and there were hardly any changes in top-3 fraud risks per business unit compared to 2017. Fraud risks are largely mitigated with internal control activities. Residual fraud risk is sufficiently mitigated with process and soft controls.

In 2018, 175 internal fraud cases were found, concerning amongst other things theft from goods and illegal orders or subscriptions. We took sanctions and action was taken to repair shortcomings in procedures and systems in order to prevent issues like these in the future.

There are no corruption or bribery incidents within the fraud cases, so we did not define KPIs on these topics.
Our KPN Security Policy on Incident Management describes how we deal with incidents if they occur. Investigation regarding internal fraud (by employees) is executed by the KPN Security department.

› The output of our business model: Our value drivers

Sustainable employability

We strive to have the right people and skills in the right roles to support our strategy and fulfill customer needs into the future – whether this means enabling existing employees to learn, develop and acquire new skills, or attracting new talent to KPN.

KPI	Result 2018	Result 2017
Overall percentage of women at KPN in the Netherlands	**22%**	23%
Employee survey score for engagement	**77%**	80%
Sustainable employability: % of employees with a new job < 1 year after leaving KPN	**85%**	83%

Changing workforce
Our era of fast-moving technological change is changing the products and services KPN offers and therefore the kinds of expertise we need. This is leading to a changing KPN workforce, as we attract people with new capabilities from the labor market and create new opportunities for employees.

We need people with new skills and competences to support our strategy, such as data scientists, agile coaches and cyber security specialists. We support employees who lose their position and help them to acquire different skills, enabling them to find a new role inside or outside KPN.

In 2018, we successfully combined our recruitment activities in one Talent Acquisition Center, for a total talent management approach towards our business and the labor market. We invested in our long-term employer value proposition, via the new Fieldlab.nl platform. Via actual innovations, we demonstrate that the digital transformation is just beginning. By working at KPN, you can collaborate with us on the new opportunities that arise. For talent in critical skill areas, we started campaigns focusing on our challenges in their expertise. Despite the increasing scarcity of these skills, we succeeded in successfully attracting the Dutch and international talent we need to fulfill our strategy.
In 2018, our workforce comprised of 13,177 employees (2017: 13,838 employees).

Dynamic workplaces
As people throughout society are increasingly connected always and everywhere, they want the flexibility to choose where, when and how they work. With the majority of people choosing to work part of their week outside the office, the function of physical offices has changed. At KPN, we enable virtual working and more organizational agility into KPN. Also, we are refashioning our offices to make them warm, open and vibrant spaces that encourage inspiration and cooperation with colleagues.

In 2018, we completed the partial relocation of our offices that began in 2016, as part of plans to use office space more efficiently and create modern hubs that put into practice new ways of working.

To support flexible working, the roll-out of a new IT platform to 12,000 workspaces was concluded in 2018. This platform enables people to work with any device without specific (VPN) connection, independent of location, hardware or network. We also invested significantly in our video conferencing capacity, as a sustainable alternative to travel and to stimulate cooperative teamwork.

Employees, on average, work 1.1 days a week remotely (at home). The group of employees that never works at home has increased from 15,7% (2014) to 39,9% (2018). Employees also reported that they work on average 2.8 days per week on the assigned location. We link this mainly to the hubs in combination with the changing way of working, i.e. more agile and team-based.

Engaged, vital employees

We believe happy and healthy workers are more engaged, can cope more effectively with everyday stress and are better prepared for their future. We support our employees and create awareness of the importance of taking responsibility for their health and vitality, which contributes to their sustainable employability. We offer programs such as stress management workshops and mindfulness training. The national Work Stress Week in November was renamed KPN's Work Happiness Week, with activities organized at several of our locations. We worked on a company-wide vitality program in 2018 that we expect to implement throughout 2019. Linked to that, KPN has joined the Nationaal Preventieakkoord, a national government initiative to improve the well-being of all Dutch people.

Our employee engagement survey in September 2018 showed an engagement score of 77% (2017: 80%) with, just like in 2017, 86% of employees saying they are proud of the company.

In the annual survey among highly skilled professionals conducted by Intermediair magazine in 2018, KPN was named the preferred Dutch telecom provider to work for. KPN's overall ranking in 2018 was 15.

Human rights

We explicitly endorse the United Nations Guiding Principles on businesses and human rights. The obligation to respect human rights is the basis for our way of working and is reflected in our Code of Conduct and in the requirements we impose on our suppliers. Human rights matter most to us for three different stakeholder groups. The table below provides insight on where the relevant information is stated.

	Materiality	Our policy and outcomes	KPIs	Risks and mitigating measures
Customers	Medium/ High for Privacy and security See Appendix 3	Our policy and the outcome of our policy is described on p. 60-63 of section Privacy and security. For more details, see: https://www.kpn.com/algemeen/missie-en-privacy-statement/onze-missie.htm Topic 'Privacy and security' at https://jobs.kpn.com/over-ons/onze-mensen/human-rights/	Privacy and security p. 60 Appendix 2	Compliance and risk, Appendix 4
Employees	Medium See Appendix 3	Our policy and the outcome of our policy is described in this paragraph. For more details, see: https://jobs.kpn.com/over-ons/onze-mensen/human-rights/	(regarding privacy) Fines # incidents reported to regulators, (Compliance and risk, p. 81)	Compliance and risk, Appendix 4
Supply Chain	Medium See Appendix 3	Our policy and the outcome of our policy is described on p. 70-72 of section 'Environmental performance'. For more details, see: How we identify low/medium/ high risk suppliers, see: https://overons.kpn/content/downloads/Supply-Chain.pdf What we expect from our suppliers on human rights, see: https://overons.kpn/content/downloads/KPN_SUPPLIER-CODE-OF-CONDUCT.pdf	Environmental Performance, p. 67, 70-72 and Appendix 2	Appendix 4

The output of our business model: Our value drivers

Learning and development

Knowledge requirements are developing at a very high pace; to keep up with developments in our field of expertise, continuous learning is a must. Jobs are being replaced by automation, so it is crucial to invest in sustainable employability by learning new skills constantly. Innovation is more important than ever; a focus on knowledge sharing is fundamental to fuel the innovation process. By nurturing a learning and development (L&D) culture, we ensure the competences and skills of our workforce continuously evolve, so employees create value for our customers, for KPN and for society today and tomorrow.

People can use their employability budget for training and education purposes via KPN Academy, our advanced online learning platform where we provide a wide range of courses to develop competences in areas such as digitalization and data analytics. The ownership that employees take themselves in L&D at KPN is evident from the decentralized initiatives in the organization.

Diversity and inclusion

We want to be a great place to work; one that embraces and uses the unique characteristics of our employees.

KPN is 'the place to be' for talented people, where every person with talent can make a career in telecoms and IT. We want to be best-in-class with diversity and inclusion in our sector. We introduced three measures in fall 2017 to accelerate gender diversity. These measures are:

- Vacancies at and above salary scale 12 are only allowed to be filled when women form at least half of the shortlist.
- At least one in three of the appointed functions at and above salary scale 12 should be filled by a woman.
- Making diversity targets part of the discretionary factor for the bonus plan (STI) for senior management.

This also applies to the composition of the Board of Management and Supervisory Board, excluding reappointments.

THINGS WE WANT TO IMPROVE

GENDER DIVERSITY

KPN aims to have 30% women in its workforce at all levels. To reach this target, we implemented additional policies and measures. The 2018 results show that gender diversity in senior management increased slightly in 2018 to 22% women from 20% in 2017. In middle management it was 16% women in 2018 (2017 16%). For KPN as a whole, 22% of the workforce were women in 2018 (2017: 23%). These results are below expectations.

We are committed to creating a workplace where lesbian, gay, bisexual and transgender, queer, intersexual people and people with other sexual and/or gender identity (LGBTQI+) can be themselves and are valued. Our platform KPN Pride addresses LGBTQI+ issues directly related to working at KPN. Together with Workplace Pride, a non-profit organization which encourages LGBTQI+ inclusion in the workplace worldwide, and Leiden University, we sponsored the Workplace Pride Chair, an academic chair for research and teaching in LGBTQI+ topics. We were also one of the sponsors of Rotterdam Pride.

Other diversity networks at KPN are: Still Going Strong (55+), YoungKPN, Colorful KPN (employees with a migration background), Pretty Smart (highly intelligent employees) and KPN reservists (national defense).

Inclusiveness

Every year, we hire at least 20 employees with a weak position in the labor market. We offer them education at an intermediate vocational (MBO) level combined with professional work in the Customer Service department. In one year, they are able to graduate at MBO level. In 2018, 75% of the employees graduated and 35% of them found a paid job inside or outside KPN. KPN also collaborates with the National Elderly Fund to employ elderly people with a weak position in the labor market.

> The output of our business model: Our value drivers

Environmental performance

KPN is recognized by DJSI and CDP as one of the world's most sustainable telecom companies. Our ambition is to become a close to 100% circular company by 2025. In addition, we aim for a 50% reduction in CO_2e emissions in our supply chain by 2040. We collaborate with our suppliers to realize these goals.

KPI	Result 2018	Result 2017
% reduction in KPN's group energy consumption compared to 2010	24%	24%
% reuse and recycling	75%	65%[1]
Energy savings by customers as % of KPN group	81%	60%[2]
Circular procurement: number of additional suppliers that signed the KPN Circular Manifesto	11	7

1 We restated our percentage 2017 (53%) because we extended our scope of flows included. See Appendix 7.
2 In 2018 we updated our Teleworking calculation methodology using more accurate data from CBS on the number of Teleworkers in the Netherlands. On a like for like basis the result for 2017 would have been 77%.

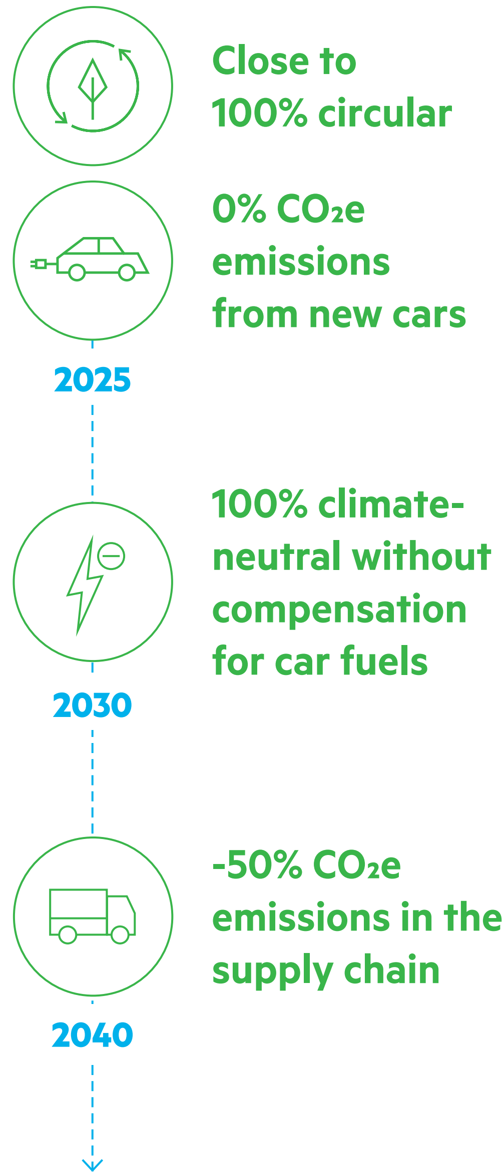
› The output of our business model: Our value drivers

Our ambition for 2025 and beyond

To achieve our goal to be close to 100% circular by 2025, we have set ambitious targets. We will reduce CO_2e emissions from our company car fleet by gradually introducing 100% CO_2e-neutral vehicles. From 2025, all vehicles we add to our fleet must be 100% CO_2e-neutral. We aim to reduce emissions in our supply chain by 20% in 2025 and by 50% in 2040 compared to 2014.

We have committed to remaining climate-neutral until at least 2050. KPN has previously reported targets on 2020 and 2030 energy saving. We are in the process of re-assessing the impact of our updated growth strategy and introduction of new network technology. For this reason, we will not include these long-term targets in this Integrated Annual report.

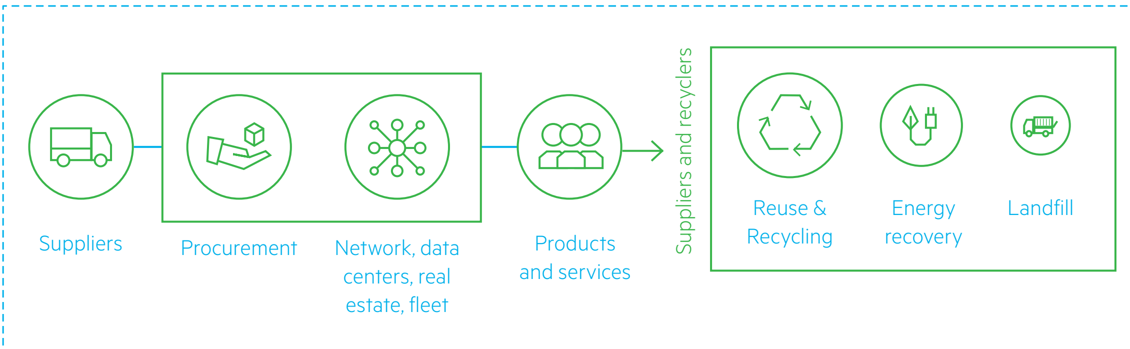
Our CO_2e-reduction objectives have been approved by the Science Based Targets initiative, which means they are in line with the international climate goals of the Paris Agreement. These targets cover our own CO_2e emissions as well as reducing CO_2e emissions in the supply chain, from the production stage of equipment to the stage where our customers use this equipment and our services.



Figures and calculation methodology:
Detailed environmental figures, including intensity figures, targets and avoided energy consumption by our customers can be found in Appendix 7: Environmental figures. Calculation methods are explained in Appendix 3. Overview of major KPIs are shown in Appendix 2.

Integrated approach

Our sustainability approach aims to influence the environmental impact of our total supply chain from suppliers to customers. This encompasses our procurement process, operations and the impact our products and services have before, during and after their use.



Energy and CO_2e reduction

Our energy reduction since 2010 totals 24%, even though the volume of our IT services has almost increased 15-fold in the same period. This is better than our target for 2018, due to additional energy savings in our networks, data centers, offices and cars.

KPN has been climate-neutral since 2015. If we weren't using green energy, our gross location-based CO_2e emissions would be 337 kTon CO_2e. To be climate-neutral, we use 100% green electricity generated by local wind farms and biomass plants. Other CO_2e emissions (9%) due to gas (buildings), gasoline and petrol (cars and emergency power) are compensated with Gold Standard projects and REDD+ forest compensation projects.

CO_2e emissions own operations Scope 1 and 2 (in kTon)[1]

	Gross location-based CO_2e			Net CO_2e Market based		
	2010 base year	2017	2018	2010 base year	2017	2018
Scope 1 NL	59	33	31	59	0	0
Scope 2 NL	345	300	306	79	0	0
Total NL	**405**	**333**	**337**	**139**	**0**	**0**
Total KPN group	**430**	**335**	**337**	**164**	**0**	**0**

1 Underlying energy data are disclosed in Appendix 7.

> The output of our business model: Our value drivers

Becoming circular in our operations
KPN is committed to the principles of a circular economy, which means we try to use fewer materials, enhance product lifespans and take measures to reduce our waste production to zero. We have a roadmap to reach our ambition of having close to 100% circular operations by 2025. We will focus on 10-20 iconic products for KPN in our efforts to aim for circular design, such as in-home equipment like set-top boxes or remote controls and outdoor equipment like street cabinets.

We strive to improve our value chain impact through our procurement process based on sustainable requirements. We supplemented these requirements last year with requirements on circularity. As of end 2018, 11 additional suppliers signed the KPN Circular Manifesto, supporting our ambition, on top of the 7 suppliers that have signed in 2017.

We actively engaged with our suppliers via workshops to improve our shared understanding of (rare earth) metals and improve reuse and recycling in the supply chain. The KPN Circular Manifesto also addresses reduction of CO2e emissions in the supply chain. 75% of the weight of equipment and materials that are part of our 'downstream' value chain are reused or recycled. We aim to save energy and reduce our use of materials by replacing some of our hardware with software.

Circular economy approach

Reduce
Use of virgin materials
- Virtualization
- Dematerialization
- Reused products
- Recycled / biobased materials

Extend
Use products longer and better
- Lifespan extension
- Rates of utilization

Recycle
High-end second life of products and materials
- Reuse
- Recycling

Energy efficiency
Reducing energy usage and increased energy efficiency

Supporting actions

Goal: zero waste

We face a dilemma in seeking to extend the lifespan of equipment: these efforts potentially conflict with efforts to enhance energy efficiency, since they replace equipment with newer, less energy-intensive generations. For this reason, we have included energy efficiency in our circular economy approach, ensuring our efforts to reduce energy are aligned with our circular goal of using fewer materials.

Procurement and suppliers
Our suppliers have an impact on the extent to which KPN can operate as a circular company. We therefore take their environmental and social performance into account. Our procurement process includes an assessment of our new contracted suppliers, classifying them based on the potential social and environmental risks that their operations, products and services represent.
We assess these risks based on three parameters:
- Geographical areas.
- Spend.
- Potential environmental impact of a supplier's operations, products or services.

We updated our Supplier Code of Conduct on living wage, now explicitly stating that suppliers have to ensure that they pay according to national legal standards on minimum wage. Where no national legal standards exist, the remuneration shall be sufficient to meet basic needs (ILO C131 – Minimum Wage Fixing Convention). We identified 53 critical suppliers in 2018. Critical suppliers are audited by independent external auditors. We aim to do this once every 2-4 years. In 2018, KPN worked together with Joint Audit Cooperation (JAC) to audit 42% of our critical Tier I, Tier II and Tier III suppliers.

Our procurement process is then based on a competitive comparison of suppliers and applies economic, technical and ethical criteria to select suppliers. In 2018, we started to add standard corporate social responsibility (CSR) criteria into our tender process. These criteria are:

- Complying with KPN's Supplier Code of Conduct.
- Promoting the reduction of so-called virgin materials (new, not previously used materials).
- Promoting reuse and recycling of KPN products to reduce the amount of landfill.
- Extending the lifecycle of products.
- Promoting the energy efficiency of KPN products.

To promote internal awareness and compliance with our quality standards, our procurement staff attended a training session on environmental, social and governance (ESG) risks to familiarize themselves with requirements set by the industry organization JAC, as well as the latest developments regarding circular criteria in procurement.

All relevant procurement procedures are in accordance with ISO 20400 guidelines. ISO 20400 is the standard for sustainable procurement, which means that products or services procured by KPN have the highest possible positive environmental, social and economic impact. This enables our buyers to take better purchasing decisions.

The goal of the KPN Circular Manifesto is to ensure that the equipment we buy from our suppliers is designed in such a way that it can easily be separated into reusable parts or recyclable materials. Gaining knowledge of which plastics can be recycled or separated is key to achieving this objective. We use certified partners to improve the circularity of our products. Based on the information they provide, we expect to reduce the use of virgin materials in the future and replace them with products and materials designed to be recycled (i.e. with a lifecycle perspective in mind).

Sustainability checks

Cooperation with Joint Audit Cooperation

KPN is a member with JAC. This association of telecom operators aims to verify, assess and develop corporate social responsibility implementation across the manufacturing centers of major multinational suppliers to the IT industry.

JAC audits

Thanks to the gradual increase in the number of members of JAC, 87% of our high-risk suppliers were audited between 2014 and 2018. All audits were carried out in production plants (suppliers and sub-suppliers) located in Asia, Latin America and Eastern Europe. The checks were carried out by international specialist companies selected by competitive tender and covered a total of more than 813,000 workers. The suppliers included in the audit campaign were from the sectors for the user devices and appliances, network appliances and IT equipment production.

Non-conformities

The table below shows the non-conformities recorded during on-site audits conducted in 2015, 2016, 2017 and 2018.

Corrective action plans based on audits conducted by KPN

	2018	2017	2016	2015
Business ethics	4	11	7	19
Discrimination	–	1	–	–
Disciplinary practices	1	–	2	–
Environment	8	12	18	15
Freedom of association	1	1	1	2
Health & safety	23	27	31	45
Labor	4	–	2	5
Unlawful labor	5	1	–	8
Wages & compensation	4	3	6	5
Working hours	7	15	16	9
Other	–	1	–	–
Total	57	72	83	108

For all the non-conformities encountered, we drew up specific corrective action plans (CAPs) that include resolution procedures and timetables. Suppliers and production plants are responsible for following up on these corrective actions. JAC members constantly monitor the implementation of these plans.

› The output of our business model: Our value drivers

CAPs set clear deadlines aiming to complete all corrective actions within 12 months. Although all our suppliers are committed to completing all corrective action plans, we have found that some issues are hard to resolve within one year. In 2018, we closed 77% of all non-conformities raised between 2015 and 2017.

Sustainability initiatives

Working with our suppliers, we implemented the following initiatives in 2018 to improve the sustainability of the supply chain:

Sustainable solution 1

KPN started offering obsolete hardware by means of an e-auction. By optimizing our product's lifecycle, we gain maximum financial and sustainable returns.
KPN selected several parties that committed themselves to our circular annex. This contract includes a set of terms and conditions in line with KPN's circular economy approach. These parties have committed themselves to inform us on the reuse and/or the recycling of our obsolete hardware in a responsible manner.

Sustainable solution 2

As of 2018, KPN started refurbishing all standard retail modems (type 7,360 modems) and PLC adapters instead of shredding the equipment at the end of the lifecycle. In total, more than 11,000 modems and about 2,500 adapters were refurbished and remarketed. As a result, we have cut the amount of waste.

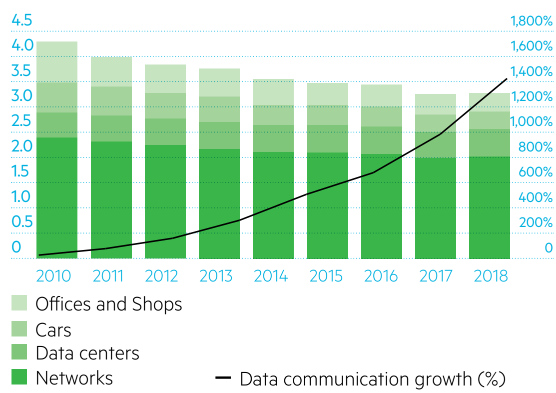
Networks and data centers

Our fixed and mobile networks account for the majority of our electricity consumption (75%). By removing old equipment, replacing it with energy-efficient models and improving cooling, we saved 36 GWh in 2018, which represents 6% of our network energy consumption. This compensates for the increase in energy usage caused by our network expansions and the improved quality and speed of our fixed and mobile networks. In total, our energy efficiency has increased by 12.2% compared to 2010. We have not, however, met our target of 15.5%, mainly because of preparation involved in migrating a datacenter. To further reduce CO_2e emissions, we are continuing to explore ways to reuse the waste heat produced by data centers in Eindhoven, Aalsmeer and Almere.

For 2019, we aim to reduce our power usage efficiency (PUE) by 13% compared to 2010. In some of our data centers, we rent out space to customers to place their own IT equipment. The way they arrange the equipment in that space influences KPN's PUE. Data centers used for hosting services can be more energy efficient, as we can influence the IT and thereby the PUE.

Energy consumption compared to data communication growth

In petajoules



As part of our circular ambition, our network components are migrating to cloud solutions and network function virtualization. This implies that less hardware will be used in the future. Some network equipment is reused, as well as metal server racks in our data centers.

Real estate

We focus on ensuring that the buildings we rent are flexible in terms of both function and layout. Besides flexibility, we also aim for circularity by, among other things, covering a portion of the square meters we use with carpet tiles that contain recycled materials. Some of our furniture is reused or recycled.

We are looking into BREEAM requirements for sustainable offices. Our BREEAM certified offices have saved 55% in energy compared to 2010 by optimizing work space and implementing an energy savings program. We refurbished our new head office in 2018 instead of moving to a new building.

Fleet

From 2025 onwards, we aim to only add new fossil fuel-free company cars. In the meantime, we will reduce the maximum CO_2e emissions of our vehicles by switching to models with cleaner engines that emit less particulate matter. Last year, we reduced fuel use for our leased cars by 44% compared to 2010, which is equal to our 2018 target.

As part of the New Way of Living and Working program, we encourage employees to work at home if possible and work allowing and so reduce greenhouse gas emissions caused by commuting. Given the increased availability of fully electric cars with a longer range, it is possible for all employees entitled to a company lease car to select a fully electric vehicle. Our engineers last year continued their efforts to use fossil-free transport as an alternative to petrol cars, to reduce emissions of particulate matter and CO_2e. In 2018, we added 100 electric cars and 65 biogas cars to continue transforming our fleet, which equates to an inflow of 19% fossil fuel-free cars in total.

Products

Most customer-related products are modems, TV set-top boxes or mobile handsets. For modems and TV set-top boxes, standardization is a good way to ensure reuse and upgrading. We changed the packaging for our new customers, by which we use only FSC carton and reduced the dimensions to save transport footprint.

Also, we improved the energy efficiency of the modems and set-top boxes, leading to a decrease in CO_2e emissions. We improved the calculation method for the collection of modems and set-top boxes, and extended the scope of flows included. This resulted in 67% returns for 2018.

With the approach advocated in the KPN Circular Manifesto, we aim to reduce the use of virgin materials in the products we buy from our manufacturing partners. For Digitenne, we have introduced a set-top box with covers made of 100% recycled steel.

To improve the circularity of our product portfolio, we continue to offer refurbished phones via our KPN and Telfort brands. Our customers can also choose to have their mobile handsets repaired through our repair service or insurance service. We have started a pilot in ten stores with a trade-in offering for customers for mobile phones. Our goal is to ensure circular treatment of these phones by selling them to other customers or using spare parts for repair via our partner network.

Services

IT has a significant role to play in activities to combat climate change and its global impact. According to the Global e-Sustainability Initiative's #SMARTer2030 report on the Netherlands, IT could contribute to a saving of 74 million tons of CO_2e and 5.6 billion liters of fuel in the country by 2030.

As KPN's own operations are climate-neutral, all our services are low-carbon services. Moreover, our customers can reduce their own energy consumption and CO_2e emissions. By using our cloud services, video conferencing and audio conferencing, for example, our business customers can meet and collaborate online, reducing the need for office space and the need to commute. This in turn reduces traffic and so energy consumption, CO_2e emissions and particulate matter.

By 2020, we want our services to save an amount of energy for our customers that equates to more than 85% of KPN's own energy consumption. We measure this avoided energy consumption by calculating the impact on our consumer and business customers of specific products and services (see Appendix 7, table 8). The calculations are based on measured data, available statistics, recognized studies and expert judgments. In 2018, we realized 81% savings, which exceeds our target of 64%.

Using these services helped our customers save about EUR 92 million in energy costs. Most of these savings were due to reduced car fuel consumption (55 million liters). This is the equivalent of the fuel that 63,000 cars use in a year. Additionally, our LoRa network enables energy-efficient IoT applications for our customers such as our Smart City initiatives.

› Our long-term impact on society

Our value for society and contribution to the Sustainable Development Goals

Beyond the direct impact that we make with our core business, we also have an impact on society as a whole. We aim to help the Netherlands move forward with our high-quality connectivity, our contribution to the healthcare sector, our environmental commitments and our support of social inclusion. In this way, we contribute to the Sustainable Development Goals (SDGs).

Our societal impact directly relates to SDG 9 (Industry, Innovation and Infrastructure), SDG 11 (Sustainable Cities and Communities) and SDG 12 (Responsible Consumption and Production). With KPN's focus on the healthcare sector in the Netherlands, we intend to make a considerable contribution to the realization of SDG 3 (Good Health and Well-being). We therefore added this SDG to the primary SDGs we focus on. The focus areas of these SDGs correspond with the topics that we have discussed with our stakeholders throughout the year.

We have a strong potential for positive impact at scale through our business, but our activities also make demands on natural sources, and digitalization also has its negative sides. Being aware of this, we take our responsibility to mitigate potential negative impact. Through multi-stakeholder collaboration, we can accelerate positive impacts on sustainable development. Our impact on society and the realization of the SDGs is set out below.
In 2019, we will continue to increase our efforts and further align the SDG sub-targets with our own KPIs to gain more insight in our impact on the realization of the SDGs.

Apart from our impact on the realization of the SDGs 3, 9, 11 and 12, as explained in the table below, our non-financial objectives and targets also contribute to other SDGs, albeit in a less impactful way. In Appendix 2: Overview and connectivity of non-financial information, we show how our CSR targets and KPIs contribute to the SDGs.

You can find more information on the SDGs and our activities on: https://overons.kpn/nl/kpn-voor-nederland/duurzaamheid/duurzame-ontwikkelingsdoelstellingen-vn. The numbers in the graphics refer to the official SDG numbering and not to KPN's ranking.

Our relevance for society	SDG	Responsibility to mitigate potential negative impact	Strong potential for positive impact	Potential for positive impact in the value chain
Future-proof connectivity p. 52-55	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE Build resilient infrastructure, promote sustainable industrialization and foster innovation	**Safeguarding privacy and security** As communication devices and data systems that our customers use become increasingly interconnected and sophisticated, so do the threats to cyber security and privacy. Therefore, it is vital that we invest in creating a superior network in terms of quality and reliability, with a strong focus on safeguarding privacy and enhancing security for society. On our website, we help people with information and advice.	**Providing the best service on the best infrastructure** We focus on building the best converged networks, making them faster, more secure and ever more reliable. We invest in the automation and digitalization of our end-to-end processes to empower customers, improve time to market and increase speed of innovation. We will accelerate the roll-out of FttH and fully upgrade our mobile network to make sure that we are 5G-ready by using future-proof and flexible technology. We expect to have an all-IP infrastructure by the end of 2021.	**Stimulating innovation in the Netherlands** With our infrastructure, we support economic development and human well-being, with a focus on affordable and equitable access for all. At the same time, we facilitate national technology development, research and innovation.

Our relevance for society	SDG	Responsibility to mitigate potential negative impact	Strong potential for positive impact	Potential for positive impact in the value chain
Social inclusion p. 12-13, 56-57	11 SUSTAINABLE CITIES AND COMMUNITIES Make cities inclusive, safe, resilient and sustainable	**Balancing face-to-face and virtual interaction** Despite all the technology available, loneliness is an increasing social challenge in modern society. We should be careful that digital solutions do not lead to feelings of impoverished personal relationships between e.g. providers and recipients of care. With our corporate foundation, we connect vulnerable groups to society; people in need of social contact, such as the elderly, people with autism or chronically ill children.	**Improving life in the cities** With focused innovation and digital solutions, we make people feel more comfortable and safe, increase the efficiency of businesses and healthcare, and reduce traffic by remote working. With our IT infrastructure and data centers, we provide the means to make cities smarter and cleaner; facilitating services like smart parking, smart traffic lights, autonomous driving and crowd control.	**Engaging remote areas in order to relieve the pressure on cities** We improve the connectivity in rural areas with DSL and 4G-LTE broadband solutions. We expect that this will contribute to growing economic and social activity in those remote areas, releasing the pressure on increasingly densely populated cities. By providing a better infrastructure to communities in remote areas, we may indirectly contribute to a good living environment in the cities.
Improving our environmental performance p. 67-73	12 RESPONSIBLE CONSUMPTION AND PRODUCTION Ensure sustainable consumption and production patterns	**Dealing with increasing use of energy** New technologies will enable people to create new businesses and to upload, download and stream faster than before. Technologies require electricity. We aim to limit the negative impact of our activities, products and services on the climate and the environment. Our own operations are climate-neutral and all our services are low-carbon. We have started a program to become a circular company by 2025 and collaborate with our suppliers to implement solutions for a more sustainable supply chain.	**Future-proof technology makes business more sustainable** We constantly deploy our infrastructure and networks to co-create solutions for a more sustainable use of the environment. Our new technologies and digital solutions increase the efficiency of businesses and make them more sustainable. We avoid the production of equipment by e.g. offering cloud services in our green data centers, we avoid traffic by remote monitoring, remote working and optimizing logistics processes.	**Helping our customers to save energy** Despite the energy new technologies underlying our services and products require, we enable our customers to reduce the energy consumption in their business while using our services. This can have a positive effect on the climate.
Healthcare of the future p. 58	3 GOOD HEALTH AND WELL-BEING Ensure healthy lives and promoting the well-being at all ages is essential to sustainable development.	**Fighting the side-effects of connectivity** Side effects of the intensive use of telecommunications, like myopia, are still under investigation. On our website we help parents with information and advice concerning dilemma's on what is best for the well-being for children with regards to i.e. social media, extensive gaming and general screen time.	**Supporting the health care sector** KPN offers IT-solutions for the health care sector. Our partners have direct positive impact on health care. KPN facilitates in products and services which can improve the accessibility of the healthcare.	**Keeping healthcare accessible, affordable and scalable** With our focus on new technologies and digital solutions, the healthcare sector can increase its efficiency. In the future, more care will be given at home and remote monitoring of patients will become the norm. Safe and secure connections must transfer data that the patient generates at home into their electronic patient file and the right technology must ensure that patients can access data and that information can be shared between patients and healthcare institutions.

> Corporate governance

Steering the strategy

The corporate governance framework of KPN is in line with the requirements of the Dutch Civil Code, the Dutch Corporate Governance Code and applicable laws and regulations, including securities laws, and is based on our strategy. Furthermore, the company is governed by its Articles of Association and internal procedures, such as the by-laws of the Board of Management and the Executive Committee and the by-laws of the Supervisory Board.

Legal structure of the company

Royal KPN N.V. is a public limited liability company established under the laws of the Netherlands, with ordinary shares listed on Euronext Amsterdam. The Articles of Association of KPN were last amended on 20 April 2018.

KPN has a two-tier management structure with a Board of Management and a Supervisory Board. KPN qualifies as a 'large company' (structuurvennootschap) within the meaning of the Dutch Civil Code and applies the relevant rules of Dutch corporate law. The Board of Management is entrusted with the management of the company. Since September 2018, KPN manages its business operations through an Executive Committee, as will be further elaborated on hereafter. The Supervisory Board oversees strategic and commercial policymaking by the Board of Management and the way in which it manages and directs KPN's operations. In the performance of their duties, the members of the Board of Management and the Supervisory Board are guided by the interests of the company and the enterprise connected therewith and take the relevant stakeholder interests into account. The Board of Management is accountable to the General Meeting of Shareholders in accordance with Dutch legislation.

See Note 23 to the Consolidated Financial Statements for details of KPN's legal structure.

Shareholders

Share capital, listings and indices

KPN's authorized share capital totals EUR 720m, divided into nine billion ordinary shares of EUR 4ct each and nine billion preference shares B of EUR 4ct each. As of 31 December 2018, a total of 4,202,844,404 ordinary shares were outstanding. Since 13 June 1994, KPN's ordinary shares have been listed on Euronext Amsterdam (ticker: KPN). KPN has a Level I ADR program, which allows investors to trade KPN ADRs in the United States on the over-the-counter market (ticker symbol: KKPNY). KPN shares are included in a number of leading indices, including: AEX, the EURO STOXX Telecommunications Index and the STOXX Europe 600 Telecommunications Index.

General Meeting of Shareholders

The General Meeting of Shareholders holds all powers that have not been granted to other company bodies. It has the authority to appoint members of the Supervisory Board, upon binding nomination by the Supervisory Board and to dismiss the Supervisory Board. The General Meeting of Shareholders furthermore adopts the Financial Statements, releases the members of the Board of Management and Supervisory Board from liability, determines the dividend, determines the remuneration for members of the Supervisory Board and approves the remuneration policy and share (option) plans for the Board of Management. Furthermore, certain decisions are subject to the approval of the General Meeting of Shareholders, including decisions entailing a significant change in the identity or character of the company or its business and corporate matters, such as amendments to the Articles of Association of the company, a (de)merger or the dissolution of the company, and the issuance of shares or reduction of the issued capital of the company.

Within four months of the end of every fiscal year, the Board of Management prepares Financial Statements, accompanied by an Integrated Annual Report. The Financial Statements are submitted to the Supervisory Board for approval, and subsequently (within 6 months from the end of the fiscal year) to the Annual General Meeting (AGM) of Shareholders for adoption, and to the Central Works Council for information purposes. Adoption of the Financial Statements does not automatically discharge the Board of Management or the Supervisory Board from liability. This requires a separate resolution by the AGM of Shareholders.

Further General Meetings of Shareholders are held as often as the Supervisory Board or Board of Management deem necessary. The Board of Management and the Supervisory Board determine the agenda of the General Meetings of Shareholders. Shareholders who individually or collectively represent at least 1% of the issued capital or who, according to the Official Price List of Euronext Amsterdam, represent at least a value of EUR 50m have the right to propose items for the agenda, within the boundaries of the law. Every shareholder has the right to attend a General Meeting of Shareholders, in person or through written proxy, to address the meeting and to exercise voting rights.

Obligations to disclose holdings

Pursuant to the Dutch Financial Supervision Act (Wft, Wet op het financieel toezicht), legal entities as well as natural persons must immediately notify the Dutch Authority for the Financial Markets (AFM) when a shareholding reaches, exceeds or falls below certain thresholds of the issued capital. The AFM incorporates these notifications in the public register, which is available on its website. Read more in Note 21 to the Financial Statements for the KPN shareholding as at 31 December 2018.

Please see 'Composition of the boards' starting on page 88 for information on the composition of the Board of Management and the Supervisory Board, insider transactions and share ownership by the members of the Board of Management and Supervisory Board.

Drawing

Purchase of shares in the company's own capital and issuance of new shares

With the general aim of flexibility in financing of the company, the General Meeting of Shareholders authorized the Board of Management to purchase shares in the company's own capital and also decided to reduce the issued capital through cancellation of own shares held by the company by a number that could be determined by the Board of Management.

Furthermore, the General Meeting of Shareholders also designated the Board of Management as the body authorized to issue ordinary shares and to grant rights to subscribe for ordinary shares and to restrict or exclude statutory pre-emptive rights of existing shareholders upon such issuance or granting of rights.

The above authorities and decisions are limited to a maximum of 10% of the issued capital as of 18 April 2018 and are applicable until 18 October 2019. Resolutions by the Board of Management implementing the above are subject to the approval of the Supervisory Board.

The authorities were not used during 2018.

Supervisory Board

The Supervisory Board supervises and advises the Board of Management, guided by the interests of the company and the enterprise connected therewith and taking into account the interests of the stakeholders. Major investments, acquisitions and corporate matters are subject to Supervisory Board approval. The Supervisory Board observes the functioning of the Executive Committee, has regular interaction with all members of the Executive Committee and can invite Executive Committee members to attend a Supervisory Board meeting.

Corporate governance

Members of the Supervisory Board are appointed by the General Meeting of Shareholders upon binding nomination by the Supervisory Board. The Central Works Council has an enhanced right to recommend persons for nomination to the Supervisory Board for up to one-third of its members. The Supervisory Board must nominate the recommended persons unless it is of the opinion that any such person would be unsuitable to fulfill the duties of a Supervisory Board member or such appointment would cause the Supervisory Board to be improperly constituted. Pursuant to a specific arrangement with América Móvil, América Móvil has the right to designate one person to be nominated by the Supervisory Board for appointment as a member of the Supervisory Board.
According to the Articles of Association, the Supervisory Board must comprise of at least five and not more than nine members. Members of the Supervisory Board resign according to a schedule set by the Supervisory Board. A member steps down at the first AGM of Shareholders following their first term in office. In accordance with the Dutch Corporate Governance Code, members of the Supervisory Board can be reappointed once and thereafter for a maximum of two terms of two years, stating reasons for such further reappointment. The Supervisory Board has determined its 'profile', defining the basic principles for its composition. All nominees for election to the Supervisory Board must fit this profile. According to this profile, the Supervisory Board must be composed in such a way that members of the Supervisory Board are able to operate independently of each other and of the Board of Management. The profile is available on KPN's website.

The by-laws of the Supervisory Board comprise, inter alia, rules regarding the members' duties, powers, working methods and decision-making, what decisions by the Board of Management it must approve, training and conflict handling. The by-laws are available on KPN's website.

Committees of the Supervisory Board

The Supervisory Board has four committees: the Audit Committee, the Remuneration Committee, the Nominating & Corporate Governance Committee and the Strategy & Organization Committee. These committees assist the Supervisory Board in its decision-making and report their findings to the Supervisory Board. The tasks of these committees are laid down in charters, which are available on KPN's website. Further information on the activities of the committees in 2018 can be found in the Supervisory Board Report, starting on page 95.

Board of Management and Executive Committee

The Board of Management is responsible for setting KPN's strategy and for managing KPN's strategic, commercial, financial, operational, CSR and organizational matters. In September 2018, the Executive Committee was established, comprising the members of the Board of Management and certain key officers. This structure ensures functional, operational and commercial expertise is entrenched at the highest level in the organization. The task of the Executive Committee is to manage the enterprise of the company together with the Board of Management. In principle, all matters related to the execution of the strategy and the day-to-day operations of the company are managed and resolved by the Executive Committee. The Board of Management is accountable for the actions of the Executive Committee and holds ultimate responsibility for the management of KPN.
Certain matters, including setting the strategy, annual plan and risk appetite of the company, mergers and acquisitions, corporate finance and corporate governance matters, have been designated as 'reserved matters', and are managed solely by the Board of Management. In addition, the Board of Management can at all times decide to reserve any subject for its own decision-making. The Board of Management is accountable for its performance to the Supervisory Board and to the shareholders of the company at the AGM. In performing their duties, the Board of Management and the Executive Committee focus on long-term value creation for the company and the enterprise connected therewith, taking into account the interests of the stakeholders.

The members of the Board of Management are appointed and dismissed by the Supervisory Board. Members of the Board of Management are appointed for a maximum of four years per term. The other members of the Executive Committee are appointed by the Board of Management, after consultation with the Supervisory Board.

The by-laws of the Board of Management and the Executive Committee contain, among other things, rules regarding the members' duties, powers, working methods and decision-making and conflict handling. The by-laws are available on KPN's website.

Corporate social responsibility governance

Corporate social responsibility (CSR) is embedded in KPN's organizational structure. CSR themes are defined and approved by the Executive Committee, including their ambitions and KPIs. Every CSR theme is assigned to a member of the senior management who, as theme owner, is responsible for stakeholder dialog, targets, progress and results. Each theme owner heads a committee, consisting of management of the key departments involved in this theme. Every five weeks, the theme owners get together to discuss how to align initiatives over the various themes and review progress against targets, with a member of the Board of Management periodically in attendance. This meeting is chaired by KPN's CSR Manager, who is responsible for the overall reporting, approach and cohesion. The CSR Manager reports to the Director Corporate Communication & CSR, who is a member of the Executive Committee and responsible for the communication to the Executive Committee. Four times a year, CSR data is included in the overall set of business KPIs that is reported to and discussed with the Board of Management. In order to obtain sufficient outside reflection, an Advisory Board consisting of external experts has been established to advise KPN on its approach to CSR.

Compliance with the Dutch Corporate Governance Code

KPN complies with all best practices of the Dutch Corporate Governance Code. Until 15 September 2018 KPN deviated from best practice 3.2.3 regarding severance payments, where it respected the agreement with Mr. Van der Post, which included a severance payment of 18 months' base salary during his first term of appointment (as was accepted under the previous version of the Dutch Corporate Governance Code). Since Mr. Van der Post's resignation as a member of the Board of Management on 15 September 2018, this deviation has ended.

An overview of all principles and best practices of the Dutch Corporate Governance Code as well as KPN's application thereof in accordance with the 'comply or explain' principle is available on KPN's website.

Conflict of interest

The handling of conflicts of interest between the company and members of the Board of Management or Supervisory Board is governed by Dutch law, the relevant provisions of the Dutch Corporate Governance Code and the by-laws of the respective boards.

A board member is required to immediately report any (potential) conflict of interest that is of material significance to the company and/or to the member concerned and/or to the chairman of the Supervisory Board (or, in case of the chairman, to the vice-chairman of the Supervisory Board). A member of the Executive Committee, other than a member of the Board of Management, is required to immediately report any (potential) conflict of interest in a matter that is of material significance to the company and/or to the member concerned to the CEO and to the other members of the Board of Management. The relevant board member or member of the Executive Committee shall not take part in discussions or decision-making on a subject in which they have a conflict of interest. Decisions to enter into transactions in which there are conflicts of interest with members of each of these company bodies that are of material significance to the company or such member require the approval of the Supervisory Board (or, in case of a member of the Executive Committee, of the Board of Management).

There were no conflicts of interest in 2018.

For the Statement by the Board of Management and Responsibility Statement, see page 87.

External auditor

The external auditor is responsible for the audit of the Financial Statements. The General Meeting of Shareholders appoints the external auditor on a yearly basis, upon a proposal by the Supervisory Board. The external auditor reports to the Board of Management, the Audit Committee and the Supervisory Board to discuss findings pertaining to their agreed upon procedures for the quarterly financial results and audit of the annual financial results. The external auditor attends the AGM of Shareholders to answer questions pertaining to the Combined Independent Auditor's Report, as included in the Integrated Annual Report. The Audit Committee approves every engagement of the external auditor, after pre-approval by the internal auditor, to ensure the external auditor's independence. All Audit Committee meetings were attended by the external auditor. For the role of the internal auditor, see page 86.

Corporate governance

Foundation Preference Shares B KPN (Stichting Preferente Aandelen B KPN)

KPN has granted a call option, which is not limited in time, to the Foundation Preference Shares B KPN (the Foundation), to acquire a number of preference shares B in KPN, which have the same voting rights as ordinary shares, not exceeding the total issued number of ordinary shares, minus one share and minus any shares already issued to the Foundation. Upon exercise of the call option, 25% of the nominal value of EUR 4ct per Class B preference share needs to be paid by the Foundation. According to its Articles of Association, the statutory goal of the Foundation is "to protect KPN's interests (which includes the interests of stakeholders, such as customers, shareholders and employees), by, among others, protecting KPN from influences that may threaten its continuity, independence and identity". Consequently, in the event of any circumstances where the company is subject to influences as described above and taking public security considerations into account, the board of the Foundation may decide to exercise the call option, with a view to enabling the company to determine its position in relation to the circumstances as referred to above, and seek alternatives. The board of the Foundation is of the opinion that under normal circumstances it should not exercise its voting rights for longer than a limited period.

The members of the board of the Foundation are J.H. Schraven (Chairman), A.P. Aris, P. Wakkie, F.J.G.M. Cremers and F. van der Wel (succeeding J.E.F. Klaassen as of 1 January 2019). The Board of Management has concluded that the board of the Foundation is independent from KPN in accordance with parts c and d of the first subsection of article 5:71 of the Dutch Financial Supervision Act.

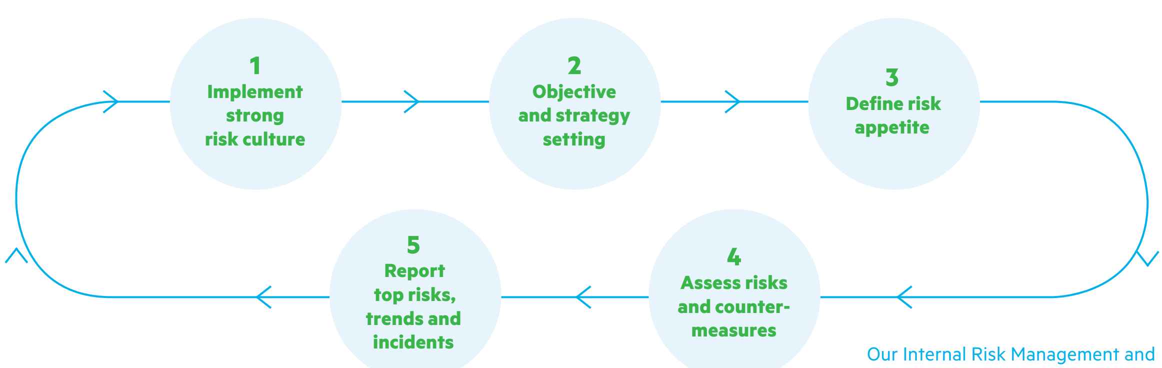
The views of the board of the Foundation, summarized above, have been published on the Foundation's website (www.prefs-kpn.nl).

> Compliance and risk

Compliance and risk

Deploying effective risk management is a key success factor for realizing our strategic objectives as it provides reasonable assurance against material misstatement or loss. For this reason, KPN has implemented Internal Risk Management and Control Systems. The underlying methodology is based on relevant criteria as set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Key components of the systems are discussed in more detail below.

Maintaining effective Internal Risk Management and Control Systems requires a continuous and iterative process involving several steps. A strong risk culture and control environment forms an important foundation of our control systems. After setting the strategy, the Board of Management defines its willingness to accept risks (risk appetite) in the pursuit of strategic objectives. Management subsequently assesses the main risks that could hinder the realization of the strategic objectives and defines and implements countermeasures to mitigate such risks, taking into account the risk appetite. Periodically, KPN's performance, the top risks, countermeasures, trends and incidents are reported to and discussed with the Board of Management, which defines further remedial actions if necessary.



Our Internal Risk Management and Control Systems and methodology

Compliance and risk

1. Implement a strong risk culture (control environment)

KPN strives for a business culture in which compliance and integrity are self-evident for all employees. This is, among others, realized by the following actions:

- The KPN Code of Conduct (the Code) applies to all KPN employees, including the Board of Management, the Supervisory Board , the Executive Committee and temporary staff. It describes how we work in an open, transparent, honest and socially responsible way. We communicate the Code on our corporate website (ir.kpn.com), our intranet, via a mandatory e-learning training for all our employees and via online learning interventions ('Workouts') that target specific segments of the employee population. We have a stringent approach to bribery and corruption, fraud and all other forms of (illegal) misconduct, including facilitation payments. The effectiveness of, and compliance with, the Code is structurally assessed by:
  - Actively detecting and investigating any alleged misconduct and taking appropriate disciplinary action if misconduct is substantiated.
  - Monitoring that all staff (both internal and external) completed the e-learning training for the Code.
  - Structural reporting of incidents to the Board of Management and (at least annually) to the Supervisory Board.

- To strengthen the tone at the top and in other management levels, we frequently conduct fraud risk assessments, including a risk assessment on attitude and behavior, and provide integrity training.
- To emphasize desired company culture and behavior and create awareness in the business, we have implemented a communication and training program on compliance and integrity subjects. Information that is important to share because of (changes in) applicable policies, laws or regulations or because of a necessity or demand in business (risk- or need-based) is shared by e-learning, workshop or classroom training.
- The Business Control Framework (BCF) comprises all corporate policies and guidelines that are mandatory for all of KPN's segments and entities.
- KPN requires all employees and encourages external parties to (anonymously, if desired) report any misconduct by KPN employees (or suspicion thereof). Our whistleblower policy complies with the Dutch Whistleblower Act.
- We periodically measure the state of organizational culture, compliance and integrity as perceived by our employees and report results as well as plans for improvement to senior management, and initiate responses, if deemed necessary.
- The Board of Management has a discretionary authority to adapt the variable compensation of senior executives, based on their demonstrable efforts in promoting a culture of compliance and integrity.

2. Objective and strategy setting

KPN's objectives and strategy are described on page 28. During the objective and strategy setting process, top management takes into account the company's known risks and opportunities, and its risk appetite (see next step). The objectives and strategy are discussed with the Supervisory Board.

3. Define risk appetite

Pursuing any business objective inevitably leads to taking risks. Risks can jeopardize achieving those objectives in various ways. Each type of risk encountered is being dealt with in a manner that matches the risk appetite of the Board of Management. The risk appetite is the total residual impact of risks that KPN is willing to accept in the pursuit of its (strategic) objectives. The risk appetite per strategic objective or risk area is determined annually by the Board of Management. These risk areas comprise themes such as financial, operational, strategic, compliance and (information) security themes.

Risk areas with a low risk appetite, and hence a low acceptable residual risk, require strong risk management and strong internal controls. Risk areas with a high risk appetite require relatively less risk management and internal control effort. Our main risks and our response to those risks are summarized on page 85 of this Integrated Annual Report.

KPN has a prudent risk appetite, which can be described per risk category as follows:

Strategic risks: In the pursuit of our strategic objectives, KPN is willing to accept reasonable risks in a responsible way, taking into account our stakeholders' interests.

Operational risks: KPN is committed to a high quality of customer service resulting in an increasing NPS. We aim to limit the number of interruptions in our networks, services and systems as much as possible. We implement strict policies to keep our customer data private, safe and secure.

Financial risks: We strive for the right balance between a prudent financing policy, sufficient investments in the business and fair shareholder remuneration. KPN is committed to an investment-grade credit profile. Read more in Note 12 to the Financial Statements. For tax matters, KPN has defined a detailed tax risk appetite dashboard.

Compliance risks: We are committed to fully complying with relevant laws and regulations and have a zero tolerance approach to bribery and corruption, fraud and all other forms of (illegal) misconduct.

Financial reporting risks: We have effective control frameworks in place to minimize the risk of material misstatements and errors in our financial statements.

4. Assess risks and countermeasures

KPN has implemented effective Internal Risk Management and Control Systems to manage its main risks. The main part of these systems comprises seven KPN Internal Control Systems, that cover the most relevant risk areas for KPN, as summarized in the table below:

KPN Control System	Control system objective
Liquidity Management and Financial Framework	Maintaining sufficient liquidity for continuity purposes and maintaining financing flexibility
Year Plan & Year Outlook	Creating shareholder value
Network Service Levels	Maintaining customer service delivery levels
RFR GRIP Framework	Maintaining investor trust
Compliance Frameworks	Maintaining licenses to operate
Main non-financial KPIs	Measuring strategic success & integrated reporting
IT Security and Continuity	Mitigating cyber threats

Strategic objectives

Every year, we assess the top risks at Group (top down approach) and Segment level (bottom up) and, if necessary, we implement countermeasures to mitigate them within the defined risk appetite. We conducted risk assessments with our Commercial and Operations segments, as well as with selected staff functions in the Corporate Center.

The business objectives are detailed in a strategic business plan. Every quarter, segments perform a 'most likely' forecast four to six quarters ahead on their main financials and key performance indicators (the rolling forecast). Segments update main risks and opportunities, resulting in a bandwidth of outcomes around expected performance. Each month, segment management discusses their actual performance with the Board of Management.

Operational objectives

KPN has business continuity plans in place to safeguard the continuity of services to customers and critical systems and processes. To manage our information security and privacy risks, we have implemented the KPN Security Policy as part of the BCF (for more details, refer to the separate Privacy and security chapter on pages 60-63).

We have implemented ISO standards in designated areas to improve operational processes. Additionally, we continuously simplify services and processes. We implemented quality improvement plans such as First Time Right and continued to focus on improving NPS. Risks related to climate change and compliance with new environmental legislations are incorporated in our risk management and control systems. For example, flooding risks are managed in KPN's business continuity strategy. With our climate-neutral performance for our own operations and continued focus on absolute energy reduction, we are in a very good position to meet new regulations and customers' expectations (read more in the chapter on Environmental performance, page 67).

Our main suppliers comply with the Supplier Code of Conduct. Via this code, suppliers confirm that they support and respect the protection of internationally proclaimed human rights and operate in the spirit of the Charter of the United Nations (e.g. by preventing discrimination, child labor or forced labor, and by recognizing and respecting the environment in their business operations). Compliance with environmental law is covered by our ISO14001 certificate.

› Compliance and risk

Financial objectives

KPN's Corporate Treasury department manages risks related to cash positions, finance agreements, credit ratings, currency and interest exposures, and non-life insurance (see Note 12 to the Financial Statements). Corporate Treasury has defined policies with clear boundaries for these risks. Compliance with these policies is monitored frequently.

As part of KPN's tax strategy, the Corporate Tax Department recommends the most tax-efficient and responsible approach in the interest of all stakeholders, while adhering to KPN's tax policy and complying with all relevant tax laws and regulations. This determines KPN's overall tax risk appetite. As KPN proactively engages with (Dutch) tax authorities, tax exposures (if any) are contained and under control. Besides a potential tax exposure, reputational risk is always part of the consideration to apply particular tax planning.

Financial reporting objectives

Our internal controls for Reliable Financial Reporting (also known as RFR GRIP Framework) ensure that material misstatements in KPN's Financial Statements are prevented or detected in a timely manner. Each quarter, Risk Management and KPN Audit assess the overall effectiveness of the controls before publication of the quarterly figures.

The Disclosure Committee examines all reports and documents containing financial information that are intended for external publication, to ensure that these fairly present KPN's financial position and results.

Compliance objectives

Our compliance risk assessment (CRA) framework comprises an integrated framework that oversees risks mainly related to compliance with telecommunications, competition, financial services (e.g. credit) and privacy legislation. Additionally, we monitor compliance with Solvency II requirements (KPN Insurance). For compliance risks, relevant processes and controls have been implemented and are continuously monitored. For risks related to our regulated business (as designated by the Netherlands Authority for Consumers & Markets to have significant market power), compliance controls are tested by dedicated staff all year round.

5. Report top risks, trends and incidents

Segment management provides the Board of Management with a quarterly assurance letter regarding the reliability of their financial reporting, the effectiveness of their internal controls over financial reporting, risk management and compliance with telecommunication laws, internal policies and other laws and regulations. Twice a year, Corporate Control reports top risks and countermeasures to the Board of Management, including main improvement actions, if any.

Summary of main risks and countermeasures

The table on page 85 provides a summary of KPN's main risks and countermeasures, including the expected trends and impact. It also lists the KPIs that are used to monitor the development of the risks and the realization of our risk appetite. The KPIs are frequently monitored in KPN's planning and control cycle and discussed in the Board of Management's business reviews with segment management, including improvement actions where necessary. This is important as the risks of service interruptions, threats to confidentiality, integrity or availability of networks and increased costs as a result of frequency auctions might directly affect our external stakeholders.

For a more extensive list of our risks and countermeasures, see Appendix 4.

This extensive list also reflects two emerging risks that KPN identifies for the near term:

- Geopolitical volatility, driven by rising international tensions, protectionism and security concerns, may impact our ability to do business in any part of the world. These concerns could lead to international bans and other sanctions on suppliers of hardware and software. Reference is made to Appendix 4, page 218.
- KPN may not be able to attract and retain qualified and diverse members of staff, as the battle for talent is increasing rapidly. This could lead to insufficient competency in KPN's workforce, for example in the area of engineers and security or digitalization experts. Reference is made to Appendix 4, page 219.

As set forth in section 3 sub 1.c of the Non-financial Information Disclosure Decree (Besluit bekendmaking niet-financiële informatie) of 14 March 2017, KPN identified and assessed its main risks regarding environmental, social and personnel matters, human rights and anti-bribery and corruption. For more details on these risks, see Appendix 4.

Strategic objective	Risk	Risk category and risk appetite	Main countermeasures (summary)	Impact
Organic sustainable growth; Focusing on profitable growth segments	Increased competition from current competitors or new market entrants, or new emerging disruptive technologies Trend: ↗	Strategic risk KPN is willing to accept reasonable risks in a responsible way.	> Offer converged services such as KPN ÉÉN and KPN Compleet > Implement the best converged smart infrastructure e.g. by accelerating fiber roll-out and full modernization of mobile network > Focus on profitable segments and high-value customers > Improve NPS and offer high quality of service to customers > Develop new additional services for customers	High: the described risk could lead to lower profitability as well as lower market shares. In the longer run, it could impact our continuity. **Monitoring KPI:** Market shares
Best converged smart infrastructure; Accelerating simplification and digitalization	Damage, service interruptions, operational issues in KPN's technical infrastructure and IT Insufficient transformation progress by reducing complexity, legacy and costs in KPN's operations Trend: →	Operational risk KPN is committed to a high quality of customer services and to limit disruptions as much as possible.	> Accelerating fiber roll-out and full modernization of mobile network, moving to All IP > Monitor performance of technical infrastructure and IT > Back-up and recovery plans in case of emergencies (e.g. 'be alert' procedures) > Implement lean operating model: including rationalization of networks, IT and portfolio	Medium; the incidents could negatively impact KPN's customer satisfaction, reputation and profitability. **Monitoring KPI:** NPS Weighted downtime reduction
Organic sustainable growth; generic	Threats to the confidentiality, integrity or availability of KPN's networks, systems or (customer) data caused by cyber attacks or terrorism Trend: ↗	Operational risk KPN is committed to limit incidents as much as possible and implements strict policies to keep our customer data private, safe and secure.	> Continue and reinforce strategic security programs, such as Permanent Vulnerability Management > Continued implementation of the KPN Security Policy > Continue and strengthen Security Operations Center	High; the incidents could lead to loss/theft of customer data, higher costs, penalties and reputational damage. This risk could impact our continuity. **Monitoring KPI:** Potential harm of security incident # data leakages
Generic	New regulatory decisions in the EU and the Netherlands. Non-compliance with regulation, including privacy and tax regulations Trend: ↗	Compliance risk KPN is committed to full compliance with relevant laws and regulations.	> Proactive stakeholder and reputation management including dialog with regulators > Strengthening the effectiveness of the compliance organization and internal controls > Proactive internal compliance investigations	Medium; the risk could affect KPN's future operations and profitability and cause reputational damage. **Monitoring KPI:** Fines # incidents reported to regulators
Building the best converged smart infrastructure (100% 5G ready by end 2021)	Frequency auctions in the Netherlands could entail high costs. Trend: →	Strategic and financial risk KPN is willing to accept reasonable risks in a responsible way.	> Preparation of auctions by experienced KPN team and external experts; simulation of auctions > Investigate alternative combinations of spectrum and advanced techniques to meet required technology	High; KPN could pay a high price for the required spectrum. This risk could impact our continuity. **Monitoring KPI:** N/a

↗ risk is increasing (worsening) → risk is stable ↘ risk is decreasing (not as bad)

Compliance and risk

Internal Audit

KPN's internal audit function, KPN Audit assesses, in line with Dutch Corporate Governance requirements, the design and effectiveness of the Internal Risk Management and Control Systems and provides assurance to both the Board of Management and the Audit Committee concerning the 'In Control status' of KPN's organization and processes.

Moreover, KPN Audit conducts ad hoc financial, information technology, strategic and operational audits and special investigations. KPN Audit conducts its activities in a manner based on a continuous evaluation of perceived business risks and has full and unrestricted access to all activities, documents, records, properties and staff. The Chief Auditor reports to KPN's CEO, quarterly KPN Audit reports are submitted to and discussed with both the Board of Management and the Audit Committee. KPN Audit liaises extensively with the external auditor, inter alia, based on International Standard on Auditing 610.

Governance of risk management and compliance – three lines of defense

Although the Board of Management is ultimately responsible for risk management and compliance, it is business management's duty to effectively identify, assess and manage the main risks of the company, in line with the steps discussed in the previous paragraphs (first line of defense). The Risk Management and Compliance departments (second line) are responsible for the design of the risk management and compliance policies, and to support and challenge business management in their assessment and management of top risks. KPN Audit (third line) performs, where necessary, independent reviews of the design and operational effectiveness of the Internal Risk Management and Control Systems. The main results of both the risk assessments and the evaluation of the internal Risk Management and Control Systems are shared with the Audit Committee of the Supervisory Board and discussed with the external auditor.

Description and evaluation of the Internal Risk Management and Control Systems

As set forth by principle 1.2 of the Dutch Corporate Goverance Code and related best practice provisions, KPN has designed and implemented Internal Risk Management and Control Systems to identify and manage the risks associated with the company's strategy and activities. In 2018, KPN Audit systematically assessed the effectiveness of these systems. A summary of the main internal Risk Management and Control Systems is provided in the preceding paragraphs.

During the assessment of the design and operating effectiveness of the systems, certain weaknesses and improvement actions were identified and implemented. However, none of these were classified as a major failing, as referred to in best practice provision 1.4.2 sub iii. For example, our continuous monitoring of technical, commercial and financial base differences led to in-depth analysis resolving potential invoice errors.

In 2018, KPN was subject to two penalty cases for breaches of the law, both relating to telecommunication law. The penalties were before 2016. In one of these cases the Court annulled the imposed penalty of (originally) EUR 5,700,000. A final decision is still pending for the other cases, of which the penalty amounts to EUR 1,990,000.

Statement by the Board of Management and Responsibility Statement

Statement by the Board of Management

The Board of Management is responsible for the effectiveness of the design and operation of KPN's Internal Risk Management and Control Systems. These have been designed to manage the risks that may prevent KPN from achieving its objectives. However, these Internal Risk Management and Control Systems cannot provide absolute assurance that material misstatements, fraud and violations of laws and regulations have been avoided. The Board of Management reviewed and analyzed:

- The strategic, operational, financial, financial reporting and regulatory and compliance risks, as discussed in section Summary of main risks and countermeasures on page 84 and 85; and
- The design and operational effectiveness of the Internal Risk Management and Control Systems, as discussed on pages 81 to 84 of this Integrated Annual Report.

The results of this review and analysis were shared with the Audit Committee and Supervisory Board and discussed with KPN's external auditors.

With reference to best practice provision 1.4.3 of the Dutch Corporate Governance Code and the chapter 'Compliance and risk', including Appendix 4, in this Integrated Annual Report, the Board of Management states that, to the best of its knowledge:

i. This Integrated Annual Report provides sufficient insights into major failings in the effectiveness of the Internal Risk Management and Control Systems. There are no major failings to report, see also paragraph 'Description and evaluation of the Internal Risk Management and Control Systems' on page 86.

ii. The aforementioned systems provide reasonable assurance that the financial reporting, as included in the Financial Statements on pages 112 to 183, does not contain any material inaccuracies.

iii. Based on the current state of affairs, it is justified that the financial reporting, as included in the Financial Statements on pages 112 to 183, is prepared on a going concern basis.

iv. This Integrated Annual Report states those material risks and uncertainties that are relevant to the expectation of the company's continuity for the period of twelve months after the preparation of this report.

Responsibility Statement

With reference to section 5.25c paragraph 2c of the Financial Markets Supervision Act, the Board of Management states that, to the best of its knowledge:

- The Financial Statements of 2018 give a true and fair view of the assets, liabilities, financial position and profit or loss of KPN and its consolidated companies.
- The Integrated Annual Report gives a true and fair review of the position as at 31 December 2018, the development during 2018 of KPN and its group companies included in the Financial Statements, together with a description of the top risks KPN faces.

Rotterdam, 22 February 2019

Maximo Ibarra
Chairman of the Board of Management
and Chief Executive Officer

Jan Kees de Jager
Member of the Board of Management
and Chief Financial Officer

Joost Farwerck
Member of the Board of Management
and Chief Operating Officer

› Composition of the boards

Board of Management

The Board of Management manages KPN's strategic, commercial, financial, CSR and organizational matters. The Board of Management currently consists of three members.

At the AGM of Shareholders on 18 April 2018, Mr. Blok resigned from office as Chairman of the Board of Management and CEO. He was succeeded by Mr. Ibarra. Following the change in the structure of the Board of Management and the establishment of the Executive Committee in September 2018, Mr. F.H.M. van der Post stepped down as member of the Board of Management on 15 September 2018.

All members of the Board of Management comply with clause 2:132a of the Dutch Civil Code, which limits the number of positions in a supervisory or management board that a director may hold.

Composition of the Board of Management

Name	Position	Year of birth	Start of term	End of current term
M. Ibarra	Chairman of the Board of Management and Chief Executive Officer	1968	April 2018	2022
J.C. de Jager	Board member and Chief Financial Officer	1969	September 2014/ April 2018*	2022
J.F.E. Farwerck	Board member and Chief Operating Officer	1965	April 2013/ April 2017*	2021

* Reappointment

M. Ibarra
Mr. Ibarra was appointed as Chairman of the Board of Management and Chief Executive Officer on 18 April 2018. Mr. Ibarra is renowned for his experience in digitalization, marketing and customer centricity. He previously worked for the Italian company Wind Telecommunications, where he served as CEO from 2012 onwards. From 2016, as CEO of Wind Telecommunications, he was responsible for the integration of the 50/50 joint venture between the Italian telecommunications activities of VEON (Wind Telecommunications) and CK Hutchison (3 Italia). Mr. Ibarra joined Wind Telecommunications in 2004 and served in a number of leadership roles until his appointment as CEO in 2012. Prior to joining Wind Telecommunications, Mr. Ibarra held several leadership and commercial positions at a number of companies including Benetton, FIAT and DHL. In the early days of his career, he held several marketing related roles at Vodafone Italy and Telecom Italia. In addition, he was Professor of Marketing and Digital Marketing at the Luiss University & Business School in Rome. Mr. Ibarra is a member of the Supervisory Board of Mediobanca (Italy). Mr. Ibarra has the Colombian and Italian nationality.

J.C. de Jager
Mr. De Jager is a member of the Board of Management and Chief Financial Officer. From 2007 to 2012, Mr. De Jager was a member of the Dutch government, first as State Secretary for Finance (from 2007 to 2010), thereafter as Minister of Finance (from 2010 to 2012). As Minister of Finance, Mr. De Jager's responsibilities encompassed the budget, general financial and economic policy, supervision of financial markets and cooperation with international financial institutions. As State Secretary for Finance, Mr. De Jager was responsible for many change processes, among others within the Dutch Tax and Customs Administration. From 1992 to 2007, Mr. de Jager founded and was Managing Partner at ISM eCompany, an e-business solutions company, for which he acted as special advisor after resigning from the Dutch Cabinet until he was appointed to the board of KPN in September 2014. Mr. De Jager is a member of the board of Stichting AECA Nederland and the chair of the Economic Board Zuid-Holland. Mr. De Jager is a Dutch citizen.

J.F.E. Farwerck
Mr. Farwerck is a member of the Board of Management and Chief Operating Officer. Mr. Farwerck started working at KPN in 1994 and has held senior management positions in various divisions. He has been responsible for all of KPN's activities in the Netherlands as Managing Director Netherlands since February 2012 and has been responsible for the operating activities of KPN as Chief Operating Officer since September 2014. Mr. Farwerck is a member of the executive committee of VNO-NCW, a member of the board of Nederland-ICT, of the board of The Hague Security Delta and of the board of FME, as well as a member of the Cyber Security Council. He is also a member of the Strategic Advisory Board TNO. Mr. Farwerck is a Dutch citizen.

› Composition of the boards

Composition of the Executive Committee

The Executive Committee comprises the members of the Board of Management (Chief Executive Officer (CEO), Chief Financial Officer (CFO) and Chief Operating Officer (COO)) and the following senior management:

Babak Fouladi
Chief Technology & Digital Officer

Jean-Pascal van Overbeke
Chief Consumer Market

Marieke Snoep
Chief Business Market

Hilde Garssen
Chief People Officer

Hans Koeleman
Chief Corporate Communications & CSR

Paolo Nanni
Chief Transformation Officer

Jasper Spanbroek
General Counsel & Company Secretary

Wouter Stammeijer
Chief Strategy Officer

> Composition of the boards

Supervisory Board

The Supervisory Board oversees strategic and commercial policymaking by the Board of Management and the way in which it manages and directs KPN's operations. KPN's Supervisory Board currently consists of eight members.

At the AGM of Shareholders on 18 April 2018, Mr. Sickinghe and Mrs. Zuiderwijk were re-appointed as members of the Supervisory Board.

All members of the Supervisory Board comply with clause 2:142a of the Dutch Civil Code, which limits the number of positions on a supervisory or management board that a director may hold.

Two vacancies will arise at the closure of the AGM of Shareholders in 2019, as Mr. Hartman and Ms. Sap will be stepping down, having reached the end of their four-year term of office.

Mr. Spanbroek, General Counsel and Company Secretary and member of the Executive Committee, acts as secretary to the Supervisory Board.

D.W. Sickinghe
Mr. Sickinghe was appointed Chairman of the Supervisory Board on 15 April 2015. Mr. Sickinghe is Managing Director of Fortino Capital (Belgium). Furthermore, he is Chairman of the Supervisory Board of Van Eeghen & Co (the Netherlands), member of the board of uniBreda (Belgium) and member of the board of Guberna (Belgium). Mr. Sickinghe was previously Chief Executive Officer and member of the Board of Telenet N.V. (Belgium) in the period 2001-2013. Prior to that, he held various management positions at Hewlett-Packard (Switzerland), NeXT Computer (France), Wolters Kluwer (the Netherlands) and was founder of Software Direct (France). Mr. Sickinghe is a Dutch citizen.

Composition of the Supervisory Board

				Committees			
Name	**Year of birth**	**Start of term**	**End of current term**	**Strategy & Organization Committee**	**Nominating & Corporate Governance Committee**	**Audit Committee**	**Remuneration Committee**
D.W. Sickinghe (Chairman Supervisory Board)	1958	9 April 2014 18 April 2018*	2022	X	X		X
P.A.M. van Bommel	1957	12 April 2012 13 April 2016*	2020			X	
C.J. García Moreno Elizondo	1957	10 April 2013 12 April 2017*	2021			X	
D.J. Haank (Vice-Chairman)	1953	7 April 2009 10 April 2013* 12 April 2017*	2021	X	X		X
P.F. Hartman	1949	15 April 2015	2019		X		X
E.J.C. Overbeek	1967	4 September 2017	2021	X			
J.C.M. Sap	1963	15 April 2015	2019			X	
C.J.G. Zuiderwijk	1962	9 April 2014 18 April 2018*	2022		X		X

X Chairman X Member * Reappointment

P.A.M. van Bommel

Mr. Van Bommel is currently a member of the Board of Management and CFO of ASM International N.V. and, as part of that position, also a non-executive director of ASM PT (Hong Kong). Furthermore, he is a member of the Supervisory Board of Neways Electronics International N.V. Before his appointment as CFO at ASMI, Mr. Van Bommel was CFO at Odersun, CFO at NXP and CFO at various divisions of Philips. Mr. Van Bommel is a Dutch citizen.

C.J. García Moreno Elizondo

Mr. García Moreno Elizondo is currently CFO of América Móvil. He is member of the Board of Directors of Grupo Financiero Banco Inbursa and member of the Board of Directors of Nacional Financiera. He is also a member of the Supervisory Board of Telekom Austria Group. Prior to joining América Móvil, Mr. García Moreno Elizondo held positions at, among others, the Mexican Ministry of Finance as the Director General of Public Credit and at the Swiss Bank Corporation Warburg as Executive Director and Managing Director. Mr. García Moreno Elizondo is a Mexican citizen.

D.J. Haank

Mr. Haank is currently member of the Supervisory Board of TomTom N.V., member of the Supervisory Board of Singel Uitgeverijen, member of the Supervisory Board of Albelli B.V. and non-executive Board member of SPI Technologies Singapore. Mr. Haank was the CEO of SpringerNature, and prior to that the CEO of Elsevier Science and Executive Board member of Reed Elsevier PLC. Mr. Haank is a Dutch citizen.

P.F. Hartman

Mr. Hartman is currently the chairman of the Supervisory Board of Fokker Technologies Group B.V. and of Texel Airport N.V. and non-executive director of Constellium B.V. and member of the Advisory Board of Aviation Glass & Technology. He was vice-chair of the Supervisory Board of Air France-KLM Group in 2013 - 2017. Before that, he spent 40 years working for KLM, the last seven of those as CEO. Mr. Hartman is a Dutch citizen.

E.J.C. Overbeek

Mr. Overbeek is Chief Executive Officer of HERE Technologies. Having spent nearly 30 years in the ICT industry, Mr Overbeek has gained extensive experience in the global digital and communication industry. Prior to joining HERE Technologies, he held several management roles at Cisco, including leading the global services organization and the Asia-Pacific, Japan & China region. Mr. Overbeek is a Dutch citizen.

J.C.M. Sap

Ms. Sap holds several supervisory positions, including chairing the Supervisory Boards of the GGZ affiliate Arkin, the Netherlands Public Health Federation and Fairfood International. Ms. Sap is also a member of the Supervisory Board of KPMG N.V. and non-executive director of Renewi plc. Between 2008 and 2012, Ms. Sap represented the Dutch Green Party, GroenLinks, in the lower house of the Dutch parliament, the last two years of which she was party leader. Before that, she worked as an economist in the fields of science, policy and business. She was, inter alia, head of the Incomes Policy department at the Ministry of Social Affairs and Employment and director of the LEEFtijd center of expertise, a consultancy for sustainable employment issues. Ms. Sap is a Dutch citizen.

C.J.G. Zuiderwijk

Mrs. Zuiderwijk is chair of the Board of Management of the Dutch Chamber of Commerce. She is currently a member of the Supervisory Board of APG and is also a member of Forum Smart Industry and of the NL2025 network. Mrs. Zuiderwijk worked for PinkRoccade in various management functions from 1993 to 2003. Thereafter, Mrs. Zuiderwijk chaired the board of the Hilversum hospital and, following the merger with the Gooi Noord hospital, the Board of the Tergooi hospitals. Mrs. Zuiderwijk was also a member of the Innovation Platform of the Dutch government (from April 2007 to May 2010) and a member of the Care Innovation Platform of the Dutch Ministry of Health (from April 2008 to May 2010). Mrs. Zuiderwijk is a Dutch citizen.

Insider transactions

KPN employees that have access to inside information because of their employment, profession or duties, including all members of the Board of Management, Executive Committee and Supervisory Board, are subject to the Code of Conduct 'Inside Information'. This Code of Conduct comprises rules for the possession of and transactions in KPN securities by such employees. Members of the Board of Management and Supervisory Board are furthermore subject to reporting obligations to the AFM.

The following table provides an overview of transactions in 2018 by members of KPN's Board of Management and Supervisory Board.

Date	Name	Transaction	Price per share
16 April	E. Blok	Vesting of 172.86% of the 378,878 conditional KPN shares awarded as LTI 2015 into 350,680 ordinary KPN shares (after sale of part of the shares to finance the income tax)	EUR -
16 April	J.C. de Jager	Vesting of 172.86% of the 185,724 conditional KPN shares awarded as LTI 2015 into 171,901 ordinary KPN shares (after sale of part of the shares to finance the income tax)	EUR -
16 April	J.F.E. Farwerck	Vesting of 172.86% of the 170,867 conditional KPN shares awarded as LTI 2015 into 158,150 ordinary KPN shares (after sale of part of the shares to finance the income tax)	EUR -
16 April	F.H.M. van der Post	Vesting of 172.86% of the 208,012 conditional KPN shares awarded as LTI 2015 into 192,530 ordinary KPN shares (after sale of part of the shares to finance the income tax)	EUR -
19 April	M. Ibarra	Award of 511,032 conditional KPN shares (LTI 2018)	EUR -
19 April	J.C. de Jager	Award of 245,951 conditional KPN shares (LTI 2018)	EUR -
19 April	F.H.M. van der Post	Award of 255,061 conditional KPN shares (LTI 2018)	EUR -
19 April	J.F.E. Farwerck	Award of 227,733 conditional KPN shares (LTI 2018)	EUR -
18 May	M. Ibarra	Award of 79,554 conditional shares subject to a retention period as compensation for services and availability	EUR -
18 December	M. Ibarra	Bought 100,000 ordinary KPN shares	EUR 2.62

› Composition of the boards

Stock ownership Board of Management[1]

Number of ordinary shares	31 December 2018	31 December 2017
M. Ibarra	100,000	-
J.C. de Jager	491,284	319,383
J.F.E. Farwerck	369,236	211,086

1 Shares held by current members of the Board of Management (including vested shares in lock-up period). Share ownership relates to ordinary shares. In 2011, a share ownership recommendation was introduced whereby the members of the Board of Management are encouraged to acquire company shares equal to one times the annual fixed compensation for members of the Board of Management (excluding CEO) and two times the annual fixed compensation for the CEO (read more in Note 5). Retained vested shares as part of the LTI will be included in the share ownership recommendation.

Stock ownership Supervisory Board

Number of ordinary shares	December 31, 2018	December 31, 2017
D.W. Sickinghe	380,000	380,000
P.A.M. van Bommel	114,000	114,000
D.J. Haank	24,351	24,351

> Report by the Supervisory Board

Supervisory Board Report

2018 was a pivotal year for KPN. The appointment of a new CEO led to several important changes in both policy and governance. The Supervisory Board has executed a broad agenda, as will be further elaborated on in this report.

At the heart of the tasks of the Supervisory Board is the safeguarding of the long-term value of our company, in the interest of its various stakeholders – most notably our customers, our employees and our shareholders. By enabling our employees to use their talents and skills to provide the best services to our customers, we create returns to our shareholders' investments – a true symbiosis.

The year 2018

Strategy

The appointment of Maximo Ibarra as new CEO in April 2018 was the starting point of a review of the company's strategy, resulting in an updated strategy for the coming years. The Supervisory Board was closely involved in the development of this updated strategy, most notably during a two-day meeting in July. In this meeting, the Board of Management presented its views on the status of the company and in particular on the next steps it envisaged. The Supervisory Board extensively discussed the key components thereof with the Board of Management during this session. In subsequent meetings in the second half of the year, further attention was given to the implementation plans for the key pillars of the new strategy, such as the network roll-out and the Business segment strategy.

The plan to build the best converged infrastructure, underpinned by accelerated fiber roll-out, full mobile network modernization and accelerated simplification of the operating model received the Supervisory Board's full support. For a telco operator, the quality of its access network remains a key driver of competitive advantage. Fiber is perceived as the superior and future-proof technology and therefore the logical next step for KPN's roll-out. On top of that, the quality and availability of mobile access is a crucial contributor to the optimal service provision to our customers. Following investments in upgraded copper and 4G over the past years, further investments in the best converged infrastructure – through fiber and 5G - are the natural and necessary next step for a sustainable future. At the same time, it was important to keep the investment levels within reasonable boundaries, leading to a substantial rebalancing of the investment mix, to ensure a stable capex envelope in absolute terms.

The Supervisory Board was also fully aligned on other key elements of the updated strategy, including the further focus on the company's core business as provider of connectivity and adjacent services, the integration of the multiple acquisitions over the past years, and the further simplification of the company and its product portfolio. Accelerated simplification and the transformation to a digital operating model, will make KPN lean, faster, and more agile and will at the same time deliver sustainable improvements in KPN's indirect opex base.

All these elements together are aimed at bringing 'organic sustainable growth', as was rightly chosen as the key indicator of the updated strategy. In the last months of the year, the Supervisory Board reviewed the translation of the strategy into the annual plan for 2019, which it approved in its December meeting. In this review, it gave specific attention to the measures to mitigate identified risks in the plan, including the required speed of implementation of the multi-year indirect opex reduction program and the revenue expectations.

Governance

To support the updated strategic direction and to strengthen the execution power of the company in a rapidly changing environment, the Supervisory Board worked closely with the

› Report by the Supervisory Board

CEO to make changes to the governance structure and management of the company. The institution of an Executive Committee aims to lead the operations of the company and support the Board of Management in both formulating and implementing the strategy. It enables all key players to be involved in decision-making, and strengthens the speed and power with which implementation of such decisions can take place. To ensure that the division of roles and responsibilities between the Executive Committee, the Board of Management and the Supervisory Board is clear and unambiguous, new rules of procedure have been agreed. These rules amongst others enable the Supervisory Board to keep a good oversight over the broader Executive Committee, and therewith over the developments in the total company. Also in practice, there are frequent contacts between (members of) the Supervisory Board and members of the Executive Committee, and members of the Executive Committee attend parts of the meetings of the Supervisory Board.

In setting up the Executive Committee, new positions were created to lead the Consumer Market, Business Market and Technology & Digital departments. This results in clear end-to-end responsibilities, and a dedicated focus on technology and customers. New management was brought in to provide the company with fresh insights and strong experience from the industry. The Supervisory Board – through its Nominating & Corporate Governance Committee - reviewed the candidates for these positions and provided its feedback on each of them. In anticipation of these changes, Frank van der Post agreed to step down from the Board of Management, prior to the original end date of his first term. The Supervisory Board is grateful to Mr. van der Post for his achievements in his position as Chief Commercial Officer, most notably visible in the strong improvement in customer satisfaction in the past years. Finally, the Supervisory Board agreed to the changed portfolio for Mr. Farwerck in the Board of Management, focusing on Regulatory & Public Affairs, New Business division, Wholesale Business Unit and the oversight of Joint Ventures & Partnerships.

The Supervisory Board continued to have a regular dialog with the Central Works Council, and appreciates the open and professional relationship between the Central Works Council, the Board of Management and the Supervisory Board.

Business performance

Throughout the year, the Supervisory Board continuously reviewed the development of the business and the related financial results. It based its review on presentations by management, the review of monthly and quarterly results, and its contacts with members of staff. Overall, it felt that performance was solid but that the competitive pressure, the fast moving market and certain underlying trends made it critical to continuously invest in the development of the business to ensure sustainable growth going forward. Furthermore, results were still supported by inorganic growth through earlier acquisitions and free cash flow growth was supported by improving the company's financing. Ultimately, acquisitions should be integrated in, and supportive to, KPN's core business performance. In this respect, the Supervisory Board critically reviewed and discussed the plans for integration of companies acquired in recent years with KPN's existing security activities and overall portfolio.

Corporate social responsibility ('CSR') has, over the past years, become an integral part of KPN's strategy. KPN is conscious of its contributions to society and the UN Sustainable Development Goals, whether directly through its products and services, through the way it runs its business, or via its charity fund 'KPN Mooiste Contact Fonds'. At the same time, it is very much aware that e.g. its energy consumption is amongst the highest in the country, and acts to reduce its consumption levels, remain CO_2e neutral, and to become close to 100% circular by 2025. The Supervisory Board supports this integral approach towards sustainability.
In the first quarter of the year, the Supervisory Board monitored the intended sale of iBasis to Tofane. It supported the strategic rationale of the transaction, given the current strategic focus of the company on its Dutch business. It reviewed and approved the key terms of the transaction, and the accounting (as 'discontinued operation') as of the transaction date.

About the Supervisory Board

The composition of the Supervisory Board remained unamended in 2018, with the reappointments of the Ms. Zuiderwijk and Mr. Sickinghe at the General Meeting of Shareholders in April. Although with 25% female members the Supervisory Board has not yet reached the desired level of 30%, it does have a strong mix of backgrounds and experience, supporting a diverse view on a wide range of topics. At all times, the composition of the Supervisory Board was such, that the members were able to act critically and independently of one another, the Board of Management and any particular interest involved, as provided for under best practice provisions 2.1.7 to 2.1.9 of the Dutch Corporate Governance Code. Throughout the year, seven members of the Supervisory Board, including the Chairman, were independent from the Company within the meaning of these provisions. Mr. García Moreno Elizondo, who was appointed upon the nomination of America Móvil, is not considered independent under provision 2.1.8 of the Dutch Corporate Governance Code. For an overview of the current skills and competences in the Supervisory Board, please refer to the skills matrix. See Note 22 to the Consolidated Financial Statements for information on related party transactions.

Skills / Characteristics	D.W. Sickinghe	D.J. Haank	P.A.M. van Bommel	C.J. García Moreno	C.J.G. Zuiderwijk	P.F. Hartman	J.C.M. Sap	E.J.C. Overbeek
Business leadership	x	x	x	x	x	x		x
Industry knowledge (Telco)	x			x				x
Industry knowledge (IT)	x				x			x
Commercial	x	x			x	x		x
Operational	x				x	x		x
Employment / social relations					x	x	x	
Society / government relations					x	x	x	
Corporate social responsibility							x	
Financial markets	x	x	x	x				
Finance, audit & risk	x	x	x	x			x	
Financial experts (Dutch Corporate Governance Code)			x	x				
International experience	x	x	x	x		x		x
Executive / Non-executive								
(Full-time) Executive position at another company	x	x	x	x	x			x
Mainly non-executive role						x	x	
Diversity								
Male	x	x	x	x		x		x
Female					x		x	

Also in the coming years, we will continue to review the composition of our Board, with an aim to maintaining a diverse composition, and reaching the level of 30% female members. In this context it is noted that, in case of potential reappointments, the Supervisory Board would first determine whether the existing member would be (proposed for) reappointment, and aim for further female candidates if the existing member will not be reappointed. Given that consideration, we believe the diverse composition of the Supervisory Board can be reached by 2022 at the latest. At the end of the 2019 AGM, both Ms. Sap and Mr. Hartman will have reached the end of their first term of office. The position of Ms. Sap is subject to the enhanced right of recommendation of the Central Works Council, which recommended her reappointment. Based on the skills matrix, the Supervisory Board believes Ms. Sap fits the profile of the Supervisory Board and the desired skills, and therefore happily accepts the recommendation. For the position of Mr. Hartman, key requirements include experience in managing large companies, strong social relations and a broad network in business and politics. The Committee concluded that a reappointment of Mr. Hartman would best fit this profile. The Central Works Council and Board of Management support the nomination.

The Supervisory Board annually evaluates its own performance. Whereas this is normally done in December or January, given the important changes in the company's governance structure and management in the last months of 2018, we have decided to delay this evaluation to the first half

› Report by the Supervisory Board

of 2019, to be able to include the first observations and insights from this change in our evaluation. We intend to use the support of an independent expert for this review, and will report on it in the next annual report.

Meetings

The Supervisory Board met on 8 occasions in 2018, of which 7 were regularly scheduled. Most meetings took – at least partly - place with the Board of Management. Also outside of formal board meetings, members of the Supervisory Board were in frequent contact. The overall attendance at the Supervisory Board meetings was 91%. An overview of attendance per member of the Supervisory Board and per Committee is provided in the table. All members had adequate time available to prepare themselves and give the required attention to the matters at hand. In the event members could not join a meeting, the Chairman discussed the matters at hand before and after the meeting, in order to obtain the input and views of all Supervisory Board members.

Name	Board (8)	Audit (5)	SOC (1)[1]	RemCo (6)	NomCo (5)
Van Bommel	100%	100%			
Garcia Moreno	75%	60%			
Hartman	100%		100%	100%	100%
Haank	88%		100%		
Overbeek	75%		100%		
Sap	88%	100%			
Sickinghe	100%		100%	100%	100%
Zuiderwijk	100%		100%	100%	100%
Total	**91%**	**87%**	**100%**	**100%**	**100%**

1 Mr. Overbeek joined the Board in the course on the year, and attended 5 out of 6 board meetings, but could not attend the one meeting of the SOC that was held since he joined.

Meetings of the Supervisory Board always commenced with a closed part, in which only the members of the Board and (partly) the CEO would participate. In the quarterly meetings, this closed session was normally followed by a meeting in which all members of the Board of Management, and possibly relevant members of the Executive Committee, would be present. This 'open' part of the meeting typically starts with presentations by management on the state of the business, followed by a discussion on one or more strategic or otherwise relevant topics, the review of the quarterly disclosures and any decisions that need to be taken. When deemed relevant, the meetings may also end with a 'closed' part.

Committee Reporting

The Supervisory Board has established four Committees: The Audit Committee, the Remuneration Committee (RemCo), the Nomination and Corporate Governance Committee (NomCo) and the Strategy and Organization Committee (SOC). The main considerations and conclusions of each Committee were shared with the full Supervisory Board.

Audit Committee

The Audit Committee had five regularly scheduled meetings in 2018, all of which were also attended by the CFO, the external auditor Ernst & Young Accountants LLP ('EY'), the Internal Auditor and the Director Corporate Control. The Chairman of the Supervisory Board frequently attended the meetings. The Audit Committee – as well as the Chairman of the Supervisory Board- met separately with EY, the independent external auditor appointed by the General Meeting of Shareholders.

In line with its tasks, the Audit Committee reviews and discusses all financially relevant matters that are presented to the Supervisory Board, most notably the quarterly and annual reporting and (the financial and risk-related aspects of) the strategic plan. It has a specific focus on the effectiveness and outcome of the internal control framework and the risk management systems of the company, for which it receives and reviews reports by the internal auditor, the Compliance Office and the Disclosure Committee. Each quarter, the Audit Committee also reviews the conclusions of the external auditor, as included in its Board Report. Overall, the

Committee is satisfied by the processes around external reporting as operated by the company, as is also confirmed by the reports from the internal and external auditors. The audit plans, both for the internal and external auditor, are annually reviewed by the Committee, and are subsequently submitted to the full Supervisory Board for its approval.

During 2018, the Audit Committee also monitored KPN's financing policy and profile. It reviewed and supported the proposals for dividend payments throughout the year and concluded that, although the total dividend paid over 2017 was slightly higher than the profit available for distribution, and therefore required a withdrawal from the freely distributable reserves, such decision could be taken in reason, taking into account the stakeholders' interests. The Committee also oversaw the redemption of the EUR 1.1bn hybrid bond, issued in March 2013, at its first call date. It furthermore monitored the monetization of (part of) the stake held in Telefónica Deutschland and supported regular updates of its financing arrangements.

As to the updated strategy, the Committee supported the Supervisory Board in analyzing the risks in the plan, most notably the execution risks and the safeguards built in for that. It concluded that the level of risk was within the risk appetite and therefore acceptable. The Committee, on behalf of the Supervisory Board, would continue to monitor the actual risk management and realization of the plan, as well as Capex deployment, throughout the year.

The Audit Committee furthermore discussed other topics that were within its scope of attention, most notably the impact and implementation of IFRS 15 and 16 and other accounting matters, compliance, fraud management, tax, and Cyber Security.

Finally, the Audit Committee reviewed the performance evaluation of EY over 2018. It concluded, also based on inputs from management and the internal auditor, that EY had done a good job, had sufficient objectivity and independence, being both critical when necessary, and constructive when possible. It therefore recommended to the full Supervisory Board to nominate EY for appointment to the 2019 General Meeting of Shareholders as the company's independent external auditor for the financial year 2020.

Strategy and Organization Committee

The Strategy and Organization Committee met only once in a formal committee meeting in January, reviewing the ongoing transformation of the Business segment and discussions on content acquisition in Consumer segment. It also discussed the intended sale of iBasis, and supported the strategic rationale for that.

Following the appointment of the new CEO and in light of the subsequent full strategy update, the Supervisory Board decided to review the company's strategy in the framework of the full board. The Strategy and Organization Committee was reshaped to be a standing sounding committee on strategic matters for the Board of Management. It had no more formal meetings, but its members had frequent ad hoc contacts with the CEO or other members of the Board of Management on specific matters related to the strategy.

Remuneration Committee

The Remuneration Committee met on six occasions during 2018. The CEO attended (parts of) the Committee meetings. The Committee assisted the Supervisory Board in executing and reviewing KPN's remuneration policy and ensuring that members of the Board of Management are compensated consistently with that policy.

As part of its annually recurring tasks, the Committee defined the level of pay-out for individual members of the Board of Management as part of the STI plan 2017 and LTI grant 2015, and determined the financial and non-financial targets and performance criteria for the STI and LTI plans 2018 for the Board of Management.

During 2018 the Committee undertook a full review of the remuneration policy, to establish whether the policy was still in line with the company's objectives and market practice. An initial review confirmed that KPN's remuneration policy is broadly in line with current market practice, and there was no need for a full overhaul. The Committee did however conclude that the policy could be further improved and aligned with the company's strategy by enhancing the simplicity and long-term focus of the plan, as well as share ownership for members of the Board of Management. It therefore considered various alternatives to reach these goals, leading to a proposal for an updated remuneration policy, as will be submitted to the General Meeting of Shareholders for its approval. The main elements of the change include a reduction in the number of performance criteria and a rebalancing of the weight between these criteria, the introduction of strategic performance criteria, an extended holding period for shares and increased share ownership guidelines (including partial payment of the annual STI variable pay in shares until such guidelines have been met) and updated reference peer groups. A detailed description of the proposed changes will be included in the meeting documents for the General Meeting of Shareholders

Report by the Supervisory Board

to be held in April 2019. In the review of the remuneration policy, the Committee used the services of Korn Ferry, a specialized and independent remuneration consultancy firm.

During an annual evaluation meeting with the individual members of the Board of Management, the Committee took note of the views of their members on their own remuneration. The Committee also reviewed and supported the proposed remuneration packages of the newly recruited members of the Executive Committee.

Further details on the remuneration policy are provided in the 'Remuneration Report' starting on page 101.

Nomination and Corporate Governance Committee

The Nomination and Corporate Governance Committee met on five occasions in 2018. The Committee was closely involved in setting up the new Executive Committee structure. It discussed the governance structure and the division of tasks and responsibilities between the Executive Committee, the Board of Management and the Supervisory Board, ensuring sufficient oversight by the Supervisory Board over the activities of both the Board of Management and the Executive Committee. The rules of procedure developed in this respect were incorporated in new By-Laws of the Board of Management and the Executive Committee, as approved by the Supervisory Board in October.

In line with the new governance, members of the Executive Committee are appointed, dismissed or suspended by the Board of Management, after consultation of the Supervisory Board. On behalf of the Supervisory Board, the Nomination Committee interviewed various candidates for appointment to the Executive Committee, most notably Mr. van Overbeke, Ms. Snoep, Mr. Fouladi, Ms. Garssen and Mr. Nanni.
As to the composition of the Board of Management, the Committee proposed the reappointment of Mr. de Jager as CFO in early 2018, and supported the change in portfolio for Mr. Farwerck in autumn, as part of the new governance structure of the company. In summer, the Committee led the process of departure of Mr. van der Post to facilitate the new governance structure. In line with his contractual arrangements, Mr. van der Post received a severance payment of 18 months base salary as part of the arrangements around his departure.
The Committee noted that this amount is higher than currently mentioned as best practice by the Dutch Corporate Governance Code, but concluded that it was in line with the previous code, which was applicable when the initial contract with Mr. van der Post was entered into (as was disclosed in previous Annual Reports). The Committee therefore concluded that it could and should live up to its contractual obligations.

As to the composition of the Supervisory Board itself, the Committee steered the process leading to the proposed reappointment of Mr. Hartman and Ms. Sap, who are are due to step down at the 2019 General Meeting of Shareholders. Please refer to 'About the Supervisory Board' above for a further explanation on the reasons for these nominations.

Financial Statements

The Financial Statements for the year ended December 31, 2018, were prepared by the Board of Management and approved by the Supervisory Board. The Report of the Independent Auditor, Ernst & Young Accountants LLP, is included in the 'Other Information' on pages 184-192.
The Supervisory Board recommends that the AGM adopts these Financial Statements.

Final remarks

We are much indebted to our customers - individuals, families, small and big companies or organizations. We strive to improve our services each day. Our employees and management make us who we are. Their daily actions, initiatives and commitment constitute the DNA of our company. Our business partners enable us to reach our goals together. Our shareholders and bondholders trust us with their financial resources to allow us to finance our business. We aim to be an engaged member of the Dutch society at large.

The Supervisory Board is grateful to all stakeholders for their contribution to our company.

Duco W. Sickinghe, Chairman

Peter A.M. van Bommel
Carlos J. Garcia Moreno Elizondo
Derk J. Haank
Peter F. Hartman
Edzard J.C. Overbeek
Jolande C.M. Sap
Claudia J.G. Zuiderwijk

Remuneration Report

Introduction

We are committed to preserving the confidence and trust of our stakeholders by presenting the details and implementation of our remuneration policy for the Board of Management.

KPN's core values are Customer, Together and Simplicity, which form the essence of our organizational culture. Considering these core values and also being aware of the public debate surrounding the topic of executive remuneration, we strive to balance our core values and all stakeholder interests in our remuneration programs. We thereby emphasize short- and long-term value creation through pay-for-performance based on financial and non-financial targets and benchmarked competitive pay levels. This ensures a strong alignment with the company's annual performance goals and long-term value creation strategy based on addressing the needs and challenges of society.

The Remuneration Committee's (the Committee) tasks are laid down in the terms of reference of the Committee. The Committee assists the Supervisory Board with establishing, implementing and reviewing the company's remuneration policy to ensure that members of the Board of Management are compensated in consistence with that policy. The Chairman and members of the Remuneration Committee are appointed by the Supervisory Board. The Committee currently consists of Mr. Hartman (Chairman), Mr. Sickinghe, Mrs. Zuiderwijk and Mr. Haank.

KPN's remuneration policy; a balanced approach between long-term value creation and short-term performance

The objectives and principles of KPN's remuneration policy are based on a balanced approach between market competitive standards, the ratio between fixed- and variable pay (with a focus on long-term value creation) and the economic and social contribution of the company linked to the non-financial parameters of the variable pay.

Objectives:	Principles:
Market competitive standards:	
Attracting, motivating and retaining the necessary leadership talent	Paying at market-competitive level
Complying with best practice in corporate governance	Enhancing transparency and clarity
Supporting a work environment where inspiring leadership is the norm	Differentiating by experience and responsibility, while promoting internal fairness
Ratio base/variable pay (focus on long-term value creation):	
Driving performance based on digitalization and simplification that generates long-term sustainable and profitable growth	Paying for performance
Encouraging customer satisfaction and loyalty, agility and innovation	Rewarding a customer centric approach
Economic and social contribution:	
Creating economic value by addressing the needs and challenges of society	Balancing all stakeholder interests

Overview

A – Executive remuneration at a glance
Highlights of KPN's remuneration policy and actual remuneration

B – Executive remuneration policy – overview
In-depth insight into KPN's remuneration policy for the Board of Management and execution thereof

C – Supervisory Board pay policy
Highlights of KPN's remuneration policy for the Supervisory Board

› Remuneration Report

A. Executive remuneration at a glance

Considering the objectives and principles of our remuneration policy, the pay mix for executives consists of the following four elements that are further explained in this report:

Component	Form	Fixed/variable	Drivers
Base salary	Cash	Fixed	Experience and responsibility
Benefits (primarily pensions)	Funded by cash contributions	Fixed	Market-competitive standards
Short-term Incentive (STI)	Cash	Variable	Performance – assessed through annual financial and non-financial targets
Long-term Incentive (LTI)	Conditional shares	Variable	Performance – assessed through relative TSR (peer group), free cash flow, earnings per share and non-financial parameters

The ratio between fixed and variable pay

The ratio between fixed and variable pay is influenced by the extent to which targets are met. The following pie charts represent the pay mix for both the CEO and the other board members in case of an on-target performance. The different pay mix for the CEO (when compared to the other executives) reflects the outcome of the benchmark reference.

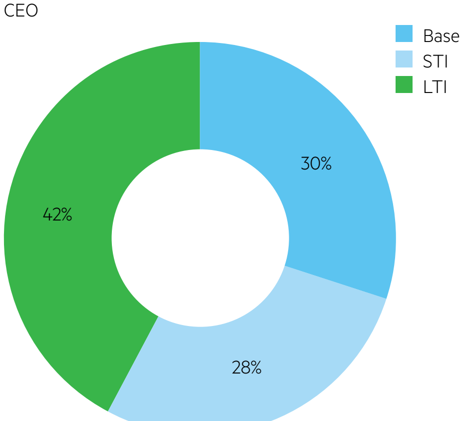
KPN's benchmarked remuneration levels

KPN's remuneration levels are benchmarked against other companies in order to ensure that KPN's total level of compensation based on the pay mix is in line with KPN's remuneration policy and objectives, as described above.

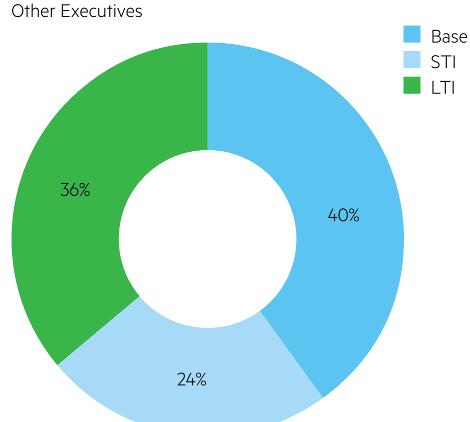
The peer employment group consists of Dutch-listed and European sector-specific companies. The advice of Korn Ferry, an independent external consultant, is used by the Committee to ensure an objective benchmark for KPN's remuneration policy and levels of remuneration.

Remuneration policy

CEO



Other Executives



Actual remuneration current members of the Board of Management (in thousands of EUR)
See the section 'Personnel expenses' in the Consolidated Financial Statements for full disclosure of remuneration cost under IFRS principles (also including former members).

Name	Year	Base	STI	Actual vested LTI over results in the past 3 years	Pension cost and social security	Total
Maximo Ibarra[3]	2018	657	704	-	129	1,490
Jan Kees de Jager	2018	668	382	232[1]	131	1,413
	2017	643	367	888[2]	124	2,022
Joost Farwerck	2018	625	393	214[1]	147	1,379
	2017	611	332	817[2]	144	1,904

1 Final measurement of the 2016 share grant was conducted in 2019, which leads to 42.5% vesting of the shares in April 2019. The amounts give an indication of the underlying value of the shares that will vest in April 2019 based on the closing share price of KPN at 15 February 2019 (EUR 2.72).
2 Final TSR measurement for the 2015 share grant was conducted in 2018, which led to vesting of shares in April 2018. The estimated numbers in the 2017 Remuneration Report are restated with the actual value at vesting.
3 Actual remuneration since appointment as a member of the Board of Management (18 April 2018). For transition activities and professional services prior to this Mr. Ibarra received monthly advisory fees totaling EUR 195,000 in cash, EUR 200,000 in cash subject to a 3-year retention period and EUR 200,000 in shares subject to a 4-year retention period.

Incentives aligned with strategy and sustainable performance growth

The focus of KPN's strategy is on offering the best converged smart infrastructure, focus on profitable growth segments and acceleration of simplification and digitalization. Combined with a flexible and simplified integrated network and operating model, KPN is building the Netherlands' digital highway by accelerating its FttH roll-out and modernizing its mobile network. Together, this leads to organic sustainable growth of adjusted EBITDA and free cash flow, supporting progressive dividend and deleveraging. The goals and objectives of this strategy are reflected in the short- to medium-term targets and long-term targets, which are used to compensate senior management for their performance. The performance measures also strengthen sustainable performance growth by focusing on both financial and non-financial performance indicators.

Level of variable compensation aligned with the company's risk profile

KPN aligns incentives with its long-term strategy, but it also needs to focus on short-term success in order to achieve further growth. The company's risk profile is embedded in the short-term and long-term incentive structure. The measurement of the incentive structure is assured by KPN's standards of internal financial control.

KPN's internal pay ratio

In line with the revised Dutch Corporate Governance Code, KPN takes into account the internal pay ratios within the organization when formulating the remuneration policy. In light of transparency and clarity, KPN applies a methodology to calculate the internal pay ratio that is IFRS-driven.

KPN's internal pay ratio is calculated as the total CEO compensation divided by the average employee compensation (total personnel expenses divided by the average number of FTEs). When calculating the pay ratio for 2018, the CEO compensation for 2018 has been recalculated on an annual basis. Consequently, KPN's calculated pay ratio in 2018 is 29 (2017: 36). For further details, see Note 5 to the Consolidated Financial Statements.

› Remuneration Report

B. Executive remuneration policy – overview

Objectives of KPN's remuneration policy
The essence of our organizational culture is aimed at delivering results. KPN's remuneration programs therefore emphasize variable pay and long-term value creation.

Sustainable performance growth
The performance measures of the short- and long-term incentive plans are aligned with sustainable performance growth. The focus is on both financial and non-financial targets in order to support creation of economic value by addressing the needs and challenges of society. Examples of such non-financial performance measures are: customer and employee satisfaction, loyalty and customer base, reputation targets and energy reduction targets. The alignment of KPN's remuneration policy with its strategic goals is reflected in the following overview.

Principles of KPN's remuneration policy
KPN's remuneration policy is guided by the following main principles:
1) Paying at market-competitive level: this is achieved through benchmarking against an employment market peer group;
2) Pay-for-performance: target remuneration aims at 30–40% of pay in base pay and 60–70% in variable pay in order to maintain a strong alignment with the company's annual financial performance goals and long-term value creation strategy;
3) Differentiating by experience and responsibility: this is achieved through alignment of the pay with the responsibilities, relevant experience, required competence and performance of individual jobholders. Consequently, there can be substantial differentials in pay levels, despite employees having similar job titles; and
4) Balancing all stakeholder interests based on a transparent remuneration policy.

These principles apply to all levels of senior management. The company's remuneration policy is compliant with the relevant legal requirements and the principles of the revised Dutch Corporate Governance Code.

Composition of employment market peer group and market assessment
To ensure the overall competitiveness of KPN's remuneration levels, these levels are benchmarked against an employment market peer group. The Committee uses one peer group consisting of Dutch-listed companies and European sector-specific companies. The following table shows the current composition of KPN's employment peer group:

Employment peer group	
AkzoNobel NV	BT Group Plc
DSM NV	Cap Gemini NV
Heineken NV	Portugal Telecom SA
Randstad Holding NV	Proximus SA
RELX NV/Plc	Swisscom AG
Royal Ahold Delhaize NV	Vodafone Group Plc
Royal Philips NV	Unilever NV/Plc

The Committee regularly reviews the peer group to ensure that its composition is still appropriate. The composition of the peer group might be adjusted as a result of mergers or other corporate activities.

Base pay

The Committee determines appropriate base pay levels taken into account the underlying principles of the remuneration policy. Each year, the Supervisory Board considers whether circumstances justify an adjustment in base pay within the market-competitive target range for individual members of the Board of Management.

Short-term incentives (STI): 70% financial and 30% non-financial targets

General

At the beginning of each year, the Supervisory Board sets financial and non-financial target ranges for the Board of Management. These ranges are based on the company's business plan. At the end of the year, the Supervisory Board reviews the company's performance against the target ranges. Members of the Board of Management are eligible for an annual cash incentive only if company performance is at or above the predetermined ranges.

Objectives: focus on both financial and non-financial targets

The objective of this STI scheme is to ensure that the Board of Management is well incentivized to achieve company performance targets in the shorter-term. Specific details on targets cannot be disclosed for performance measures, as this would require providing commercially sensitive information. The Committee uses scenario analyses to estimate the possible outcomes and decides whether a correct risk incentive is set for the members of the Board of Management with respect to the overall level of pay and pay differentials within the company.

Performance incentive zone

The target ranges for financial and operational performance comprise:

- A 'minimum' at which the minimum incentive is paid. Performance below this level is not generating a payout;
- An 'on-target' performance level at which an 'on-target' incentive is paid; and
- A 'maximum' at which the maximum incentive is paid.

The STI is designed to strike a balance between the company's risk profile and the incentive to achieve ambitious targets. The pay-out methodology is based on a separate pay-out approach for each of the financial and non-financial targets. The Supervisory Board's ability to apply a discretionary factor ranges between 0.7 (reducing the incentive by 30%) and 1.3 (increasing the incentive by 30%). With this discretionary factor, the Supervisory Board is able to express the assessment of the overall individual performance of each member of the Board of Management. The Supervisory Board has agreed a set of non-financial KPIs with each individual member of the Board of Management. The performance based on these KPIs will be evaluated by the Committee annually and discussed with the individual board members at the end of each year. The outcome of this discussion will be used by the Supervisory Board as a reference to determine the discretionary factor.

Discretion both upwards and downwards can be applied by the Supervisory Board if the outcome of the STI scheme would produce an unfair result or if the outcome would not be considered to reflect the basic objectives and principles of pay as outlined in this section.

Actual pay-out levels

Based on the financial and non-financial targets set by the Supervisory Board, the performance (and weight) was:

- Free cash flow (35%) around maximum level.
- EBITDA (20%) around on-target level.
- Revenue (15%) around on-target level.
- Employee engagement (15%) between minimum and on-target level.
- Net Promoter Score (15%) below minimum level.

› Remuneration Report

Short-term Incentives (STI)

Component	Short-term incentives
Form of compensation	Cash
Value determination	CEO: 90% of base pay. Other members of the Board of Management: 60% of base pay
Targets	Financial targets (70% weight) typically are: › EBITDA › Free cash flow › Revenue Non-financial targets (30% weight) typically are: › various measures of customer and employee satisfaction, customer loyalty and customer base. A circuit breaker is applicable as a minimum requirement for pay-out of the STI non-financial parameters. If this minimum requirement is not achieved, the non-financial parameters of the STI will not generate a pay-out.
On-target	100% of the on-target incentive paid
Discretionary factor	A factor between 0.7, reducing the incentive by 30%, and 1.3, increasing the incentive by 30%.
Scenario maximum	Pay-out capped at 150% of the 'on-target' incentive (i.e. 135% of base salary for the CEO and 90% of base salary for the other members of the Board of Management).

Long-term incentives (LTI)

Component	Long-term share-based compensation
Form of compensation	Shares
Value determination[1]	CEO: 135% of base pay. Other members of the Board of Management: 90% of base pay.
Targets	Financial targets: › 25% based on relative TSR versus peer group › 25% on free cash flow › 25% on earnings per share Non-financial targets: › 12.5% on sustainability/environmental targets › 12.5% on stakeholder/customer targets. Vesting of non-financial targets will be subject to achieving a cumulative net profit during the vesting period of three years (i.e. qualifier for vesting).
On-target	100% of the granted shares vest.
Scenario maximum	Position 1 in TSR peer group and maximum performance of financial and non-financial targets: 200% of the shares vest.

1 Based on the average share price of the first trading day after the AGM. Dividend paid during the vesting period will be included in the value determination.

Long-term incentives (LTI): 75% financial and 25% non-financial targets

General

In addition to the base pay and the short-term annual cash incentive described above, a long-term incentive based on performance shares is used to ensure that the interests of the members of the Board of Management are aligned with those of its long-term (or prospective) shareholders and to provide an incentive for members of the Board of Management to continue their employment/service agreement relationship with the company.

The number of shares granted under this plan is based on a percentage of base pay as shown in the LTI table. The vesting methodology is based on a separate vesting approach for each of the financial and non-financial targets.
It is considered that comparing KPN's TSR with a wider group of companies (either geographically or with other industries) is not considered to be meaningful. Variations in returns would most likely be attributed largely to macro-economic events and/or sector shifts rather than to variations in management actions. Therefore, benchmarking TSR achievements relative to other, similar companies emphasizes rewarding for specific KPN performance.

The non-financial parameters set are based on energy reduction and a reputation dashboard. See the relevant sections of this Integrated Annual Report for detailed information about energy reduction and reputation. The performance period of the LTI plan is set at three years. Vesting is, in principle, also subject to the condition that the member of the Board of Management has not resigned within three years of the date of the initial grant. The Committee uses scenario analysis to estimate the possible outcomes of the value of the shares vesting in coming years and decides whether a correct risk incentive is set for the members of the Board of Management with respect to the overall level of pay and pay differentials within the company.

See Note 5 to the Consolidated Financial Statements for a further description and valuation of the option and share plans.

Performance-measuring and peer group performance

The following table provides an overview of KPN's performance peer group to determine KPN's relative shareholder return for LTI plans.

Companies included in the peer group

BT Group Plc	Tele2 AB
Deutsche Telekom AG	Telekom Austria AG
Orange Belgium SA	Telia Company AB
Orange SA	Vodafone Group Plc
Proximus SA	Swisscom AG
Telenor ASA[1]	KPN NV

1) In 2018 TDC was delisted. Telenor replaced TDC group for the 2018 grant and possible future grants. For grants of previous years that have not yet vested, TDC will remain in the peer group and its TSR performance after delisting will be adjusted with the average TSR performance of the TSR peer companies (i.e. the so-called "synthetic approach").

Position	Vesting schedule	Position	Vesting schedule
Position 1	200%	Position 5	100%
Position 2	175%	Position 6	75%
Position 3	150%	Position 7 and below	No vesting
Position 4	125%		

The table above provides the vesting schedules of the TSR part in the LTI plans. Please note that the peer group used for relative TSR reflects the relevant competitive market in which KPN competes for investor preference. As such, it is different from the employment market peer group, which is used to determine competitive pay levels for the CEO and other members of the Board of Management. The peer group may be adjusted if an individual company no longer qualifies as a relevant peer company. The vesting schedule for financial and non-financial targets other than TSR is: threshold performance 25%, on-target performance 100% and maximum 200%.

Performance incentive zone

In line with the design of KPN's LTI plan, the target performance ranges for vesting of the LTI plan comprise a threshold below which no shares vest, an on-target performance level at which shares vest at on-target and a maximum at which the shares vest at the maximum level.

Once vested, the shares will have to be held for a minimum period of two years. An exception to this rule is made for shares that are sold to cover income tax obligations in relation to the vested shares typically the value taxed as income equals the number of shares vested multiplied by the share price at the time of vesting. An external remuneration consultant calculates the end-of-year TSR peer group position and the number of shares vested based on this target, and makes certain that calculations are performed objectively and independently. The TSR is calculated based on the three-month average share price at the start and end of the performance period.

Discretion both upwards and downwards can be applied by the Supervisory Board if the outcome of the LTI incentive scheme would produce an unfair result or if the outcome would not be considered to reflect the basic objectives and principles of pay as outlined in this section.

The LTI plan rules contain a change of control clause, which provides for immediate vesting at 100% (irrespective of the actual performance at that moment, whether higher or lower) and lifting of the blocked period normally applicable, to enable the member of the Board of Management to dispose of their shares in the situation of a change of control. The immediate vesting at 100% will be pro rata for the time passed in the plan during the vesting period of three years. (i.e. 1/3 in year one, 2/3 in year two, full in year three).

Actual pay-out levels

	Weighting	Outcome	Vesting percentage
TSR	25%	0%	0%
EPS	25%	0%	0%
FCF	25%	0%	0%
Energy	12.5%	140%	17.5%
Reputation	12.5%	200%	25%
Total vesting			**42.5%**

The LTI plan 2016 vests in April 2019 and the final TSR measurement for this share grant was conducted mid-February 2019. The targets for the LTI plan 2016 were set at the grant date in April 2016.

Remuneration Report

The vesting of the LTI plan 2016 is based on the strong performance of the non-financial targets based on sustainability and reputation (both with a weight of 12.5%). According to DJSI and CDP, KPN is recognized as one of the world's most sustainable telecom companies. This is reflected in a strong performance of the sustainability target during the vesting period 2016-2018 based on energy consumption. The vesting of 140% for this part of the LTI plan 2016 was the result of additional energy savings in our networks, data centers and offices despite an exponential increase in the volume of our IT services. The strong upward movement of KPN's reputation as concluded by the Reputation Institute (the leading international organization devoted to advancing knowledge about corporate reputations) improved further during the vesting period 2016-2018 and resulted in a vesting of 200% for this part of the LTI plan 2016.

During the vesting period 2016-2018 KPN's results on free cash flow (weight 25%) and earnings per share (weight 25%) performed below the minimum of the applicable bandwidth and therefore do not contribute to the vesting of the LTI plan 2016. KPN's TSR performance (weight 25%) during the vesting period resulted in a 8th relative position in terms of TSR performance in the peer group of European telecommunications companies and this outcome is below the minimum position for generating a vesting for this part of the plan.

Claw-back clause

The Supervisory Board has the discretionary authority to recover variable pay awarded on the basis of incorrect financial or other data.

Benefits and others

Pensions

Members of the Board of Management are eligible for a defined contribution pension plan with a contribution based on the fiscal defined contribution table that corresponds to a retirement age of 68, an annual accrual rate of 1.875% and a pension accrual capped at EUR 105,075 base pay. Board members receive a fixed gross allowance equal to the associated pension contribution paid by the company prior to 2015 for the base pay part above the capped amount.

Additional arrangements

The additional arrangements, such as a housing allowance, life insurance coverage, expense allowances, use of smart phones and company car provisions needed for the execution of their roles, are broadly in line with other companies of similar size and complexity, as well as with market practice.

Loans

Company policy does not allow loans or guarantees to be granted to members of the Board of Management.

Terms of employment

Members of the Board of Management have a service agreement for a definite period of time. All members of the Board are appointed for a period of four years, which is in line with the requirements of the Dutch Corporate Governance Code.

Severance arrangements

Severance payments for the CEO and current members of the Board of Management are aligned with the revised Dutch Corporate Governance Code and equal one-year base pay. Such payments also apply if a member of the Board of Management terminates his agreement with the company as a consequence of change of control over the company, subject to specific conditions applicable thereto.

Share ownership guidelines

The members of the Board of Management are encouraged to acquire company shares equal to one times the annual fixed compensation for members of the Board of Management, excluding the CEO, and two times the annual fixed compensation for the CEO. Retained vested shares as part of the LTI plan will be included in the share ownership guideline.

Outlook for 2019

The current remuneration policy was reviewed in 2018. Based on the outcome of this review, some adjustments to the current remuneration policy will be presented for approval to the AGM of Shareholders in April 2019. The details of the proposed adjustments in the remuneration policy will be included in the notes to the agenda for this meeting.

C. Supervisory Board pay policy

The Committee is responsible for reviewing and, if appropriate, recommending changes to the pay of the Supervisory Board. Any recommended changes to Supervisory Board pay must be submitted to the AGM of Shareholders for approval. Members receive an additional fee if a meeting is held in a country other than the member's country of residence. Shareholdings in the company held by Supervisory Board members serve as a long-term investment in the company and help to align their interest with those of KPN's other shareholders. No Supervisory Board member is granted shares as a form of pay. As a policy, the company does not provide loans or guarantees to its Supervisory Board members.

The table below shows the pay-out to Supervisory Board Members and fixed committee fees on an annual basis.

Amounts in EUR	**Annual fees**
Chairman Supervisory Board	100,000
Vice-Chairman of the Supervisory Board	70,000
Member Supervisory Board	60,000
Chairman Audit Committee	20,000
Member Audit Committee	10,000
Chairman Strategy & Organization Committee	12,500
Member Strategy & Organization Committee	7,500
Chairman Remuneration Committee	10,000
Member Remuneration Committee	5,000
Chairman Nominating & Corporate Governance Committee	10,000
Member Nominating & Corporate Governance Committee	5,000

See Note 5 to the Consolidated Financial Statements (Personnel expense) for details on actual remuneration of the Supervisory Board.

Peter F. Hartman (Chairman of the Remuneration Committee)
Duco W. Sickinghe
Claudia J.G. Zuiderwijk
Derk J. Haank

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CONSOLIDATED STATEMENT OF PROFIT OR LOSS

For the year ended 31 December

€ million	Notes	2018	2017 (Restated)
Revenues	[4]	5,633	5,740
Other income		5	2
Total revenues and other income		**5,639**	**5,742**
Cost of goods & services		1,302	1,365
Personnel expenses	[5]	1,141	1,121
Information technology/Technical infrastructure		442	493
Other operating expenses	[6]	569	595
Depreciation, amortization and impairments	[10/11]	1,397	1,414
Total operating expenses		**4,850**	**4,986**
Operating profit		**789**	**755**
Finance income		55	69
Finance costs		-319	-338
Other financial results		-3	22
Financial income and expenses	**[7]**	**-267**	**-247**
Share of the profit/loss (-) of associates		-9	1
Profit before income tax from continuing operations		**513**	**509**
Income taxes	[8]	-233	-119
Profit for the year from continuing operations		**280**	**390**
Profit/loss (-) for the year from discontinued operations	[15]	-10	–
Profit for the year		**271**	**390**
Profit attributable to non-controlling interests		–	–
Profit attributable to equity holders of the company		270	390

Earnings per ordinary share after taxes attributable to equity holders of the company for the year in EUR	**[9]**		
> Basic (continuing operations)		0.06	0.08
> Diluted (continuing operations)		0.06	0.08
> Basic (discontinued operations)		–	–
> Diluted (discontinued operations)		–	–
> Basic (total, including discontinued operations)		0.06	0.08
> Diluted (total, including discontinued operations)		0.06	0.08

CONSOLIDATED STATEMENT OF OTHER COMPREHENSIVE INCOME

For the year ended 31 December

€ million	Notes	2018	2017 (Restated)
Profit for the year		**271**	**390**
Other comprehensive income, net of tax			
Other comprehensive income to be reclassified subsequently to profit or loss when specific conditions are met:			
Net gain/loss (-) on cash flow hedges	[16]	-20	14
Currency translation differences	[16]	4	–
Net other comprehensive income/loss (-) to be reclassified to profit or loss in subsequent periods		**-16**	**14**
Items of other comprehensive income not to be reclassified subsequently to profit or loss:			
Retirement benefits remeasurements		-1	12
Net gain/loss (-) on equity instruments designated at fair value through other comprehensive income	[12]	-116	16
Net other comprehensive income/loss (-) not to be reclassified to profit or loss in subsequent periods		**-117**	**28**
Other comprehensive income/loss (-) for the year, net of tax		**-133**	**42**
Total comprehensive income for the year, net of tax		**138**	**432**
Total comprehensive income for the year, net of tax, attributable to:			
Equity holders of the company		138	432
Non-controlling interests		–	–
		138	**432**
Total comprehensive income/loss (-) attributable to equity holders of the company arises from:			
Continuing operations		148	446
Discontinued operations		-10	-14

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CONSOLIDATED STATEMENT OF FINANCIAL POSITION

Assets

€ million	Notes	31 December 2018	31 December 2017 (Restated)	1 January 2017 (Restated)
Non-current assets				
Property, plant and equipment	[10]	5,641	5,811	5,969
Intangible assets	[11]	3,169	3,341	3,250
Equity investments accounted for using the equity method		17	21	24
Equity investments measured at fair value through other comprehensive income	[12.1]	26	20	1,909
Derivative financial instruments	[12.3]	185	168	298
Deferred income tax assets	[8]	702	907	1,030
Trade and other receivables	[13]	197	138	57
Contract assets and contract costs	[13]	33	35	46
		9,970	**10,441**	**12,583**
Current assets				
Inventories		58	54	42
Trade and other receivables	[13]	802	735	736
Contract assets and contract costs	[13]	107	288	346
Income tax receivables	[8]	–	1	–
Equity investments measured at fair value through other comprehensive income	[12.1]	449	1,071	–
Other current financial assets	[12.1]	50	329	140
Cash and cash equivalents	[14]	594	856	1,179
		2,059	**3,333**	**2,443**
Assets and disposal groups classified as held for sale	**[15]**	**148**	**1**	**2**
Total assets		**12,177**	**13,776**	**15,027**

Equity and liabilities

€ million	Notes	31 December 2018	31 December 2017 (Restated)	1 January 2017 (Restated)
Equity				
Share capital		168	168	171
Share premium		8,445	8,445	8,651
Other reserves		-398	-406	-432
Retained earnings		-6,270	-5,814	-5,661
Equity attributable to holders of perpetual capital securities		–	1,089	1,089
Equity attributable to equity holders of the company		**1,945**	**3,482**	**3,818**
Non-controlling interests		–	–	–
Total equity	**[16]**	**1,945**	**3,482**	**3,818**
Non-current liabilities				
Borrowings	[12.2]	6,986	7,579	7,897
Derivative financial instruments	[12.3]	302	328	197
Deferred income tax liabilities	[8]	–	1	–
Provisions for retirement benefit obligations	[17]	206	218	262
Provisions for other liabilities and charges	[18]	119	103	90
Contract liabilities	[19]	206	155	108
Other payables	[19]	17	22	22
		7,835	**8,406**	**8,576**
Current liabilities				
Trade and other payables	[19]	1,361	1,517	1,608
Contract liabilities	[19]	253	270	236
Borrowings	[12.2]	589	18	735
Derivative financial instruments	[12.3]	16	–	1
Income tax payables	[8]	2	16	4
Provisions for other liabilities and charges	[18]	78	66	49
		2,298	**1,888**	**2,634**
Liabilities directly associated with the assets and disposal groups classified as held for sale	**[15]**	**98**	**–**	**–**
Total equity and liabilities		**12,177**	**13,776**	**15,027**

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CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

€ million, except number of shares	Notes	Subscribed ordinary shares	Share capital	Share premium	Other reserves	Retained earnings	Equity attributable to holders of perpetual capital securities	Equity attributable to equity holders of the company	Total equity
Balance at 1 January 2017		**4,270,254,664**	**171**	**8,651**	**-451**	**-5,859**	**1,089**	**3,601**	**3,601**
Transition impact IFRS 9 and IFRS 15	[2]		–	–	19	198	–	217	217
Balance at 1 January 2017 Restated		**4,270,254,664**	**171**	**8,651**	**-432**	**-5,661**	**1,089**	**3,818**	**3,818**
Profit for the year			–	–	–	390	–	390	390
Other comprehensive income for the year			–	–	14	28	–	42	42
Total comprehensive income for the year			**–**	**–**	**14**	**418**	**–**	**432**	**432**
Share-based compensation	[5]		–	–	–	-7	–	-7	-7
Sold treasury shares			–	–	12	–	–	12	12
Share buyback and cancellation		-67,410,260	-3	-206	–	–	–	-209	-209
Paid coupon perpetual hybrid bond (net of tax)			–	–	–	-51	–	-51	-51
Dividends paid			–	–	–	-513	–	-513	-513
Total transactions with owners, recognized directly in equity		**-67,410,260**	**-3**	**-206**	**12**	**-571**	**–**	**-768**	**-768**
Balance at 31 December 2017 Restated		**4,202,844,404**	**168**	**8,445**	**-406**	**-5,814**	**1,089**	**3,482**	**3,482**
Transition impact IFRS 9	[2]		–	–	4	-4	–	–	–
Balance at 1 January 2018 Restated		**4,202,844,404**	**168**	**8,445**	**-402**	**-5,818**	**1,089**	**3,482**	**3,482**
Profit for the year			–	–	–	271	–	271	271
Other comprehensive income for the year			–	–	-16	-117	–	-133	-133
Total comprehensive income for the year			**–**	**–**	**-16**	**154**	**–**	**138**	**138**
Share-based compensation	[5]		–	–	–	-15	–	-15	-15
Sold treasury shares			–	–	20	–	–	20	20
Repayment of EUR Hybrid bond (including paid coupon of EUR 51m after tax)	[12.2]		–	–	–	-62	-1,089	-1,151	-1,151
Dividends paid			–	–	–	-529	–	-529	-529
Total transactions with owners, recognized directly in equity			**–**	**–**	**20**	**-606**	**-1,089**	**-1,675**	**-1,675**
Balance at 31 December 2018		**4,202,844,404**	**168**	**8,445**	**-398**	**-6,270**	**–**	**1,945**	**1,945**

CONSOLIDATED STATEMENT OF CASH FLOWS

For the year ended 31 December

€ million	Notes	2018	2017 (Restated)
Profit before income tax from continuing operations		513	509
Adjustments for:			
– Net financial expense	[7]	267	247
– Share-based compensation	[5]	-3	6
– Share of the profit/loss (-) of associates		9	-1
– Depreciation, amortization and impairments	[10/11]	1,397	1,414
– Other non-cash income and expense		-5	4
– Changes in provisions (excluding deferred taxes)		53	54
Changes in working capital relating to:			
– Current assets		51	3
– Current liabilities		-58	-13
Dividends received	[12.1]	54	71
Income taxes paid/received		-9	-13
Interest paid		-310	-351
Net cash flow from operating activities from continuing operations		**1,959**	**1,929**
Net cash flow from operating activities from discontinued operations		**9**	**21**
Net cash flow from operating activities		**1,969**	**1,950**
Disposal of equity investments measured at fair value through other comprehensive income	[12.1]	464	890
Acquisition of subsidiaries and associates (net of acquired cash)		-17	-165
Disposal of subsidiaries and associates (net of cash)		1	3
Investments in software		-289	-307
Investments in other intangible assets		-1	-1
Investments in property, plant and equipment		-817	-824
Disposals of property, plant and equipment		5	2
Changes in other current financial assets	[12.1]	274	-190
Other		–	-6
Net cash flow from investing activities from continuing operations		**-379**	**-599**
Net cash flow from investing activities from discontinued operations		**-7**	**-11**
Net cash flow from investing activities		**-387**	**-610**
Dividends paid		-529	-514
Paid coupon perpetual hybrid bonds		-67	-67
Repayment of perpetual hybrid bonds		-1,100	–
Repayments of borrowings and settlement of derivatives	[12]	-126	-872
Share repurchase	[16]	–	-209
Other		–	-3
Net cash flow from financing activities from continuing operations		**-1,822**	**-1,665**
Net cash flow from financing activities from discontinued operations		**–**	**–**
Net cash flow from financing activities		**-1,822**	**-1,665**
Total net cash flow from continuing operations		**-242**	**-335**
Total net cash flow from discontinued operations		**2**	**10**
Changes in cash and cash equivalents		**-240**	**-325**
Exchange rate differences		–	-1
Net cash and cash equivalents at 1 January		852	1,178
Net cash and cash equivalents at 31 December		**612**	**852**
Bank overdrafts		5	4
Cash classified as held for sale		-24	–
Cash and cash equivalents	**[14]**	**594**	**856**

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GENERAL NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

[1] General information

Koninklijke KPN N.V. (KPN or the company) was incorporated in 1989 and is domiciled in the Netherlands. KPN is registered at the Chamber of Commerce in The Hague (file no. 02045200). The address of KPN's registered office is Wilhelminakade 123, 3072 AP, Rotterdam. KPN's shares are listed on Euronext Amsterdam.

KPN is a leading telecommunications and IT provider in the Netherlands, offering fixed and mobile telephony, fixed and mobile broadband internet and TV to retail consumers. KPN is market leader in the Netherlands in infrastructure and network related IT solutions to business customers. KPN also provides wholesale network services to third parties.

The Financial Statements were approved for issuance by both the Supervisory Board and the Board of Management on 22 February 2019 and are subject to adoption by the Annual General Meeting of Shareholders on 10 April 2019.

[2] Summary of significant accounting policies

Basis of preparation

The Consolidated Financial Statements of KPN have been prepared in accordance with International Financial Reporting Standards as adopted by the European Union (IFRS) and with the statutory provisions of Part 9, Book 2 of the Dutch Civil Code, under the historical cost convention, except for certain equity investments accounted for using the equity method, and certain equity investments and derivative financial instruments measured at fair value, and on a going concern basis.

Comparative financial information for 2017 has been restated to reflect the implementation of IFRS 9 and IFRS 15.

Certain figures may not tally exactly due to rounding. In addition, certain percentages may have been calculated using rounded figures.

Summary of significant accounting policies

The general accounting policies as applied are described below. Significant accounting policies are described in the Notes to these Consolidated Financial Statements.

Changes in accounting policies and disclosures

KPN applies new standards and amendments issued by the International Accounting Standards Board (IASB), when effective and endorsed by the European Union. KPN has not early adopted any of these standards. In 2018, KPN applied IFRS 15 Revenue from Contracts with Customers and IFRS 9 Financial Instruments for the first time. KPN has adopted both standards retrospectively (except the provisions for hedge accounting in IFRS 9 which have been applied prospectively) and restated the 2017 financial information for comparison purposes in these 2018 Consolidated Financial Statements. A cumulative transitional adjustment was recorded on 1 January 2017, the date of initial application. The nature and effect of the changes as a result of adoption of these new accounting standards are described below.

IFRS 15 Revenue from Contracts with Customers

IFRS 15 supersedes IAS 11 Construction Contracts, IAS 18 Revenue and related Interpretations and it applies, with limited exceptions, to all revenue arising from contracts with its customers. This new standard introduces new guidance on the recognition and measurement of revenues and also provides a model for the sale of some non-financial assets that are not an output of a company's ordinary business activities.

IFRS 15 establishes a five-step model to account for revenue arising from contracts with customers and requires that revenue be recognized at an amount that reflects the consideration to which an entity expects to be entitled in exchange for transferring goods or services to a customer. IFRS 15 requires entities to exercise judgement, taking into consideration all of the relevant facts and circumstances when applying each step of the model to contracts with their customers. The standard also specifies the accounting for the incremental costs of obtaining a contract and the costs directly related to fulfilling a contract. In addition, the standard requires additional disclosures.

IFRS 9 Financial Instruments

IFRS 9 Financial Instruments replaces IAS 39 Financial Instruments. This standard introduces new requirements for classification and measurement, impairment and hedge accounting of financial instruments.

IFRS 9 and IFRS 15 impact on the Consolidated Statement of Profit or Loss

€ million	2017 Published	IFRS 9 Adjustment (h)	Ref	IFRS 15 Adjustment	Reclassi-fications/ rounding	2017 Restated (before held for sale classification iBasis)
Revenues	6,497	–	(a) to (f)	-135	–	6,362
Other income	1	–		–	1	2
Total revenues and other income	**6,498**	**–**		**-135**	**1**	**6,364**
Cost of goods & services	1,923	–	(g)	-35	31	1,919
Personnel expenses	1,151	–		–	–	1,151
Information technology /Technical infrastructure	502	–		–	-9	493
Other operating expenses	616	–	(g)	13	-22	607
Depreciation, amortization and impairments	1,424	–		–	–	1,424
Total operating expenses	**5,616**	**–**		**-22**	**–**	**5,594**
Operating profit	**882**	**–**		**-113**	**–**	**769**
Financial income and expenses	**-241**	**–**		**–**	**–**	**-241**
Share of the profit of associates	1	–		–	–	1
Profit before income tax from continuing operations	**642**	**–**		**-113**	**–**	**529**
Income taxes	-157	–	(i)	21	–	-136
Profit for the year from continuing operations	**485**	**–**		**-92**	**–**	**393**
Profit/Loss (-) for the period from discontinued operations	-2	–		–	-1	-3
Profit for the year	**483**	**–**		**-92**	**–**	**390**

Earnings per ordinary share after taxes attributable to equity holders of the company for the year in EUR						
- Basic (continuing operations)	0.10	–		-0.02	–	0.08
- Diluted (continuing operations)	0.10	–		-0.02	–	0.08
- Basic (discontinued operations)	0.00	–		–	–	0.00
- Diluted (discontinued operations)	0.00	–		–	–	0.00
-Basic (total, including discontinued operations)	0.10	–		-0.02	–	0.08
-Diluted (total, including discontinued operations)	0.10	–		-0.02	–	0.08

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IFRS 9 and IFRS 15 impact on the Consolidated Statement of Financial Position

€ million	31 December 2017 Published	IFRS 9 Adjustment (h)	Ref	Ref IFRS 15 Adjustment	Reclassi-fications/ rounding	31 December 2017 Restated (before held for sale classification iBasis)
Assets						
Non-current assets						
Property, plant and equipment	5,811					5,811
Intangible assets	3,341					3,341
Equity investments accounted for using the equity method	21					21
Equity investments measured at fair value through other comprehensive income	20					20
Derivative financial instruments	168					168
Deferred income tax assets	947	2	(i)	-42		907
Trade and other receivables	141			–	-3	138
Contract assets and contract costs	–		(g)	33	2	35
	10,449	**2**		**-10**	**–**	**10,441**
Current assets						
Inventories	61		(d)	-3	-4	54
Trade and other receivables	762	-7		-5	-15	735
Contract assets and contract costs	–		(a) to (f)	269	19	288
Income tax receivables	1					1
Equity investments measured at fair value through other comprehensive income	1,071					1,071
Other current financial assets	329					329
Cash and cash equivalents	856					856
	3,080	**-7**		**261**	**–**	**3,333**
Assets and disposal groups classified as held for sale	**1**	**–**		**–**	**–**	**1**
Total assets	**13,530**	**-5**		**251**	**–**	**13,776**
Equity and liabilities						
Total equity	**3,358**	**-5**	**(k)**	**129**	**–**	**3,482**
Non-current liabilities						
Borrowings	7,578				1	7,579
Derivative financial instruments	328					328
Deferred income tax liabilities	1					1
Provisions for retirement benefit obligations	218					218
Provisions for other liabilities and charges	103					103
Contract liabilities	–		(e)	116	39	155
Other payables (and deferred income)	62			-	-40	22
	8,290	–		**116**	**–**	**8,406**
Current liabilities						
Trade and other payables	1,782		(d)	-3	-262	1,517
Contract liabilities	–		(c), (d)	8	262	270
Borrowings	18					18
Income tax payables	16					16
Provisions for other liabilities and charges	66					66
	1,882	–		**5**	**–**	**1,888**
Total equity and liabilities	**13,530**	**-5**		**251**	**–**	**13,776**

€ million	31 December 2016 Published	IFRS 9 Adjustment (h)	Ref	IFRS 15 Adjustment	Reclassi-fications/ rounding	1 January 2017 Restated
Assets						
Non-current assets						
Property, plant and equipment	5,969					5,969
Intangible assets	3,250					3,250
Equity investments accounted for using the equity method	24					24
Equity investments measured at fair value through other comprehensive income	1,909					1,909
Derivative financial instruments	298					298
Deferred income tax assets	1,091	2	(i)	-63		1,030
Trade and other receivables	61			-	-4	57
Contract assets and contract costs	–		(g)	42	4	46
	12,602	**2**		**-21**	**–**	**12,583**
Current assets						
Inventories	47		(d)	-3	-2	42
Trade and other receivables	766	-7		-5	-19	736
Contract assets and contract costs	–		(a) to (f)	326	21	346
Other current financial assets	140				–	140
Cash and cash equivalents	1,179					1,179
	2,132	**-7**		**318**	–	**2,443**
Assets and disposal groups classified as held for sale	**2**	**–**		**–**	**–**	**2**
Total assets	**14,736**	**-5**		**297**	–	**15,027**
Equity and liabilities						
Total equity	**3,601**	**-5**	**(k)**	**222**	**–**	**3,818**
Non-current liabilities						
Borrowings	7,897					7,897
Derivative financial instruments	197					197
Provisions for retirement benefit obligations	262					262
Provisions for other liabilities and charges	89				1	90
Contract liabilities	–		(e)	69	39	108
Other payables (and deferred income)	62				-40	22
	8,507	**–**		**69**	**–**	**8,576**
Current liabilities						
Trade and other payables	1,839		(d)	-3	-227	1,608
Contract liabilities	–		(c), (d)	9	227	236
Borrowings	735					735
Derivative financial instruments	1					1
Income tax payables	4					4
Provisions for other liabilities and charges	49					49
	2,628	**–**		**6**	**–**	**2,634**
Total equity and liabilities	**14,736**	**-5**		**297**	**–**	**15,027**

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The most significant differences with KPN's previous accounting policies, caused by the adoption of IFRS 15 and IFRS 9, include the following:

(a) Postpaid mobile contracts via KPN shops and website: Under the previous accounting policy, revenue related to the sale of handsets in postpaid mobile contracts was recognized up to the non-contingent cash received upfront, i.e. the amount the customer paid for the handset when it was delivered to the customer. Under IFRS 15, additional revenue is allocated to the handset at the start of the contract. The amount of revenue is calculated based on the relative standalone selling price of the handset, regardless of the actual contract pricing. For example, compared to the previous accounting policies, a postpaid subscription with a handset results in recognition of higher non-service revenues upon delivery of the handset to the customer and lower subscription fees (service revenues) during the subscription period.

(b) Postpaid mobile contracts via third parties: Under IFRS 15, handset-related dealer fees result in an unbilled receivable on the statement of financial position that will decrease when instalments are billed to the end-customer, i.e. handset-related fees are no longer being expensed as incurred as part of the costs of goods and services. The handset instalment payments are no longer accounted for as service revenues, but netted against the receivable.

(c) Installation services: Under our previous accounting policy, no revenue was recognized if the installation service was provided free of charge. Installation services offered to consumer customers are generally considered a separate performance obligation. Under IFRS 15, revenue is then allocated to the installation service at the start of the contract, based on its relative standalone selling price, regardless of the actual contract pricing. The difference between the amount of revenue recognized and the amounts charged to the customer is recognized as a contract asset.
A contract liability is recognized for the installation fees charged to the customers in case the connection is not treated as a separate performance obligation.

(d) Transition phase of projects for business customers: Under our previous accounting policy, estimated transition costs relating to fixed-price contracts involving managed IT services exceeding the revenue invoiced for the transition phase were capitalized and subsequently amortized to profit or loss on a straight-line basis during the period the subsequent exploitation services were provided. Under IFRS 15, if the transition phase is treated as a separate performance obligation, part of the contract revenue is allocated and subsequently recognized as revenue based on the percentage of completion method and the transition costs are expensed as incurred during the transition phase. This results in earlier recognition of revenue and expenses under IFRS 15.

(e) Variable consideration: Revenue for variable considerations, including revenue under dispute, was recognized when it was probable that these would flow to the company. Under IFRS 15, such revenue is only recognized when it is highly probable. As a consequence, such revenue, although invoiced, is recognized only when this higher threshold is met. This can result in a contract liability, in particular in the Wholesale segment, which bills customers at (regulated) tariffs that may be disputed by other operators and regulators.

The introduction of new mobile consumer propositions in August 2016 caused a change in the VAT calculation methodology which resulted in a lower remittance of VAT from August 2016 onwards of approximately EUR 3m per month. The view of KPN is not shared by the Dutch tax authorities. KPN concluded, based on the applicable regulations, that a positive outcome of this dispute is not highly probable and therefore recorded a contract liability for the VAT amount under IFRS 15.

(f) Consumer credit legislation: As of 1 May 2017, KPN is legally required to treat a handset combined with a postpaid subscription as a consumer loan under the Dutch Financial Supervision Act (Wet op het financieel toezicht) if the consumer customer repays the handset in monthly instalments and the credit amount is above EUR 250. The separate legal entity KPN Finance B.V. is the contract party in the loan agreement in both direct and indirect channels. The outstanding consumer loans in KPN Finance B.V. amount to EUR 114m at 31 December 2017. These consist of EUR 1m unconditional receivables classified in 'Trade and other receivables' and EUR 113m for conditional receivables that were not yet invoiced and were eliminated upon KPN group consolidation under IAS 18 because as explained under (a) revenue related to the sale of handsets in postpaid mobile contracts was recognized up to the amount the customer paid for the handset when it was delivered to the customer. IFRS 15 considers this a contract asset for both consumer and business customers. As of 1 January 2018, the contract with consumer customers for the instalment payments of the handset has changed in both direct and indirect channels, resulting in an unconditional IFRS 9 receivable. Taken into account the low interest rates and contract duration, these receivables do not include a significant financing component.

(g) Postpaid mobile contracts via third parties: Under our previous accounting policy, transaction-related dealer fees were expensed as incurred as part of the costs of goods and services. Under IFRS 15, transaction related dealer fees paid to acquire or retain subscribers are capitalized and recognized on a straight-line basis over the contract term of the underlying customer contract.

(h) Provision for trade receivables and contract assets: In addition to the provision for overdue trade receivables measured under the previous accounting policy, under IFRS 9 a provision is recorded for the expected loss on trade receivables and contract assets not yet overdue. Provisions for expected credit losses recognized for contract assets are shown in the column IFRS 15 adjustments.

(i) Income tax: A corresponding effect on income tax has been recorded in relation to the above mentioned adjustments at the respective tax rates.

(j) Reclassifications: Several reclassifications were made to present conditional contract receivables under the previous accounting policy as contract assets, deferred revenue as contract labilities and deferred transitions cost as cost to fulfil a contract (contract costs) under IFRS 15.

Other significant differences of IFRS 9 with KPN's previous accounting policies are:

- **Available-for-sale financial assets/Equity investments measured at fair value through OCI:** As of 1 January 2018, fair value movements recorded in OCI are no longer recycled through profit or loss (other financial results) for all assets recognized in this category. This means that a decrease in the fair value which is considered permanent or a sale of these assets no longer impact profit or loss. There were no permanent decreases in fair value in 2017.
- **Hedge effectiveness testing of the cross-currency swaps and interest rate swaps:** Cross-currency basis spreads are no longer included in the risk designation. This leads to differences in the amounts recorded for hedge ineffectiveness at 1 January 2018. This caused a reclassification within total equity on 1 January 2018 from retained earnings to other reserves.

Standards issued but not yet effective

IFRS 16

This standard introduces on balance sheet accounting for almost all leases. For lessees, the distinction between financial leases ('on balance') and operating leases ('off balance') is removed. For lessors, the accounting requirements remain substantially unchanged and the two types of leases remain in place. IFRS 16 will have a significant impact on KPN as a lessee.

At the commencement date of a lease, KPN will recognize a lease liability for the present value of future lease payments and an asset representing KPN's right to use the underlying asset of the lease ('right-of-use asset'). After transition to IFRS 16, lease expenses currently reported under operating expenses will be replaced by depreciation of the right-of-use asset and interest expenses from the lease liability.

IFRS 16 has been endorsed by the EU and is effective as of 1 January 2019.

Transition to IFRS 16

KPN will apply the standard using the full retrospective approach. Therefore, during 2019, KPN will restate 2018 financial information included in these Financial Statements. The impact of IFRS 16 will be reflected in the opening balance of 1 January 2018.

KPN does not apply the practical expedients for low value leases (leases of an underlying asset with a value less than EUR 5,000) and short term leases (leases with a total expected term less than 12 months) except for short-term rental vehicles. Regarding vehicles leases, KPN applies the practical expedient not to separate non-lease components from lease components. Therefore, the full monthly lease fees will be reflected on KPN's balance sheet. For all types of assets, electricity and fuel related expenses will remain part of operating expenses.

Per transition date, KPN applies IFRS 16 only to leases which were previously identified as leases under IAS 17 and IFRIC 4 in accordance with the practical expedient allowed under IFRS 16.

KPN will present the right-of-use assets and lease liabilities on the balance sheet. In the Statement of Profit or Loss, the depreciation and impairment expenses related to the right-of-use asset will be presented as part of KPN's total depreciation and impairment expenses. The interest expenses related to the lease liabilities will be presented as part of the finance cost.

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Estimated financial impact
The implementation of the software required to perform the IFRS 16 calculations has not been completed per date of publication of these Financial Statements. The current estimate of the IFRS 16 accounts that will be recognized on KPN's balance sheet as per 1 January 2018 is in the range of;

€ million	1 January 2018
Right-of-use asset	950m – 990m
Lease liability (non-current)	910m – 940m
Lease liability (current)	140m – 150m
Reversal IAS 17 positions (net decrease of liabilities)	20m – 40m
Deferred tax asset (increase)	15m – 30m
Equity effect net of tax (decrease)	25m – 70m

The reversal of accounts recognized under IAS 17 mainly include financial lease assets (EUR 56m), financial lease liabilities (EUR 66m), provisions for onerous building leases (EUR 10m) and deferred lease incentives. The net impact on equity will be offset by a deferred tax asset, determined against the applicable rate.

As at 31 December 2017, KPN reported an off balance sheet obligation for operating leases of EUR 775m, and an on balance sheet financial lease liability of EUR 66m. The off balance sheet obligation was determined based on the nominal contract values of KPN's operating leases, not taking into account any renewal options unless they have been exercised. IFRS 16 requires the lease liability to be recognized at discounted value and, among other factors, requires that the likelihood of early terminations or use of renewal options is taken into account. The lease liability expected to be recognized at 1 January 2018 (estimated EUR 1,050 – 1,090m) exceeds the total lease commitments reported under IAS 17 (EUR 841m) by EUR 210 - 250m due to a mix of renewal options deemed reasonably certain, early termination options which are reasonably certain not to be exercised and fixed indexation taken into account under IFRS 16. An estimate of the impact on KPN's balance sheet as per 31 December 2018 is not yet available as the loading of the 2018 full year contract changes in the IFRS 16 tool has not yet been completed. Nonetheless, KPN's lease portfolio nor estimates driving the lease liability have not changed significantly during 2018.

IFRS 16 will increase KPN's EBITDA due to the replacement of operating lease expenses with depreciation charges of the right-of-use assets and the interest expenses related to the lease liabilities. The fixed costs of rental and operating leases recognized in operating expenses that KPN expects to reclassify upon transition to IFRS 16 is EUR 180m for 2018.

The amount of depreciation and interest expenses following the implementation of IFRS 16 will not be equal to this amount as the interest expenses on the lease liability do not follow a linear pattern. A reliable estimate of the effect on net income is not yet available as per date of publication of these Financial Statements.

The cash flows related to the payments on lease liabilities will transfer from cash flow from operating activities to cash flow used in financing activities. The interest paid on the lease liabilities will remain part of cash flow from operating activities. The total net cash flow for 2018 will not be affected.

In March 2019, KPN will publish more details on the impact of IFRS 16. Nonetheless, the estimated impact of the adoption of IFRS 16 may be subject to change until the publication of KPN's Financial Statements 2019.

The 'on balance' recognition of KPN's lease liability is not expected to have an impact on KPN's financing arrangements which do not contain any financial covenants.

Composition of KPN's Lease portfolio and main assumptions
KPN's lease portfolio mainly consists of buildings, site rentals, mobile towers and vehicles.

Main assumptions applied in determining the appropriate book values of the lease liability and right-of-use asset include the assessment of the lease term and the appropriate discount rate. The lease term is impacted by the assessment of the reasonably certain criterion in respect of renewal or termination options.

As the implicit discount rates of KPN's leases were not readily available, with the exception for vehicles, KPN applies the incremental borrowing rate applicable at commencement date of a lease to determine the discounted value of the lease liabilities. Upon modification of a lease, the remeasurement of the lease liability is performed using the applicable discount rate at the date of the remeasurement. KPN's incremental borrowing rates are mainly determined using a risk free rate combined with a spread reflecting KPN's credit risk. The applicable rate per contract is primarily dependent on the expected term of a lease at its commencement date.

Provision for onerous lease contracts
The transition to IFRS 16 will change the accounting of the restructuring provision related to contractual obligations (onerous building leases). The provision related to the leases will be replaced by an impairment of the right-of-use asset for the related lease contract.

IFRIC 23 Uncertainty over Income Tax Treatments
This interpretation clarifies the application of the recognition and measurement requirements of IAS 12 Income Taxes when there is uncertainty regarding income tax treatment.
The interpretation addresses:
- Whether an entity considers uncertain tax treatments separately.
- The assumptions an entity makes about the examination of tax treatments by tax authorities.
- How an entity determines taxable profit or loss, tax bases, unused tax losses, unused tax credits and tax rates.
- How an entity considers changes in facts and circumstances.

An entity has to determine whether to consider each uncertain tax treatment separately or together with one or more other uncertain tax treatments. The approach better predicts the resolution of the uncertainty that should be followed.

This interpretation has been endorsed by the EU and is effective as of 1 January 2019. KPN concluded that the latter would not affect the reported tax position.

Basis of consolidation

KPN's Consolidated Financial Statements include the financial results of its subsidiaries and incorporate KPN's share of the results from associates.

Subsidiaries are all entities directly or indirectly controlled by KPN. Control is defined as the power over an entity, i.e. the ability to govern the financial and operating policies, resulting in obtaining the gains or losses from the entity's activities. Subsidiaries are fully consolidated from the date on which control is obtained by KPN and are deconsolidated from the date on which KPN's control ceases. All intercompany transactions, balances and unrealized results on transactions with subsidiaries are eliminated.

Changes in ownership interests in subsidiaries without change of control that do not result in loss of control are accounted for as equity transactions. Gains or losses on disposals to non-controlling interests are also recorded in equity.

Foreign currency translation

The Financial Statements are presented in euro (EUR), which is KPN's presentation currency as well as functional currency. All amounts are rounded to millions unless stated otherwise. Transactions in foreign currencies are translated into euro using the exchange rates applicable at transaction date. At reporting date, monetary assets and liabilities denominated in foreign currencies are translated to euro using the rates at reporting date. Exchange rate differences are recognized in profit or loss except when these differences are related to qualifying cash flow hedges and qualifying net investment hedges in which case the exchange rate differences are recorded in OCI.

Exchange rate differences on non-monetary assets and liabilities are reported as part of the fair value gain or loss from that asset or liability. Exchange rate differences arising from the translation of the net investment in foreign entities, of borrowings and other currency instruments designated as hedges of such investments are recognized in OCI.

Goodwill and fair value adjustments arising on the acquisition of a foreign entity are treated as assets and liabilities of the foreign entity and translated at the closing rate at the reporting date.

Subsidiaries
For consolidation purposes, the results and financial position of subsidiaries are translated to euro at closing rate of the date of the financial position (assets and liabilities) or at the average exchange rates applicable for the specific reporting period (income and expenses). All resulting exchange differences are recognized in OCI.

Statement of Cash Flows

The Statement of Cash Flows is prepared using the indirect method. Cash flows denominated in currencies other than EUR are translated at average exchange rates. Cash flows relating to interest and taxes on profits and tax deductions relating to interest on perpetual hybrid bonds are included in the cash flow from operating activities. The consideration paid in cash for acquired subsidiaries is included in the cash flow from investing activities net of cash acquired. Cash flows resulting from the disposal of subsidiaries are disclosed separately, net of cash sold. Investments in property, plant and equipment, which are financed by financial leases, are not included in the cash flow used in investing activities.

Significant accounting estimates, judgments and assumptions made by management

These are evaluated continuously and are based on historic experience and other factors, including expectations of future events thought to be reasonable under the circumstances. Actual results may deviate from the estimates applied. Estimates are revised when material changes to the underlying assumption occur.

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The accounting estimates, judgments and assumptions deemed significant to KPN's financial statements relate to:

Determination of deferred tax assets for losses carry forward and provisions for tax contingencies	Note 8
Determination of value in use of cash-generating units for goodwill impairment testing	Note 11
Assessments of exposure to credit risk and financial market risks	Note 12.4
The 'more likely than not' assessment required to determine whether or not to recognize a provision for idle cables, which are part of a public electronic communications network	Note 18 and 21
The assumptions used to determine the fair value less costs of disposal of assets and liabilities held for sale, including discontinued operations	Note 15
Assessment whether revenue for variable consideration is probable or highly probable, This concerns revenue related to disputes and revenue related to VAT unused multipurpose bundles	Note 4 and 19

In preparing the Financial Statements, KPN has applied the concept of materiality to the presentation and level of disclosures. Only essential and mandatory information is disclosed which is relevant to a reader's understanding of these Financial Statements.

[3] Segment reporting

Operating segments are reported in a manner consistent with the internal reporting to KPN's CEO, who is the Chief Operating Decision-Maker according to IFRS 8 'Operating Segments'.

Comparative financial information for 2017 has been restated to reflect the following main events:
- Implementation of IFRS 9 and IFRS 15.
- Reclassification of iBasis as 'disposal group held for sale' as of 7 March 2018. In the Statement of Profit or Loss, the results of iBasis are presented as discontinued operations.

All KPN's activities are in the Netherlands, except iBasis.

The Netherlands

Operational segments in the Netherlands remained unchanged and comprise of Consumer and Business, Wholesale and Network, Operations & IT (NOI). For general information on these segments read more in chapters 'Shareholder value' and 'Converged products and services'. The Netherlands' Other segment includes the results of KPN's Corporate Center and eliminations.

iBasis

iBasis offers a comprehensive portfolio of voice termination and data services for many of the world's largest fixed and mobile operators, as well as voice over broadband.

Other activities

Other activities comprise KPN Holding, remaining activities abroad and eliminations.

Segment performance

As part of the simplification process, KPN has limited the intercompany charges to charges that are considered relevant for tax purposes.

The EBITDA of Consumer, Business and Wholesale represents the contribution margin of these segments and the EBITDA of NOI consists mostly of operating expenses. Due to the fact that KPN neither allocates interest expenses to segments nor accounts for taxes in the segments, the disclosure is limited to operating profit for the year.

For an explanation of incidental transactions included in Revenues, Other income and EBITDA, see Appendix 1.

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Segmentation 2018

i€ million	Commercial Consumer	Business	Operations Wholesale	NOI	Other	Total The Netherlands
Statement of Profit or Loss						
External revenues[1]	2,981	2,110	501	23	2	5,617
Other income	-	-	-	5	-	5
Inter-division revenues	11	33	117	1	-146	15
Total	**2,992**	**2,143**	**618**	**30**	**-145**	**5,638**
Operating expenses	-1,085	-1,020	-163	-1,043	-121	-3,433
EBITDA[2]	**1,907**	**1,122**	**454**	**-1,013**	**-266**	**2,205**
DA&I	-162	-73	-19	-1,134	-8	-1,397
Operating profit	**1,745**	**1,049**	**435**	**-2,148**	**-273**	**808**
Total assets	**4,246**	**2,463**	**986**	**9,439**	**-6,801**	**10,333**
Total liabilities	**4,398**	**2,815**	**744**	**8,826**	**-14,179**	**2,604**

€ million	Total The Netherlands	iBasis	Other activities[3]	KPN Group	Of which discontinued operations	KPN continuing operations
Statement of Profit or Loss						
External revenues[1]	5,617	485	1	6,102	469	5,633
Other income	5	-	-	5	-	5
Inter-division revenues	15	43	-59	-	-	-
Total	**5,638**	**528**	**-58**	**6,108**	**469**	**5,639**
Operating expenses	-3,433	-505	39	-3,898	-445	-3,453
EBITDA[2]	**2,205**	**23**	**-19**	**2,209**	**24**	**2,186**
DA&I	-1,397	-10	-	-1,407	-10	-1,397
Operating profit	**808**	**13**	**-19**	**803**	**14**	**789**
Total assets	**10,333**	**174**	**1,670**	**12,177**	-	**12,177**
Total liabilities	**2,604**	**153**	**7,475**	**10,231**	-	**10,231**

Segmentation 2017 (restated)

€ million	Commercial		Operations			
	Consumer	Business	Wholesale	NOI	Other	Total The Netherlands
Statement of Profit or Loss						
External revenues[1]	3,026	2,139	529	18	3	5,714
Other income	-	0	0	2	-	2
Inter-division revenues	18	44	136	1	-174	26
Total	**3,044**	**2,183**	**665**	**21**	**-171**	**5,741**
Operating expenses	-1,168	-1,001	-216	-1,067	-101	-3,554
EBITDA[2]	**1,876**	**1,182**	**449**	**-1,047**	**-272**	**2,187**
DA&I	-181	-66	-19	-1,140	-7	-1,414
Operating profit	**1,695**	**1,116**	**430**	**-2,187**	**-280**	**774**
Total assets	**5,054**	**2,906**	**896**	**9,635**	**-6,969**	**11,522**
Total liabilities	**5,123**	**2,885**	**887**	**9,526**	**-15,721**	**2,700**

€ million	Total The Netherlands	iBasis	Other activities[3]	KPN Group	Of which discontinued operations	KPN continuing operations
Statement of Profit or Loss						
External revenues[1]	5,714	648	1	6,362	622	5,740
Other income	2	-	-	2	-	2
Inter-division revenues	26	57	-84	-	-	-
Total	**5,741**	**705**	**-83**	**6,364**	**622**	**5,742**
Operating expenses	-3,554	-681	65	-4,171	-598	-3,573
EBITDA[2]	**2,187**	**24**	**-18**	**2,193**	**24**	**2,169**
DA&I	-1,414	-10	-	-1,424	-11	1,414
Operating profit	**774**	**14**	**-19**	**769**	**13**	**755**
Total assets	**11,522**	**288**	**1,967**	**13,776**	**-**	**13,776**
Total liabilities	**2,700**	**163**	**7,430**	**10,294**	**-**	**10,294**

1. External revenues mainly consist of rendering of services.
2. Earnings before interest, tax and depreciation, amortization and impairments.
3. Including eliminations.

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NOTES TO THE CONSOLIDATED STATEMENT OF PROFIT OR LOSS

[4] Revenues

€ million	2018	2017 (Restated)
Service revenue	5,186	5,291
Non-service revenue	429	443
Revenues from contracts with customers	**5,615**	**5,734**
Rental and other revenue	18	6
Total	**5,633**	**5,740**

Service revenue is all revenue recognized over time and includes fees for usage of KPN's network and facilities, for example monthly subscription fees and revenues from customer specific IT solutions.

Non-service revenue is revenue recognized at a point in time and includes for example sale of handsets, peripheral equipment as well as software licenses sold without ongoing support.

In 2017 and 2018, the time value of money was not significant and therefore not recorded.

Accounting policy: Revenues

The core principle is that revenue is recognized to depict the transfer of promised goods or services to the customer in an amount that reflects the consideration to which KPN expects to be entitled in exchange for those goods or services.

Revenue is recognized when it is probable that the economic benefits associated with a transaction will flow to KPN and the amount of revenue and associated costs can be measured reliably.

KPN follows the 5-step process of IFRS 15 to recognize revenue. See paragraph 'Changes in accounting policies and disclosures' in Note 2 for an explanation of KPN's most significant accounting policies related to revenue recognition.

An adjustment for the time value of money is made to a transaction price for the effects of financing, if time between recognition of revenue and cash receipt is expected to exceed 12 months and if it provides the customer with a significant benefit.

Revenue is recognized either at a point in time or over time. In general telco and IT services are delivered over-time, whereas handsets and peripheral and network equipment, in case they are treated as separate performance obligations, are delivered at a point in time.

If KPN transfers goods or services to a customer before the customer pays consideration or before payment is due, a contract asset is recognized in case the earned consideration is conditional. A contract receivable is recognized if KPN's right to an amount of consideration is unconditional (only the passage of time is required before payment of the consideration is due).

KPN recognizes contract liabilities in the Statement of Financial Position for considerations received in respect of unsatisfied performance obligations. Contract liabilities are recognized as revenue when KPN performs under the contract.

Accounting policy: Costs to obtain and/or fulfill a contract

The incremental costs of obtaining a contract with a customer are recognized as an asset if KPN expects to recover those costs. Costs to obtain a contract that would have been incurred regardless of whether the contract was obtained are recognized as an expense when incurred, unless those costs are explicitly chargeable to the customer regardless of whether the contract is obtained.

Costs to fulfill a contract are recognized as an asset if:
- The costs relate directly to a contract; and
- The costs generate or enhance resources that will be used in satisfying performance obligations in the future; and
- The costs are expected to be recovered.

Capitalized contract costs are amortized on a linear basis over the period in which KPN transfers the related goods or services to the customer. KPN applied the practical expedient to immediately expense contract costs when the asset that would have resulted from capitalizing such costs would have been amortized within one year or less.

Assets recognized for costs to obtain a contract and costs to fulfill a contract are subject to impairment testing.

Information about KPN's performance obligations regarding communication services is summarized below:

Contracts for fixed-voice/internet/television:

> Revenue from in-home installation services is recognized at a point in time (at completion of the installation).
> Revenue from network access is recognized over time during the subscription period. One-off connection fees, subscription fees and services to provide customer premises equipment are not separate performance obligations and are bundled with the performance obligation for network access.

Postpaid mobile contracts via KPN shops and website:

> Revenue from sale of handsets is recognized at a point in time (upon delivery of the handset equipment).
> Revenue from network access is recognized over time during the subscription period of 12 or 24 months.

Postpaid mobile contracts via third parties:

> The handsets sold and delivered by third parties, related to KPN subscription contracts, are not performance obligations for KPN. Amounts paid to the third party to acquire or retain subscribers are capitalized as a contract asset and decreased with the monthly instalment payments.
> Revenue from network access is recognized over time.

Information about KPN's performance obligations regarding other Business revenues is summarized below:

Workspace and related services:

> Transition projects for corporate customers are separate performance obligations. Revenue is recognized over time (percentage of completion during the project phase) and includes the delivery of peripheral equipment and software licenses if KPN performs the installation and/or must provide ongoing support.
> Exploitation services are recognized over time.

Generally the payment term is 2 weeks in the consumer market and 30 days in the business market.

KPN applies the practical expedients provided in IFRS 15 under which disclosure of amounts of consideration allocated to the remaining performance obligations (unsatisfied or partially satisfied) do not need to be disclosed. This applies to reporting periods presented before the date of initial application of IFRS 15, contracts with an original expected duration of less than one year and those performance obligations which are regarded as satisfied when the right to invoice applies. The remaining performance obligations expected to be recognized in future periods which need to be disclosed relate mainly to the transition & transformation projects for workspace and related services with business customers which were approximately EUR 5m as at 31 December 2018 and EUR 4m as at 31 December 2017.

Revenues, disaggregated information[1]:

€ million	2018	2017 (Restated)
Unbundled fixed lines service revenues	294	311
Bundled fixed lines service revenues	1,569	1,530
Other (mainly peripheral equipment)	53	58
Consumer Residential Communication Services	**1,916**	**1,899**
Mobile service revenues	833	887
Other (mainly handsets)	243	257
Consumer Mobile Communication Services	**1,076**	**1,144**
Total Consumer revenues	**2,992**	**3,044**
Mobile service revenues	502	536
Internet of Things	47	45
Broadband & Network services	358	368
Fixed-voice	266	306
Other (mainly handsets, peripheral equipment and software licenses)	157	189
Business Communication Services	**1,330**	**1,444**
IT services[2]	327	292
Professional Services & Consultancy[3]	480	441
Other	5	6
Other Business revenues	**812**	**739**
Total Business revenues	**2,143**	**2,183**
Mobile service revenues	124	121
Fixed lines revenues	494	544
Total Wholesale revenues	**618**	**665**
Other (including eliminations)	-120	-152
Total	**5,633**	**5,740**

1 Including inter-division revenues
2 Including security, cloud and workspace service except for large corporate customers
3 Including workspace and related services for large corporate customers

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[5] Personnel expenses

€ million	2018	2017
Salaries and wages	848	850
Retirement benefits	91	88
Social security contributions	113	113
Additional labor capacity	130	117
Own work capitalized	-114	-109
Other	74	62
Total personnel expenses	**1,141**	**1,121**

In addition, there were employee redundancy costs which are not included in personnel expenses but in other operating expenses. See Note 18 'Provisions for other liabilities and charges' for information on employee redundancy costs.

Number of own personnel (FTE) per segment	31 December 2018	31 December 2017
Consumer	2,330	2,518
Business	3,457	3,511
Wholesale	225	221
Network Operations & IT	5,330	5,583
iBasis	262	295
Other	1,065	1,147
Total FTE	**12,669**	**13,275**
> Of which discontinued operations	238	271

Share plans

KPN has granted shares (equity-settled) and share-based awards (cash-settled) on its shares to members of the Board of Management and senior management: the Performance Share Plan (PSP). The conditionally granted PSP award will vest after three years if the employee is still employed by KPN. Vesting is based on individual vesting of 25% relative TSR versus peer group, 25% free cash flow, 25% earnings per share, 12.5% on sustainability/environmental targets and 12.5% on stakeholder/customer targets. Vesting of non-financial targets will be subject to achieving a cumulative net profit during the vesting period of three years (i.e. a qualifier for vesting). The list of companies included in the peer group and the vesting schedule can be found under 'Long-term incentives' in the 'Remuneration Report' section.

The main features of the awards granted under the PSP and Restricted Share Plan to KPN management are summarized on the next page.

	Board of Management	Senior management	Maximum term	Settlement type[1]	Vesting period	Holding period after vesting of/until
2014	X	X	5 years	Equity[2]	3 years	2 years
		X	3 years	Cash	3 years	–
2015	X		5 years	Equity[2]	3 years	2 years
		X	3 years	Cash	3 years	–
	X (CCO)		4 years	Equity[2]	4 years	–
2016	X		5 years	Equity[2]	3 years	2 years
		X	3 years	Cash	3 years	–
2017	X	X	5 years	Equity[2]	3 years	2 years
		X	3 years	Cash	3 years	–
2018	X	X	5 years	Equity[2]	3 years	2 years
	X (CEO)[3]		4 years	Equity[2]	4 years	–
		X	3 years	Cash	3 years	–

1 The cash-settled share awards will be settled in cash and no holding restrictions apply. An exception to the holding period for equity-settled plans is made with respect to shares that were sold upon vesting to cover the tax obligation on the vested shares. After vesting, the holder is able to sell a number of unconditional granted shares only up to the amount necessary to settle the wage taxes liability relating to the profit made on the stock compensation plan. Wage tax in the Netherlands is generally 52% of the total vested amount.
2 Including deferred dividend.
3 In May 2018, KPN's Chief Executive Officer, Mr. Ibarra was granted shares which vest in April 2022 if he is still employed by KPN. For this plan, no other performance measures are applicable.

The total compensation expense associated with the share plans was EUR 4m in 2018 (2017: EUR 11m) and the related liability (for cash-settled shares) on 31 December 2018 was EUR 4m (2017: EUR 13m). This liability is included under Other payables. For the 2015 Share Plan and share-based awards, the service conditions were met in the year 2018. The intrinsic value at vesting was EUR 13m.

The following table presents the number of shares and share-based awards in thousands under the share plans.

		Total 31 Dec 2016	Granted/ additional vesting[1,2]	Exercised/ Vested	Forfeited	Total 31 Dec 2017[3]	Granted/ additional vesting[2]	Exercised/ Vested	Forfeited[4]	Total 31 Dec 2018[3]	-of which: Non-vested
2014	Share-based awards Sr. man.	2,874	–	-1,976	-898	–	–	–	–	–	–
2014	Shares BoM/Sr. man.	1,465	–	-1,007	-458	–	–	–	–	–	–
2015	Share-based awards Sr. man.	2,216	–	–	-143	2,073	1,510	-3,583	–	–	–
2015	Shares BoM	943	–	–	–	943	876	-1,819	–	–	–
2015	Shares CCO	159	–	-106	–	53	–	-53	–	–	–
2016	Share-based awards Sr. man.	2,529	–	–	-170	2,359	–	–	-151	2,208	2,208
2016	Shares BoM	900	–	–	–	900	–	–	-132	768	768
2017	Share-based awards Sr. man.	–	1,205	–	-40	1,165	143	–	-167	1,141	1,141
2017	Shares BoM/Sr. man.	–	2,347	–	-41	2,306	195	–	-531	1,970	1.970
2018	Share-based awards Sr. man.	–	–	–	–	–	1,384	–	-52	1,332	1,332
2018	Shares CEO	–	–	–	–	–	80	–	–	80	80
2018	Shares BoM/Sr. man.	–	–	–	–	–	3,109	–	-124	2,985	2,985

1 On the basis of a 100% grant. The equity-settled share numbers do not include any deferred dividend during the vesting period. The deferred dividend during the vesting period will be granted in additional shares.
2 At grant date, the fair value is calculated using a Monte Carlo Simulation model except for the separate CEO shares. In April 2018, the fair value was EUR 1.95 (2017 grant: EUR 2.43) for the 2018 share-based award (cash-settled), EUR 2.19 (2017 grant: EUR 2.68) for the 2018 equity-settled share grant for the Board of Management (excluding deferred dividend) and EUR 2.06 for the 2018 separate equity-settled share grant for the CEO. Final TSR measurement for the 2015 share grant was conducted in February 2018 which resulted in 172.86% vesting in April 2018.
3 At 31 December 2018, the fair value of each cash-settled share-based award was measured, using recent strategic plans, forecasts and a Monte Carlo Simulation model, based on the most recent available share price of KPN and its performance compared with peer companies at the moment of valuation (i.e. closing share prices as at 31 December 2018). At 31 December 2018, the fair value is EUR 1.05 (2017: EUR 2.29) for the 2016 share-based award, EUR 1.74 (2017: EUR 2.50) for the 2017 share-based award and EUR 2.38 for the 2018 share-based award.
4 At the end of 2018, KPN held the 8th position with respect to the 2016 share grant and at the end of 2017, KPN held the 3rd position with respect to the 2015 share grant. This position and the outcomes of the other targets leads to 42.5% vesting in April 2019 of the 2016 share grant. Final TSR measurement for the 2016 share grant was conducted in February 2019.

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The fair value of each award at the grant date is determined using the following assumptions:

€ million	2018 CEO	2018 PSP	2017 PSP
Risk-free interest rate based on euro government bonds for remaining time to maturity of 2.7 years	-0.0%	-0.0%	-0.1%
Expected dividend for KPN (based on one year's historical daily data preceding the date of award)	4.1%	4.1%	2.6%
Expected volatility (PSP grant based on 2.7 years' historical daily data) used for TSR	n/a	23.8%	26.3%
Share price at date of award (closing at grant date)	EUR 2.42	EUR 2.47	EUR 2.79

The following paragraphs provide detail on the actual remuneration of the Board of Management and the Supervisory Board. Please refer to the Remuneration Report for the executive pay policy.

Details of actual remuneration

The remuneration of the Board of Management, representing the costs incurred by the company measured under IFRS principles, is as follows:

Name current member	Year	Salary (EUR)	STI[1] (EUR)	LTI[2] Share awards (EUR)	Pension costs[3] & social security (EUR)	Total (EUR)
M. Ibarra[1] (since April 18, 2018)	2018	657,092	703,647	328,275	129,108	1,818,122
J.C. de Jager	2018	667,569	381,562	537,855	130,608	1,717,594
	2017	642,917	366,604	544,618	123,750	1,677,889
J.F.E. Farwerck	2018	625,000	392,687	503,383	146,946	1,668,016
	2017	610,833	332,477	498,478	143,876	1,585,664
Total current members	**2018**	**1,949,661**	**1,477,896**	**1,369,513**	**406,662**	**5,203,732**
	2017	**1,253,750**	**699,081**	**1,043,096**	**267,626**	**3,263,553**

Name former member	Year	Salary (EUR)	Severance (EUR)	STI[1] (EUR)	LTI[2] Share awards (EUR)	Pension costs[3] & social security (EUR)	Total (EUR)
E. Blok (up to and including April)	2018	283,333	850,000	315,577	374,031	86,819	1,909,760
	2017	850,000	-	859,222	1,082,299	269,492	3,061,013
F.H.M. van der Post (up to and including September)	2018	525,000	1,050,000	459,816	788,378	130,261	2,953,455
	2017	700,000	-	362,866	700,798	179,962	1,943,626
Total former members	**2018**	**808,333**	**1,900,000**	**775,393**	**1,162,409**	**217,080**	**4,863,215**
	2017	**1,550,000**	**-**	**1,222,088**	**1,783,097**	**449,454**	**5,004,639**

1 Actual STI relates to performance in the current year but paid out in the following financial year. Please refer to the 'Short-term incentives' section in the Remuneration Report section for the actual pay-out levels per target in 2018. For transition activities and professional services prior to becoming CEO, Mr. Ibarra received monthly advisory fees totaling EUR 195,000 in cash which is not included in the table.
2 The amounts in the table represent the cost recognized for shares in 2018 and 2017 based on their fair values at grant date. The fair value of the share-based award is recorded as cost over the vesting period. Please refer to the 'Long-term incentives' section in the Remuneration Report for a further explanation. The EUR 200,000 in cash subject to a 3-year retention period and EUR 200,000 in shares subject to a 4-year retention period for Mr. Ibarra are included in the amounts over the retention period.
3 The pension costs include the costs for survivor's pension, disability coverage, administration as well as the gross allowances. The fixed gross allowance (for the base pay part above EUR 105,075) in 2018 was EUR 82,005 for Mr. Ibarra, EUR 80,131 for Mr. De Jager (2017: EUR 76,000) and EUR 82,980 for Mr. Farwerck (2017: EUR 82,000). For the former members the fixed gross allowance in 2018 was EUR 49,595 for Mr. Blok (2017: EUR 171,000) and EUR 81,542 for Mr. Van der Post (2017: EUR 119,000).

The following table on the next page presents the number of shares and share-based awards in thousands under the share plans.

	Grant date	Granted as of 1 January 2018	Vested in 2018[2]	Granted or forfeited in 2018[1,2]	As of 31 December 2018	Pre-tax fair value on grant date (EUR)[3]	Pre-tax market value on vesting date or end of lock-up in 2018 (EUR)	End of lock-up period
M. Ibarra	19/4/2018	–	–	511,032	511,032	1,119,160	–	19/4/2023
	18/5/2018	–	–	79,554	79,554	163,747	–	19/04/2022
J.C. de Jager	19/4/2018	–	–	245,951	245,951	538,633	–	19/4/2023
	13/4/2017	210,492	–	–	210,492	564,119	–	13/4/2022
	14/4/2016	177,106	–	–	177,106	514,862	–	14/4/2021
	16/4/2015[4]	185,724	-358,129	172,405	–	541,618	888,339	16/4/2020
J.F.E. Farwerck	19/4/2018	–	–	227,733	227,733	498,735	–	19/4/2023
	13/4/2017	202,396	–	–	202,396	542,421	–	13/4/2022
	14/4/2016	162,938	–	–	162,938	473,674	–	14/4/2021
	16/4/2015[4]	170,867	-329,480	158,613	–	498,290	817,275	16/4/2020
Former members								
E. Blok	13/4/2017	412,889	–	-275,259	137,630	1,106,543	–	13/4/2022
	14/4/2016	361,297	–	-120,432	240,865	1,050,319	–	14/4/2021
	16/4/2015[4]	378,878	-730,584	351,706	–	1,104,904	1,812,214	16/4/2020
F.H.M. van der Post	19/4/2018	–	–	70,850	70,850	155,162	–	19/4/2023
	13/4/2017	226,684	–	-88,155	138,529	607,513	–	13/4/2022
	14/4/2016	198,359	–	-11,020	187,339	576,645	–	14/4/2021
	16/4/2015[4]	208,012	-401,106	193,094	–	606,614	994,943	16/4/2020
	1/3/2015	53,095	-53,095	–	–	566,177	122,947	N/a.

1 The shares granted to the Board of Management represent 25% of the total number of shares and share-based awards granted in 2018 to all employees. The 2018 grant numbers do not include any deferred dividend during the vesting period.
2 The deferred dividend during the vesting period will be additionally granted in shares.
3 Value is calculated by multiplying the number of share awards by the fair value at grant date.
4 Final TSR measurement for the 2015 share grant was conducted in February 2018 which resulted in 172.86% vesting in April 2018.
5 All shares are in the vesting period or lock-up period and are conditional.

See page 94 for stock ownership of members of the Board of Management and Supervisory Board.

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Supervisory Board

The table below shows the actual fee received by each member of the Supervisory Board.

Amounts in €	Membership fee 2018	Committee fee 2018	Total 2018	Total 2017
D.W. Sickinghe	100,000	16,875	116,875	122,500
D.J. Haank	70,000	16,250	86,250	82,500
P.A.M. van Bommel	60,000	20,000	80,000	80,000
C.J. García Moreno Elizondo	60,000	10,000	70,000	70,000
C.J.G. Zuiderwijk	60,000	11,875	71,875	77,500
P.F. Hartman	60,000	16,875	76,875	82,500
J.C.M. Sap	60,000	10,000	70,000	70,000
E. Overbeek	60,000	11,250	71,250	16,875
Total	**530,000**	**113,125**	**643,125**	**601,875**

Accounting policy: Share-based compensation

For equity-settled plans, the fair value of shares granted to employees is measured at grant date. For cash-settled plans, the fair value of the liability for the awards granted is remeasured at each reporting date and at settlement date. The costs of share-based compensation plans are determined based on the fair value of the shares and the number of shares expected to vest. On each balance date, KPN determines whether it is necessary to revise the expectation of the number of shares that will vest. The fair value is recognized as personnel expense in profit or loss over the vesting period of the shares against an increase in equity in case of equity-settled share-based compensation plans and against recognition of a liability in case of cash-settled share-based compensation plans.

[6] Other operating expenses

Other operating expenses comprise, among others, a net addition to the restructuring provision, see Note 18.

Auditor's fees

The fees listed below relate to the services provided to KPN and its consolidated group entities by Ernst & Young Accountants LLP, as well as by other Dutch and foreign-based EY individual partnerships and legal entities, including their tax services and advisory groups:

€ million	2018	2017
Financial statements audit fees	4.1	4.0
Other assurance fees	0.5	0.8
Total audit fees	**4.6**	**4.8**
Tax fees	0.2	0.2
Total	**4.8**	**5.0**

The total fees of Ernst & Young Accountants LLP charged to KPN and its consolidated group entities amounted to EUR 4.6m in 2018 (2017: EUR 4.8m). The financial statements audit fees include the fees for professional services rendered for the audit of KPN's annual financial statements and the annual statutory financial statements of subsidiaries or services that are normally provided by the auditor in connection with the audits. The other assurance fees include the fees incurred for assurance and related services that are reasonably related to the performance of the audit or review of KPN's financial statements., such as revenue and IT-related assurance services and regulatory-related assurance services.

Accounting policy: Operating expenses

Operating expenses are divided in direct cost (cost of goods and services) and indirect cost (IT/TI, personnel expenses and other operating expenses).

Cost of goods and services are costs incurred in the context of a sales transaction and include subscriber acquisition and retention costs and traffic expenses. These costs are expensed as incurred, except handset fees paid to dealers and transaction related dealer commissions that are capitalized and amortized over the contract term . The cost of a handset is expensed when the handset is sold (as incurred), both as individual sale or as component of a transaction in combination with a subscription.

IT/TI is an abbreviation for information technology and technical infrastructure. IT expenses relate to KPN's IT environment and include licenses and maintenance expenses for software and/or IT hardware when not directly related to a sales transaction. TI expenses are expenses related to KPN's fixed and mobile networks.

Personnel expenses are all expenses related to KPN's workforce, both related to own employees and external personnel. Other operating expenses include expenses related to marketing and communication, billing and collection, housing and facilities.

[7] Financial income and expenses

€ million	Notes	2018	2017
Finance income		**55**	**69**
Interest on borrowings		-310	-327
Interest on provisions for retirement benefit obligations	[17]	–	-7
Interest on other provisions		-5	-4
Other interest expense		-4	–
Finance costs		**-319**	**-338**
Result on sale of equity instruments		-	30
Amortizable part of hedge reserve	[12.1]	-15	-16
Amortization discontinued fair value hedges	[15]	39	39
Derivative financial instruments not qualified for hedge accounting	[12]	-31	-28
Exchange rate differences		3	-3
Other		1	–
Other financial results		**-3**	**22**
Total		**-267**	**-247**

Finance income included a dividend received from Telefónica Deutschland of EUR 54m (2017: EUR 70m).
Interest on borrowings decreased by EUR 17m, which was mainly related to swapping of the 2025 and 2028 fixed bonds to floating interest. Interest on borrowings included a non-cash amount of EUR 8m (2017: EUR 12m) relating to debt issue costs and similar costs, which are amortized over the remaining life of the respective bonds using the effective interest rate method.

In 2017, the Result on sale of equity instruments, in Other financial results, included a gain of EUR 30m from the sale of KPN's stake in Tecnocom.

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[8] Taxation

The Netherlands

The tax book loss, which is recognized as a result of the sale of E-Plus in 2014, was used to offset KPN's taxable income in the Netherlands in 2014 up to and including 2018, and will be used to offset most of KPN's taxable income in the Netherlands in the coming years. Dividends received and/or capital gains realized (proceeds above tax book value), on KPN's shareholding in TEFD are subject to Dutch corporate income tax, but can be offset against aforementioned tax book loss (note: dividends qualifying as specific capital repayments are tax exempt). The summary of the remaining tax book loss is provided on the next page.

KPN has an agreement with the Dutch tax authorities with respect to the application of the Dutch innovation box tax regime. This is a facility under Dutch corporate income tax law whereby profits attributable to innovation are taxed at an effective rate of 7% (2017: 5%). The application of the innovation box resulted in a benefit of EUR 10m over 2018 (2017: EUR 10m).

Reggefiber Group's fiscal unity, which became part of KPN's main fiscal unity in 2018, has pre-fiscal unity tax losses carry forward. At 31 December 2018, a DTA of EUR 43m (2017: EUR 54m) was recorded, of which EUR 15m (2017: EUR 20m) relates to recognized tax losses carry forward.

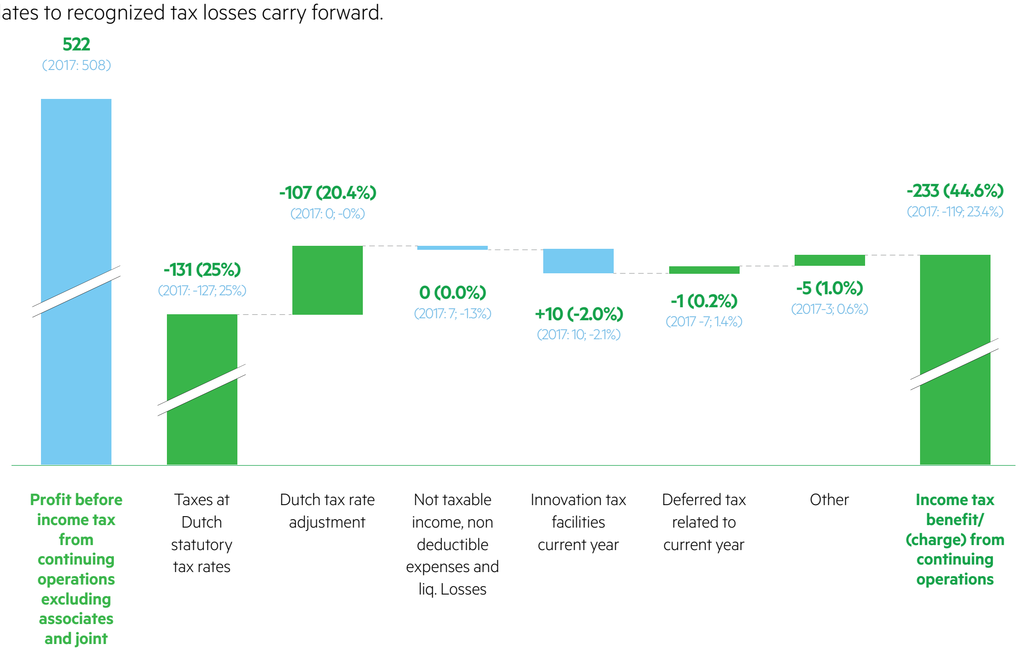
KPN is investigating the impact of the pending legislative proposal to change the Dutch fiscal unity regime. If enacted, certain interest deduction limitations must be applied as if the fiscal unity does not exist.

See Note 20 'Business combinations and other changes in consolidation' for the impact of the acquisitions, which are separately liable for income taxes and for which no loss carry forward is available.

Income tax expense

€ million	2018	2017
Current tax	-10	-10
Deferred taxes	-223	-109
Income tax (charge)/benefit from continuing operations	**-233**	**-119**

The reconciliation from the Dutch statutory tax of 25% (2017: 25%) to the effective tax rate of 44.6% (2017: 23.4%) is explained in the table below. The book tax expenses increased with EUR 114m from EUR 119m in 2017 to EUR 233m in 2018, mainly due to the change in Dutch tax rates which has a negative effect on the valuation of our net deferred tax assets for an amount of EUR 107m.



Net DTA of the Dutch fiscal unity with regard to the book loss on the sale of E-Plus

€ million	Net DTA	Realized	Unrealized	Offset by DTL	Net Loss
Balance at 31 December 2016	**904**	**470**	**501**	**-67**	**3,616**
Movement 2017	-134	-140	–	6	-536
Balance at 31 December 2017	**770**	**330**	**501**	**-61**	**3,080**
Movement 2018	-237	-196	-90	49	-574
Balance at 31 December 2018	**533**	**134**	**411**	**-12**	**2,506**

Deferred tax positions

Deferred tax assets

€ million	Tax loss & other carry forwards[1]	Unrealized liquidation losses[2]	Bonds & hedges[3]	Restriction on depreciation[4]	Fiscal goodwill[5]	Other	Offset by DTL	Total[6,7]
Balance at 31 December 2016 restated	**565**	**518**	**176**	**160**	**48**	**79**	**-516**	**1,030**
Income statement benefit/ (charge)	-68	-17	-8	-19	-10	-10	108	-24
Transfer to current tax	-94	–	–	–	–	–	–	-94
Tax charged to OCI	–	–	-5	–	–	2	–	-3
Other (exchange, reclassification, change in consolidation)	-2	–	–	–	–	–	–	-2
Balance at 31 December 2017 restated	**401**	**501**	**163**	**141**	**38**	**71**	**-408**	**907**
Income statement benefit/ (charge)	-18	–	-15	-11	57	-2	148	158
Transfer to current tax	-169	–	–	–	-4	16	–	-156
Tax charged to OCI	–	–	-1	–	–	–	–	-1
Tax rate changes[8]	-16	-90	-26	-25	-17	-16	–	-190
Other (exchange, reclassification, change in consolidation)	-3	–	–	–	–	–	–	-3
Transfer to held for sale	-13	–	–	–	–	–	–	-13
Balance at 31 December 2018	**183**	**411**	**120**	**104**	**75**	**70**	**-260**	**702**

1 Net off settable losses expected to be recovered within the expiration limits of applicable tax law.
2 Unrealized losses expected to be realized upon liquidation of the former E-Plus entities. Consequently, expiration limits are not yet applicable.
3 Amounts relate to capitalized costs for tax purposes, derivative positions adjusted for tax purposes and unrealized FX results included in the hedge reserve.
4 Amounts relate to assets depreciated in 5 years for tax purposes and less than 5 years for book purposes.
5 Amounts relate to goodwill depreciated for tax purposes (originated from internal transfers).
6 Of which EUR 93m to be recovered within 12 months (2017: EUR 131m).
7 Recoverability depending on future taxable results. Based on current projections, KPN expects to fully utilize its realized and unrealized losses well within the expiration limits of applicable tax law.
8 Representing the impact of the Dutch corporate tax rate change of which net 22m has been charged to OCI.

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Deferred tax liabilities

€ million	Software development[1]	DTL recapture[2]	Accelerated depreciation[3]	Goodwill depreciation[4]	PPA[5]	Other	Offset against tax assets	Total
	Taxable temporary differences							
Balance at 31 December 2016 restated	**164**	**67**	**62**	**62**	**50**	**111**	**-516**	**–**
Income statement (benefit)/ charge	-15	-18	-40	16	-7	-55	108	-11
Tax charged to equity	–	–	–	–	–	-17	–	-17
Tax charged to OCI	–	12	–	–	–	–	–	12
Other (exchange, reclassification, change in consolidation)	–	–	–	-8	29	-4	–	17
Balance at 31 December 2017 restated	**149**	**61**	**22**	**70**	**71**	**36**	**-408**	**–**
Income statement (benefit)/ charge	-12	-7	-19	19	-8	3	148	125
Transfer to current tax	–	–	–	–4	–	-2	–	-6
Tax charged to equity	–	–	–	–	–	-17	–	-17
Tax charged to OCI	–	-40	–	–	–	–	–	-40
Tax rate changes[6]	-27	-3	–1	-17	-11	-3	–	-61
Other (exchange, reclassification, change in consolidation)	–	–	–	–	-2	–	–	-2
Balance at 31 December 2018	**110**	**12**	**3**	**68**	**50**	**16**	**-260**	**–**

1 Amounts relate to a capitalized software costs which is taken as an expense for tax books.
2 Amounts relate to the unrealized capital gains on the stake in Telefónica Deutschland which are considered taxable in the Netherlands (recapture rule).
3 Amounts relate to a temporary tax allowance (2009-2011 and part of 2013) to accelerate depreciation on investments for tax purposes.
4 Amounts relate to acquired goodwill depreciated for tax purposes (not for book purposes).
5 See Note 20 'Business combinations and other changes in consolidation' for the impact of the acquisitions.
6 Representing the impact of the Dutch corporate tax rate change of which net 22m has been charged to OCI.

Tax loss carry forward

	31 December 2018			31 December 2017 (Restated)		
€ million	Tax loss carry forward	Maximum deferred tax asset	Recognized deferred tax asset	Tax loss carry forward	Maximum deferred tax asset	Recognized deferred tax asset
Koninklijke KPN – corporate tax[1]	782	180	180	1,469	367	367
Other	73	16	3	178	45	34
Total KPN Group	**855**	**196**	**183**	**1,646**	**413**	**401**

1 The offset of realized losses with future profits is limited to 9 years for losses incurred in years ending 2018 and is limited to 6 years for losses incurred in 2019 and onwards.

Expiration of the available tax loss carry forward and recognized tax assets

	31 December 2018			31 December 2017 (Restated)		
€ million	Tax loss carry forward	Maximum deferred tax asset	Recognized deferred tax asset	Tax loss carry forward	Maximum deferred tax asset	Recognized deferred tax asset
2019	1	–	–	3	1	1
2020	1	–	–	2	1	1
2021	5	1	1	9	2	2
2022	17	3	3	16	4	4
2023	755	174	174	N/a	N/a	N/a
Later	75	16	4	1,616	405	393
Unlimited	1	–	–	1	–	–
Total KPN Group	**855**	**196**	**183**	**1,646**	**413**	**401**

Accounting policy: Taxation

Current income tax

The current income tax charge is calculated in accordance with the prevailing tax regulations and rates, taking into account non-taxable income and non-deductible expenses. The current income tax expense reflects the amount for the current reporting period that KPN expects to recover from or pay to the tax authorities. Current income tax related to items recognized directly in equity/OCI is recorded in equity/ OCI and not in profit or loss. KPN's management periodically evaluates positions taken in the tax returns regarding situations in which applicable tax regulations are subject to interpretation and establishes provisions when deemed appropriate.

Deferred income taxes

Deferred income tax positions are recognized for temporary differences between the tax basis of assets and liabilities and their carrying values. DTAs are recognized for deductible temporary differences, the carry forward of unused tax credits and any unused tax losses. DTAs are recognized only to the extent that it is probable that future taxable profits will be available against which the temporary differences can be utilized. Both the recognized and unrecognized DTAs are reassessed on each reporting date based on available projections. If future taxable profits are insufficiently available, derecognition may become inevitable unless certain exceptions can be applied. DTAs are recorded for deductible temporary differences associated with investments in subsidiaries and associates and are recorded only to the extent that it is probable that the temporary differences will reverse in the foreseeable future and taxable profit will be available against which the temporary differences can be utilized.

DTLs are recognized for all taxable temporary differences except when they arise from the initial recognition of goodwill or an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the profit or loss reported in the Statement of Profit or Loss nor the taxable profit or loss. Also, no DTLs are recorded for taxable temporary differences associated with investments in subsidiaries and associates when the timing of the reversal of the temporary differences can be controlled and it is probable that the temporary differences will not reverse in the foreseeable future. Deferred tax positions are stated at nominal value and are measured at the corporate income tax rates KPN expects to be applicable in the year when the asset is realized or liability is settled based on enacted or substantially enacted tax laws.

DTAs and DTLs are netted if there is a legally enforceable right to offset current tax assets against current tax liabilities and the DTAs/DTLs relate to income taxes levied by the same taxation authority on the same taxable entity or if, in case of different taxable entities, there is an intention either to settle current tax liabilities and assets on a net basis, or to realize the assets and settle the liabilities simultaneously, in each future period in which significant amounts of deferred tax liabilities or assets are expected to be settled or recovered.

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[9] Earnings per share

The following table shows the income and share data used in the calculations of the basic and diluted EPS.

€ million	2018	2017 (Restated)
Profit for the year from continuing operations	280	390
Profit for the year from discontinued operations	-10	–
Profit for the year	**270**	**390**
Profit attributable to non-controlling interests	–	–
Deduction for perpetual capital securities	-46	-51
Adjusted profit (loss) attributable to ordinary shareholders of the company	**224**	**339**
Weighted average number of subscribed ordinary shares	**4,194,973,500**	**4,225,436,268**
Dilution effects: options and non-vested shares	6,385,261	4,748,779
Weighted average number of subscribed ordinary shares including dilution effects	**4,201,358,761**	**4,230,185,047**

Earnings per ordinary share after taxes attributable to equity holders of the company for the year

€ million	2018	2017 (Restated)
Basic (continuing operations)	0.06	0.08
Diluted (continuing operations)	0.06	0.08
Basic (discontinued operations)	0.00	0.00
Diluted (discontinued operations)	0.00	0.00
Basic (total, including discontinued operations)	0.06	0.08
Diluted (total, including discontinued operations)	0.06	0.08

Diluted earnings per share is calculated by adjusting the weighted average number of ordinary shares outstanding to assume conversion of all dilutive potential ordinary shares. Share options and non-vested shares are regarded to have potential dilutive effects on the ordinary shares.

Coupons and carrying amount adjustments on the perpetual capital securities were deducted from the profit attributable to equity holders, since the perpetual hybrid bonds represented equity but did not constitute profit attributable to ordinary holders.

The total basic earnings per share EUR 0.06 (2017: EUR 0.03) includes tax expense.

NOTES TO THE CONSOLIDATED STATEMENT OF FINANCIAL POSITION

[10] Property, plant and equipment

€ million	Land and buildings	Plant and equipment	Other tangible non-current assets	Assets under construction	Total
Balance at 1 January 2017	**489**	**5,237**	**31**	**211**	**5,969**
Investments	42	712	14	70	838
Depreciation	-63	-902	-15	–	-980
Impairments and retirements	-3	-8	–	-14	-25
Change in consolidation	1	5	4	1	11
Other	1	-3	–	–	-2
Closing net book value	**466**	**5,042**	**35**	**268**	**5,811**
Cost	1,880	9,499	98	268	11,745
Accumulated depreciation/impairments	-1,414	-4,458	-63	–	-5,935
Balance at 31 December 2017	**466**	**5,042**	**35**	**268**	**5,811**
Investments	36	781	19	-17	820
Depreciation	-64	-880	-16	–	-960
Impairments and retirements	-1	-3	–	-6	-11
Transfer to assets held for sale	–	-19	–	–	-19
Other	–	–	-1	1	–
Closing net book value	**437**	**4,921**	**37**	**246**	**5,641**
Cost	1,872	9,361	101	246	11,580
Accumulated depreciation/impairments	-1,435	-4,440	-65	–	-5,940
Balance at 31 December 2018	**437**	**4,921**	**37**	**246**	**5,641**

The book value of property, plant and equipment (PPE) of which KPN as the lessee is the beneficial owner under financial lease programs amounted to EUR 48m (2017: EUR 59m).

Accounting policy: PPE
PPE are valued at cost less depreciation and impairment. The cost include direct costs (materials, direct labor and work contracted out) and directly attributable overhead costs.
Asset retirement obligations are capitalized as part of the cost of tangible fixed assets and expensed as either depreciation over the assets' estimated useful life or as impairment charges.

PPE are depreciated using the straight-line method, based on estimated useful life, taking into account residual value. Land is not depreciated. PPE are reviewed for impairment whenever events or changes in circumstances indicate that the book value of the assets concerned may not be recoverable. An impairment loss is recognized for the amount by which the assets' book value exceeds its recoverable amount. Impairments are reversed if and to the extent that the impairment no longer exists. The recoverable amount is defined as the higher of an assets' fair value less costs of disposal and its value in use.

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Estimated useful lives of the principal PPE categories

PPE category	Depreciation period
Land	No depreciation
Buildings	14-33 years
Network equipment	3-7 years
Fiber network infrastructure	30 years
Copper network infrastructure	5-10 years
Vehicles	10 years
Office equipment	4-10 years

The assets' residual values and useful lives are reviewed at least annually and adjusted if appropriate. The strategic plan that was updated in late November 2018 includes, amongst others, accelerating the rollout of fiber. Therefore the depreciation period of all new investments in copper infrastructure will be adjusted on 1 January 2019 and capped at 10 years.

Interest is capitalized as an increase in PPE if the construction of assets takes a substantial period of time and the amount is material.

[11] Intangible assets

Statement of changes in intangible assets with finite lives and goodwill

€ million	Goodwill	Licenses	Computer software	Software in development	Customer relationships	Other	Total
Balance at 1 January 2017	**1,428**	**1,037**	**476**	**43**	**247**	**19**	**3,250**
Investments	106	24	296	11	2	–	439
Change in consolidation[1]	–	–	14	–	57	6	77
Amortization	–	-85	-291	–	-26	-7	-409
Impairments	–	–	-9	–	–	–	-10
Subsequent PPA, exchange rate differences and other	-5	–	–	–	–	-1	-6
Closing net book value	**1,530**	**976**	**487**	**53**	**279**	**17**	**3,341**
Cost	2,326	1,385	994	53	406	76	5,240
Accumulated amortization/impairments	-796	-410	-507	–	-127	-59	-1,899
Balance at 31 December 2017	**1,530**	**976**	**487**	**53**	**279**	**17**	**3,341**
Investments	11	–	252	37	–	–	300
Change in consolidation[2]	-41	–	1	–	5	-6	-41
Amortization	–	-85	-299	–	-30	-6	-420
Impairments	–	–	-7	–	–	–	-8
Subsequent PPA, exchange rate differences and other[3]	11	–	–	–	-18	3	-4
Closing net book value	**1,510**	**890**	**434**	**89**	**236**	**9**	**3,169**
Cost	2,167	1,385	991	89	369	53	5,055
Accumulated amortization/impairments	-657	-495	-557	–	-132	-44	-1,885
Balance at 31 December 2018	**1,510**	**890**	**434**	**89**	**236**	**9**	**3,169**

1 The change in consolidation in 2017 mainly include the customer bases of Qsight IT/InSpark, DearBytes, Solcon and Cam IT.
2 The change in consolidation in 2018 mainly include the held for sale of iBasis and the customer base of StartReady BV.
3. Includes the EUR 14m adjustment of the valuation of the customer bases of Qsight/InSpark. See Note 20.

Goodwill per CGU

€ million	31 December 2018	31 December 2017
Consumer	770	770
Business[1]	701	679
Wholesale	40	40
iBasis[2]	–	41
Total	**1,510**	**1,530**

1 The change in goodwill mainly relates to the acquisition of StartReady (EUR 11m) and the subsequent PPA adjustment of Qsight/InSpark (EUR 10m).
2 iBasis is classified as 'disposal group held for sale' as of 7 March 2018.

Goodwill impairment tests

The annual impairment tests as at 31 December 2018 did not indicate that the book value of KPN's goodwill is not recoverable. KPN's market capitalization on 31 December 2018 was higher than the book value of its equity. A test has been performed of the recoverable amount of the book value of each cash-generating unit (CGU), based on their value-in-use, which was determined by using the discounted cash flow method. Key assumptions used in the cash flow projections are estimated EBITDA, capex, change in working capital and pre-tax weighted average cost of capital (WACC) and are not significantly different from those used in prior year. The cash flow projections are management's best estimate based on the updated strategic plan (see page 28) and extrapolation to terminal values. The WACC is calculated using a Capital Asset Pricing Model. For all three CGUs, the annual impairment tests in 2018 and 2017 resulted in significant positive headroom as at 31 December 2018 and 31 December 2017.

Key assumptions in goodwill impairment tests

CGU	EBITDA margin	Capex intensity	Discount rate	Terminal sales growth[1]
Consumer 2018	47% – 53%	22% – 23%	8% – 9%	1%
Consumer 2017	48% – 60%	20% – 23%	7% – 8%	0%
Business 2018	24% – 35%	13% – 15%	8% – 9%	1%
Business 2017	30% – 37%	10% – 17%	7% – 8%	0%
Wholesale 2018	45% – 55%	25% – 28%	8% – 9%	1%
Wholesale 2017	55% – 64%	21% – 35%	7% – 8%	0%

1 Estimates after 10 years

Since the headroom of the Dutch CGUs is more than sufficient, no sensitivity analysis is disclosed for these CGUs. A reasonable possible change in assumptions would not result in an impairment.

Accounting policy: goodwill and intangibles with finite lives

The excess of the consideration transferred over the fair value of the identifiable net assets acquired in a business combination is recorded as goodwill. Goodwill on acquisitions of subsidiaries is included in intangible assets. Goodwill on acquisition of associates is included in investments in associates.

Goodwill is allocated to CGUs for the purpose of impairment testing. The allocation is made to those CGUs or groups of CGUs that are expected to benefit from the synergies of the business combination. Goodwill is carried at cost less accumulated impairment losses and tested for impairment annually or whenever there is an indication that goodwill may be impaired. Goodwill is impaired if the recoverable amount is lower than the book value. The recoverable amount is defined as the higher of the fair value less costs of disposal and the value in use of the CGUs concerned. Impairment losses on goodwill are not reversed in the event that circumstances that triggered the impairment have changed.

Licenses and software are valued at cost less amortization and impairment. Amortization is calculated using the straight-line method over the economic useful life and commences at the date that services can be offered (available for use).

Internally developed and acquired software, not being an integral part of PPE, is capitalized on the basis of the costs incurred, which include direct costs and directly attributable overhead costs incurred.

Other intangible assets such as customer relationships and trade names acquired in business combinations are capitalized at their fair values at acquisition date and are amortized using the straight-line method over the economic useful life.
Intangible assets are reviewed for impairment whenever events or changes in circumstances indicate that the book value of the asset may not be recoverable. An impairment loss is recognized for the amount by which the book value of the licenses exceeds its recoverable amount. Impairments are reversed if and to the extent that the impairment no longer exists.
Intangible assets not yet available for use are tested annually for impairment or whenever KPN has an indication that the intangible fixed assets may be impaired. For example, licenses are tested as part of a CGU as licenses do not generate independent cash flows.
The amortization periods of the intangible assets with finite lives are for licenses 5-20 years, software 3-5 years and other intangible assets 4-20 years.

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[12] Financial assets and financial liabilities

Summary of the financial assets and liabilities at carrying amount and fair value, classified per category.

		31 December 2018		31 December 2017	
€ million		Carrying amount	Fair value	Carrying amount	Fair value
Financial assets at FVPL					
Other current financial assets	[12.1]	50	50	329	329
Derivatives	[12.3]	185	185	168	168
Cash and cash equivalents, including classified as held for sale	[14]	618	618	856	856
Financial assets at amortized cost					
Trade and other receivables, contract assets and prepayments	[13]	951	951	1,022	1,022
Financial assets at FVOCI					
Equity investments	[12.1]	475	475	1,091	1,091
Total financial assets		**2,279**	**2,279**	**3,466**	**3,466**
Financial liabilities FVPL					
Derivatives	[12.3]	318	318	328	328
Financial liabilities at amortized cost					
Borrowings	[12.2]	7,575	8,070	7,596	8,479
Trade and other payables	[19]	1,191	1,191	1,327	1,327
Total financial liabilities		**9,084**	**9,579**	**9,251**	**10,134**

Fair value measurement hierarchy at 31 December 2018 (€ million)	Level 1	Level 2	Level 3	Total
Financial assets at FVPL				
Derivatives (cross-currency interest rate swap)	–	23	–	23
Derivatives (interest rate swap) and other	–	162	–	162
Financial assets at FVOCI				
Equity investments:				
Listed securities	449	–	–	449
Unlisted securities	–	–	26	26
Total assets	**449**	**185**	**26**	**660**
Financial liabilities at FVPL				
Derivatives (cross-currency interest rate swap)	–	280	–	280
Derivatives (interest rate swap)	–	38	–	38
Total liabilities	**–**	**318**	**–**	**318**

Fair value measurement hierarchy at 31 December 2017 (€ million)	Level 1	Level 2	Level 3	Total
Financial assets at FVPL				
Derivatives (cross-currency interest rate swap)	–	3	–	3
Derivatives (interest rate swap) and other	–	165	–	165
Financial assets at FVOCI				
Equity investments:				
Listed securities	1,071	–	–	1,071
Unlisted securities	–	–	20	20
Total assets	**1,071**	**168**	**20**	**1,259**
Financial liabilities at FVPL				
Derivatives (cross-currency interest rate swap)	–	293	–	293
Derivatives (interest rate swap)	–	35	–	35
Total liabilities	**–**	**328**	**–**	**328**

Fair value estimation

Level 1: Fair value of instruments traded in active markets and based on quoted market prices. Level 2: Instrument is not traded in an active market and fair value is determined by using valuation techniques based on maximum use of observable market data for all significant inputs. Level 3: One or more of the significant inputs is not based on observable market data, the fair value is estimated using models and other valuation methods. The valuation of available-for-sale unlisted securities is based on a discounted cash flow model.

Accounting policy: Financial assets

Financial assets are classified at initial recognition. The classification of financial assets at initial recognition depends on the financial asset's contractual cash flow characteristics and KPN's business model for managing them.

KPN initially measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss, transaction costs.

For purposes of subsequent measurement, financial assets are classified in four categories:
- Financial assets at amortised cost (debt instruments).
- Financial assets at fair value through other comprehensive income (OCI) with recycling of cumulative gains and losses (debt instruments).
- Financial assets designated at fair value through OCI with no recycling of cumulative gains and losses upon derecognition (equity instruments).
- Financial assets at fair value through profit or loss.

[12.1] Financial assets

Equity investments measured at fair value through OCI

This includes KPN's stake in Telefónica Deutschland (TEFD). KPN sold 124.6m TEFD shares (4.2%) through various transactions during 2018 at an average price of EUR 3.73 per share. The cumulative loss on the sold shares in 2018 was EUR 52m. KPN considers the stake in TEFD as a financial investment which provides additional financial flexibility. The fair value of KPN's 4.4% stake in TEFD was EUR 449m as at 31 December 2018 (2017: EUR 1,071m for a 8.6% stake). In 2018, a net loss of EUR 158m in the fair value of the stake in TEFD has been recorded through OCI. In 2018, KPN received a dividend from TEFD of EUR 54m (2017: EUR 70m) which has been recorded as Finance income.

This also includes several minority stakes of which the largest is Actility SA, a provider of network solutions and managed information systems for the Internet of Things market with a carrying value of EUR 7m (2017: EUR 7m). No dividends were received from these investments in 2018 or 2017.

These investments were irrevocably designated at fair value through OCI because KPN believes that the fluctuations in the fair value of these investments do not give a fair view of KPN's performance.

Other current financial assets

Other current financial assets include investments in short-term money market funds for EUR 50m (2017: EUR 329m), which are held at fair value through profit or loss (FVPL). These funds have low volatility, with an investment objective of preservation of principal.

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[12.2] Financial liabilities

The carrying amounts and fair value of borrowings is as follows:

€ million	31 December 2018 Carrying amount	31 December 2018 Fair value	31 December 2017 Carrying amount	31 December 2017 Fair value
Eurobonds EUR	3,913	4,040	3,903	4,194
Eurobonds GBP	1,493	1,774	1,504	1,884
Global bonds USD	1,089	1,131	1,070	1,152
Hybrid bonds (GBP and USD)	967	1,007	946	1,064
Other borrowings	113	118	173	185
Total borrowings	**7,575**	**8,070**	**7,596**	**8,479**
> of which: current	**589**	**595**	**18**	**18**
> of which: non-current	**6,986**	**7,475**	**7,578**	**8,461**

The fair value for eurobonds, global bonds and hybrid bonds is based on the listed price of the bonds. Other borrowings include financial lease obligations, cash collateral received on derivatives, bank overdraft and other loans.

KPN's weighted average interest rate on the borrowings outstanding before swaps on 31 December 2018 was 5.1% (2017: 5.2%). The weighted average interest rate after swaps was 4.2% (2017: 4.5%). Excluding all hybrid bonds, the average interest rate on the senior bond portfolio after swaps on 31 December 2018 was 3.8% (2017: 3.9%).

Senior bonds

In 2018, KPN's senior bond portfolio has not changed.

Hybrid bonds

On 14 September 2018, KPN exercised its first call option and redeemed the EUR 6.125% Perpetual Hybrid Securities with an outstanding principal amount of EUR 1,100m.

€ million	Nominal	Nominal €	Coupon	Classification	Redemption	First call date	Swapped	Credit rating
GBP hybrid bond	400	460	6.875%	Liability	14 Mar 2073	14 Mar 2020	Fixed 6.78%	BB/Ba2
USD hybrid bond	600	465	7.000%	Liability	28 Mar 2073	28 Mar 2023	Fixed 6.34%	BB/Ba2

As at 31 December 2018, two hybrid bonds remain outstanding which are treated for 50% as equity and 50% as debt in KPN's gross and net debt definitions.
KPN may, at its discretion and subject to certain conditions, elect to defer payments of interest on the hybrid bonds. Arrears of interest must be paid if dividends are paid on ordinary shares and in the event of early redemption, at final maturity.

Accounting policy: Borrowings

After initial recognition, loans and borrowings are subsequently carried at amortized cost; any difference between the proceeds (net of transaction costs) and the redemption value is recognized in the P&L over the period of the borrowings using the effective interest method. The amortized cost is calculated by taking into account any discounts or premiums on acquisition or issuance and transaction costs. The effective interest rate amortization is recognized in the P&L as finance costs.

Changes in liabilities arising from financing activities

€ million	Borrowings	Derivative financial instruments	Net liability
Balance at 1 January 2017	**8,632**	**-100**	**8,532**
Exchange differences	-253	255	2
Movements recorded as net cash flows arising from/used in financing activities:			
Repayments of borrowings and settlement of derivatives[1]	-749	-20	-769
Other movements[2]	-34	25	-9
Balance at 31 December 2017	**7,596**	**160**	**7,756**
Exchange differences	47	-47	–
Movements recorded as net cash flows arising from/used in financing activities:			
Repayments of borrowings and settlement of derivatives[1]	-56	–	-56
Other movements[2]	-12	20	8
Balance at 31 December 2018	**7,575**	**133**	**7,708**

1 In the Consolidated Statement of Cash Flows this line item includes a payment of EUR 65m in 2018 and EUR 90m in 2017 regarding cash collateral on derivatives (presented as non-current other receivables).
2 Other movements predominantly are fair value adjustments. (derivative financial instruments).

[12.3] Hedging activities and derivatives

KPN uses derivatives solely for the purpose of hedging underlying exposures. The primary risks managed using derivative instruments are foreign currency risk and interest rate risk.

€ million	31 December 2018	31 December 2017
Assets (current and non-current)	185	168
Liabilities (current and non-current)	-318	-328
Total derivatives	**-133**	**-160**
> of which: designated in a hedge relationship	**-233**	**-291**
> of which: other derivatives not designated in a hedge relationship	**100**	**131**

The ineffective portion of the hedge relationships recognized in the P&L during 2018 resulted in a loss of EUR 1m (2017: EUR 1m loss).

Derivatives positions are reported on a gross basis and include a credit value adjustment attributable to derivative counterparty default risk of EUR -1m as at 31 December 2018 (2017: EUR +2m). Part of the derivatives portfolio is subject to master netting agreements that allow netting under certain circumstances. If netting had been applied, the total derivatives asset position would be EUR 26m and the total derivatives liability position would be EUR 159m at 31 December 2018 (2017: EUR 32m and EUR 192m respectively).

Part of KPN's derivatives portfolio contains reset clauses or collateral postings at pre-agreed dates (see Note 12.4 'Liquidity risk').

Derivatives designated in a hedge relationship

Cash flow hedges

Bonds denominated in foreign currencies are hedged with cross-currency swaps. The currency exposure is hedged by effectively fixing the countervalue in foreign currency to euro and by hedging the interest rate exposure by swapping the fixed interest rates in foreign currency to fixed rates in euro. There is an economic relationship between the hedged items and hedging instruments as the terms of the cross-currency swaps match the terms of the bonds. KPN has established a hedge ratio of 1:1 for the hedging relationships as the quantity of hedged items equals the notional amount of the cross-currency swaps. The hedges are until maturity of the underlying senior bonds, or until the first call date in case of the hybrid bonds. For these hedges, KPN meets the criteria of, and also applies, cash flow hedge accounting. The effectiveness of the hedges are determined at inception and on a quarterly basis. To test the hedge effectiveness, KPN uses the hypothetical derivative method and compares the changes in the fair value of the hedging instruments against the changes in the fair value of the hedged items attributable to the hedged risks. If the cumulative change in fair value of the hedging instrument and hedged item are not equal in absolute terms, the difference will be reported in the P&L to

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the extent that, in absolute terms, the fair value change of the hedging instrument is greater than the fair value change of the hedged item. Hedge ineffectiveness can arise from:
- Different curves linked to hedged items and hedging instruments.
- The counterparties' credit risk differently impacting the fair value movement of the hedging instruments and hedged items
- Changes in the terms of the hedge item or hedge instrument.

An overview of the cross-currency swaps at 31 December 2018 and 31 December 2017 is presented below:

Nominal (receive)	Coupon (receive)	Nominal (pay)	Coupon (pay)	Maturity date	Fair value 2018 (EUR m)	Fair value 2017 (EUR m)
GBP 96	6.000%, annual	EUR 123	4.580%, annual	29-05-19	-16	-15
GBP 400	6.875%, annual	EUR 460	6.777%, annual	14-03-20	-22	-23
USD 600	7.000%, semi-annual	EUR 465	6.344%, semi-annual	28-03-23	23	-5
GBP 400	5.000%, annual	EUR 474	4.424%, annual	18-11-26	-60	-46
GBP 850	5.750%, annual	EUR 971	5.432%, annual	17-09-29	-118	-78
USD 1,000	8.375%, semi-annual	EUR 756	8.557%, semi-annual	01-10-30	-64	-123
Total					**-257**	**-290**

The impact of the cash flow hedges on the Statement of Financial Position is as follows:

€ million	Notional amount	Carrying amount	Line item in Statement of Financial Position	Change in fair value used for measuring ineffectiveness for the period
As at 31 December 2018:				
Cross currency swaps GBP	2,029	-217	Derivative financial instruments	-55
Cross currency swaps USD	1,221	-40	Derivative financial instruments	88
Total	**3,250**	**-257**		**33**
As at 31 December 2017:				
Cross currency swaps GBP	2,029	-162	Derivative financial instruments	-23
Cross currency swaps USD	1,221	-128	Derivative financial instruments	-212
Total	**3,250**	**-290**		**-234**

The change in fair value of the associated hedged items attributable to the hedged risks was not materially different from the change in fair value of the associated hedging instruments, resulting in no significant ineffectiveness gains or losses in 2018 (2017: EUR 2m loss).
The effect of the cash flow hedge in the P&L and OCI is as follows:

€ million	Total hedging gain/ (loss) recognized in OCI	Ineffectiveness recognized as a gain/(loss) in P&L	Line item in P&L	Amount reclassified from OCI as a gain/ (loss) in P&L	Line item in P&L
Year ended 31 December 2018:					
Cross currency swaps GBP	-55	–	Other financial results	-16	Other financial results
Cross currency swaps USD	88	–	Other financial results	63	Other financial results
Total	**33**	**–**		**47**	
Year ended 31 December 2017:					
Cross currency swaps GBP	-23	-1	Other financial results	-71	Other financial results
Cross currency swaps USD	-212	-1	Other financial results	-184	Other financial results
Total	**-234**	**-2**		**-255**	

Fair value hedges

In 2017, the 1.125% fixed rate eurobond maturing on 11 September 2028, has been swapped to a floating rate using fixed-to-floating interest rate swaps, whereby KPN receives a fixed rate of 0.907% and pays interest at a variable rate equal to six-months Euribor. In 2018, the 0.625% fixed rate Eurobond maturing on 9 April 2025 has also been swapped to a floating rate using fixed-to-floating interest rate swaps, whereby KPN receives a fixed rate of 0.920% and pays interest at a variable rate equal to 6-month Euribor (in arrears). The swaps are used to hedge the exposure to changes in the fair value of these fixed rate eurobonds against changes in the euro interest curve.
There is an economic relationship between the hedged item and the hedging instrument as the terms of the interest rate swaps match the terms of the fixed rated bonds (i.e. notional amount, maturity and payment dates). KPN has established a hedge ratio of 1:1 for the hedging relationships as the quantity of hedged item equals the notional amount of the hedging instrument. For these hedges, KPN meets the criteria of, and also applies, hedge accounting. If the cumulative change in the fair value of the hedging instrument and hedged item are not equal in absolute terms, the difference will be recorded in the P&L. The hedge ineffectiveness can arise from:

- Different curves linked to the hedged items and hedging instruments.
- The counterparties' credit risk differently impacting the fair value movement of the hedging instruments and hedged items.
- Changes in the terms of the hedge item or hedge instrument.

The impact of the fair value hedges on the Statement of Financial Position is as follows:

€ million	Notional amount	Carrying amount	Line item in Statement of Financial Position	Change in fair value used for measuring ineffectiveness for the period
As at 31 December 2018:				
Interest rate swaps	1,250	24	Derivative financial instruments	26
As at 31 December 2017:				
Interest rate swaps	625	-1	Derivative financial instruments	-1

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The impact of the hedged items on the Statement of Financial Position is as follows:

€ million	Carrying amount	Accumulated fair value adjustments	Line item in Statement of Financial Position	Change in fair value used for measuring ineffectiveness for the period
As at 31 December 2018:				
Fixed rate Eurobonds 2025 & 2028	-1,263	-25	Borrowings	-26
As at 31 December 2017:				
Fixed rate Eurobonds 2025 & 2028	-1,237	1	Borrowings	1

The ineffectiveness recognized in the P&L for the year ended 31 December 2018 was a loss of EUR 1m (2017: EUR nil).

Derivatives not designated in a hedge relationship

In 2011, fixed rate eurobonds with maturities on 21 September 2020, 4 October 2021 and 30 September 2024, were swapped to a floating interest rate based on 3-month Euribor using fixed-to-floating interest rate swaps. Subsequently in May 2015, KPN swapped the floating rate exposure on these bonds to a fixed rate for the remaining maturity of these bonds and discontinued fair value hedge accounting for the fixed-to-floating interest rate swaps.

The cumulative gain of EUR 224m will be amortized to earnings until maturity of the bonds. The gain realized in the P&L in 2018 was EUR 20m (2017: EUR 20m). The balance of the unamortized gain was EUR 68m at 31 December 2018 (2017: EUR 88m). Since May 2015, KPN holds the interest rate swaps on these bonds at FVPL for an amount of EUR 100m as at 31 December 2018 (2017: EUR 131m) and recorded a loss of EUR 31m in 2018 (2017: EUR 28m loss).

Accounting policy: Derivatives and hedging activities

Derivatives are recognized at fair value. Gains and losses arising from changes in fair value are recognized as finance cost/income during the period in which they arise to the extent that the derivatives have no hedging designation or they are ineffective.

Derivatives related to loans are designated as either cash flow or fair value hedges. As of 1 January, 2018, KPN adopted the new IFRS hedge accounting (IFRS 9), which replaced the IAS 39 hedge accounting. The application of IFRS 9 results in a better alignment with the risk management of the company and provides more possibilities to apply hedge accounting.

IFRS 9 also recognizes the offsetting effects in the P&L. Beginning 1 January 2018, the hedge documentation includes identification of the hedging instrument, the hedged item, the nature of the risk being hedged and how the Group will assess whether the hedging relationship meets the hedge effectiveness requirements (including the analysis of sources of hedge ineffectiveness and how the hedge ratio is determined). A hedging relationship qualifies for hedge accounting if it meets all of the following effectiveness requirements:

- There is 'an economic relationship' between the hedged item and the hedging instrument
- The effect of credit risk does not 'dominate the value changes' that result from that economic relationship
- The hedge ratio of the hedging relationship is the same as that resulting from the quantity of the hedged item that the Group actually hedges and the quantity of the hedging instrument that the Group actually uses to hedge that quantity of hedged item

Changes in the fair value of an effective derivative, which is designated as a fair value hedge, along with the gain or loss on the hedged item that is attributable to the hedged risk, are recorded as finance cost/ income. Changes in the fair value of an effective derivative, which is designated as a cash flow hedge, are recorded in OCI for the effective part, until the P&L is affected by the variability in cash flows of the designated hedged item. The ineffective part of the cash flow hedge is recognized as finance cost/income. If an underlying transaction has ceased to be an effective hedge or in case of early redemption of the hedged item, hedge accounting is discontinued prospectively which means that subsequent changes in fair value are recognized in the P&L as finance cost/income. The cumulative amount recorded in OCI is released in the P&L.

[12.4] Financial risk management and policies

Financing policy

KPN strives for the right balance between a prudent financing policy, investments in the business and shareholder remuneration. KPN is committed to an investment grade credit profile. It is KPN policy to utilize excess cash for operational and financial flexibility and/or shareholder remuneration.

The net debt/EBITDA ratio is one of the drivers for KPN's credit rating and is based on the nominal value of borrowings. KPN remains committed to an investment grade credit profile and aims for a net debt/EBITDA ratio of below 2.5x in the medium term.

The difference between the carrying value and nominal value of borrowings includes: (1) carrying value adjustments resulting from fair value hedges and (2) in case of foreign currency bonds, the difference between the nominal amount at the prevailing spot rate and the swapped nominal amount in EUR.

€ million	31 December 2018	31 December 2017 (Restated)
Borrowings	7,575	7,596
Bank overdraft	-5	-4
Perpetual hybrid bonds	–	1,100
50% equity credit for hybrid bonds	-463	-1,013
Cash collateral paid on derivatives	-180	-114
Difference between carrying value and nominal value	-374	-335
Adjusted gross debt	**6,553**	**7,230**
Net cash and cash equivalents	613	852
Short-term investments	50	329
Net debt	5,890	6,049
Normalized EBITDA	2,327	2,309
Net Debt/EBITDA	**2.5x**	**2.6x**

Financial risk management

KPN is exposed to a variety of financial risks. The overall risk management program focuses on the unpredictability of financial markets and seeks to minimize potential adverse effects on KPN's financial position and performance. Derivatives are used to hedge certain risk exposures (see 12.3). The financial risks are managed by KPN's Treasury department under policies approved by the Board of Management and Supervisory Board. These policies are established to identify and analyze financial risks, to set appropriate risk limits and controls, and to monitor adherence to those limits. KPN's key financial risks are:

- Credit and counterparty risk
- Liquidity risk
- Market risk

Credit and counterparty risk

Credit risk arises from the possibility of asset impairment occurring when counterparties are unable to meet their obligations in transactions involving financial instruments. Capital preservation is KPN's main priority when investing excess cash. KPN's counterparty policy sets limits for the maximum exposure per counterparty, which are primarily based on credit ratings, investment periods and collateral. The minimum counterparty credit rating (Moody's equivalent) is A3 for cash balances and for entering into new derivative transactions. Cash balances used for working capital purposes can also reside at banks with lower credit ratings.

As at 31 December 2018, KPN's cash balances and short-term investments were held in bank accounts, bank deposits, money market funds with maturities up to three months. The majority of cash balances were invested with counterparties with a credit rating equivalent to A2 at Moody's or stronger and the counterparties of outstanding derivatives have a credit rating equivalent to Baa1 or higher with Moody's.

Credit risk on trade receivables is controlled using restrictive policies for customer acceptance. Credit management is focused on mobile services. Before accepting certain new customers in this segment, the creditworthiness of prospective clients is checked. In addition, KPN keeps track of the payment performance of customers. If customers fail to meet set criteria, payment issues must be resolved before a new transaction will be entered into.

KPN's policy is to provide financial guarantees only to wholly-owned subsidiaries. At 31 December 2018, KPN had parent guarantees and bank guarantees outstanding to third

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parties for various Dutch wholly-owned subsidiaries. The carrying amount of financial assets including cash represents the maximum credit exposure, which amounts to EUR 2,279m at 31 December 2018 (2017: EUR 3,466m). On 31 December 2018, total outstanding bank guarantees amounted to EUR 7m (2017: EUR 8m), which were issued in the ordinary course of business.

See schedule of the allowances for expected losses in Note 13 for information about credit losses on trade and other receivables. There were no other credit losses.

Maturity analysis of the financial liabilities based on the remaining contractual maturities on 31 December 2018:

	Borrowings				Derivatives			
€ million	Bonds and loans[1]	Interest on bonds and loans[2]	Financial lease obligations	Other debt and cash collateral	Derivatives inflow (including interest)	Derivatives outflow (including interest)	Trade and other payables and accrued expenses	Total
2019	573	295	9	7	-479	432	1,029	1,866
2020-2023	1,690	891	24	1	-2,241	2,010	–	2,375
2024 and further	4,973	992	22	0	-5,168	4,980	–	5.799
Contractual cash flows	**7,236**	**2,178**	**56**	**8**	**-7,887**	**7,423**	**1,029**	**10,040**

1 Includes the GBP and USD Hybrid Bonds with final maturities in 2073 (redemption value of EUR 971m).
2 Interest payments on the GBP and USD hybrid bonds (EUR 67m per year until the first call dates in 2020 and 2023 respectively) are not included. KPN may, at its discretion and subject to certain conditions, elect to defer payments of interest on these hybrid bonds. Any arrears of interest must be paid at the latest at redemption in 2073, the amount of which cannot be reliably measured because of the duration of the hybrid bonds.

Liquidity risk

Liquidity risk is the risk that KPN will not be able to meet its financial obligations associated with financial instruments as they become due. KPN's approach to managing liquidity is to ensure sufficient liquidity to meet its liabilities when due, under both normal and stressed conditions, without incurring unacceptable losses or risking damage. Part of the derivatives contain reset clauses or collateral postings at pre-agreed dates, in order to mitigate counterparty exposure during the life of the swap. These reset clauses will result in early euro settlement obligations in cash with the swap counterparty, which could lead to additional cash inflows or outflows before maturity. During 2018, KPN paid net collateral of EUR 113m (2017: paid EUR 111m), according to pre-agreed settlement schedules. In order to reduce liquidity risks, the reset clauses or collateral postings are spread over different points in time.

Available financing sources

In addition to the available cash and cash equivalents and short-term investments and cash flows from operations, KPN has the following committed financing resources available:

Revolving credit facility

In June 2018, KPN exercised the remaining one-year extension option for its EUR 1.25 billion revolving credit facility, which brings the final maturity of the revolving credit facility to 1 July 2023. The facility is used for general corporate purposes and does not contain any financial covenants. The facility was undrawn per 31 December 2018.

Capital resources covenants

KPN's existing capital resources contain the following covenants as at 31 December 2018, which could trigger additional financial obligations or early redemption of the outstanding indebtedness. All senior bonds issued after 1 January 2006 (EUR 5.4bn at 31 December 2018) contain a change of control clause. KPN may be required to early redeem, in case certain changes of control occur and within this change of control period (max. 90 days) a rating downgrade to sub-investment grade occurs. The hybrid bonds also contain a change of control clause by means of which KPN has the possibility to repurchase the hybrid bonds at par. A 5% interest step-up applies if a rating downgrade occurs during the change of control period in respect of that change of control. In addition, many of KPN's capital resources contain a covenant prohibiting KPN from entering into any amalgamation, demerger, merger, corporate restructuring or reorganization, unless prior written consent has been given by a majority of the lenders or bondholders or the resulting company assumes all of the rights and obligations with respect to the loans or bonds.

Market risk

KPN is exposed to various kinds of market risks in the ordinary course of business. These risks include foreign currency exchange rate risk and interest rate risk.

Foreign currency exchange rate risk

Foreign currency risks mainly result from settlement of international telecommunications traffic and purchase of assets and primarily consists of GBP and USD exposure. Foreign currency exchange rate risks related to bonds that are not denominated in euro are hedged into euro in line with KPN's hedging policies.

As a result of currency fluctuations, the value of subsidiaries could fluctuate and affect the financial position and equity positions from year to year. These translation exposures are not hedged.

Group companies and business operations are obliged to hedge their firm commitments and highly predictable anticipated transactions in non-functional currencies by forward contracts. Accordingly, KPN's Treasury department matches and manages the intercompany and external exposures using forward exchange contracts. No hedge accounting is applied for these hedge instruments.

As at 31 December 2018, more than 97% of cash and cash equivalents was denominated in the functional currency of the related entities. More than 99% of the net amount of trade receivables and more than 96% of the amount of trade payables was outstanding in the functional currency of the related entities.

Interest rate risk and interest rate profile

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate as a result of changes in market interest rates. Borrowings, derivatives, cash and cash equivalents are subject to interest rate risk. With regard to interest rate risk exposure, KPN periodically evaluates the desired mix of fixed and floating interest rate liabilities, balancing the benefit of lower interest costs vs. the variability of cash flows. Any interest exposure longer than one year is considered to be fixed. KPN may use derivative financial instruments to adjust the desired interest rate exposure.

As of 31 December 2018, after swaps, 83% of KPN's interest-bearing gross debt (excluding bank overdraft) was at fixed interest rates (2017: 92%).

In February 2018, KPN swapped the 0.625% coupon on the 2016 - 2025 eurobond to 6-month Euribor (in arrears) to adjust the mix of fixed and floating rate interest rate liabilities. With a view to the existing and forecasted debt structure, KPN could enter into additional future derivatives to further adjust the mix of fixed and floating interest rate liabilities.

A sensitivity analysis on 31 December 2018 with regard to interest rate risk on interest-bearing liabilities (excl. cash flow hedges) showed that, ceteris paribus, each adverse change of 100 bps in the 6-month Euribor would hypothetically result in EUR 10m higher interest costs per annum.

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Cash flow hedges

KPN carried out a sensitivity analysis on 31 December 2018 with regard to interest rate and currency risk on the cash flow hedges. KPN applies cash flow hedge accounting on all bonds not denominated in euro. With all other variables held constant, KPN calculated the hypothetical impact of changes in interest rates based on various scenarios. This would hypothetically result in a higher or lower value on the balance of the hedge reserve, which is included in equity attributable to equity holders. In a similar way, KPN calculated the hypothetical impact of changes in the EUR/USD rate and the EUR/GBP rate, holding all other variables constant. The results of the analysis are shown in the table below, indicating the hypothetical impact on the fair value of the cross-currency swaps (excluding the partially offsetting impact on the hedged items).

		GBP		USD		Total	
€ million (before tax)	Change	2018	2017	2018	2017	2018	2017
Change in interest rate	+1%-point	-10	-8	-4	-11	-14	-19
	-1%-point	11	9	3	11	14	20
Change in FX rate	+10%-point	38	70	47	60	85	130
	-10%-point	-46	-86	-57	-73	-103	-159

Prospective effectiveness testing indicates that all cash flow hedges are expected to be highly effective. Consequently, the expected impact on the P&L is immaterial.

Derivatives held at fair value

KPN carried out a sensitivity analysis on 31 December 2018 with regard to the fair value of interest rate swaps (excluding the partially offsetting impact on the hedged items):

€ million	Change	2018	2017
Changes in EUR interest rates	+1%-point	-96	-61
	-1%-point	102	68

For a sensitivity analysis on interest rate risk regarding pensions, see Note 17.

Offsetting financial assets and financial liabilities

Financial assets

The following financial assets are subject to offsetting, enforceable master netting arrangements and similar agreements (continuing operations only):

€ million 31 December 2018	Gross amount	Financial liabilities set off	Net amount in balance sheet	Not offset: Financial instruments/Cash collateral	Net amount
Cash and cash equivalents	594	–	594	-5	589
Derivatives	185	–	185	–	185
Trade and other receivables	–	–	–	–	–
Total	**779**	**–**	**779**	**-5**	**774**
31 December 2017					
Cash and cash equivalents	856	–	856	-4	852
Derivatives	168	–	168	-48	120
Trade and other receivables	123	-59	64	–	64
Total	**1,147**	**-59**	**1,088**	**-52**	**1,036**

Financial liabilities

The following financial liabilities are subject to offsetting, enforceable master netting arrangements and similar agreements:

€ million 31 December 2018	Gross amount	Financial liabilities set off	Net amount in balance sheet	Not offset: Financial instruments/Cash collateral	Net amount
Derivatives	318	–	318	-180	138
Trade and other receivables	–	–	–	–	–
Total	**318**	**–**	**318**	**-180**	**138**
31 December 2017					
Derivatives	328	–	328	-114	214
Trade and other receivables	151	-59	92	–	92
Total	**479**	**-59**	**420**	**–114**	**306**

For the financial assets and liabilities summarized above, each agreement between KPN and the counterparty allows for net settlement of the relevant financial assets and liabilities when both parties elect to settle on a net basis.

Accounting policy: Offsetting financial assets and liabilities

Financial assets and liabilities are offset and reported on a net basis on the balance sheet only when there is a legally enforceable right to offset the recognized amounts and there is an intention either to settle on a net basis or to realize the asset and settle the liability simultaneously.

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[13] Trade and other receivables, contract assets and contract costs

13.1 Trade and other receivables

€ million	31 December 2018 Current	31 December 2018 Non-current	31 December 2017 (Restated) Current	31 December 2017 (Restated) Non-current
Trade receivables	343	–	379	–
Financial receivables handsets	187	–	–	–
Sales to be invoiced	128	–	240	–
Interest to be received	23	–	16	–
Prepayments, accruals and other receivables	121	197	100	138
Total	**802**	**197**	**735**	**138**

Trade receivables are generally on payment terms of 14 to 30 days.

The held for sale classification of iBasis resulted in a decrease in 2018 of trade receivables of EUR 22m and sales to be invoiced of EUR 35m.

As of 1 January 2018, KPN's general terms and conditions of the contract with customers in the Consumer segment for a handset with postpaid subscription have changed. The instalment payments on the handset loan, as issued by KPN Finance B.V., have become unconditional on the delivery of the telco service, resulting in a financial receivable instead of a contract asset.

The non-current other receivables relate for EUR 180m to cash collateral received on derivatives (2017: EUR 114m).

The carrying amounts of trade and other receivables approximate their fair value. Trade and other receivables are non-interest bearing.

Sales to be invoiced include accrued income related to usage of KPN's network which is invoiced monthly in arrears.

The aging of the gross trade receivables is as follows:

€ million	31 December 2018	31 December 2017 (Restated)
Trade receivables gross		
Amounts undue	234	225
Past due 0–90 days	77	106
Past due 91–360 days	34	28
More than one year	27	50
Total trade receivables gross	**373**	**409**
Provision for credit risk exposure	30	30
Total trade receivables net	**343**	**379**

13.2 Contract assets and contract costs

€ million	31 December 2018 Current	31 December 2018 Non-current	31 December 2017 (Restated) Current	31 December 2017 (Restated) Non-current
Contract assets	103	1	283	2
Costs to obtain a contract	–	32	–	33
Costs to fulfill a contract	4	–	5	–
Total	**107**	**33**	**288**	**35**

Contract assets

A contract asset is recognized in case the earned consideration is conditional. This includes:

- Handsets delivered at the start of postpaid mobile contracts entered into before 2018.
- Handset-related dealer fees (amounts paid to dealers for the delivery of handsets to the end-customer/postpaid mobile contracts via third parties).
- Installation services at the start of the contract if the amount of revenue recognized is higher than the amounts charged upfront.
- Transition projects for business customers when the revenue recognized is higher than the amounts invoiced for the transition phase.

Upon invoicing, the amounts recognized as contract assets are reclassified to trade receivables.

The decrease of the contract assets is related to the instalment payments of handsets accounted for as financial receivable instead of as a contract asset as of 1 January 2018 (see Note 13.1).

Contract costs

Contract costs include:

- Transaction-related dealer fees paid to acquire or retain mobile subscribers.
- Costs incurred during the transition phase of projects for business customers to be able to deliver exploitation services which are not treated as a separate performance obligation. The costs are capitalized as costs to fulfil a contract and expensed in principle on a straight-line basis over the remaining contract term in which the exploitation services are delivered.

13.3 Allowances for expected credit losses

The movement schedule of the allowances for expected credit losses is as follows:

	Allowance for expected credit losses			
€ million	Trade receivables	Financial receivables handsets	Contract assets	Total
Balance at 1 January 2017	**32**	**–**	**–**	**32**
Transition impact IFRS 9 and IFRS 15	7	–	5	12
Balance at 1 January 2017 restated	**39**	**–**	**5**	**44**
Additions/releases P&L	19	–	3	22
Usage	-28	–	–	-28
Balance at 31 December 2017 restated	**30**	**–**	**8**	**38**
Additions/releases P&L	14	5	-7	12
Usage	-10	–	–	-10
Other movements	-4	–	–	-4
Balance at 31 December 2018	**30**	**5**	**1**	**36**

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Accounting policy: Trade and other receivables, contract assets and contract costs

Trade and other receivables and contract assets classify as financial assets and are measured at amortized cost if both of the following conditions are met:

- The financial asset is held within a business model with the objective to hold financial assets in order to collect contractual cash flows.
- The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Financial assets at amortized cost are subsequently measured using the effective interest method less provisions for impairment. An allowance for expected credit losses is recorded for all financial assets and contract assets at initial recognition. This allowance is regularly updated.

The amortized cost is calculated by taking into account any discounts or premiums on acquisition and transactions costs. The effective interest rate amortization is recognized under finance income or finance costs.

See Note 4 for the accounting policy regarding contract costs.

[14] Cash and cash equivalents

Cash and cash equivalents consist of highly liquid instruments, mainly balances on bank accounts, bank deposits, AAA-rated money market funds, all with initial maturities of three months or less.

The main cause for the decrease in cash and cash equivalents was the EUR hybrid bond redemption in the third quarter of 2018, partially offset by retained cash flow during the year.

€ million	31 December 2018	31 December 2017
Cash	318	321
Short-term bank deposits, repurchase agreements and money market funds	300	535
Classified as held for sale	-24	–
Total cash and cash equivalents	**594**	**856**

Accounting policy: Cash and cash equivalents

Cash and cash equivalents comprise cash in hand, deposits held at call with banks and other short-term highly liquid investments with original maturities of three months or less. Bank overdrafts are included within borrowings in current liabilities.

[15] Non-current assets, liabilities and disposal groups held for sale

€ million	31 December 2018	7 March 2018
Intangible assets	49	46
Property, plant and equipment	27	19
Other non-current assets	7	13
Current assets	90	86
Fair value adjustment of disposal group	-25	-12
Total assets of disposal groups held for sale	**148**	**152**
Non-current liabilities	-2	-2
Current liabilities	-95	-98
Total liabilities directly associated with the non-current assets and disposal groups classified as held for sale	**-98**	**100**

On 7 March 2018, KPN announced that it had reached an agreement to sell US-based subsidiary iBasis Inc. to Tofane Global.
KPN has classified iBasis as a 'disposal group held for sale' as at 7 March 2018. The classification has resulted in an accumulated impairment of EUR 25m per 31 December 2018, as the fair value less costs to sell of the disposal group was lower than the carrying value. iBasis continues to be included in KPN's segment reporting until the sale is completed.

On completion of the sale of iBasis, the cumulative amount of currency translation adjustments recorded in other comprehensive income will be recognized in the Consolidated Statement of Profit or Loss (result from discontinued operations). The balance as at 31 December 2018 is a gain of EUR 11m.
All assets and liabilities of iBasis have been presented separately on KPN's Consolidated Statement of Financial Position as of 7 March 2018 as 'assets of disposal group classified as held for sale' and 'liabilities directly associated with assets and disposal group classified as held for sale'. These assets and liabilities will continue to be accounted for in accordance with the relevant IFRS standards except that the non-current assets are no longer amortized or depreciated as of 7 March 2018 following guidance of IFRS 5.

Results from iBasis are reported as 'profit/loss (-) for the period from discontinued operations' and cash flows as 'cash flows from discontinued operations', separate from results and cash flows from KPN's continuing operations as of 1 January 2017 in these Consolidated Financial Statements.

Since the internal reporting of iBasis as operating segment to KPN's Chief Operating Decision-Maker remains unchanged, iBasis is still included in KPN's segment reporting.

Accounting policy: Non-current assets and disposal groups held for sale

Non-current assets and disposal groups classified as held for sale as well as liabilities directly associated herewith are stated at the lower of carrying amount (book value) and fair value less costs of disposal if their carrying amount is recovered principally through a sale transaction rather than through continuing use. If fixed assets are transferred to held for sale, depreciation and amortization ceases. A disposal group classifies as a 'discontinued operation' based on its significance to the KPN Group.

The following table summarizes the results of iBasis included in the Consolidated Statement of Profit or Loss as 'profit/loss for the period from discontinued operations':

€ million	2018	2017
Revenues and other income	469	622
Operating expenses	-447	-608
Finance income and expenses	2	6
Share of the loss of associated and joint ventures	–	–
Income taxes	-7	-17
Result for the period from discontinued operations before impairment and tax effects resulting from the transaction	**17**	**3**
Impairment disposal group	-25	–
Profit/Loss (-) for the period from discontinued operations related to iBasis	**-7**	**3**

Some results (and cash flows) from discontinued operations may continue to arise following the unwinding of remaining

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positions of E-Plus (sold in 2014) and BASE Company (sold in 2016). The negative result from discontinued operations of EUR 10m (2017: nil) includes, besides the EUR -7m result from iBasis (2017: EUR 3m), EUR -9m results related to BASE Company (2017: EUR -4m) and EUR 6m result related to E-Plus (2017: EUR 1m). The negative result related to BASE Company in 2018 arose from a balance sheet guarantee. The positive result related to E-Plus relates to settlement of several German tax positions.

The cash flow from discontinued operations is as follows:

€ million	2018	2017
Cash flow from operating activities	9	21
Cash flow from investing activities	-7	-11
Cash flow from financing activities	–	–
Total net cash (outflow)/inflow from discontinued operations	**2**	**10**

[16] Equity

Limitations in distribution shareholders' equity

Total distributable reserves at 31 December 2018 amounted to EUR 1,609m (2017: EUR 3,021m). The decrease is mainly due to the redemption of the EUR Perpetual Hybrid Securities with a remaining outstanding principal amount of EUR 1,100m. For further details on non-distributable reserves, see Note C to the Corporate Financial Statements.

Share capital

Authorized capital stock totals EUR 720m divided into nine billion ordinary shares of EUR 4ct each and nine billion preference shares B of EUR 4ct each. At 31 December 2018, a total of 4,202,844,404 ordinary shares were outstanding and fully paid-in. In 2017, 67,410,260 shares were repurchased (total cost of EUR 209m). These shares were subsequently cancelled. Dutch law prohibits KPN from casting a vote on shares KPN holds (treasury shares). The ordinary shares and preference shares B carry the right to cast one vote each. The ordinary shares are registered or payable to the bearer. Shareholders may request the company to convert their registered shares to bearer shares, but not vice versa.

Share premium

In 2017, the share premium reserve decreased with EUR 206m due to the cancellation of repurchased shares.

€ million, unless indicated otherwise	Number of treasury shares	Treasury shares reserve	Hedge reserve	Fair value reserve AFS financial assets	Currency translation reserve	Total Other reserves
Balance at 1 January 2017	**10,334,291**	**-115**	**-353**	**-19**	**36**	**-451**
Transaction impact IFRS 9	–	–	–	19	–	19
Balance at 1 January 2017 restated	**10,334,291**	**-115**	**-353**	**–**	**36**	**-432**
Movements recorded in OCI (net)	–	–	14	–	–	14
Sold treasury shares	-1,161,443	12	–	–	–	12
Balance at 31 December 2017 restated	**9,172,848**	**-103**	**-339**	**–**	**36**	**-406**
Transaction impact IFRS 9	–	–	4	–	–	4
Balance at 1 January 2018 restated	**9,172,848**	**-103**	**-335**	**–**	**36**	**-402**
Movements recorded in OCI (net)	–	–	-20	–	4	-16
Sold treasury shares	-1,872,394	20	–	–	–	20
Balance at 31 December 2018	**7,300,454**	**-83**	**-355**	**–**	**40**	**-398**

The additional paid-in capital is exempt from Dutch tax up to an amount of EUR 9,282m at 31 December 2018 (2017: EUR 9,282m).

Hedge reserve

€ million	31 December 2018	31 December 2017
Effective portion cash flow hedges[1]	-269	-261
Amortizable part[2]	-178	-192
Hedge reserve	**-447**	**-453**
Tax effect	92	114
Hedge reserve, net of tax	**-355**	**-339**

1 The effective portion of cash flow hedges will be recognized in the P&L in line with the maturities of the related derivatives (see Note 12.3).
2 The amortizable part of the hedge reserve is amortized over the remaining life of the related bonds (between 2016 and 2030). The impact on the P&L will be EUR 17m in 2019.

Treasury shares reserve

KPN purchased shares in its own capital for delivery upon exercise of share options by management and personnel under the share option and performance share plans (Note 5). Votes on purchased shares may not be cast and do not count determining the number of votes required at a General Meeting of Shareholders. In 2018 and 2017, no shares were purchased for the share option and performance share plans. In 2018 and 2017, shares were sold in connection with vesting grants of the KPN Restricted Share Plan (see Note 5).

Treasury shares are accounted for at cost, representing the market price on the acquisition date. The proceeds at delivery of the treasury shares are recognized directly in the other reserves.

Equity attributable to holders of perpetual capital securities

On 14 September 2018, KPN exercised its first call option and redeemed the EUR 6.125% Perpetual Hybrid Securities with a remaining outstanding principal amount of EUR 1,100m. The hybrid bond was classified as equity (perpetual capital securities) for an amount of EUR 1,089m. The difference of EUR 11m has been deducted from retained earnings together with the last interest payment of EUR 51m, net of tax. For interest payments and credit ratings, see Note 12.2.

Foundation Preference Shares B KPN

KPN has granted a call option, which is not limited in time, to the Foundation Preference Shares B KPN (the Foundation) to acquire preference shares B. For further information about the Foundation, see the section 'Corporate governance'.

KPN is of the opinion that the call option does not represent a significant fair value due to the fact that the preference shares B, issued after exercise of the call option, bear interest linked to Euribor.

Dividend per share

At the AGM of Shareholders, to be held on 10 April 2019, a final dividend of EUR 8.0ct per share will be proposed in respect of 2018. In August 2018, KPN paid an interim dividend in respect of 2018 of EUR 4.0ct per share, in total EUR 168m, bringing the total regular dividend in respect of 2018 to EUR 12.0ct per share. These financial statements do not reflect the proposal for the remaining dividend payable.

In May 2018, the dividend received from KPN's stake in TEFD was distributed to KPN shareholders as a special interim cash dividend of EUR 1.3ct per ordinary share (EUR 55m). Total dividend in respect of 2018, including the additional interim cash dividend, will then amount to EUR 13.3ct per ordinary share.

In April 2018, KPN paid a final dividend of EUR 7.3ct per share in respect of 2017, in total EUR 306m. The total dividend in respect of 2017 was EUR 12.7ct per ordinary share including the additional interim cash dividend of EUR 1.7ct per share in relation to the dividend received from KPN's stake in TEFD.

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[17] Retirement benefits

Retirement benefits are provided through a number of defined contribution plans and funded and unfunded defined benefit plans. The most significant plans are described below.

KPN main pension plan

KPN's main pension plan covers employees in the Netherlands who are subject to KPN's collective labor agreement and employees with an individual labor agreement and is externally funded through Stichting Pensioenfonds KPN. This plan is a collective defined contribution pension plan and is accounted for as a defined contribution plan because KPN has no other obligation than to pay the annual contribution which is a fixed percentage of the pensionable base for a period of five years. After this five-year period, the annual contribution will be reassessed based on a fixed and agreed method in which no reflection to past service or the funded status of the fund is included.

Getronics UK and US

The Getronics US and UK operations were divested in 2008 and 2012 respectively. The closed and frozen pension plans of the former US and UK operations remained with KPN and are accounted for as a defined benefit plan. The assets of the plans are held separately from KPN in independently administered funds except for two supplemental executive retirement plans in the US. The UK plan operates under the regulations of the UK Pensions Regulator and the main US plan under the provisions of the Employee Retirement Income Security Act (ERISA). The deficit in the plans' funding must be recovered by the investment returns in the plans' assets and contributions by KPN. The pension plans in the UK and US expose KPN to a number of risks which can have an impact on the future contributions by KPN and the liability recorded in its balance sheet. The most significant risks are summarized below:

- Asset volatility risk: the pension plans' assets are predominantly invested in equity securities and other return seeking assets and therefore the plans' funding levels are exposed to equity market risks.
- Interest rate risk: a decrease in interest rates will increase the plans' liabilities, although this will be partially offset by an increase in the value of the plans' bond holdings.
- Inflation risk: in the UK the indexation of the accrued benefits is unconditional and is based on a combination of consumer and retail price indices and therefore the UK plan is exposed to inflation risk.
- Life expectancy risk: the plans provide benefits for the life of the members, so increases in life expectancy will result in an increase in the plans' liabilities.

In the UK, Guaranteed Minimum Pension (GMP) is a portion of pension that was accrued by individuals who were contracted out of the State Second Pension prior to 6 April 1997. At present there is an inequality of benefits between male and female members who have GMP. The High Court in the UK ruled in 2018 that equalization will be required for affected defined benefit pension schemes. A number of options can be used to equalize. The estimated cost of equalization at 31 December 2018 for the UK plan is EUR 6m, which has been recognized as a past service cost in 2018. However, the cost to the UK plan for equalizing heavily depends on a complex interaction between the benefit design and membership profile as well as the method used to equalize which must be determined by the trustees.

Other

KPN has a number of other funded (insured) plans in the Netherlands and an unfunded transitional early retirement plan (provision of EUR 33m as at 31 December 2018, last payment expected in 2021), which are all closed to new entrants.

Furthermore, with regard to the insured plans, based on Dutch law, KPN could be required to make contributions if participants of these plans require a value transfer to another pension fund or insurer. However, the risk related to these value transfers is limited and therefore no provision has been recognized for these plans.

Provisions for retirement benefit obligations

The provisions for retirement benefit obligations consist of the net defined benefit liability regarding pension plans and early retirement plans which are accounted for as defined benefit plans as described above. See the table on the next page for a specification of the balance sheet position.

	Defined benefit obligation[2]		Fair value of assets		Net defined benefit liability (asset)	
€ million	2018	2017	2018	2017	2018	2017
Balance at 1 January	**718**	**769**	**-500**	**-507**	**218**	**262**
Included in profit or loss:						
Operating expense[1]	-25	1	33	3	8	4
Interest expense (income)	19	21	-13	-14	6	7
Included in OCI:						
Remeasurements loss (gain):						
Actuarial loss (gain)[3]	-35	19	–	–	-35	19
Return on plan assets excluding interest income	–	–	36	-29	36	-29
Effect of movements in exchange rates	7	-46	-6	32	1	-14
Total	**-28**	**-27**	**30**	**3**	**2**	**-24**
Other:						
Employer's contribution[4]	–	–	-28	-31	-28	-31
Benefits paid	-48	-46	48	46	–	–
Balance at 31 December	**636**	**718**	**-430**	**-500**	**206**	**218**

1 Operating expense in 2018 includes a past service cost of EUR 6m regarding the UK plan (see explanation on page 164) and a settlement gain of EUR 2m regarding a supplemental executive retirement plan in the US and in 2017 an amendment gain of EUR 1m due to an increase in the retirement age of the transitional early retirement plan. Also included in 2018 is a settlement loss of EUR 1m due to due to lump sum payments to certain participants of the UK and US plans (EUR 29m defined benefit obligations minus EUR 30m plan assets). Service costs was EUR 1m and administrative costs EUR 3m in both 2018 and 2017.
2 The measurement date for all defined benefit plans is 31 December.
3 The actuarial loss (gain) in 2018 and 2017 consists of demographic assumptions (EUR -10m and EUR -8m), financial assumptions (EUR -27m and EUR +20m) and experience adjustments (EUR +2m and EUR +7m).
4 Includes EUR 3m lump-sum payments in 2017 and in 2018 for (unfunded) supplemental executive retirement plans in the US. KPN considers these plans terminated although certain former participants are questioning whether the assumptions for the calculation of the lump sums are in line with the plans' terms.

Defined benefit obligations

Actuarial assumptions

The key actuarial assumptions used in the calculation of the defined benefit obligations are as follows:

	31 December 2018			31 December 2017		
	Getronics UK	Getronics US	Other	Getronics UK	Getronics US	Other
Discount rate (%)	2.8	4.3	1.8	2.5	3.6	1.7
Expected salary increases (%)	N/a	N/a	2.0	N/a	N/a	2.0
Expected benefit increases/indexation (%)	2.2-3.2	N/a	0.5	2.1–3.1	N/a	0.5
Life expectancy for pensioners at retirement age:						
Male	22.7	22.0	21.7	23.1	20.7	21.7
Female	25.0	25.3	23.9	24.9	22.7	23.9

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The discount rate is based on yield curves of AA corporate bonds with maturities equal to the duration of the benefit obligations and in the applicable currency. As at 31 December 2018, the (weighted) average duration of the defined benefit obligation was 14 years.

Assumptions regarding life expectancy are based on published statistics and mortality tables that include allowances for future improvement in mortality. The mortality table used in the Netherlands is the projected table AG 2018 which includes projected improvement rates varying by year of birth, corrected for fund specific circumstances. The mortality table used in the UK is the 92% of SAPS S2PXA tables CMI 2017 projection with a period smoothing factor of 7.5 and a 1.5% long-term improvement, and in the US the RP-2006 with Scale MP-2018. The life expectancy at the age of 65 is expected to increase in the next 20 years by approximately two years in the UK and the US.

Sensitivity analysis

The table below shows the approximate impact on the defined benefit obligation of a change in the key actuarial assumptions of 0.5% and in the case of life expectancy of a change of one year.

	31 December 2018		31 December 2017	
€ million	Increase	Decrease	Increase	Decrease
Discount rate	-40	45	-48	54
Expected salary increases	–	–	–	–
Expected benefit increases	20	-18	28	-22
Life expectancy	26	-26	26	-26

Plan assets

The assets of all defined benefit pension plans as at 31 December 2018 and 2017 comprise of:

	31 December 2018	
€ million	2018	2017[5]
Quoted in active markets:		
Equity securities	25%	28%
Fixed income securities[1]	26%	22%
Real estate[2]	0%	1%
Commodities[3]	1%	1%
Other	5%	7%
Other:		
Equity securities	6%	8%
Fixed income securities[1]	14%	12%
Real estate[2]	2%	2%
Other[4]	21%	19%

1 Including inflation-linked bonds (per Standard & Poor's rating).
2 As at 31 December 2018, none of the investments in real estate were located in Europe.
3 Includes investment funds which invest in financial instruments related to commodities such as energy, agricultural products and precious metals.
4 Mainly insurance contracts.
5 The 2017 numbers have been adjusted based on an updated methodology.

Strategic investment policies

The strategic investment portfolios of the defined benefit plans (before hedging) at year-end 2018 were as follows:

€ million	Getronics UK	Getronics US	Other plans
Equity securities	35%	45%	1%
Fixed income securities (including inflation-linked bonds)	35%	25%	0%
Other	30%	30%	99%
Total	**100%**	**100%**	**100%**

In both the UK and the US, a roadmap is in place to move to more fixed income exposure as the funded status improves. The Getronics UK pension fund does not hedge interest rate risks, currency risks and equity risks. The Getronics US pension fund does not hedge currency and equity risks but partially hedges interest rate risk.

As the pension funds mainly invest in the global investment funds, a minor part of these investments could be related to

KPN equities. The pension funds do not have direct investments in KPN equities.

Expected contributions and benefits

In 2018, the total employer's contributions and benefit payments for all defined benefit and defined contribution plans amounted to EUR 117m (excluding discontinued operations), consisting of EUR 89m employer's premiums for defined contribution plans, EUR 11m contributions for funded defined benefit plans and EUR 17m payments for unfunded plans. The amount of employer's contributions in 2019 for the remaining defined benefit pension plans is estimated to be EUR 31m for both funded and unfunded plans. The total amount of employer's premiums to be paid in 2019 for the defined contribution plans is estimated to be EUR 88m.

Accounting policy: Provisions for retirement benefit obligations

Pension obligations

The liability recognized in respect of all pension and early retirement plans that qualify as defined benefit obligation is the present value of the defined benefit obligation less the fair value of plan assets. KPN uses actuarial calculations (projected unit credit method) to measure the obligations and the costs. For the calculation, actuarial assumptions are made about demographic variables (such as employee turnover and mortality) and financial variables (such as future indexation and the discount rate). The discount rate is determined by reference to market rates. These are interest rates of high-quality corporate bonds that are denominated in the currency in which the benefit will be paid and that have terms to maturity approximating the terms of the related liability. A net defined benefit asset may arise where a defined benefit plan has been overfunded. KPN recognizes a net defined benefit asset in such a case only when future economic benefits are available to KPN in the form of a reduction in future contributions or a cash refund. Actuarial gains and losses are recognized immediately in OCI.

Past service costs, curtailments and settlements are recognized immediately in the P&L.
The amount of pension costs included in operating expenses with respect to defined benefit plans consist of service cost, past service costs, curtailments and settlements and administration costs. Net interest on the net defined benefit liability is presented as part of finance costs.
For pension plans that qualify as a defined contribution plan, KPN recognizes contributions as an expense when an employee has rendered service in exchange for those contributions.

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[18] Provisions for other liabilities and charges

€ million	31 December 2018	31 December 2017
Restructuring provision	69	60
Asset retirement obligations	51	41
Other provisions	77	68
Total provisions for other liabilities and charges	**197**	**169**
of which: non-current	119	103
of which: current	**78**	**66**

Statement of changes in provisions

€ million	Personnel	Contractual	Total restructuring	Asset retirement obligation	Other provisions[1]	Total provisions
Balance at 1 January 2017	**23**	**22**	**45**	**34**	**59**	**138**
of which: current portion	**23**	**6**	**29**	**6**	**14**	**49**
Additions	90	–	90	9	23	122
Releases	–	-4	-4	–	–	-4
Usage	-65	-6	-71	-1	-21	-93
Other movements incl. discontinued operations	–	–	–	-1	7	6
Balance at 31 December 2017	**48**	**12**	**60**	**41**	**68**	**169**
of which: current portion	**46**	**2**	**48**	**1**	**17**	**66**
Additions	100	2	102	10	12	123
Releases	–	–	–	–	–1	–1
Usage	-90	-2	-92	–	-9	-101
Other movements incl. discontinued operations	–	–	–	–	7	7
Balance at 31 December 2018	**58**	**11**	**69**	**51**	**77**	**197**
< 1 year	**58**	**2**	**60**	**4**	**13**	**78**
1 - 5 year	**–**	**5**	**5**	**13**	**10**	**28**
> 5 year	**–**	**4**	**4**	**33**	**54**	**91**

1 Includes provisions for claims and litigations, onerous contracts, warranties and employee benefits.

Restructuring provisions

Termination benefits are payable when employment is terminated before the normal retirement date, or whenever an employee accepts voluntary redundancy in exchange for these benefits. Termination benefits are recognized when KPN is demonstrably committed either to terminating the employment according to a detailed formal plan without possibility of withdrawal or to providing termination benefits as a result of an offer made to encourage voluntary redundancy. Benefits falling due more than 12 months after 31 December are discounted to present value.

Other long-term employee obligations include jubilee or other long-service employee benefits, long-term disability benefits and, if they are not fully payable within 12 months after the end of the period, bonuses and deferred compensation. The expected costs of these benefits are accrued over the period of employment using an accounting method similar to that for defined benefit pension plans, except that actuarial gains and losses and past-service costs are recognized immediately in the P&L.

Asset retirement obligations

The provision for asset retirement obligations is based on assumptions of the estimated costs of removal, discount rate and estimated period of removal, which vary per type of asset. As defined in the Telecommunications Act, the obligation for landlords to tolerate cables terminates as soon as those cables have been idle for a continuous period of 10 years. Because the date when the cables will become idle is uncertain and KPN is not able to predict whether and when a landlord will place a request for removal, KPN is not able to make a reliable estimate of the impact and therefore no provision was recognized at 31 December 2018 nor at 31 December 2017.

Accounting policy: Provisions for other liabilities and charges

Provisions for asset retirement obligations, restructuring costs and legal claims are recognized when KPN has a present legal or constructive obligation as a result of past events, and it is more likely than not that an outflow of resources will be required to settle the obligation and the amount can be reliably estimated.

Provisions are measured at the present value of management's best estimate of the expenditure required to settle the present obligation at balance sheet date. The discount rate used to determine the present value reflects current market assessments of the time value of money and the risks specific to the liability.

[19] Contract liabilities, trade and other payables

Trade and other payables

	31 December 2018		31 December 2017 (Restated)	
€ million	Current	Non-current	Current	Non-current
Trade payables	573	–	631	–
Accrued interest	162	–	161	–
Accrued expenses	424	–	494	–
Social security and other taxes payable	186	–	211	–
Other payables	15	17	19	22
Total	**1,361**	**17**	**1,517**	**22**

Contract liabilities

	31 December 2018		31 December 2017 (Restated)	
€ million	Current	Non-current	Current	Non-current
Contract liabilities	**253**	**206**	**270**	**155**
Of which variable considerations	**–**	**162**	**–**	**117**

The contract liabilities primarily relate to the consideration received from customers before satisfying performance obligations, such as advances for subscriptions and airtime. KPN recognizes a contract liability for postpaid and prepaid

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bundled minutes based on the actual usage of these bundles per proposition. The utilization percentage, which is the number of credits used as a percentage of total credits granted for that period, is monitored periodically and based on the historical data.
For the transition phase of projects for business customers which are treated as a separate performance obligation a contract liability is recognized if the amount invoiced is higher than the amount of revenue allocated to these projects.
For the mobile connection fees charged to the customer a contract liability is recognized if the connection is not treated as a separate performance obligation.

Contract liabilities are also recognized for variable considerations which are not deemed highly probable. This applies to the billed roaming and MTA tariffs which are regulated and imposed retrospectively and to VAT related to certain mobile consumer propositions introduced in August 2016. See Note 2 page 122 for explanation of the difference with KPN's previous accounting policies on variable consideration.
In 2018 and 2017, no revenue was recognized from variable considerations related to performance obligations satisfied (or partially satisfied) in previous years.

The revenues of the year include the current portion of the contract liability balance at the beginning of the year.

Accounting policy: Contract liabilities, trade and other payables
Trade and other payables classify as 'borrowings' within KPN's financial liabilities. For the accounting policy, see Note 12.

For the accounting policy regarding contract liabilities, see Note 4.

[20] Business combinations and other changes in consolidation

Changes in consolidation in 2018

On 9 February 2018, KPN obtained control over StartReady B.V. by exercising the call option to acquire the remaining 85% of the shares of StartReady B.V. The shares were delivered on 26 March 2018. KPN already has had a 15% interest in the company since 2014.
StartReady is specialized in the delivery of Skype for Business services.

The acquisition contributed EUR 1.1m to revenue, EUR 2.1m to EBITDA and EUR 0.4m to net profit of KPN in 2018. If the acquisition had taken place at the beginning of the year, impact on revenues, EBITDA and net profit of KPN Group would be negligible.

Changes in consolidation in 2017

KPN acquired a 100% interest in the following companies in 2017:

Name	Description	Segment	Acquisition date
DearBytes B.V.	Provider of cyber security services	Business	31 January
Divider B.V.	IT provider of specialized VPN and network solutions	Business	23 February
Vrieservice B.V.	Provider of tele-communication services mainly for small and medium-sized enterprises	Business	23 March
Solcon Internetdiensten N.V.	Internet services provider mainly to consumers	Consumer	29 June
Cam IT Solutions B.V.	Provider of IT services to the healthcare and public sector	Business	15 August
Qsight IT Holding B.V. and InSpark Holding B.V.	Providers of cyber security services	Business	11 December

Purchase price allocation of the acquisitions:

€ million	2018	2017[1]
Recognized amounts of identifiable assets acquired and liabilities assumed:		
Intangible assets[2]	6	63
Property, plant and equipment	-	11
Other non-current assets	-	5
Trade and other receivables	1	26
Net cash and cash equivalents acquired	1	3
Deferred income tax liabilities	-1	-15
Non-current borrowings & liabilities	-	-15
Trade and other payables and deferred income	-1	-42
Total identifiable net assets	**6**	**36**
Cash consideration	14	148
Liability for contingent consideration	-	5
Fair value of the already held minority stake	2	-
Total consideration	**16**	**153**
Goodwill	**11**	**117**

1 Including subsequent adjustments purchase price allocation
2 Including customer bases, valued at EUR 5m in 2018 resp. EUR 44m in 2017.

Subsequent adjustments purchase price allocation

In 2018 the valuation of the customer bases in the provisional purchase price allocation of Qsight IT/InSpark was adjusted downwards with EUR 14m and the related DTL with EUR 3.5m. As a result, the goodwill was adjusted with EUR 11m.

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Accounting policy: Business combinations
KPN uses the acquisition method to account for business combinations. The consideration paid is measured at the fair value of the assets transferred, equity instruments issued and liabilities incurred or assumed at the date of exchange. Identifiable assets acquired and liabilities and contingent liabilities assumed are measured at their fair values at the acquisition date. When a business combination is achieved in stages, any previously held equity interest is remeasured at its acquisition date fair value and any resulting gain or loss is recognized in the P&L.

Contingent considerations are recognized at fair value at acquisition date and subsequent changes to the fair value are recognized in the P&L. Contingent considerations classified as equity are not remeasured and subsequent settlement is counted for within equity.

For each business combination, KPN elects to recognize any non-controlling interest in the acquiree either at fair value or at the proportionate share in the acquiree's net assets. Acquisition-related costs are expensed as incurred.

The excess of the consideration paid, non-controlling interests recognized and the acquisition date fair value of any previous equity interests in the acquiree over the fair value of KPN's share of the net assets acquired is recorded as goodwill. If negative goodwill occurs in case of a bargain purchase, the difference is recognized directly in the P&L.

[21] Commitments, contingencies and legal proceedings

Commitments

€ million, due by period	Less than 1 year	1–5 years	More than 5 years	Total 31 December 2018	Total 31 December 2017
Capital and purchase commitments	892	121	14	1,027	1,059
Rental and operational lease contracts	163	333	217	714	775
Guarantees and other	1	10	128	139	155
Total commitments	**1,056**	**465**	**359**	**1,879**	**1,989**

The amounts as at 31 December 2018 are excluding iBasis. Total commitments of iBasis as at 31 December 2018 are EUR 12m. The total commitments of iBasis as at 31 December 2017 (EUR 17m) are included in the total amount of EUR 1,989m.

The capital and purchase commitments mainly relate to minimum contractual obligations with regard to network operations, mobile handsets and telco services.

The rental and operational lease contracts mainly relate to buildings, site rentals, mobile towers and vehicles. The majority of agreements include options for renewal. These options have not been included in the off balance sheet obligations unless they have been exercised. Also, most rental fees are subject to periodic indexation. In addition, the majority of contracts can be cancelled by KPN only, with a notice period of 12 months.

The minimum non-cancellable sublease amounts expected to be received as at 31 December 2018 amount to EUR 5m (31 December 2017: EUR 7m). These amounts mainly relate to subleases of buildings and site sharing arrangements.
The total net costs of rental and operating leases amounted to EUR 181m in 2018 (2017: EUR 192m) and is (mainly) included in other operating expenses.

Guarantees consist of financial obligations of group companies under certain contracts guaranteed by KPN. A total amount of EUR 139m relates to parent guarantees (2017: EUR 155m).

Accounting policy: Leases

Leases where KPN as lessor retains a significant portion of the risks and rewards of ownership of the leased asset are classified as operating leases. The assets remain on the balance sheet and are depreciated over the assets' useful life. Lease payments received from lessees are recognized as revenue on a straight-line basis over the lease period. Payments by KPN as lessee under operating leases are charged to the P&L on a straight-line basis over the period of the lease (net of any incentives received from the lessor). If a sale-and-leaseback transaction results in an operating lease, the profit or loss is calculated using the fair value of the assets sold and recognized in the P&L immediately.

Leases where KPN as lessee has assumed substantially all risks and rewards of ownership are classified as finance leases. KPN then recognizes the leased assets on the balance sheet at the lower of the fair value and the present value of the minimum lease payments. The corresponding rental obligations, net of finance charges, are included in other long-term payables in the balance sheet. Property, plant and equipment acquired under finance leases are depreciated over the shorter of the assets' useful life and the lease term. If a sale-and-leaseback transaction results in a finance lease, any excess of sale proceeds over the carrying amount is deferred and recognized in the P&L over the lease term.

In case KPN acts as lessor in a finance lease, the transaction is accounted for as a normal sale and the present value of the lease payments is recognized as a receivable. The difference between the gross receivable and the present value of the receivable is deferred and recognized as interest over the lease term.

Contingent liabilities

Legal and tax proceedings

KPN is involved in a number of legal and tax proceedings that have arisen in the ordinary course of its business, including commercial, regulatory or other proceedings. Periodically KPN carefully assesses the likelihood that legal and tax proceedings may lead to a cash outflow, and recognizes provisions in such cases/matters if and when required. However, the outcome of legal proceedings can be difficult to predict with certainty, and KPN can offer no assurances in this regard.
In some cases, the impact of a legal proceeding may be more strategic than financial and such impact cannot properly be quantified. Below is a description of legal proceedings or contingent liabilities that could have a material impact for KPN.

Idle cables

See Note 18 for a contingent liability related to idle cables and the accounting policy of provisions.

Indemnification

In KPN's Articles of Association and in a further decision by the Board of Management, which was approved by the Supervisory Board, KPN has indemnified the members and former members of KPN's Board of Management and Supervisory Board, as well as a number of KPN's officers and directors and former officers and directors, against liabilities, claims, judgments, fines and penalties incurred by such officer or director as a result of any threatened, pending or completed action, investigation or proceeding (whether civil, criminal or administrative) brought by a third party in relation to acts or omissions in or related to their capacity as officer or director.
The indemnification does not apply to claims and expenses reimbursed by insurers, nor to an officer or a director adjudged to be liable for willful misconduct ('opzet') or intentional recklessness ('bewuste roekeloosheid').

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[22] Related-party transactions

KPN considers none of the related-party transactions to be material on an individual basis, except for the transactions with shareholders. Transactions between group companies are not included in the description as these are eliminated in the Consolidated Financial Statements.

Transactions with shareholders

América Móvil, S.A.B. de C.V. (AMX) published on 12 February 2019, in its fourth quarter 2018 report, that it owned 16.1% of KPN's ordinary share capital at 31 December 2018. The total value of sales transactions by the continuing operations of KPN in 2018 with AMX, its subsidiaries and associated companies amounted EUR 3m (2017: EUR 1m) and the total value of purchase transactions amounted EUR 1m (2017: EUR 6m). The total trade receivables and payables at 31 December 2018 amounted to less than EUR 1m (31 December 2017: EUR 1m and less than EUR 1m respectively).

Other shareholding equaling or exceeding 3% of the issued capital:

- On 5 December 2018, BlackRock, Inc. notified the AFM that it held 3.83% of the shares and 4.95% of the voting rights related to KPN's ordinary share capital.
- On 9 November 2018, Franklin Mutual Series Fund, Inc. notified the AFM that it held 4.99% of the shares and voting rights related to KPN's ordinary share capital.
- On 23 August 2017, Capital Group International Inc. notified the AFM that it held 3.01% of the voting rights related to KPN's ordinary share capital.

To KPN's knowledge, no other shareholder owned 3% or more of KPN's issued share capital as at 31 December 2018. KPN did not enter into agreements with AMX or other shareholders which could have a material impact on KPN's Financial Statements.

Transactions with associated companies

The total value of sales transactions and purchase transactions by the continuing operations of consolidated KPN companies with associated companies and other non-consolidated companies in 2018 amounted to approximately EUR 24m resp. EUR 1m (2017: EUR 23m resp. 5m). The total trade receivables and payables as of 31 December 2018 amounted EUR 4m and less than EUR 1m respectively (31 December 2017: EUR 3m resp. less than EUR 1m).

Transactions with directors and related parties

For details of the relation between directors and the company, see the Remuneration Report on pages 101 to 109 of this Integrated Annual Report. Directors in this respect are defined as key management and relate to those having authority and responsibility for planning, directing, and controlling the activities of an entity, either directly or indirectly. At KPN, key management consists of the members of the Board of Management and Supervisory Board.
The company was not a party to any material transactions, or proposed transactions, in which members of the Supervisory Board or Board of Management or close members of their families had a direct or indirect material interest.

The total value of sales transactions by KPN's continuing operations in 2018 with parties in which members of the Supervisory Board or Board of Management or close members of their families had a direct or indirect material interest amounted EUR 9m (2017: EUR 18m) and the total value of purchase transactions amounted EUR 14m (2017: EUR 23m), all in the ordinary course of business. The total trade receivables and payables as at 31 December 2018 amounted EUR 1m and EUR 2m respectively (31 December 2017: EUR 5m and EUR 4m respectively).

[23] Legal structure

Name of significant subsidiaries and other principal interests:

KPN B.V.
- ApplicationNet B.V.
- CAM IT Solutions B.V.
- DearBytes B.V.
- GroupIT B.V
- iBasis Inc.
- InSpark Holding B.V.
- KPN Consulting B.V.
- KPN EuroRings B.V.
- KPN Finance B.V.
- KPN Internedservices B.V.
- NLDC B.V.
- Qsight IT Holding B.V.
- Reggefiber Group B.V.
- Solcon Internetdiensten B.V.
- Telfort Zakelijk B.V.
- XS4ALL Internet B.V.
- Yes Telecom Netherlands B.V.

KPN Mobile N.V.
- KPN Mobile International B.V.

KPN Ventures B.V.

Getronics B.V.
- Getronics Finance Holdings B.V.

Telefónica Deutschland Holding A.G.

The country of incorporation of all entities is the Netherlands, except iBasis Inc. which is incorporated in the United States of America and Telefónica Deutschland Holding A.G. which is incorporated in Germany.
The percentage ownership/voting interest of all entities is 100% except Telefónica Deutschland Holding A.G. in which KPN has a 4.41% stake.

[24] Proposed appropriation of result

On outstanding Class B preferred shares, a dividend is paid out equal to the average of the 12-month Euribor increased by 1%. If the 12-month Euribor is no longer determined, the dividend on preference shares will be calculated based on the yield on state loans. Subsequently, subject to the approval of the Supervisory Board, the Board of Management will determine what proportion of net income remaining after payment of the dividend on any Class B preferred shares will be appropriated to the reserves. The part of the profit remaining after the appropriation to the reserves shall be at the disposal of the AGM. No Class B preferred shares were outstanding on 31 December 2018.

In August 2018, a regular interim dividend of EUR 4.0ct per ordinary share was paid (total amount of EUR 168m). The Board of Management, with the approval of the Supervisory Board, will propose to the AGM to pay a final regular dividend of EUR 8.0ct per ordinary share in respect of 2018 (total amount of EUR 336m).

In addition, the received dividend on KPN's shareholding in TEFD was distributed in May 2018 as a special interim cash dividend of EUR 1.3ct per share (total amount of EUR 55m). This brings the total dividend in respect of 2018 to EUR 13.3ct per ordinary share (2017: EUR 12.7ct).

Distribution of the proposed final dividend requires an amount of EUR 288m to be withdrawn from the distributable part of shareholders' equity which is proposed to the AGM.

[25] Subsequent events

Sale of iBasis

The sale of iBasis was completed on 7 February 2019. In the first quarter of 2019, a book gain from the disposal of iBasis of approximately EUR 11m will be recorded (result from discontinued operations). This is mainly due to the recycling of cumulative currency translation adjustments recorded in OCI to the P&L. iBasis will no longer be included in KPN's segment reporting as of February 2019.

Brand rationalization

On 10 January 2019, KPN announced to rationalize the brand portfolio in the coming periods. The financial impact on future periods relates to higher costs for depreciation, which have been estimated at EUR 20m for the total rationalization period. Additionally, the brand rationalization will lead to reorganization of staff and buildings (for example shops).
The impact of future reorganization provisions cannot be determined reliably yet.

› Corporate Financial Statements

CORPORATE STATEMENT OF PROFIT OR LOSS

For the year ended 31 December

€ million	Notes	2018	2017 (Restated)
Total revenues and other income		**–**	**–**
Other operating expenses		-11	-9
Total operating expenses		**-11**	**-9**
Operating profit		**-11**	**-9**
Finance income		54	71
Finance costs		-309	-328
Other financial results		-5	-12
Intercompany interest (net)		-805	-747
Financial income and expenses	**[A]**	**-1,065**	**-1,016**
Income from subsidiaries		1,183	1,158
Profit before income tax		**107**	**133**
Income taxes	[B]	163	257
Profit for the year		**270**	**390**

CORPORATE STATEMENT OF FINANCIAL POSITION

Assets

€ million	Notes	31 December 2018	31 December 2017 (Restated)
Non-current assets			
Financial fixed assets			
Investments in subsidiaries		14,347	18,431
Loan to subsidiary		80	–
Derivatives		185	168
Deferred taxes		671	949
Other fixed financial assets		181	119
Total non-current assets	**[B]**	**15,464**	**19,667**
Current assets			
Accounts receivable from subsidiaries		634	155
Current income tax receivable[1]		–	–
Other receivables and accrued income		30	20
Equity investments measured at fair value through other comprehensive income		449	1,071
Other current financial assets		50	330
Cash and cash equivalents		463	682
Total current assets		**1,627**	**2,259**
Total assets		**17,091**	**21,926**

Corporate Financial Statements

CORPORATE STATEMENT OF FINANCIAL POSITION

Equity and liabilities

€ million	Notes	31 December 2018	31 December 2017 (Restated)
Equity			
Subscribed capital stock		168	168
Additional paid-in capital		8,445	8,445
Treasury shares reserve		-83	-103
Hedge reserve		-355	-339
Legal reserves	[C]	168	169
Retained earnings	[C]	-6,667	-6,337
Equity attributable to holders of perpetual capital securities		–	1,089
Profit (loss) current year		270	390
Total equity attributable to equity holders		**1,945**	**3,482**
Provisions			
Provisions for retirement benefit obligations		33	46
Other provisions		22	23
Total provisions	**[D]**	**55**	**69**
Non-current liabilities			
Loans	[E]	13,738	16,807
Derivative financial instruments		302	328
Other long-term liabilities		50	100
Total non-current liabilities		**14,091**	**17,235**
Current liabilities			
Accounts payable to subsidiaries[1]	[F]	147	858
Loans	[E]	572	–
Derivative financial instruments		16	–
Other current liabilities	[G]	99	110
Accruals and deferred income		165	171
Total current liabilities		**1,000**	**1,139**
Total equity and liabilities		**17,091**	**21,926**

1 Current income tax receivables and accounts payable to subsidiaries as shown in the 2017 Corporate Financial Statements were adjusted by EUR 558m (see note F).

NOTES TO THE CORPORATE FINANCIAL STATEMENTS

The principles for the recognition and measurement of assets and liabilities and determination of the result (hereafter referred to as 'Accounting policies') of the Corporate Financial Statements of Koninklijke KPN N.V. are the same as those applied to the Consolidated Financial Statements under IFRS (applying the option provided in Article 362 sub 8, Part 9, Book 2 of the Dutch Civil Code). The Consolidated Financial Statements have been prepared in accordance with the IFRS (see Notes to the Consolidated Financial Statements).

In 2018, KPN applied IFRS 15 Revenue from Contracts with Customers and IFRS 9 Financial Instruments for the first time. KPN has adopted both standards retrospectively (except the provisions for hedge accounting in IFRS 9 which have been applied prospectively) and restated the 2017 financial information for comparison purposes in these 2018 Corporate Financial Statements. A cumulative transitional adjustment was recorded on 1 January 2017, the date of initial application, resulting in an increase in equity of EUR 217m. The new provisions for hedge accounting resulted in a reclassification on 1 January 2018 between the hedge reserve and retained earnings of EUR 4m. The impact of new IFRS standards is described in Note 2 to the Consolidated Financial Statements and have a corresponding effect on the Corporate Financial Statements.

Investments in consolidated subsidiaries are measured at net asset value. Net asset value is based on the measurement of assets (including goodwill), provisions and liabilities and the determination of profit based on the principles applied in the Consolidated Financial Statements.

[A] Financial income and expenses

€ million	2018	2017
Finance income	**54**	**71**
Interest on borrowings	-306	-322
Other	-3	-6
Finance costs	**-309**	**-328**
Amortizable part of hedge reserve	-15	-16
Amortization discontinued fair value hedges	39	39
Derivative financial instruments not qualified for hedge accounting	-31	-28
Other	2	-7
Other financial results	**-5**	**-12**
Intercompany interest (net)	-805	-747
Total	**-1,065**	**-1,016**

Finance income includes a dividend received from Telefónica Deutschland (TEFD) of EUR 54m (2017: EUR 70m).
In 2018, interest on borrowings decreased by EUR 16m, which was mainly related to a lower gross debt position.
Intercompany interest (net) mainly includes interest of 8.5% on an intercompany loan provided by KPN Mobile N.V., part of loans payable to subsidiaries (Note F).

Corporate Financial Statements

[B] Non-current assets

€ million	Investments in subsidiaries companies	Loan to subsidiary[2]	Derivatives	Deferred taxes	Other financial fixed assets[1]	Total
Balance at 1 January 2017 restated	**33,552**	–	**298**	**1,094**	**1,897**	**36,841**
Exchange rate differences	-6	–	–	–	–	-6
Income from group companies after taxes	1,158	–	–	–	–	1,158
Decrease due to sale	–	–	–	–	-846	-846
Decrease due to settlement	-16,284	–	–	–	–	-16,284
Capital contributions	23	–	–	–	–	23
Fair value adjustments	–	–	-130	–	49	-81
Reclassification	–	–	–	–	-1,071	-1,071
Other	-12	–	–	-145	90	-67
Total changes	**-15,121**	–	**-130**	**-145**	**-1,778**	**-17,174**
Balance at 31 December 2017 restated	**18,431**	–	**168**	**949**	**119**	**19,667**
Exchange rate differences	7	–	–	–	–	7
Income from group companies after taxes	1,183	–	–	–	–	1,183
Increase due to new loans	–	80	–	–	–	80
Decrease due to settlement	-5,284	–	–	–	–	-5,284
Capital contributions	4	–	–	–	–	4
Fair value adjustments	–	–	17	–	–	17
Other	6	–	–	-278	62	-210
Total changes	**-4,084**	**80**	**17**	**-278**	**62**	**-4,203**
Balance at 31 December 2018	**14,347**	**80**	**185**	**671**	**181**	**15,464**

1 The fair value adjustment in 2017 relates to the stake in TEFD.
2 Loan to KPN Finance BV which is repayable latest on 28 September 2023 and is subordinated to all other loans, obligations and creditors. Annual interest is 4.6%.

Taxation

The corporate statements on behalf of Koninklijke KPN N.V. are prepared as if the company is independently subject to corporate income tax. Thus, excluding the offset of profits within the tax group of which the entity is the parent.
As a result, the company reports a tax benefit for the tax deductible interest and no tax on the result of consolidated entities as the tax of these entities are booked at the level of the entity itself.

The company's deferred tax asset represents the future tax relief on taxable profits (within the tax group) due to available losses and is higher than reported on consolidated level, since the asset can be offset against deferred tax liabilities reported in other entities part of the same tax group.

[C] Equity attributable to equity holders

For a breakdown of equity attributable to equity holders, refer to the Consolidated Statement of Changes in Equity and the Notes thereto.

Legal reserves

Legal reserves (net of tax) are presented below:

€ million	Revaluation reserve property, plant and equipment	Cumulative translation adjustments	Capitalized software development costs	Fair value reserve equity investments	Other financial fixed assets	Total
Balance at 1 January 2017	**24**	**36**	**87**	**10**	**6**	**163**
Addition/release (-) retained earnings	-4	–	-5	3	12	6
Balance at 31 December 2017	**20**	**36**	**82**	**13**	**18**	**169**
Addition/release (-) retained earnings	-2	–	–	-3	–	-5
Exchange rate differences	–	4	–	–	–	4
Balance at 31 December 2018	**18**	**40**	**82**	**10**	**18**	**168**

Pursuant to Dutch law, limitations exist relating to the distribution of equity attributable to equity holders. Such limitations relate to the subscribed capital stock as well as to legal reserves required by Dutch law as presented above. Dutch law also requires that in determining the amount for distribution, the company's ability to continue to pay its debt must be taken into account. The total distributable reserves amounted to EUR 1,609m at 31 December 2018 compared to EUR 3,021m at 31 December 2017, which still included the EUR 1,100m perpetual hybrid bonds (see Note 16).

Retained earnings

Movements in retained earnings were as follows:

€ million	2018	2017
Balance at 1 January	**-6,337**	**-6,798**
Transition impact IFRS 9 and IFRS 15	-4	217
Balance at 1 January restated	**-6,341**	**-6,581**
Profit of previous year	390	793
Coupon perpetual hybrid bond (net of tax)	-51	-51
Redemption of hybrid bond	-11	–
Dividend ordinary shares	-529	-513
Actuarial gain/loss pensions and other post-employment plans (net of tax)	-1	12
Fair value adjustment equity investments	-113	16
Release/addition legal reserves (except cumulative translation adjustments)	5	-6
Share-based compensation	-15	-7
Balance at 31 December	**-6,667**	**-6,337**

Retained earnings can be reconciled with the Consolidated Statement of Financial Position as follows:

€ million	2018	2017
Retained earnings as per Consolidated Statement of Financial Position	**-6,270**	**-5,814**
Revaluation reserve	-18	-20
Capitalized software development costs	-82	-82
Fair value reserve equity investments	-10	-13
Other non-distributable reserves	-18	-18
Profit for the year	-270	-390
Retained earnings as per Corporate Statement of Financial Position	**-6,667**	**-6,337**

› Corporate Financial Statements

[D] Provisions

Movements in provisions were as follows:

€ million	Retirement benefit obligations	Other provisions	Total
Balance at 1 January 2017	**52**	**25**	**77**
Additions/releases to income	2	3	5
Additions/releases in OCI	9	–	9
Usage	-17	-5	-22
Balance at 31 December 2017	**46**	**23**	**69**
Additions/releases to income	2	2	4
Additions/releases in OCI	2	–	2
Usage	-17	-3	-20
Balance at 31 December 2018	**33**	**22**	**55**

The provisions for retirement benefit obligations relate to early retirement plans (see Note 17 to the Consolidated Financial Statements).

[E] Loans

Non-current loans include bonds outstanding for EUR 5,922m (2017: EUR 6,477m) and hybrid bonds outstanding for EUR 967m (2017: EUR 946m); see also Note 12 to the Consolidated Financial Statements. Current loans include bonds outstanding for EUR 572m.

Furthermore, non-current loans also include loans from subsidiaries for EUR 6,849m (2017: EUR 9,384m). This mainly relates to a loan payable to KPN Mobile N.V., which bears interest of 8.5% and must be repaid in full, including accrued interest, in 2034. The loan is subordinated to the unsecured and unsubordinated creditors of Koninklijke KPN N.V. (KPN), but ranks ahead of the hybrid capital securities issued by KPN as long as by their terms these hybrid capital securities are expressed to rank pari passu with the preference share of KPN and the preference shares issued by KPN (if any). There are no loans from subsidiaries with maturity dates in 2019.

[F] Accounts payable to subsidiaries

Accounts payable to subsidiaries decreased significantly, mainly due to lower intercompany financial current accounts of a total of EUR 181m (2017: EUR 1,065m). Furthermore, it consists of interest to be paid to KPN Mobile N.V. of EUR 217m and an operational financial current account of EUR 7m, less an intercompany settlement of net current income tax position of EUR 390m. The financial current accounts have indefinite duration. The interest is annually determined and based on 12-month Euribor increased by 0.15% and a risk premium attached by the market to the specific KPN credit risk.

Due to an inaccuracy in the 2017 financial statement closing process, current income tax receivable at 31 December 2017 was stated at EUR 558m instead of EUR 0m and accounts payable to subsidiaries at 31 December 2017 was stated at EUR 1,457m instead of EUR 899m in the Corporate Statement of Financial Position 2017 (before EUR 41m restatement due to IFRS 9 and IFRS 15). The comparatives of these two accounts have been adjusted in the Corporate Statement of Financial Position 2018.

This adjustment does not have any impact on the Consolidated Financial Statements 2017. It also does not have any impact on the total equity attributable to equity holders and the net amount of total current assets and liabilities at 31 December 2017 as mentioned in the Corporate Statement of Financial Position 2017 nor on the 'Profit for the year 2017' as mentioned in the Corporate Statement of Profit or Loss 2017.

[G] Other current liabilities

€ million	31 December 2018	31 December 2017
Social security and other taxes payable	95	109
Bank overdrafts	4	1
Total	**99**	**110**

[H] Commitments and contingencies

Commitments by virtue of guarantees amounted to EUR 139m (2017: EUR 155m).

KPN has issued several declarations of joint and several liabilities for various group companies in compliance with Article 403, Book 2 of the Dutch Civil Code. These declarations of joint and several liabilities for group companies are included in a complete list of subsidiaries and participating interests, which is available at the offices of the Chamber of Commerce in The Hague.

Directors' remuneration

See Note 5 to the Consolidated Financial Statements on employee benefits.

Rotterdam, 22 February 2019

Board of Management	Supervisory Board
Maximo Ibarra	Duco W. Sickinghe
Jan Kees de Jager	Peter A.M. van Bommel
Joost Farwerck	Carlos J. García Moreno Elizondo
	Derk J. Haank
	Peter F. Hartman
	Edzard J.C. Overbeek
	Jolande C.M. Sap
	Claudia J.G. Zuiderwijk

COMBINED INDEPENDENT AUDITOR'S REPORT

Dear Shareholders and members of the Supervisory Board of Koninklijke KPN N.V. (KPN),

Please find below the main conclusions and main features of our audit and review. For the full text of the independent auditor's report, which includes the assurance report on sustainability, please refer to the next pages.

Summary

Conclusions

Object of audit or review	Outcome of our work performed	Level of assurance
Financial statements 2018 (consolidated and corporate)	True and fair view	Reasonable (audit)
Sustainability information 2018: CO_2e emission data 2018 (Scope 1 and 2) of own operations in the Netherlands and the underlying energy data	Reliable and adequate view	Reasonable (audit)
Sustainability information 2018 in selected chapters and appendices	Reliable and adequate view	Limited (review)
Other information, including the Reports by the Board of Management and the Supervisory Board	No material misstatements to report	

Main features of our audit & review

What we have done	Scope of our work	Materiality	Key audit & review matters
Audit of financial statements 2018 (consolidated and corporate)	Netherlands United States of America	EUR 45 million, which represents 2.0% of EBITDA	• Valuation (in)tangible assets, incl. goodwill • Valuation deferred tax assets • IFRS15 • IFRS16 • Reliability of IT systems, including security and cybercrime
Audit of CO_2e emission data 2018 (Scope 1 and 2) own NL operations and the underlying energy data	Netherlands	5% deviation per item	• No areas of specific focus
Review of sustainability information for 2018	Selected chapters and appendices	Specific materiality levels for each element of the sustainability information in scope	• CO_2e Scope 3 estimates, energy savings by customers • RepTrak pulse score, Net Promoter Score
Procedures for Other information, including Reports by the Board of Management and Supervisory Board	Full reports	Similar materiality as our audit or review scopes.	• No areas of specific focus

Combined independent auditor's report on the 2018 financial statements and sustainability information

Our conclusions

Based on the procedures we have performed and the evidence obtained, we have come to the following conclusions:

With respect to audit procedures performed, in our opinion:

- the consolidated financial statements give a true and fair view of the financial position of KPN as at 31 December 2018 and of its result and its cash flows for 2018 in accordance with International Financial Reporting Standards as adopted by the European Union (EU-IFRS) and with Part 9 of Book 2 of the Dutch Civil Code;
- the corporate financial statements give a true and fair view of the financial position of KPN as at 31 December 2018 and of its result for 2018 in accordance with Part 9 of Book 2 of the Dutch Civil Code;
- CO_2e emission data 2018 (Scope 1 and 2) of own operations in the Netherlands and the underlying energy data as presented on page 69 of the Integrated Annual Report is prepared, in all material respects, in accordance with the Global Reporting Initiative (GRI) Standards (comprehensive option) and the supplemental KPN reporting criteria as disclosed in appendix 3: Transparency, of the Integrated Annual Report.

Based on our review procedures performed, nothing has come to our attention that causes us to believe that the sustainability information in scope does not present, in all material respects, a reliable and adequate view of KPN's policy and business operations with regard to sustainability and the thereto related events and achievements for 2018 in accordance with the GRI Standards (comprehensive option) and the supplemental KPN reporting criteria as disclosed in appendix 3: Transparency, of the Integrated Annual Report.

With respect to procedures performed based on the requirements of Part 9 of Book 2 of the Dutch Civil Code and the Dutch Standard 720, we conclude that the other information included in the Integrated Annual Report, including the Reports by the Board of Management and Supervisory Board:

- Is consistent with the financial statements and does not contain material misstatements;
- Contains the information as required by Part 9 of Book 2 of the Dutch Civil Code.

Basis for our conclusions

We performed our assurance engagements in accordance with Dutch law, including the Dutch Standards on Auditing and the Dutch Standard 3810N, "Assurance engagements relating to sustainability reports", which is a specified Dutch Standard that is based on the International Standard on Assurance Engagements (ISAE) 3000 "Assurance Engagements Other Than Audits or Reviews of Historical Financial Information". Our responsibilities under those standards are further described in the section: Our responsibilities in this report.

We believe the assurance evidence we have obtained is sufficient and appropriate to provide a basis for our conclusions.

Our Independence

We are independent of KPN in accordance with the EU Regulation on specific requirements regarding statutory audit of public-interest entities, the Wet toezicht accountantsorganisaties (Wta, Audit firms supervision act), the Verordening inzake de onafhankelijkheid van accountants bij assurance-opdrachten (ViO, Code of Ethics for Professional Accountants, a regulation with respect to independence) and other relevant independence regulations in the Netherlands. This includes that we do not perform any activities that could result in a conflict of interest with our independent assurance engagement. Furthermore, we have complied with the Verordening gedrags- en beroepsregels accountants (VGBA, Dutch Code of Ethics).

Our scope

Our engagements scope

The Integrated Annual Report 2018 (hereafter: the Report) of KPN consists of the financial statements and other information, including Reports by the Board of Management and Supervisory Board, that provides altogether an overview of the policy, activities, events and performances related to both the financial position and the sustainable development of KPN during reporting year 2018. The following information in the Report has been in scope for our assurance engagements:

- The consolidated financial statements, comprising:
  - The Consolidated Statement of Financial Position as at 31 December 2018;
  - The Consolidated Statements of Profit or Loss, Other Comprehensive Income, Changes in Group Equity and Cash Flows for 2018;

Other Information

- The Notes comprising a summary of the significant accounting policies and other explanatory information.

> The corporate financial statements, comprising:
- The Corporate Statement of Financial Position as at 31 December 2018;
- The Corporate Statement of Profit or Loss for 2018;
- The Notes comprising a summary of the accounting policies and other explanatory information.

> The sustainability information in scope consists of:
- Reasonable assurance - CO_2e emission data 2018 (Scope 1 and 2) of own operations in the Netherlands and the underlying energy data as presented on page 69 of the Report;
- Limited assurance - The sustainability information in the following chapters and appendices:
  > Chapters: 'KPN at a glance', 'Who we are and what we do' and 'The long-term value we create';
  > Appendices: Appendix 2-3 and 5-8. This includes appendix 6: Social figures, appendix 7: Environmental figures (including Scope 3 CO_2e emissions) and appendix 8: GRI Index, which are available on the website of KPN.

> The other information, including the Reports by the Board of Management and Supervisory Board included in the Report pursuant to the requirements of Part 9 of Book 2 of the Dutch Civil Code and the Dutch Standard 720 concerning our obligation to report about the Report by the Board of Management and other information.

Limitations in our engagements scope

Unexamined prospective information
The sustainability information contains prospective information, such as ambitions, strategy, plans, targets, expectations and estimates. Inherent to prospective information, the actual future results are uncertain. We do not provide any assurance on the assumptions and achievability of prospective information in the sustainability information.

Unreviewed references to external sources
The references to external sources or websites in the sustainability information are not part of the sustainability information as reviewed by us, except for appendix 6: Social figures, appendix 7: Environmental figures (including Scope 3 CO_2e emissions) and appendix 8: GRI Index, which are available on the website of KPN. We therefore do not provide assurance on this information.

Our scope for the group audit of the financial statements
KPN is head of a group of entities, both in the Netherlands and abroad. The Dutch entities and segments thereby form the majority of the business and there are relatively smaller operations in the United States of America. The financial information of all these entities has been included in the consolidated financial statements.

Our group audit mainly focused on the more significant segments in the Netherlands, including 'Consumer', 'Business', 'Wholesale' and 'NOI' as well as 'iBasis' (United States of America).

Due to their significance and/or risk characteristics, we performed full scope audit procedures on the financial information of all above mentioned segments. For the segment in the United States of America we used EY component auditors who are familiar with local laws and regulations to perform detailed audit procedures to obtain sufficient coverage for financial statement line items from a consolidated financial statements perspective.

Where the work was performed by component auditors, we determined the level of involvement we needed to have in the audit work to be able to conclude whether sufficient and appropriate audit evidence had been obtained as a basis for our opinion on the group financial statements as a whole. The group engagement team has visited the component team.

At other group entities we performed review procedures or specific audit procedures. The group consolidation, financial disclosures and a number of complex items were audited by the group engagement team at the company's head office. These included revenue assurance, purchase price allocation, taxation, fixed assets and goodwill impairment, pensions, derivative financial instruments, hedge accounting and share-based payments. We involved several EY specialists to assist the audit team, including specialists from our tax, valuations, sustainability, actuarial and treasury departments.

By performing audit procedures at segment and at corporate level as mentioned above, together with the involvement of specialists, we have been able to obtain sufficient and appropriate audit evidence about the group's financial information to provide an opinion about the consolidated financial statements.

Reporting criteria

The information in the scope of our engagements needs to be read and understood together with the reporting criteria. KPN is solely responsible for selecting and applying these reporting criteria, taking into account applicable law and regulations related to reporting. The reporting criteria used for the preparation of the Report are described below.

Consolidated Financial Statements:	International Financial Reporting Standards as adopted by the European Union (EU-IFRS) and Part 9 of Book 2 of the Dutch Civil Code.
Corporate Financial Statements, Report by the Board of Management and the Supervisory Board:	Part 9 of Book 2 of the Dutch Civil Code.
Sustainability information including the CO_2e emission data 2018 (Scope 1 and 2) and the underlying energy data:	GRI Standards (comprehensive option) and the supplemental reporting criteria developed by KPN as disclosed in appendix 3: Transparency of the Integrated Annual Report. These criteria include the Greenhouse Gas Protocol (WRI/ WBCSD).

Materiality

General:

The scope of our assurance procedures is influenced by the application of materiality. Our assurance engagements aim to provide assurance about whether the financial statements and the sustainability information in scope are free from material misstatement. Misstatements may arise due to fraud or error. They are considered to be material if, individually or in the aggregate, they could reasonably be expected to influence the (economic) decisions of users taken on the basis of the Report. The materiality affects the nature, timing and extent of our assurance procedures and the evaluation of the effect of identified misstatements on our conclusions.

Financial statements

For the audit of the financial statements our considerations regarding the materiality are as follows.

Materiality	EUR 45,000,000
Benchmark used	2.0% of adjusted earnings before interest, tax, depreciation and amortization (EBITDA).
Additional explanation	The users of the financial statements of a for-profit entity typically focus on operating performance, particularly profit before tax. Over the past years KPN's profit before tax heavily fluctuated, resulting from the impact of the discontinuance of operations and other non-recurring transactions. Furthermore, we note that in KPN's external communications, earnings before interest, tax, depreciation and amortization (EBITDA) is commonly used to report on financial performance. Considering these aspects, we have concluded that EBITDA is the most appropriate and stable benchmark for KPN to base our materiality upon. The materiality is thereby set at EUR 45,000,000, using a percentage of 2.0%, which is at the lower end of a generally accepted range. Last year we used the same percentage and amount.

We have also taken into account misstatements and/or possible misstatements that in our opinion are material for the users of the financial statements for qualitative reasons.

We agreed with the Supervisory Board that misstatements in the financial statements in excess of EUR 2.25 million, would be reported to them, as well as smaller misstatements that in our view must be reported on qualitative grounds.

Sustainability information

Based on our professional judgment we determined materiality levels for each part of the sustainability information and for the sustainability information as a whole. When evaluating our materiality levels, we have taken into account quantitative and qualitative considerations as well as the relevance of information for both stakeholders and the organization.

For CO_2e emission data 2018 (Scope 1 and 2) of own operations in the Netherlands and the underlying energy

Other Information

data we have determined the materiality at 5% deviation. We agreed with the Supervisory Board that misstatements which are identified during our assurance engagement and which in our view must be reported on quantitative or qualitative grounds, would be reported to them.

Other information, including the Reports by the Board of Management and Supervisory Board

With respect to the materiality applied to our procedures performed on the other information in our capacity as auditor of KPN and with the knowledge that we have as auditor to conclude whether the other information would not be appropriate or obviously incorrect;

- where the other information contains information that has also been in scope of our assurance engagements regarding the financial statements or sustainability information, similar materiality for this information has been applied;
- in other cases, our assessment for materiality was based on findings that could influence the decisions of the users dependent on our evaluation of the relevance of that information for these users.

Key audit & review matters

Key audit and review matters are those matters that, in our professional judgment, were of most significance in our assurance procedures for the financial statements and the sustainability information in scope. We have communicated the key audit and review matters to the Supervisory Board.

The key audit and review matters are not a comprehensive reflection of all matters discussed.

These matters were addressed in the context of our assurance procedures for the financial statements and the sustainability information in scope as a whole and to conclude thereon, and we do not provide a separate conclusion on these matters.

Following the preparation for the implementation of IFRS 16 'Leasing' by KPN, effective as of 2019, a new key audit matter 'IFRS 16' has been included.

General observation

For the audit of the financial statements, we rely on KPN's internal control framework and its governance. The framework is maintained by the business and continuously tested by KPN Risk Management and KPN Audit. The Management Board and Audit Committee are being informed of the outcome of the tests performed on a quarterly basis. For purposes of our audit, we assess the adequacy of the framework and we test the work of KPN Risk Management and KPN Audit. We believe that KPN's internal control framework meets the required criteria and it allows us to perform a system based audit in an effective manner.

The key audit matters addressed below are all covered by KPN's internal control framework and have been audited by us with satisfactory results. For the interest of the reader, we highlight the most important elements we focused on in 2018.

Key audit matter	How our audit addressed the matter	Key observations
Valuation of (in)tangible assets, including goodwill		
Under IFRS, it is required to annually test the amount of goodwill and intangible assets with an indefinite life for impairment. KPN's disclosures about goodwill and intangible assets are included in Note 11. No impairments of goodwill and intangible assets with indefinite life were recorded during 2018. On assets with finite lives an impairment test has to be performed if indications of impairment exist. Some triggering events were identified, for example in the area of hardware and software that required impairment testing and for which minor impairments were recorded, as included in Note 10 and 11. The impairment tests were important for our audit as the related asset amounts are significant and the assessment process itself is complex and requires judgment. The impairment test includes assumptions that are affected by future market or economic conditions.	We compared forecasted revenue and profit margins for all cash generating units with the approved KPN strategic plans. We also verified the assumptions to which the outcome of the impairment test is most sensitive and reviewed company's statement that the headroom of the CGU's is more than sufficient and therefore no sensitivity analysis needs to be disclosed in Note 11. Our audit procedures included, among others, using EY valuation specialists to assist us in verifying the assumptions and methodologies used by KPN and evaluating the historical accuracy of management's estimates that drive the assessment, such as strategic plans and expected growth rates.	We concur with management that there is no need for impairments of goodwill and intangible assets with indefinite life and agree with the disclosures in Note 11. We concur with management on the impairments recorded.

Key audit matter	How our audit addressed the matter	Key observations
Taxes		
Deferred tax At 31 December 2018, the deferred tax assets are valued at EUR 702 million, related disclosures are included in the notes to the consolidated statement of profit or loss in Note 8. The enacted Dutch tax law reduces the corporate income tax (CIT) in steps to 20.5% in 2021. IFRS requires deferred tax assets and liabilities to be measured at the tax rates that are expected to apply in the period in which the asset is realized or the liability is settled, the development of the Dutch CIT rate impacts the measurement of in particular the carry forward, including deferred taxes on the balance sheet as per year end 2018. This item was significant to our audit because the assessment process is complex and judgmental and is based on assumptions that are affected by expected future market or economic conditions.	Our audit procedures related to the deferred tax assets included, amongst others, using EY tax specialists to assist us in verifying and interpreting the agreements ('vaststellingsovereenkomsten') and other agreements reached with the Dutch Tax Authorities as well as evaluating the assumptions, such as expected future taxable income and methodologies used by the company. In auditing the tax positions we have taken into consideration the enacted Dutch tax law with respect to income tax rate. This entailed reviewing the company's latest approved strategic plan. We discussed this plan with management and determined the reasonableness of the assumptions used regarding the recoverability of the deferred tax assets and assessed the plan's assumptions and sensitivities.	We concur with the deferred tax assets recorded.

Key audit matter	How our audit addressed the matter	Key observations
IFRS 15		
IFRS 15 'Revenue from Contracts with Customers' has been adopted by KPN retrospectively whereby 2017 financial information has been restated in the 2018 financial statements as disclosed in Note 2.	Our audit procedures included the IFRS 15 restatements of the balances as of 1 January 2017 and 31 December 2017. Furthermore we have audited whether the revenue recognition in 2018 was in accordance with IFRS 15 and have audited the relevant disclosure in Note 4.	We agree with the restatements and the disclosures made in the Report in Note 2. We concur with the revenue recognition based on IFRS 15 including the relevant notes in the Report.

Key audit matter	How our audit addressed the matter	Key observations
IFRS 16		
IFRS 16 'Leasing' which will become effective as of 2019, will have a significant impact on the financial statements as disclosed in Note 2, in which an estimation of the potential impact has been disclosed.	We reviewed the IFRS 16 impact analysis as well as the disclosures included in the Report in Note 2.	We concur with the impact analysis of IFRS 16 and agree with the disclosures made in the Report in Note 2.

Key audit matter	How our audit addressed the matter	Key observations
Reliability of IT systems, including security, cybercrime and data privacy		
At KPN, processes are highly automated and KPN continuously invests in simplification and improvement of IT systems, which has led to several changes in 2018 that have been discussed on page 53. Reliability and security of IT systems are thereby high on the agenda of KPN and for that purpose KPN's internal control framework includes several controls to ensure, inter alia, proper identity, access and change management of its IT systems. KPN also has a security team in place focusing on policies, security management and a team of ethical hackers. This team tests the security of KPN's IT environment and imitates behavior of hackers to stay continuously up to date with the latest developments and helps KPN in managing their own security risks, including cybercrime and data privacy.	As part of our audit, we have reviewed the quality of KPN's IT systems and the controls embedded therein with a purpose to express an opinion on the financial statements. For this purpose, we performed our own procedures and reviewed and tested the work done by KPN Risk Management and KPN Audit. Since this is highly specialized work, our audit team includes IT specialists. As part of our testing, we reviewed change management procedures, access management procedures, the continuity of IT systems and we reviewed the implementation of new IT systems.	In a few instances, we identified situations where controls needed improvement. KPN has set-up remediation procedures that we have also reviewed and tested with satisfactory results.

Other Information

For the assurance procedures concerning the sustainability information in scope, we identified the following key assurance matters:

Key assurance matter	How our audit addressed the matter	Key observations
Estimations and assumptions in Scope 3 (CO_2e emissions) and energy savings by customers		
Inherent to the nature of information on Scope 3, CO_2e emissions and energy savings by customers is that they are to a large extent based on the use of estimates and underlying assumptions.	Our review procedures focused on evaluating the suitability and consistent application of the reporting criteria and assessing the reasonableness of the assumptions made. We have also reviewed whether the disclosures in the Report are adequate.	We assessed the reporting criteria as suitable and consistently applied and the assumptions made as reasonable. We agreed that the methodologies used are sufficiently disclosed in appendix 3.

Key assurance matter	How our audit addressed the matter	Key observations
Disclosure of methodology for RepTrak pulse score (reputation) and Net Promoter Score in the Netherlands (customer satisfaction)		
The indicators RepTrak and NPS are identified by KPN as part of their representation of key achievements. The indicators are measured by third parties. The outcome is influenced by the methodology used by the third party.	Our review procedures focused on evaluating whether the methodology is suitable and consistently applied, assessing whether the transparency on the methodology in KPN's Report is sufficient for a proper understanding by the reader.	We assessed the reporting criteriia as suitable and consistently applied and we agreed that the methodologies used are sufficiently disclosed in appendix 3.

Report on other legal and regulatory requirements

Engagement

We were engaged by the Supervisory Board as auditor of Koninklijke KPN N.V. on 9 April 2014, as of the audit for the year 2015 and have operated as statutory auditor since that date.

No prohibited non-audit services

We have not provided prohibited non-audit services as referred to in Article 5(1) of the EU Regulation on specific requirements regarding statutory audit of public-interest entities.

Responsibilities

Responsibilities of Board of Management and the Supervisory Board

The Board of Management (hereafter: management) is responsible for the preparation and fair presentation of the financial statements in accordance with EU-IFRS and Part 9 of Book 2 of the Dutch Civil Code, and for the preparation and fair presentation of the other information, including the Report by the Board of Management in accordance with Part 9 of Book 2 of the Dutch Civil Code and the other information pursuant to Part 9 of Book 2 of the Dutch Civil Code.

Management is also responsible for the preparation of the sustainability information in accordance with the GRI Standards (comprehensive option) and the supplemental KPN reporting criteria, including the identification of stakeholders and the determination of material topics. The choices made by management in respect of the scope of the Report and the reporting criteria are set out in the section entitled appendix 3: Transparency, in the Integrated Annual Report.

Management is also responsible for such internal control as management determines is necessary to enable the preparation of the Report that is free from material misstatement, whether due to fraud or errors.

As part of the preparation of the financial statements, management is responsible for assessing the company's ability to continue as a going concern. Based on the financial reporting frameworks mentioned, management should prepare the financial statements using the going concern basis of accounting unless management either intends to liquidate the company or to cease operations, or has no realistic alternative but to do so. Management should disclose events and circumstances that may cast significant doubt on the company's ability to continue as a going concern in the financial statements.

The Supervisory Board is responsible for overseeing the company's reporting process.

Our responsibilities

Our responsibility is to plan and perform the assurance engagements in a manner that allows us to obtain sufficient and appropriate assurance evidence for our conclusions.

Our assurance procedures aimed at obtaining reasonable assurance have been performed with a high, but not absolute, level of assurance, which means we may not have detected all material errors and fraud. The assurance procedures performed to obtain a limited level of assurance are aimed on the plausibility of information and vary in nature and timing from, and are less in extent, than for obtaining reasonable assurance. The level of assurance obtained in a review is therefore substantially less than the assurance obtained in an audit.

Misstatements can arise from fraud or errors and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the decisions of users taken on the basis of the financial statements and sustainability information. The materiality affects the nature, timing and extent of our assurance procedures and the evaluation of the effect of identified misstatements on our conclusions.
We apply the "Nadere voorschriften kwaliteitssystemen" (NVKS, Regulations for Quality management systems) and accordingly maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and other applicable legal and regulatory requirements.

A further description of our responsibilities is included in the Annex to the combined independent auditor's report.

Amsterdam, 22 February 2019

Ernst & Young Accountants LLP

signed by F.J. Blenderman

> Other Information

Annex to the combined independent auditor's report

Work performed

We have exercised professional judgment and have maintained professional skepticism throughout the assurance engagements performed by a multi-disciplinary team, in accordance with Dutch Standards on Auditing and the Dutch Standard 3810N, ethical requirements and independence requirements.

Our audit to obtain reasonable assurance about the financial statements (consolidated and corporate) included the following:

- Identifying and assessing the risks of material misstatement of the financial statements, whether due to fraud or errors, designing and performing audit procedures responsive to those risks, and obtaining audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtaining an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the company's internal control.
- Evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Concluding on the appropriateness of management's use of the going concern basis of accounting, and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the company to cease to continue as a going concern.
- Evaluating the overall presentation, structure and content of the financial statements, including the disclosures.
- Evaluating whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

Our review to obtain limited assurance about the sustainability information included amongst others:

- Performing an analysis of the external environment and obtaining an understanding of relevant social themes and issues and the characteristics of the entity.
- Evaluating the appropriateness of the reporting criteria used, their consistent application and related disclosures in the sustainability information. This includes the evaluation of the results of the stakeholders' dialog and the reasonableness of estimates by management.
- Obtaining an understanding of the reporting processes for the sustainability information, including obtaining a general understanding of internal control relevant to our review.
- Reconciling the relevant financial information with the financial statements.
- Obtaining an understanding of the procedures performed by the internal audit department of KPN.
- Identifying areas of the sustainability information with a higher risk of misleading or unbalanced information or material misstatements, whether due to fraud or errors. Designing and performing further procedures aimed at determining the plausibility of the sustainability information responsive to this risk analysis. These further review procedures consisted amongst others of:
  - Interviewing management and relevant staff at corporate level responsible for the sustainability strategy, policies and results.
  - Interviewing relevant staff responsible for providing the information for, carrying out internal control procedures on, and consolidating the data in the sustainability information.
  - Obtaining assurance information that the sustainability information reconciles with underlying records of the company.
  - Reviewing, on a limited test basis, relevant internal and external documentation.
  - Performing an analytical review of the data and trends.
- Evaluating the overall presentation, structure and content of the sustainability information.
- Considering whether the sustainability information as a whole, including the disclosures, reflects the purpose of the reporting criteria used.

In addition to the procedures mentioned above, for CO_2e emission data 2018 (Scope 1 and 2) of own operations in the Netherlands and the underlying energy data we performed the following procedures to obtain reasonable assurance:

- Obtaining a more detailed understanding of systems and reporting processes, including obtaining an understanding of internal control relevant to our assurance engagement.
- Evaluating the design, implementation and operating of the relevant internal controls during the reporting year.
- Conducting more in-depth analytical procedures and substantive testing procedures on the relevant data.
- Investigating relevant internal and external documentation, on a test basis, to determine the reliability of the CO_2e emission data 2018 (Scope 1 and 2) of own operations in the Netherlands and the underlying energy data.

We have read the other information. Based on our knowledge and understanding obtained through our audit of the financial statements or otherwise, we have considered whether the other information contains material misstatements. By performing these procedures, we comply with the requirements of Part 9 of Book 2 of the Dutch Civil Code and the Dutch Standard 720. The scope of the procedures performed on the other information is less than the scope of those performed in our audit of the financial statements.

Because we are ultimately responsible for the opinion, we are also responsible for directing, supervising and performing the group audit. In this respect we have determined the nature and extent of the audit procedures to be carried out for group entities. Decisive were the size and/or the risk profile of the group entities or operations. On this basis, we selected group entities for which an audit or review had to be carried out on the complete set of financial information or specific items.

We communicate with the Supervisory Board regarding, among other matters, the planned scope and timing of the assurance procedures and significant findings, including any significant findings in internal control that we identify during our assurance engagements. In this respect we also submit an additional report to the Audit Committee in accordance with Article 11 of the EU Regulation on specific requirements regarding statutory audit of public-interest entities. The information included in this additional report is consistent with our audit opinion in this auditor's report.

We provide the Supervisory Board with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with the Supervisory Board, we determine those matters that were of most significance in the audit of the financial statements, the review of the sustainability information in scope and the audit of the CO_2e emission data 2018 (Scope 1 and 2) of own operations in the Netherlands and the underlying energy data of the current period and are therefore the key audit and assurance matters. We describe these matters in our combined independent auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, not communicating the matter is in the public interest.

> Appendices

APPENDIX 1: ALTERNATIVE PERFORMANCE MEASURES

In the discussion of KPN's financial results, a number of alternative performance measures (non-GAAP figures) are used to provide readers with additional financial information, that is regularly reviewed by management. These non-GAAP figures should not be viewed as a substitute for KPN's financial results as determined in accordance with IFRS, which are presented in KPN's Consolidated Financial Statements. Also, the additional information presented is not uniformly defined by all companies, including KPN's peers. Therefore, the non-GAAP figures presented may not be comparable with similarly named numbers and disclosures by other companies. In addition, readers should be aware that certain information presented is derived from amounts determined under IFRS, but is not in itself an expressly defined GAAP measure. Such non-GAAP measures should not be viewed in isolation or as an alternative to an equivalent GAAP measure.

KPN's management considers these non-GAAP figures, combined with GAAP performance measures and in conjunction with each other, most appropriate to measure the performance of the group and its segments. The non-GAAP figures are used by management for planning, reporting (internal and external) and incentive purposes.

All non-GAAP figures are based on continuing operations unless stated otherwise.
KPN's main non-GAAP figures are explained below.

EBITDA

KPN defines EBITDA as operating result before depreciation (including impairments) of PPE and amortization (including impairments) of intangible assets. Note that KPN's definition of EBITDA deviates from the literal definition of earnings before interest, taxes, depreciation and amortization and should not be considered in isolation or as a substitute for analyses of the results as reported under IFRS as adopted by the European Union.

€ million	2018	2017 (Restated)
Total revenues and other income	**5,639**	**5,742**
Cost of goods & services	1,302	1,365
Personnel expenses	1,141	1,121
Information technology/Technical infrastructure	442	493
Other operating expenses	569	595
Total operating expenses (excl. D&A)	3,453	3,573
EBITDA	**2,186**	**2,169**

Adjusted revenues and adjusted EBITDA

Adjusted revenues and adjusted EBITDA, together also referred to as the adjusted results, are derived from revenues (including other income) and EBITDA, respectively, and are adjusted for the impact of restructuring costs and incidentals. Incidentals are non-recurring transactions which are not directly related to day-to-day operational activities at or over EUR 5m, unless significant for the specific reportable segment.

Appendices

The following table shows the key items between reported and adjusted revenues for the full year.

€ million	FY 2018 reported	Incidentals	FY 2018 adjusted	FY 2017 reported restated	Incidentals	FY 2017 adjusted restated	y-on-y reported	y-on-y adjusted
Consumer	2,992	–	2,992	3,044	–	3,044	-1.7%	-1.7%
Business	2,143	–	2,143	2,183	–	2,183	-1.9%	-1.9%
Wholesale	618	–	618	665	-7	672	-7.0%	-8.0%
Network, Operations & IT	30	–	30	21	–	21	45%	45%
Other (incl. eliminations)	-145	–	-145	-171	–	-171	-15%	-15%
The Netherlands	**5,638**	**–**	**5,638**	**5,741**	**-7**	**5,749**	**-1.8%**	**-1.9%**
iBasis	528	–	528	705	–	705	-25%	-25%
Other activities	1	–	1	1	–	1	39%	39%
Intercompany revenues	-59	–	-59	-84	–	-84	-30%	-30%
KPN Group	**6,108**	**–**	**6,108**	**6,364**	**-7**	**6,371**	**-4.0%**	**-4.1%**
Of which discontinued operations	469	–	469	622	–	622	-25%	-25%
KPN Group continuing operations	**5,639**	**–**	**5,639**	**5,742**	**-7**	**5,749**	**-1.8%**	**-1.9%**

The following table specifies the revenue incidentals in more detail:

€ million	Segment	FY 2018	FY 2017
Change in revenue related provisions	Wholesale	–	-7
KPN Group		**–**	**-7**

The following table shows the key items between reported and adjusted EBITDA for the full year.

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€ million	FY 2018 reported	Incidentals	Restruc-turing	FY 2018 adjusted	FY 2017 reported restated	Incidentals	Restruc-turing	FY 2017 adjusted restated	y-on-y reported	y-on-y adjusted
The Netherlands	2,205	-11	-91	2,307	2,187	-29	-76	2,292	0.8%	0.6%
iBasis	23	–	–	23	24	–	–	24	-4.8%	-4.8%
Other activities	-19	-5	-11	-3	-18	–	-11	-8	2.3%	-65%
KPN Group	**2,209**	**-16**	**-102**	**2,327**	**2,193**	**-29**	**-86**	**2,309**	**0.7%**	**0.8%**
Of which discontinued operations	24	–	–	24	24	–	–	24	-2.3%	-2.3%
KPN Group continuing operations	**2,186**	**-16**	**-102**	**2,303**	**2,169**	**-29**	**-86**	**2,285**	**0.8%**	**0.8%**

The following table specifies the EBITDA incidentals in more detail:

€ million	Segment	FY 2018	FY 2017
Change in revenue related provisions	Revenue	–	-7
Addition to asset retirement obligation	Other operating expenses	-11	-7
Change of provisions	Other operating expenses	-5	-16
KPN Group		**-16**	**-29**

Simplification savings or Simplification program

KPN's Simplification program is directed at realizing run-rate savings in both capital expenditure (capex) and operating expenses (opex). The Simplification program is aimed at innovation Capex and the operating expense categories Personnel expenses, Information Technology/ Technical Infrastructure expenses and Other operating expenses, excluding restructuring costs and incidentals. Through its nature the program will also mean a reduction in FTEs. The baseline for measurement of the second wave of Simplification savings is capex and operating expense levels at the end of 2016. The baseline is adjusted for major changes in the composition of the group in the years 2017-2019 (acquisitions and disposals). The second wave of the Simplification program has generated run-rate savings of approximately EUR 225m by the end of 2018.

Free Cash Flow (FCF)

FCF is defined as cash flow from continuing operating activities plus proceeds from disposals of PPE minus Capex (investments in PPE and software).

€ million	2018	2017 (Restated)
Net cash flow provided by operating activities from continuing operations	**1,959**	**1,929**
Capex	-1,106	-1,131
Proceeds from real estate	5	2
Free cash flow from continuing operations (incl. TEFD dividend)	**858**	**800**
Free cash flow from continuing operations (excl. TEFD dividend)	**804**	**730**

Net Debt/EBITDA ratio

In the net debt/EBITDA ratio, KPN defines net debt as the nominal value of interest bearing financial liabilities excluding derivatives and related collateral, representing the net repayment obligations in euro, taking into account 50% of the nominal value of the hybrid capital instruments, less net cash and short-term investments. The EBITDA in this context is normalized EBITDA, a 12-month rolling total EBITDA excluding restructuring costs, incidentals and major changes in the composition of the Group (acquisitions and disposals). The calculation of the net debt/EBITDA ratio is provided in Note 12.4 to the Financial Statements.

› Appendices

APPENDIX 2: OVERVIEW AND CONNECTIVITY OF NON-FINANCIAL INFORMATION

Reference	Strategic pillar	High material topics Medium material topics	Theme/ KPI	Target 2018	**Result 2018**
Value we create		**Digital transformation**[1]			
Customer value	Focusing on profitable growth segments	- Customer loyalty - Economic value - Fair marketing and communication	NPS NL	11	**9**
			NPS Consumer Mobile	16	**16**
			NPS Consumer Fixed	15	**13**
			NPS Business	3	**0**
Converged products and services	Focusing on profitable growth segments	- Digital inclusion - Community investment	% chronically ill children provided with a KPN Klasgenoot	100%	**100% (1041)**
Converged smart infrastructure	Building the best converged smart infrastructure	- Quality and reliability of network	Weighted downtime (compared to last year YTD)	-30%	**-25%**
			% of households with possibility of access to at least 100 Mbps connection	N/a	**N/a**
			Average download speed copper	>30 Mbps	**N/a[5]**
			Average download speed fiber	>100 Mbps	**N/a[5]**
			# of customers connected in rural areas with 4G or combined 4G/DSL solutions	20,000	**27,492**
			Average 4G download speed	58 Mbps	**53 Mbs**
Focused innovation and digitalization	Accelerating simplification and digitalization	- Innovation and investments - Impact of products and services - Digital inclusion - Digital knowledge and education	Elderly facilitated to live independently	12,500	**12,283**
			# of people with secure digital access to healthcare	22,500	**31,990**
Privacy and security	Building the best converged smart infrastructure	- Security - Privacy and identity - Impact of products and services - Fair marketing and communication	% of customers helped (within eight hours) who were unintentionally infected by malware	98.5%	**99.4%**
			% of Dutch people that believe their data is safe with KPN	70%	**69%**
Sustainable employability	Focusing on profitable growth segments Buillding the best converged smart infrastructure Accelerating simplification and digitalization	- Sustainable employment - Diversity and equal opportunity	Overall percentage of women at KPN in the Netherlands	27.5%	**22%**
			Employee survey score for Engagement	80%	**77%**
			Sustainable employability: % of employees with a new job < 1 year after leaving KPN	>80%	**85%**
			% of KPN employees in NL who feel they can work in line with the New Way of Living and Working	90%	**86%**

1 All our services contribute to the digital transformation of society.
2 In line with the changed management structure, as of 2019 we only will report the NPS scores of Consumer and Business separately.
3 The 2019 calculation method for the NPS has been updated. Based on this, the Q4-2018 results for Consumer Mobile, Consumer Fixed would not change and Business Market would have been -1.
4 This kpi is relevant again in the updated strategy.
5 This kpi does not represent the technical potential of our network.
6 In the new strategy, rural areas will be served with several technologies.
7 The target of >80%, is postponed to 2020 and beyond due to market circumstances.

Result 2017	Result 2016	Target 2019	Target 2020 and beyond	GRI KPI/ref	Impact/SDG
8	6	discontinued[2]	–	Marketing and labeling Digital device	9. Industry, Innovation & Infrastructure
14	10	17[3]	–		
11	10	17[3]	–		
-1	-3	2[3]	–		
100% (1109)	100% (987)	100%	100% in 2020	Economic performance	4. Quality Education
-38%	+ 55%	-25%	–	Indirect Economic Impacts IT infrastructure investments Digital divide Technological applications	9. Industry, Innovation & Infrastructure
76%	75%	75%-80%[4]	85% in 2020		
N/a	N/a	discontinued	–		
N/a	N/a	discontinued	–		
N/a	N/a	KPI redefined in 2019[6]	–		
58 Mbps	51 Mbps	60 Mbps	–		
11,446	11,317	12,500	Self-reliance for ~160.000 end-users in 2020 with smart monitoring services.	Indirect Economic impacts IT infrastructure Investments Technological Applications IT	3. Good health and Wellbeing 11. Sustainable Cities and Communities
N/a	N/a	35,000	In 2020 significant contribution to triple aim (better health, better quality, better value).		
99%	96%	98.5%	99% >2020	Customer privacy Secure use of Products and Services	9. Industry, Innovation & Infrastructure
70%	70%	70%	70% until 2020		
23%	24%	23%	30% in 2021	Employment Diversity and equal opportunity Non-discrimination Labor/Management relations/ Occupational helath and safety Training and education	5. Gender Equality 8. Decent Work and Economic Growth 4. Quality Education
80%	77%	78%	–		
83%	87%	80%[7]	>80%		
77%	82%	90%	–		

Appendices

Reference	Strategic pillar	High material topics Medium material topics	Theme/ KPI	Target 2018	**Result 2018**
Environmental performance	Building the best converged smart infrastructure	- Environmental performance - Impact of products and services	% Reduction of energy consumption KPN Group compared to 2010	22%	**24%**
			Absolute car fuel savings compared to 2010	44%	**44%**
			Data centers: more energy efficient compared to 2010 (PUE)	15.5%	**12.2%**
			Collecting customer equipment (KPN specified)	85%/like for like 69%[8]	**67%**
			% Reuse and recycling	55%/like for like 67%[9]	**75%**
			Energy savings by customers as % of KPN Group	64%	**81%**[10]
			Climate-neutral own operations	100%	**100%**
			CO_2e reduction in the chain (scope 3) compared to 2014	Projects to reduce	**16.7%**
			Fossil fuel-free cars added to company fleet (lease pool + engineers)	15%	**19%**
Environmental performance - Solutions for a sustainable supply chain	Building the best converged smart infrastructure	- Sustainable suppliers - Impact of products and services	% realized improvements on corrective action plans	70%	**77%**
			% high-risk Tier I, Tier II and Tier III suppliers audited	40%	**42%**
			Circular procurement: number of suppliers that signed the Circular Manifesto	15 suppliers	**18 suppliers**
			Sustainable solutions with impact > 1 year including a cost savings component for KPN	4	**4**

8 We improved the calculation method in 2018 and extended the scope of flows included. On a like for like basis a best estimate of the 2017 performance is 69%. Because our target 2018 (85%) was equal to our performance 2017 the like for like target is 69%.

9 As of 2018 we use an all-inclusive scope for the calculation of the percentages reuse and recycling. On a like for like basis our performance 2017 would have been 65%. Our target for 2018 is on a like for like basis 67%.

10 In 2018 we updated our Teleworking calculation methodology using more accurate data from CBS on the number of Teleworkers in the Netherlands. On a like for like basis the result for 2017 would have been 77%.

11 From now on we will focus on execution of the Circular Manifesto.

Result 2017	Result 2016	Target 2019	Target 2020 and beyond	GRI KPI/ref	Impact/SDG
24%	20%	24%	In 2019 we will re-assess the impact of our updated growth strategy and introduction of new network technology	Materials Energy Emissions Effluents and waste Environmental compliance	12. Responsible consumption and production 13. Climate action
43%	39%	45%	100% inflow of fossil free cars in 2025 (leasepool + engineers)		
15%	15%	13%	Target updated based on migration of network datacenters.		
85%/like for like 69%	74%	70%	Close to 100% circular operations and services in 2025		
53%/ like for like 65%	46%	77%	Close to 100% circular operations and services in 2025		
60%/ like for like 77%[10]	54%	82%	85% in 2020 (depends on # teleworkers in NL and broadband market share)		
100%	100%	100%	100% until 2050: from 2030 without compensating for car fuels (science-based target)		
12%	N/a	17%	20% reduction emissions in 2025; 50% reduction Scope 3 emissions in 2040 (science-based target linked to Paris Climate Agreement)		
7%	N/a	20%	100% inflow of fossil fuel-free cars in 2025 (leasepool + engineers)		
82%	77%	70%	–	Supplier environmental assessment Freedom of association and collective bargaining Bargaining Child labor Forced or Compulsory labor Human rights assessment Supplier social assessment	17. Partnership for the Goals 12. Responsible Consumption and Production
42%	N/a	40%	40%		
7 suppliers	N/a	discontinued[11]	–		
4	N/a	discontinued[11]	–		

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APPENDIX 3: TRANSPARENCY

About this report

Scope sustainability information

The purpose of the information in this report is to inform our stakeholders about our role in society, in connection with our main strategic objectives and targets. We regard as stakeholders all people and organizations affected by our operations or with whom we maintain a relationship, such as customers, employees, shareholders, banks, suppliers, journalists, partners and social organizations. For more information on our stakeholder approach for specific stakeholder groups, see Stakeholder dialog in this Appendix. The scope of the information in this report covers the KPN Group including subsidiaries in which KPN has a majority shareholding. The scope has not changed compared with last year's report. Unless stated otherwise, references to KPN should be read as referring to the KPN Group. All KPN's activities are in the Netherlands, except for iBasis, which has been classified as 'disposal group held for sale' as of 7 March 2018. For our non-financial information, we include new acquisitions in our report as of the first full year of ownership. Non-financial information for divestments that occurred during the reporting year is excluded for the full year. The data in this report refers to KPN's performance and not to that of our subcontractors, unless stated otherwise.

The full scope of the financial information is reported in the Consolidated Financial Statements (page 110 to 175). This report specifically reviews developments and performance in 2018 and is based on topics identified as high material for KPN. The described scope applies to all material topics. Aspects of a more static nature (such as our management approaches to our CSR themes and our stakeholders) or with less reporting priority (such as our impact on biodiversity and the list of external memberships) are included in the GRI Content Index (www.kpn.com/annualreport) or reported on corporate.kpn.com/dutch-society.htm.

Reporting criteria non-financial information

The Integrated Annual Report is published on 24 February, 2019. We have prepared this report in line with the International Integrated Reporting Council (IIRC) Integrated Reporting (IR) framework. For the sustainability information included in this report we followed the Global Reporting Initiative (GRI) Standards - Option Comprehensive and self-developed reporting criteria as disclosed in this Appendix. We comply with the EU Directive Non-Financial Reporting, and integrated all elements in our Integrated Annual Report. The Option - Comprehensive of the GRI Standards means that KPN reports on all general standard disclosures and all

EU Directive: Disclosure of non-financial information and diversity information

Requirements EU Directive	Subtopic	Chapter / Page reference
A brief description of the business model	The business environment	Our purpose and the world around us, p. 24-27 Our strategy and activities, p. 28-29 Our value creation model, p. 30-33 Our capitals to operate, p. 34-35
	Organization and structure	Our strategy and activities, p 28-29 Our value creation model, p. 30-33 Our capitals to operate, p. 34-35
	Markets where the undertaking operates	Our purpose and the world around us, p. 24-27 Our strategy and activities, p 28-29 Our value creation model, p. 30-33 Our capitals to operate, p, 34-35
	Objectives and strategies	Our strategy and activities, p 28-29 Our value creation model, p. 30-33 Our capitals to operate, p. 34-35
	Main trends and factors that may affect the undertaking's future development	Our purpose and the world around us, p. 24-27
Relevant social and personnel matters (e.g. HR, safety etc.)	A description of the policies pursued, including due diligence.	Sustainable employability, p. 64-66
	The outcome of those policies.	Sustainable employability, p. 64-66
	Principle risks in own operations and within value chain.	Sustainable employability, p. 64-66 Appendix 4: List of top risk, p. 212-219

Requirements EU Directive	Subtopic	Chapter / Page reference
	How risks are managed.	Compliance & risk, p. 81-87 Appendix 4: List of top risk, p. 212-219
	Non-financial key performance indicators.	Sustainable employability, p. 64-66 Environmental performance, p. 67-73
Relevant environmental matters (e.g. climate-related impacts)	A description of the policies pursued, including due dilligence.	Environmental performance, p 67-73
	The outcome of those policies.	Environmental performance p. 67-73
	Principle risks in own operations and within value chain.	Environmental performance p. 67-73 Compliance & risk, p. 81-87
	How risks are managed.	Compliance & risk, p. 81-87
	Non-financial key performance indicators.	Environmental performance, p. 67-73
Relevant matters with respect for human rights (e.g. labor protection)	A description of the policies pursued, including due diligence.	Procurement and suppliers, p. 70-72
	The outcome of those policies.	Sustainable employability, p. 64-66 Procurement and suppliers, p. 70-72
	Principle risks in own operations and within value chain.	Sustainable employability, p. 64-66 Procurement and suppliers, p. 70-72
	How risks are managed.	Compliance & risk, p. 81-87 Sustainable employability p. 64-66 Procurement and suppliers, p. 70-72
	Non-financial key performance indicators.	Sustainable employability, p. 64-66 Procurement and suppliers, p. 70-72
Relevant matters with respect to anti-corruption and bribery	A description of the policies pursued, including due diligence.	Implement a strong risk culture, p. 82 Insider transactions, p. 93 Sustainability throughout the supply chain, p. 70-72
	The outcome of those policies.	Sustainable employability, p. 64-66 Compliance & risk, p. 81-87
	Principle risks in own operations and within value chain.	Sustainable employability, p. 64-66 Compliance & risk, p. 81-87
	How risks are managed.	Sustainable employability, p. 64-66 Compliance & risk, p. 81-87
	Non-financial key performance indicators.	Sustainable employability, p. 64-66
Insight into the diversity (Board of Management and Supervisory board)	A description of the policies pursued.	Sustainable employability, p. 64-66 Supervisory Board report, p. 95-100
	Diversity targets	Sustainable employability, p. 64-66 Supervisory Board report,, p. 95-100
	Description of how the policy is implemented	Sustainable employability, p. 64-66 Supervisory Board report, p. 95-100
	Results of the diversity policy	Sustainable employability, p. 64-66 Supervisory Board report, p. 95-100

specific standard disclosures related to identified material topics. The process for defining the material topics and report content, as well as the list of material topics, is described in the materiality determination. The results of this assessment (list of material topics for KPN, including their reporting priority) determine which GRI indicators are set out in the Integrated Report and which indicators are featured only on our website or in our GRI Content Index. The overview can be found in the GRI Content Index in Appendix 8: GRI Content Index. In addition to these GRI Standards, KPN has included the pilot version of the Telecommunications Sector Supplement, as published by GRI in 2003, in determining material disclosures, resulting in five additional topics and indicators in the GRI Content Index. For one high material topic, customer loyalty, KPN uses and reports bespoke performance indicators, as outlined in the GRI Index in Appendix 8.

The GRI Content Index specifies the aspect boundaries and omitted indicators where relevant (including clarifications). This Integrated Annual Report has been prepared in accordance with the GRI Standards: Comprehensive option.

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Where available and relevant, the report includes data for previous years. Quantitative data concerning the workforce and financial results set out in this report has been collected using our financial data management system. The remaining data, set out in this report, has been collected using a standardized questionnaire that was completed with data from information management systems by the responsible KPN business units. The Internal Audit and Corporate Control departments used consistency and availability of supporting evidence as the basis for their assessment of the data reported at group level. Validation criteria set out in advance were also used to assess the data.

External assurance
In order to provide our stakeholders comfort over the reliability of our reporting, we engaged EY as an independent assurance provider to perform an assurance engagement with the aim of obtaining reasonable assurance on CO_2e emission data 2018 (Scope 1 and 2) of own operations in the Netherlands and the underlying energy data as presented on page 69 of the Integrated Annual Report and limited assurance on other sustainability information as disclosed in the following chapters and appendices:
- Chapters: KPN at a glance, Who we are and what we do and The long-term value we create;
- Appendices: Appendix 1-7: This includes Appendix 6: Social figure', Appendix 7: Environmental figures (including Scope 3 CO_2e emissions) and Appendix 8: GRI Content Index, which are available on the website of KPN. The key social and environmental figures, which are available in the Appendices 6 and 7 on www.kpn.com/annualreport, are also part of this report. Partly, they provide more detailed numbers on key figures that reflect on high material topics within the report (such as CO_2e-emissions and electricity consumption). The report contains prospective information, such as ambitions, strategy, targets, expectations and ions. Inherent to this information is that actual future results may be different from the prospective information and therefore it may be uncertain. Therefore, the assumptions and feasibility of this prospective information is not covered by the external assurance.

The Audit Committee approved every engagement of the external auditor, after pre-approval by the internal auditor, in order to avoid potential breaches of the external auditor's independence. For EY's assurance report we refer to p. 184-191.

Reporting ambitions
KPN adheres to several reporting benchmarks, like the Dow Jones Sustainability Index (DJSI) and the Transparency Benchmark. By doing this, we keep improving our performance and our way of reporting by comparing it with that of peers and expectations from the industry and other stakeholders. Our reporting ambitions for the following years are to:

- keep reporting in line with the IIRC framework and in accordance with GRI standards;
- keep reporting on high material topics;
- report more on qualitative and quantitative value creation for society; and
- maintain a leading position in several benchmarks like the Dow Jones Sustainability Index (DJSI) and the Transparency Benchmark.

Scoping and calculation methodologies environmental figures

Calculation and determination of reported emissions
In the Integrated Annual Report, KPN reports the CO_2e emissions in the chapter Sustainability and in Appendix 6. Reporting is done in accordance with the guidance and standards of the Greenhouse Gas Protocol and the ISO 14064-1 standard. KPN uses the operational control approach when reporting CO_2 emissions. Carbon dioxide (CO_2) is the most relevant greenhouse gas to KPN. Where available, we have taken CH_4 and N_2O into consideration in our greenhouse gas emissions information. We use the term 'CO_2e-emissions' to refer to the greenhouse gas emissions reported on. These are stated in CO_2 equivalents. The net Scope 2 emissions are market based and calculated based on the tank-to-wheel (TTW) CO_2e-emissions factors for renewable electricity. For renewables (wind, biomass, solar) the TTW values are all zero. The CO_2e- emissions of the well-to-tank (WTT) phase are accounted for in our Scope 3 emissions (category 3 – Fuel and energy related activities). The gross emissions disclosed on page 69 are location based and calculated with grid mix emissions factors. The KPN emissions report is subdivided as follows:

Scope 1 – Direct emissions:

- Fuel consumption of the lease vehicle fleet (employees' passenger vehicles and commercial vehicles)
- Heating of buildings (gas)
- Consumption of coolants for air conditioning and/or cooling
- Fuel consumption of emergency power generators

Scope 2 – Indirect emissions:
- Electricity consumption of the fixed and mobile networks, datacenters, offices and shops
- District heating
- District cooling

Accuracy
The accuracy of the electricity consumption data is a key factor in the reliability of the CO_2e-emissions calculations. In the data collection process, a number of factors affect the accuracy of the collected data. In general, data originating from direct measurements and recordings or invoices including measurements from third parties are the most accurate.

As our electricity providers estimate the electricity consumption for a part of our network operations because not in all cases a monthly meter reading is performed, some uncertainty exists about the accuracy and completeness of our energy consumption. To improve accuracy and transparency we are migrating to remote readable meters, reviewing admin processes and updating profiles with our electricity providers to improve the reliability of our energy data.

Scope 3 – Other indirect emissions:
- Emissions in our upstream value chain (during the production phase of our products, services and equipment at our suppliers)
- Emissions in our downstream value chain (during the use phase including recycling and disposal of the products, services and equipment).

The results are presented on page 229 and in Table 7 of Appendix 8: Environmental Figures.
We have used two main methodologies to calculate our Scope 3 emissions:
- Spend-based method which takes procurement data and calculates the emissions within an environmentally extended economic input-output (EEIO) model to assess the emissions. We used actual data covering January to November and extrapolated to full year.
- Process-based method which uses quantity-based data to evaluate the emissions associated with specific activities, e.g. kWh of energy usage or quantity of materials purchased to manufacture goods.

We used actual data covering January to November and extrapolated to full year. All parameters used in the scope 3 calculation are yearly checked whether new values are available. Calculation of emission methods, coverage and assurance is described in the table below.

Scope CO_2e	Standard	Scope	Coverage	Approach	Location- / Market-based	Assurance	Emission factor / Green energy
Scope 1	GHG Protocol Scope 1 Guidance	KPN Group	98% of all KPN business units and subsidiaries (Opex/FTE)	Operational control approach	Market based	NL: Reasonable	co2emissiefactoren.nl version 30-11-2018 Gold standard & REDD+ forest compensation projects
Scope 2	GHG Protocol Scope 2 Guidance	KPN Group	98% of all KPN business units and subsidiaries (Opex/FTE)	Operational control approach	Market based	NL: Reasonable	co2emissiefactoren.nl version 20-12-2018 100% green electricity
Scope 3 Cat: 1, 2, 5, 9	GHG Protocol Scope 3 Guidance	Netherlands	98% of all KPN business units and subsidiaries (Opex/FTE)	Spend based (Environmentally Extended Input Output data (EEIO) approach)	Location based	Limited	UK DEFRA 2014 (Indirect emissions from the supply chain) and CBS Statline The EEIO-factors are corrected for inflation.
Scope 3 Cat: 3, 6, 7, 11, 13	GHG Protocol Scope 3 Guidance	Netherlands	98% of all KPN business units and subsidiaries (Opex/FTE)	Process and activity based	Location based	Limited	co2emissiefactoren.nl version 20-12-2018
Scope 3 Cat: 4, 8, 10, 12, 14, 15	GHG Protocol Scope 3 Guidance	Netherlands	98% of all KPN business units and subsidiaries (Opex/FTE)	Not applicable for KPN	Not applicable	Limited	Not applicable

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Calculation methodology estimated energy consumption saved by customers from using our IT solutions
The calculation of the avoided energy consumption, CO_2e emission and the cost reduction for our customers is based on models per service. The results are presented on page 230 and in Table 8 of Appendix 7: Environmental Figures. For Teleworking we have updated our reporting methodology. For the determination of the number of Teleworkers we now use yearly reported data by The Dutch National Statistics Bureau (CBS) on the actual number of Teleworkers within the Netherlands. Until 2017 we used a method which was partially based on estimates and extrapolation.

Avoided energy consumption	Kind of avoidance (most impact)	KPN measurement	Source external information
Teleworking (enabled by KPN connectivity)	Avoided travel	Market share broadband subscribers based on Telecompaper Research	Publicly available statistics and reports from CBS, Kennisinstituut voor Mobiliteitsbeleid, ECN, Netbeheer Nederland, Milieu Centraal, Telecompaper and other sources
KPN Audioconferencing	Avoided travel	Number of audio-conferencing; average number participants per meeting	Publicly available statistics and reports from CBS, Kennisinstituut voor Mobiliteitsbeleid, British Telecom and CarbonTrust
KPN Colocation (Housing)	Electricity savings	Energy efficiency KPN datacenter, Volume KPN Colocation	Dutch Datacenter Assocation
KPN Hosting	Electricity savings	Energy efficiency KPN datacenter, Volume KPN Hosting	Dutch Datacenter Assocation
Dematerialization	Energy and raw materials savings	CD and DVD papers avoided by e.g. Spotify, Netflix	NVPI, Sociaal en Cultureel Planbureau, IOPscience, SVDJ, RVO, CE Delft, WWF and, CarbonTrust
iTV Cloud solution	Energy and raw materials savings	Number of customers, energy consumption KPN Cloud for iTV	Telecompaper Consumer Panel
KPN Video Conferencing	Avoided travel	Number of videoconferences; average travel savings per meeting	CBS Onderzoek Verplaatsingen in Nederland

In the calculation we used actual data covering January to November and extrapolated to full year. All parameters are yearly checked for updates by KPN and Ecofys and all updates and changes in calculation and reference values are checked and reviewed by Ecofys. For the parameters saved office space and the extra electricity and gas consumption at home when working at home (rebound effect) in the Teleworking savings calculation the values are based on averages. The average between the lowest and highest reported value in reports and research is used. Cost savings are based on the average fuel, electricity and gas prices published by CBS and Milieu Centraal.

Other calculation methodologies

RepTrak

RepTrak is developed by the Reputation Institute and is used as a method to calculate the reputation score of companies worldwide. The RepTrak methodology measures also the drivers of reputation and the consequences for supportive behavior. The Reputation Institute's policy is to adjust all RepTrak scores by standardizing them against the aggregate distribution of all scores obtained from the Reputation Institutes's Annual Global RepTrak Pulse. Standardization has the effect of lowering scores in countries that tend to over-rate companies, and has the effect of raising scores for companies in countries that tend to rate companies more negatively.
All RepTrak scores are culturally standardized. This means that all RepTrak results are comparable across countries, industries and over time. Every month, the progress on the key attributes that stimulate reputation and supportive behavior is measured. The results are based on a minimum of 300 respondents per company each quarter. The data collection method is an online interview of 20 minutes. The qualified respondents have to be familiar or very familiar with the company. Per 1 January 2011, Reputation Institute started using an updated cultural bias adjustment procedure, whereby the cultural adjustment analysis was rebased based on the latest reputation scores. Because KPN was already in the midst of the process of setting KPIs, KPN requested the Reputation Institute to report KPN's reputation scores using the 'old' cultural bias adjustment analysis. Hence, this report shows 'unrebased' reputation scores for KPN. KPN reports the fourth quarterly average in the Integrated Report

Net Promoter Score (NPS)

We use NPS as the leading indicator to measure customer loyalty. The NPS results included in this report are calculated and provided by a leading market research company in the Netherlands.

NPS is based on direct customer input, with the key question being whether a customer would recommend KPN to someone else. Depending on the score they give, the customer is classified as a 'promoter' or a 'critic'. The NPS is calculated by subtracting the percentage of 'critics' from the percentage of 'promoters'. The result is displayed as an absolute number instead of a percentage, within a range of -100 to +100.

In this report, all NPS results refer to Q4 of the respective year, based on a 3-month rolling average (December 18 is based on October 18, November 18 and December 18). The NPS Consumer (Consumer Residential and Consumer Mobile) and NPS Business reflect a weighted average based on (2017 resp. 2015) revenues. NPS Business combines this with fixed weights for segments. The main score for NPS NL is the average of the segments NPS consumer mobile, NPS consumer residential and NPS Business.

Stakeholder engagement and materiality determination

Materiality

The annual materiality assessment makes sure we are aware of what happens in our surroundings, where we have impact and how we can add focus to our efforts. It is performed to make sure we report on all relevant topics in this Integrated Report. The assessment is approved by the Board of Management. The process consists of three steps:

Step 1: Identification of relevant aspects and other topics

KPN annually updates a shortlist of relevant topics based on internal and external developments. Relevant topics are those with which KPN has or can have an impact, inside the organization and in the value chain or society. Issues identified as relevant during a stakeholder dialog, or after a media scan was performed, have been taken into account in the materiality process. During an internal consultation held with employees representing the Corporate Communication department, the shortlist is validated, using the 2017 shortlist as a starting point in order to increase the continuity and comparability. Validating the shortlist resulted in adjusting and refining the definitions of the following topics: "Environmental performance", "Sustainable employment", "Diversity and equal opportunity", "Community investment". This has improved the readability and comprehension and did not led to changes of the topics' substance.

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Step 2: Determining reporting priority
The second step aims to assess the relative impact KPN has with the identified topics on society. The outcome is presented on the graphically in the materiality matrix below and used as both input and validation of our (CSR) strategy, policies and approach and reporting scope. KPN assesses all relevant topics on: (1) the significance of KPN's impacts and (2) the influence on stakeholder decisions.

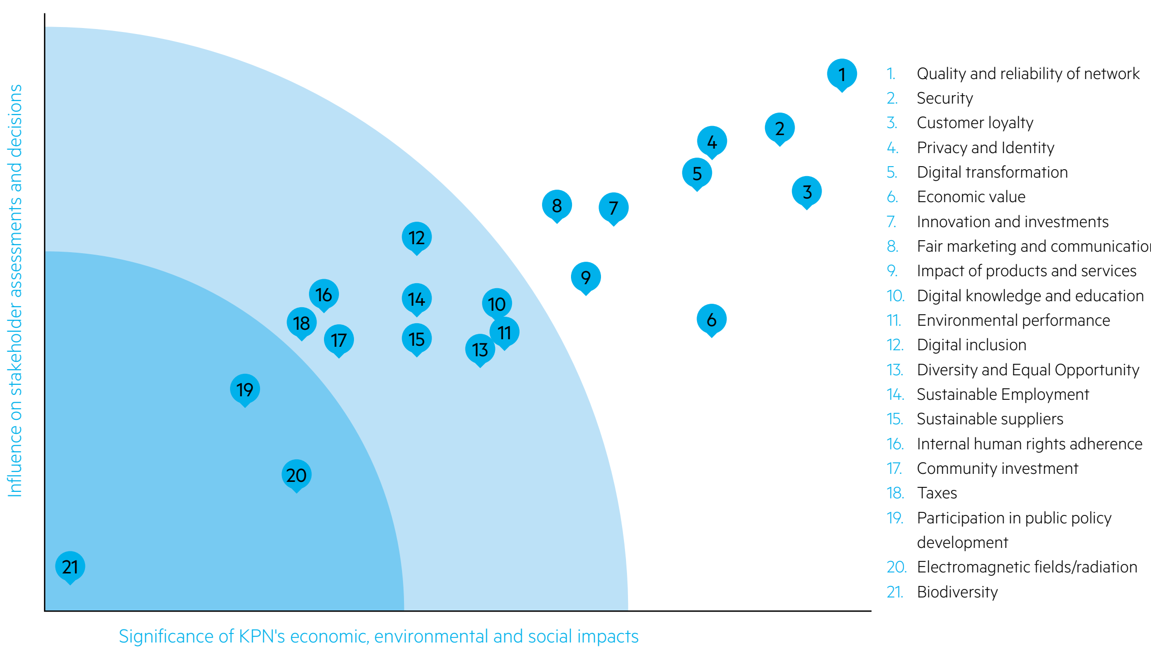
The determining of the materiality involves the following processes:
- an internal consultation held with employees representing all sections of KPN in order prioritize the shortlist topics from KPN's perspective; and
- an online survey was send to our most important stakeholders to prioritize the shortlist topics from our stakeholder's perspective. In total 2806 stakeholders representing the following stakeholder groups participated by completing the online survey; business market, consumer market, investors, suppliers, employees, society, government.

The combination of the horizontal axis and the vertical axis determines the degree of impact that KPN has with the topic on society. KPN divides the results into three categories:
- High material topics: we aim to fulfill a leading role on these topics. By developing policies, setting targets and defining KPIs to monitor and report on our impact.
- Medium material topics: we want to demonstrate our social responsibility regarding these topics.
- Low material topics: these are topics we monitor, but do not necessarily report on.

In order to see where the aspect can be found and which GRI topics are translated into KPN topics, please see the cross reference in the connectivity matrix.

Step 3: Implementation
Based on the priority outcomes of the materiality determination, approved by the Board of Management, we determined the topics to be addressed in the report, including the scope and aspect boundaries of all material topics. Despite the less importance "Environmental performance" was assigned in this analysis, KPN highly values taking its responsibility on this matter and therefor it's seen as a key element in KPNs strategy. This is why KPN considers this topic as highly material.

Materiality assessment



Business units are informed on new and altered topics to be acted and reported on, to prepare reporting systems, enhance internal mechanisms, develop reporting definitions and, where relevant, targets. Timelines are developed and new/ altered topics are included in the relevant reporting process mechanisms.

Stakeholder dialog

KPN is in continuous dialog with a diverse set of stakeholders, with equally diverse interests and motivations. These dialogs take place on different levels within our organization and are often a part of our daily business. Members of the Board of Management attend the most important stakeholder dialogs, in which a variety of stakeholders is present. In the table below, we provide insight into all the interactions we have had with different stakeholders.

Stakeholder group	What they expect	How we engage (incl. frequency)	Main topics in 2018	Our response
Employees	Employees expect us to provide personal possibilities to strive in the dynamic workplace. For them, this translates into a tailor-made workplace (physical, technology, learning and development); simplicity in data, organization, technology and processes; transparency in the organization and from leadership and a recognizable culture and values. New generations expect generational awareness, dynamic career perspectives, continuous feedback, mentoring and coaching and empowerment and agility.	To some the changing conditions in the world and the labor market may feel like a threat. That is a natural reaction and we feel it as our responsibility as an employer to both create awareness of the consequences of the fast changing environment and encourage and enable people to seize the possibilities it offers. In the long run, KPN's HR function will more and more be using data & digital and robotization & AI to create an employee experience in response to increasing consumerism that will take shape in alternative employment relations.	> Leadership that supports our culture as described in the KPN Greenprint. > Strategic Workforce Management that focuses on rationalization and standardization, contract independent sourcing and capacity planning. > A future-proof organizational design with room for authenticity > and diversity. Proactive and valuable people & data analytics. > Integral management of our HR chains in which run and change are balanced. > Performance management with room for new ways of working that leads to empowered employees. > Right sizing of our collective labor conditions to support this.	> Development of our engineers and retail sales people. > Agile on Tour to support continuous personal development. > Future-proof individuals and organization' as main theme in preparing for the CLA negotiations.

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Stakeholder group	What they expect	How we engage (incl. frequency)	Main topics in 2018	Our response
Government and regulators	Government and regulators expect us to comply with the rules and regulations and meet the requirements for licensing. Furthermore, they expect us to be climate responsible and transparent in our communication, Their goal is, amongst others, to create a level playing field and protect the interests of end-users. They expect us to run infrastructure and services considered as very important to the Dutch economy and Dutch society at large and to create coverage of high speed networks, wireless and wireline.	We proactively engage with government and regulators. As the incumbent in the Netherlands, there are special obligations imposed on us, in particular to enable competition via regulated access to our fixed network. We engage in a continuous dialog to explain our efforts and results. Furthermore, we work together with (local) governments on innovation (e.g. IoT) projects which result in energy and cost savings.	> Avoiding non-compliance > Integrity and transparency > For the next three years, ACM wants KPN to continue to grant its competitors access to its copper and fiber-optic network. > Concerns have been intensifying concerning national (cyber) security throughout 2018.	> We continued our compliance efforts through programs such as optimizing our business control system, external reviews, benchmarking, enhanced compliance training and top management meetings. We work continuously to meet compliance requirements through clear and practical legal advice, clear operational procedures, related control mechanisms, and clear and safe ways to report potential misconduct. We interact closely with ACM in relation to compliance, incidents and potentially different views on the interpretation of the law.
Investor community	The investor community – financial markets in general, our shareholders, debt investors and research analysts – expects us to be extensive and transparent. We should be clear and consistent in communicating our strategy, objectives and outlook, and transparent about corporate governance, including executive remuneration. Their main interest is our commitment to creating value. They want timely and accurate updates and ample opportunity to seek clarification and ask questions.	We organize key corporate events such as the Annual General Meeting of Shareholders, Capital Markets Days, and we meet with investors, analysts and credit rating agencies during roadshows and conferences. We also provide relevant company information through timely press releases and regular publications such as our quarterly results and Integrated Annual Report.	> Operational focus on value and fixed-mobile convergence. > Solid financial performance with improving revenue trend, in line adjusted EBITDA and growing free cash flow. > Leverage profile, including the redemption of the EUR 1.1bn hybrid bond. > CEO transition and accompanying strategy update with key drivers of growth and required level of investments. > Regulatory uncertainty from fixed access regulation and merger between T-Mobile and Tele2.	> We grew the fixed-mobile customer base leading to further increasing customer loyalty and low churn levels. > We realized a growing adjusted EBITDA and free cash flow and a solid growth of regular dividend per share in 2018 compared to full year 2017. > We fully redeemed the EUR 1.1bn hybrid bond with existing cash at the first call date in September 2018, we gradually reduced our stake in Telefónica Deutschland and we distributed the dividend received on our Telefónica Deutschland stake to KPN shareholders. > We presented our Strategy 2019-2021 in November 2018, highlighting our strategic priorities that will enable us to deliver organic sustainable growth in adjusted EBITDA and free cash flow, contributing to a progressive dividend per share and deleveraging, while continuing to invest in our infrastructure to become the undisputed quality leader in the Netherlands.

Stakeholder group	What they expect	How we engage (incl. frequency)	Main topics in 2018	Our response
Suppliers	Our suppliers expect to maintain a long term commitment and cooperation with us. Furthermore, they expect simple contracts, fair prices, acceptable payment terms and compliance with the core principles of data protection. Together we should look for opportunities regarding sustainable cost reduction.	KPN has a central Corporate Procurement Organization (CPO) that is responsible for contracting deals with suppliers. We make sure the principles of our suppliers' CSR policies are in line with our own. We are constantly in touch with our suppliers and invite them to our annual Supplier Day. We increasingly partner with them on sustainable solutions. We are also a member of the Joint Audit Cooperation (JAC), an association of 17 telecom operators aiming to verify, assess and develop the (CSR) implementation across the manufacturing centers of important multinational suppliers.	> In 2018, we started to add standard CSR criteria into our tender process. These criteria are: Complying with KPN's Supplier Code of Conduct; Promoting the reduction of so-called virgin materials (new, not previously used materials); Promoting reuse and recycling of KPN products to reduce the amount of landfill; Extending the lifecycle of products; Promoting the energy efficiency of KPN products.	> Together with our suppliers we implemented sustainable solutions which resulted in cost reduction, reduction in energy and material use. > We aim for all suppliers we do business with to comply with the KPN Supplier Code of Conduct or have their own equivalent code. Our Code of Conduct helps to ensure that all of our suppliers are committed to conducting its business in an ethical, legal environmentally, respecting human rights and socially responsible manner as well as JAC standards. > We continue to raise awareness of sustainability among our buyers and suppliers. In order to achieve 100% close to circular products we need support of all suppliers. On December 31st KPN and 11 suppliers have signed the circular manifesto.
Business customers	Customers expect KPN to help them with the Digital Transformation within their companies. They want sincere and proactive advice that meet their specific needs Business Customers also expect effortless IT solutions and there is a growing customer demand for continuous accessibility, and fast and reliable fixed and mobile connections.	Every day we talk with our business customers via our Business Partners, account managers, in our XL stores and our contact centers. We engage through our Customer Experience Lab in which we test the needs and experience of the customers daily. We also engage customer panels, quarterly market research, round table discussions, workshops connecting customers' strategies with KPN's and social media through our B2B platform The Digital Dutch. We closely monitor our (business) customers' satisfaction and loyalty through NPS.	> Digital Dutch Experience. > High speed internet. > Improve Customer Experience & Loyalty measured by NPS. > Migrations of customers to our integrated KPN ÉÉN platform. > Simplicity in Products & Services.	> Next to our yearly Digital Dutch Event we opened the Digital Dutch Xperience Center in Zoetermeer. In this Xperience center we invite customers and we work together with the customer on their specific digital challenges. > Roll-out high speed internet business parks. > Supported by its simplified portfolio Business NPS rose to 0 in Q4 2018. > Continued successful bundling of services in SME; 41% migration. > Growth in Professional Services supported by integrated solutions at KPN's larger customers.
Retail customers	Our retail customers expect high-quality products and service for the right price. This includes failure-free networks, clear propositions and processes, a quick and proper response to questions and complaints and good communication. They want sincere and proactive advice about the best possible subscriptions that meet their needs. Besides that, they want their loyalty to be acknowledged and appreciated.	We communicate 24/7 with our customers on our front ends (Customer Service, Engineers, Stores, Social). We collect and monitor both requested and unrequested customer feedback on a daily basis and share these customer voices throughout the company. We also use external panels for our Brand NPS and RepTrak to objectively monitor our reputation.	> Being always connected. > A seamless and easy digital experience. > Sustainability.	> We offered our WiFi Garantie to all fixed KPN customers (new and existing). > We completely revamped our mijnKPN and KPNiTV apps based on customer wishes. > We made it possible for customers to sell back their old mobile devices to us.

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Stakeholder group	What they expect	How we engage (incl. frequency)	Main topics in 2018	Our response
Society	Society expects us to make a positive mark on Dutch society. They expect us to be socially and environmentally responsible and to be a good corporate citizen. They want products and services that help to solve social and environmental issues. Furthermore, they expect us to be a frontrunner in sustainability and other societal issues by creating sustainable partnerships. KPN has the potential to lead debates e.g. on privacy and the use of data	We are active in working groups initiated by NGOs and participate in or liaise with organizations such as the European Telecommunications Network Operators' Association (ETNO), International Telecom Union (ITU), the United Nations Global Compact Foundation, the Dutch Association of Investors for Sustainable Development (VBDO), the ICT Coalition and Circle Economy. Furthermore, we organize an annual dialog with stakeholders to discuss our contribution to society and the desired next steps. We organize an Advisory Board meeting four times a year, which we renewed in 2017.	Topics discussed with our societal partners were: > People pay with trust, not data. KPN has a national profile as trusted provider. It will be an competitive advantage if we can tell customers where their data is going. > Health is a booming market. We can transport the data from the Patient tot the EDP of the hospital. We should develop new products with the big technology advantage of KPN and give patients autonomy. > We should make a next step on impact measurement. We should share dilemmas, this is part of the story. There does not exist a one-size fits all methodology for Impact Measurement. > Advice CSR Advisory board on the SDG's that are presented in the Value Creation Model: those are the main targets, but the sub targets are more interesting, because KPN's contribution towards these sub targets show where KPN adds the most value.	> We launched KPN Health, we organized a big internal event on privacy and we organized the first Kid Cyber Day. > We joined in a government campaign cyber security, in order to help people to better protect themselves. > We added the SDGs on Health and Well-being to our Value Creation Model.

How we engage with policymakers

KPN actively engages with policymakers in politics and government and sponsors activities which help to debate in the public arena the consequences of digitalization and develop actions to cope with them. For KPN, as a predominantly Dutch operation, policy is primarily shaped in Brussels and in The Hague. The focus of our engagement is there. To increase relevance with policymakers, the aim is to cooperate as much as possible with other likeminded companies and therefore KPN participates in trade organizations which are active at the European level and in the Netherlands and contributes to these organizations. These contributions accounts for the majority of the disclosed amounts. The sums apportioned to Brussels are part of the sums disclosed in the Transparency Register to which KPN has subscribed from the start. The Transparency Register also encompasses an estimation of cost of staff. KPN also participates in global organzations like GSMA, which aims to develop the mobile industry worldwide, and which also engages with policymakers in Europe and elsewhere. Finally, KPN contributes to ITU, which is a standardiation body and a United Nations Agency, but which is not a trade organization and therefore is not included in the sums presented.

KPN refrains from any sponsorship of political parties, political individuals or government institutions. Management upholds strict standards on ethical and transparent behavior. Employees who are politically active have to ask for permission if they have paid political functions, e.g. as member of municipal or regional councils. In the past years, KPN has always had the policy to approach policy makers directly. External public affairs agencies are not paid to speak on behalf of KPN.
KPN presents the amount of money spent on public affairs in three categories. KPN does not disaggregate these figures further as KPN is not at liberty to divulge the contributions to individual organizations.

Type of trade organization	Geographic scope	Spend in 2018 in EUR	Focus of membership (non-exhaustive)
Trade bodies representing interests of mobile operators worldwide	Global	30,000	Develop the mobile industry worldwide with focus on level playing field and predictability of the law. Create common standards and encourage sustainable innovation.
Trade body representing Europe's telecommunications network operators	European Union	63,601	Create a level playing field within the EU based on an unambiguous and predictable legal situation. Focus on the European Electronic Communications Code, the General Data Protection Regulation, ePrivacy, and the Privacy Shield.
Trade body representing Netherlands Industry and Employers	the Netherlands and the European Union	393,384	Monitor and influence nationwide issues that are of importance across sectors. Examples include creating a prosperous investment climate, fiscal climate, social agenda and a digital agenda.
Trade association for IT, telecom, internet and companies	the Netherlands	38,115	Monitor, influence and increase awareness of (issues in) the digital economy, e.g. on continuity and security and privacy.
Trade association in the technology industry	the Netherlands	12,100	Monitor and influence national policies in particular for the manufacturing industries, such as health care, metallurgy, microconductor industry, and the digital industry.
Trade association for the positioning of the Netherlands defense- and safety-related industry	the Netherlands	86,354	Monitor and influence national policies specifically in the field of national security.
Trade body and knowledge centre representing commercial users of electricity and water in the Netherlands	the Netherlands and the European Union	36,079	Representing the interests of small, medium and larger organizations who use water and electricity on a professional basis.
Trade body representing the interests of the cyber security sector	the Netherlands and the European Union	15,000	This organization aims to increase the digital resilience of the Netherlands and to increase the quality and transparency within the growing cyber security sector.

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APPENDIX 4: LIST OF TOP RISKS

Category	Risk	Countermeasure	Evaluation
Fast changing market conditions: intensified competition	KPN could face increased competition on services and network access from current competitors as well as new market entrants and OTT players, or from market consolidation. Competition in retail and wholesale markets can occur based on price, content, increase of investment in customer acquisition or retention costs, subscription options, coverage and service quality. These factors could lead to lower profitability as well as lower market shares.	> Offer converged services (triple-play, quad-play) and competitive price/portfolio combinations, such as KPN Compleet and KPN ÉÉN > Implement the best converged smart infrastructure in the Netherlands by: - Accelerating fiber roll-out for Consumer and Business Market, increasing availability of high access speeds and improving in-home WiFi coverage - Full modernization of mobile network by enabling the latest innovative technologies - Moving to All-IP infrastructure > Lean operating model: acceleration of simplification and digitalization program. This will lead to improved time-to-market, better quality of service and a simplified and agile organization. Additionally, it will lead to a structural lower level of operational costs and swift response to new market developments. > Improve NPS and offer high quality of service to customers > Maintain focus on high-value customers in both Consumer and Business segment > Introduce new innovative products and services to meet changing customer needs > Launch targeted household approach and household-centric propositions > Strengthen distribution power with business partners, online channels and shops > Improve customer loyalty by optimizing customer journey and implementing advanced data analytics programs > Strategic partnerships and cooperation with OTT players > KPN Ventures to form partnerships with innovative companies.	**Likelihood** Medium-high **Impact** High **Trend** ↗ **Monitoring KPI**: > Market shares > ARPU
Fast changing market conditions: disruptive technologies or business models and failure to introduce new products and services	KPN's business model and financial performance could be affected by (disruptive) technologies, changing customer behavior and new players. KPN's response to new technologies (such as E-SIM, blockchain, artificial intelligence, fintech), changing customer behavior and market developments and its ability to successfully introduce new competitive products or services, are essential to KPN's performance and profitability in the long run. The introduction of new products and services such as new propositions may not be successful and/or timely. This could lead to lower profitability as well as lower market shares.	> Develop new services, business models and pricing models > Develop strategic partnerships with OTT players and network suppliers > Implement an agile organization, technology (such as applying open innovation models and standardized technology) and processes to enable swift response to new market developments. > Introduction of 'Field labs', Operator of the Future project ('Horizon Three') and 'Proof of Concept' to test new technologies with customers > KPN ventures: scout, invest in, and create cooperations with innovative technology companies to enhance innovation in key areas such as Internet of Things, Smart Home, Cyber Security, Cloud Computing, Data Services, Digital Healthcare, Mobile/Video (OTT) services and Networking Technology > Perform scenario analysis to timely identify (and act upon) disruptive technologies and changing customer preferences > Continue the exploration of how KPN can adequately respond to changes in the (telecommunications) market and value chain by implementing new business initiatives, in line with KPN's new strategy.	**Likelihood** Medium-high **Impact** High **Trend** ↗ **Monitoring KPI:** > Revenues new business > Revenues existing business (Mobile, Fixed, TV etc)

Category	Risk	Countermeasure	Evaluation
Operational and quality related incidents	KPN's services and technical infrastructure and IT may be vulnerable to damage, service interruptions, operational issues and loss/theft or manipulation of customer data. These incidents could be caused by failures in the network systems, power supplies, failures in supporting computer systems, disasters (fire, flooding) or by reduction of legacy systems. These incidents could have a negative impact on society, KPN's reputation and profitability and customer satisfaction.	> Implement the best converged smart infrastructure in the Netherlands by: - Accelerating fiber roll-out for Consumer and Business Market, increasing availability of high access speeds and improving in-home wifi coverage - Full modernization of mobile network by enabling the latest innovative technologies - Moving to All-IP infrastructure > Lean operating model: acceleration of simplification and digitalization program. This will lead to improved time-to-market, better quality of service and a simplified and agile organization. Additionally, it will lead to a structural lower level of operational costs and swift response to new market developments. > Monitor performance of technical infrastructure (e.g. traffic growth and utilization rate) and IT > Strengthen the IT and continue implementation of the KPN Security Policy > Back-up and recovery plans in case of emergencies including adequate external communication (e.g. "be alert" procedure and corporate crisis management teams) > For business continuity in the Netherlands: - internal continuity and disaster recovery programs - regional roaming in which a part of mobile voice traffic can be transferred to other operators in the event of calamities. > Insurance agreements to cover liability claims of customers or third parties in case of service interruptions.	**Likelihood** Low-Medium **Impact** Medium **Trend** → **Monitoring KPI:** > NPS > Weighted Downtime Reduction > Major incidents
	Strategic transformation: KPN may not make sufficient progress in realizing the necessary simplification and transformation actions, for example by phasing out legacy networks and systems, by simplifying our processes and services, by digitalizing our business, by postmerger integration of our acquisitions or by strengthening our capabilities and culture. These actions must lead to necessary cost reductions, increased agility (e.g. improved time-to-market of new innovative services) and higher quality of services (e.g. higher NPS and First Time Right). If KPN cannot realize simplification and transformation in time, we are not able to adequately respond to actions of our competitors and, consequently, could lead to lower revenues and profitability in future.	> Lean operating model: acceleration of simplification and digitalization program. This will lead to improved time-to-market, better quality of service and a simplified and agile organization. Additionally, it will lead to a structural lower level of operational costs. > Rationalization of networks: shutting down legacy networks, moving to a single core network and virtualization > Rationalisation of products and services, IT, datacenters and technical infrastructure > Increased use of standard (cloud) building blocks in networks > Focused innovation and govern innovations and simplification at executive level; strong planning of new innovation and simplification projects	**Likelihood** Medium **Impact** Medium **Trend** → **Monitoring KPI:** > OPEX reduction

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Category	Risk	Countermeasure	Evaluation
Operational and quality related incidents	KPN may fail to meet stakeholder expectations relating to energy, emissions and sustainability. This could lead to loss of customers, loss of profitability in the future and reputational damage.	> Embed sustainability in our corporate strategy, ambitions and targets > Continued dialog with KPN's main stakeholders regarding their expectations for energy, emissions and sustainability > Maintain KPN's climate-neutral performance (green energy) > Continued efforts on reducing energy usage and emissions for our own operations and in the supply chain > Implement circular operations and services to reduce our environmental footprint, e.g. by collecting customer equipment for reuse and recycling, increasing the longevity of our products and where possible switch to less virgin materials. > Continue KPN's CO_2e-reduction objectives as approved by the Science Based Targets Initiative (SBTI), which means they are in line with the climate goals of the Paris Agreement. > Measure energy savings by IT solutions for our customers > External communication program about KPN's activities on corporate social responsibility (e.g. Klassecontact) and on energy management (e.g. realization of CO2e neutral datacenters) and the benefits for KPN customers and Dutch society.	**Likelihood** Low **Impact** Low **Trend** → **Monitoring KPI:** > Energy consumption > Carbon emissions > Circularity (long-term goal close to 100% as of 2025) > Percentage of waste > Ranking in Dow Jones Sustainability Index and CDP or similar upcoming ratings
Information security threats	Threats to the confidentiality, integrity or availability of KPN's networks, systems, or data (including customer data) caused by cyber attacks or terrorism.	> Continued implementation of the regularly updated KPN Security Policy > Continued and reinforced strategic security programs such as Permanent Vulnerability Management, Safemail, Endpoint Protection, and DNS & Network Security. > Continue and strengthen Security Operations Center to improve security visibility and risk intelligence > Consolidate and maintain quality asset registration and configuration management database which enables rapid response to attacks > Continue HR strategy focused on attracting and retaining leading security experts > Educate and increase awareness of personnel for security and privacy > In case of emergencies or large incidents, adequate external communication (e.g. "security be alerts", corporate crisis management teams).	**Likelihood** High **Impact** High **Trend** ↗ **Monitoring KPI:** > PHOSI (Potential Harm Of Security Incident) > Average days to close incidents and vulnerabilities > # data leakages

Category	Risk	Countermeasure	Evaluation
Risks relating to regulatory and legislative matters	New regulatory decisions in the EU and the Netherlands could affect KPN's future operations and profitability, such as decisions regarding net neutrality, level playing field in access regulation and between telco and internet players, (national) security and spectrum auctions. KPN may face issues in relation to non-compliance with regulation, including –but not limited to– telecommunications and privacy regulations. These incidents can lead to fines or have a negative impact on KPN's reputation and relationship with regulators and/or supervisors. Although there is no evidence that electromagnetic radiation of (mobile) equipment or base stations pose any health risks, a change in this view could expose us to significant claims and litigations, a severe drop in our mobile business or high compliance costs of new laws and regulations (e.g. major changes in our mobile networks).	> Proactive stakeholder and reputation management including dialog with regulators and decision makers. > Quarterly report to Board of Management on status of new laws and regulations. > Strengthening the effectiveness of the compliance organization: - Centralized organization for compliance and risk management - Compliance training sessions for staff and management, for example e-learnings about the Company codes for all staff members of KPN in the Netherlands - Pro active internal compliance investigations - Surveys and culture improvement programs - Improving and maintaining a robust internal control framework dedicated to complying with specific regulations - Ringfencing wholesale within operations. > For Privacy: implementation program of EU General Data Protection Regulation (GDPR) requirements. > For security: good relations and exchange with relevant national security agencies. > Regarding electromagnetic radiation: - Monitor national and international scientific research on the effects of radiation on health. - Strict adherence to all national and international standards for radiation (e.g. KPN observes wider safety margins than required by national and international regulations).	**Likelihood** Medium **Impact** Medium **Trend** ↗ **Monitoring KPI:** > Fines > # compliance incidents reported to regulator
	Participation in spectrum auction in the Netherlands in 2020 (700, 1400 and 2100 Mhz): KPN has to acquire or to renew the required frequency blocks and may have to pay a high price for the required spectrum.	> Thorough preparation by experienced KPN team and external experts; extensive simulation of auctions > Investigate alternative combinations of spectrum and advanced techniques to meet customer demands > Prudent financial policies to secure adequate funding > Proactive stakeholder management and dialog with regulators and other governmental bodies.	**Likelihood** Medium **Impact** High **Trend** → **Monitoring KPI:** -

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Category	Risk	Countermeasure	Evaluation
Risks relating to regulatory and legislative matters	Tax risks: > Adverse decisions or interpretations of tax authorities on pending disputes or changes in tax treaties, tax laws, OECD guidelines, EU Directives and other rules could have a material adverse effect on KPN's net result and cash flow.	> Act in line with our company-wide tax strategy and tax policy > Continuous monitoring of internal control framework for key tax risk areas > Maintain good working relationships with tax authorities > Tax planning	**Likelihood** Medium-High **Impact** High **Trend** ↗ **Monitoring KPI**: > Effective tax rate
	> With regard to WBSO and Innovation Box benefits: KPN has a declining number of eligible hours for WBSO, due to stricter interpretation of legislation, lower qualifying Capex budgets for innovation and our new ('agile') way of working.		
	> If business results stay behind expectations, KPN's net DTA may have to be impaired, partly or in full.	> If (taxable) profits do not develop according to plan, timely action/tax planning is needed to avoid impairment (loss) of DTA.	
	> With regard to ongoing discussions with the tax authorities on VAT: The increase in revenues at Consumer as of August 2016 is partly caused by a positive effect resulting from a change in the VAT calculation methodology. This change is the consequence of the introduction of new mobile consumer propositions in August 2016. This has resulted in a lower remittance of VAT from August 2016 onwards of approximately EUR 3m per month. Although the view of KPN is not shared by the Dutch tax authorities, based on the current legislation, KPN is sufficiently confident of this position.	> Defending KPN's position through court procedure.	
Uncertainty about KPN's future business model to recover high investments	The telecom and IT market is characterized by increasing competition, accelerating changes in customer behavior, accelerating technological developments, increasing price pressure and shrinking markets. Due to these developments, high investments in our assets such as technical infrastructure (access and core networks), IT infrastructure, licenses and goodwill may not be recovered as KPN's business models to generate revenue and cash flow streams could change in future. Also, changes in assumptions such as profitability, network penetration, long-term growth and discount rate could negatively affect the value of cash generating units. These factors could lead to impairments of assets, licenses and goodwill.	> Strong Capex planning, supported by data-driven decision making process and based on RoCE and NPV analyses > Long term vision on our networks, to optimize and align future investments (both timing, size and technology) with our commercial portfolio, market developments and financial performance > Continuous monitoring of realization strategic business plans and performance, e.g. utilization and return on investments > Develop strategic partnerships and investigate options for network sharing > Implement a solid investment policy > Monitor profitability of the cash generating units and network penetration.	**Likelihood** Medium **Impact** Medium-High **Trend** ↗ **Monitoring KPI:** > RoCE > Capex as % of Revenues > Utilization of networks

Category	Risk	Countermeasure	Evaluation
Insufficient cash flows for future CAPEX investments	The telecommunications industry is characterized by rapid technological changes and innovations. To meet future customer needs and to stay ahead of our competitors, KPN must continuously invest in its infrastructure to upgrade, modernize and simplify our networks and supporting systems. If KPN cannot generate sufficient cash flows in future, we are not able to realize and finance the required investments. This could subsequently lead to higher churn of customers, declining market shares and to lower revenues and profitability in future.	> Continuous monitoring of realization strategic business plans and performance, e.g. organic growth of adjusted EBITDA and FCF, utilization and return on investments > Strong Capex planning, supported by data-driven decision making process and based on RoCE and NPV analyses > Develop strategic partnerships and investigate options for network sharing	**Likelihood** Medium **Impact** High **Trend** → **Monitoring KPI:** > Net cash flow from operating activities
Lack of new business initiatives to compensate declining existing business	KPN may not be able to develop sufficient new business initiatives and opportunities in the near future to compensate declining existing business, which may jeopardize KPN's profitability.	> Focused innovation initiatives, new business as well as strategic partnerships and cooperation with OTT players (open innovation model) to ensure KPN meets the changing customer needs and adapts to a dynamic market. > Introduction of 'Field labs', Operator of the Future project ('Horizon Three') and 'Proof of Concept' to test new technologies with customers > KPN Ventures to form partnerships with innovative companies.	**Likelihood** Medium-High **Impact** High **Trend** → **Monitoring KPI:** > Revenues new business > Market sizes (TV, LoRa, etc) > OIT IT and Telco
Financing KPN and volatile financial markets	KPN requires solid access to (debt) capital markets to finance its operations and refinance its outstanding debt. The pressure on KPN's financial framework may increase in the event of higher net debt levels and/or lower profitability. In that case, KPN might not be able to maintain its current credit ratings, which could negatively affect pricing and availability of financing resources.	KPN ensures solid access to debt capital markets by: > Commitment to an investment grade credit profile > Maintaining a strong liquidity position and prefunding debt redemptions > Monitoring and forecasting of metrics used by rating agencies > Maintaining discipline in allocating capital to investment opportunities and shareholder remuneration	**Likelihood** Low-Medium **Impact** High **Trend** → **Monitoring KPI:** > Credit rating > Net debt/EBITDA ratio > Liquidity forecast > Rating metrics (used in credit rating) > Dividend pay out ratio
	Uncertainty or changes in financial markets could negatively affect pricing and availability of KPN's funding sources.	> Cash flow forecasting to ensure sufficient liquidity headroom in both normal and stressed market circumstances > Maintaining a varied maturity profile, limiting the amount of debt maturing in any one calendar year > Financing upcoming debt maturities well ahead of their maturity > Maintaining sufficient liquidity reserves in the form of cash and / or committed credit facilities > Managing the mix of floating and fixed interest rates > Diversification in funding sources	**Likelihood** Medium **Impact** Medium **Trend** → **Monitoring KPI:** > Liquidity forecast > Redemption profile > Fixed/floating interest rate mix

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Category	Risk	Countermeasure	Evaluation
Dependence on suppliers and outsourcing / offshoring partners	KPN strongly depends on products and services of external suppliers. This dependency relates to adequate telecommunications equipment, software and IT services, and contractors' ability to build and roll-out telecommunications networks, as well as suppliers' ability to deliver technical support. This dependency could potentially lead to unbalanced supply-demand relationships and could lead to an inability to obtain the products and services at a competitive price and quality. Furthermore, we identify the risk of an inappropriate level of back-to-back contracting with regards to customer requirements on e.g. price and services in supplier agreements. Suppliers of KPN could breach relevant legislation such as data protection, security, privacy, IPR, human rights and/or environmental laws, which could negatively impact KPN's reputation.	> Establishing a strong and centralized demand and contract management organization that defines, enforces and monitors compliance of suppliers with terms of contracts and preparation of re-transition plans as fall back scenario > Simplification of the supplier landscape in line with KPN's strategy and cost focus > Follow a well-defined outsourcing process (toll gates, risk analyses etc) > Evaluation of outsourced activities on effectiveness and efficiency and (where applicable) preparation of a re-transition plan for insourcing > Include the possibility to terminate contracts based on non-performance and in that case migration of the activities to other suppliers > Include a right to audit clause in supplier contracts and the possibility to conduct regular audits > Monitor compliance of suppliers with the KPN Security Policy > Align customer contract requirements with supplier contract requirements (this alignment is part of the governance rules for outsourcing). > Sharing of the KPN's supplier Code of Conduct with all suppliers and request all medium and high risk suppliers to confirm compliance with this code. > For high-risk suppliers, performance of audit procedures to evaluate suppliers' compliance with international standards for human rights and environmental laws. Monitoring of timely follow-up on main audit findings. > Promote transparent pricing and way of doing business	**Likelihood** Medium **Impact** Medium **Trend** → **Monitoring KPI:** > Spend development: % spend at top 20 suppliers
Geopolitical developments	Geopolitical volatility, driven by rising international tensions, protectionism and security concerns, may impact our ability to do business in any part of the world. These concerns could lead to international bans and other sanctions on suppliers of hardware and software. Such sanctions could significantly impact business continuity of those suppliers and consequently could also harm KPN's availability and use of network equipment.	> Closely monitor latest global and political developments > Define fall back scenarios and policies if KPN can no longer acquire or use hardware and software from specific suppliers ('dual vendors') > During selection process specific attention for suppliers' risk profile	**Likelihood** High **Impact** High **Trend** → **Monitoring KPI:** N/A

Category	Risk	Countermeasure	Evaluation
Employment and diversity	KPN may not be able to attract and retain qualified and diverse staff members, as the war for talent increases rapidly. This could lead to insufficient competency in KPN's workforce. Also, employees or new candidates may have negative perceptions or uncertainties about KPN's future. If KPN does not meet the diversity goals and 'social return' requirements, this could impact KPN's future profitability (e.g. lower margins in business market for public sector), customer satisfaction and reputation. Restructurings could lead to less motivated personnel and/or key personnel leaving the Company and thus loss of knowledge and continuity.	> Improve skilled and talented workforce by: - Innovative and inspiring talent management programs to attract and maintain qualified staff (both from the Netherlands and abroad) - Discover new talent and make KPN more attractive for talented employees across the organization - Launch of a new labor market strategy to attract external staff with new capabilities, e.g. via the new 'www.fieldlab.nl' website - Promote technical education initiatives at high schools and universities to attract new and diverse workforce. > Clear communication to (key) staff about KPN's strategy and reasons for restructuring and value their opinions > Application of HR ideation campaigns to improve (company wide) restructuring execution > Sustainable employability and mobility: support employees in acquiring different skills, enabling them to find a new role inside or outside KPN > Maintain or improve employee engagement and attractiveness as employer > Continued implementation of KPN's policy to improve diversity in KPN's workforce > Implementation of a strategic plan on inclusion and social return	**Likelihood** Medium **Impact** Medium **Trend** ↗ **Monitoring KPI:** > Employee engagement > % women in cao 12 and higher > Ranking KPN in 'attractive employer' benchmarks.
Equity erosion	Group equity position may be negatively impacted by impairments of goodwill or other financial assets, lower profits or future dividend payments. If our equity position is too low, it could potentially limit our dividend payments to shareholders.	> Improve profitability of KPN Group > Monitoring (future) development of equity position and solvency ratio > Balanced shareholder remuneration in relation to profit and cash flow development	**Likelihood** Medium-High **Impact** Medium **Trend** → **Monitoring KPI:** > Group equity position > Free distributable reserves
Volatility in fair value of financial assets	KPN has a 4.4% stake in Telefónica Deutschland as a result of the sale of E-Plus in 2014. This stake is reported as an 'available for sale financial asset' and measured at fair value which is based on the share price of Telefónica Deutschland. The share price is volatile which could lead to lower future other comprehensive income and lower proceeds in future when (parts of) the stake are sold.	> Monitor share price of Telefónica Deutschland	**Likelihood** Medium **Impact** Medium-High **Trend** ↘ **Monitoring KPI:** > Shareprice Telefónica Deutschland
Adverse macro economic conditions	Although the current macro-economic perspectives are still positive for the coming years, the economic climate could deteriorate in the longer term, for example due to continued political uncertainties in Europe and the United States and increasing protectionism in global trade. If the macro-economic conditions worsen, this could lead to declining spending of customers in both the Consumer and Business market, and will consequently lead to lower future revenue growth, profitability and cashflows.	> Close monitoring of and swift response to new market developments and trends, for example by drafting contingency plans such as plans for cost-cutting initiatives and restructurings. > Lean operating model: acceleration of simplification and digitalization program. This will lead to improved time-to-market, better quality of service and a simplified and agile organization. Additionally, this will also lead to a structurally lower level of operational costs. > Seizing new opportunities by innovation and introduction of new services, to compensate for (accelerating) declining telecom and IT businesses.	**Likelihood** Low **Impact** Low-Medium **Trend** → **Monitoring KPI:** > Organic revenue growth

↗ risk is increasing (worsening) → risk is stable ↘ risk is decreasing (not as bad)

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APPENDIX 5: GLOSSARY

This glossary lists the key terms and concepts included in the Integrated Annual Report.

3G
Third generation mobile system, which is based on the UMTS universal standard.

4G
Fourth generation mobile system, a standard for wireless communication delivering high-speed data for mobile phones and data terminals.

5G
Fifth generation mobile system, a standard for wireless communication delivering high-speed data for mobile phones and data terminals, exceeding 4G speeds. 5G targets high data rates, reduced latency, energy saving, higher system capacity and massive device connectivity.

A

ACM (Authority for Consumers and Markets)
The ACM acts as a regulator in the Netherlands and is responsible for monitoring compliance with anti-trust rules.

ADR
American depository receipt.

Adjusted revenues and adjusted EBITDA
Adjusted revenues and adjusted EBITDA are derived from revenues (including other income) and EBITDA, respectively, and are adjusted for the impact of restructuring costs and incidentals. Incidentals are non-recurring transactions of EUR 5m or over unless significant for the specific reportable segment, which are not directly related to day-to-day operational activities

AI (artificial intelligence)
AI is the intelligence demonstrated by machines.

AR (augmented reality)
AR is an interactive experience of a real world environment where the objects that reside in the real world are 'augmented' by computer-generated perceptual information.

ARPU (average revenue per user)
ARPU is the sum of connection fees, monthly fixed subscription revenues, traffic revenues and gross service provider revenues less related discounts during a one-month period, divided by the average number of customers during that month. Gross service provider revenues represent revenues generated by third-party providers. KPN accounts for the net part as gross service provider revenues.

Asymmetric cyber security
Asymmetric cyber security refers to the offensive and defensive activities between two parties whose relative cyber capabilities (tools, resources, time) differ significantly, or whose strategy or tactics differ significantly. This is typically a conflict between a professional cyber security team in any public or private organization and an opponent that often has an unlawful status.

Average 4G download speed
The average download speed is based on the results of a speedtest that customers initiate on 4G with their smartphone. Robot measurements and customers that use other networks than KPN's are excluded from the results.

Average maximum download speed broadband fixed
The average maximum download speed that we report is the predicted technical speed, based on the best available technologies, per address. Figures are based on year-end data.

B

BCF (business control framework)
The BCF contains all corporate policies and guidelines that are mandatory for KPN segments and entities. It forms the cornerstone of the governance of the KPN Group.

Bit
A binary digit (bit) is the smallest unit of information. Internet speeds in this report are expressed in Megabits per second (Mbps).

B2B
Business-to-business, commercial transactions between businesses.

Broadband
Broadband refers to telecommunication that provides multiple channels of data over a single communications medium, typically using some form of frequency or wave division multiplexing.

C

Capital expenditure (capex)
Investments in property, plant and equipment and software.

CDP
The CDP (formerly the Carbon Disclosure Project) is a joint initiative of investors worldwide that questions and benchmarks listed companies on their approach to climate change.

Churn (calculated on an annual basis)
The number of customers no longer connected to an operator's network divided by the operator's customer base.

Circular economy
The circular economy is a generic term for an industrial economy that is producing no waste and pollution and in which material flows are of two types: biological nutrients, designed to re-enter the biosphere safely, and technical nutrients, which are designed to circulate at high quality in the production system without entering the biosphere.

Circular Manifesto
Document signed by KPN and supplier to support KPN's circular goal of close to 100% circular products. By signing, KPN and supplier agree to collaborate in contributing to a more circular economy.

CISO (Chief Information Security Office)
CISO is responsible within KPN for the security of the IT and TI architecture. The CISO REDteam, KPN's ethical hacking team and the CERT (Computer Emergency Response Team), which acts in case of a potential or actual cyber-attack, all form part of this office.

CISO labs
CISO labs develop new secure and cryptographic products. Together with other companies and universities we have started research projects in areas such as post-quantum cryptography.

Climate-neutral
For KPN, climate-neutral means operating with zero net CO_2e emissions.

Cloud services
Cloud services are standardized IT capability (services, software or infrastructure) delivered via internet technologies in a pay-per-use, self-service way.

C2B
Consumer-to-business, a business model in which consumers create value and businesses consume that value.

CO_2e
Carbon dioxide equivalent, is a standard unit for measuring carbon footprints. The idea is to express the impact of each different greenhouse gas in terms of the amount of CO_2 that would create the same amount of warming. That way, a carbon footprint consisting of different greenhouse gases can be expressed as a single number.

Conflict minerals
Conflict minerals are minerals mined under conditions of armed conflicts and human rights issues. These minerals are used in a variety of products, including consumer electronic devices such as mobile phones.

Critical supplier
See high risk supplier.

CSR (corporate social responsibility)
CSR, to KPN, is the integrated vision of entrepreneurship, in which the company takes responsibility and creates value in economic (profit), ecological (planet) and social (people) terms. We incorporate CSR into our business and by doing so, take our social responsibility and contribute to societal challenges.

Customer base
Customer base is the total number of subscribers.

D

DEFRA
UK Department for Environment, Food & Rural Affairs. DEFRA has published conversion factors to calculate greenhouse gas emissions.

DJSI (Dow Jones Sustainability Index)
The DJSI series is a collection of indices that track the performance of companies that are frontrunners in terms of CSR. The DJSI is based on an analysis of corporate economic, environmental and social performance. There are several sub-indices based on geographical parameters.

Appendices

DSL (digital subscriber line)
DSL is a technology for bringing high bandwidth information to homes and small businesses over copper PSTN lines. The widely-used term xDSL refers to different variations of DSL, such as ADSL, HDSL, VDSL and SDSL.

DVB-T2 (Digital Video Broadcasting - Second Generation Terrestrial)
The extension of the television standard DVB-T, devised for the broadcast transmission of digital terrestrial television.

E

EBITDA
Operating result before depreciation and impairments of property, plant and equipment and amortization and impairments of intangible assets.

EEIO (environmentally extended input output data)
EEIO models estimate energy use and/or GHG emissions resulting from the production and upstream supply chain activities of different sectors and products. The resulting EEIO emissions factors can be used to estimate cradle-to-gate GHG emissions for a given industry or product category. EEIO models are derived by allocating national GHG emissions to groups of finished products based on economic flows between industry sectors.

F

FTA
FTA refers to fixed terminating access.

FTE (full-time equivalent)
The equivalent of the number of employees with a full-time contract.

FttH (Fiber to the Home)
FttH is defined as an access network architecture in which the final part of the connection to the home also consists of optical fiber.

FttO (Fiber to the Office)
FttO is fiber connection for business customers to the offices.

G

GHG (Greenhouse Gas) Protocol
The GHG Protocol is a multi-stakeholder partnership of business, non-governmental organizations (NGOs), governments and others that develop internationally accepted GHG accounting and reporting standards for organizations.

GL (geolocation)
Geolocation is the identification or estimation of the real-world geographic location of an object, such as a radar source, mobile phone, or internet-connected computer terminal.

GP (general practitioner)
A general practitioner is a medical doctor who treats acute and chronic illnesses and provides preventive care and health education to patients.

Green electricity
Green electricity is electricity from renewable sources. KPN only uses wind energy and electricity from biomass that does not compete with food production.

Greenprint
Greenprint is a description that helps us to work towards the same goal: achieving the desired customer experience and in the end becoming the best service provider, based on the why, who, what and how of our existence.

GRI (Global Reporting Initiative)
The Global Reporting Initiative is an organization that publishes international standards for CSR reporting.

H

Hybrid cloud
Hybrid cloud is a cloud computing environment which uses a mix of on-premises, private cloud and third-party, public cloud services with orchestration between the two platforms. By allowing workloads to move between private and public clouds as computing needs and costs change, hybrid cloud gives businesses greater flexibility and more data deployment options.

High-risk supplier
Our procurement process includes an assessment of all new contracted suppliers, classifying them based on the potential social and environmental risk their operations, products and services represent. We assess this risk based on three

parameters: geographical areas, spend and potential environmental impact of a supplier's operations, products or services. High-risk suppliers are audited by independent external auditors once every two to four years.

I

IT
IT refers to information technology.

Industry-adjusted ranking
This ranking takes into account the impact of its industry's reputation on a company's score.

IoT (Internet of Things)
The Internet of Things connects objects such as garbage bins or cars via a chip with the internet. This offers many opportunities, such as Smart City solutions.

IPTV
IPTV is a system through which television services are delivered using the internet protocol suite over a packet-switched network such as the internet. iTV is KPN's IPTV offering in the Netherlands.

ISO (International Organization for Standardization)
This organization is responsible for international management standards such as ISO 14001, ISO 140064-1, ISO 27001 and ISO 22301 (mentioned in this report).

iTV
iTV stands for interactive TV. With iTV, the customer can easily choose when, where and which programs to watch.

J

JAC (Joint Audit Cooperation)
The JAC is a cooperation of 13 European telecommunication operators (including KPN) focusing on the social, ethical, and environmental conditions across their supply chains.

K

KPN Mooiste Contact Fonds
This KPN foundation supports societal initiatives aimed at stimulating social contact, by combining people and technological resources to best advantage.

L

LGBTQI+
Lesbians, gays, bisexuals, transgenders, queers, intersexuals and people with other sexual and/or gender identity. KPN Pride is an inclusive community for LGBTQI+, and all colleagues (including heterosexuals) who are interested in LGBTQI+ subjects related to the KPN workfloor.

LoRa (Long Range)
Network architecture to connect millions of low-energy and low-data devices to the internet in a cost-effective way. This opens up countless application possibilities for KPN's Internet of Things (IoT).

LTE (Long-Term Evolution)
LTE, commonly marketed as 4G LTE, is a standard for wireless communication of high-speed data for mobile phones and data terminals.

M

M2M (machine-to-machine)
Direct communication between devices using any communications channel, including wired and wireless

Market share
Market share is the percentage or proportion of the total available market that is being serviced by KPN. These figures are based on externally available market data, which may not be completely accurate, and may partially be based on estimates.

Mbps (Megabits per second)
Mbps is a unit of data transfer rate equal to one million bits per second. The bandwidths of broadband networks are often indicated in Mbps.

MHz (megahertz)
MHz is one million hertz (a unit of frequency).

MTA
MTA refers to mobile terminating access.

Multi-play
A proposition combining more than one product and/or type of service is considered a multi-play proposition. Triple-play and quad-play propositions are types of multi-play propositions.

› Appendices

MVNO (mobile virtual network operator)
A mobile operator that does not have its own spectrum or its own network infrastructure. Instead, MVNOs have business arrangements with 'traditional' mobile operators to buy minutes of use to sell to their own customers.

Myopia
Also known as nearsightedness, a refractive defect of the eyes.

N

NPS (Net Promoter Score)
NPS is a tool for measuring customer loyalty, based on whether customers would recommend KPN to someone else.

Normalized EBITDA
Normalized EBITDA is defined as a 12-month rolling total EBITDA excluding restructuring costs, incidentals and major changes in the composition of the Group (acquisitions and disposals).

O

OTT (over-the-top)
In broadcasting, over-the-top content (OTT) refers to the delivery of audio, video, and other media over the internet for which no subscription to a traditional cable or satellite operator is required. A famous example is WhatsApp, which is replacing text messaging.

P

PUE (power usage effectiveness)
An international standard for the calculation of energy efficiency of data centers, which compares the total data center electricity consumption with the electricity consumption of equipment used for customer purposes. In the calculation, data centers with an occupation rate less than 25% are not taken into account.

R

RepTrak
RepTrak, developed by the Reputation Institute, is a method to calculate a reputation score of companies. KPN's reputation is based on three out of twelve RepTrak attributes that are kept confidential and are stable over the years.

Roaming
Transfer of mobile traffic from one network to another, referring to the exchange of international mobile traffic.

S

Scope 1
Direct greenhouse gas emissions occurring from sources that are owned or controlled by an organization.

Scope 2
Indirect greenhouse gas emissions from the generation of purchased electricity, heating or cooling consumed by an organization.

Scope 3
Other direct greenhouse gas emissions as a consequence of the activities of the company, but occurring from sources not owned or controlled by an organization.

SDSL (Symmetric Digital Subscriber Line)
A Symmetric Digital Subscriber Line is a digital subscriber line (DSL) that transmits digital data over the copper wires of the telephone network.

Service revenues
Service revenues are defined as the aggregate of connection fees, monthly subscription fees and traffic fees. The term service revenues refers to wireless service revenues.

SIM card (subscriber identity module card)
A chip card inserted into a mobile phone which contains information such as telephone numbers and memory for storing a directory.

#SMARTer2030
GeSI's SMARTer2030 report demonstrates how ICT initiatives can improve the quality of human life globally by 2030. In 2015, the #SMARTer2030 report has been launched with the aim to extend our horizon to 2030 and to look at ICT-enabled sustainability from a holistic point of view. The translation of the #SMARTer2030 research into opportunities for KPN and the Netherlands followed in 2016.

SME
SME refers to small and medium enterprises.

SOC (Security Operations Center)
The SOC monitors the high-risk systems of KPN in order to act quickly in case of security risks or incidents.

SoHo
SoHo refers to Small Office/Home Office companies.

Stakeholder
Stakeholders are the people or organizations with an interest in the company, such as customers, employees, shareholders, suppliers, governments and media.

Subscriber
A subscriber is defined as an end-user with a connection to the mobile or fixed networks and/or service platforms of KPN.

Sustainable Development Goals (SDGs)
On 25 September 2015, countries within the United Nations adopted 17 goals to end poverty, protect the planet, and ensure prosperity for all as part of a new sustainable development agenda. Each goal has specific targets to be achieved in 2030. Also known as Global Goals.

T

Tier standards (I to IV)
Telecommunications Infrastructure Standard for data centers. Tier levels describe the availability of data at a location. The higher the tier, the greater the availability. Tier IV is the highest level and entails independent dual-powered cooling and expected data availability of 99.995% or higher.

Total data traffic
The data demand peak for main traffic streams is based on continuous five minute timeframe measurements. These streams consist of KPN iTV, Netflix, Google and other internet traffic.

Transparency Benchmark
The Transparency Benchmark is a yearly benchmark which investigates the content and quality of the sustainability reports of Dutch companies.

Triple-play
Term used to describe the provision of telephony, internet and television services to a household by a single provider.

TSR (total shareholder return)
A measure of the performance of different companies' stocks and shares over time. TSR is calculated from the growth in capital from purchasing a share in the company, assuming that the dividends are reinvested each time they are paid. This growth is expressed as a percentage as the compound annual growth rate.

V

VBDO (Vereniging van Beleggers voor Duurzame Ontwikkeling)
The Dutch Association of Investors for Sustainable Development (VBDO) works to create a sustainable capital market, a market that considers not only financial criteria but also non-financial, social and environmental criteria. VBDO's vision is to increase sustainability awareness among companies and investors.

Virgin materials
Materials sourced directly from nature in their raw form, such as wood or metal ores. Manufacturing products using virgin materials uses much more energy and depletes more natural resources, as opposed to producing goods using recycled materials.

Virtualization
The separation of the physical hardware and the functions to run the network in software.

VoLTE (Voice over LTE)
VoLTE allows the voice service to be delivered as data flows within the LTE data bearer.

W

Weighted downtime reduction
The weighted downtime concerns the average monthly time period in which a combination of KPN platforms and systems is inaccessible to clients due to major incidents, weighted by the impact of this downtime.

WBSO (Wet bevordering speur- en ontwikkelingswerk)
The WBSO is a subsidy that is intended for every entrepreneur in the Netherlands who conducts research into technological innovations.

Notes

› Notes

Colophon

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Forward-looking statements and management estimates

Certain of the statements we have made in this Integrated Annual Report are 'forward-looking statements'. These statements are based on our beliefs and assumptions and on information currently available to us. They include information concerning our possible or assumed future results of operations, business strategies, financing plans, competitive position, potential growth opportunities, potential operating performance or expense improvements and the effects of future legislation or regulation.

Forward-looking statements include all statements that are not historical facts and can be identified by the use of forward-looking terminology such as the words 'believe', 'expect', 'plan', 'intend', 'anticipate', 'estimate', 'predict', 'potential', 'continue', 'may', 'will', 'should', 'could', 'shall', or the negative of these terms or similar expressions.

Forward-looking statements involve risks, uncertainties and assumptions. Actual results may differ materially from those expressed in these forward-looking statements. No undue reliance should be put on any forward-looking statements. Unless required by applicable law or applicable rules of the stock exchange on which our securities are listed, we have neither the intention nor an obligation to update forward-looking statements after distribution of this Integrated Annual Report. All market share information in this financial report is based on management estimates based on externally available information, unless indicated otherwise.

The terms 'we', 'our' and 'us' are used to describe the company.

We always aim to further improve our CSR activities and reporting. Therefore, we highly appreciate your feedback, questions and comments on our Integrated Annual Report and CSR activities. Please contact mvo@kpn.com.

KPN aims to deliver organic sustainable growth

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