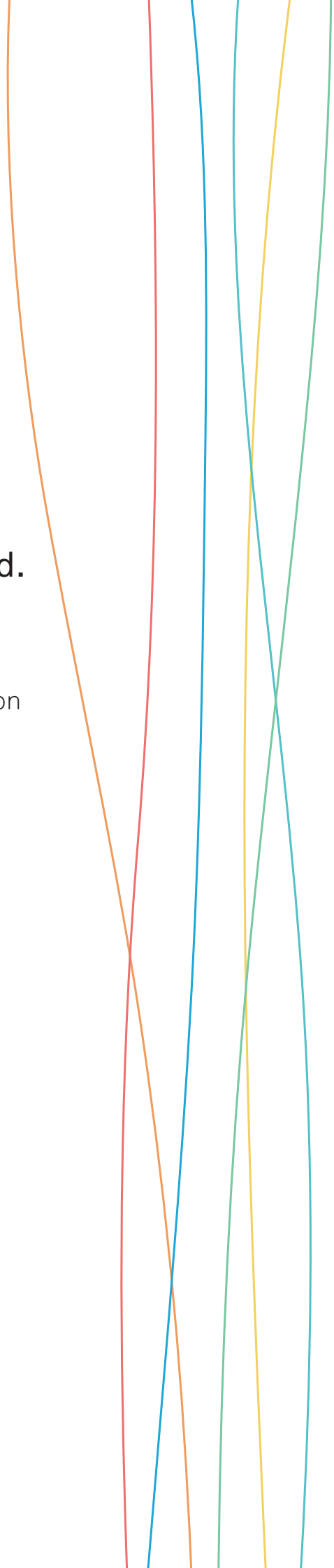




# Huawei Investment & Holding Co., Ltd. 2017 Annual Report

Bring digital to every person, home and organization  
for a fully connected, intelligent world



## Who is Huawei?

Founded in 1987, Huawei is a leading global information and communications technology (ICT) solutions provider. We provide telecom carriers, enterprises, and consumers with competitive ICT solutions, products, and services.

We work in more than 170 countries and regions, serving over one-third of the world's population. Among our 180,000 employees, there are more than 160 different nationalities with a localization rate of almost 70%.

## What do we offer the world?

**We create value for our customers.** Together with telecom carriers, Huawei has built more than 1,500 networks, helping connect over one-third of the world's population. Together with our partners, we serve government and public utilities, as well as enterprise customers in sectors like finance, energy, transportation, and manufacturing. We help organizations and industries go digital by providing them with open, flexible, and secure ICT infrastructure platforms that promote greater synergy between devices, networks, and the cloud. We also provide enterprise customers with stable, reliable, and secure cloud services that evolve with their needs. With our smartphones and other smart devices, we are improving people's digital experience in work, life, and entertainment.

**We promote industry development.** Huawei advocates openness, collaboration, and shared success. Through joint innovation with our customers, partners, and peers, we are expanding the value of information and communications technology in service of a more robust and symbiotic industry ecosystem. Huawei is an active member of more than 360 standards organizations, industry alliances, and open source communities, where we work together on mainstream standards and lay the foundation for shared success. We have also joined forces with industry partners to innovate in emerging domains like cloud computing, software-defined networking (SDN), network functions virtualization (NFV), and 5G. Together, we are driving the industry forward.

**We drive economic growth.** Huawei generates tax revenues, provides local employment opportunities, and stimulates the development of the ICT value chain in every country where we operate. Furthermore, we deliver innovative ICT solutions that drive the digital transformation of all industries, fostering economic growth and greatly improving quality of life.

**We enable sustainable development.** As a responsible corporate citizen, Huawei has made a significant contribution to bridging the digital divide, leaving our mark in places as remote as Mount Everest and the Arctic Circle. We are keenly aware of the importance of telecommunications in emergency response situations. Having faced Ebola-affected areas in West Africa, nuclear contamination after the Japanese tsunami, and the massive earthquake that struck Sichuan, China, we hold fast to restore communications networks and ensure the reliable operation of essential telecoms equipment in disaster zones. To further promote sustainability, we prioritize low-carbon and environmental protection throughout all planning, design, R&D, manufacturing, delivery, and O&M activities, providing our customers with top-of-the-line products and solutions that save energy and reduce



environmental impact. As for people, we help develop the next generation of local ICT talent with our global Seeds for the Future program, where we work with young talent across 108 countries and regions to transfer knowledge, cultivate understanding and greater interest in the ICT industry, and encourage broader involvement in the digital community.

**We provide dedicated people with a strong growth platform.** Inspiring dedication is one of Huawei's core values, and it manifests itself in many ways. We assess employees and select managers based on their contribution, as well as the extent of their responsibilities. We provide our teams with a global development platform, giving young team members the opportunity to shoulder greater responsibilities and accelerate their careers. In this way, we have enabled over 100,000 Huawei people to yield ample returns and gain memorable life experience.

## What do we stand for?

For the past 30 years we have maintained an unwavering focus, rejecting shortcuts and easy opportunities that don't align with our core business. With a practical approach to everything we do, we concentrate our efforts and invest patiently to drive technological breakthroughs. This strategic focus is a reflection of our core values: staying customer-centric, inspiring dedication, persevering, and growing by reflection.

The digital era has been generous. We will make the most of this historic opportunity, and boldly forge ahead to build a fully connected, intelligent world.

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# Message from the Rotating and Acting CEO



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**As we embark on a new journey of growth and transformation, our vision and mission are clear: We will bring digital to every person, home and organization to help build this fully connected, intelligent world.**

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## **Our new journey: Building a fully connected, intelligent world**

Huawei is entering a new stage of development. Through ongoing innovation in technology and business, we have what it takes to create greater value for our customers – and for society as a whole.

This new stage of development is the product of a rapidly evolving world where technology changes in the blink of an eye. From billions of devices for human use to ubiquitous industrial sensors, when all things have the ability to sense and perceive, the boundaries between the physical and digital worlds will dissolve, producing an endless surge of data.

This shift from connecting people to connecting all things will give rise to new possibilities in large-scale data analysis and application. With cloud data centers spanning the earth and pervasive edge computing, ambient intelligence will turn data into new business opportunities. It will drive innovation in applications across all industries, helping them unleash their full potential.

Emerging technology is propelling the world forward, driving nonstop change in consumer preferences and business needs. New experiences and business models are popping up all around us, and with them, a whirlwind of opportunities and challenges.

At the heart of this change is the evolution of information and communications technology, which has grown from a simple vertical industry to a broad enabling platform that serves society as a whole. ICT is the primary force behind the digital and intelligent transformation of industry, and it's the catalyst of a new industrial revolution. It will eventually open the doors to a fully connected, intelligent world.

Huawei will lead the way across this threshold, not just embracing change, but innovating ahead of it. We will help the world go digital. We will help it go intelligent. And we will seize new opportunities along the way.

As we embark on a new journey of growth and transformation, our vision and mission are clear: We will bring digital to every person, home and organization to help build this fully connected, intelligent world.

To do this, we will create greater value for our customers, build better platforms for our partners, provide our employees with more opportunities, and promote the balanced growth of communities the world over. We will work hard to ensure that the fruits of innovation are readily available to all people, all homes, and all organizations. We will do our part to promote economic growth that is not only sustainable, but inclusive, and challenge ourselves to generate more substantial value for society.

## Our focus: ICT infrastructure and intelligent devices

Huawei is doubling down on its investments in technology, but we are doing so with focus. We are clear about what we do and what we don't do, which gives us the space we need to build our strengths in areas that hold strategic value for our customers. We will continue to lead the development of core technology and consolidate our core strengths. We are digitizing our own business; in doing so,

we can more effectively enable the digital transformation of all industries.

**Building ubiquitous connectivity.** In addition to connecting people, our digitization efforts are shifting towards the industrial IoT. Through advancements in technology like 5G, we are helping telecom networks connect more people, more homes, and more organizations. Ultimately, we aim to position telecom networks as the basic infrastructure of the digital world.

On the standards front, we are working to drive consensus between the ICT industry and other verticals to bring the benefits of general-purpose connection technology to more domains. We aim to replace proprietary protocols and technology for local area networks with open frameworks and standards that can be shared between all industries. This will enable greater synergy between different sectors and serve as the basis for a new digital industry ecosystem.

**Creating a better experience with broadband.** Video is playing an entirely new role in the digital transformation process. As the richest means of sharing data, its applications know no bounds.

A thriving video industry is essential to push broadband requirements to a new level, and create more room for growth. We believe that video is the key to growing and monetizing telecom networks, and we are helping our carrier customers succeed in this market by providing the network infrastructure they need to deliver the best possible video experience.

In the industry video market, we are developing video-based production systems for a key group of domains, such as public safety, where video is the primary vehicle of digital transformation. Video is growing to become a core means of perceiving and collecting industrial data. We are helping different industries connect their video systems to networks, and providing intelligent analysis in the cloud

to help them transform their core business processes, share data, and open up their business channels.

#### Developing open, trusted cloud platforms.

Cloud services are rapidly becoming a basic business model for all companies around the world. Huawei is no exception. We provide cloud services, and we help customers and partners develop and monetize their own.

On one end of the spectrum, we are leveraging a strong portfolio of products and solutions to help carriers and other companies evolve their networks to All-Cloud ICT infrastructure. On the other end, we've condensed three decades of technological expertise into a solid set of public cloud services for companies of all shapes and sizes. From start to finish, we hold true to three basic principles: We won't monetize customer data, we won't develop industry applications, and we won't make equity investments in application partners.

We're giving it all we've got to become the preferred partner for enterprises looking to migrate their data and applications to the cloud. At the same time, we're forming cloud alliances with carriers around the world to help enterprise customers deploy their own services on a global scale.

**Growing an experience-centric device ecosystem.** We will soon see an explosion in device innovation, where intelligent devices will become more tightly intertwined with our everyday lives. In Huawei's device business, everything we do revolves around consumer needs and expectations. We center our efforts on product innovation, mobile services, channel transformation, and customer service to improve experience across the entire customer journey.

Meanwhile, we're actively experimenting in domains like artificial intelligence, virtual reality, and augmented reality, and consolidating our strengths in the synergy

between chips, devices, and the cloud. Ultimately, we aim to deliver an intelligent, immersive experience across all user scenarios and, in doing so, stand out as an iconic global tech brand.

As our consumer base grows in diversity, we need to adopt a more open approach to innovation. With mobile phones at the center of our portfolio, we are working to cultivate a broader ecosystem that delivers an intelligent experience across all scenarios, including smart homes, health and fitness, tablets, and PCs. We will strengthen our platforms to provide better support for upper-layer applications, and inspire a greater number of developers and partners to deliver a user experience that is both intuitive and personal.

**Enabling ambient intelligence.** Artificial intelligence is a basic enabling technology that can be used in nearly every aspect of every organization. At Huawei, our approach to AI is two-fold. Internally, we use AI technology in our IT, finance, and supply chain departments to improve the efficiency and quality of our operations. Externally, we integrate AI with the products and solutions that will benefit the most. This includes intelligent network O&M, safe cities, intelligent cloud services for enterprises, and intelligent chips for devices. We use artificial intelligence to create *practical value* for our customers, which is what makes Huawei's solutions stand apart from all the rest.

## 2017: Creating value, driving growth

In 2017, the global economy ended on a high note. Despite deep structural changes, the ICT industry continues to plow firmly ahead. As always, we have maintained strategic focus while improving operations and creating value for our customers. Our sales revenue rounded off the year at 603.62 billion yuan (US\$92.55 billion based on the year-end exchange rate), up 15.7% year-on-year.

**Our carrier business**, despite fluctuations in investment cycles, has remained healthy and robust. As markets waver, we are more committed than ever to exploring better solutions with our customers in their shift away from network construction models that are investment-driven, to models driven by value.

While addressing the practical challenges that carriers face today, we are also helping them prime their businesses for growth in the future. At present, we are helping carriers tap into trillions of dollars' worth of existing network assets by providing innovative solutions for premium home broadband, wireless sites for all scenarios, and mobile money.

In the meantime, we are ramping up pre-commercial testing for 5G, and building All-Cloud networks and digital O&M systems with data centers at their core. The goal is to help carriers deliver a superior experience in video, IoT, and cloud communications for all subscribers, including individuals, households, and enterprises. This is the foundation of new growth in the telecom industry.

**Our enterprise business** is accelerating the digital transformation of companies and organizations around the globe. We continue to enhance our portfolio in domains like cloud, big data, campus networks, data centers, and IoT. In the past year, these solutions have seen wide application in smart city and safe city projects, as well as in the finance, energy, transportation, and manufacturing sectors.

With full-stack solutions across devices, networks, and the cloud, we help our enterprise customers with the top-level design of their ICT infrastructure. In addition to providing platforms, we also stress the importance of ecosystem support. We are actively working with partners to flesh out the ecosystem based on our customers' unique digital

transformation needs. At present, 197 companies in the Fortune Global 500 – 45 of which are in the Fortune 100 – have chosen Huawei as their digital transformation partner.

**Our consumer business** continues to focus on consumer needs, developing high-tech products that deliver a premium user experience. Customer loyalty continued to hike last year as we made new breakthroughs on our quest to become an iconic global tech brand. In 2017, we shipped a total of 153 million smartphones, securing more than 10% of the global market share. We are firmly situation among the top three phone makers in the world, and we remain the market leader in China.

In 2017 we released the HUAWEI Mate 10 – the first smartphone with an embedded AI chipset. With this groundbreaking device, we have unleashed the power of artificial intelligence to bring our consumers a smartphone that's truly smart.

**Our new cloud business** is working together with partners to provide customers with stable, reliable, secure, and trustworthy cloud services that evolve with their needs. At the end of 2017, our cloud service portfolio consisted of 99 services across 14 major categories. We have deployed over 50 solutions for manufacturing, healthcare, e-commerce, connected vehicles, high-performance computing, IoT, and SAP applications.

Since the formation of the Cloud BU, resource utilization tripled, as did our user base. In 2017, after announcing plans to collaborate on public cloud offerings, we have forged over 2,000 strategic partnerships around the world.

## 2018: Strategic focus, sustainable growth

As we look to 2018, emerging technologies like IoT, cloud computing, artificial

intelligence, and 5G will soon see large-scale commercial application. Throughout this process, Huawei will stay at the forefront of technological innovation and business transformation. We will strengthen innovation in technology architecture, and double down on business model innovation to create new opportunities.

We will pay special attention to the practical challenges that our customers face as they go digital. Helping them overcome these challenges and achieve business success will remain the primary focus of value creation at Huawei.

In 2018, we will undertake the following initiatives in business development, management improvement, organizational transformation, and ecosystem development:

**Focus on ICT infrastructure and intelligent devices, and keep investing.** In our carrier business, we will work more closely with our customers than ever before. We want to have a more in-depth understanding of their challenges to help them capitalize on new business opportunities.

In our enterprise business, we will keep building our capabilities and reinforcing our foundations to make the most of Huawei's unique strengths. We will focus on better meeting customer demand for connectivity and cloud, and securing a solid share of opportunities in the digital transformation market.

In our consumer business, we will continue to fortify our core strengths. We will strengthen our products, brand, and channels, and continue building out the ecosystem. We will increase investments in key countries and rise more quickly in high-end markets.

In our public cloud business, we will continue investing as planned. We will concentrate on improving user experience,

honing the competitive edge of our products, and leveraging our regional strengths to help enterprises join the cloud. Scaling out remains a priority.

#### **Simplify management and drive efficiency.**

To adapt to the needs of an increasingly diverse portfolio, we will gradually implement an organizational model that gives every business unit more control over its own operations. Each unit will have a clear set of responsibilities and more effective oversight. They will still answer to headquarters, while also receiving HQ support in the form of platform-based services. This will allow our different businesses to grow more rapidly based on their own set of rules.

To start with, we will focus on optimizing the management systems of our mature businesses. By simplifying processes and process management, we aim to improve customer experience and increase operating efficiency. We will delegate more decision-making authority to frontline teams and transition into a function-based operating model. In this model, all HQ functions will be integrated into a comprehensive service platform, where services can be bought and sold according to market rules.

For new areas of business, we will adapt to their own set of confines and challenges, experimenting as needed to lighten our teams' loads and give them room to flourish. We would like to see our teams open their minds and learn from more advanced management practices in the industry. Combined with the results of Huawei's own exploration, these practices will help us refresh our management systems across elements like operations, talent development, and incentivization in a way that fuels more rapid growth.

Huawei has decades of experience and expertise that we are packaging as internal services. With these support services at their backs, marching under the collective



banner of customer centricity, business units across the company will be able to create more value for their customers and burst forth with unbridled growth.

**Inspire passion and grow our capabilities.**

We will continue to select people with successful field experience for management positions, prioritizing those with a sense of mission and responsibility – decisive people with strategic insight. We will elevate those with complete command over the playing field, those with a fighting spirit, and those who are willing to make sacrifices for the good of their teams.

We will further adopt an open, forward-thinking, and diverse approach to talent management. We will open up the organization to outside talent, and explore ways to unite the world's most outstanding minds under a common purpose. Internally, we will continue to fast-track the promotion of strong performers and give them more growth opportunities.

In 2018, we will establish a talent structure comprised of field commanders, experts, and professional staff, with targeted management approaches for different groups of talent within the company. We want to cultivate a collaborative win-win platform where everyone can maximize contribution in their prime, in the roles that suit them most, and receive the greatest possible rewards in return.

**Build a favorable industry and business ecosystem.** Huawei abides by the laws and regulations of every country where we

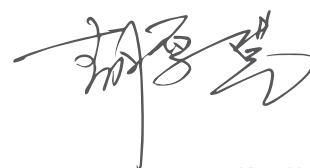
operate. We will continue doing our part as a responsible corporate citizen, building and defending our reputation along the way.

Moving forward, we will increase local investment based on our global capability roadmap. We will build out the industry ecosystem, and work more closely with local research institutions, universities, and our partners to establish a system of value creation and sharing across the entire value chain. In the meantime, we will keep plowing ahead, working with countries around the world to develop their ICT infrastructure, help local companies go digital, and drive economic growth.

A new day of hope and vitality is here. I trust that, years from now when we look back at this time, we will remember how we fought together to rise above the surging tides around us, and retain that sense of excitement, elation, and wonder.

For the past 30 years, we have maintained an intense focus, persevering through hardship and setbacks to break through the fundamental limits of technology. We've accomplished so much, and now we find ourselves at the start of a new and epic journey.

We will keep moving forward. In the next 30 years, we will do better, go farther. I would like to thank our customers and partners for your ongoing trust and support. Let's keep up the good fight, and work closely to build a fully connected, intelligent world.



**Ken Hu**

Rotating and Acting CEO

# Business Highlights in 2017

## Carrier business: Moving from the investment-driven to value-driven network construction model

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- Internet of Things (IoT): We continued to advance our IoT strategy. Our NB-IoT technology has become increasingly mature, with over 500,000 base stations deployed around the world and more than 10 million commercial connections. We worked with over 1,000 ecosystem partners to build the ecosystem, ushering in a golden age for IoT development.
- All-Cloud: We continued to advance our All-Cloud strategy. Huawei has signed over 350 NFV and 380 SDN commercial contracts around the world and deployed more than 30 CloudAIR commercial networks with wireless air interfaces. These actions are leading efforts to make All-Cloud networks a reality.
- 5G: We conducted 5G pre-commercial tests with over 30 leading carriers in more than 10 cities around the world. The performance of our networks far exceeded the requirements set by the International Telecommunication Union (ITU).

## Enterprise business: Enabling digital transformation across all industries

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- We continued to enhance product and solution innovations in cloud, big data, campus networks, data centers, IoT, and other domains. We also worked to promote the extensive application of our innovative products and solutions in smart city and safe city projects, as well as in the finance, energy, transportation, manufacturing, and other sectors.
- We worked to build open, flexible, and secure ICT infrastructure platforms that promote greater synergy between devices, networks, and the cloud. These are the platforms for customer and partner platforms. We are also determined to build symbiotic relationships with our ecosystem partners founded on shared success, and aim to cultivate a fertile environment in which a robust ecosystem will grow and sustainable development is possible.
- Currently, 197 Fortune Global 500 companies – 45 of which are Fortune 100 companies – have chosen Huawei as their partner for digital transformation.

## Consumer business: Building a world-class smart device brand

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- A synergy was created between our Huawei and Honor brands and both saw a steady rise in consumer loyalty, leading to rapid growth in the market. In 2017, Huawei shipped a total of 153 million smartphones (including Honor phones), securing more than 10% of the global market share. We are firmly positioned among the top three phone makers in the world and remain the market leader in China.
- We released the HUAWEI Mate 10 – the first smartphone with an embedded artificial intelligence (AI) chipset. With this groundbreaking device, we have unleashed the power of AI to bring our consumers a smartphone that's truly smart.
- Our global brand awareness increased from 81% in 2016 to 86% in 2017. The number of consumers considering a Huawei device in non-Chinese markets saw a year-on-year increase of 100%, which put Huawei among the top three global vendors in this category for the first time.

## Huawei Cloud: Building open, trustworthy cloud platforms

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- In 2017, Huawei set up a Cloud Business Unit (BU). At the end of 2017, Huawei's cloud service portfolio consisted of 99 services across 14 major categories. In addition, we have launched over 50 solutions for manufacturing, healthcare, e-commerce, connected vehicle, SAP, HPC, and IoT applications.
- We officially launched the Enterprise Intelligence (EI) platform. This platform combines Huawei's years of AI expertise and best practices in AI with enterprise application scenarios to deliver a one-stop AI platform as services to our enterprise customers.
- We continued to build an open, collaborative cloud ecosystem that will thrive on shared success. The total number of our cloud service partners has exceeded 2,000, including four partners with which we have developed a symbiotic relationship.

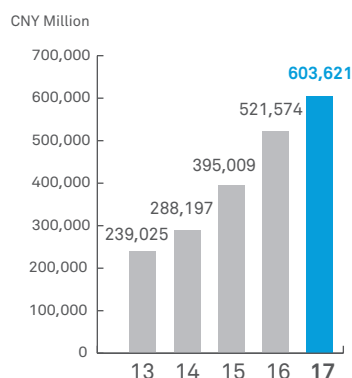
# Five-Year Financial Highlights

	2017		2016	2015	2014	2013
	USD Million*	(CNY Million)		(CNY Million)		
Revenue	92,549	603,621	521,574	395,009	288,197	239,025
Operating profit	8,645	56,384	47,515	45,786	34,205	29,128
Operating margin	9.3%	9.3%	9.1%	11.6%	11.9%	12.2%
Net profit	7,276	47,455	37,052	36,910	27,866	21,003
Cash flow from operating activities	14,770	96,336	49,218	52,300	41,755	22,554
Cash and short-term investments	30,656	199,943	145,653	125,208	106,036	81,944
Working capital	21,093	137,576	116,231	89,019	78,566	75,180
Total assets	77,462	505,225	443,634	372,155	309,773	244,091
Total borrowings	6,121	39,925	44,799	28,986	28,108	23,033
Owner's equity	26,926	175,616	140,133	119,069	99,985	86,266
Liability ratio	65.2%	65.2%	68.4%	68.0%	67.7%	64.7%

\* Note: Converted into United States dollars ("USD") using the closing rate at the end of 2017 of USD1.00 = CNY6.5222.

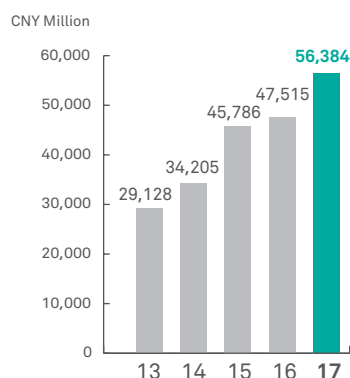
## Revenue

CAGR: 26%



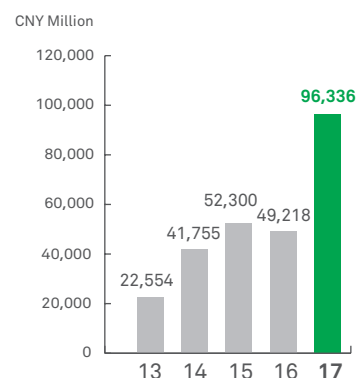
## Operating profit

CAGR: 18%



## Cash flow from operating activities

CAGR: 44%



# Message from the Chairs



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**We will stay customer-centric and focus on ICT infrastructure and intelligent devices. We aim to promote industry development through technological innovation and by meeting the needs of our customers. Together with our customers and partners, we will keep exploring, innovating, and working our way to an intelligent world.**

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Over the past three decades, we have worked with our customers and industry partners to help families stay in touch, to reunite long-lost friends, and to connect people around the world. We have achieved a lot. By working together to connect the majority of people on the planet with information and communications technology, we have effectively removed time and space as barriers to sharing and human contact. Looking ahead, we will continue to expand the breadth of connectivity between people, and between things.

Over the next two to three decades, we will enter an intelligent world where all things can sense, all things are connected, and all things are intelligent. Huawei is committed to bringing digital to every person, home and organization to help build this fully connected, intelligent world. We will stay customer-centric and focus on ICT infrastructure and intelligent devices.

We aim to promote industry development through technological innovation and by meeting the needs of our customers. Together with our customers and partners, we will keep exploring, innovating, and working our way to an intelligent world.

## Driving progress in the digital economy

Huawei is actively exploring ways to enable digital transformation and drive the growth of digital economy in countries around the world. Throughout this process, we have discovered a distinct spillover effect, in which the broader economic impact of ICT investment far exceeds direct returns for investors.

There are three types of spillover: spillover between different departments within an organization, spillover between competing enterprises in the industry, and spillover between upstream and downstream

industries across the value chain. This spillover is instrumental to national economic growth. In 2017, Huawei jointly released a *Digital Spillover* report with Oxford Economics. The report shows that over the past three decades, a US\$1 investment in digital technology has led to a US\$20 rise in GDP on average. It also shows that the long-term return on investments in digital technology is 6.7 times that of investments in non-digital technology, and that the growth of digital economy is 2.5 times that of global GDP.

The majority of countries around the world are coming to realize the massive economic potential in digital technology. Many have already increased their investment in ICT infrastructure and enabling applications. Initiatives like Industry 4.0 in Germany and Made in China 2025 are noteworthy examples of this. More than 140 countries have released overall plans for national ICT development.

The results of this can be clearly seen in Huawei's Global Connectivity Index (GCI), which measures the correlation between ICT investment and economic growth. The total index itself grew by four points from 2015 to 2017, and it's clear from our findings that the global digital economy is expanding at a faster pace. However, we have also found that the growth of digital economy is becoming increasingly imbalanced between countries. The gap is widening between frontrunners and starters in ICT infrastructure adoption. There is also growing evidence of a Matthew Effect, in which the nations with advanced ICT are generating more prominent returns on their investment than their less advanced peers.

At Huawei, we are committed to helping all countries accelerate the growth of their digital economy, regardless of their state of development. We leverage our ICT technology and management experience to promote growth, enrich people's lives, increase productivity, and boost national competitiveness.

We consistently invest over 10% of our sales revenue in research and development to drive ongoing breakthroughs in basic enabling technologies like 5G, cloud computing, artificial intelligence, and the Internet of Things (IoT). We transform advanced technology into more competitive quality products and solutions, and are building out an intelligent ICT platform that harnesses the synergy between the cloud, networks, and devices to fuel the development of digital economies around the world. Along with telecom carriers, enterprises, and other partners across the value chain, we are training people up, developing local ICT capabilities, and building out a global R&D network to help maximize the digital spillover effect. Together, we are fleshing out local ICT ecosystems, helping them innovate better, promoting inclusive growth, and ensuring sustainable development.

## Bridging the digital divide

Bridging the digital divide is a nonstop effort at Huawei. By leveraging our core strengths, we are working with our customers to narrow the gap in network connections, digital services, and digital tool adoption.

Our products and solutions now serve nearly three billion people around the world, including many in remote, underdeveloped regions. In Nepal, Huawei has partnered with a telecom carrier to connect network blind spots all the way up to the top of Mount Everest, thereby linking the region with the rest of the world. In Kenya, we have helped significantly reduce the medical costs of over 200,000 people with digital clinic and telemedicine platforms. In populous cities and vast rural areas, our Wireless to the X (WTTx) technology has lowered the cost of last-mile broadband access by 75%, giving more people access to the Internet in otherwise difficult-to-serve regions. In addition to infrastructure, we are setting up training centers and running joint learning programs to cultivate

local professionals. These programs help people improve their digital skills, and give every person, home, and organization access to the benefits of the digital world.

## Ensuring secure and stable network operations

In a world of digital economy, while new technologies create limitless opportunities, they have also given rise to greater security challenges. We believe that we should build security through innovation, enhance security through collaboration, and work together to shape a digital world that everyone can trust. In the face of new demand and security risks, Huawei continues to collaborate closely with all stakeholders to increase security capabilities, reduce the risks inherent to information and communications technology, enhance our competitiveness in the field of cyber security, and create greater value for our customers. We continue to consolidate our practice in security engineering. We are building out an integrated security system based on synergy between chips, devices, networks, and the cloud, establishing an end-to-end chain of trust and deploying secure and reliable communications networks together with our customers. In the meantime, we continue to strengthen collaboration with ecosystem partners to build a healthy and sustainable security ecosystem. Together, we hope to get a better grip on increasingly complex cyber security threats and ensure the secure and stable operations of networks around the world.

## Building a healthy and harmonious ecosystem

Huawei's ecosystem philosophy emphasizes openness, collaboration, and shared success. We work closely with upstream and downstream customers, as well as other partners across the value chain, to build a healthy and harmonious ecosystem. To help standardize social

responsibility across our entire value chain, we incorporate social responsibility requirements into our procurement strategy and practices, using our purchasing power to drive continuous improvement among all of our suppliers. Furthermore, we stress the importance of localized operations. We actively give back to the communities and countries where we operate, offering new employment opportunities, driving economic development, and providing solutions for education, healthcare, and disaster relief. Internally, we continue to inspire dedication by providing our hardworking employees with prompt and competitive compensation. The health, security, and benefits of our people are of the utmost importance.

We have been running our flagship CSR program – Seeds for the Future – for ten consecutive years. This program is designed to help local communities cultivate the next generation of ICT talent. As of 2017, we have deployed the program in 108 countries and regions across five continents. In total, more than 30,000 students from over 350 universities have taken part. Many exceptional students among them have since joined the ICT industry, and now contribute to its development.

## Our ongoing commitment to operational compliance

We conduct business with integrity, observing international conventions and all applicable laws and regulations in the countries where we operate. This is the cornerstone of operational compliance at Huawei, and has long been a core principle of our management team. Under the guidance and oversight of top executives within the company, efforts to strengthen a culture of operational compliance are ongoing. We have set up dedicated compliance and oversight teams to further bolster management and oversight of our global business operations. Through training, communications,

performance appraisals, and accountability management, we consistently reinforce awareness of laws and operational compliance among our employees at all levels. Outside of the organization, we openly share our experience with our business partners, giving them insight into our own path to developing a global compliance system.

In 2017, Huawei continued to strengthen compliance in multiple business domains, including trade, cyber security, and data and privacy protection. By increasing investment in organization and resources, we continue to learn from best practices in the industry to reinforce our compliance system. We invited external consultants to review our compliance in key domains, and actively walked relevant stakeholders through all of our compliance initiatives to foster mutual understanding and trust. Through ongoing efforts to strengthen compliance and increase transparency, Huawei continues to win the respect and recognition of more governments and partners around the world.

## Improving corporate governance

A sound corporate governance system is the cornerstone of sustainable development at Huawei. It is also the basis of our long-term cooperation with external stakeholders. We continue to optimize our corporate governance structure and related mechanisms, laying a solid foundation for

ongoing customer centricity, sustainable business development, and more effective management of internal and external risks.

In 2017, we made further progress in developing a forward-looking system of governance. Specifically, we optimized the design of our governance organizations and positions. We restructured the organization to meet the specific needs of different businesses and enhance overall responsiveness to customer needs. In the meantime, we continue to delegate more authority to business units, further standardizing and strengthening authority mechanisms.

On March 23, 2018, the Representatives' Commission elected a new Board of Directors. As the highest body responsible for corporate strategy, operations management, and customer satisfaction, the board has the mission of leading the company forward.

Under the leadership of the new board, Huawei will stay customer-centric, continuously improve the efficiency of our operations, and hone our competitive edge in a way that is both responsible and sustainable. At the same time, we will make full use of our core strengths to fulfill our social responsibility and make greater contributions to the world at large. Let's make the most of new opportunities that digital and intelligent transformation brings, and work together to build a fully connected, intelligent world.



**Sun Yafang**

Chairwoman of the Board  
(September 1999 to March 2018)



**Liang Hua**

Chairman of the Board  
(Since March 2018)



# Industry Trends

## +Intelligence: Elevating Digitization to the Epoch of Intelligence

Information and communications technology has already brought us wonderful digital experiences and a highly developed digital economy. The *Digital Spillover* report published by Huawei and Oxford Economics shows that the long-term return on investments in digital technology is 6.7 times that of investments in non-digital technology, and that the growth of digital economy is 2.5 times that of global GDP. Now, with the addition of artificial intelligence (AI), digitization is entering a new epoch. In the not-so-distant future, digital twins will overlay everything around us. Every person will have a digital citizen profile and digital heartbeat. For enterprises, digital modeling will be the standard approach to product design and

manufacturing. We will have comprehensive digital service systems: more smart cities with smart government and business-friendly services; more lights-out factories; more shared services.

The epoch of intelligence is on the horizon. It will bring a world where all things will be able to sense, all things will be connected, and all things will be intelligent. IoT is its sensory system, networks its transmission system, and AI cloud its brain. Intelligent analysis, decisions, and execution will reshape how we live and work. Higher efficiency, better quality, increasingly diversified products, and more personalized services mean a better life for us all.



## Sensing & IoT: Igniting the Epoch of Intelligence

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With the spread of digital technology, humanity is able to perceive the world in greater breadth and depth. The IoT frees human perception from the constraints of time and distance. Particularly, it allows *things* to sense each other and us. Omnipresent sensors are the first technology that is shaping the epoch of intelligence, and they are now spreading back along the chain of production, from the advanced tertiary sector (services) to the secondary sector (manufacturing), right down to the primary sector (agriculture). Soon, IoT will become a part of our physical infrastructure.

The IoT has almost achieved a complete disruption of the service sector, from remote metering to the explosive growth in bike sharing.

In the manufacturing sector, the IoT is enabling companies to focus on their strengths by bridging gaps in existing IT systems. But the IoT will achieve more, turning all company operations digital: from design, development, and supply chain to manufacturing, logistics, and sales. The entire end-to-end process can be perceived directly in the digital world.

Connected cows are among the first IoT applications helping to restructure the primary sector for higher productivity. When combined with blockchain technology, the IoT will transform agriculture by redefining contractual relationships and sales processes.

## Connectivity: Weaving the Epoch of Intelligence

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Connectivity is already a basic human right and a part of our social infrastructure. Now, combined with cloud and AI, new connectivity technologies will weave together all things, with the aid of sensors, in a high quality, borderless fabric. Connectivity will be the *loom* of the intelligent world. The IoT produces threads of data, and connects them into a fine silk. In the cloud, this fabric is fashioned into products of real, tangible value. The cloud is a sharing mechanism, and has reshaped IT services. It will be the key infrastructure that enables ICT to transition from a support tool to a decision-making system.

- **Cloud-network synergy and cloud-led networks**

All things and all business operations will be connected to and managed on the cloud. All clouds will be interconnected. While serving users' storage and computing needs, the cloud also needs to consider the impact of location, latency, and bandwidth on user experience. It needs to automatically allocate storage and computing

resources to meet user needs. Beyond that, the cloud must also understand and intelligently collaborate with the network used for cloud access. This means workloads will be automatically reallocated to the cloud closest to a user's location, and network parameters will be automatically optimized to allow the best network resources to deliver premium services to users.

- **Network cloudification and autonomous management**

Cloud technologies and business models have disrupted telecom carriers' business, network architecture, and operating models. What carriers need most is autonomous cloud-based architecture and simplified networks. Vodafone expects 5G networks to be able to automatically optimize network performance and predict network faults. SoftBank has put in place a strategy of end-to-end automated operation and maintenance (O&M), which is set to double their O&M efficiency with just half the staff.

## AI: The Intelligence Epoch Booms

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- **Cloud intelligence: The platform structure enables faster innovation and iteration**

The cloud can help to train AI models, making them more mature and adaptable, ultimately evolving real wisdom. With nearly unlimited computing capacity, the cloud will fuel AI applications with massive brainpower: Intelligent services will be faster and more agile. Its shared nature means that the cloud can offer easier access to AI services and reduce the cost of AI. This will lower barriers to AI innovation. Countless companies will be able to innovate and iterate operations on intelligent cloud platforms.

- **Edge intelligence: Zero-latency services**

AI will bind the digital and physical worlds more closely together. It will also give birth to entirely new digital species: intelligent personal assistants, intelligent phones, and intelligent robots. These beings will become our intimate companions, seeing what we see, hearing what we hear, smelling what we smell, and even touching what we cannot touch. They will realize what we want before we even know it, and they can deliver their services anytime, anywhere.

They will need to be highly responsive and be able to transmit and process vast amounts of data with enormous accuracy, and in real time.

Edge computing will support these needs. This technology enables the processing of massive amounts of data in edge devices (i.e., computers at the edge of the network). It acts as a *filter* on the vast flows of data into cloud computing centers. The result is a much more responsive user experience and a more efficient network. Devices at the edge are in constant touch with the data center, exchanging control and device data in both directions. After collection, data is streamed for multi-level processing. AI algorithms are trained in the cloud, and then deployed to the edge for application.

Ultimately, this model of intelligent computing will enable zero latency, as fast as the knee-jerk response in a human leg. Zero latency means that more real-time services will become available, including intelligent video surveillance, intelligent homes, intelligent transportation, and intelligent cities.

According to Huawei's research, when smart devices evolve into portals for intelligent services – and nodes for edge computing – a huge pool of edge computing resources will form. In 2016, the total computing power of all smart devices was 12 times greater than all the data centers in the world.

IoT, cloud, and AI are just the beginning of +Intelligence. As microchips shrink – down to 10 nanometer processes or even smaller – traditional computing architecture is approaching the limits of Moore's law.

However, new technologies will tackle this issue. Quantum computing will provide the computing power we need for faster creativity and life-enhancing advances: compute-intensive tasks such as climate simulation, analysis of medicines, and molecular modeling.

Blockchain enables new transaction models with decentralized and distributed systems. Blockchain technology will dramatically change the way the Internet transports information, allowing people to do business with each other even if there is no relationship of trust between them. Finance and healthcare will be among the earliest adopters of blockchain.

More innovative technologies will continue to emerge and reshape the world we live in, speeding the advent of the intelligent world.

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## Our Vision, Mission, and Strategy

ICT is causing our physical and digital lives to converge, while new developments in ultra-broadband, cloud computing, big data, IoT, and AI are edging us towards the threshold of an intelligent world. A striking blueprint of this world is unfolding right before us: a world where all things can sense, all things are connected, and all things are intelligent. A world with 40 billion sensing devices and 100 billion connections, that generates and stores 180 billion terabytes of data every year.

Huawei is working to enable and drive this future. Our vision and mission is to bring digital to every person, home and organization for a fully connected, intelligent world.

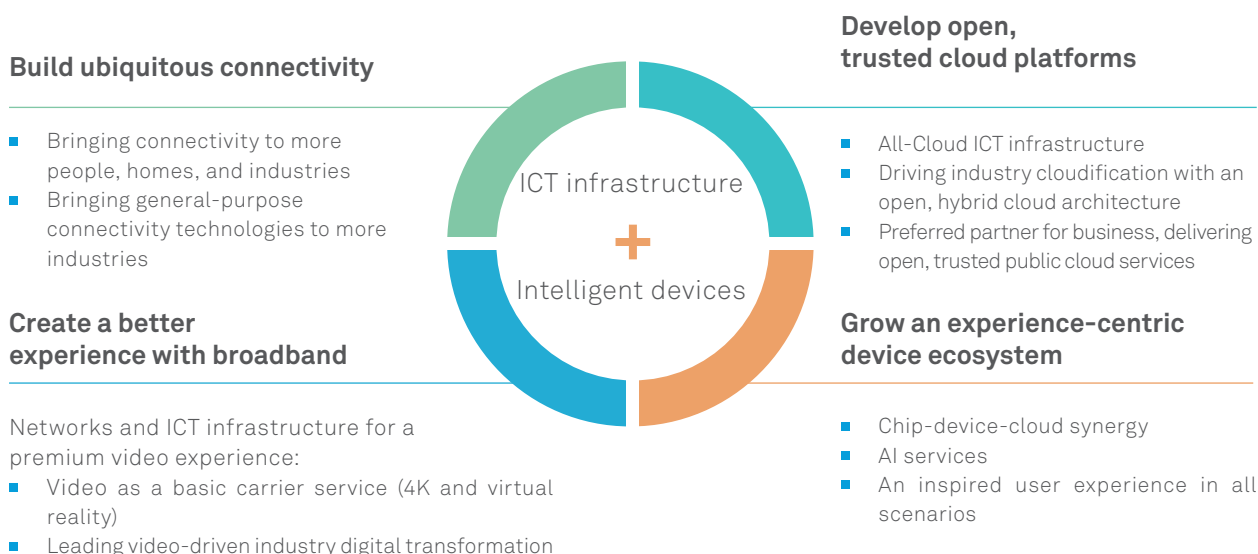
### Bridging the Digital and Intelligent Worlds

The digital world is decentralized and virtual, whereas the intelligent world is cohesive and based in physical space. Huawei serves as a bridge between the two worlds, actively cultivating a fertile environment (what we call “fertile black soil”) where all things can be connected. By giving every person, home, and organization access to an immersive virtual space, we are building something greater than the world we see before us – a new, intelligent world.

We will bring digital to every person through public networks and intelligent devices – those we have right now, and those we develop in the future. Through household connections, we will bring digital to every home. And with enterprise networks and specialized clouds, we will bring digital to every organization. By connecting all things, we are connecting today to tomorrow.

Through nonstop breakthroughs in digital technology, we will bring better products and services to our customers, and help integrate digital into daily life and work. Huawei’s focus on ICT infrastructure and intelligent devices is the foundation of a fertile business environment that integrates information technology, automation, and intelligence. This environment helps enrich our partners’ content, applications, and clouds, so they can serve their customers better. Creating a holistic digital experience will also give rise to new needs and expectations. To better understand these, we will continue working closely with our customers, innovating together to enable the intelligent world.

Our strategy is to enable digital transformation with ICT infrastructure and intelligent devices.



## Build Ubiquitous Connectivity

For years, Huawei has advocated building a better connected world, which has since become a rallying point in the industry. Connectivity is now seen as a basic human right, one that is vital to modern living. It has also become means of production for companies, as indispensable as electricity itself. By extension, connectivity is a fundamental driving force behind all world economies.

But there is much room for improvement when connecting people, homes, and industries, and when providing solid indoor connections. Network availability and broadband experience are two areas that need the most work. This is especially evident in developing countries, where slow return on investment is a major barrier to market progress.

Huawei is dedicated to helping carriers connect more people, homes, and industries. We have gone to great lengths, advancing the industry and driving standardization to bring cellular and IP technologies to local area networks. We helped decouple industry applications and network standards, which has enabled industry digitization, innovation, and more pervasive connectivity. Our growing investment in developing countries is steadily extending network coverage from outdoors to indoors. In addition, we provide tailored solutions for carriers at different stages of development, helping them address their unique challenges in both business and technology.

We have been investing heavily in 5G research since 2009. From 5G technology itself, to networks and industry development, we have taken the lead in 5G innovation. We opened our Wireless X Labs to explore new 5G applications and nurture cross-sector growth opportunities. By providing a platform for carriers, verticals, and ICT companies to explore the potential in wireless technology like NB-IoT and LTE-V, our Wireless X Labs is paving the way for next-generation applications in a wide range of emerging sectors, such as mobile IoT and connected cars.

But connecting things is not the end goal. Building connections is about creating new beginnings – a new foundation on which we can improve user experience. We will continue to strengthen R&D investment as we strive to maintain our leadership in wireless, optical, and data communications domains. We will make networks simpler, so our customers can provide their end users with an ultra-broadband, zero-latency experience.

## Create a Better Experience with Broadband

Video has become the basic medium of exchanging information, used widely in almost every aspect of our lives, including entertainment, work, management, decision-making, and security. It is replacing voice and text as a primary business tool, and it now accounts for the bulk of network traffic. By staking their claim in the flourishing video market, carriers can achieve tremendous new growth in their broadband business.

Our networks and ICT infrastructure deliver a premium video experience, helping carriers succeed in their video business, grow their video subscriber base, increase and monetize traffic, and produce greater value than ever before. In industrial sectors, video is rapidly becoming a core capability. As video is used more and more for collecting and perceiving data, which is then sent through networks, and video analysis itself grows increasingly intelligent, industries are adapting their core processes to tap new digital potential. Video is at the heart of their digital transformation, and as a greater number of industries embark on this journey, Huawei will pave the way with products and solutions that combine the power of advanced video platforms, ICT infrastructure, devices, and chips.

## Develop Open, Trusted Cloud Platforms

As industries grow more digital, providing cloud services will become a standard business model. The same goes for Huawei. We are actively investing in cloud services to enable the business success of our

customers and partners. In 2017, we formed a Cloud Business Unit as part of our commitment to strengthen our core cloud capabilities, create a cloud ecosystem, and become a leader in cloud services for key focus industries. As part of these efforts, we are forging cloud service alliances with carriers around the world to make our mark in the global cloud service market. Moving forward, we will continue promoting evolution towards All-Cloud ICT infrastructure, and maintaining technological leadership with open hybrid cloud architecture and our “connectivity + cloud” platform that harnesses greater synergy between networks and the cloud.

Huawei respects the boundaries of our business. We will not monetize customer data, compete with application developers, or make equity investments. We hope to maintain long-term partnerships with all service providers and application developers who have the capabilities we need.

We are developing innovative solutions and applications for IoT, big data, and Enterprise Intelligence (EI) based on our cloud platform. In the meantime, we are forming open alliances with different vertical industries to combine the strengths of operational technology and ICT, and more effectively enable the digital transformation of all sectors. To better understand the challenges of digitization, we are going digital first, using our own products and services to digitize our operational systems. We can then apply this experience to help our customers and partners go digital more smoothly.

## Grow an Experience-centric Device Ecosystem

The personal device market is experiencing a massive wave of innovation. For one, the look and feel of devices are changing, thanks in large part to breakthroughs in display technology, like borderless and foldable display. These new designs lead to greater innovation in device components, such as in-display fingerprint sensors, wireless charging, and combination speaker-screens, all of which eliminate the need for notches, holes or buttons.

Communications technology is evolving from 4G to 5G. The computing capacity of chips is growing as fabrication processes shrink from 16 nm to 10 nm, and now on to 7 nm. Smartphone cameras can produce SLR-level image quality as a result of improved technology and algorithms. Mobile AI is opening the doors to new forms of human-machine interaction and new business models.

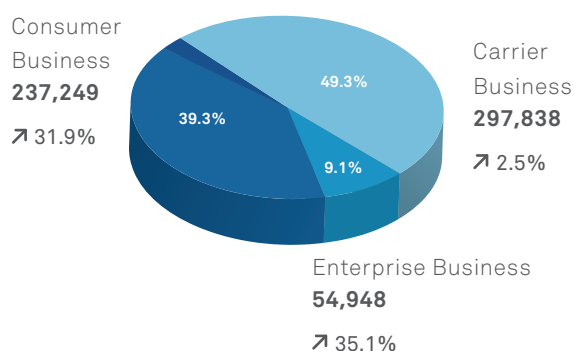
These trends are transforming smartphones into intelligent phones – devices that can proactively sense the physical world, interact with users, and offer personalized services. Intelligent phones will become an indispensable tool – and an intuitive partner – for people everywhere.

Mobile phones are Huawei’s core focus in the consumer market. We are working to give users a consistently solid experience across all scenarios – whether they are at work, at home, in the car, or on the go. With our strengths in chip-device-cloud synergy, we are planting the seeds for a robust cloud service ecosystem and working hard to become a core platform and provider of digital services. Moving forward, we will further open up our smartphone platform and work towards shared success with our partners across the ecosystem.

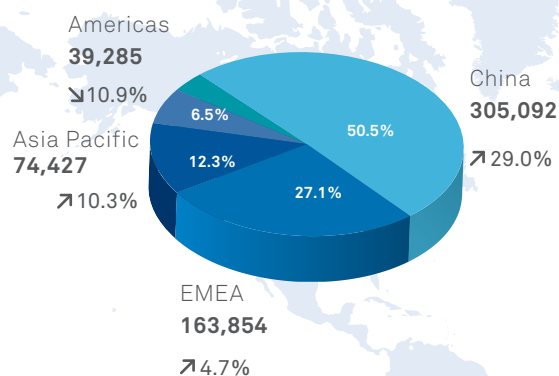
## Business Review 2017

In 2017, the global economy saw some recovery and the ICT industry maintained steady growth while undergoing a structural transformation. We maintained our strategic focus, intensified efforts in improving operations quality, and created value for our customers. Our annual revenue was CNY603,621 million, up 15.7% year-on-year.

(CNY Million)	2017	2016	YoY
Carrier Business	<b>297,838</b>	290,561	2.5%
Enterprise Business	<b>54,948</b>	40,666	35.1%
Consumer Business	<b>237,249</b>	179,808	31.9%
Other	<b>13,586</b>	10,539	28.9%
<b>Total</b>	<b>603,621</b>	521,574	15.7%



(CNY Million)	2017	2016	YoY
China	<b>305,092</b>	236,512	29.0%
EMEA	<b>163,854</b>	156,509	4.7%
Asia Pacific	<b>74,427</b>	67,500	10.3%
Americas	<b>39,285</b>	44,082	(10.9)%
Other	<b>20,963</b>	16,971	23.5%
<b>Total</b>	<b>603,621</b>	521,574	15.7%



- Based on ongoing 4G network rollout, sustained growth in the smartphone sector, and our growing capabilities in enterprise and industry solutions, Huawei earned CNY305,092 million in revenue from the Chinese market, up 29.0% year-on-year.
- Due to the accelerated pace of digital transformation amongst enterprises and a growing share of the smartphone market, we earned CNY163,854 million in revenue from Europe, the Middle East, and Africa (EMEA), up 4.7% year-on-year.
- Due to the accelerated pace of digital transformation amongst enterprises and a growing share of the smartphone market, Huawei maintained its growth momentum in the Asia-Pacific Region and achieved CNY74,427 million in revenue, up 10.3% year-on-year.
- In the Americas, affected by fluctuations in telco investment cycles in Latin America, Huawei's revenue from this region decreased to CNY39,285 million, down 10.3% over 2016.



## Carrier Business

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5G has entered the commercial deployment stage. The Internet of Things (IoT), video, cloud, and other innovative technologies are seeing widespread adoption and reshaping every industry. We will soon enter a fully connected, intelligent world. Carriers around the world are embracing the digital wave by consolidating their strengths, constantly optimizing their investment structures, and exploring new business domains.

Huawei is teaming up with partners to help carriers go beyond traditional boundaries in the areas of capabilities, connections, business, experience, and partnerships, achieve business success, and enable digitization of all industries, thus jointly creating a better future.

- **Better connections:** Huawei is leading the commercial deployment of 5G, building All-Cloud networks, and leveraging its strengths in cloud-network synergy to deliver ubiquitous, high-speed, reliable, intelligent, and agile connections to people, homes, and organizations.
- **Better business growth:** Huawei focuses on typical business scenarios like video, home broadband, personal communications, and IoT to help carriers increase the ROI and revenue with effective business solutions.
- **Better experience:** Huawei's digital O&M solutions enable agile business and intelligent and efficient operations. This helps carriers deliver a Real-time, On-demand, All-online, DIY, and Social (ROADS) experience.

In 2017, revenue from our carrier business was CNY297,838 million, a year-on-year increase of 2.5%. While experiencing fluctuations in telco investment cycles, we worked with our partners and customers to keep up with the shift from the investment-driven to value-driven network construction model, and helped carriers achieve new growth.

- **5G:** We conducted 5G pre-commercial tests with over 30 leading carriers in more than 10 cities around the world. The performance of our

networks far exceeded the requirements set by the International Telecommunication Union (ITU). We worked with global partners in our X Labs to explore future typical application scenarios that targeted individuals, households, and verticals. We continued to work with the entire industry to lead 5G development and prepare for the upcoming end-to-end commercial deployment of 5G.

- **All-Cloud:** We continued to advance our All-Cloud strategy. Huawei has signed over 350 NFV and 380 SDN commercial contracts around the world and deployed more than 30 CloudAIR commercial networks with wireless air interfaces. These actions are leading efforts to make All-Cloud networks a reality.
- **NB-IoT:** 2017 marks the first year in which NB-IoT was commercially deployed. We deployed over 500,000 base stations around the world, and the number of commercial connections exceeded 10 million. We worked with over 1,000 ecosystem partners to build a thriving IoT ecosystem, leading to monthly shipments of Boudica NB-IoT chips that exceeded 1 million units. All these achievements have contributed to a boost in industry application and innovation, ushering in a golden age for IoT development.
- **Video:** Video has become a basic service for carriers. In 2017, the number of fixed video users of global carriers exceeded 190 million, and the number of active mobile video users reached 1.4 billion. In addition, over 100 carriers considered video as their basic service in 2017. Huawei has delivered end-to-end video solutions, including visualized O&M tools and big data-based precision marketing solutions, and established a broad video partner ecosystem. We have helped carriers in China, Spain, Germany, Norway, Turkey, South Africa, Thailand, and many other countries achieve business success.

## Wireless Networks

In today's world, everything that can be connected is connected, and mobile technology is reshaping the world we live in. Huawei has put forward three basic capabilities that are fundamental to future networks: SingleRAN Pro, Mobile Cloud, and Wireless AI, helping carriers rapidly and efficiently seize new business opportunities.

Huawei aims to make the most of existing networks by helping carriers identify and gain high-value customers, develop high-value services, and ultimately increase revenue. Our ROI-centered precise network deployment approach helps carriers build high-value mobile networks. We have put forward innovative solutions while considering industry policies and reusing existing network resources. These solutions include wireless sites for all scenarios, the wireless home broadband solution Wireless to the X (WTTx), and spectrum efficiency improvement. All of these solutions help carriers improve their network efficiency and tap into the potential of existing network assets, which are worth dozens of trillions of dollars.

In addition, we actively incubate new services based on 4.5G networks, and lead pre-commercial testing for 5G. Our goal is to support future business success in 5G, and establish a virtuous cycle of business growth and network rollout for carriers.

The freezing of 3GPP 5G Phase 1 standards has ushered in 5G pre-commercial deployment worldwide. In 2017, we conducted 5G pre-commercial tests with over 30 leading carriers in more than 10 cities around the world. This work was recognized and awarded as one of World Leading Internet Scientific and Technological Achievements.

Huawei remains a leader in the deployment of 4.5G networks. By the end of 2017, we had deployed over 120 4.5G networks worldwide, including networks for EE in the UK, Turkcell in Turkey, True in Thailand, LG U+ in South Korea, Deutsche Telekom, and China Telecom. Huawei advocates the continuous evolution of 4.5G. We help carriers continuously improve the capabilities of their 4G networks and build LTE infrastructure networks that incubate a full range of services and deliver a Giga experience. This also paves the way for the transition to 5G and maximizes the ROI of 4G networks.

WTTx has become a mainstream solution for providing home broadband access. By the end of 2017, Huawei had deployed WTTx networks for more than 150 carriers, winning high acclaim from Telefónica, Vodafone Spain, Deutsche Telekom, Orange, and other industry-leading carriers. Based on 4.5G networks, the commercial use of WTTx services is increasing. Ovum predicts that by 2020, wireless networks will provide broadband access services to 350 million homes around the world. WTTx is set to become one of the major revenue streams of mobile carriers.



Huawei received the Outstanding Contribution for LTE Evolution to 5G award at the Mobile World Congress 2017, showcasing the industry's recognition of Huawei's contributions to technological evolution and industry development.

Huawei pursues technological innovation on an ongoing basis to reduce the cost of network rollout and ensure that more people can benefit from networks. We help carriers increase their ROI in terms of capacity and coverage.

- Our CloudAIR solution maximizes spectrum efficiency, and our multi-channel and multi-sector solutions maximize the capacity of existing sites.
- Our innovative sites, including the integrated TubeStar solution for macro coverage, the PoleStar solution for urban coverage, and the RuralStar solution for low-cost, accurate coverage in rural areas, help carriers deploy sites on-demand, and improve network coverage in urban and suburban areas.

In addition, we work with industry partners to build site ecosystems in order to reduce the cost of site acquisition and increase mobile broadband penetration in emerging markets.

## Fixed Networks

With the global broadband industry continuing to see steady growth, we unveiled our commitment to providing “Premium Broadband”. We aim to help carriers fully improve connection, service, and customer experiences, and achieve precise, value-driven investment and network deployment. This will allow carriers to seize new opportunities that are emerging from broadband development.

In 2017, we partnered with carriers including Safaricom in Kenya, Pakistan Telecommunication Company Limited (PTCL), PLDT in the Philippines, and Omantel in the Middle East to implement the approach of value-driven network deployment and jointly build premium broadband networks. This has allowed these carriers to set themselves apart from the competition and achieve business success.

Targeting the cloud era, Huawei launched the Intent-Driven Network Solution to help carriers go digital. In the cloud-based network transformation and private line domains, Huawei worked with China Mobile, China Unicom, SoftBank, and other carriers to deploy commercial trials. In the data center domain, Huawei partnered with Migu, China Mobile’s entertainment content subsidiary, to build the world’s largest OpenStack resource pool.

So far, Huawei has worked with multiple mainstream carriers around the world to implement over 110 projects on the commercial use of cloudified networks. These projects cover a range of scenarios such as carrier WAN, data center networks, enterprise campuses, and IoT.

To build 5G networks, transport networks should get prepared in advance. Huawei launched the 5G-ready mobile transport solution X-Haul. This solution supports a 10-fold bandwidth increase per base station and an access ring bandwidth increase of five to ten times. This helps carriers easily address the deluge of data seen in enhanced Mobile Broadband (eMBB), an application scenario in the 5G era. The solution can also be widely adopted in another 5G scenario – ultra-reliable low latency communication (URLLC). In 2017, Huawei worked with over 20 leading global carriers on the joint innovation and pre-commercial testing of 5G transport networks.

## Cloud Core Networks

With 5G-oriented All-Cloud core network architecture, Huawei helps carriers migrate their networks to the cloud. This allows them to leverage intelligent pipes to provide communications and connection services to individuals and enterprises based on their unique needs and enable industries to go digital. We also help carriers develop video as a basic service and tap into the quickly growing IoT market.

Migration of core networks to the cloud:

- We have signed more than 350 NFV commercial contracts.
- We deployed an All-Cloud core network for Telecom Argentina, which served 20 million subscribers and significantly improved the resource utilization and O&M efficiency of the entire network.
- In February 2017, Huawei's NFV solution was awarded Best Technology Enabler at the Mobile World Congress 2017.

5G core networks:

- Huawei and China Mobile launched the world's first service-oriented prototype for 5G core networks.
- Huawei worked with China Telecom, China's State Grid, and other industry partners to carry out multiple demonstrations of the 5G slicing solution, targeting vertical industries.
- We received the Best 5G Core Development award at the 5G World Summit held in London in June 2017.

Audio and video communications:

- We have been awarded a total of 135 VoLTE commercial contracts, and provide HD audio and video communications services to 200 million subscribers.
- We worked with China Mobile to build the world's largest VoLTE network.
- We helped Swiss carrier Sunrise build a high-quality VoLTE network, which received excellent ratings in P3 mobile network tests.
- We have worked to make enterprise communications digital and intelligent.

Hybrid video: We are working to develop video as a basic service for carriers and help carriers succeed in their video business. We are also actively seeking industry-wide cooperation and driving the development of a robust video ecosystem. Such efforts include:

- We helped China Telecom develop its IPTV Video 3.0.
- We worked with industry partners to initiate the Virtual Reality Industry Forum (VRIF).
- We are driving the development of the UHD video industry.
- We are now serving over 140 carriers and 140 million video users around the world.

IoT platform:

- Our industry-leading OceanConnect full-stack IoT platform achieved the following:
  - We deliver a wide array of application programming interfaces (APIs) to enable vertical applications and provide a series of agents to facilitate the access of devices.
  - We help carriers build an open ecosystem, and work with industry partners for shared success.
  - We won the Best IoT Platform award at IoT World Europe 2017.
- In 2017, we helped China Telecom and other carriers provide convenient public services that benefit people in their everyday lives, such as smart gas and smart water.

## Software

In the software domain, Huawei works to enable carriers' digital operations and transformation in multiple areas, including digital operations, digital service innovation, and cloud services.

#### Digital operations:

- Our Convergent Billing Solution (CBS) serves around 2 billion users of 205 carriers across 114 countries and regions.
- Based on its analysis of the global CSP monetization market, Stratecast | Frost & Sullivan recognized Huawei with the 2017 Stratecast Global Product Leadership Award for our CBS and the 2017 Stratecast Global Market Leadership Award for our leadership within the billing mediation market.
- As a core engine for digital operations, our big data analytics solution, Universe Analytics, provides a cloud platform that helps carriers build cloud service capabilities in big data. This solution shortens the period required to launch big data applications, and monetizes data.

#### Digital service innovation:

- Mobile Money: Huawei's Mobile Money solution provides an all-online, secure, reliable, flexible, and sustainable mobile financial platform for carriers and banks to deliver efficient and low-cost financial services to hundreds of millions of users. Huawei Mobile Money sets the promotion of inclusive financial services as a strategic goal.
  - We joined the Bill & Melinda Gates Foundation initiative Level One Project (LOP) to make financial services across service providers interoperable.
  - Huawei helped Pakistani carrier Jazz win an award at the GSMA Glomo Awards 2017. Its mobile financial solution JazzCash Mobile Account is providing the convenience of digital financial services to tens of millions of Pakistanis, and contributing greatly to the financial independence of women.
- Video Ring Back Tone (RBT): As a new media digital service, the video RBT service and VoLTE combine to create new business opportunities and revenue streams for carriers and activate and build the short video ecosystem led by carriers. In July 2017, China Mobile Yunnan and Huawei launched the world's first-ever video RBT service.

Cloud services: Huawei BES Cloud aims to deliver the best business practice solution available on cloud for service providers. This will support fast, efficient, and incomparable business operations and enhance user experiences, helping service providers go digital.

#### IT

The arrival of 5G marks the start of a period in which the widespread adoption of services with extremely high requirements for agility, bandwidth, and latency is possible. These services include IoT, AR, VR, and connected vehicles.

Huawei wants to adapt to service evolution in the 5G era. Based on our All-Cloud strategy and in-depth research into 5G technologies and services, we work closely with carriers to help them build open cloud platforms and follow three paths to shift towards single cloud architecture: cloudification of telecom networks, cloudification of internal IT systems, and cloudification of application platforms.

- Cloudification of internal IT systems: Our Unified Cloud Infrastructure Solution provides solutions and services to help over 60 carriers move their IT systems to the cloud.
- Cloudification of telecom networks: The Huawei FusionSphere NFVI Solution has been adopted by world-leading carriers including Vodafone, HKT, América Móvil, MTN, China Mobile, and China Unicom. It was also integral in helping China Mobile Zhejiang implement the world's first commercial NFV cloud project in which the hardware layer, virtualization layer, and service layer are decoupled.
- Cloudification of application platforms: Huawei is committed to building open cloud platforms. We work with partners to provide converged, open cloud solutions for carrier customers. In November 2017, Huawei topped the list of cloud vendors for OpenStack users with our open FusionSphere platform. This list was compiled based on OpenStack's user survey, with respondents from 69 countries.

In the IT domain, Huawei continues to innovate in the areas of hardware, software, and platforms to help customers go digital faster.

- **Storage:** We achieved the highest performance and the lowest latency in the industry with the Huawei-developed SSD chip and all-flash systems. A recent report released by ESG Lab recommends the Huawei OceanStor Dorado V3 all-flash storage system for handling mission-critical applications and workloads.
- **Servers:** We implemented a Boundless Computing server strategy. In 2017, we released Atlas, our new-generation intelligent cloud hardware platform. Targeting AI and high-performance computing (HPC) scenarios, Atlas is designed to address the challenges faced when handling complex services in the 5G era. This is done by using key technologies like heterogeneous computing and intelligent orchestration.

## Network Energy

As networks rapidly evolve from 4G to 5G, carriers will see OPEX rise considerably as they build and expand a massive number of sites. To reduce O&M costs, carriers expect solutions that can make sites smart. In the big data era, the ICT network architecture will continue to evolve along with the transformation of telecom services, which drives carriers to build more new data centers or consolidate existing ones.

Following the core concepts of digitization, networking, and intelligentization, Huawei develops Smart Site and Smart Data Center solutions, and provides customers with network energy solutions that are simple, efficient, reliable, and smart.

In 2017, Huawei consolidated its position as a market leader and deepened cooperation with world-leading carriers.

- **Telecom energy:** Our products have been adopted by Vodafone, Telefónica, and América Móvil on a large scale. We also cooperate with leading global tower companies including China Towercom and Edotco.

- **Data center energy:** Our prefabricated modular data center has become the mainstream model for carriers outside of China to build large data centers. We also supported Etisalat in building the first prefabricated modular data center.

So far, Huawei has helped 102 carriers around the world improve the energy efficiency of their networks. In 2017, we innovatively used lithium batteries on 28 networks for energy storage purposes. This helped customers improve O&M efficiency, reduce energy consumption, and ensure network security and reliability.

## Global Services

In the service domain, Huawei stays customer-centric and is committed to helping customers resolve problems and succeed. With customers' business needs in mind, we provide a series of business solutions to help carriers unleash network value, boost O&M efficiency, and accelerate their digital transformation process to achieve new growth.

- Our business solutions, including Network Experience PLUS, Customer Experience Management (CEM), video integration, integrated home broadband, and Indoor Connected Solution (ICS), help customers deliver superior network performance and differentiated service experiences and increase the ROI through innovation.
- Our digital O&M services based on the Operation Web Services (OWS) Cloud Platform are all-online, fully-automated, and intelligent, helping customers improve O&M quality and efficiency.
- Amidst the trend of digital transformation, our agile digital operations, telecom cloud integration, and data center cloud solutions power new business growth, and we work with global carriers on a strategic level to jointly innovate in the pursuit of digital transformation. For example, the strategic project for HKT's digital transformation was successfully put into trial commercial use. This is the world's first project in the carrier domain where operations transformation solutions and All-Cloud solutions for infrastructure were adopted to deliver a ROADS experience.



Huawei delivered its Indoor Connected Solution (ICS) to a football stadium in Russia.

We actively use intelligent and digital technologies to build efficient delivery systems, as well as capabilities that support the operations of these systems. We are delivering professional services to over 1,500 networks across more than 170 countries and regions. Some of our achievements in 2017 are as follows:

- We successfully delivered over 8,000 projects, worked to help networks remain robust, and supported stable network operations at over 200 key events.
- We strengthened our capabilities in offshore delivery and support through our Global Service Center (GSC).
- Through our Cloud OpenLabs, we built the cloud ecosystem, offering pre-integration and pre-verification and conducting joint innovation. Cloud OpenLabs has certified over 70 vendors, supporting carriers' network evolution and operations transformation.
- The Open ROADS Community proposed an overall framework for the digital transformation journey. This framework helped companies determine their paths for digital transformation and improve business metrics.

In 2017, our Network Experience PLUS solution, CEM solution, NFV integration solution, data center integration solution, Cloud OpenLabs, digital O&M services, and learning services won 16 prestigious industry awards from respected organizations, including Informa, TM Forum, Layer123, Telecoms, Global Telecoms Business (GBS), and the International Society for Performance Improvement (ISPI). A particular highlight was our Network Experience PLUS solution, which won the Best Technology for Service Quality Improvement Award from Informa.

We will continue to increase our investment in services, consolidate resources, build teams responsible for business solutions, and develop core capabilities in business consulting, architecture design, ecosystem management, and integration & verification. We will help carriers transform their operations and re-architect their infrastructure to deliver better user experiences and ultimately shift towards digital business.

**Moving forward, Huawei will continue to make its business solutions more competitive by focusing on typical business scenarios. We will also improve our efficiency on an ongoing basis by simplifying processes, pursuing operational excellence, and digitizing our marketing efforts. Through these actions, we will strive to be the best possible business partner for global carriers. We will build an open, collaborative industry ecosystem that brings shared success. Along with our carrier customers and partners across the globe, we will build a fully connected, intelligent world.**

## Enterprise Business

Huawei is committed to bringing digital to every organization through our enterprise business. Such organizations include government and public utilities as well as companies in the finance, energy, transportation, manufacturing, and other sectors.

Digital transformation is fully underway. Against this backdrop, we focus on ICT infrastructure and utilize our technological strengths in the areas of cloud computing, big data, the Internet of Things (IoT), and artificial intelligence (AI) to provide customers with open, flexible, and secure ICT infrastructure platforms that promote greater synergy between devices, networks, and the cloud and cultivate a fertile environment that facilitates digital transformation.

Huawei is determined to build symbiotic relationships with our ecosystem partners and achieve shared success. To achieve this, we have made every effort to open up our ICT platforms, global marketing platforms, and training and service platforms to our partners, and work together to ensure success in the market. We have also worked to facilitate the development of industry standards and cut the costs of going digital. Through these activities, we aim to jointly create value for customers, grow the industries, and achieve sustainable development.

In 2017, we continued to enhance product and solution innovations in cloud, big data, campus networks, data centers, IoT, and other domains. We also worked to promote the extensive application of our innovative products and solutions in smart city and safe city projects, as well as in the finance, energy, transportation, manufacturing, and other sectors. Currently, 197 Fortune Global 500 companies – 45 of which are Fortune 100 companies – have chosen Huawei as their partner for digital transformation.

In 2017, revenue from our enterprise business was CNY54,948 million, a year-on-year increase of 35.1%. Our enterprise business is brimming with potential, and will soon burst forth with tremendous vitality.

**Huawei helps accelerate the digital transformation of industries. This work is driven by business needs and begins with top-level designs. With a focus on creating value, we work with leading global enterprises and governments to continuously explore and implement best practices for digital transformation.**

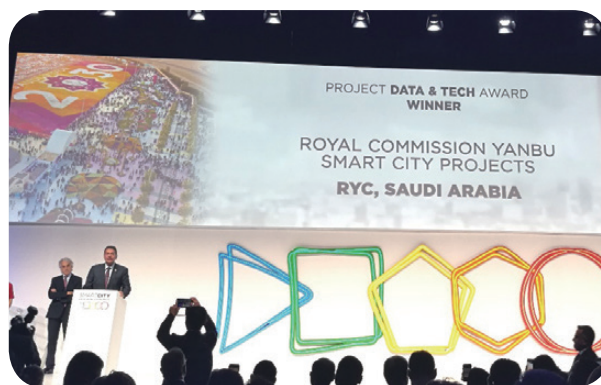
## Smart city

Huawei aims to build a Smart City Nervous System to create smart and vibrant cities. We utilize an extensive portfolio of technologies and build a thriving ecosystem to help cities design smart city solutions from the top-level architecture.

Working with industry leading partners, Huawei has developed a smart city construction model under which data, geographical resources, video, and command dispatching resources are all shared. Cultivating a fertile environment that is conducive to smart city development, this model supports the construction of a new type of smart city – one with a single center, dual networks, and multiple applications.

As of the end of 2017, Huawei has helped more than 120 cities in over 40 countries and regions implement smart city projects.

In 2017, Huawei unveiled the Intelligent Operation Center (IOC), a solution that functions as the “brain” of the smart city, connecting the digital and physical worlds. The IOC solution, together with the four-layer abstract architecture for IoT (device–communications network–IoT platform–application), edge computing, and cloud computing, was included in IEEE P2413, a standard for an architectural framework for IoT.



In 2017, Huawei worked with its ecosystem partners to help countries and cities go smart. At the Smart City Expo World Congress (SCEWC) 2017, four Huawei customers were recognized for their outstanding Smart City achievements. Shenzhen in China won the Safe City Award, and Yanbu in Saudi Arabia won the Data and Technology Award. Weifang in China was one of the finalists for the City Award while Cameroon was nominated for the Innovation Idea Award. At the Asia-Pacific Smart City Gala Night 2017, Huawei received nine prestigious awards, including the 2017 Outstanding Contribution Award for Building Smart City Ecosystems in China and the 2017 Leading Smart City Solution Provider in China.



We have built OpenLabs around the world as part of Huawei's commitment to creating smart city platforms and supporting ecosystem partners in designing and developing innovative smart applications.

## Safe city

Huawei is a leader in the digital transformation of the public safety industry and a pioneer of the global public safety ecosystem.

Following the concept of "New ICT, the Road to Collaborative Public Safety", we have made consistent, focused investment, and worked with over 100 leading partners around the world to make new use of ICT technologies in the public safety industry. These technologies include cloud computing, big data, IoT, broadband trunking, and integrated communications.

The result is the world-leading Collaborative-C4ISR or C-C4ISR solutions that enable crucial visualization and convergence to maximize public safety. C4ISR stands for Command, Control, Communication, Cloud, Intelligence, Surveillance, and Reconnaissance. The safe city solutions jointly developed by Huawei and our partners enable advance prevention, precise resource allocation, efficient analysis, visualized command, and efficient coordination among multiple departments. They help governments reduce crime rates and prevent and respond to crises more effectively, ensuring a safer environment for all.

In 2017, Huawei launched the industry's first All-Cloud smart Video Cloud Solution for safe cities. This solution supports network-wide distributed smart analysis, and allows videos to be used not only for surveillance but also for generating actionable intelligence, taking city safety to a new level.

Huawei's safe city solutions now serve 1 billion people in over 230 cities across more than 90 countries in Europe, Latin America, Asia Pacific, and Africa. Customers are working closely with Huawei, specifically in the following instances:

- In Thailand, we established the world's first 3GPP-compliant broadband trunking emergency communications system.
- In Saudi Arabia, we set up a national security operation center that combines the telephone numbers of emergency services such as police,

civil defense, and traffic. This center improves the efficiency of cross-departmental collaboration and emergency response, and was instrumental in safeguarding the Hajj in Mecca in 2016 and 2017.

- In the Longgang District of Shenzhen, China, we developed a large-scale video and big data system, significantly improving the district's ability to use technology to handle police affairs.
- In the Wujiang District of Suzhou, China, we enabled the large-scale integrated operations of visualized converged command and mobile police, the first of its kind in China, ensuring the success of multiple events, including the 2016 G20 summit in Hangzhou.

## Finance

Huawei currently serves more than 300 financial institutions globally, including 6 of the world's top 10 banks. In many regions including Europe, Asia Pacific, and Russia, we are delivering solutions to local mainstream financial institutions. In China, Huawei serves the "Big Four" banks as the major provider of their IT equipment.

Huawei helps financial institutions build IT systems that feature flexible architecture, precise analysis, innovative channels, and security controls. With these systems, customers can provide scenario-specific products and services, and intelligently manage their business.

We work with the Agricultural Bank of China, China Merchants Bank (CMB), China Pacific Insurance, and other financial institutions to innovate and extensively apply new technologies to the finance sector. These technologies include Financial Cloud, Financial Big Data, and Omni-Channel Banking. Specifically, we:

- Helped CMB build a big data cloud platform, and developed a wide array of innovative services for the bank. Following this, CMB saw significant improvements in the accuracy and real-time operations of services, as well as customer satisfaction.
- Worked with China Pacific Insurance to build a basic big data application platform. This platform has been widely adopted for mitigating risks, promoting precision marketing, and detecting fraudulent claims.

## Energy

By taking advantage of new ICT technologies, Huawei is able to use bits to drive watts, and strives to become the best partner and one-stop ICT provider for smart grid development.

Huawei's smart grid solutions have been deployed in 73 countries and regions, serving over 190 customers in the electricity sector. These solutions help our customers improve their energy management efficiency and ensure safe and reliable operations of power grids.

Together with our partners, we have developed three major solutions for the electricity sector: power communications network, power IoT, and power cloud. Huawei has also worked to drive the establishment of a PLC-IoT standards ecosystem that focuses on IEEE P1901.1. A draft of the IEEE P1901.1 standards has been released. Huawei OpenLab is now an official partner of the IEEE PLC-IoT Industry Connections Activity (IEEE PLC-IoT IC).

In the oil and gas domain, Huawei works with industry partners to develop ICT solutions that cover the entire value chain. These solutions include oil and gas IoT, digital pipeline, high-performance computing (HPC), enterprise operations management, and smart distribution. These solutions improve productivity by integrating digital production and security. Huawei's oil and gas solutions have been applied in 45 countries and regions around the world, serving 70% of global top 20 oil and gas companies.

## Transportation

Huawei strives to facilitate easy transportation for people and goods. We are determined to provide an innovative Smart Traffic Solution for customers in order to improve the safety and efficiency of transportation, as well as passenger experiences.

At the end of 2017, we served over 220,000 km of railways and highways, over 60 urban railway lines, and more than 50 customers in the aviation industry.

In 2017, our achievements in the transportation industry included the following:

- We released the Smart Airport Solution, which has been successfully put into commercial use by the Dubai International Airport, the Airports of the Thailand Public Company Limited (AOT), and the Sanya Phoenix International Airport in China.
- We established a joint innovation laboratory with Shenzhen Airport Group to enhance efforts to build a smart airport that delivers the best possible experience.
- We released the Urban Rail Cloud Solution, helping customers transform their operations by focusing on the railway network rather than the railways.
- We teamed up with the China Urban Rail Transit Association and our partners to establish an urban rail laboratory. This enabled us to lead the development of standards for urban rail clouds and build a technology ecosystem for the urban rail industry.
- Huawei's lightweight, digital urban rail solution, which supports urban rails using one network and one cloud, helped BYD launch Cloud Rail, its first straddle-type monorail, in Yinchuan, Gansu province, China.
- Our Digital Railway Solution helped the Mombasa-Nairobi railway in Kenya become operational, connecting households, cities, and dreams.

## Manufacturing

Huawei teams up with global partners to develop more efficient and smarter innovative industrial digitization solutions for customers. These solutions make it possible to establish new work models and basic platforms that meet the real requirements of Industry 4.0. Specifically:

- Huawei and GE Digital, the leading software company for the Industrial Internet, jointly launched the Industrial Cloud-based Predictive Maintenance Solution. This solution helps manufacturers reduce maintenance costs.

- We continued to drive product and service innovation. We have helped the leading escalator and elevator manufacturer, Schindler, achieve the unified networking and management of millions of escalators and elevators worldwide.
- We deepened our global partnership with KUKA, agreeing to jointly face the market with our leading technologies and industry strengths and provide efficient and innovative joint solutions.
- We established a long-term partnership in the connected vehicle domain with Groupe PSA, the second largest automaker in Europe. Both parties will build the Connected Vehicle Modular Platform (CVMP) based on Huawei's OceanConnect IoT platform to provide innovative mobility solutions to consumers.

## Other domains

Internet: Huawei provides cloud-network-device solutions that focus on data centers in order to meet the diverse needs of Internet customers. These needs include rapid service deployment, elastic resource release, big data analytics, data center interconnection through ultra-broadband, and access to virtual reality (VR) and UHD services. So far, Huawei has provided solutions for over 1,000 Internet companies in more than 50 countries and regions.

Education: Huawei adheres to the concept of "Innovative ICT – Building Better Connected Education" and works hard to bridge the digital divide.

- Our smart education solutions have been deployed in over 600 universities and scientific research institutions and over 500,000 primary and secondary schools in more than 70 countries and regions. These solutions serve more than 858 million students.
- Through our Huawei ICT academies, we have worked with over 300 colleges and universities around the world, and have trained more than 10,000 students.

Media: Huawei builds innovative content generation platforms, communication channels, and media operation models to help TV stations and other media outlets develop into IP-based, cloud-based operations.

Huawei's media cloud solution has been widely used by media groups in over 10 countries throughout Western Europe, the Middle East, and Asia Pacific.

Retail: Huawei provides comprehensive connectivity and data analytics services, and works with global partners to develop smart retail solutions. Examples of these solutions include big data analytics based on location-based services, applications that support shopping navigation and shopper flow analysis, all-in-one devices customized for the retail industry, and unified access solutions for chain stores. These solutions have been widely applied in several regions, including China and Europe.

**Huawei focuses on ICT infrastructure and utilizes its technological strengths to provide customers with open, flexible, and secure ICT infrastructure platforms that promote greater synergy between devices, networks, and the cloud. We help customers with top-level ICT infrastructure designs to ensure their business success.**

## IT

Huawei launched the Enterprise Intelligence (EI) platform, and provided the HUAWEI CLOUD FusionCloud Private Cloud Solution. We utilize innovative technologies like AI, chips, and architecture to help companies go digital and smart faster.

Through technological innovation and outstanding market performance, Huawei's IT products and solutions have continued to increase their influence in the industry in the following ways:

- According to Gartner's Magic Quadrants, Huawei's storage products remain in the Leaders quadrant while our hyper-converged infrastructure product FusionCube moved to the Challengers quadrant.
- According to reports released by IDC, the HUAWEI CLOUD Government Cloud Solution and HUAWEI CLOUD FusionInsight Big Data Solution ranked first in overall performance in the Chinese market. At the same time, the HUAWEI CLOUD FusionAccess Desktop Solution was China's bestseller.

Huawei works closely with customers and partners in multiple sectors including government and public utilities, finance, manufacturing, and large enterprises in order to explore the best practices in digital transformation. Specifically:

- The Guangzhou municipal government in China selected the HUAWEI CLOUD Government Cloud Solution to build cloud platforms. This solution reduced the overall hardware procurement cost of the government by 75% and met all requirements of business departments for on-demand and flexible resource allocation.
- The École Polytechnique Fédérale de Lausanne (EPFL) in Switzerland chose Huawei's HPC solution to build the Fidis HPC cluster into one of the world's top 500 supercomputing cluster projects.
- Saint-Luc, a hospital in Belgium, adopted Huawei's OceanStor V3 storage solution to build a core medical service platform. This platform increased service availability to 99.9999%, while ensuring no key application data was lost and no services were interrupted.

## Enterprise networking

Huawei launched the Intent-Driven Network Solution that has All-Cloud network architecture to bridge the digital divide that must be addressed before everything can move to the cloud, thus helping enterprises go digital.

Huawei's enterprise networking products and solutions have won wide acclaim in the industry. Our achievements in 2017 include the following:

- Huawei was identified as a challenger in Gartner's *2017 Magic Quadrant for Enterprise Network Firewalls* and *2017 Magic Quadrant for Data Center Networking*.
- The Huawei CloudCampus Solution received the Best of Show Award at Interop Tokyo 2017.

- Huawei's SD-WAN solution won the ONUG Right Stuff Innovation Award.
- In December 2017, the European Advanced Networking Test Center (EANTC), an internationally recognized independent test center, announced that Huawei was the only SD-WAN solution provider to pass its strict tests.

Product	Rank in the Chinese Market	Global Ranking	Source
Huawei Ethernet switches	First	Second	Report released by IDC in Q4 2017
Huawei data center switches	First	Third	Report released by IDC in Q3 2017
Huawei enterprise routers	First	Second	Report released by IDC in Q4 2017
Huawei enterprise firewalls	Second	Second	Report released by IDC in Q3 2017

Huawei's networking solutions have been deployed in over 100 countries and regions. Specifically:

- Huawei works with Cloud4Wi, AirWatch, and 13 other partners to develop horizontal and industry application solutions based on cloud management platforms and AP IoT platforms.
- Huawei collaborates with Honeywell to bring smart building offerings to the global market and make buildings smarter and more energy efficient.
- Huawei teamed up with Wapwag (Shanghai) Smart Water Public Co. Ltd. to build a data-driven platform for urban smart water supplies.
- Huawei's CloudCampus solution helped many customers build agile and smart campuses, including France's banking group BPCE, the general education authority in Paraguay, Gelsenkirchen in Germany, and the public transportation system in Ecuador.

## IoT

Huawei unveiled its “Platform + Connection + Ecosystem” strategy, designed to promote the development of an enterprise-level IoT. We launched our enterprise IoT solutions, which included a portfolio of modular solutions for all scenarios, from chips to platforms. These solutions are flexibly deployed based on platforms, and have been widely used in the public utilities, logistics, and manufacturing sectors, as well as in smart city projects.

Our partnerships in the IoT domain include:

- Huawei signed a strategic partnership agreement with China’s Shenzhen Bus Group to focus on developing connected vehicle solutions.
- Huawei helped world-leading logistics company DHL develop innovative solutions in multiple domains including campus logistics and smart sorting.
- Huawei and Veolia, the world’s largest water management company, released the basic architecture for innovative solutions, which were jointly developed by the two companies for verticals including water, energy, and waste management. The large-scale deployment of these solutions has begun in the smart water domain.
- Huawei provided China’s Weifang city with IoT platforms that are deployed in the cloud and NB-IoT connectivity technology. This supported diverse urban management applications including smart street lamps, smart environmental protection, smart metering, and smart parking.

Huawei’s OceanConnect IoT platform was placed in the leader segment of the *IoT CMP Platforms Scorecard* published by IHS Markit, and our EC-IoT was named a leader in the *IoT Node and Gateway Market by Hardware* report released by MarketsandMarkets.

## Enterprise wireless

Sales of our enterprise wireless products grew rapidly in the public safety industry.

Our broadband trunking solution is used to help the police with daily operations in multiple regions in China, including Jiangsu, Shanghai, and Shandong. Our 3GPP-compliant broadband trunking solution has been put into commercial use around the world.

In 2017, our wireless smart rail transit solution served 75% of the new market in China, and our GSM-R solution served an additional 10,000 km of railways.

Based on the latest 4.5G technology, Huawei released a wireless IoT solution that combines broadband and narrowband technology and integrates both licensed and unlicensed spectrums. This solution has been commercially deployed in the global electricity, smart city, and industrial park connectivity industries to accelerate their digitization process with universal, reliable, and convenient wireless IoT networks.

As of the end of 2017, Huawei has signed more than 500 commercial enterprise wireless contracts. In addition, the total number of eLTE Industry Alliance members rose to 117, further optimizing the wireless private network ecosystem.

## Enterprise cloud communications

Huawei released a one-stop enterprise cloud communications solution that fully integrated enterprise communications capabilities including videoconferencing, unified communications, IP phones, and contact centers, and met communications and collaboration requirements in multiple scenarios. This solution provides efficient and reliable real-time audio and video communications to customers in over 150 countries and regions, helping them improve efficiency and provide innovative services.

According to reports from IDC and Wainhouse Research, Huawei’s videoconferencing products ranked first in China and third globally in terms of market share for multiple consecutive years. Huawei has worked with more than 80 partners, including Hexagon, Infosys, Shanghai DS Communication Co., Ltd., and iFlytek, to launch innovative solutions that meet customer needs.

In the security domain, we launched a series of intelligent 4K IP cameras; an All-Cloud video cloud platform; and Video Content Management (VCM), an intelligent analysis and management platform that supports deep learning algorithms. We have also worked with Yitu, Harzone, and other partners to launch intelligent security protection solutions.

## Network energy

Huawei adheres to the concept of “using bits to manage watts” in the network energy domain. Specifically:

- Data center energy: We work to transform the traditional data center infrastructure by pursuing the path of digitization, networking, and intelligentization. Such efforts include the launch of the Smart DC 3.0 Solution and the unveiling of FusionModule products.
- Smart PV: Huawei strives to become the enabler and driver of the energy Internet, and has launched the FusionSolar Smart PV Solution, which is simple, fully digital, and supports automated O&M.

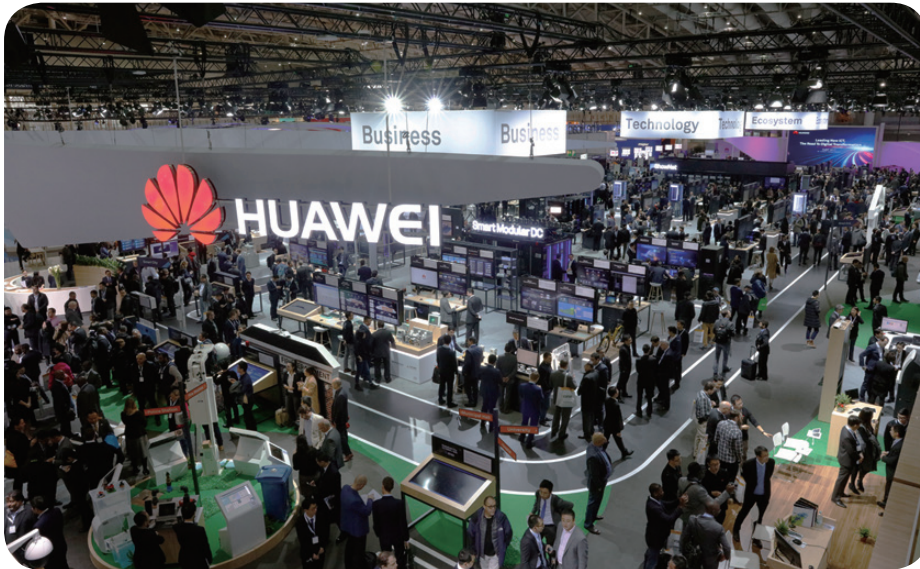
Thanks to technological innovation and outstanding market performance, Huawei’s network energy products and solutions have continued to increase their influence in the industry. According to statistics from IHS Markit and Frost & Sullivan, Huawei’s prefabricated modular data center solution and modular UPS continue to hold the largest market share globally, and Huawei PV inverters have been the most-shipped PV inverters in the world for the second consecutive year. Huawei’s data center energy products and solutions have been adopted by many industry customers, including the Dubai International Airport and the Industrial and Commercial Bank of China. Huawei has established comprehensive partnerships with global top 100 PV plants.

**Huawei is determined to build symbiotic relationships with our ecosystem partners and achieve shared success. We work to build platforms for platforms and cultivate a fertile environment in which a robust ecosystem will grow. To achieve this, we have made every effort to open up our ICT platforms, global marketing platforms, and training and service platforms to our partners, and work together to ensure success in the market. We have also worked to facilitate the development of industry standards. Through these activities, we aim to jointly create value for customers, grow the industries, achieve sustainable development, and ultimately build a fully-connected, intelligent world.**

Huawei innovates in the areas of cloud computing, big data, SDN, and IoT to develop open, flexible, resilient, and secure platforms. We are also actively working with customers, partners, developers, industry alliances, and standards organizations to build an interdependent ecosystem that fosters shared growth.

Huawei is establishing a partner ecosystem that covers channel partners, solution partners, service partners, talent alliances, and investment and financing partners. At the end of 2017, we had more than 13,000 channel partners, 860 solution partners, and 2,900 service partners working with us around the world to deliver solutions to enterprises. Our partners include many industry-leading companies such as SAP, Accenture, GE, Honeywell, Siemens, Alstom, Hexagon, Thales, VST ECS, Synnex, ALSO, and Redington.

As a key initiative for implementing our “Platform + Ecosystem” strategy, a strategy under which we provide platforms and also stress the importance of ecosystem support, Huawei has set up OpenLabs to target the enterprise market in cities including



Huawei attended CeBIT 2017 with 100 partners and unveiled its "Platform + Ecosystem" strategy at the event.

Suzhou, Munich, Mexico City, Singapore, Dubai, Johannesburg, Bangkok, Cairo, and Istanbul. In these labs, we are working with customers and partners in different domains around the world to build business-driven industry-specific solutions. The goal is to help customers ride the wave of digital transformation, and support the development of the local ICT industry ecosystem.

We have set clear, transparent policies that will remain stable for our partners while providing them with strong support in the joint innovation of solutions, marketing, talent cultivation, finance, supply chain, and IT systems. We work closely with our partners to continuously improve their capabilities and drive their transformation, ensuring shared success.

In technical services, Huawei focuses on technological leadership, platform leadership, and ecosystem leadership to develop industry service experts and build an industry talent chain. This allows us to build service capabilities for large industry partners. Specifically:

- We developed new service solutions (e.g., industry cloud transformation services, migration services, and Smart NOS services) using new technologies and models to help industry customers go digital.
- We released our enterprise service strategy, designed to support companies undergoing cloud transformation, and pledged to invest US\$500 million over the next five years to enhance service capabilities. Under this strategy, we will

develop cloud-based professional services, a cloud platform, and the cloud ecosystem, and provide industry customers with end-to-end cloud transformation service solutions.

- Huawei now works with over 2,800 service partners, providing high-quality professional services to over 45,000 customers. We are gradually becoming the preferred ICT service partner of many industry customers.

Huawei is committed to building an ICT talent ecosystem. We are working with over 300 universities around the world to build Huawei ICT academies, and have signed contracts with over 100 training partners. Huawei's ICT technical certification program is the industry's only certification that covers all technical fields. Over 80,000 engineers have received this certification, and over 5,000 of them are now Huawei Certified Internetwork Experts (HCIEs), the highest-level technical certification offered by Huawei.

**Digital transformation will be the most important market trend over the next decade. Huawei strives to lead this industry digitization, and continually improve and innovate every step of the way, with our sights set on industry trends, an in-depth understanding of customer needs, and our long-term, heavy R&D investment in the ICT domain. Through these efforts, we will build open, flexible, resilient, and secure digital platforms. Along with our industry partners, we will build a sustainable ecosystem founded on shared success, and ultimately turn a fully-connected, intelligent world into a reality.**

## Consumer Business

In our Consumer BG, the needs and wants of consumers remain at the heart of everything we do. This past year, we have endeavored to improve experience throughout the consumer journey, while exploring new ways to innovate smart devices. We have made one breakthrough after another on the road to building a world-class premium brand.

In 2017, revenue from our consumer business was CNY237,249 million, a year-on-year increase of 31.9%. We shipped over 153 million smartphones throughout the year, achieving steady growth for the sixth consecutive year.

### Creating synergy between the Huawei and Honor brands

In 2017, our dual Huawei and Honor brand strategy took the market by storm. Together, the two brands provide a full portfolio of flagship products. Focusing on innovative features and superior experience, the Huawei brand made many breakthroughs in the high-end market, served a wider audience, and worked hard to deliver the best possible end-to-end experience to consumers. Honor delivered stylish new tech, striving to become an online-only mobile brand that stakes a solid claim in the hearts of younger generations. We made the following achievements in 2017:

- Huawei's flagship products, the HUAWEI P and Mate series, were hits among consumers around

the world, boosting Huawei's influence in the global high-end market. Overall shipments of the HUAWEI P10 and HUAWEI Mate 9 series exceeded 20 million units.

- The HUAWEI nova series and Honor's dual flagship series (the V and digital flagship series) further enhanced their presence, with a striking combination of technology and aesthetics. They became trendsetters among young, fashion-savvy consumers, and were generally well received.
- This was a year of market breakthroughs for the G and Y series, and multiple mid-range Honor models. A solid combination of performance and price competitiveness led to rapid, large-scale growth.

Brand awareness, recognition, and reputation are growing among global consumers, and our market share has risen rapidly. Some of the major breakthroughs achieved in 2017 include:

- Huawei and Honor smartphones together secured more than 10% of the global market share. We are now firmly positioned among the top three phone makers in the world.
- Overall global brand awareness increased from 81% in 2016 to 86% in 2017. Outside of China, brand awareness rose from 64% to 74%.



The HUAWEI Mate 10 series was launched globally on October 26, 2017. The series won high acclaim from mainstream tech media immediately after launch. The Mate 10 was lauded as the Best of Android 2017 by *Android Authority*, the Smartphone of the Year by *Buzz.ie*, one of the best phones of 2017 by *Phone Arena*, and the phone to watch in 2018 by *Tom's Guide*.



- The number of consumers considering a Huawei device in non-Chinese markets saw a year-on-year increase of 100%, which put Huawei among the top three global vendors in this category for the first time.
- Our flagship products remained bestsellers after their launch, which raised the market share of our high-end models priced over US\$500 to over 10%.

Huawei's smart devices have also been well received in regional markets. 2017 highlights include:

- Huawei (including Honor) held onto the largest share of the smartphone market in China. We became the most recommended brand in China's mobile phone industry – a first for a Chinese brand. This award was issued to us by leading brand rating agency, Chnbrand, based on the China Net Promoter Score Index (C-NPS).
- In Europe, Huawei smartphones won high acclaim from consumers in countries such as Germany, Finland, Denmark, Spain, and Italy, improving both our market share and reputation. Huawei ranked as the second most considered brand in a portion of these countries.
- In Asia Pacific, Huawei made new breakthroughs in Japan, Malaysia, and Thailand, where market shares continue to grow. In key countries like Japan, brand consideration doubled.
- In Latin America, the Middle East, and Africa, Huawei's smartphone business grew steadily, with a market share of over 15%. In key countries including the UAE, Saudi Arabia, South Africa, Mexico, and Colombia, Huawei ranked in the top three for brand consideration, and the gap between Huawei and the top two brands continues to shrink.

## Improving experience across the consumer journey

Our Consumer BG focused on improving user experience in 2017 as market share and brand awareness steadily increased. We centered our efforts on product innovation, mobile services, channel transformation, and customer service to continually enhance user experience and reinforce our foundations as a premium global brand.

**In product innovation**, we focus on the practical needs of consumers and common usage scenarios, using artificial intelligence (AI) to improve product performance and design intelligent phones that truly understand us. In October 2017, we launched the HUAWEI Mate 10 series, a true milestone in the industry. This device is the first major step in our evolution from smartphones to intelligent phones:

- The HUAWEI Mate 10 series comes complete with AI cameras, AI-powered smart battery management, intelligent assistants, and intuitive HiTouch functionality. These functions deliver an experience that is both positive and personal, pushing the boundaries of what traditional smartphones can offer.
- EMUI 8.0 leverages AI technology to reduce Android lag, powering phones that are born fast and stay fast.

**In mobile services**, the Huawei AppGallery is committed to building a secure and reliable app platform for users, providing a four-layer security check mechanism that helps users defend against app security risks. In 2017, there were 61 billion downloads from the Huawei AppGallery, which also offered more than 600 paid apps across 18 categories. In 2017, progress in Huawei's proprietary apps and software services included the following:

- Huawei Pay supported more than 66 banks and was available in 20 device models, including smartphones and smart watches. It can be used for public transport in Beijing, Shanghai, Guangzhou, Shenzhen, Suzhou, Wuhan, Guangxi, and many other cities.
- Huawei Video, Huawei Music, and Huawei Reader gained traction among a growing number of consumers.
- Skytone, an overseas data service, was available in over 80 countries and regions. With this service, consumers can access mobile Internet around the world without a SIM card.

With superior mobile services, our user base continues to expand. As of Q4 2017, Huawei's mobile service users surpassed 340 million, with over 30 million in markets outside of China.

In retail and channel development, as of December 2017, Huawei had more than 45,000 retail stores around the world, a year-on-year increase of about 10%. We continue to focus on a simple, compelling, and inspired high-end experience, doubling down on quality over quantity. Specific developments include:

- Establishing high-end experience stores in Italy, the UAE, Malaysia, Thailand, and many other countries, bringing the total number of experience stores to over 3,000 worldwide, a year-on-year increase of over 200%

- Transforming channel operations, simplifying channel policies, and optimizing channel structure
- Delegating more authority to regional sales teams, improving the efficiency of channel operations, and motivating channel partners

**In customer service**, we are constantly expanding service coverage to more regions and exploring new forms of service to provide users with a more convenient and personal experience.

- **Offline services:** As of Q4 2017, the Consumer BG had over 1,400 offline service centers in 105 countries and regions, including nearly 800 Huawei-branded service stores. Our stores provide a range of basic repair services. Consumers can visit stores for repair. They can also book appointments, receive home service, or mail in their devices. Value-added services like screen insurance, extended warranties, and trade-ins are also available at our stores.

- **Online services:** Online customer service is now available in 111 countries and regions in 65 languages. Services are available via hotline, the Internet, social media, email, and various self-service modules, giving consumers access to more convenient, timely, and efficient support.

- In 2017, Huawei accepted 329 consumer requests for local optimization of products and services.



Designers at Huawei's Paris Aesthetics Research Center are discussing product design, aspiring to bring stylish technology to consumers around the world.

## Embracing the future with an open ecosystem

Smartphones are an important point of entry to the intelligent world of the future, and as such, they themselves will evolve from smart to intelligent. Going beyond a personal tool, smartphones will become a natural extension of the human body and provide consumers with AI-powered assistance. Through machine learning and data analytics, intelligent phones will play many roles in everyday life. They will serve as our housekeepers, personal trainers, nurses, drivers, secretaries, and teachers, ultimately providing consumers with more attentive and personal experiences.

In Huawei's Consumer BG, intelligent products and ecosystem innovation are managed in accordance with this vision.

- In 2017, we released the Kirin 970, an AI chipset with a dedicated Neural Network Processing Unit (NPU). This chip powers the HUAWEI Mate 10 series of smartphones, helping break bottlenecks in computing performance and laying the foundation for new potential in human-machine interaction.
- Our Kirin chips are the foundation of the HiAI ecosystem. Built on Huawei's distinct advantages in AI for chips, devices, and the cloud, this ecosystem integrates Kirin chips, the EMUI smart engine, and smart services into an AI mobile computing platform. This platform is open to global developers and partners, giving rise to a new world of intelligent applications.

To deliver a smart experience in every scenario, Huawei is expanding its presence across PCs, tablets, wearables, smart homes, and connected vehicles. Such efforts include the following:

- Shipments of Huawei tablets saw a year-on-year increase of 40% despite an otherwise sluggish market, making Huawei one of the world's top three tablet manufacturers in terms of market share.

- We launched the second generation of our MateBook, and the MateBook X won a series of top awards at CES Asia, including Best PC or Tablet and Best Experience, for its sharp design and powerful performance.

Smart homes will be a key component of an intelligent world. Our Consumer BG is advancing the deployment and operations of the HiLink smart home ecosystem with an eye on three stages of broader ecosystem development.

- The first stage is growing connectivity, during which all devices will be connected.
- The second stage is full connectivity, during which people, devices, and services will be connected in a closed loop.
- The third stage is intelligent connectivity, during which devices will be capable of independent learning and intelligent collaboration across a range of complex application scenarios.

Through the HiLink smart home ecosystem, Huawei has been working closely with more than 80 brands, involving more than 50 product categories. The ecosystem has launched over 300 products together with partners in the smart home, home appliance, real estate, and content service domains.

**Huawei's Consumer BG believes that competitiveness begins and ends with consumers. With this in mind, in 2018 we will continue to innovate in core technologies – including AI, AR, and VR – to guide evolution from smart devices to intelligent devices. With end-to-end capabilities that optimize synergy between chips, devices, and the cloud, our ultimate goal is to provide an experience that our consumers have never seen before, and lead the transformation of the smart device industry.**

## Cloud Services

In 2017, Huawei set up a Cloud Business Unit (BU) dedicated to providing stable, reliable, secure, trustworthy, and sustainable cloud services for enterprises. This unit is tasked with cultivating a fertile environment in which an intelligent world will grow, and serving as the bridge for enterprises between today and tomorrow. Huawei helps large companies embrace the future by resolving the difficulties they face as they transition to the cloud. For small and mid-sized companies, Huawei helps them use the cloud to grow their business and address the challenges they face as they grow.

In the Cloud 2.0 era, enterprise applications will become intelligent. The next three to five years will be a critical period for enterprise applications to migrate to the cloud. In the long term, enterprise customers will need hybrid cloud solutions to support the flexible deployment and on-demand migration of enterprise applications between private and public clouds. At the same time, innovative cloud computing, Internet of Things (IoT), and artificial intelligence (AI) technologies all require highly collaborative full-stack systems. These systems must have the chips, hardware platforms, and software to meet enterprises' demands for intelligence.

Decades of expertise in chips, hardware, operating systems, and databases puts Huawei in an excellent

position in terms of hardware and software synergy. This expertise enables Huawei to provide full-stack cloud services with an inspired experience to enterprise customers.

At the end of 2017, Huawei's cloud service portfolio consisted of 99 services across 14 major categories. In addition, we have launched over 50 solutions for manufacturing, healthcare, e-commerce, connected vehicle, SAP, HPC, and IoT applications. At the HUAWEI CONNECT event held in September 2017, we officially launched the Enterprise Intelligence (EI) platform. This platform combines Huawei's years of AI expertise and best practices in AI with enterprise application scenarios to deliver a one-stop AI platform as services to our enterprise customers.

Huawei provides neutral public cloud services to governments and enterprises, and has won the recognition of many customers who now use Huawei's cloud services. These customers include Schindler, Dongfeng-Honda, Konka Group, China's State Administration of Taxation, China's General Administration of Customs, the Guangzhou government cloud project, Shanghai International Port (Group) Co., Ltd., and Jointown Pharmaceutical Group.



Huawei launched its Enterprise Intelligence (EI) platform, which includes three types of intelligent cloud services that make enterprises more intelligent – basic platform services, general AI services, and scenario-specific solutions.

According to a market report released by IDC in 2017, the HUAWEI CLOUD Government Cloud Solution was the leader amongst government cloud vendors in China. The solution ranked top in three metrics: existing capabilities, future strategy, and market performance. At the same time, the HUAWEI CLOUD FusionCloud Private Cloud Solution led the Chinese market in multiple rankings.

Since the formation of the Cloud BU, our infrastructure resource utilization and number of cloud users have both tripled. Huawei's Cloud Operation Team has established a unified operation service system based on user feedback. This system resolves multiple problems and improves user experiences.

Huawei's cloud data centers have been launched in multiple regions, including Hong Kong, East China, and South China, and we have begun work to establish cloud data centers outside of China. We have developed a unified O&M platform that targets six scenarios and two platforms, rapidly bolstering our capabilities in automated O&M and significantly improving efficiency and quality.

Our O&M and security management have passed the security review of the Cyberspace Administration of China, the level-3 information security evaluation by China's Ministry of Public Security, and the Trusted Cloud Service Assessment. Huawei Cloud was among the highest rankings on several occasions in third-party cloud service quality assessments in China in terms of network quality and stability.

In 2017, we continued to build an open, collaborative cloud ecosystem that will thrive on shared success. Specifically:

- We launched our Partner Program 2.0, which provides better support for partners' rights and interests in all areas. In doing so, we aim to cultivate a fertile environment in which cloud services will grow. The total number of our cloud service partners has exceeded 2,000, including four partners with which we have developed a symbiotic relationship.

- Our strategic cooperation with global partners such as SAP, Microsoft, and Dassault Systèmes on cloud has paid off, gaining much attention from the industry.
- In our cooperation with regional partners, we have actively worked with solution partners and channel partners on cloud, and worked to build one global cloud service ecosystem that well integrates Huawei Cloud and our partners' public cloud services. This will help Chinese companies go global and foreign companies enter the Chinese market.

Huawei is working closely with Deutsche Telekom, China Telecom, Telefónica, and Orange to drive the rapid development of our partner public cloud services. Many Fortune Global 500 and other top companies that set the standards in the regions where they operate (e.g., the European Organization for Nuclear Research [CERN], 11 top scientific research institutions, multiple large German automakers, Groupe PSA, Santander, China Merchants Group, and Sinotrans) have chosen Huawei's partner public cloud services.

Huawei's partner public cloud services are stable, reliable, secure, and compliant with all applicable laws and regulations. They feature cloud-network synergy and have a global reach. Huawei's partner public cloud services are now trusted by local enterprises.

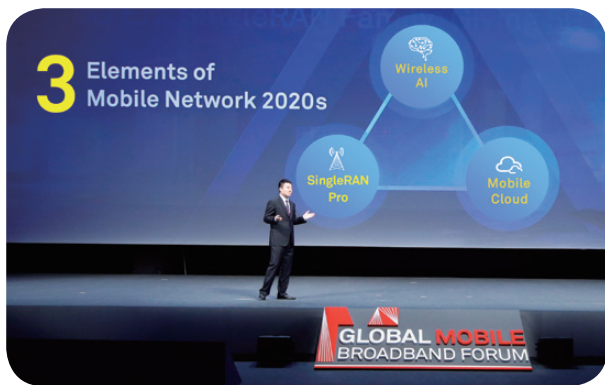
**Looking ahead, Huawei will utilize its technical strengths in hardware and software to thoroughly improve the user experiences, O&M efficiency, and security of its cloud services. In addition, Huawei will continue to build a hybrid cloud that offers the best experience in the world to enterprise customers. We will also do our utmost to help partners delve deeper and make the most of the enterprise market, and become the preferred cloud service partner of enterprises.**

## Research and Development

Huawei focuses on three domains – fully-connected networks, intelligent computing, and device innovation – and continues to invest in products, technologies, basic research, engineering capability improvement, technical standards, and industry ecosystems. We aim to support customers in their digital transformation and lay the cornerstone of an intelligent world.

### We are committed to translating leading technologies into better and more competitive products and solutions that help our customers succeed.

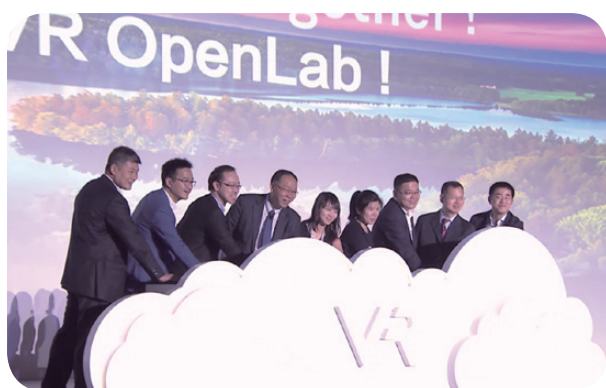
- In the wireless network domain, we:
  - Launched an end-to-end 5G solution, including commercial products of wireless networks, transport networks, core networks, and customer premise equipment (CPE).
  - Joined forces with carriers and mainstream device chipset vendors to complete the interoperability development testing (IODT).



Huawei introduces its 5G target network architecture at the 2017 Global Mobile Broadband Forum. Built on three elements, this architecture will help carriers address their three major pain points and roll out a mobile network tailored to the 2020s that can deliver a wide array of services. We will work hand-in-hand with our partners to facilitate the growth of the mobile industry and achieve our vision of Everyone on Mobile, Everything with Wireless, and Every Industry plus Wireless.

- Assisted carriers in deploying 5G pre-commercial systems in several major cities.
- Continued our evolution efforts in LTE to build an all-business connected LTE network that is focused on experience, and drove continuous progress in WTTx, Narrowband Internet of Things (NB-IoT), and connected vehicle.
- Launched solutions such as RuralStar and TubeStar for emerging markets to help reduce customers' total cost of ownership (TCO) and increase their return on investment.
- Worked with partners to deliver innovative wireless solutions mainly for businesses from the public safety, electricity, and transportation sectors, allowing us to seize opportunities arising from industry digitization.
- Built three basic capabilities that are fundamental to future wireless networks – SingleRAN Pro, Mobile Cloud, and Wireless AI – to help carriers roll out multiservice integrated networks.
  - ♦ SingleRAN Pro helps with the deployment of ultra-simplified “1+1” target sites and will address capacity, coverage, and latency requirements for developing various services.
  - ♦ Mobile Cloud offers an agile and flexible network architecture to boost efficiency in connecting services.
  - ♦ Wireless AI helps build up intelligent network management abilities with the use of artificial intelligence (AI) technologies, thereby enabling highly efficient network operations & maintenance (O&M) and delivering a better experience across services.

- Joined forces with carriers and partners to research and explore new solutions and use cases by implementing three initiatives in this domain, namely Mobile Innovation Centers (MICs), TechCity, and Wireless X Labs.
- In the carrier and enterprise network domain, we:
  - Unveiled the Intent-Driven Network Solution. Based on a business-driven and user-focused network transformation philosophy, this network incorporates intelligence, simplicity, ultra-broadband, security, and openness, helping carriers and businesses all over the world go digital.
  - Used cloudification, big data, and AI technologies to launch the innovative Network Cloud Engine framework composed of the Intent Engine, Automation Engine, Analytics Engine, and Intelligence Engine. The framework will help carriers build automation and intelligence in their Intent-Driven Networks.
  - Launched the 5G-ready mobile transport solution X-Haul, a 50GE/100GE adaptive network slicing router, and a 5G microwave solution that supports 5G transport networks. These solutions will help evolve live networks into 5G transport networks from end to end, supporting a large capacity, multiple services, and low latency.
- Released the virtual Broadband Remote Access Server (vBRAS), a cloudification solution that supports cloud access by 10 million users.
- Unveiled a 4T router line card and opened up the possibility of commercial use for 400GE single ports of routers.
- Released the 1T optical transmission network (OTN) cluster solution.
- Upgraded our Cloud Fabric data center (DC) solution and launched the FusionInsight platform for intelligent analysis.
- Unveiled our CloudCampus solution, which will enable integrated access to the cloud-based campus network via Wi-Fi and the Internet of Things (IoT).
- Launched the SD-WAN solution.
- In software, we focus on building a cloud-based, service-oriented, and open software platform for carrier operations to continue improving development, integration, and engineering delivery efficiency, and support extensive service delivery. Our achievements include the following:
  - Our Convergent Billing Solution (CBS) features large-capacity, high-concurrency convergent billing, and addresses the need for IoT transformation.
  - Our Mobile Money solution provides a highly reliable and secure mobile payment platform to deliver inclusive financial services.
  - We formulated our Value-Added Service (VAS) Transformation Program to facilitate the evolution of carrier networks toward LTE and network functions virtualization (NFV) and build digital VAS.
  - We increased the competitiveness of our Infrastructure Enabling System (IES) by focusing on the cloud native core architecture.
  - Our Single EMS (Element Management System) solution will help build a unified O&M platform.



Huawei and its partners announce the launch of its virtual reality (VR) OpenLab industry cooperation plan. The plan's objective is to facilitate development of and technological innovation in the cloud VR industry, incubate business scenarios, and build a complete cloud VR industry ecosystem.

- In the cloud core network domain, we are committed to improving three core competencies
  - connection management, audio and video, and service-aware intelligent pipes. We also aspire to provide end-to-end connections and audio/video streams for different types of access networks, and enable applications at the top layer through control of a differentiated experience. In 2017, we:

- Launched a range of cloud services such as enterprise communications and IoT platforms.
- Began offering unified and open solutions for vertical industries, including connected vehicle and public utilities, with our unified OceanConnect IoT platform.
- Unveiled the new generation of the Huawei Envision solution, a hybrid video platform that will assist carriers in delivering a premium video experience.
- Released CloudIVS, a video surveillance cloud platform, serving as part of a cloud-based, intelligent, and connected video cloud solution.
- Successfully promoted the adoption of our Service-Based Architecture (SBA) as a key standard for 3GPP 5G core networks, and completed core network testing for 5G R&D trial under IMT-2020 (5G) Promotion Group.

- In network energy, the concepts of digitization, networking, and intelligentization continue to inform our development directions of “using silicon instead of copper” and “using bits to manage watts”. We combine the use of power electronics, digital information, communications, and IoT technologies to continuously offer competitive products and solutions to our customers.

- Telecom energy: We offer the Smart Site Solution 2.0 to help customers achieve easy installation and lighten their site maintenance workload, thereby reducing their O&M costs.
- DC energy: We delivered a new generation of Smart Data Center Facility Solution, which can enable smart power supply, cooling controls, and DC service management.

- Smart photovoltaic (PV): We launched generation 5.0 of the FusionSolar Smart PV Solution and the FusionHome Smart Energy Solution, improving end-to-end efficiency of power generation and O&M.

**In the IT sector, we are committed to bringing intelligent innovations to cloud DCs. We innovate in the AI, cloud computing, and big data domains together with our customers and partners. We also use innovative chip technologies and architectures to promote enterprise digitization and intelligent transformation.**

- In cloud computing, we continued to offer a series of solutions to help vertical industries migrate to the cloud. These solutions include the HUAWEI CLOUD FusionSphere Virtualization Solution, HUAWEI CLOUD FusionAccess Desktop Solution, and HUAWEI CLOUD FusionCloud Private Cloud Solution.
  - FusionSphere once again scored first in the 2017 SPECvirt performance test.
  - FusionAccess offers an intelligent work space on the cloud for customers through use of technologies such as smart connection, display, and protection.
  - FusionCloud uses key technologies such as bare metal services and SAP HANA-certified 4 TB virtual machines to support traditional industries in migrating their core services to the cloud. FusionCloud’s platform as a service (PaaS) container services support resource scaling of innovative applications within seconds. The solution is also based on the same architecture, application platform interfaces (APIs), and ecosystem as our public cloud services.
  - Our FusionBridge Hybrid Cloud Solution integrates management and resources, and seamlessly connects private clouds to public clouds to deliver a consistent user experience.



- In AI and big data, we debuted our Enterprise Intelligence (EI) platform and distributed services based on big data, database, and AI technologies, helping enterprises boost productivity through data innovation.
    - In public safety, we created a “traffic brain” for the city of Shenzhen. The traffic brain intelligently manages traffic lights, improving traffic flow and increasing automated detection efficiency of traffic violations.
    - In finance, our efforts in launching the integrated data warehouse platform have reduced the cost for capacity expansion of the data warehouse system and bolstered the performance of the core analytics function.
    - Huawei uses AI technologies extensively throughout our own business operations, covering logistics, customer services, quality inspection, risk control, and other business scenarios.
  - In cloud storage, we continued to improve our storage as a service (STaaS) solution. The solution delivers a consistent on- and off-premise cloud experience and intelligent data and O&M management, and helps enterprises quickly migrate their storage services to the cloud.
  - In enterprise storage, we released our OceanStor Dorado V3, an all-flash storage system for companies’ mission-critical services.
    - The product delivers 4 million input/output operations per second (IOPS) at 0.5 ms consistent latency, maximizing performance of the flash.
    - This system and our HyperMetro gateway-free active-active solution combine to ensure high availability of services and deliver mission-critical services in a fast and stable manner.
  - In the server domain, we introduced our Boundless Computing strategy, concentrating our efforts on facilitating industry digitization and intelligent transformation.
    - In the general server unit domain, we released our latest generation of FusionServer series servers – the FusionServer V5. With smart features in computing, storage, networks, management, and energy efficiency at its core, the new server offers higher efficiency and will create more value in computing for customers and help them reduce their TCO.
    - In AI, we unveiled an intelligent cloud hardware platform – Atlas – and G series heterogeneous servers. Riding on the advantages of key technologies, such as heterogeneous resource pooling and intelligent orchestration, our Atlas platform and G series servers deliver a higher hardware resource utilization.
    - In cloud infrastructure and hardware acceleration, we launched our NVMe-powered ES3000 SSDs. This series of SSDs will help boost service efficiency through use of the big data technology and greatly accelerate the data analytics process.
- In the cloud sector, we bring our strengths in software-hardware synergy into play to build open cloud platforms that customers can trust. We strive to deliver stable, reliable, secure, trusted, and evolvable cloud services for our customers.**
- In computing, we:
    - Delivered new instances for five elastic cloud server (ECS) types and 12 sub-types.
    - Launched the P100 and V100 GPUs and FPGA heterogeneous high-performance computing instances based on the Atlas server, and applied them in AI and gene sequencing.

- Launched dedicated resource solutions and services, including Huawei Dedicated Cloud (DeC) and Bare Metal Server (BMS), which will help companies migrate traditional services to the cloud.
- In storage, we:
  - Delivered a storage active-active disaster recovery service, with the performance of our shared volumes and cloud disks ranking first among industry vendors.
  - Launched Object Storage Service (OBS) V3.0, which supports storage of data of any amount, in any form, and for any tenant at a minimum latency of 10 ms.
- In the network domain, we:
  - Unveiled Elastic Load Balance (ELB), which can process up to 100 million concurrent connections of Huawei device users to HUAWEI MyCloud.
  - Worked with China Telecom, combining our expertise in the cloud and network synergy to debut our cloud-network integration product. The product will shorten the time required to connect a customer DC to a public cloud from several weeks to a few seconds.
- In terms of migration of enterprise applications to the cloud and cloud application management, we launched 10 PaaS services, the microservice application platform ServiceStage, and the bare-metal container service Cloud Container Engine (CCE).
- In the database domain, we launched five cloud database services – HWSQL, PostgreSQL, SQL Server, DDS (MongoDB), and DRS.
- In EI, we:
  - Began delivering EI services to enable application in the connected vehicle and IoT sectors and help enterprises improve productivity and achieve greater success.
  - Launched three major types of EI services – basic platform services, general AI services, and scenario-specific solutions. AI technologies such as video and image recognition and deep reinforcement learning have been used to optimize signals in real time, reconstruct high-definition images, and search for hundreds of billions of images in seconds.
- In security, we started delivering security services featuring secure anti-DDoS protection, database security, host security, web application firewalls (WAFs), vulnerability scanning, and security checking to build a multi-dimensional defense system.

**In the consumer business, we are dedicated to bringing innovative technologies in multimedia, AI, chipsets, and charging management to smartphones, PCs, and wearables, aiming to deliver a better experience to consumers.**

- In the smartphone domain, we unveiled the HUAWEI Mate 10 smartphone series. The new features and functionalities of this series include:
  - The Kirin 970, an AI-powered chipset with a dedicated Neural Network Processing Unit (NPU), makes the Mate 10 phones intelligent devices that truly understand us.
  - The Mate 10 AI-driven camera can intelligently identify different types of scenes and objects for photographing, and then automatically determine the best settings for target objects, so that every photo turns out beautifully.
  - This series features a lens with an f/1.6 aperture for night photography. Combining autofocus on key objects with heterogeneous computing, Mate 10 phones can shoot pictures very quickly.
  - The use of EasyTalk technology helps the Mate 10 series tone down background noises for users making calls in noisy settings.

- The Mate 10 series is powered by a high-density battery featuring the SuperCharge fast charging technology and a smart battery management system that maximizes battery life.
  - The AI-driven EMUI 8.0 effectively minimizes Android lag and delivers smoother performance.
  - In the PC domain, we launched our MateBook X.
    - The optimized structural design of the MateBook X display equips it with incredibly thin bezels and thus a higher screen-to-body ratio.
    - The use of advanced heat dissipation materials and technologies enables it to efficiently dissipate heat without fans.
    - We worked with Dolby to build a panoramic sound system into this device, delivering a great sound experience for consumers.
  - In the wearable domain, the HUAWEI WATCH 2 is an eSIM Android smart watch that supports connections to the 4G networks of China Mobile and China Unicom. This device incorporates a continuous heart rate monitoring algorithm and technology to help users enjoy healthy sleep and exercise.
- We have made major advances in forward-looking basic research and innovation. Our aim is to contribute to progress in the industry via breakthroughs in technology.**
- In network theory research, we:
    - Built a mathematics model founded on our research of the queuing theory based on power-law distributions, proving the relationship between wireless service types and service latency and throughput.
    - Designed a probability network model based on the Markov chain to embrace the intelligent machine era with IoT at its core. Compared with the classical Poisson and power-law network models, the new model can reduce the discrepancy with real-world value.
  - Proposed an intelligent slicing network prototype for DC scenarios, helping improve data analytics efficiency.
  - Unveiled the application-driven and self-learning network architecture and prototype. This architecture ensures optimal experience for a wide array of services, increases network utilization, and lowers the memory cost of network measurement.
  - In network technology research, we:
    - Released our X-Ethernet/FlexE technology to achieve deterministic low latency.
    - Unveiled the distributed optical internetworking P-Router prototype system.
  - In optical network research, we:
    - Unveiled an innovative architecture for all-optical networks based on optical wavelength cross-connect.
    - Released the colorless wavelength division multiplexing (WDM) system.
  - We proactively invested in medium- and long-term research of advanced wireless technology to explore and verify new wireless technologies and theories that will address the communications demands of different scenarios in the future.
  - We continued to innovate in and optimize the infrastructure architecture, software, and hardware of DCs, and designed the OneBrain architecture that supports heterogeneous computing, including multiple new computing approaches, for DCs, to embrace the intelligent world on the horizon.



As of December 31, 2017

Total number of patents granted to Huawei:

**74,307**

Patent applications filed in China: 64,091

Patent applications filed outside China: 48,758

- We continued to invest in the research of next-generation media codec technologies, actively sought partnerships with industry players in audio and video processing, 3D, video intelligence, and other related domains, and drove progress in formulating the H.266 and AVS3.0 industry standards.
- We invested ongoing efforts to make AI flourish through application. Specifically, we:
  - Digitized site surveys and automated quality inspections with the use of computer vision technologies to improve the operating efficiency of the Global Technical Service Department (GTS) and reduce the time spent on manual network maintenance.
  - Proactively explored ways to bring intelligence to devices and enterprises, making progress in achieving intelligent human-device interaction and building an intelligent supply chain for companies.

### We work with excellent resources from around the world on innovation to advance ICT technological progress.

The following are some highlights from 2017:

- The Huawei Innovation Research Program (HIRP) sponsored several innovation and research projects, including research in technical domains such as wireless, networks, storage, and devices. HIRP received a Business Model Transformation Award at the World Open Innovation Conference (WOIC) 2017.
- We worked with mathematicians, physicists, and researchers of other domains from around the world on projects ranging from advanced wireless algorithms to future network architectures,

aspiring to address foundational issues and drive progress in the ICT industry with fundamental theories.

- We maintained collaboration with partners in areas such as cloud computing, data management, and AI, with a focus on the public cloud, intelligent networks, and intelligent O&M. As big data is extensively used in this environment, we aimed to address complicated issues such as low latency, high bandwidth, massive numbers of connections, and intelligent applications.



At Huawei, over 10% of revenue is invested in R&D every year.

2017  
80,000 employees  
were involved in R&D,  
comprising  
**45%**  
of the total  
workforce

R&D expenditures  
totaled CNY89,690  
million in 2017,  
accounting for  
**14.9%**  
of the company's  
total revenue

Over the past decade,

**CNY394,000 million**

was invested in R&D

## Cyber Security and Privacy Protection

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New technologies like cloud computing, the Internet of Things (IoT), big data, and 5G are improving our lives and also causing profound changes in the ICT industry. The ecosystem is opening up. Solutions are becoming more diverse. New services are going online faster than ever. These changes are making the digital economy more vibrant, but at the same time greater challenges relating to cyber security are emerging.

At Huawei, we believe that new challenges are not an excuse for standing still. We should use more advanced technology to solve the problems that we face today, and use new security concepts and measures to address the challenges of new technology.

We should build security through innovation, enhance security through collaboration, and work together to build a digital world that we can trust. This is our core approach to cyber security at Huawei.

Huawei is actively strengthening its competitive edge in cyber security to create greater value for our customers. In 2018, we again saw good results in the development of international technical standards for security. Some of our achievements include:

- Submitting 186 security standard proposals to 3GPP SA3
- Contributing technical proposals on 5G security architecture
- Participating in the development of security standards for southbound and northbound interfaces of SDN controllers and network-wide defense standards at IETF
- Leading the development of security specifications for cloud operating systems at CSA

Huawei works closely with all of our stakeholders to improve security capabilities and address global cyber security challenges. These initiatives include:

- Continuously expanding cooperation with the security teams of leading global carriers

- Introducing industry best practices like DevSecOps to two new business domains, our cloud service and consumer businesses, to bolster emergency security response (e.g., building a vulnerability ecosystem and rapid recovery capabilities) and ultimately reduce cyber security risks for users
- Active involvement in open source communities like helping improve code security for the Linux open source community, and working with industry peers to launch the Open Security Controller Project to centralize security service orchestration for multi-cloud environments

In addition to hands-on contributions, we actively share our ideas and practices regarding concepts, architecture, new technologies, and new solutions in cyber security. Examples of these include:

- In February 2017, Huawei and the Spanish National Institute of Cyber Security (INCIBE) jointly released the *Building a Trusted and Managed IoT World* white paper at the Mobile World Congress 2017 in Barcelona. This white paper analyzes the development of IoT security technologies, summarizes IoT security practices, and proposes multilayered end-to-end security assurance mechanisms for the IoT.
- In April 2017, Hu Houkun, Rotating CEO and Chairman of Huawei's Global Cyber Security and User Privacy Protection Committee (GSPC), attended the conference on Building International Peace and Security in the Digital Society at the UNESCO headquarters in Paris. At the event, Mr. Hu delivered a keynote highlighting the inherent opportunities and challenges that new technologies bring to cyber security. He shared Huawei's cyber security concepts – building security through innovation, enhancing security through collaboration, and jointly building trust in a digital world.
- In July 2017, Tobias Gondrom, Director of the Security Solution Planning & Architecture Design Department at Huawei, delivered a keynote titled *Changing the game: Next-generation strategies protecting global IT systems against new fast evolving threats* at the Gartner Security & Risk Management Summit. In his speech, he shared Huawei's insight into cyber security threats that new technologies bring, as well as Huawei's exploration into intrusion-immune security architecture.

- In September 2017, we showcased the security capabilities of Huawei products and solutions at HUAWEI CONNECT 2017, including cutting-edge security technologies. At the event, Huawei also released two white papers: *Huawei Cloud Security* and *Huawei IoT Security*. We organized presentations and discussions with the British Standards Institution (BSI), CSA, DarkMatter, and other third-party organizations and customers on security solutions for new business domains. Other topics which were discussed include security technologies like encrypted state search and trusted technology.
- In October 2017, Vladimir M. Yordanov, a cyber security expert in Huawei's Enterprise BG, delivered a speech titled *Building a Secure Internet of Things World: How Billions of Connected Devices Are Transforming the Cybersecurity Landscape* at the Information Security Forum (ISF) annual congress in France. In his speech, he elaborated on Huawei's 3T+1M IoT security model (i.e., three layers of key security technologies and one layer of security management).
- In November 2017, Huawei's Global Cyber Security & Privacy Officer John Suffolk addressed the fifth Global Conference on Cyberspace in India. During his speech, he pointed out new opportunities in the cyber security protection industry, noting that these opportunities are not just about security management, but also about design, architecture, and monitoring. On the topic of protecting critical information, Mr. Suffolk shared Huawei's cyber security strategy and Huawei's views about data security in the future, stressing the importance of governments working together to cleanse the digital world.
- In November 2017, Huawei attended the Fourth MBB Cyber Security Mindshare Forum in London. At the event, Huawei released two white papers: *5G Security Architecture White Paper* and *Top N Cyber Security Threats for Mobile Communications Networks and Countermeasures*. In these white papers, Huawei explained security architecture and new security features in 5G (e.g., scalable identity management, distributed identity authentication, and network slicing security) and showcased the massive potential of 5G security to provide protection for a wide variety of services.

We are constantly building and improving upon our end-to-end cyber security assurance system to ensure that all cyber security requirements are effectively met across the company. Our GSPC is the company's highest organization for managing cyber security and user privacy protection, and has been operating in this capacity for many years.

We incorporate cyber security management into our business processes to make it an integral part of our business activities. We specify the cyber security responsibilities of each business department, and ensure that they have the right resources to fulfill these responsibilities.

We continue to improve our capabilities in end-to-end cyber security R&D, security technology, cloud services, supply, and professional services. Building the security awareness of each and every employee is also a priority.

- **R&D:** We have steadily strengthened the security engineering capabilities that we have developed over the course of many years, including configuration management, code compilation, open source and third-party software management, R&D tool management, and traceability platforms. These capabilities are included in Huawei products and solutions to bolster the security of customer systems.
- **Security technology:** We continue to increase investment in this domain.
  - We continually develop and strengthen fundamental capabilities that target vertical industries and IoT, including distributed digital identity authentication and protocols for lightweight transmission and authentication.
  - In line with our in-house chip business, we have built system defense capabilities that combine software and hardware to improve the overall security and efficiency of our systems.
  - We use AI to significantly speed up identification and repair of vulnerabilities. We are also actively researching and deploying anti-exploit technologies like Control Flow Integrity (CFI).

- **Cloud services:** Our cloud security service architecture includes security services, security governance, and security engineering capabilities. We have also launched cutting-edge full-stack security services, such as those used for database security, which support features like sensitive data identification and dynamic anonymization. These help companies meet compliance requirements when moving their data and applications to the cloud.
  
- **Supply chain:**
  - In 2017, Huawei received Authorized Economic Operator (AEO) certification in 12 new countries and regions such as Canada, Hungary, Brazil, Turkey, and Hong Kong. We also received AEO certification in six countries, including the US (Customs-Trade Partnership Against Terrorism, C-TPAT), Mexico (NEEC, Mexico's equivalent of C-TPAT), China, and Malaysia, among others.
  
  - We have made further improvements in hardware and software traceability. For hardware, we are able to trace any replaceable components such as capacitors, diodes, and chips within 24 hours. For software, we have source code-level tracking capabilities, and can automatically trace all related software versions within one hour.
  
- **Professional services:** We continue to improve compliance and delivery quality of our cyber security activities throughout the service delivery process.
  - Our global service centers in Romania, India, and Mexico received ISO 27001 certification for their information security management systems.
  
  - Huawei's Operation Web Services (OWS) is an open, programmable, software-driven O&M platform with micro-services architecture, aimed at managing networks in real time and on-demand. The platform received certification for information security management from BSI and gold certification from the CSA Security, Trust & Assurance Registry (STAR).
  
- **Security culture:** Regular awareness training and education on cyber security and privacy protection is conducted for all Huawei employees. Fostering a company-wide climate and culture of cyber security awareness helps ensure that every employee accounts for cyber security and privacy protection in their everyday work.

Moving forward, we will continue to reinforce our engineering practices in security quality improvement, build out a security system that optimizes synergy between chips, devices, networks, and the cloud, and create an end-to-end chain of trust. Together with our customers, we will strengthen the application of big data and AI technology to build secure and trustworthy communications networks. In addition, we will work more closely with ecosystem partners to cultivate a robust and sustainable security ecosystem that, with combined strength, is better equipped to address increasingly complex cyber security threats around the globe.

## Openness. Collaboration. Shared Success.

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Building a digital, intelligent world takes joint effort. To this end, Huawei believes in the power of dissolving boundaries and working together to build an ecosystem that thrives on shared success. By advancing the development of the digital world – and by extension, an intelligent world – we can bring the benefits of digital life to everyone.

### Ecosystem and Industry Development: Our Principles

Huawei's focus on ICT infrastructure and intelligent devices is the foundation of a fertile business environment that integrates information technology, automation, and intelligence. This environment helps enrich our partners' content, applications, and clouds, so they can serve their customers better. When it comes to ecosystem and industry development, we have three guiding principles:

- Growing the industry and enlarging the market is far more important than increasing our own share.
- Cooperation is more important than competition. We enable others; we till the soil. We will not compete for profit with our partners, and will stay committed to openness, collaboration, and shared success.
- Through benefit sharing, we aim to consolidate the strength of as many people and companies as possible as we work towards a fully connected, intelligent world.

### Key Progress and Industry Value

On the industry front, Huawei actively contributes to a wide range of standards organizations, industry alliances, and open source communities to advance ICT and expand its market potential.

On the business front, we form and engage in open enablement platforms and business alliances that revolve around our customers' business needs. We work together with ecosystem partners on open innovation projects to speed up the development of customized solutions, helping our customers consolidate their strengths in digital transformation and succeed in their business pursuits.

On the national front, we work across public and private sectors in countries around the globe, providing insight into how new advances in technology like 5G, IoT, and cloud can help galvanize the economy.

**1. Standards organizations:** Building on our technological strengths in key domains, we actively contribute to standards organizations, where we promote unified, mature standards and act to prevent adverse fragmentation of the industry. In 2017, some of our core contributions include:

- Working together with core industry players in the 3GPP, promoting the release of the first commercial version of 5G New Radio standards to help pave the way for 5G
- Submitting multiple Requests for Comment (RFC) to the Internet Engineering Task Force (IETF) to drive the ongoing evolution of Internet Protocol
- Contributing basic Wi-Fi and Ethernet technology proposals to the Institute of Electrical and Electronics Engineers (IEEE), and laying a foundation for the PLC-IoT ecosystem
- Advocating industry alignment, working with organizations like the European Telecommunications Standards Institute (ETSI) and the International Telecommunication Union (ITU) to counter fragmentation
- Increasing investment in big data, security, and consumer domains

In 2017, we submitted more than 5,000 standards proposals, for a cumulative total of 54,000. Examples include recommendations for new technologies, including VPN+, 50GE, FlexE 2.0, 25G PON, and CloudCO to organizations such as IETF, IEEE, OIF, and BBF.

**2. Industry alliances:** Building on our vision for the industry, we actively promote, form, and run industry alliances to drive alignment, develop the industry, and grow its market potential. In 2017, some of our key initiatives include:



- Joining forces with major industry players to form alliances like the 5G Slicing Association (5GSA) and Optical Network 2020 (ON2020), as well as network and connection work groups like the Industrial Internet Consortium (IIC) and the Alliance of Industrial Internet (AII)
- Advancing influential industry associations, such as the Edge Computing Consortium, the 5G Automotive Association (5GAA), and the Open ROADS Community (OPRC), to help grow the industry
- Actively engaging with GSMA to advance the position of telecom industry players and drive strategic alignment around digital transformation
- Working with TM Forum on initiatives like expanding the developer ecosystem and releasing the first Digital Maturity Model (DMM) to enable the digital transformation of telecom carriers
- Partnering with the Broadband Forum (BBF) and other industry players to align on standards and approaches to fixed network cloudification
- Building the Ecosystem OpenLab with the Industrial Internet Consortium (IIC) to promote the digital transformation of vertical industries around the globe.
- Pushing for open source verification to drive the use of open source platforms in measuring the compliance of commercial products. For the OPNFV community, we pushed for the formation of the Compliance and Verification Program, which will help resolve NFV interoperability issues between multiple vendors and advance the NFV industry.
- Accelerating open innovation across the ecosystem, working on open source projects like CarbonData, LiteOS, OpenSDS, and ServiceComb.

**3. Open source communities:** We embrace open source, actively contributing to mainstream open source foundations and communities, where we promote community integration, accelerate open innovation, and drive ecosystem development. Activities in 2017 include:

- Actively investing in open source communities like OpenStack, CNCF, OCI, ONAP, OPNFV, FD.io, and Linaro. We hold 10 different seats in the board of directors for major international open source communities, and serve in more than 200 Technical Steering Committees, Project Team Lead, and Core Committer roles.
- Driving community integration to reduce industry fragmentation, proactively driving the merger of similar open source communities, such as OPEN-O and ECOMP, which combined to form ONAP.

**4. Technological innovation:** Through open innovation projects, closer collaboration with industry and academia, and active cultivation of ICT talent, we are laying a solid foundation for the digital and intelligent world. These efforts include:

- Launching the Huawei Innovation Research Program (HIRP) in Europe in 2010. HIRP funds innovative research in universities and research institutions, where we work together to tackle major issues at the forefront of information and communications technology. As of late 2017, the program has involved over 400 research institutions and 900 companies in more than 30 different countries and regions. HIRP-funded joint research can be found in nearly all of the top 100 universities in the world, uniting the efforts of more than 100 fellows from the Institute of Electrical and Electronics Engineers (IEEE) and the Association of Computing Machinery, key research facilities in more than 50 countries, and nearly 400 of the world's top research teams, two of which are led by Nobel Prize laureates.
- Running the Seeds for the Future program, which is designed to cultivate local ICT talent, promote knowledge transfer, strengthen understanding and interest in the ICT industry, and encourage greater involvement in digital society. Seeds for the Future is Huawei's flagship CSR program. As of Q4 2017, we have implemented the program in 108 countries and regions.

**5. Developer ecosystem:** We are constantly honing our open platform capabilities to enable the growth of all things in the digital world, connect the last mile, and enrich customer solutions, applications, and services. 2017 progress includes:

- Expanding the Huawei Developer Alliance that centers on consumer cloud services. To date, more than 350,000 developers have registered for Huawei's consumer cloud.
- Building out and strengthening OpenLabs to support thriving regional ecosystems. In total, we have built 16 OpenLabs around the world, which serve as collaborative centers of innovation, development, verification, and experience design for Huawei, our customers, and partners.
- Topping US\$500 million dollars of investment in our five-year Developer Enablement Plan (launched in 2015, our five-year investment target is US\$1 billion). We also launched the Huawei Cloud Developer Program in 2017, which aims to help talented developers innovate and monetize their innovation more quickly via Huawei's open cloud platform. In 2017, the number of registered users grew to 115,000 (a 360% global increase), and more than 3,200 new solutions and applications were released via the system.

**6. Business alliances:** We develop customer-facing business solutions together with our partners. 2017 landmarks include:

- Further strengthening strategic partnerships with companies like Microsoft, KUKA, and Accenture. Huawei works closely with strategic partners like Accenture, General Electric, Infosys, Intel, SAP, and other leading consulting, application, and industry solution providers. Together, we develop leading solutions in cloud, IoT, and enterprise digitization to help drive the digital transformation of global industry.
- Leveraging our X Labs and OpenLabs to work closely with more than 860 leading enterprise partners on custom solutions for domains like safe cities, transportation, energy, finance, and manufacturing. Working with companies like ABB, Bosch, Hexagon, and Honeywell, we apply new technology and platforms in 5G, cloud, IoT, AI, and video to help our customers succeed in their digital transformation efforts.

**7. Government advisory:** We help drive economic growth with new technology.

- As a member of the EU's 5G Infrastructure Public-Private Partnership (5G PPP), major 2017 contributions include:
  - Providing the results of our 5G research and trials to help inform the development and optimization of 5G policy in Europe
  - Working together with European industrial associations and regulatory bodies to produce a whitepaper on 5G spectrum and provide constructive feedback for member state research on 5G spectrum allocation
  - Participating in the EU's Horizon 2020 program (IoT and 5G research) to facilitate policy discussion between Europe and other regions, align stakeholders, and help drive both standardization and interoperability.



As of Q4 2017

Huawei is an active member of

**360+**

standards organizations, industrial alliances, and open source communities

where we hold

more than **300** key positions

We are a member of the board or executive committee in organizations like the IIC, IEEE-SA, BBF, ETSI, TMF, WFA, OASIS, WWRF, OpenStack, Linaro, ONAP, IFAA, GP, CCSA, and AAI

- Providing the UK government with our global ICT experience to inform industrial strategy, specifically as it relates to accelerating the deployment of next-generation digital infrastructure, all-optical networks, and 5G networks.
- Presenting the importance of optical fiber expansion to 5G through a paper published by the Convergent Networks project group jointly led by Huawei. The German government incorporated this concept in its 5G strategy, including items for using optical connections in 5G wireless base stations.
- Supporting the digital transformation of the national government in Brazil, including plans for a unified government cloud, which will allow for unified cloud services that improve the efficiency of public services, enhance data security, and reduce overall costs.
- Serving as a core advisory partner of the Malaysian government for ICT-related issues. At a meeting of the Global Science and Innovation Advisory Council (GSAIC) hosted by the Prime Minister of Malaysia, Huawei promoted spectrum allocation, national broadband, and funding policy; worked with the Economic Planning Unit to help the government develop its Transformasi Nasional 2050 (TN50) vision for Malaysia's future; and signed an MoU with the Ministry of Higher Education, the Sarawak state government, and the SME Corporation Malaysia to help Malaysia go digital and cultivate future ICT talent.
- Signing an MoU with the Ministry of Digital Economy and Society in Thailand, developing a digital economy whitepaper, and driving the growth of sectors like agriculture, tourism, and public health through direct government investment and the promotion of indirect social investment.
- Supporting Saudi Vision 2030 and helping to build a fully connected digital kingdom by:
  - Participating in the government's Universal Service Fund to provide telecommunications services to citizens in remote regions and eliminate the digital divide
  - Joining forces with the government, tower manufacturers, and telecom carriers to form public-private partnerships for revamping the country's public lighting infrastructure with environmentally friendly street lamps that double as mobile network base stations
  - Pooling public resources to improve the efficiency of network deployment (Yanbu became Saudi Arabia's first integrated smart city).

## Results of Operations

### Financial Performance

(CNY Million)	2017	2016	YoY
Revenue	<b>603,621</b>	521,574	15.7%
Gross profit	<b>238,142</b>	210,129	13.3%
—Gross profit margin	<b>39.5%</b>	40.3%	(0.8)%
Total operating expenses	<b>(181,758)</b>	(162,614)	11.8%
—as % of revenue	<b>30.1%</b>	31.2%	(1.1)%
Operating profit	<b>56,384</b>	47,515	18.7%
—as % of revenue	<b>9.3%</b>	9.1%	0.2%
Net finance expenses	<b>(573)</b>	(3,737)	(84.7)%
Income tax expenses	<b>(8,673)</b>	(7,006)	23.8%
Net profit	<b>47,455</b>	37,052	28.1%

Revenue in 2017 totaled CNY603,621 million, representing an increase of 15.7% year-on-year. Net profit grew by 28.1% year-on-year to CNY47,455 million. This was mainly attributable to increasing revenue, higher operating efficiency, and a reduction in foreign exchange losses.

- As the consumer business grew rapidly and contributed a larger share to total revenue, the company's gross profit margin dropped by 0.8 percentage points from 2016.
- Although the company increased investment in future-oriented research and innovation and in building its brand and sales channels, total operating expenses as a percentage of revenue dropped by 1.1 percentage points relative to 2016 thanks to efficiency gains made possible by ongoing management transformation.
- As foreign exchange losses declined sharply, the company's net finance expenses saw a significant decrease compared with 2016.

## Total Operating Expenses

(CNY Million)	2017	2016	YoY
Research and development expenses	<b>89,690</b>	76,391	17.4%
— as % of revenue	<b>14.9%</b>	14.6%	0.3%
Selling and administrative expenses	<b>92,681</b>	86,442	7.2%
— as % of revenue	<b>15.4%</b>	16.6%	(1.2)%
Other (income)/expenses, net	<b>(613)</b>	(219)	179.6%
— as % of revenue	<b>(0.10)%</b>	(0.04)%	(0.06)%
Total operating expenses	<b>181,758</b>	162,614	11.8%
— as % of revenue	<b>30.1%</b>	31.2%	(1.1)%

In 2017, Huawei continued to increase its investment in research and innovation for the future, such as 5G, chipsets, and smart devices. As a result, the company's R&D expenses as a percentage of revenue increased by 0.3 percentage points. The company also increased investment in building its brand and sales channels for the consumer and enterprise businesses, but thanks to the higher operating efficiency made possible by ongoing management transformation, the company saw a decline of 1.2 percentage points in selling and administrative expenses as a percentage of revenue. Total operating expenses as a percentage of revenue dropped by 1.1 percentage points.

## Net Finance Expenses

(CNY Million)	2017	2016	YoY
Net foreign exchange loss	<b>1,080</b>	5,407	(80.0)%
Other net finance gains	<b>(507)</b>	(1,670)	(69.6)%
Total net finance expenses	<b>573</b>	3,737	(84.7)%

Net finance expenses in 2017 amounted to CNY573 million, a decrease of CNY3,164 million over 2016. Net foreign exchange losses declined by CNY4,327 million over 2016.

## Financial Position

(CNY Million)	December 31, 2017	December 31, 2016	YoY
Non-current assets	<b>99,964</b>	88,132	13.4%
Current assets	<b>405,261</b>	355,502	14.0%
Total assets	<b>505,225</b>	443,634	13.9%
Among which: Cash and short-term investments	<b>199,943</b>	145,653	37.3%
Trade receivables	<b>106,324</b>	108,863	(2.3)%
Inventories	<b>72,352</b>	73,976	(2.2)%
Non-current liabilities	<b>61,924</b>	64,230	(3.6)%
Among which: Long-term borrowings	<b>38,338</b>	40,867	(6.2)%
Current liabilities	<b>267,685</b>	239,271	11.9%
Among which: Short-term borrowings	<b>1,587</b>	3,932	(59.6)%
Trade payables	<b>72,846</b>	71,096	2.5%
Owner's equity	<b>175,616</b>	140,133	25.3%
Total liabilities and owner's equity	<b>505,225</b>	443,634	13.9%

As of December 31, 2017, due to a significant growth in cash flow from operating activities, the balance of cash and short-term investments reached CNY199,943 million, up 37.3% year-on-year.

In 2017, Huawei's DSO was 63 days, 12 days shorter than the 75 days in 2016. Its ITO decreased by 15 days to 71 days compared with the 86 days in 2016. The company's DPO was 72 days, 10 days shorter than the 82 days in 2016.

As of December 31, 2017, total short-term and long-term borrowings amounted to CNY39,925 million, a decrease of 10.9% year-on-year from CNY44,799 million in 2016.

## Cash Flow from Operating Activities

(CNY Million)	2017	2016	YoY
Net profit	<b>47,455</b>	37,052	28.1%
Adjustment for depreciation, amortization, net foreign exchange losses and non-operating expenses, net	<b>14,255</b>	14,655	(2.7)%
Actuarial losses on defined benefit obligations	<b>715</b>	(829)	186.2%
Cash flow before change in operating assets and liabilities	<b>62,425</b>	50,878	22.7%
Change in operating assets and liabilities	<b>33,911</b>	(1,660)	2142.8%
Cash flow from operating activities	<b>96,336</b>	49,218	95.7%

Cash flow from operating activities in 2017 grew by 95.7% year-on-year to CNY96,336 million. This was attributable to the following factors:

- Net profit grew by 28.1% year-on-year.
- In 2017, changes in operating assets and liabilities contributed CNY33,911 million to the cash flow from operating activities. This was mainly attributable to the rapid growth of the consumer business and efficiency gains in the carrier and enterprise businesses made possible by ongoing management improvements.

## Financial Risk Management

In 2017, Huawei amended and improved its financial risk management policies and processes to further enhance the Group's ability to withstand financial risks and better support its business development.

### Liquidity Risk

Huawei has continuously worked to improve its capital structure and liquidity planning, budgeting, and forecasting systems to better assess mid-to long-term liquidity needs and short-term funding shortfalls. The Group has implemented prudent financial measures to meet its liquidity needs and guarantee the company's business development, including maintaining a robust capital structure and financial flexibility, keeping a proper level of funds, gaining access to adequate and committed credit facilities, creating effective cash plans, and centralizing cash management. As of December 31, 2017, the Group's cash and short-term investments had increased by 37.3% year-on-year to CNY199,943 million, enabling Huawei to mitigate its liquidity and debt repayment risks.

(CNY Million)	2017	2016	YoY
Cash flow from operating activities	<b>96,336</b>	49,218	95.7%
Cash and short-term investments	<b>199,943</b>	145,653	37.3%
Short-term and long-term borrowings	<b>39,925</b>	44,799	(10.9)%

### Foreign Exchange Risk

The Group's presentation currency is CNY. Huawei has foreign currency exposure related to buying, selling, and financing in currencies other than CNY, mainly USD and EUR. According to the Group's foreign exchange risk management policy, material foreign exchange exposures are hedged unless hedging is uneconomical due to market liquidity and/or hedging costs. The Group has developed a complete set of foreign exchange management policies, processes, and instructions. These include:

- Natural hedging: The Group structures its operations to match currencies between procurement and sales transactions, to the greatest extent possible.
- Financial hedging: For certain currencies where natural hedging does not fully offset the foreign currency position, the Group hedges through forward foreign exchange transactions.

In countries where local currencies depreciate sharply or in those with strict foreign exchange controls, the Group manages foreign exchange exposures using different measures, including pricing in USD. The Group also accelerates customer payment and promptly transfers cash out of these countries to mitigate risks.

With other conditions remaining unchanged, exchange rate fluctuations will impact the Group's net profit as follows:

(CNY Million)	2017	2016
USD depreciates by 5%	<b>(1,077)</b>	(843)
EUR depreciates by 5%	<b>158</b>	102

## Interest Rate Risk

Interest rate risks mainly arise from Huawei's long-term interest-bearing financial instruments. By analyzing its interest rate exposures, the Group uses a combination of fixed-rate and floating-rate bank loans to mitigate interest rate risks.

### 1. Major interest-bearing long-term financial instruments held by the Group as at December 31, 2017

	2017		2016	
	Effective Interest Rate (%)	(CNY million)	Effective Interest Rate (%)	(CNY million)
Fixed-rate long-term financial instruments				
Long-term borrowings	4.07	29,251	4.28	20,774
Trade and other receivables	7.21	(2,465)	6.87	(3,597)
Floating-rate long-term financial instruments				
Long-term borrowings	4.21	9,087	2.60	20,092
Trade and other receivables	0.32	(1,968)	0.51	(2,624)
Total		33,905		34,645

### 2. Sensitivity analysis

Assuming that the interest rate increased by 50 basis points on December 31, 2017 and other variables remained unchanged, based on the above long-term financial instruments, the Group's net profit and owner's equity would decrease by CNY27 million (in 2016, the amount was CNY72 million).

## Credit Risk

The company has established and implemented globally consistent credit management policies, processes, IT systems, and quantitative credit risk assessment tools. It has established dedicated credit management organizations across all regions and business units, and set up centers of expertise specializing in credit management in Europe and Asia Pacific. The company uses quantitative risk assessment models to determine customer credit ratings and credit limits. It has also set risk control points for key activities across the end-to-end sales process to manage credit risks in a closed loop. Huawei's Credit Management Department regularly assesses global credit risk exposures and develops IT tools to help field offices monitor risk status, estimate potential losses, and determine bad debt provisions as appropriate. To minimize risk, a special process is followed if a customer defaults on a payment or poses an unacceptably high credit risk.

## Sales Financing

With its global coverage, Huawei's sales financing team maintains close contact with customers to understand their financing needs and taps into a wide range of financing resources around the world. As a bridge for communication and cooperation between financial institutions and customers, the sales financing team provides customers with specialized financing solutions that contribute to ongoing customer success. To transfer risks, Huawei arranges for third-party financial institutions to provide sales financing, such as export credit facilities, leasing, and factoring. These institutions bear the associated risks and profit from these operations. Huawei has established systematic financing policies and project approval processes to strictly control financing risk exposures. Huawei only shares risks with financial institutions on certain projects, and makes provisions for risk contingencies to control business risks.

# Independent Auditors' Report



## Independent auditors' report on the consolidated financial statements summary to the Board of Directors of Huawei Investment & Holding Co., Ltd.

### Opinion

The consolidated financial statements summary of the Huawei Investment & Holding Co., Ltd. and its subsidiaries (the Group) set out on page 63 to 103, which comprise the summary consolidated statement of financial position as at December 31, 2017, the summary consolidated statements of total comprehensive income and cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information, are derived from the audited consolidated financial statements of the Group for the year ended December 31, 2017.

In our opinion, the accompanying consolidated financial statements summary is consistent, in all material respects, with the audited consolidated financial statements, in accordance with the basis described in note 2.

### Consolidated financial statements summary

The consolidated financial statements summary does not contain all the disclosures required by International Financial Reporting Standards applied in the preparation of the audited consolidated financial statements of the Group. Reading the consolidated financial statements summary is not a substitute for reading the audited consolidated financial statements of the Group.

### The audited consolidated financial statements and our report thereon

We expressed an unmodified audit opinion on the audited consolidated financial statements in our report dated March 22, 2018.

### Management's responsibilities for the consolidated financial statements summary

Management is responsible for the preparation of the consolidated financial statements summary in accordance with the basis described in note 2.

### Auditors' responsibilities

Our responsibility is to express an opinion on whether the consolidated financial statements summary is consistent, in all material respects, with the audited consolidated financial statements based on our procedures, which were conducted in accordance with International Standard on Auditing 810 (Revised), *Engagements to Report on Summary Financial Statements*.

KPMG Huazhen LLP  
Certified Public Accountants  
9th Floor, China Resources Building  
5001 Shennan East Road  
Shenzhen 518001, China  
March 27, 2018



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# Consolidated Financial Statements Summary

## Summary Consolidated Statement of Total Comprehensive Income

(CNY million)	Note	2017	2016
Revenue	8	603,621	521,574
Cost of sales		(365,479)	(311,445)
<b>Gross Profit</b>		<b>238,142</b>	<b>210,129</b>
Research and development expenses		(89,690)	(76,391)
Selling and administrative expenses		(92,681)	(86,442)
Other income, net	9	613	219
<b>Operating profit before financing costs</b>		<b>56,384</b>	<b>47,515</b>
Finance income and expenses	11	(573)	(3,737)
Share of associates' and joint ventures' results (post tax)		317	280
<b>Profit before taxation</b>		<b>56,128</b>	<b>44,058</b>
Income tax	12	(8,673)	(7,006)
<b>Profit after tax</b>		<b>47,455</b>	<b>37,052</b>
<b>Other comprehensive income</b>	13		
<b>Not reclassifiable to profit or loss:</b>			
Remeasurement of defined benefit obligations		715	(829)
<b>Reclassifiable to profit or loss:</b>			
Net change in the fair value of available-for-sale investments		92	(1,102)
Translation differences on foreign operations		(1,662)	3,671
		(1,570)	2,569
<b>Total other comprehensive income</b>		<b>(855)</b>	<b>1,740</b>
<b>Total comprehensive income</b>		<b>46,600</b>	<b>38,792</b>
<b>Profit after tax attributable to:</b>			
Equity holders of the Company		47,451	37,066
Non-controlling interests		4	(14)
<b>Total comprehensive income attributable to:</b>			
Equity holders of the Company		46,601	38,798
Non-controlling interests		(1)	(6)

Items of other comprehensive income are stated after tax and reclassification adjustments (see note 13).

The notes on pages 67 to 103 form part of this consolidated financial statements summary.

## Summary Consolidated Statement of Financial Position

(CNY million)	Note	December 31, 2017	December 31, 2016
<b>Assets</b>			
Goodwill and intangible assets	14	5,327	4,795
Property, plant and equipment	15	56,089	49,307
Long-term leasehold prepayments	16	5,152	4,112
Interests in associates and joint ventures	17	750	484
Other investments, including derivatives	18	5,965	3,003
Deferred tax assets	19	18,565	16,933
Trade receivables	21	2,451	3,776
Other assets	22	5,665	5,722
<b>Non-current assets</b>		<b>99,964</b>	<b>88,132</b>
Inventories	20	72,352	73,976
Trade and bills receivable	21	107,595	107,957
Other assets	22	25,371	27,916
Other investments, including derivatives	18	24,596	22,606
Cash and cash equivalents	23	175,347	123,047
<b>Current assets</b>		<b>405,261</b>	<b>355,502</b>
<b>Total assets</b>		<b>505,225</b>	<b>443,634</b>
<b>Equity</b>			
Equity attributable to equity holders of the Company		175,585	140,094
Non-controlling interests		31	39
<b>Total equity</b>		<b>175,616</b>	<b>140,133</b>
<b>Liabilities</b>			
Loans and borrowings	24	38,338	40,867
Long-term employee benefits		19,073	19,652
Deferred government grants		1,340	1,534
Deferred tax liabilities	19	1,471	1,104
Other liabilities	26	1,702	1,073
<b>Non-current liabilities</b>		<b>61,924</b>	<b>64,230</b>
Loans and borrowings	24	1,587	3,932
Income tax payable		4,390	4,100
Trade and bills payable	25	72,866	71,134
Other liabilities	26	168,609	145,448
Provisions	27	20,233	14,657
<b>Current liabilities</b>		<b>267,685</b>	<b>239,271</b>
<b>Total liabilities</b>		<b>329,609</b>	<b>303,501</b>
<b>Total equity and liabilities</b>		<b>505,225</b>	<b>443,634</b>

The notes on pages 67 to 103 form part of this consolidated financial statements summary.

## Summary Consolidated Statement of Cash Flows

(CNY million)	Note	2017	2016
<b>Cash flows from operating activities</b>			
Cash receipts from goods and services		669,545	555,918
Cash paid to suppliers and employees		(618,305)	(547,331)
Other operating cash flows		45,096	40,631
<b>Net cash generated from operating activities</b>		<b>96,336</b>	<b>49,218</b>
<b>Net cash used in investing activities</b>			
		(24,657)	(28,524)
<b>Net cash used in financing activities</b>			
		(16,936)	(10,851)
<b>Cash and cash equivalents</b>			
Net increase		54,743	9,843
At January 1	23	123,047	110,561
Effect of foreign exchange rate changes		(2,443)	2,643
<b>At December 31</b>	23	<b>175,347</b>	<b>123,047</b>

The notes on pages 67 to 103 form part of this consolidated financial statements summary.

# Notes to the Consolidated Financial Statements Summary

## 1 Reporting entity

Huawei Investment & Holding Co., Ltd. (the Company) is a limited liability company established in Shenzhen in the People's Republic of China (the PRC). The Company's registered office is at Huawei Industrial Base, Bantian Longgang, Shenzhen, PRC.

The Company and its subsidiaries (the Group) principally provide end to end Information and Communication Technology solutions. This includes the research, design, manufacture and marketing of telecom network equipment, IT products and solutions, cloud technology and services and smart devices for telecom carriers, enterprises and consumers. The principal activities and other particulars of the Company's major subsidiaries are set out in note 31(b) to the consolidated financial statements summary.

## 2 Preparation basis of the consolidated financial statements summary

The Group has prepared a full set of consolidated financial statements (consolidated financial statements) for the year ended December 31, 2017 in accordance with International Financial Reporting Standards (IFRSs).

The consolidated financial statements summary has been prepared and presented based on the audited consolidated financial statements for the year ended December 31, 2017 in order to disclose material financial and operational information.

## 3 Significant accounting policies

### (a) Basis of preparation of the consolidated financial statements

The consolidated financial statements have been prepared under the historical cost basis modified for the fair valuation of financial instruments classified as available-for-sale, held-for-trading and designated as at fair value through profit or loss (see note 3(e)).

The preparation of consolidated financial statements in accordance with IFRSs requires management to make judgements, estimates and assumptions that affect the application of policies and reported amounts of assets, liabilities, income and expenses. Estimates and associated assumptions are based on historical experience and various other factors that are believed to be reasonable under the circumstances. Actual results may differ from these estimates.

Estimates and underlying assumptions are reviewed regularly and revised when required. Revisions to accounting estimates are recognised in the period in which the estimate is revised if the revision affects only that period, or in the period of the revision and future periods if the revision affects both current and future periods.

Judgements made by management in the application of IFRSs that have significant effect on the consolidated financial statements and major sources of estimation uncertainty are discussed in note 5.

### (b) Functional and presentation currency

All financial information in the consolidated financial statements summary is presented in millions of Renminbi (CNY), which is the Company's functional currency.

### (c) Consolidation

The financial statements consolidate the results, assets, liabilities and cash flows of all subsidiaries which the Group controls.

Subsidiaries are consolidated from the date that control commences until the date that control passes. Intra-group balances and transactions, and any unrealised income and expenses arising from intra-group transactions, are eliminated. Unrealised gains arising from transactions with equity-accounted investees are eliminated against the investment to the extent of the Group's interest in the investee. Unrealised losses are eliminated in the same way as unrealised gains, but only to the extent that there is no evidence of impairment.

The Group controls an entity when it is exposed, or has rights, to variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. When assessing whether the Group has power, only substantive rights are considered.

The Group uses the acquisition method to account for business acquisitions. The difference between the fair value of the consideration paid and the fair value of assets, liabilities and contingent liabilities acquired is recorded as goodwill. Transaction costs incurred in an acquisition are included in operating costs.

Non-controlling interests represent the carrying value of the net assets of subsidiaries attributable to non-controlling shareholders. Changes in the Group's interests in a subsidiary that do not result in a loss of control are accounted for as equity transactions, whereby adjustments are made to the amounts of controlling and non-controlling interests within consolidated equity to reflect the change in relative interests, but no adjustments are made to goodwill and no gain or loss is recognised.

When the Group loses control of a subsidiary, it is accounted for as a disposal of the entire interest in that subsidiary, with a resulting gain or loss being recognised in profit or loss. Any interest retained in that former subsidiary at the date when control is lost is recognised at fair value or, when appropriate, the cost on initial recognition of an investment in an associate or a joint venture (see note 3(d)).

#### **(d) Associates and joint ventures**

An associate is an entity in which the Group has significant influence, but not control or joint control, over its management, including participation in the financial and operating policy decisions.

A joint venture is an arrangement whereby the Group and other parties contractually agree to share control of the arrangement, and have rights to the net assets of the arrangement.

An investment in an associate or a joint venture is accounted for in the consolidated financial statements using the equity method. They are initially recognised at cost, which includes transaction costs. Subsequent to initial recognition, the consolidated financial statements include the Group's share of the profit or loss and other comprehensive income (OCI) of equity-accounted investees, until the date on which significant influence or joint control ceases.

Unrealised profits and losses resulting from transactions between the Group and its associates and joint ventures are eliminated to the extent of the Group's interest in the investee, except where unrealised losses provide evidence of an impairment of the asset transferred, in which case they are recognised immediately in profit or loss.

#### **(e) Financial instruments**

##### **(i) Recognition and derecognition**

Financial instruments, comprising financial assets and financial liabilities are recognised in the consolidated statement of financial position when the Group becomes a party to the contractual provisions of the instrument.

The Group derecognises a financial asset when the contractual rights to the cash flows from the asset expire, or it transfers the rights to receive the contractual cash flows in a transaction in which substantially all of the risks and rewards of ownership of the financial asset are transferred or where it neither transfers nor retains substantially all of the risks and rewards of ownership and loses control. When control is retained, the Group continues to recognise the financial asset to the extent of its continuing involvement.

The Group derecognises a financial liability when its contractual obligations are discharged, cancelled, or expire.

Financial assets and financial liabilities are offset and the net amount presented in the consolidated statement of financial position when, and only when, the Group currently has a legally enforceable right to set off the recognised amounts and intends either to settle them on a net basis or to realise the asset and settle the liability simultaneously.

## (ii) Classification and measurement

All financial assets and liabilities are initially recognised at fair value, which is usually the transaction price including, where appropriate, transaction costs. Subsequently, measurement depends on their classification as follows:

- Financial assets at fair value through profit or loss  
Financial assets are classified as at fair value through profit or loss if they are classified as held-for-trading or are designated as such on initial recognition, and are remeasured to fair value at the end of each reporting period. Gains and losses arising from remeasurement are taken to profit or loss, as are transaction costs.
- Loans and receivables  
Loans and receivables including trade receivables are measured at amortised cost using the effective interest method including a reduction for any impairment losses (see note 3(k)). Interest income is included in finance income.
- Available-for-sale financial assets  
Available-for-sale financial assets are non-derivative financial assets that are not classified in any of the above categories of financial assets and are recognised initially at fair value plus any directly attributable transaction costs. At the end of each reporting period the fair value is remeasured, with any resultant gain or loss being recognised in other comprehensive income and accumulated separately in equity in the available-for-sale reserve except for the foreign exchange gain or loss which is recognised in finance income or expenses. When these assets are derecognised or impaired (see note 3(k)), the cumulative gain or loss is reclassified from equity to profit or loss.

Available-for-sale financial assets that do not have a quoted price in an active market and whose fair value cannot be reliably measured are measured at cost less any impairment losses (see note 3(k)) at the end of each reporting period.

Interest income on available-for-sale financial assets is recognised in finance income using the effective interest method. Dividends on available-for-sale equity securities are recognised in finance income when the right to receive dividends has been established.

- Financial liabilities at amortised cost  
Financial liabilities, except those designated as at fair value through profit or loss, are stated at amortised cost using the effective interest method. Interest is included in finance expenses unless capitalised into property, plant and equipment (see note 3(t)).
- Financial liabilities designated as at fair value through profit or loss  
The Group irrevocably designated certain financial liabilities as at fair value through profit or loss on initial recognition because such group of financial liabilities is managed and its performance is evaluated on a fair value basis and information of the Group is provided internally on that basis to the Group's key management personnel.

## (f) Investment property

Investment properties are land and buildings which are owned or held under a leasehold interest (see note 3(j)) to earn rental income and/or for capital appreciation.

Investment properties are stated at cost less accumulated depreciation (see note 3(g)(ii)) and impairment losses (see note 3(k)). Rental income from investment properties is accounted for as described in note 3(q)(ii).

## (g) Other property, plant and equipment

### (i) Cost

Items of property, plant and equipment are stated at cost less accumulated depreciation and impairment losses (see note 3(k)). Cost includes expenditure that is directly attributable to the acquisition of the assets including for self-constructed assets, the cost of materials, direct labour, the initial estimate, where relevant, of the costs of dismantling and removing the items and restoring the site on which they are located, and an appropriate proportion of production overheads and borrowing costs (see note 3(t)).

Construction in progress is transferred to other property, plant and equipment when it is ready for its intended use.

Gains or losses arising from the retirement or disposal of an item of property, plant and equipment are determined as the difference between the net disposal proceeds and the carrying amount of the item and are recognised in profit or loss on the date of retirement or disposal.

## (ii) Depreciation

Depreciation is calculated to write off the cost of items of property, plant and equipment, less their estimated residual value, if any, using the straight line method over their estimated useful lives as follows:

■ Buildings	30 years
■ Machinery, electronic equipment and other equipment	2 to 10 years
■ Motor vehicles	5 years
■ Decoration and leasehold improvements	2 to 5 years

Where components of an item of property, plant and equipment have different useful lives, the cost or valuation of the item is allocated on a reasonable basis between the parts and each part is depreciated separately. Both the useful life of an item of property, plant and equipment and its residual value, if any, are reviewed annually.

Freehold land and construction in progress are not depreciated.

## (h) Long-term leasehold prepayments

Long-term leasehold prepayments represent land premium paid, resettlement fees and related expenses incurred in obtaining the relevant land use rights, less accumulated amortisation and impairment losses (see note 3(k)).

Amortisation is charged to profit or loss on a straight-line basis over the period of the rights which is generally no more than 50 years.

## (i) Goodwill and intangible assets

### (i) Goodwill

Goodwill represents the excess of the fair value of consideration paid to acquire a subsidiary over the acquisition date fair value of the acquiree's identifiable assets acquired less liabilities, including contingent liabilities, assumed as at the acquisition date, less impairment losses (see note 3(k)).

Where the fair value of the assets acquired less liabilities assumed exceeds the consideration paid, the excess is recognised immediately in profit or loss as a gain.

Goodwill is not amortised but subject to impairment testing (see note 3(k)) annually.

### (ii) Other intangible assets

Other intangible assets that are acquired by the Group are stated at cost less accumulated amortisation and impairment losses (see note 3(k)).

### (iii) Amortisation

Amortisation of other intangible assets with finite useful lives is charged to profit or loss on a straight-line basis over the assets' estimated useful lives. The following intangible assets with finite useful lives are amortised from the date they are available for use and their estimated useful lives are as follows:

■ Software	2 to 20 years
■ Royalties	2 to 15 years
■ Patents	3 to 22 years
■ Trademark and others	2 to 20 years

Both the period and method of amortisation are reviewed annually and revised when necessary.

### (iv) Research and development

Research and development costs comprise all costs that are directly attributable to research and development activities or that can be allocated on a reasonable basis to such activities. The nature of the Group's research and development activities is such that the criteria for the recognition of such costs as assets are generally not met until late in the development stage of the project when the



remaining development costs are immaterial. Therefore most expenditure on research and development activities is recognised as an expense in the period in which it is incurred.

## (j) Leased assets

Most of the Group's leases are operating leases which do not transfer substantially all the risks and rewards of ownership to the Group.

Payments made under the leases are charged to profit or loss in equal instalments over the accounting periods covering the lease term, except where an alternative basis is more representative of the pattern of benefits to be derived from the leased asset. Lease incentives received are recognised in profit or loss as an integral part of the aggregate net lease payments made. Contingent rentals are charged to profit or loss in the accounting period in which they are incurred.

## (k) Impairment of assets

### (i) Impairment of financial assets

Loans and receivables, available-for-sale securities and cash and cash equivalents are reviewed at the end of each reporting period to determine whether there is objective evidence of impairment. Objective evidence of impairment includes observable data that comes to the attention of the Group about one or more of the following loss events:

- significant financial difficulty of the debtor or issuer;
- a breach of contract, such as a default or delinquency in contractual payments;
- it becoming probable that the debtor or issuer will enter bankruptcy or other financial reorganisation;
- significant changes in the technological, market, economic or legal environment that have an adverse effect on the debtor or issuer;

- a general decline in the ability of a group of financial assets to make payments when due; and
- a significant or prolonged decline in the fair value of an investment in an equity instrument below its cost.

Assets are tested for impairment individually and collectively. Where there is objective evidence that a financial asset or a group of financial assets is impaired, the Group recognises an impairment loss using an allowance account representing the difference between the carrying amount and the present value of estimated future cash flows, discounted at the financial asset's original effective interest rate. When assets are assessed collectively, they are grouped on the basis of similar credit characteristics.

Impairment losses are subsequently reversed if in a subsequent period the amount of an impairment loss decreases and the decrease can be linked objectively to an event occurring after the impairment loss was recognised.

Where an available-for-sale debt security is deemed to be impaired, cumulative fair value losses recognised in the available-for-sale reserve are reclassified to profit or loss. Losses are reversed if a subsequent increase in fair value can be objectively related to an event occurring after the impairment loss was recognised.

Available-for-sale equity securities are impaired where there has been a significant or prolonged decline in their fair value below cost and then the cumulative loss is reclassified to profit or loss. Impairment losses are not reversed.

### (ii) Impairment of other assets

Internal and external sources of information are reviewed at the end of each reporting period to identify indications that non-financial assets, including property, plant and equipment, long-term leasehold prepayments, intangible assets and other long-term assets may be impaired.

Goodwill is tested for impairment at least annually. For the purposes of impairment testing, goodwill is allocated to each cash generating unit, or groups of cash generating units, that is expected to benefit from the synergies of the acquisition. Where impairment testing is of a cash generating unit (or group of units), an impairment loss is recognised in profit or loss where the recoverable value is less than the carrying value of the unit (or group of units) and the impairment loss recognised is allocated first to reduce the carrying amount of any goodwill allocated to the unit (or group of units).

Other assets are impaired and an impairment loss is recognised in profit or loss where the recoverable value of the asset is less than its carrying amount, and reversed where there has been a favourable change in the recoverable amount. Impairment of goodwill is not reversed.

The recoverable amount of an asset or group of assets is the greater of its fair value less costs of disposal and value in use. Value in use is the total estimated future cash flows from the asset or, where the asset does not generate independent cash flows independent of other assets, a group of assets, discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset.

## (l) Inventories

Inventories are carried at the lower of cost and net realisable value.

Cost is calculated based on the standard cost method with periodic adjustments of cost variance to arrive at the actual cost, which approximates to weighted average cost. Cost includes expenditures incurred in acquiring the inventories and bringing them to their present location and condition. The cost of manufactured inventories and work in progress includes an appropriate share of overheads based on normal operating capacity.

The Group estimates losses for obsolescence and adjustment to net realisable value of the inventories periodically. Net realisable value is the estimated selling price in the ordinary course of business, less the estimated costs of completion and the estimated costs necessary to make the sale.

When inventories are sold, the carrying amount of those inventories is recognised as an expense in the period in which the related revenue is recognised. Any write-down of inventories to net realisable value and all losses of inventories are recognised as an expense in the period the write-down or loss occurs.

## (m) Cash and cash equivalents

For the purposes of the consolidated statement of cash flows, cash and cash equivalents comprise cash at bank and on hand, demand deposits with banks and other financial institutions, demand deposits with third party merchants, and short-term, highly liquid investments that are readily convertible into known amounts of cash and which are subject to an insignificant risk of changes in value. Bank overdrafts that are repayable on demand and form an integral part of the Group's cash management are also included as a component of cash and cash equivalents for the purpose of the consolidated statement of cash flows.

## (n) Employee benefits

### (i) Short-term employee benefits, contributions to defined contribution retirement plans and other long-term employee benefits

Salaries, profit-sharing and bonus payments, paid annual leave and contributions to defined contribution retirement plans and the cost of non-monetary benefits are accrued in the year in which the associated services are rendered by employees. Where payment or settlement is deferred and the effect would be material, these amounts are stated at their present values.

## (ii) Defined benefit obligations

The Group's obligation in respect of defined benefit plans is calculated separately for each plan by estimating the total amount of future benefit that employees have earned in return for their service in the current and prior periods which is then discounted to present value. The calculation is performed by management using the projected unit credit method.

Service cost and interest cost on the defined benefit obligations and any curtailment gains and losses are recognised in profit or loss.

Remeasurements arising from changes in assumptions regarding the amounts of future benefits are recognised immediately in other comprehensive income and shall not be reclassified to profit or loss in a subsequent period.

## (o) Income tax

Income tax for the year comprises current tax and movements in deferred tax assets and liabilities. Current tax and movements in deferred tax assets and liabilities are recognised in profit or loss except to the extent that they relate to items recognised in other comprehensive income or directly in equity, in which case the relevant amounts of tax are recognised in other comprehensive income or directly in equity, respectively.

Current tax is the expected tax payable on the taxable income for the year, using tax rates enacted or substantively enacted at the end of the reporting period, and any adjustment to tax payable in respect of previous years.

Deferred tax is provided on temporary differences, representing the difference between the carrying amounts of assets and liabilities for financial reporting purposes and their tax bases. Deferred tax assets also arise from unused tax losses and unused tax credits.

Deferred tax assets are recognised to the extent that it is probable that future taxable profits

will be available against which the asset can be utilised. Future taxable profits that may support the recognition of deferred tax assets arising from deductible temporary differences include those that will arise from the reversal of existing taxable temporary differences, provided those differences relate to the same taxation authority and the same taxable entity, and are expected to reverse either in the same period as the expected reversal of the deductible temporary difference or in periods into which a tax loss arising from the deferred tax asset can be carried back or forward. The same criteria are adopted when determining whether existing taxable temporary differences support the recognition of deferred tax assets arising from unused tax losses and credits, that is, those differences are taken into account if they relate to the same taxation authority and the same taxable entity, and are expected to reverse in a period, or periods, in which the tax loss or credit can be utilised.

No deferred tax is recognised on:

- the initial recognition of goodwill;
- the initial recognition of assets or liabilities that affect neither accounting nor taxable profit (provided they are not part of a business combination); and
- temporary differences relating to investments in subsidiaries to the extent that, in the case of taxable differences, the Group controls the timing of the reversal and it is probable that the differences will not reverse in the foreseeable future, or in the case of deductible differences, unless it is probable that they will reverse in the future.

The amount of deferred tax recognised is measured based on the expected manner of realisation or settlement of the carrying amount of the assets and liabilities, using tax rates enacted or substantively enacted at the end of the reporting period. Deferred tax assets and liabilities are not discounted.

The carrying amount of a deferred tax asset is reviewed at the end of each reporting period and is reduced to the extent that it is no longer probable that sufficient taxable profits will be available to allow the related tax benefit to be utilised. Any such reduction is reversed to the extent that it becomes probable that sufficient taxable profits will be available.

Current tax balances and deferred tax balances, and movements therein, are presented separately from each other and are not offset. Current tax assets are offset against current tax liabilities, and deferred tax assets against deferred tax liabilities, if the Group has legally enforceable rights to set off current tax assets against current tax liabilities and the following additional conditions are met:

- in the case of current tax assets and liabilities, the Group intends either to settle on a net basis, or to realise the asset and settle the liability simultaneously; or
- in the case of deferred tax assets and liabilities, if they relate to income taxes levied by the same taxation authority on either:
  - the same taxable entity; or
  - different taxable entities, which, in each future period in which significant amounts of deferred tax liabilities or assets are expected to be settled or recovered, intend to realise the current tax assets and settle the current tax liabilities on a net basis or realise and settle simultaneously.

## (p) Provisions and contingent liabilities

Provisions are recognised for liabilities of uncertain timing or amount when the Group has a legal or constructive obligation arising as a result of a past event, it is probable that an outflow of economic benefits will be required to settle the obligation and a reliable estimate

can be made. Where the time value of money is material, provisions are stated at the present value of the expenditure expected to settle the obligation.

Where it is not probable that an outflow of economic benefits will be required, or the amount cannot be reliably estimated, disclosure is made of the contingent liability, unless the probability of outflow of economic benefits is remote. Possible obligations, whose existence will only be confirmed by the occurrence or non-occurrence of one or more future events are also disclosed as contingent liabilities unless the probability of outflow of economic benefits is remote.

The main types of provisions are as follows:

### (i) Provision for warranties

The Group provides warranty on its products for a period typically covering 12 to 24 months. The Group estimates the costs that may be incurred under its warranty obligations and records a liability in the amount of such costs when revenue is recognised. Warranty costs generally include spare parts, labour costs and service centre support. Factors that affect the Group's warranty liability include the number of installed units, historical and anticipated rates of warranty claims. The Group periodically reassesses its warranty liabilities and adjusts the amounts as necessary.

### (ii) Provision for onerous contracts

A provision for onerous contracts is recognised when the expected benefits to be derived by the Group from a contract are lower than the unavoidable cost of meeting its obligations under the contract. The provision is measured at the present value of the lower of the expected cost of terminating the contract and the expected net cost of continuing with the contract. Before a provision is established, the Group recognises any impairment loss on the assets associated with that contract.

### (iii) Provision for product sales

The Group may provide rebates to customers and other sales based incentives based on contractual agreements or specific incentive programmes. The provisions for such incentives are estimated, and regularly reviewed, based on various factors including, but not limited to, contractual terms, customary business practices, expected take up rates, experience of similar contracts, and historical experience.

The Group also provides sales incentives in the form of discounts when eligible purchases exceed a defined value or volume and may be either for a fixed or variable amount depending on the nature of the contractual agreement. These provisions are estimated, and regularly reviewed, based on several factors, including but not limited to, expected purchase volumes, contractual terms, customary business practices and historical experience.

### (q) Revenue recognition

Revenue is measured at the fair value of the consideration received or receivable. Where it is probable that the economic benefits will flow to the Group and the revenue and costs, if applicable, can be measured reliably, revenue is recognised in profit or loss as follows:

#### (i) Sale of goods and provision of services

Revenue from sale of goods is recognised when the significant risks and rewards of ownership of goods have been transferred to the buyer. Revenue from the provision of services is recognised at the time when the services are provided. No revenue is recognised if there are significant uncertainties regarding the recovery of the consideration due, associated costs or the return of goods. Revenue excludes value added tax or other sales taxes and is after deduction of any trade discounts, sales rebates and incentives.

#### (ii) Rental income from operating leases

Rental income receivable under operating leases is recognised in profit or loss in equal instalments over the periods covered by the lease term, except where an alternative basis is more representative of the pattern of benefits to be derived from the use of the leased asset. Lease incentives granted are recognised in profit or loss as an integral part of the aggregate net lease payments receivable. Contingent rentals are recognised as income in the accounting period in which they are earned.

#### (r) Government grants

Grants that are unconditional and compensate the Group for expenses incurred are recognised directly in profit or loss as other income when the grants become receivable. Grants that compensate the Group for expenses incurred which are conditional are initially recognised as deferred income in the statement of financial position at fair value, and are then recognised in profit or loss as other income when government acceptance documents are obtained, indicating that the conditions associated with the grants are fully satisfied.

Grants that compensate the Group for the cost of an asset are recognised as deferred income and consequently are effectively recognised in profit or loss on a systematic basis over the useful life of the asset.

#### (s) Translation of foreign currencies

##### (i) Foreign currency transactions

Foreign currency transactions during the year are translated to the respective functional currencies of group entities at the foreign exchange rates ruling at the transaction dates. Monetary assets and liabilities denominated in foreign currencies are translated to the functional currency at the foreign exchange rates ruling at the end of the reporting period. Exchange gains and losses are recognised in profit or loss.

Non-monetary assets and liabilities that are measured in terms of historical cost in a foreign currency are translated using the foreign exchange rates ruling at the transaction dates. Non-monetary assets and liabilities denominated in foreign currencies that are stated at fair value are translated using the foreign exchange rates ruling at the dates the fair value was measured.

#### (ii) Foreign operations

The results of foreign operations, except for foreign operations in hyperinflationary economies, are translated into the presentation currency of the Group (CNY) at the exchange rates approximating the foreign exchange rates ruling at the dates of the transactions. Statement of financial position items are translated into CNY at the closing foreign exchange rates at the end of the reporting period. The resulting exchange differences are recognised in other comprehensive income and accumulated separately in equity in the translation reserve. If the operation is a non-wholly-owned subsidiary, then the relevant proportionate share of the translation difference is allocated to the non-controlling interests.

The results and financial position of foreign operations in hyperinflationary economies are translated to CNY at the exchange rates ruling at the end of the reporting period. Prior to translating the financial statements of foreign operations in hyperinflationary economies, their financial statements for the current year are restated to account for changes in the general purchasing power of the local currencies. The restatement is based on relevant price indices at the end of the reporting period.

When a foreign operation is disposed of in its entirety or partially such that control, significant influence or joint control is lost, the cumulative amount in the translation reserve related to that foreign operation is reclassified to profit or loss as part of the gain or loss on disposal.

#### (t) Borrowing costs

Borrowing costs that are directly attributable to the acquisition, construction or production of

an asset which necessarily takes a substantial period of time to get ready for its intended use or sale are capitalised as part of the cost of that asset. Other borrowing cost are expensed in the period in which they are incurred.

## 4 Changes in accounting policies

The IASB issued a number of amendments to existing standards which came into effect in the current year. None of these led to a change in the Group's significant accounting policies.

## 5 Accounting judgements and estimates

Key sources of estimation uncertainty are as follows:

### (a) Revenue recognition

Revenue from sale of goods and provision of services is recognised when the criteria set out in note 3(q) are met. Management judgement is applied relating to, inter alia, conformance with acceptance criteria and if the transfer of risks and rewards to the customer has taken place and the customer credit standing to assess whether payment is likely or not to justify revenue recognition. For distribution sales, management judgment is also applied in determining when the distributor assumes significant risks and rewards of ownership of the goods and the Group has no continuing managerial involvement over the goods after their delivery. These judgments consider several external factors including, but not limited to, market conditions, product life cycles, distributor sales, consumer preferences and competitive conditions.

### (b) Impairment of receivables

The credit risk of customers is regularly assessed with focus on the customer's current ability to pay, historical payment records and taking into account information specific to the customer as well as pertaining to the country and economic environment in which the customer operates. If the financial condition of customers were to deteriorate or improve, additional allowances or reversals may be required in future periods.

### (c) Net realisable value of inventories

The net realisable value of inventories is the estimated selling price in the ordinary course of business, less the estimated costs of completion and the estimated costs necessary to make the sale. These estimates are based on the current market condition and the historical experience of distributing and selling products of similar nature. They could change significantly as a result of competitor actions in response to severe industry cycles or other changes in market condition. Management will reassess the estimations at the end of each reporting period.

### (d) Depreciation and amortisation

Property, plant and equipment are depreciated on a straight-line basis over the estimated useful lives, after taking into account the estimated residual value. Intangible assets with finite useful life are amortised on a straight-line basis over the estimated useful lives. Both the period and method of depreciation and amortisation are reviewed annually. The depreciation and amortisation expense for future periods is adjusted if there are significant changes, such as operational efficiency or changes in technologies, from previous estimates.

### (e) Impairment losses of long-lived assets

The carrying amounts of long-lived assets (including goodwill) are reviewed periodically in order to assess whether the recoverable amounts have declined below the carrying amounts. In order to determine the recoverable amount, the Group uses assumptions and develops expectations, which requires significant judgement. The Group uses all readily available information in determining an amount that is a reasonable approximation of recoverable amount, including estimates based on reasonable and supportable assumptions and projections of production volume, sales price, amount of operating costs, discount rate and growth rate.

### (f) Income tax

The Group is subject to income taxes in various jurisdictions. Significant judgement is required in determining the Group provision for income taxes. There are many transactions and computations for which the ultimate tax determination is uncertain during the ordinary course of business. The Group recognises liabilities based on estimates of whether additional taxes will eventually be due. Where the final tax outcome of these matters is different from the amounts that were initially recorded, such differences will impact current and deferred tax liabilities and the taxation charge for the year.

### (g) Provision for warranties

As explained in note 27, the Group makes provision for warranties in respect of its products, taking into account the Group's recent claim experience and anticipated claim rates for its products. As the Group is continually upgrading its product designs and launching new models, it is possible that the recent claim experience is not indicative of future claims that it will receive in respect of past sales. Any increase or decrease in the provision would affect profit or loss in future years.

### (h) Other provisions

The Group makes provisions for onerous contracts, product sales, outstanding litigations and claims based on project budgets, contract terms, available knowledge and past experience. The Group recognises provisions to the extent that it has a present legal or constructive obligation as a result of a past event; that it is probable that an outflow of resources will be required to settle the obligation; and that the amount can be reliably estimated. Judgement is required in making such estimates and the ultimate outcome may be different.

### (i) Deferred tax asset

The Group considers the key source of estimation uncertainty lies in recognition of deferred tax assets from unused tax losses and deductible temporary differences. As explained in note 3(o), all deferred tax assets to the extent that it is probable that future taxable profits will be available against which they can be utilised, are recognised. It is possible that adverse changes to the operating environment or the Group's organisation structure could result in a future write-down of the deferred tax assets recognised.

## 6 Possible impact of amendments, new standards and interpretations issued but not yet effective for the year ended December 31, 2017

The IASB has issued a number of new standards and amendments which will affect the financial statements in subsequent accounting periods. Those most relevant to the Group are set out below.

	<i>Effective for accounting periods beginning on or after</i>
IFRS 15, <i>Revenue from contracts with customers</i>	January 1, 2018
IFRS 9, <i>Financial instruments</i>	January 1, 2018
IFRIC 22, <i>Foreign currency transactions and advance consideration</i>	January 1, 2018
IFRS 16, <i>Leases</i>	January 1, 2019

The Group has assessed the impact that the initial application of the above new standards and amendments will have on its consolidated financial statements.

### (a) IFRS 15, *Revenue from Contracts with Customers*

IFRS 15 establishes a comprehensive framework for determining when, and at what amount, revenue shall be recognised. IFRS 15 requires revenue to be recognised when, or as, control of each distinct promised good or service (known as a performance obligation (PO)) is transferred to the customer. Revenue is measured in accordance with IFRS 15 at the amount of the consideration that the Group expects to be entitled for the goods and services transferred. This contrasts with the current policy that revenue is recognised when the significant risks and rewards of ownership of the good or service have been transferred to the customer, and measured at the fair value of the consideration received or receivable.

Based on the assessment undertaken to date, the primary impacts on the Group's consolidated financial statements are analysed as follows:

#### (i) Contract combinations

IFRS 15 requires the combination of separate customer contracts entered into at or near the same time with the same customer (or related parties) if those contracts are priced in contemplation of, or in conjunction with, one another or if they form a package with a single commercial objective. The Group expects to combine more contracts as a result of IFRS 15 which may impact the timing and allocation of revenues (see below).



## **(ii) Performance obligations**

A PO is generally a distinct promise to deliver a good or service to a customer. At contract inception, the Group assesses the nature of goods and services which are promised in a contract and identifies the performance obligations.

In the Carrier Business the Group expects there to be significantly more unbundled POs due to the nature of the contracts which typically involve sales of networking hardware, software and a wide range of services. In the Enterprise Business where the Group delivers bespoke end-to-end solutions, there may in some cases be more bundled POs. In the Consumer Business POs are typically terminal devices, accessories and services.

In addition the Group's warranty commitments may be either standard or customised in nature. The Group has determined that the warranties offered in the Carrier Business and Enterprise Business are generally a service in nature which give rise to a separate PO and will therefore be allocated revenue with the adoption of IFRS 15.

## **(iii) Timing of revenue recognition**

The Group expects that revenue in the Carrier Business and Enterprise Business will be recognised earlier throughout the contract period in most cases. The timing of revenue recognition within the Consumer Business is expected to be materially unchanged and will continue to be recognised upon product delivery or over the service delivery period in most instances.

Within the Carrier Business, the Group expects that revenue from some network construction contracts containing a single or few PO(s) will be recognised proportionately over the delivery period. Revenue from the remaining network contracts containing multiple POs will be recognised when the Group transfers control of each distinct good or service, either at a point in time such as delivery or acceptance, or over time as the obligation is being fulfilled.

Within the Enterprise Business, the Group expects that revenue from most of its construction contracts will be recognised proportionately over the delivery period. The remaining contracts containing multiple POs will be recognised when the Group transfers control of each distinct good or service, either at a point in time such as delivery or acceptance, or over time as the obligation is being fulfilled.

## **(iv) Variable consideration**

The Group currently recognises revenue from the sale of goods and services at the fair value of the consideration received or receivable, adjusted for returns, trade discounts, volume rebates and other sales incentives, such as vouchers or coupons, provided the level of expected return of goods, volume rebates and other incentives given can be estimated reliably. Under IFRS 15, such items given to customers, both explicitly from contract commitments and implicitly from business practices, result in variable consideration. Variable consideration is recognised when control of the good or service is transferred to the customer but only to the extent that it is highly probable that a significant reversal of cumulative revenue will not occur when the uncertainty is resolved. The Group does not expect a material change to the timing of recognition of revenue relating to variable consideration as a result of IFRS 15.

## **(v) Allocation of consideration**

IFRS 15 requires that the transaction price of a contract with a customer should be allocated to each PO in proportion to its stand-alone selling price. Currently the Group allocates the fair value of the consideration received or receivable to the components of a contract on a relative fair value basis. The Group does not expect a material change to the allocation methodology with the implementation of IFRS 15.

## **(vi) Transition**

The Group will adopt IFRS 15 using the cumulative effect transition method, under which the cumulative effect of initial application will be recognised as an adjustment to the opening balance of equity at January 1, 2018. As allowed by IFRS 15, the Group will apply the new requirements only to contracts that are not completed before January 1, 2018.

## (b) IFRS 9, *Financial Instruments*

IFRS 9 *Financial Instruments* replaces IAS 39 *Financial Instruments: Recognition and Measurement*. It contains new requirements on the classification and measurement (including the impairment) of financial assets, as described below.

### (i) Classification and measurement

IFRS 9 requires that financial assets are classified and measured depending on their contractual terms and how the assets are managed to realise cash (the business model).

Assets whose contractual terms solely give rise to payments of principal and interest which are held in a business model which is principally to hold them to collect the contractual cash flows will be measured at amortised cost.

Assets whose contractual terms solely give rise to payments of principal and interest held in a mixed business model which is to hold some to collect the contractual cash flows but to sell others will be held at fair value, with gains and losses on re-measurement included in other comprehensive income.

All other financial assets will be held at fair value with gains and losses on re-measurement included in profit or loss, with the exception of strategic investments in equity where gains and losses will be included in other comprehensive income if the Group chooses to make that designation.

### (ii) Impairment

IFRS 9 requires the recognition of impairment on debt assets held at amortised cost or fair value through other comprehensive income on the basis of expected losses, which is the shortfall between the contractual cash flows and those expected to be received at the financial reporting date based on either a 12 month probability of default or a lifetime

probability of default. Objective evidence of a loss incurred in the period which was required by IAS 39 is no longer a precondition for recording a credit loss under IFRS 9.

### (iii) Financial impacts

The Group has determined that most accounts receivable and cash and cash equivalents will continue to be carried at amortised cost. Some may be held at fair value through other comprehensive income, where they are held in portfolios with significant levels of debt factoring.

The recognition of impairment on an expected loss rather than an incurred loss basis is likely to increase the general level of impairment and to lead to earlier recognition of impairment. The Group has determined that it will recognise lifetime expected losses on its trade receivables as well as its contract assets and lease receivables.

Debt securities and investment funds currently classified as available-for-sale will be reclassified as either amortised cost, fair value through other comprehensive income or fair value through profit or loss depending on whether they are held in portfolios managed to collect contractual payments and depending on the levels of selling in the portfolios. In addition where investment funds do not give rise to payments of principal and interest, they will fall to be accounted at fair value with gains and losses on re-measurement included in profit or loss.

Where investments in equity securities are held for strategic purposes, they will be held at fair value through other comprehensive income. All other equity securities will be held at fair value through profit or loss.

The adoption of IFRS 9 will not have any material impact on the Group's accounting for financial liabilities.

#### (iv) Transition

The Group will use the modified retrospective approach to transition and not present restated comparative information for prior periods. Adjustments to the carrying amounts of financial assets arising from the adoption of IFRS 9 will be recognised in retained earnings and reserves as at January 1, 2018.

#### (c) IFRIC 22, *Foreign currency transactions and advance consideration*

IFRIC 22 clarifies that advance payments received from customers in a foreign currency are not re-measured to the rate ruling on the date that revenue is recognised, which will affect the amount of revenue included in the consolidated statement of total comprehensive income. This requirement will be applied from January 1, 2018. Comparative figures will not be adjusted for the change.

#### (d) IFRS 16, *Leases*

IFRS 16 will affect how the Group accounts for leasing transactions as lessee. The main change is that the Group will recognise an asset in respect of the right to use assets held under operating leases, and a liability for its obligations to make payments under such leases.

## 7 Segment information

Operating segments are determined based on the types of customers, products and services provided, as well as the Group's organisation structure, management requirement and reporting system. The Group divides its business into three operating segments:

### Carrier Business

The Carrier Business provides a series of products, services and business solutions encompassing wireless network, fixed network, cloud core network, carrier software, IT infrastructure, network energy, professional services, and network rollout services, for global telecom carriers.

### Enterprise Business

The Enterprise Business builds a digital infrastructure platform by using new ICT technologies such as cloud computing, software-defined networking, big data and Internet of Things to provide products and services that help industries (such as government, public utilities, finance, energy, transport, and manufacturing) go digital.

### Consumer Business

The Consumer Business provides smartphones, tablets, wearable devices, converged home devices, as well as the applications on these devices for consumers and businesses.

There are no inter-segment transactions. The financial information of the different segments is regularly reviewed by the Group's most senior executive management for the purpose of resource allocation and performance assessment.

### Revenue information in respect of business segments

(CNY million)	2017	2016
Carrier	<b>297,838</b>	290,561
Enterprise	<b>54,948</b>	40,666
Consumer	<b>237,249</b>	179,808
Unallocated items	<b>13,586</b>	10,539
Total	<b>603,621</b>	521,574

### Revenue information in respect of geographical segments

(CNY million)	2017	2016
China	<b>305,092</b>	236,512
Europe, the Middle East and Africa (EMEA)	<b>163,854</b>	156,509
Asia Pacific	<b>74,427</b>	67,500
Americas	<b>39,285</b>	44,082
Others	<b>20,963</b>	16,971
Total	<b>603,621</b>	521,574

## 8 Revenue

(CNY million)	2017	2016
Sale of goods and provision of services	<b>603,391</b>	521,428
Rental income (note 28(b))	<b>230</b>	146
	<b>603,621</b>	521,574

## 9 Other income, net

(CNY million)	2017	2016
Factoring expenses	<b>(436)</b>	(1,039)
Provision for continuing involvement liabilities	<b>(369)</b>	(25)
Government grants	<b>1,178</b>	1,295
Impairment loss on intangible assets and goodwill (note 14)	–	(154)
Net loss on disposal of property, plant and equipment and intangible assets	<b>(118)</b>	(89)
Others	<b>358</b>	231
	<b>613</b>	219

### Government grants

During the year ended December 31, 2017, the Group received unconditional government grants of CNY671 million (2016: CNY476 million) in respect of its contributions to the development of research and innovation in the PRC. These grants were directly recognised as other income.

During the year ended December 31, 2017, the Group received government grants of CNY326 million (2016: CNY388 million) which were conditional upon completion of certain research and development projects. These grants were initially recognised in the consolidated statement of financial position as deferred income and are recognised in profit or loss as other income when government acceptance documents are obtained. During the year ended December 31, 2017, conditional government grants of CNY507 million (2016: CNY819 million) were recognised in profit or loss.

## 10 Personnel expenses

(CNY million)	2017	2016
Salaries, wages and other benefits	<b>106,851</b>	94,179
Time-based unit plan (TUP)	<b>17,155</b>	13,076
Post-employment plans		
– Defined benefit plan	<b>3,665</b>	3,408
– Defined contribution plans	<b>12,614</b>	11,209
	<b>16,279</b>	14,617
	<b>140,285</b>	121,872

### TUP

TUP is a profit-sharing and bonus plan based on employee performance for all eligible employees (recipients) in the Group. Under TUP, time-based units (TBUs) are granted to recipients for a period of five years which entitle them to receive an annual cash incentive based on an annual profit-sharing amount and a cumulative end-of-term appreciation amount. Both the annual profit-sharing and the end-of-term appreciation amount are determined at the discretion of the Group. Recipients will receive the pay-out of the annual profit-sharing amount in each of the next fiscal year during the five-year period. TBUs expire either at the end of the five-year period or on the date recipients leave the Group's employment, when the end-of-term appreciation amount will be paid.

## Defined contribution plans

The Group contributes to defined contribution retirement plans for eligible employees. The plans are managed either by the government in the countries where the employees are employed, or by independent trustees. Contribution levels are determined by the relevant laws and regulations concerned.

## 11 Finance income and expenses

(CNY million)	Note	2017	2016
Interest income		4,085	2,823
Gain on disposal of available-for-sale financial assets stated at fair value	13(b)	7	1,364
Gain from other financial instruments		–	40
Dividend income		209	101
<b>Finance income</b>		<b>4,301</b>	<b>4,328</b>
Interest expense		(2,942)	(2,271)
Net foreign exchange loss		(1,080)	(5,407)
Bank charges		(124)	(100)
Interest cost on long-term employee benefits		(708)	(288)
Loss on other financial instruments		(20)	–
Impairment reversal on loan receivables and equity securities		–	1
<b>Finance expenses</b>		<b>(4,874)</b>	<b>(8,065)</b>
<b>Net finance expenses</b>		<b>(573)</b>	<b>(3,737)</b>

No borrowing costs were capitalised during the year ended December 31, 2017 (2016: Nil).

## 12 Income tax in the consolidated statement of total comprehensive income

### Charge for the year

(CNY million)	2017	2016
<b>Current tax</b>		
Provision for the year	8,873	5,644
Under provision in respect of prior years	1,289	291
	<b>10,162</b>	<b>5,935</b>
<b>Deferred tax</b>	<b>(1,489)</b>	<b>1,071</b>
	<b>8,673</b>	<b>7,006</b>

## 13 Other comprehensive income

### (a) Tax effects relating to each component of other comprehensive income

(CNY million)	2017			2016		
	Before-tax amount	Tax benefit/ (expenses)	Net-of-tax amount	Before-tax amount	Tax benefit/ (expense)	Net-of-tax amount
Remeasurement of defined benefit obligations						
– The Group	773	(58)	715	(865)	36	(829)
Net change in the fair value of available-for-sale investments						
– The Group	98	(13)	85	(1,489)	385	(1,104)
– Share of associates and joint ventures	7	–	7	2	–	2
	105	(13)	92	(1,487)	385	(1,102)
Translation differences on foreign operations						
– The Group	(1,674)	–	(1,674)	3,681	–	3,681
– Share of associates and joint ventures	12	–	12	(10)	–	(10)
	(1,662)	–	(1,662)	3,671	–	3,671
	(784)	(71)	(855)	1,319	421	1,740

### (b) Components of other comprehensive income, including reclassification adjustments

(CNY million)	2017	2016
Available-for-sale investments:		
Changes in fair value recognised during the year	112	(123)
Reclassification adjustment for amounts transferred to profit or loss:		
– Gain on disposal (note 11)	(7)	(1,364)
Net deferred tax (charged)/credit to other comprehensive income	(13)	385
Net movement in the available-for-sale reserve during the year	92	(1,102)

(CNY million)	2017	2016
Translation differences on foreign operations:		
Recognised during the year	(1,662)	3,713
Reclassification adjustments for amounts transferred to profit or loss:		
– Disposal of subsidiaries	–	(42)
Net movement in the translation reserve during the year	(1,662)	3,671

## 14 Goodwill and intangible assets

(CNY million)	Goodwill	Software	Patents	Royalties	Trademark and others	Total
<b>Cost:</b>						
At January 1, 2016	3,962	2,002	2,572	–	508	9,044
Exchange adjustments	285	63	29	37	10	424
Additions	–	327	508	2,068	21	2,924
Acquisition of subsidiaries	87	247	–	–	–	334
Disposals	–	(192)	(17)	–	(57)	(266)
At December 31, 2016	4,334	2,447	3,092	2,105	482	12,460
At January 1, 2017	4,334	2,447	3,092	2,105	482	12,460
Exchange adjustments	(245)	(12)	(28)	–	(13)	(298)
Additions	–	254	722	879	33	1,888
Disposals	–	(38)	(32)	(37)	(1)	(108)
At December 31, 2017	4,089	2,651	3,754	2,947	501	13,942
<b>Amortisation and impairment:</b>						
At January 1, 2016	3,566	1,618	793	–	342	6,319
Exchange adjustments	291	59	25	17	7	399
Amortisation for the year	–	314	180	510	25	1,029
Impairment loss (note 9)	154	–	–	–	–	154
Disposals	–	(190)	(9)	–	(37)	(236)
At December 31, 2016	4,011	1,801	989	527	337	7,665
At January 1, 2017	4,011	1,801	989	527	337	7,665
Exchange adjustments	(260)	(11)	(26)	–	(10)	(307)
Amortisation for the year	–	251	231	828	39	1,349
Disposals	–	(38)	(16)	(37)	(1)	(92)
At December 31, 2017	3,751	2,003	1,178	1,318	365	8,615
<b>Carrying amount:</b>						
At December 31, 2017	338	648	2,576	1,629	136	5,327
At December 31, 2016	323	646	2,103	1,578	145	4,795

(i) The amortisation charge for the year is allocated to “cost of sales”, “research and development expenses”, “selling and administrative expenses” in the consolidated statement of total comprehensive income based on the use of the related assets. Impairment losses are included in “other income, net”.

(ii) Goodwill impairment testing

Goodwill is allocated to the Group’s cash-generating units (CGU) or group of CGUs, which is not larger than an operating segment and is expected to benefit from the synergies of the acquisition.

For impairment test purposes, the recoverable amounts of the CGUs are based on value-in-use calculations by using a discounted cash flow model. The calculations use cash flow projections based on financial budgets approved by management covering a five-year period, based on industry knowledge. Cash flows beyond the five-year periods are extrapolated

using an estimated growth rate which does not exceed the long-term average growth rate for the business in which the CGU or group of CGUs operates. Cash flows are discounted using pre-tax discount rates that reflect specific risks relating to respective CGU or group of CGUs.

As at December 31, 2017 and 2016, all of the carrying amount of goodwill is allocated across multiple CGUs and the amount so allocated to each unit is not significant.

The Group performed the impairment test for the year ended December 31, 2017 and did not consider further impairment to goodwill is required.

(iii) As at December 31, 2017 and 2016, the Group did not hold any intangible assets whose title is restricted or pledged as security for liabilities.



## 15 Property, plant and equipment

(CNY million)	Freehold land	Buildings	Machinery, electronic equipment and other equipment	Motor vehicles	Construction in progress	Investment property	Decoration and leasehold improvements	Total
<b>Cost:</b>								
At January 1, 2016	144	13,297	29,127	514	7,478	100	8,876	59,536
Exchange adjustments	(20)	(90)	196	(2)	19	–	16	119
Additions	–	75	11,541	128	10,466	–	50	22,260
Transfer from construction in progress	–	1,953	2,599	–	(6,043)	–	1,491	–
Acquisition of subsidiaries	–	–	4	–	–	–	2	6
Transfer to construction in progress	–	(532)	(89)	–	185	–	(59)	(495)
Disposals	–	–	(1,527)	(75)	(151)	–	(268)	(2,021)
At December 31, 2016	124	14,703	41,851	565	11,954	100	10,108	79,405
At January 1, 2017	124	14,703	41,851	565	11,954	100	10,108	79,405
Exchange adjustments	(13)	(74)	(578)	(3)	(147)	2	(94)	(907)
Additions	185	–	5,802	104	11,172	70	35	17,368
Transfer from construction in progress	–	2,053	3,126	–	(8,112)	–	2,933	–
Disposals	–	(143)	(1,797)	(87)	(61)	–	(79)	(2,167)
Others	–	163	37	–	–	–	–	200
At December 31, 2017	296	16,702	48,441	579	14,806	172	12,903	93,899
<b>Accumulated depreciation and impairment:</b>								
At January 1, 2016	–	3,149	14,629	314	–	85	5,921	24,098
Exchange adjustments	–	(10)	88	2	–	–	10	90
Transfer to construction in progress	–	(351)	(85)	–	–	–	(59)	(495)
Depreciation charge for the year	–	407	6,226	68	–	1	1,148	7,850
Disposals	–	–	(1,111)	(71)	–	–	(263)	(1,445)
At December 31, 2016	–	3,195	19,747	313	–	86	6,757	30,098
At January 1, 2017	–	3,195	19,747	313	–	86	6,757	30,098
Exchange adjustments	–	(19)	(469)	1	–	–	(28)	(515)
Depreciation charge for the year	–	466	7,778	77	–	3	1,501	9,825
Disposals	–	(29)	(1,616)	(75)	–	–	(78)	(1,798)
Others	–	163	37	–	–	–	–	200
At December 31, 2017	–	3,776	25,477	316	–	89	8,152	37,810
<b>Carrying amount:</b>								
At December 31, 2017	296	12,926	22,964	263	14,806	83	4,751	56,089
At December 31, 2016	124	11,508	22,104	252	11,954	14	3,351	49,307

As at December 31, 2017 and 2016, the Group did not hold any property, plant and equipment as collateral for liabilities or contingent liabilities.

## Investment property

The fair value of investment property as at December 31, 2017 is estimated by management to be CNY194 million (2016: CNY143 million).

The fair value of investment property is determined by the Group internally with reference to market conditions and discounted cash flow forecasts, taking into account current lease agreements on an arm's-length basis.

## 16 Long-term leasehold prepayments

(CNY million)	2017	2016
At January 1	4,112	3,306
Additions	1,145	890
Amortisation for the year	(105)	(84)
At December 31	5,152	4,112

## 17 Interests in associates and joint ventures

(CNY million)	Associates		Joint ventures		Total	
	2017	2016	2017	2016	2017	2016
Share of net assets	413	277	322	166	735	443
Goodwill	16	44	16	15	32	59
Subtotal	429	321	338	181	767	502
Less: impairment loss	(17)	(18)	–	–	(17)	(18)
Total	412	303	338	181	750	484

All associates and joint ventures are accounted for using the equity method in the consolidated financial statements.

Particulars of material associate and joint venture, all of which are unlisted corporate entities whose quoted market price is not available, are set out below:

Name of associate or joint venture	Form of business structure	Place of incorporation and business	Proportion of ownership interest		Principal activities
			2017	2016	
<i>Associate</i>					
TD Tech Holding Limited (TD Tech)	Incorporated	Hong Kong, PRC	<b>49%</b>	49%	Note (a)
<i>Joint venture</i>					
Huawei Marine Systems Co., Ltd. (Huawei Marine)	Incorporated	Hong Kong, PRC	<b>51%</b>	51%	Note (b)

**Note (a):** TD Tech's principal activity is research and development, production and sale of TD-SCDMA telecommunication products.

**Note (b):** Huawei Marine's principal activity is construction and operation of submarine fibres.

Summarised financial information of the material associate, reconciled to the carrying amounts in the consolidated financial statements, is as follows:

(CNY million)	TD Tech	
	2017	2016
<i>Gross amounts of the associate's</i>		
Current assets	<b>1,857</b>	2,069
Non-current assets	<b>54</b>	53
Current liabilities	<b>930</b>	1,378
Equity	<b>981</b>	744
Revenue	<b>5,785</b>	6,329
Profit (note a)	<b>223</b>	138
Other comprehensive income	<b>14</b>	4
Total comprehensive income (note a)	<b>237</b>	142
<i>Reconciled to the Group's interest in the associate</i>		
Gross amounts of net assets of the associate	<b>981</b>	744
Group's effective interest	<b>49%</b>	49%
Group's share of net assets of the associate	<b>481</b>	365
Elimination of unrealised profit	<b>(69)</b>	(125)
Carrying amount in the consolidated financial statements	<b>412</b>	240

**Note a:** As the issuance date of the Group's consolidated financial statements is ahead of TD Tech's audit report date, the Group applies the equity method to account for its investment in TD Tech based on unaudited financial information contained in TD Tech's management accounts, which may differ from TD Tech's audited results. The differences are to be accounted for in the Group's next financial period.

Summarised financial information of the material joint venture, reconciled to the carrying amount in the consolidated financial statements, is as follows:

(CNY million)	Huawei Marine	
	2017	2016
<i>Gross amounts of the joint venture's</i>		
Current assets	1,440	1,046
Non-current assets	65	60
Current liabilities	822	676
Non-current liabilities	46	29
Equity	637	401
Included in the above assets and liabilities:		
Cash and cash equivalents	200	332
Revenue	1,658	1,420
Profit	244	174
Other comprehensive income	31	(22)
Total comprehensive income	275	152
Included in the above profit:		
Depreciation and amortisation	(7)	(4)
Interest (expenses)/income	(17)	11
Income tax expense	(33)	(17)
<i>Reconciled to the Group's interest in the joint venture</i>		
Gross amounts of net assets of the joint venture	637	401
Group's effective interest	51%	51%
Group's share of net assets of the joint venture	325	205
Elimination of unrealised profit	(47)	(89)
Carrying amount in the consolidated financial statements	278	116

Aggregate carrying amounts and summarised financial information of individually immaterial associates and joint ventures are as follows:

(CNY million)	Associates		Joint ventures	
	2017	2016	2017	2016
Aggregate carrying amount	–	63	60	65
Aggregate amount of the Group's share of those associates' and joint ventures' (loss)/profit	(5)	32	(2)	(1)
Other comprehensive income	–	2	(3)	(1)
Total comprehensive income	(5)	34	(5)	(2)

For the years ended December 31, 2017 and 2016, no dividend was declared or paid by associates or joint ventures.

## 18 Other investments, including derivatives

(CNY million)	Note	2017	2016
Investment funds	(i)	21,530	4,500
Debt securities		6,340	10,017
Equity securities – unlisted		283	254
Equity securities – listed		373	281
Forward exchange contracts		–	24
Fixed deposits		2,039	10,550
		30,565	25,626
Less: Impairment allowance	(ii)	(4)	(17)
		30,561	25,609
Non-current portion		5,965	3,003
Current portion		24,596	22,606
		30,561	25,609

(i) Investment funds comprise short-term investments in wealth management products and money market funds.

(ii) As at December 31, 2017 and 2016, certain of the Group's other investments were individually determined to be impaired on the basis of a material decline in value and adverse changes in the market in which the investees operated. This indicated that the carrying amount of these investments may not be recovered in full and impairment losses were recognised in profit or loss in accordance with the policy set out in note 3(k).

As at December 31, 2017 and 2016, the Group did not hold any other investments pledged as collateral for liabilities or contingent liabilities.

## 19 Deferred tax assets and liabilities

### (a) Components of recognised deferred tax assets/(liabilities)

(CNY million)	2017	2016
Accruals and provisions	10,782	9,498
Depreciation of property, plant and equipment	(109)	(269)
Provision for impairment losses	1,369	1,394
Unrealised profit	3,979	4,002
Tax losses	1,065	447
Undistributed profits of subsidiaries	(1,409)	(893)
Fair value adjustments on acquisition of subsidiaries	(35)	(77)
Others	1,452	1,727
<b>Total</b>	<b>17,094</b>	<b>15,829</b>

Reconciliation to the consolidated statement of financial position:

(CNY million)	2017	2016
Net deferred tax assets recognised in the consolidated statement of financial position	18,565	16,933
Net deferred tax liabilities recognised in the consolidated statement of financial position	(1,471)	(1,104)
	<b>17,094</b>	<b>15,829</b>

### (b) Deferred tax assets not recognised

In accordance with the accounting policy set out in note 3(o), deferred tax assets were not recognised in relation to certain unused tax losses and deductible temporary differences.

Unused tax losses of CNY6,791 million have not been recognised as deferred tax assets as at December 31, 2017 (2016: CNY6,705 million). The expiry dates of unrecognised unused tax losses are analysed as follows:

(CNY million)	2017	2016
<b>Expiring in:</b>		
2017	–	1
2018	1	1
2019	352	841
2020	720	957
2021	1,074	1,461
2022 and afterwards or no expiring period	4,644	3,444
	<b>6,791</b>	<b>6,705</b>

In addition, deductible temporary differences amounting to CNY27,588 million have not been recognised as deferred tax assets as at December 31, 2017 (2016: CNY17,080 million).

## 20 Inventories

### (a) Analysis of inventories

(CNY million)	2017	2016
Raw materials	19,005	17,229
Manufacturing work in progress	10,776	11,138
Finished goods	16,967	18,321
Contract work in progress	21,690	24,275
Other inventories	3,914	3,013
	<b>72,352</b>	73,976

As at December 31, 2017 and 2016, the Group did not hold any inventories pledged as collateral for liabilities or contingent liabilities.

### (b) Amount of inventories recognised as an expense and included in profit or loss:

(CNY million)	2017	2016
Carrying amount of inventories sold	292,621	248,739
Provision for inventory made/(reversed)	1,166	(590)
	<b>293,787</b>	248,149

## 21 Trade and bills receivable

(CNY million)	2017	2016
<b>Trade receivables</b>		
Trade receivables from third parties	105,991	108,508
Trade receivables from related parties	333	355
	<b>106,324</b>	108,863
<b>Bills receivable</b>		
Bank acceptance bills	2,042	1,603
Commercial acceptance bills	994	218
Letters of credit receivable	686	1,049
	<b>3,722</b>	2,870
	<b>110,046</b>	111,733
Non-current portion	2,451	3,776
Current portion	107,595	107,957
	<b>110,046</b>	111,733

## (a) Ageing analysis

At the end of the reporting period, the ageing analysis of trade receivables from third parties is as follows:

(CNY million)	2017	2016
Not past due	89,186	81,031
Less than 90 days past due	15,008	19,933
90 days to 1 year past due	5,048	10,661
1 year and above past due	2,435	4,275
	111,677	115,900
Less: Allowance for doubtful debts	(5,686)	(7,392)
	105,991	108,508

## (b) Impairment of trade receivables from third parties

Impairment losses in respect of trade receivables from third parties are recorded using an allowance account unless the Group is satisfied the possibility of recovery is remote, in which case the receivables are written off (see note 3(k)).

The movement in the allowance for doubtful debts in respect of trade receivables from third parties during the year is as follows:

(CNY million)	2017	2016
At January 1	7,392	7,173
Exchange adjustments	(314)	159
Impairment loss reversed	(438)	(425)
Collection of previously written-off debtors	291	1,112
Uncollectible amounts written-off	(1,629)	(627)
Transfer from continuing involvement liabilities (note 21(e))	384	-
At December 31	5,686	7,392

As at December 31, 2017, the impairment allowance includes allowance of CNY3,113 million (2016: CNY3,616 million) on individually assessed receivables from third parties of CNY6,393 million (2016: CNY4,396 million) relating to customers who are in financial difficulties and the likelihood of recovery is expected to be in doubt. Apart from receivables that have been provided for specifically, general allowances were estimated by management based on the risk portfolio and aging analysis of the remaining receivable balances.

## (c) Trade receivables from third parties that are not impaired

The analysis of trade receivables from third parties that are neither individually nor collectively considered to be impaired is as follows:

(CNY million)	2017	2016
Neither past due nor impaired	86,072	79,987

Receivables that are neither past due nor impaired relate to a wide range of customers for whom there was no objective evidence of impairment, such as default.

Receivables that are past due but not impaired are immaterial.



## (d) Trade receivables from related parties

The Group monitors the trade receivables from related parties on an ongoing basis considering their financial results, position, payments and other factors. As at December 31, 2017, allowance for doubtful debts in respect of trade receivables from related parties was CNY13 million (2016: CNY7 million).

## (e) Transferred trade receivables that are not derecognised in their entirety

As at December 31, 2017, the Group's trade receivables with the face value of CNY29 million (2016: CNY2,791 million) have been transferred to a bank and the Group received the corresponding remittance of CNY29 million (2016: CNY2,791 million). As these transactions are with recourse, the Group therefore has retained substantially all the risks and rewards and continues to recognise these trade receivables and the relevant financing as loans and borrowings (note 24).

As at December 31, 2017, the Group's trade receivables with the carrying amount of CNY3,035 million (2016: CNY1,054 million) have been transferred to banks. These trade receivables are covered by insurance policies issued by a third party export credit agency with the transferees as the loss payees. In these transactions, the Group retains risk and damage not covered by the insurance, therefore the Group has neither transferred nor retained substantially all the risk and rewards in relation to the trade receivables and the Group is considered to have retained control of these trade receivables as the transferees have no practical ability to sell these trade receivables without the Group's consent. As such, the Group continued to recognise the transferred trade receivables of CNY805 million (2016: CNY238 million) and the associated liabilities of CNY810 million (2016: CNY263 million) to the extent of its continuing involvement. The associated liabilities are included in other liabilities. As at December 31, 2017, provision of impairment of CNY384 million (2016: nil) was made on these transferred receivables.

## (f) Collateral

Except as disclosed in Note 21(e), as at December 31, 2017 and 2016, the Group did not hold any other trade and bills receivable pledged as collateral for liabilities or contingent liabilities.

## 22 Other assets

(CNY million)	Note	2017	2016
Advance payments to suppliers		3,228	3,349
Prepayment for acquisition of long-term leasehold land		286	190
Tax related assets		13,939	16,662
Pledged deposits with a bank		1,693	2,091
Other receivables from third parties		10,948	9,780
Other receivables from related parties	30	246	694
Other long-term deferred assets		664	872
Assets classified as held for sale		32	–
		<b>31,036</b>	33,638
Non-current portion		5,665	5,722
Current portion		25,371	27,916
		<b>31,036</b>	33,638

## 23 Cash and cash equivalents

(CNY million)	2017	2016
Cash on hand	11	9
Deposits with banks and other financial institutions	88,312	72,315
Highly liquid short-term investments	86,902	50,622
Deposits with third party merchants	122	101
	<b>175,347</b>	123,047

As at December 31, 2017, the Group had short-term investments of CNY86,902 million (2016: CNY50,622 million) recorded as cash equivalents. These short-term investments were highly liquid, readily convertible into known amounts of cash and were subject to an insignificant risk of changes in value, including wealth management products purchased from commercial banks with maturities of less than three months or with maturities of less than one year which can be redeemed at any time without any interest penalty, and money market funds that comprise investments in short-term debt securities which have constant net asset values.

As at December 31, 2017, cash and cash equivalents of CNY703 million (2016: CNY703 million) were held in countries where exchange controls or other legal restrictions are applicable.

At December 31, 2017, the Group held CNY7,033 million (2016: CNY10,684 million) of cash in two multicurrency pooling arrangements used to meet its day to day cash requirements and also to economically hedge foreign exchange rate movements arising from foreign currency cash flows. The facilities allow participating subsidiaries to place deposits and borrow funds from the counterparty banks, in substance to hold long and short positions, in any freely convertible currency subject to the overall balance on the pools being positive.

As at December 31, 2017 and 2016, the Group did not hold any cash and cash equivalents pledged as collateral for liabilities or contingent liabilities.

## 24 Loans and borrowings

Contractual terms of the Group's loans and borrowings are summarised below.

(CNY million)	2017	2016
Short-term loans and borrowings:		
– Intra-group guaranteed	95	601
– Unsecured	1,304	1,397
	<b>1,399</b>	1,998
Long-term loans and borrowings:		
– Intra-group guaranteed	2,026	16,925
– Trade receivables financing (note 21(e))	29	2,791
– Unsecured	7,326	821
– Corporate bonds	29,145	22,264
	<b>38,526</b>	42,801
	<b>39,925</b>	44,799
Non-current portion	38,338	40,867
Current portion	1,587	3,932
	<b>39,925</b>	44,799

Intra-group guaranteed loans are borrowings which have been issued by one group entity but contractual payments of principal and interest are guaranteed by another group entity.

## Terms and repayment schedule

A summary of the main terms and conditions of outstanding loans and borrowings are as follows:

(CNY million)		Interest rate	Total	1 year or less	1 to 5 years	over 5 years
<b>Intra-group guaranteed bank loans:</b>						
Euro (EUR)	variable	0.73% p.a.	775	–	775	–
South African Rand (ZAR)	variable	8.89% p.a.	341	–	341	–
Nepalese Rupee	fixed	9.00% p.a.	95	95	–	–
CNY	variable	4.41% ~ 4.90% p.a.	910	91	614	205
			2,121	186	1,730	205
<b>Trade receivables financing:</b>						
USD	variable	4.70% p.a.	29	1	20	8
<b>Unsecured bank loan:</b>						
CNY	variable	4.28% ~ 4.41% p.a.	7,220	96	6,981	143
Hungarian Forint	fixed	4.36% p.a.	106	–	–	106
USD	variable	2.75% p.a.	1,304	1,304	–	–
			8,630	1,400	6,981	249
<b>Corporate bonds:</b>						
USD	fixed	3.25% ~ 4.13% p.a.	29,145	–	6,497	22,648
			39,925	1,587	15,228	23,110

Certain of the Group's banking facilities are subject to compliance with covenants relating to certain statement of financial position ratios. In the event of breach, the drawn down facilities would become payable on demand. The Group regularly monitors its compliance with these covenants. As at December 31, 2017 and 2016, none of the covenants relating to drawn down facilities had been breached.

## Corporate bonds

The corporate bonds were issued by two wholly owned subsidiaries of the Company, Proven Glory Capital Limited (Proven Glory) and Proven Honour Capital Limited. Main terms of the outstanding corporate bonds are as follows:

Corporate bonds/(USD million)	Issue date	Principal amount	Interest rate per annum	Term
USD bond	May 19, 2015	1,000	4.13%	10 years
USD bond	May 6, 2016	2,000	4.13%	10 years
USD bond (Note)	February 21, 2017	1,000	3.25%	5 years
USD bond (Note)	February 21, 2017	500	4.00%	10 years

**Note:** The bonds were issued under the USD5,000,000,000 Medium Term Note Programme which was established by Proven Glory on February 9, 2017.

On September 25, 2017, the Group repaid a matured corporate bond of CNY1,600 million issued on September 17, 2014.

All the corporate bonds are fully guaranteed by the Company.

## Reconciliation of movements of major liabilities to cash flows arising from financing activities

Related liabilities/(CNY million)	Loans and other borrowings	Corporate bonds	Interest payable related to financing activities
Balance at January 1, 2017	22,535	22,264	233
Issuance of corporate bonds	–	10,234	–
Amortisation of capitalised transaction costs	126	30	–
Repayment of corporate bonds	–	(1,600)	–
Proceeds from borrowings	28,055	–	–
Repayment of borrowings	(39,726)	–	–
Interest accrued during the year	–	–	2,169
Interest paid	–	–	(1,998)
Exchange adjustments	(210)	(1,783)	(128)
Balance at December 31, 2017	10,780	29,145	276

## 25 Trade and bills payable

(CNY million)	Note	2017	2016
<b>Trade payables</b>			
Trade payables to related parties	30	1,047	814
Trade payables to third parties		71,799	70,282
		<b>72,846</b>	71,096
<b>Bills payable</b>			
Bank acceptance bills		20	28
Letters of credit payable		–	10
		<b>20</b>	38
		<b>72,866</b>	71,134

## 26 Other liabilities

(CNY million)	2017	2016
Interest payable	1,518	1,099
Advances received	34,135	31,650
Accrued expenses		
– Staff related	72,784	52,797
– Suppliers related	32,463	26,502
Other taxes payable	8,805	7,713
Due in relation to property, plant and equipment and intangible assets	5,357	4,960
Forward exchange contracts	465	8
Others	14,784	21,792
	<b>170,311</b>	146,521
Non-current portion	1,702	1,073
Current portion	168,609	145,448
	<b>170,311</b>	146,521

## 27 Provisions

(CNY million)	Note	2017	2016
Provision for warranties	(b)	9,030	7,028
Onerous contracts		1,999	1,602
Provision for product sales		5,582	2,668
Other provisions	(c)	3,622	3,359
		<b>20,233</b>	14,657

(a) Movement in provisions during the year is shown as below:

(CNY million)	Provision for warranties	Onerous contracts	Provision for product sales	Other provisions	Total
At January 1, 2017	7,028	1,602	2,668	3,359	14,657
Exchange adjustments	24	–	29	(238)	(185)
Provisions made	9,406	1,683	13,464	920	25,473
Provisions utilised	(7,428)	(1,286)	(10,579)	(419)	(19,712)
At December 31, 2017	9,030	1,999	5,582	3,622	20,233

### (b) Provision for warranties

The provision for warranties relates mainly to products sold during the year and is determined based on estimates made from historical warranty data associated with similar products and the amount of products covered by warranty at the end of the reporting period and their corresponding remaining warranty periods. Most claims are expected to be settled within one year.

### (c) Other provisions

Other provisions are mainly for outstanding cases and disputes.

## 28 Operating leases

### (a) As lessee

As at December 31, 2017 and 2016, the total future minimum lease payments under non-cancellable operating leases are payable as follows:

(CNY million)	2017	2016
Within 1 year	2,593	2,777
After 1 year but within 5 years	4,386	3,797
After 5 years	375	690
	<b>7,354</b>	7,264

The Group leases a number of warehouses, factory facilities, office premises and staff apartments under operating leases. These leases typically run for an initial period of one to five years. None of the leases includes contingent rental payments.

During the year ended December 31, 2017, CNY4,287 million (2016: CNY4,204 million) was recognised as an expense in the consolidated statement of total comprehensive income in respect of operating leases.

### (b) As lessor

The Group leases out certain of its properties under operating leases (see note 8 and note 15). As at December 31, 2017 and 2016, the Group's total future minimum lease payments under non-cancellable operating leases are receivable as follows:

(CNY million)	2017	2016
Within 1 year	18	18
After 1 year but within 5 years	13	28
	<b>31</b>	46

During the year ended December 31, 2017, CNY230 million (2016: CNY146 million) was recognised as rental income in the consolidated statement of total comprehensive income.

## 29 Capital commitments

Capital commitments of the Group in respect of acquisition and construction of property, plant and equipment and intangible assets outstanding at December 31, 2017 and 2016 not provided for in the consolidated financial statements were as follows:

(CNY million)	2017	2016
Acquisition and construction of long-term assets		
– Contracted for	10,387	11,563
– Authorised but not contracted for	9,562	7,559
Total	<b>19,949</b>	19,122

## 30 Related parties

A related party is a person or an entity that has control or joint control or significant influence over the Group, or is a member of its key management personnel, or is member of the Group, including joint ventures and associates, or is a post-employment benefit plan for the benefit of the Group's employees.

Details of the Group's significant transactions with related parties are set out below.

### Transactions with associates and joint ventures

(CNY million)	2017				
	Sales	Purchases and processing expenses	Service income	Rental income	Service expenses
TD Tech	1,040	763	4	–	40
Huawei Marine	20	1,466	17	3	1
	<b>1,060</b>	<b>2,229</b>	<b>21</b>	<b>3</b>	<b>41</b>

(CNY million)	2016					
	Sales	Purchases and processing expenses	Service income	Rental income	Service expenses	Rental expenses
TD Tech	1,469	595	4	–	51	–
Huawei Marine	230	848	51	3	–	–
JV “Broadband Solutions” LLC	3	–	–	–	–	–
Tianwen Digital Media Technology (Beijing) Co., Ltd.	–	–	1	–	–	–
Chinasoft International Technology Services Ltd.	–	–	–	–	225	–
iSoftStone Technology Service Company Limited	–	–	–	–	739	6
	1,702	1,443	56	3	1,015	6

### Balances with associates and joint ventures

(CNY million)	December 31, 2017			
	Trade receivables	Other receivables	Trade payables	Other payables
TD Tech	290	2	369	183
Huawei Marine	43	244	678	9
	333	246	1,047	192

(CNY million)	December 31, 2016			
	Trade receivables	Other receivables	Trade payables	Other payables
TD Tech	313	596	430	3
Huawei Marine	42	98	384	110
	355	694	814	113

## 31 Group enterprises

### (a) Parent and ultimate controlling party

The Group's ultimate controlling party is the Union of Huawei Investment & Holding Co., Ltd.

### (b) Major subsidiaries

Name of subsidiaries	Place of incorporation and business	Proportion of ownership interest		Principal activities
		2017	2016	
Huawei Technologies Co., Ltd.	PRC	100%	100%	Development, manufacture and sale of telecommunication and related products and provision of support and maintenance services.
Huawei Machine Co., Ltd.	PRC	100%	100%	Manufacture of telecommunication products.
Shanghai Huawei Technologies Co., Ltd.	PRC	100%	100%	Development and sale of telecommunication products and ancillary services.
Beijing Huawei Digital Technologies Co., Ltd	PRC	100%	100%	Development and sale of telecommunication products, and ancillary services.
Huawei Tech. Investment Co., Limited	Hong Kong	100%	100%	Distribution of telecommunication products.
Huawei International Co. Limited	Hong Kong	100%	100%	Distribution of telecommunication products.
Huawei International Pte. Ltd.	Singapore	100%	100%	Distribution of telecommunication products.
PT. Huawei Tech Investment	Indonesia	100%	100%	Development and sale of telecommunication products and ancillary services.
Huawei Technologies Japan K.K.	Japan	100%	100%	Development and sale of telecommunication products and ancillary services.
Huawei Technologies Deutschland GmbH	Germany	100%	100%	Development and sale of telecommunication products and ancillary services.
Huawei Device Co., Ltd.	PRC	100%	100%	Development, manufacture and sale of mobile communication products and ancillaries.
Huawei Device (Dongguan) Co., Ltd.	PRC	100%	100%	Development, manufacture and sale of mobile communication products and ancillaries.



Name of subsidiaries	Place of incorporation and business	Proportion of ownership interest		Principal activities
		2017	2016	
Huawei Device (Hong Kong) Co., Limited	Hong Kong	100%	100%	Sale and related services of mobile communication products and ancillaries.
HUAWEI TECHNICAL SERVICE CO., LTD.	PRC	100%	100%	Installation and maintenance of telecommunication products and ancillaries, including consultancy.
Huawei Software Technologies Co., Ltd	PRC	100%	100%	Development, manufacture and sale of telecommunication software and related products and services.
HiSilicon Technologies Co., Ltd.	PRC	100%	100%	Development and sale of semiconductors.
HiSilicon Optoelectronics Co., Ltd.	PRC	100%	100%	Development, manufacture and sale of optoelectronic products related to information technology.
Huawei Technologies Cooperatief U.A.	Netherlands	100%	100%	Intermediate parent company for certain overseas subsidiaries.
Huawei Global Finance (UK) Limited	United Kingdom	100%	100%	Treasury and risk management.
Proven Honour Capital Limited	British Virgin Islands	100%	100%	Financing.
Proven Glory	British Virgin Islands	100%	100%	Financing.
Futurewei Technologies, Inc.	United States	100%	100%	Technology research and development.

### (c) Acquisition of subsidiaries

The Group did not acquire any subsidiaries for the year ended December 31, 2017.

## 32 Comparative figures

The presentation of certain prior year comparative figures has been adjusted to reflect current year presentation requirements. None of these changes were considered material.

# Risk Factors

All risk factors listed in this Annual Report, particularly those covered in this section, refer to key future uncertainties that could influence the company's business objectives. These are risk factors that have been identified to exist in Huawei's strategic plans, business models, external environment, and financial

system. Major risk factors refer to events that could significantly impact the company's competitiveness, reputation, financial position, operating results, and long-term prospects over the coming 18 months. The major risk factors faced by Huawei are outlined below.

## Huawei's Risk Management System

Based on the COSO framework, and with reference to ISO 31000 risk management standards, Huawei has developed an Enterprise Risk Management (ERM) system for its organizational structure and operating model, released ERM policies and processes, continuously refined its ERM organizations and operating mechanisms, and promoted risk management assessments. Huawei's ERM system plays the following major roles:

- Finance Committee (FC): With the authorization of the Board of Directors (BOD), the FC acts as the decision-maker for risk management, coordinates company-wide risk management activities, and makes decisions on major corporate-level risks.
- Risk Management Committee under the FC: With the authorization of the FC, this committee fulfills risk management responsibilities and manages the company's routine risks.

- Business managers: As primary risk management owners in their respective business domains, business managers proactively identify and manage risks to keep them at an acceptable level.

At Huawei, risk management factors are incorporated into strategic planning and business planning processes: Each business domain and region systematically identifies and assesses risks during strategic planning, lists out countermeasures in annual business plans, and monitors and reports on high-agenda risks during routine operations. Huawei ensures uninterrupted business operations by identifying major risk factors in strategic decision-making and planning, coupled with measures to control risks in business planning and execution.

## Strategic Risks

From a technology perspective, we will have entered an intelligent world within two or three decades. The world around us will undergo a seismic shift, the depth and breadth of which we can hardly imagine. But one thing is very clear: The transformation of the ICT industry will introduce greater uncertainty to technology, business, and transaction models.

Looking to the future, we will remain dedicated to ICT infrastructure and intelligent devices, and to building a technical architecture that achieves synergy between devices, networks, and the cloud in the intelligent world. We will invest more heavily in research into technology and business models where development

is uncertain, remain focused on our goals, and make concentrated investments along multiple paths in multiple waves. At the same time, we will strive to stay ahead of industry trends, and identify, understand, and satisfy the diverse requirements of our customers. To maintain and increase our competitive strengths and continuously improve our operating performance, we will continue to launch better products and services while reducing the total cost of ownership for our customers. Going forward, we will continue to invest in the future, developing advantages in technologies and the industry ecosystem and striving to become a strategic partner trusted by our customers.

## External Risks

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**Macro environment:** Black swan events occur frequently around the globe, and many countries around the world face deep-seated economic strife. Financial and geopolitical risks are on the rise. Therefore, Huawei also has an increased likelihood of facing additional risks, both internally and externally. We will continue to focus on the impact that ever-evolving risks have on our business and promptly adjust our strategies accordingly.

**Legal risks:** Adherence to business ethics, respect for international conventions, and observance of local laws and regulations are the foundations of Huawei's global operations. They are also a core set of principles followed by Huawei's management team. The legal environment in some regions where Huawei operates is complex. We strive to fully comply with all local laws and regulations; but negative impacts might still occur. Huawei will continue as always to proactively assess risks and take preventative measures to address them. The certainty of legal compliance is our best bulwark against the uncertainties of international politics.

**Trade risks:** The global trade environment and international economic and trade relations are becoming increasingly complex and challenging. Protectionism has been a growing trend in world trade in recent years. As a global company, Huawei supports global trade rules and pledges to place trade compliance above its own commercial interests.

**Natural disasters:** Earthquakes, floods, epidemics, and other natural disasters could impact certain portions of Huawei's business operations. Supporting stable network operations is our mission and primary social responsibility. We have a robust set of mechanisms to respond to natural disasters and continue to improve our capabilities in this regard. This has helped us ensure business continuity, and has also helped effectively support network stability and business operations of our customers.

**Country-specific risks:** Huawei currently operates in more than 170 countries and regions worldwide. The complex international economic and political landscape could expose Huawei to particular risks in certain countries and regions. These risks include civil unrest, economic and political instability, exchange rate fluctuations, foreign exchange controls, sovereign debt crises, regulations on local business operations, and labor issues. In particular, tensions between regions, civil wars, sanctions, or local unrest could greatly hinder Huawei's business operations and development. To address these risks, Huawei must possess exceptional risk management and response capabilities. We must closely monitor possible risks and changes in the environment, and employ prompt countermeasures to minimize any potential business impacts.

## Operational Risks

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**Business continuity:** With today's highly globalized division of labor, Huawei must rely on third parties (including companies and agencies) for manufacturing, logistics, and services. Therefore, third party business discontinuity could directly or indirectly compromise Huawei's operations and business performance.

To ensure business continuity, Huawei has established a business continuity management system in procurement, manufacturing, supply, global technical services, and other domains. This system covers end-to-end processes from suppliers to Huawei and on to our customers. As part of this system, we have developed and established effective measures to ensure business continuity, including management organizations, emergency response and business continuity plans, training, drills, employee awareness efforts, and improvements to emergency response capabilities.

We also strive to avoid procuring from a single supplier and aim to select suppliers of key components that

have multiple manufacturing sites. In terms of product design, we prepare alternative solutions for key components, in order to minimize impact on product supply and delivery if a supplier suspends delivery or provides substandard products. We will continue to regularly assess and review our suppliers, assess and identify material supply risks as early as possible, and take preventative measures to minimize supply risks and ensure supply continuity. Preventative measures include component substitutions, solution redesigns, maintaining reserve inventory, and expanding production capacity.

**Information security and IPR:** While Huawei has adopted stringent information security measures to protect its IPR, it is impossible to completely prevent other companies from improperly using our information, patents, and licenses. Even when we are able to resort to litigation to protect our IPR, we may still suffer losses from improper usage.

## Financial Risks

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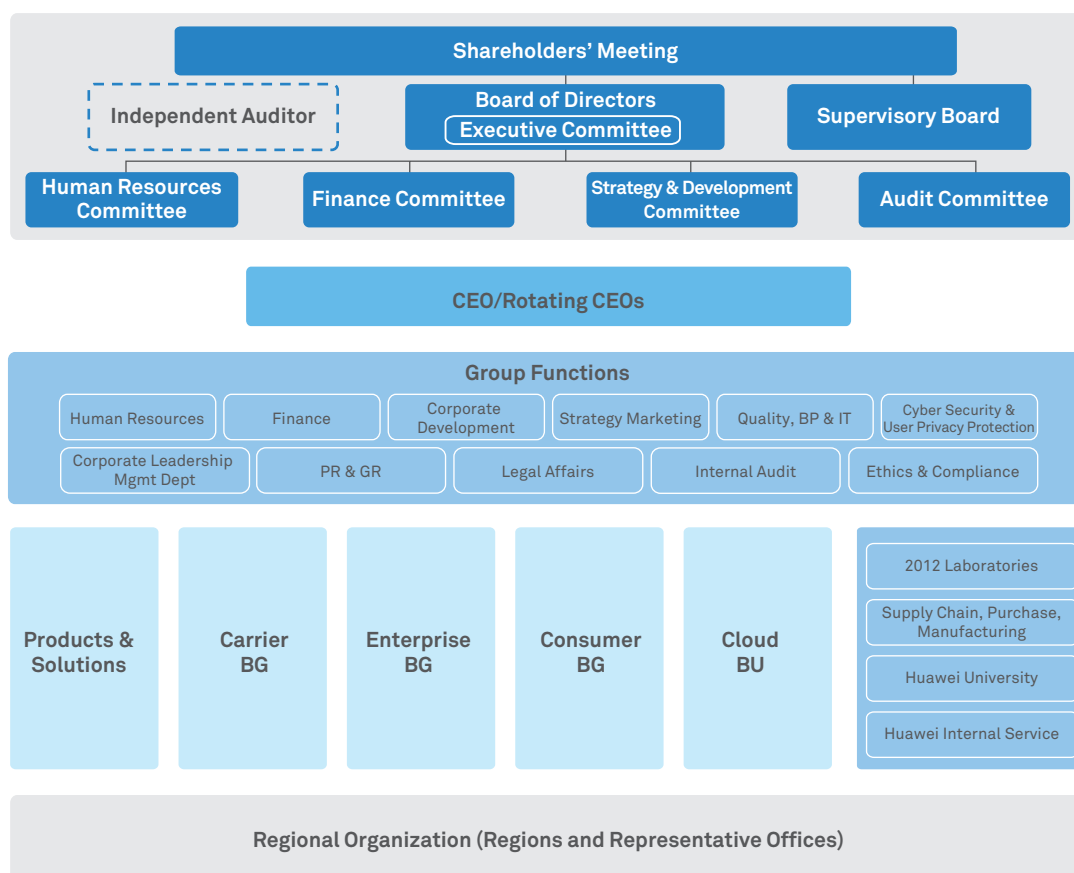
For further information on financial risks, see "Financial Risk Management" on pages 60 to 61 of this Annual Report.

# Corporate Governance Report

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By staying customer-centric and inspiring dedication, we have sustained long-term growth through continuous improvement of our corporate governance structure, organizations, processes, and appraisal systems.



As of December 31, 2017.

## Shareholders

Huawei Investment & Holding Co., Ltd. (the “Company” or “Huawei”) is a private company wholly owned by its employees. Huawei’s shareholders are the Union of Huawei Investment & Holding Co., Ltd. (the “Union”) and Mr. Ren Zhengfei.

Through the Union, the company implements an Employee Shareholding Scheme (the “Scheme”), which involved 80,818 employees as of December 31, 2017. The Scheme effectively aligns employee contribution and development with the company’s long-term development, fostering Huawei’s continued success.

Mr. Ren Zhengfei is the Company’s natural person shareholder and also participates in the Scheme. As of December 31, 2017, Mr. Ren’s investment accounts for nearly 1.4% of the Company’s total share capital.

## The Shareholders’ Meeting and the Representatives’ Commission

The Shareholders’ Meeting, the company’s authoritative body, comprises two shareholders: the Union and Mr. Ren Zhengfei.

The Representatives’ Commission (the “Commission”) is the organization through which the Union fulfills shareholder responsibilities and exercises shareholder rights. The Commission consists of all representatives of shareholding employees (“Representatives”) and exercises rights on behalf of all shareholding employees. In 2017, the Commission held one meeting, at which it reviewed and approved proposals on annual profit distribution, capital increases, long-term incentives, and corporate governance rules and regulations.

The Representatives and Alternate Representatives are elected by the active shareholding employees with a term of five years. In the event that there is a vacancy in the body of Representatives, the Alternate Representatives shall take up the vacancy in a predetermined sequence.

At present, current members of the Commission are Ms. Sun Yafang, Mr. Guo Ping, Mr. Xu Zhijun, Mr. Hu Houkun, Mr. Ren Zhengfei, Mr. Xu Wenwei, Mr. Li Jie, Mr. Ding Yun, Ms. Meng Wanzhou, Ms. Chen Lifang, Mr. Wan Biao, Mr. Zhang Ping'an, Mr. Yu Chengdong, Mr. Liang Hua, Mr. Ren Shulu, Mr. Tian Feng, Mr. Deng Biao, Mr. Zhou Daiqi, Mr. Cai Liqun, Mr. Jiang Xisheng, Mr. Yin Xuquan, Mr. Yao Fuhai, Mr. Zha Jun, Mr. Li Yingtao, Ms. Ji Ping, Mr. Tao Jingwen, Mr. Zhang Shunmao, Mr. Ding Shaohua, Mr. Li Jin'ge, Mr. Wang Kexiang, Mr. Lv Ke, Mr. Yang Kaijun, Mr. Jiang Yafei, Ms. He Tingbo, Mr. Sun Ming, Mr. Wu Kunhong, Mr. Zhao Yong, Mr. Tang Xiaoming, Mr. Wang Jiading, Mr. Wei Chengmin, Mr. Xiong Lening, Mr. Li Shanlin, Mr. Song Liuping, Mr. Zhou Hong, Ms. Chen Jun, Mr. Peng Zhongyang, Mr. Li Gang, Mr. Xia Jian, and Ms. Yang Li.

## Board of Directors

The Board of Directors (BOD) is the highest body responsible for corporate strategy, operations management, and customer satisfaction. The BOD's mission is to lead the company forward. It exercises decision-making authority for corporate strategy and operations management, and ensures the protection of customer and shareholder interests.

The main responsibilities of the BOD are to:

- Develop proposals for corporate governance.
- Review proposals to increase or decrease the company's registered capital, as well as proposals related to profit distribution and loss recovery.
- Review the company's stock options plan and other long-term incentive plans.
- Review or approve plans for entering and exiting different industry sectors, and approve the company's strategic plan.

- Approve proposals for managing major risks and crises, and manage major emergencies.
- Approve major organizational restructuring, management system development, and business transformation.
- Approve major financial policies, financial plans, and business transactions.
- Approve the company's annual budget proposal, annual operations report, and annual audit report.
- Approve the development of internal controls and operational compliance systems.
- Approve the appointment/removal, compensation, and long-term incentives of senior management.
- Approve major HR policies and plans at the corporate level.

In 2017, the BOD held 12 meetings. At the meetings, the BOD reviewed and approved matters such as the company's medium-to-long-term development plan, annual business plan and budget, annual audit report, corporate governance rules and regulations, BOD committee operations, long-term incentives, annual profit distribution, capital increases, and financing.

The BOD has established the Executive Committee, which acts as the standing executive body of the BOD. Entrusted by the BOD, the Executive Committee examines and reflects on major issues within the company, decides on issues authorized by the BOD, and oversees their execution. In 2017, the Executive Committee held 12 meetings.

Currently, the BOD is comprised of 17 members, who were elected by the Representatives' Commission and voted in by the Shareholders' Meeting. In 2017, several board members resigned from the board, and membership was adjusted accordingly. In March 2018, the Representatives' Commission and Shareholders' Meeting elected a new Board of Directors that includes both regular members and alternate members. In the event that there is a vacancy in the BOD, alternate members will take up the vacancy in a predetermined sequence.

Current board members include:

- Chairman: Mr. Liang Hua
- Deputy Chairs: Mr. Guo Ping, Mr. Xu Zhijun, Mr. Hu Houkun, and Ms. Meng Wanzhou
- Executive Directors: Mr. Ding Yun, Mr. Yu Chengdong, and Mr. Wang Tao
- Directors: Mr. Xu Wenwei, Ms. Chen Lifang, Mr. Peng Zhongyang, Ms. He Tingbo, Mr. Li Yingtao, Mr. Ren Zhengfei, Mr. Yao Fuhai, Mr. Tao Jingwen, and Mr. Yan Lida

Alternate Directors include: Mr. Li Jianguo, Mr. Peng Bo, and Mr. Zhao Ming

Members of the BOD Executive Committee include Mr. Guo Ping, Mr. Xu Zhijun, Mr. Hu Houkun, Ms. Meng Wanzhou, Mr. Ding Yun, Mr. Yu Chengdong, and Mr. Wang Tao.

In the future, the BOD and its Executive Committee will be led by rotating chairmen. During their terms, the rotating chairmen will serve as the foremost leader of the company. Rotating chairmen terms last six months at a time. The rotation schedule for the next five years is as follows:

- Mr. Xu Zhijun:  
April 1, 2018 to September 30, 2018  
October 1, 2019 to March 31, 2020  
April 1, 2021 to September 30, 2021  
October 1, 2022 to March 31, 2023
- Mr. Guo Ping:  
October 1, 2018 to March 31, 2019  
April 1, 2020 to September 30, 2020  
October 1, 2021 to March 31, 2022
- Mr. Hu Houkun:  
April 1, 2019 to September 30, 2019  
October 1, 2020 to March 31, 2021  
April 1, 2022 to September 30, 2022

## Operations of the BOD Committees in 2017

The following is an overview of the positioning, responsibilities, and operations of Huawei's BOD committees in 2017:

### Human Resources Committee

The Human Resources Committee (HRC) manages and optimizes core corporate elements such as organization, talent, incentives, and culture. It operates under the BOD to develop, determine, and oversee the implementation of key policies and transformation initiatives relating to HR management. The committee aligns HR policies with the company's HR management philosophy and core concepts to ensure policy consistency. These policies also reflect the business characteristics and management models of departments at all levels to support business development.

The main responsibilities of the HRC are to:

- Manage HR initiatives for key managers and talent (including succession planning, deployment, appointments/removals, performance appraisals, compensation, and incentives).
- Set policies for incentives, benefits, the compensation structure, and job matching.
- Set policies for organizational development and optimization; and manage HR budgets and staffing for each budgetary unit.
- Set policies for and provide guidance on learning and development.
- Set policies for employee discipline and oversee disciplinary action for major violations.
- Set policies for and provide guidance on health and safety.
- Manage HR strategic planning and key HR transformation initiatives.

The HRC holds monthly meetings. Business and HR executives and experts are invited to attend as non-voting participants. The committee met 12 times in 2017. In accordance with the positioning and responsibilities set forth by the BOD, and in order to adapt to business needs and future changes in the



macro environment, the HRC conducted research into human resource management philosophy and strategy. In line with company expectations, the committee optimized and implemented policies on organization, talent, and incentives. In 2017, the HRC's primary initiatives include:

- Building on the company's human resource management system and philosophy, and developing the first draft of *Huawei's Human Resource Management Philosophy 2.0*, which provides direction for future HR management transformation initiatives and lays a theoretical foundation for its implementation.
- Adjusting organizational and authority structures within solution organizations, the Public Safety Business Dept, Cloud BU, and Consumer BG to enable new business development; moving the center of business operations forward to the front line, optimizing regional operations, and enhancing the operations of project-based organizations; and streamlining HQ-based functional departments (reduced by 12% in 2017).
- Developing and implementing manager mobility policies, including tenure management and training in the Strategic Reserve, to standardize manager mobility programs; exploring different talent management and assessment mechanisms to more effectively manage different groups of talent; fast-tracking the promotions of outstanding talent (4,500 fast-track promotions in 2017).
- Establishing a structural salary management framework to differentiate salary and incentive structures for different types of talent in different departments, and help increase the flexibility of salary management; consolidating and further optimizing the Contribute and Share bonus distribution system, exploring ways to incentivize contractors based on their contribution, and establishing a preliminary value creation and sharing mechanism that extends to the broader industry ecosystem.
- Strengthening execution of our eight principles for improving managerial work ethic, and establishing an oversight mechanism to bolster self-discipline; granting honorary awards, setting up role models, and leveraging a combination of material and motivational culture to motivate our people towards greater success.

## Finance Committee

The Finance Committee (FC) is the company's overall enterprise value integrator. It operates under the BOD to exercise macro-control over the company's business operations, investment activities, and enterprise risks, helping to strike a dynamic balance between opportunities and resources to facilitate the company's long-term sustainable growth.

The main responsibilities of the FC are to:

- Align resources with business needs based on the company's resources and resource acquisition capabilities.
- Set financial objectives for the growth and investment projects of the company and each responsibility center; and determine the standards, structure, and pace for resource investments.
- Measure the monetary value of key strategies, conduct forward-looking forecasts and analysis, and submit proposals to the BOD; and review the company's annual budget plan, approve the annual budget for each responsibility center, and ensure closed-loop management of corporate-level planning, budgeting, accounting, and assessment.
- Review the capital structure plan; and propose major financing activities, the asset structure, and profit distribution.
- Review the company's key financial policies, annual financial statements, and related information disclosures.
- Review capital investment and strategic cooperation projects, submit proposals to the BOD, and periodically assess the execution of such projects.
- Review the company's risk management framework, and provide advice on operational compliance and business continuity management.

The FC holds monthly meetings and convenes special sessions as necessary. In 2017, the FC held 12 regular meetings and one special session. Based on business needs and BOD's requirements, the FC reviewed such key items as the company's medium-to-long-term

development plan, annual budget plan, operational management, capital investment projects, capital structure, enterprise risk management, and subsidiary and joint venture management. The FC then discussed and established financial policies and systems, reviewed and decided on key initiatives, and monitored their execution.

## Strategy & Development Committee

The Strategy & Development Committee (SDC) develops, sets, and executes the company's strategic directions. The SDC gains insight into major industry and technological trends, and changes in customer needs; and identifies opportunities and paths for the company's development. Through macro-management of industrial investments, technologies, business models, and transformations, the SDC ensures that concerted efforts are made to sustain the company's growth.

The main responsibilities of the SDC are to:

- Manage the company's medium-to-long-term strategic planning, key initiatives, and major objectives of the year.
- Manage the company's brand strategy, brand architecture, and brand attributes, as well as publicity strategy and direction.
- Manage the company's strategy for strategic partnerships and alliances, as well as the selection of strategic partners and alliances.
- Manage the company's business portfolios and scope.
- Manage the company's pricing policies, commercial authorization principles, and actual pricing of key strategic products.
- Manage the company's medium-to-long-term technology development planning, industry development strategy, standards and patent strategy, and major technology investments.
- Manage the company's medium-to-long-term business transformation strategy, process and management system structures, quality policies, etc.

- Review the company's business portfolios to ensure investments are made in strategic domains.

The SDC held 12 regular meetings and one special session in 2017. In accordance with the positioning and responsibilities set forth by the BOD, as well as the roadmap outlined in the company's 813 strategic plan, the SDC focused on strengthening the company's foundations, developing new capabilities, and making Huawei the industry leader in ICT infrastructure. Key initiatives include:

- Further advancing the All-Cloud strategy for carriers and the digital transformation of all industries.
- Implementing Huawei's pipe strategy, with particular focus on enabling robust development in the telecom industry and delving deeper in the public safety industry.

## Audit Committee

The Audit Committee (AC) operates under the BOD to oversee internal controls, including the internal control system, internal and external audits, corporate processes, legal compliance, and adherence to the BCGs.

The main responsibilities of the AC are to:

- Approve the annual internal audit plan, and review its scope, required resources, and audit outputs.
- Approve corporate policies for internal controls; approve the corporate development plan for internal controls and the plan's key milestones; and regularly assess the company's internal control status.
- Evaluate the effectiveness of the ethics and compliance function, legal compliance, and adherence to corporate policies.
- Approve the selection of the external auditor, notify the BOD of any proposed change to the external auditor for approval, approve related budgets, and evaluate the work of the external auditor.

- Supervise the completeness, accuracy, and legal compliance of the company's financial statements; and review compliance with and application of accounting policies and all financial disclosures.
- Approve internal control Key Performance Indicators (KPIs), and instruct Global Process Owners (GPOs) and business executives to report internal control results.

The AC holds quarterly meetings and convenes special sessions as necessary. Business executives and various experts are invited to attend as non-voting participants.

The committee held six meetings in 2017. Focusing on topics such as risk management, the development of the internal control system, anti-corruption, industry best practices for internal audit, accounting monitoring, and financial reporting management, the AC has taken the following key initiatives:

- Reviewing and approving the company's annual plans for internal audit and global internal controls.
- Receiving reports on Internal Control Maturity trends, SACAs (including internal controls over financial reporting), internal control improvements of the Consumer and Enterprise BGs, and Business Process Architecture (BPA) and process management.
- Improving employee compliance with the BCGs through anti-corruption education and publicity of major audit findings and non-compliance cases.
- Arranging discussions between the committee Chairman and the external auditor on management improvement proposals.

## Supervisory Board

Pursuant to the requirements of the *Company Law of the People's Republic of China*, Huawei has established the Supervisory Board. The key responsibilities of the Supervisory Board include overseeing the responsibility fulfillment of BOD members and senior management, monitoring the company's operational and financial status, and supervising internal control and legal compliance. Members of the Supervisory Board attend BOD and EMT meetings as non-voting participants.

The Supervisory Board held five meetings in 2017. At the meetings, it assessed the responsibility fulfillment of the members of the BOD and Supervisory Board in 2016, examined and evaluated the company's financial status, and received reports on management of top legal risks and supervision of overseas subsidiaries. Throughout the year, members of the Supervisory Board attended 12 meetings of the BOD as non-voting participants, overseeing the legitimacy of BOD decisions and operations.

The Supervisory Board is comprised of 10 members, who were elected by the Representatives' Commission and voted in by the Shareholders' Meeting. In 2017, several members of the Supervisory Board resigned from the board, and membership was adjusted accordingly. In March 2018, the Representatives' Commission and Shareholders' Meeting held a by-election for members of the Supervisory Board.

Current Supervisory Board members include:

- Chairman: Mr. Li Jie.
- Executive members: Mr. Zhou Daiqi, Mr. Ren Shulu, Mr. Yin Xuquan, Mr. Li Jin'ge, and Mr. Li Dafeng.
- Members: Mr. Song Liuping, Mr. Tian Feng, Mr. Yi Xiang, and Mr. Li Jian.

The Supervisory Board has established the Executive Committee, which acts as authorized by the Supervisory Board. Members of the Executive Committee are Mr. Li Jie, Mr. Zhou Daiqi, Mr. Ren Shulu, Mr. Yin Xuquan, Mr. Li Jin'ge, and Mr. Li Dafeng.

## Members of the Board of Directors and the Supervisory Board

### Members of the Board of Directors



From the left in the first row: Ms. Meng Wanzhou, Mr. Hu Houkun, Mr. Guo Ping, Mr. Xu Zhijun, Mr. Liang Hua  
From the left in the second row: Ms. He Tingbo, Mr. Xu Wenwei, Mr. Yan Lida, Mr. Ding Yun, Mr. Ren Zhengfei, Mr. Tao Jingwen, Mr. Li Yingtao, Mr. Wang Tao, Mr. Peng Zhongyang, Mr. Yu Chengdong, Ms. Chen Lifang, and Mr. Yao Fuhai

### **Mr. Liang Hua (Howard Liang)**

Born in 1964, Mr. Liang holds a doctorate degree from Wuhan University of Technology. Mr. Liang joined Huawei in 1995 and has served as President of Supply Chain, CFO of Huawei, President of the Business Process & IT Mgmt Dept, President of the Global Technical Service Dept, Chief Supply Chain Officer, Chairman of the Audit Committee, and Chairman of the Supervisory Board. Mr. Liang is now Chairman of Huawei's Board of Directors.

### **Mr. Guo Ping**

Born in 1966, Mr. Guo holds a master's degree from Huazhong University of Science and Technology. Mr. Guo joined Huawei in 1988 and has served as R&D Project Manager, General Manager of Supply Chain, Director of Huawei Executive Office, Chief Legal Officer, President of the Business Process & IT Mgmt Dept, President of the Corporate Development Dept, Chairman and President of Huawei Device, Rotating CEO of Huawei, and Chairman of the FC. Currently, Mr. Guo serves as Deputy Chairman of the Board and Rotating Chairman of Huawei.

### **Mr. Xu Zhijun (Eric Xu)**

Born in 1967, Mr. Xu holds a doctorate degree from Nanjing University of Science & Technology. Mr. Xu joined Huawei in 1993 and has served as President of the Wireless Network Product Line, Chief Strategy & Marketing Officer, Chief Products & Solutions Officer, Chairman of the Investment Review Board, Rotating CEO of Huawei, and Chairman of the SDC. Currently, Mr. Xu serves as Deputy Chairman of the Board and Rotating Chairman of Huawei.

### **Mr. Hu Houkun (Ken Hu)**

Born in 1968, Mr. Hu holds a bachelor's degree from Huazhong University of Science and Technology. Mr. Hu joined Huawei in 1990 and has served as President of the Marketing & Sales Dept in China, President of the Latin America Region, President of the Global Sales Dept, Chief Sales & Service Officer, Chief Strategy & Marketing Officer, Chairman of the Global Cyber Security and User Privacy Protection Committee (GSPC), Chairman of the BOD of Huawei USA, Deputy Chairman of the Board, Rotating CEO, and Chairman of the HRC. Currently, Mr. Hu serves as Deputy Chairman of the Board and Rotating Chairman of Huawei.

### **Ms. Meng Wanzhou (Sabrina Meng)**

Ms. Meng holds a master's degree from Huazhong University of Science and Technology. Ms. Meng joined Huawei in 1993 and has held the positions of Director of the International Accounting Dept, CFO of Huawei Hong Kong, and President of the Accounting Mgmt Dept. Ms. Meng now serves as CFO of Huawei and Deputy Chairwoman of the Board.

In 2003, Ms. Meng established Huawei's globally unified finance organization, and developed the standardized and unified organizational structure, financial processes, financial systems, and IT platforms.

Since 2005, Ms. Meng has led the founding of five shared service centers around the world, and she also promoted the completion of the Global Payment Center in Shenzhen, China. These centers have boosted Huawei's accounting efficiency and monitoring quality, providing accounting services to sustain the company's rapid overseas expansion.

Since 2007, Ms. Meng has been in charge of the Integrated Financial Services (IFS) Transformation Program, an eight-year partnership between Huawei and IBM. This transformation program helped Huawei develop its data systems and rules for resource allocation, operating efficiency improvement, process optimization, and internal controls. IFS also took Huawei's financial management to a new level, creating new DNA for the company's sustainable growth.

In recent years, Ms. Meng has focused on advancing fine-grained and comprehensive financial management at Huawei, working to align these efforts with the company's long-term development plan. Ms. Meng has continually worked to improve treasury risk and tax compliance management systems, and has helped to make financial operations within the company more efficient, agile, and intelligent.

### **Mr. Ding Yun (Ryan Ding)**

Born in 1969, Mr. Ding holds a master's degree from Southeast University. Mr. Ding joined Huawei in 1996 and has served as Product Line President, President of the Global Solution Sales Dept, President of the Global Marketing Dept, President of Products & Solutions, and CEO of the Carrier BG.

### **Mr. Yu Chengdong (Richard Yu)**

Born in 1969, Mr. Yu holds a bachelor's degree from Northwestern Polytechnical University and a master's degree from Tsinghua University. Mr. Yu joined Huawei in 1993 and has served as 3G Product Director, Vice President of the Wireless Technical Sales Dept, President of the Wireless Network Product Line, President of the European Area, Chief Strategy & Marketing Officer, Chairman of Huawei Device, and CEO of the Consumer BG.

### **Mr. Wang Tao (David Wang)**

Born in 1972, Mr. Wang holds a master's degree from Xi'an Jiaotong University. Mr. Wang joined Huawei in 1997 and has served as R&D Manager in Wireless, Vice President of the UMTS Technical Sales Dept, Vice President of Technical Sales of the European Area, Managing Director of Huawei Italy and Switzerland, President of the Wireless Network Product Line, President of the Network Product Line, and President of Products & Solutions.

### **Mr. Xu Wenwei (William Xu)**

Born in 1963, Mr. Xu holds a master's degree from Southeast University. In 1991, Mr. Xu joined Huawei's Research & Development, leading the development of the first generation of Huawei's public program controlled switches. Mr. Xu also took charge of work related to chips, general technology, strategy planning, and research. He has served as President of the International Technical Sales & Marketing

Dept, President of the European Area, Chief Strategy & Marketing Officer, Chief Sales & Service Officer, President of the Joint Committee of Regions, and CEO of the Enterprise BG. Mr. Xu is currently Huawei's Chief Strategy Marketing Officer and Chairman of the Investment Review Board.

### **Ms. Chen Lifang**

Born in 1971, Ms. Chen graduated from Northwest University in China. Ms. Chen joined Huawei in 1995 and has served as Chief Representative of the Beijing Representative Office, Vice President of the International Marketing Dept, Deputy Director of the Domestic Marketing Management Office, President of the Public Affairs and Communications Dept, and Corporate Senior Vice President.

### **Mr. Peng Zhongyang**

Born in 1968, Mr. Peng holds a bachelor's degree from Huazhong University of Science and Technology. Mr. Peng joined Huawei in 1997 and has served as Technical Service Engineer of the South China Area, Transmission Project Manager and Development Engineer of the Russia Representative Office, General Manager of the Yemen Representative Office, Assistant to President of the Middle East and Northern Africa Region, President of the Northern Africa Region, and President of the China Region. Currently, Mr. Peng serves as the Vice President of the Corporate Leadership Mgmt Dept.

### **Ms. He Tingbo (Teresa He)**

Born in 1969, Ms. He holds a master's degree from Beijing University of Posts and Telecommunications. She joined Huawei in 1996 and has since served as Chief ASIC Engineer, and R&D Director of HiSilicon. Currently, she serves as President of HiSilicon and Vice President of the 2012 Laboratories.

### **Mr. Li Yingtao**

Born in 1969, Mr. Li holds a doctorate degree from Harbin Institute of Technology. Mr. Li joined Huawei in 1997 and has served as Chief of the Sweden Research Center, Director of the Product Mgmt Dept of Wireless Marketing, Director of the Research Dept of Products & Solutions, Director of the General Technology Office of Products & Solutions, President of the Central Research & Development Unit, President of the 2012 Laboratories, Director of the Integrated Technology Management Team, and member of the HRC and SDC.

### **Mr. Ren Zhengfei**

Born on October 25, 1944 into a rural family where both parents were school teachers, Mr. Ren Zhengfei spent his primary and middle school years in a remote mountainous town in Guizhou Province. In 1963, he studied at the Chongqing Institute of Civil Engineering and Architecture. After graduation, he was employed in the civil engineering industry until 1974 when he joined the military's Engineering Corps as a soldier tasked to establish the Liao Yang Chemical Fiber Factory. Subsequently, Mr. Ren had taken positions as a Technician, an Engineer, and was lastly promoted as a Deputy Director, which was a professional role equivalent to a Deputy Regimental Chief, but without military rank. Because of his outstanding performance, Mr. Ren was invited to attend the National Science Conference in 1978 and the 12th National Congress of the Communist Party of China in 1982. Mr. Ren retired from the army in 1983 when the Chinese government disbanded the entire Engineering Corps. He then worked in the logistics service base of the Shenzhen South Sea Oil Corporation. As he was dissatisfied with his job, he decided to establish Huawei with a capital of CNY21,000 in 1987. He became the CEO of Huawei in 1988 and has held the title ever since.

### **Mr. Yao Fuhai**

Born in 1968, Mr. Yao holds a bachelor's degree from the University of Electronic Science and Technology of China. Mr. Yao joined Huawei in 1997 and has served as Director of the Pricing Center, Vice President of the Business Process & IT Mgmt Dept, Vice President of the Strategy Cooperation Dept, Vice President of the Global Technical Sales Dept, and President of the Global Technical Service Dept. Currently, Mr. Yao serves as member of the Board, member of the FC, Director of the Group Procurement Management Committee, and President of the Procurement Qualification Mgmt Dept.

### **Mr. Tao Jingwen**

Born in 1971, Mr. Tao graduated from Beijing University of Posts and Telecommunications. Mr. Tao joined Huawei in 1996 and has served as a product development engineer, Deputy General Manager of the Market Technology Section, Executive Deputy Director of the International Technical Sales Dept, Executive Vice President and President of the Sub-Sahara Region, President of the Global Technical Sales & Marketing Dept, President of Huawei Device, President of the West European Region, and President of the Quality, Business Process & IT Mgmt Dept.

### **Mr. Yan Lida**

Born in 1970, Mr. Yan holds a bachelor's degree from Tsinghua University. Mr. Yan joined Huawei in 1997 and has served as Vice President of the European Region, General Manager of the Japan Representative Office, and President of the East Asia Region. Currently, Mr. Yan serves as President of the Enterprise BG, and member of the FC, SDC, and HRC.

## Members of the Supervisory Board



From the left in the first row: Mr. Zhou Daiqi, Mr. Li Jie, and Mr. Ren Shulu

From the left in the second row: Mr. Li Jin'ge, Mr. Song Liuping, Mr. Li Jian, Mr. Yi Xiang, Mr. Tian Feng, Mr. Li Dafeng, and Mr. Yin Xuquan

### Mr. Li Jie (Jason Li)

Born in 1967, Mr. Li holds a bachelor's degree in wireless communications and a master's degree in computer image processing from Xi'an Jiaotong University.

Mr. Li joined Huawei in 1992 and served as an R&D engineer and General Manager of a representative office in China. Mr. Li worked in R&D, Technical Sales, and the Changsha Office from 1992 to 1997. He served as General Manager of the Moscow Representative Office from 1998 to 2000, President of the Commonwealth of Independent States Region from 2000 to 2005, Corporate Senior Vice President since 2002, President of the Global Technical Sales Dept from 2005 to 2006, President of the Global Technical Service Dept from 2006 to 2009, President of the Human Resource Mgmt Dept and the Joint Committee

of Regions from 2009 to 2017, and President of the Corporate Leadership Mgmt Dept since 2017. During his time in the company, Mr. Li has served as Executive Director of the Board from 2011 to 2017. Starting from November 2017, Mr. Li has served as Chairman of the Supervisory Board.

### Mr. Zhou Daiqi

Born in 1947, Mr. Zhou graduated from Xidian University. Mr. Zhou joined Huawei in 1994 and has served as ATM Product Manager, Chief Engineer and General Manager of the Multimedia Dept, Director of the Hardware Dept, Chief of the Xi'an Research Center, and Director of the HR Branch of Products & Solutions. Currently, Mr. Zhou serves as Chief Ethics & Compliance Officer, Director of the Corporate Committee of Ethics and Compliance, and member of the Audit Committee.



### **Mr. Ren Shulu (Steven Ren)**

Born in 1956, Mr. Ren holds a bachelor's degree from Yunnan University. Mr. Ren joined Huawei in 1992 and has served as President of Shenzhen Smartcom Business Co., Limited, Chairman of the Capital Construction Investment Management Committee, and Chairman of the Internal Service Management Committee. Currently, Mr. Ren serves as Huawei's Chief Logistics Officer.

### **Mr. Yin Xuquan**

Born in 1964, Mr. Yin holds a master's degree from Xi'an Jiaotong University. Mr. Yin joined Huawei in 1995 and has served as President of the Southern Africa Region, Vice President of the Turnkey Business Dept, President of the Optical Network Product Line, HR Director of Sales & Services, and Vice President of the Procurement Qualification Mgmt Dept.

### **Mr. Li Jin'ge**

Born in 1968, Mr. Li holds a bachelor's degree from Beijing University of Posts and Telecommunications. Mr. Li joined Huawei in 1992 and has served as Regional Vice President, Regional President, President of the Global Technical Sales Dept, President of the Sub-Saharan Area, member of the Joint Committee of Regions, member of the HRC, and President of the Asia Pacific Area.

### **Mr. Li Dafeng**

Born in 1966, Mr. Li holds a bachelor's degree from the Department of Radio Engineering, Changchun Institute of Posts and Telecommunications, and a master's degree in signal and information processing, Harbin Institute of Technology. Mr. Li joined Huawei in 1996 and has served as Deputy Sales Director of the Beijing Office, General Manager of the Tianjin Office, General Manager of the Shijiazhuang Office, Deputy Director of the China Telecom Account Dept, Deputy Sales President of the Southern Africa Region, Director of the MTN Account Dept, President of the Eastern and Southern Africa Region, President of the Sales & Delivery Finance Mgmt Dept, President of the Middle East and Africa Area, and Director of the ICT Infrastructure Managing Board Office.

### **Mr. Song Liuping**

Born in 1966, Mr. Song completed his postdoctoral research at Beijing Institute of Technology. Mr. Song joined Huawei in 1996 and has served successively as Manager of the Product Strategy Planning Dept, Director of the IPR Dept, Director of the External Cooperation Dept, PSST member, President of the Legal Affairs Dept, Chief Legal Officer, President of the Patent Review Board, Director of the Trade and

Customs Compliance Committee, member of the Disciplinary and Supervisory Sub-committee of the HRC, and member of the AC and FC.

### **Mr. Tian Feng**

Born in 1969, Mr. Tian holds a bachelor's degree from Xidian University. Mr. Tian joined Huawei in 1995 and has served as General Manager of the Shijiazhuang Office, HR Director of the Domestic Marketing Dept, Director of the Market Finance Dept, EVP of the Middle East and Northern Africa Area, President of the Middle East Region, President of the China Region, CEO of Huawei Agissson, Vice President (acting) of the Human Resource Mgmt Dept, EVP of Huawei University, Director of the Institute of Education of Huawei University, Director of the Disciplinary and Supervisory Sub-committee of the HRC, executive member of the Management Team of the Joint Committee of Regions, Director of the Subsidiary Board Directors Resources Bureau, President of the Central Asia and Russia Area, member of the Management Team of the Corporate Leadership Mgmt Dept, member of the AC, member of the ICT Infrastructure Managing Board, and member of the Supervisory Board.

### **Mr. Yi Xiang (Steven Yi)**

Born in 1975, Mr. Yi holds a bachelor's degree from Wuhan University. Mr. Yi joined Huawei in 1998 and has served as General Manager of the Pakistan Representative Office, President of the Middle East Region, President of the Middle East and Africa Area, President of the Sales & Delivery Finance Mgmt Dept, and Deputy CFO of Huawei. Currently, Mr. Yi serves as President of the Regions Mgmt Dept, President of the America Area, member of the FC and HRC, member of the Management Team of the Corporate Leadership Mgmt Dept, and member of the ICT Infrastructure Managing Board.

### **Mr. Li Jian**

Born in 1973, Mr. Li holds a master's degree from Xidian University. Mr. Li joined Huawei in 2001 and has served as General Manager of the Nigeria Representative Office, General Manager of the Ghana Representative Office, President of the Western Africa Region, Special Assistant to President of Sales & Services, President of the Accounts & Regions Business Support Dept, President of the CEE & Nordic European Region, member of the HRC, executive member of the Management Team of the Joint Committee of Regions, Vice President of the Joint Committee of Regions, Global Process Owner of LTC, and President of the America Area. Currently, Mr. Li serves as President of the Europe Area, member of the Management Team of the Corporate Leadership Mgmt Dept, and member of the ICT Infrastructure Managing Board.

## Independent Auditor

An independent auditor is responsible for auditing a company's annual financial statements. In accordance with applicable accounting standards and audit procedures, the independent auditor expresses an opinion as to whether the financial statements are true and fair.

The scope of the financial audit and the annual audit results are subject to review by the Audit Committee. Any relationship or service that may potentially affect the objectivity and independence of the independent auditor can be discussed with the Audit Committee. The independent auditor may discuss any issues identified or any difficulties encountered during the course of the financial audits with the Audit Committee.

KPMG has been Huawei's independent auditor since 2000.

## Business Structure

The company has established a business structure that focuses on three dimensions: customers, products, and regions. All organizations jointly create value for customers, and are responsible for the company's financial results, market competitiveness, and customer satisfaction.

The Carrier BG and the Enterprise BG manage and support solution marketing, sales, and services that target carrier customers and enterprise/industry customers respectively. The two BGs provide innovative, differentiated, and advanced solutions based on the business characteristics and operational patterns of different customers while continuously improving the company's industry competitiveness and customer satisfaction. The Consumer BG focuses on serving device consumers and deals with all aspects of the consumer domain. This BG is responsible for business performance, risk controls, market competitiveness, and customer satisfaction in the consumer business.

In 2017, Huawei established the Cloud BU, a business unit responsible for end-to-end management of Huawei's offering in the cloud services industry. It is tasked with enhancing competitiveness in cloud services, and ensuring customer satisfaction and business success in this domain.

Products & Solutions is an organization that provides integrated ICT solutions to carriers and enterprise/industry customers. In addition to product planning, development, and delivery, this organization is also responsible for developing product competitiveness in order to deliver a better user experience and support the company's business success.

Regional organizations are the company's regional operations centers. They are responsible for developing and effectively leveraging regional resources and capabilities, and also for the execution of corporate strategy in their regions. The company has continuously optimized regional organizations and accelerated the delegation of authority to field offices. Command and on-site decision making authority has gradually been delegated to representative offices. Currently, to improve efficiency and responsiveness to customer needs, the company is piloting contract approval at the representative office level in some countries. While establishing closer partnerships with customers and helping them achieve business success, regional organizations will continue to support the company in achieving profitable and sustainable growth.

Group Functions provide business support, services, and supervision. They are positioned to offer accurate, timely, and effective services to field offices and strengthen supervision while delegating sufficient authority to them.

## Improving the Management System

Our global management system enables us to promote our corporate culture company-wide and effectively manage our business. Our aims are to:

- Remain customer-centric; continue to innovate in order to address customer needs and maintain our technological leadership; and build an ecosystem for shared success.
- Control risks and ensure business continuity.
- Pursue corporate social responsibility (CSR) initiatives to promote sustainable social development.

The company has the quality goal of making Huawei a synonym for high quality in the ICT industry, and has passed a resolution to fully build and implement a broad quality system. The resolution defines broad quality as ISO 9000-based total quality management. Quality management must be extended from products and engineering to all aspects of the company. With customer needs at the core, quality management must be driven by strategy and encompass all employees, the entire process, and the entire value chain. We are implementing a Quality First strategy to support the company in winning with quality, continuously improve our quality competitiveness, and prevent the emergence of significant quality risks. Quality requirements have been embedded in processes to enhance quality in all respects, help the company with the process from identifying opportunities to achieving monetization, and continuously deliver value to our customers.

Over the past year, we launched the following initiatives:

- Fulfilling the requirements of our management system in accordance with our corporate strategy, and continuing to develop our customer-centric management system along the value stream. The system ensured the continuous improvement and development of our business.
- Consolidating best practices into an end-to-end process system encompassing operating, enabling, and supporting processes. The process system incorporated requirements for compliance, quality, internal controls, cyber security, information security, business continuity, Environment, Health, and Safety (EHS), CSR, and sustainability into multiple business domains. These domains included sales, marketing, R&D, delivery and services, supply chain, procurement, and manufacturing.
- Encouraging all employees to pursue high quality and ensuring ongoing improvements of our business systems. This initiative was supported by leadership development, Six Sigma, Quality Control Circles (QCCs), quality awards selection, internal and external assessments and audits, and building of a culture and climate conducive to quality improvement.

To deliver competitive ICT solutions, products, and services to customers and consumers, the company has been certified by multiple independent third parties, including ISO 9001/TL 9000 (quality management), ISO 14001 (environment), OHSAS 18001 (occupational health and safety), ISO 50001 (energy management), ISO/IEC 20000 (IT service management), ISO/IEC 27001 (information security), and ISO 28000 (supply chain security), as well as SA 8000 (CSR) and ISO/TS 16949 (automotive-sector quality) in the device domain.

Huawei has successfully passed comprehensive audits, regular assessments, and stringent reviews conducted by 31 of the world's top 50 carriers as well as by major enterprise and industry customers. Audited domains include financial robustness, quality management, risk management, delivery and services, supply chain management, knowledge management, project management, cyber security, information security, EHS, CSR, sustainability, and business continuity management. Huawei received full and extensive recognition from its customers in these key domains, as evidenced by their choice of Huawei as a strategic partner for their future-oriented transformations.

We have continued to entrust professional third-party market survey companies to conduct customer satisfaction surveys among our three major customer groups worldwide: carriers, enterprise/industry customers, and consumers. Our suppliers were also surveyed in order to obtain their views about Huawei. Based on the feedback and survey results, we identified and consolidated key points for improvement, and managed all issues in a closed loop to continuously improve customer satisfaction.

## From Strategy Development to Execution

Over the last year, we added a corporate vision and mission management module to our Develop Strategy to Execute (DSTE) management system. The aim is to use this vision to help guide effective strategy management of the company and its business units, and further strengthen strategic communication inside and outside of Huawei. These strategies serve as drivers for annual business planning, budgeting, and performance appraisals. This management system ensures that the strategic objectives of the company and business units are incorporated into annual plans and budgets, so that all business units are well coordinated. With well-managed corporate investment, the company has been able to achieve its strategic and business objectives.

During the company's annual business planning and budgeting, we stressed the role of budgets and HR in supporting strategies. This included guiding our organization to invest in medium-to-long-term opportunities and capability development. We used the Balanced Scorecard as a tool to manage our organizational performance and break down our corporate strategy to turn the company's strategic objectives into organizational performance objectives of departments at all levels. We reviewed the execution of corporate strategies to ensure they were properly executed and rolled out.

## Management Transformation

The overall goal of our transformations is to "harvest more crops and increase soil fertility". Our transformation focused on simple, efficient, and secure transactions with customers, as well as improvement of internal efficiency and effectiveness. We have started to explore how to treat each of our over 100 representative offices as a small Huawei and build process management systems for representative offices based on real-world scenarios.

In 2017, we piloted contract approval at the representative office level and our HQ began to serve as a resource pool with the task of efficiently delivering capabilities as services to field offices, removing restrictions on representative offices from HQ/the Latin America Region. This move aimed to restructure the relationship between representative offices and the company's big platform, and thus help the company achieve business objectives.

Looking ahead to future challenges, we have made it clear that the company is committed to delivering a Real-time, On-demand, All-online, DIY, and Social (ROADS) user experience. Through digital transformation, we are also working to make it easier and more secure for customers and partners to do business with Huawei, improving customer satisfaction.

In 2017, we launched the following initiatives:

- Implementing IPD+, a major business process transformation that is founded on market innovation. This transformation focuses on building an agile and open integrated product development system that aims to deliver a ROADS experience and help us roll out our Cloud First strategy. This transformation program has helped:
  - Support the company's digitization with three major designs for the digital transformation of products: DevX – a model to facilitate digital collaboration among all related domains in product design, development, and maintenance; provision of product data as a service; and digital product operations.
  - Leverage the company's ability to deliver agile commercial solutions to support the provision of R&D labs as a service, quickly apply prototypes to new services and scenarios, work with customers for agile innovation, quickly implement trial and error, and accelerate the transformation of customer needs into market-ready products.
- Continuing to promote CRM+, a customer-facing business process transformation. By deeply integrating transformation into the carrier business, this initiative has helped the company:
  - Achieve end-to-end project integration, especially sales and marketing projects, from the perspective of field offices, and enable operations of project directors (PDs) and Customer Centric 3 (CC3) members.
  - Build a service-oriented IT operations platform, make the transaction process transparent and visualized, and build a cloud-based configuration, price, and quotation (CPQ) platform to support transaction prices being input into the IT system.

- Optimize Customer Relationship Management (CRM) processes and their relationships from the perspectives of customers to enable the company to establish strategic partnerships and use a consistent voice for each customer and project, improving customer satisfaction.
- Enter key data into the system in a structured way, provide data as a service, and support data analytics and application in typical business scenarios.
- Change the bidding process from reliance on previous bidding documents to application of artificial intelligence (AI), and shift from simplifying the bidding process according to scenario to globally collaborative bidding on a unified platform, improving operating efficiency by 20%.
- Build a foundational data platform and convene staff team (ST) meetings, business performance analysis meetings, and regular sales and marketing meetings based on this platform. This move will optimize this platform and improve the quality of pre-sales pipeline data, giving better support for the sales and operations management of the carrier business.
- Implementing ISC+ transformation to further our vision of “building a proactive supply chain with digital technologies and improving customer experience”. In 2017, we built a new IT platform for going digital in all respects, including digital connections with customers, digital connections with suppliers, and company-wide digital operations. Specifically, we:
  - Set up a project team to design product configuration instances (PCIs). A PCI is one of the business transaction objects and internal operations units in the company, and will change the way we do business with customers.
  - Built a transaction website that allows customization of the front-end for each customer. This means we can put different products on shelves that the target customers can buy directly online. This service is now used by 36 customers and is almost ready for a global rollout.
  - Built a foundational data platform and continued to use it for further improvement. The completeness of data entered into the platform for the supply domain has exceeded 90%.
- Built an integrated product team comprising of business and IT staff. This team decoupled the designs of IT systems for front-end transactions, middle-end execution, and back-end accounting, and shortened the version release interval from three months down to one week to promptly address customer needs.
- Implementing the Partner Relationship Management (PRM) transformation program for the Enterprise BG. Specifically, we:
  - Completed the overall architecture for the future-oriented enterprise business and the top-level design of the BG’s digital platform – e+.
  - Enabled multinational companies to make transactions with us online and improved the user experience of the BG’s official website.
  - Piloted a one-stop platform targeting partners overseas, delivering a huge boost in partner registration and certification, self-service order placement, 0-touch order channel building, and incentive cycle based on business results. This move also supported the development of the ecosystem.
  - Launched the basic version of the one-stop operating platform for Customer Centric 4 (CC4) members and marketing managers in the field. Twenty countries outside of China are gradually migrating their services from the PRM platform to the eSales platform under e+.
  - Built a clean data architecture to support the input of key business data into the foundational data platform.
  - Designed solutions for verticals and preliminarily built a system for managing these solutions with safe city solutions as a sample. Because the business models for these solutions were clear, we set out budgeting and accounting rules, with each solution defined as an investment unit.
- Changing the mindset at representative offices.
  - At first, only 35 representative offices had implemented self-driven transformation. All other offices started doing so in the past year. They reviewed pain points for all business scenarios and prepared plans for the transformation.

- Representative offices that are piloting process management system improvement were able to streamline processes horizontally in real-world practices of project management, and developed blueprints for their respective process management systems.
- Representative offices also eliminated unnecessary key control points of processes and built an integrated management system for processes, organizational capabilities, and IT platforms.

## Organizational Vitality

In 2017, the company built a differentiated management mechanism aimed at boosting the vitality of the organization as a whole. By implementing HR management initiatives for organizations, managers, talent, incentives, and culture and climate, we inspired greater passion across the company to support the development of our diverse range of businesses.

In 2017, we launched the following initiatives:

- Defining and categorizing business organizations, functional organizations, and project-based organizations, clarifying their positioning and responsibilities, and matching their authority with those responsibilities. Specifically, we:
  - Quickly restructured and optimized organizations, such as the solution organizations for ICT transformation, the Cloud BU, and regional organizations of the Consumer BG.
  - Continued our efforts to move the center of business operations forward to the front line, so that field offices could request resources and HQ could provide services and support.
  - Strengthened the operations of project-based organizations and implemented the resource buy-and-sell and cross-charging mechanisms, aiming to gradually turn functional departments into platforms that sell services to field offices.
- Adhering to the principle of selecting managers from people with successful track records, and

stressing that “commanders” at Huawei must have the following traits: a sense of mission and responsibility, strategic insight, the ability to manage and control operations, a strong determination, and a spirit of sacrifice. These are necessary for the company to proactively adapt to ever-changing internal and external environments.

- Continuing to implement its *Employee Conduct – Eight Principles for Improving Work Ethic*, increasing employees’ customer-centric awareness, asking employees to learn from Man Guangzhi and Xiang Kunshan<sup>1</sup>, and asking managers to spend more time on the ground alongside staff, work hard, and maintain a firm grasp of business essentials.
- Maintaining a talent management philosophy of being proactive, diverse, and open, to build targeted management mechanisms for different groups of employees.
  - Within the company, we:
    - ◆ Fast-tracked the promotion of outstanding employees and implemented talent-oriented initiatives such as the Strategic Reserve.
    - ◆ Identified distinct groups of employees and designed targeted management approaches (regarding C&Q and performance management), enabling them to maximize contributions in their prime, in the roles that suit them most, and receive the greatest possible rewards in return.
  - Externally, we:
    - ◆ Opened up our organizational boundaries and leveraged different means to integrate outstanding resources.
    - ◆ Continued to absorb the energy of the universe over a cup of coffee and take a bucket of glue to stick the world’s best brains together.
- Designing precise incentive schemes for each business department and employee group based on the Contribute and Share system; strengthening the building of a motivational culture, in which we aim to use the company’s vision to ignite a stronger sense of mission amongst employees. This will

<sup>1</sup> Man Guangzhi is a Chinese military strategist who adopts a diverse range of flexible, unconventional methods to improve military competitiveness. Xiang Kunshan was an Assistant Regiment Commander who was unfairly blamed for his bold decisions during a military operation, which later proved pivotal to his regiment’s victory.

drive continuous value creation and inspire a sense of honor, serving as a catalyst for a stronger sense of responsibility.

- Continuing to build the core value of customer centricity into the HR management system. Specifically, we:
  - Placed an emphasis on responsibilities and results during performance appraisals, streamlined management, and facilitated collaboration, to build up a culture of collective dedication in which employees are united in both good times and bad.
  - Strived to build an open and inclusive culture and climate, which will help motivate employees to shoulder greater responsibilities, proactively develop themselves, and work hard to create value.

## Improving the Internal Control System

Huawei continued to design and implement an internal control system based on its organizational structure and operating model. The internal control framework and its management system apply to all business and financial processes of the company and its subsidiaries and business units. The internal control system is based on the five components of the COSO framework: Control Environment, Risk Assessment, Control Activities, Information & Communication, and Monitoring. It also covers internal controls of financial statements to ensure their truthfulness, integrity, and accuracy.

### Control Environment

A control environment is the foundation of an internal control system. Huawei is committed to a corporate culture of integrity, business ethics, and compliance with laws and regulations. Huawei has issued the *Business Conduct Guidelines (BCGs)* to identify acceptable business conduct. The *BCGs* must be observed by all employees, including senior executives. Regular training programs are offered,

and all employees are requested to sign the *BCGs* to ensure that the *BCGs* have been read, understood, and observed.

Huawei has implemented a mature governance structure, with clearly defined authorization and accountability mechanisms. The governance structure comprises the Board of Directors (BOD), its committees, group functions, and multi-level management teams. Huawei clearly defines the roles and responsibilities of its organizations to ensure the effective separation of authority and responsibilities as well as checks and balances through mutual oversight. The CFO of Huawei is in charge of internal controls. The business control department reports to the CFO for any possible defects and improvements already made in terms of internal controls, and assists the CFO in building the internal control environment. The internal audit department independently monitors and assesses the status of internal controls for all business operations.

### Risk Assessment

Huawei has a department dedicated to internal controls and risk management to regularly assess risks to the company's global business processes. This department identifies, manages, and monitors significant risks, forecasts potential risks caused by changes to the internal and external environments, and submits risk management strategies along with risk mitigation measures for decision making. All process owners are responsible for identifying, assessing, and managing business risks and taking necessary internal control measures. Huawei has instituted a mechanism for improving internal controls and risk controls to efficiently manage critical risks.

### Control Activities

Huawei has established the Global Process Management System and the Business Transformation Management System, released the global Business Process Architecture (BPA), and appointed Global

Process Owners (GPOs) in line with the BPA. Responsible for building processes and internal controls, GPOs:

- Identify key control points and the Separation of Duties Matrix for each process, and apply these to all regional offices, subsidiaries, and BUs.
- Conduct monthly compliance tests on key control points and issue test reports to ensure continuous and effective monitoring of internal controls.
- Optimize processes and internal controls based on business pain points and key requirements for financial statements. The aim is to improve operating efficiency and financial results, ensure operational compliance and the accuracy and reliability of financial statements, and help achieve business objectives.
- Perform Semi-Annual Control Assessments (SACAs) to assess the overall process design and the effectiveness of process execution by each business unit, and then report the results to the Audit Committee (AC).

## Information & Communication

Huawei has developed multi-dimensional information and communication channels to ensure the timely acquisition of external information from customers, suppliers, and other parties. It has also created formal channels for transferring internal information, and offered an online space, the *Xinsheng Community*, for employees to freely communicate their thoughts and ideas. Corporate management holds regular meetings with departments at all levels to effectively communicate management orientation to employees and ensure effective implementation of management decisions.

All business policies and processes are available on the company's Intranet. Managers and process

owners regularly organize training programs on business processes and internal controls to ensure that up-to-date information is made available to all employees. The company has established a mechanism for process owners at all levels to regularly communicate with each other, review the execution of internal controls, follow up on internal control issues, and implement improvement plans.

## Monitoring

Huawei has established an internal complaint channel, an investigation mechanism, an anti-corruption mechanism, and an accountability system. The *Agreement on Honesty and Integrity* that Huawei has signed with its suppliers clearly stipulates that suppliers may report improper conduct by Huawei employees through the channels stipulated in the *Agreement* to assist the company in monitoring the integrity of its employees. The internal audit department independently assesses the overall status of the company's internal controls, investigates any suspected violations of the *BCGs*, and reports the audit and investigation results to the AC and senior management.

Huawei has also implemented a mechanism for internal control appraisals of GPOs and regional managers, holding them accountable and pursuing impeachment when and where necessary. The AC and the CFO regularly review the company's internal control status, and receive reports on action plans for improving internal controls and plan execution progress. Both have the authority to request the relevant GPOs or business executives to explain their internal control issues and take corrective actions. The AC and the CFO may also need to submit proposals to the Human Resources Committee (HRC) for disciplinary action or impeachment.



# Sustainable Development

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## Introduction

Our approach to sustainability management is customer-centric as always, and we remain committed to improving our operating efficiency and competitiveness in a responsible and innovative way. In collaboration with all sectors of society, we embrace the challenges and opportunities relating to sustainability, to promote socioeconomic growth and make the world a better place. As we seek business growth, we place great emphasis on fulfilling our social responsibility as an active contributor in the local communities in which we operate. We prioritize sustainable operations, provide customers with sustainable products, solutions, and services, and remain committed to driving social sustainability.

## Sustainability Strategy



### Bridging the Digital Divide

- Provides people across all geographic areas with easy access to voice communications services
- Ensures ubiquitous broadband for all and promotes future-oriented ICT technologies to address global challenges
- Establishes training centers and launches joint teaching initiatives to develop local talent, transfer knowledge, and increase people's engagement in digital society
- Provides customized ICT applications and solutions that meet individual, corporate, and regional needs to improve economic performance, quality of life, productivity, and competitiveness



### Promoting Environmental Protection

- Incorporates green concepts into product planning, design, R&D, manufacturing, delivery, and O&M; pursues continuous technological innovation to improve resource efficiency and provide customers with leading energy-conserving and environmentally friendly products and solutions
- Increases resource efficiency in offices, production facilities, logistics centers, and labs to reduce waste and greenhouse gas emissions and build Huawei into a role model for environmentally friendly operations
- Continuously ensures the environmental compliance of our products and our partners' operations; promotes energy conservation and emissions reduction across our supply chain, and improves the overall competitiveness of our supply chain
- Continuously promotes green and integrated ICT solutions to support energy conservation and emissions reduction in various industries; proactively drives an energy-saving, environmentally friendly, and low-carbon society



### Supporting Network Stability and Security and Protecting Privacy

- Prioritizes network stability and security over commercial interests, especially at critical times (e.g., earthquakes, tsunamis, and other natural disasters and emergencies)
- Enhances the robustness and defense of products through continuous innovation and full consideration of business continuity and network resilience; supports independent testing, verification, and certification of products to provide internationally recognized security assurance to customers; works and communicates proactively with stakeholders in an open and transparent manner; complies with applicable security standards, laws, and regulations
- Emphasizes the protection of privacy; works with partners on privacy protection; adopts recognized methodologies and practices; integrates privacy protection into day-to-day business activities



### Building a Healthy Ecosystem

- Provides employees with varied career paths based on their particular skillsets to help them realize their individual value
- Makes significant contributions in all communities and countries in which we operate
- Strictly abides by ethical business practices; opposes corruption, dumping, and monopoly; operates with integrity and in compliance with applicable laws and regulations
- Focuses on sustainability risk management in our own operational activities and services, aiming to be a sustainable development leader in the industry and around the world
- Works closely with suppliers to develop standards and define benchmarks; transitions our focus on supplier risk management to efficiency management, leading the sustainable development of the industry ecosystem



## Overview of Huawei's Sustainability Initiatives in 2017



### Bridging the Digital Divide

- Huawei's Three-Star site solutions drove development of mobile broadband in Africa
- The Huawei RuralStar 2.0 solution connected remote areas with mobile signals and fueled local economic growth
- Deployed smart city solutions in more than 120 cities across over 40 countries
- Ran the Seeds for the Future Program in 108 countries and regions to promote ICT development and a prosperous industry



### Promoting Environmental Protection

- Energy efficiency of major products increased by 20% on average, making our products among the most energy-efficient in the industry
- Received the UL110 highest-level green certification for 5 mobile phones
- Suppliers reduced carbon emissions by 63,000 tons via pilot energy conservation projects, driving a green supply chain
- Introduced 932 million kWh of clean energy, equivalent to a carbon emissions reduction of 450,000 tons



### Supporting Network Stability and Security and Protecting Privacy

- Supported the stability of over 1,500 customer networks
- Guaranteed network stability during over 200 key events and natural disasters worldwide
- Submitted 186 security standard proposals to 3GPP SA3
- Delivered privacy awareness training to all employees



### Building a Healthy Ecosystem

- Invested more than CNY12 billion in employee benefits
- EHS audits on more than 4,100 sites worldwide
- Convened the Huawei Global Supplier Sustainability Conference with nearly 210 attendees
- Launched approximately 200 community support programs in more than 100 countries and regions

## Sustainable Products and Services

### Green Products and Services

We have embedded green requirements into our end-to-end product lifecycle, from development and manufacturing to delivery and O&M. All our offerings can deliver high environmental performance as they can meet or exceed applicable laws, regulations, standards, and customer requirements. We are dedicated to reducing energy consumption and carbon emissions in the ICT industry, and to enabling other industries to do the same. We aim to build a fully connected, green world: We provide smart and clean energy solutions, enable smart cities and a green ecosystem, and drive industry digital transformations, efficiency improvements, and carbon emissions reduction.

#### Helping Customers Meet Goals for Energy Conservation and Emissions Reduction

In 2017, British Telecom announced a new, challenging target to reduce its carbon emissions by 87% by 2030 against a 2016/2017 baseline. To support the customer's target, Huawei has played an active role in their carbon emissions and cost saving program designed for tier-2 suppliers. We ran a pilot using our next-generation access (NGA) product, and adopted a lifecycle assessment (LCA) approach to identify the suppliers that produce the largest amounts of emissions during the product lifecycle. After that, we examined the suppliers' energy conservation and emissions reduction initiatives and their results, in accordance with the International Performance Measurement and Verification Protocol (IPMVP). The five-year program can cut CO<sub>2</sub> emissions by 11% and reduce energy use by 8% on average.

#### Energy-efficient Sites Help Carriers Cut Network Energy Consumption

In 2017, China Mobile, China Telecom, and Vodafone applied innovative technologies with lower energy use and emissions. They developed energy-efficient technologies that can deliver on "Double Zero" goals (zero watt@zero load), researched how to improve the energy efficiency of 5G, and raised energy efficiency by 120%. In 2017, Huawei extensively deployed energy-efficient technologies on our live networks. China Mobile also began to cut energy use and emissions on all their networks. By the end of 2017, the carrier opened over 400,000 energy-efficient sites that saved nearly 300 million kWh of electricity that year.

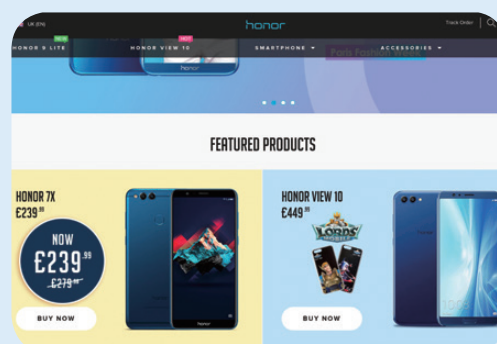
### Circular Economy

Under the circular economy model, substances are managed in a closed loop. The goal is to maximize product value and reduce waste and resource consumption, as well as impacts on the environment. Huawei has integrated circular economy practices into all stages of product lifecycle, from design and manufacturing to use and recycling. We adopt the latest technologies to boost resource efficiency. We ensure sustainable resource use by leveraging end-to-end recycling approaches, and implementing circular economy policies, requirements, and practices.

#### Building a Recycling System

Huawei proactively fulfills our extended producer responsibility. We have continued to develop our recycling system to take back scrapped mobile phones, tablets, and other electronic products in multiple ways. Our aim is to recycle as much e-waste as possible to maximize its value, ensure compliant processing, and ultimately drive the development of a circular economy. By the end of 2017, we had recycling centers in 48 countries and regions, with a total of 1,025 recycling stations.

In 2017, we further scaled up our product trade-in program. In China, in addition to online trade-in, our program provides two more options: in-store trade-in, and home pick-up recycling. In other countries, our trade-in program is booming, with a presence in 15 countries such as Malaysia, Germany, the UK, Switzerland, South Africa, and the United Arab Emirates.



Online trade-in platform in the UK

## Sustainable Operations

### Operational Compliance

Huawei is a global company. This means we comply with all applicable national and regional laws and regulations, operate ethically, and prohibit all forms of corruption and bribery. We manage compliance and fulfill responsibilities in accordance with applicable laws and principles. Compliance with laws, regulations, and ethical standards is our bottom line. We have integrated compliance requirements into corporate policies, systems, and processes, and promote a culture of integrity across the company.

#### Enhancing Compliance Supervision Worldwide

In 2017, Huawei piloted and globally deployed the Regional Compliance Supervision Solution 3.0, which allowed over 100 subsidiaries to successfully attain their compliance targets in complex political, economic, and business conditions. We also established fundamental systems for overseas subsidiaries to lay a more solid foundation for compliance management by subsidiary legal entities.

### Caring for Employees

Inspiring dedication is one of our core values, and it manifests itself in many ways. We appraise employees and select managers according to the scope of their responsibilities and their contributions. We offer our staff a global platform for development and communication, giving young people the opportunity to assume greater responsibilities and accelerate their careers. In this way, we have enabled 180,000 employees to yield significant returns for their individual efforts, and gain memorable life experience.

With a presence in more than 170 countries and regions, Huawei gives employees fair access to work as well as to learning and promotion opportunities – irrespective of nationality, gender, age, race, or religion. In countries outside China, we give priority to hiring local employees, and our localization rate in 2017 was approximately 70%. We are also committed to creating an efficient, comfortable, and caring workplace, and providing a comprehensive, professional healthcare service and safety assurance system.

#### Practice Bases: Where Employees Learn How to Better Create Value for Customers

Practice makes perfect. To help employees grow their careers more rapidly, in 2017 Huawei built two practice bases in China – one in Guangdong and another in Guizhou. In these bases, employees learn how things work in the field, which scenarios create value for customers, what services and solutions Huawei has, and what our culture of customer-centricity is all about. By immersing themselves in these bases, employees are better able to create value for customers and rapidly foster their own skills.



Huawei's Songshan Lake practice base in Dongguan, Guangdong, China

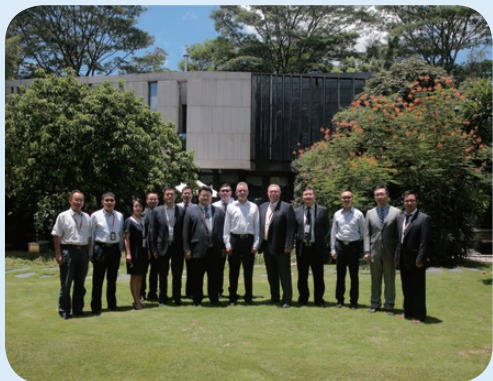
## Safe Operations

We have incorporated employee health and safety requirements into our operations, and have taken concrete action to deliver on our commitment to health and safety. In 2017, we continued to put safety first and ensure our employees were well cared for. Based on the OHSAS 18001 standard, we improved our approaches to ensuring occupational health, protecting the rights and interests of employees, and managing production safety. We also continuously reinforced health and safety management in delivery projects, to better protect the staff of both Huawei and our contractors.

### Managing Project Delivery Safety

In 2017, Huawei integrated the requirements of environment, health, and safety (EHS) further into business processes, and fostered capabilities during project delivery. To prevent workplace accidents, we created scenario-specific EHS standards for business activities that involve high risks. We ran a pilot to incorporate delivery EHS into our compliance management system. Criteria for delivery EHS compliance were released, and special criteria were tailored for different countries. In addition, we stepped up efforts to manage delivery EHS from end to end, and reinforced compliance checks. An interactive IT platform was developed to manage our delivery EHS. Before contractors started working at our site, we examined their qualifications by scanning an attached quick response (QR) code. We used a smartphone app to record and monitor EHS violations. When we appraised contractor performance, we took the number of violations into account.

We continued to increase our communication with customers about delivery EHS management. In 2017, Huawei and Vodafone held two EHS summits, during which we came to understand each other better and forged a closer partnership on EHS management. Such engagement allowed Huawei and our customer to deliver business and social value.



Vodafone and Huawei representatives at an EHS summit

## Green Operations

Minimizing the environmental impact of our internal operations is a long-term key initiative at Huawei, with the aim of contributing to a low-carbon society. We have adopted multiple initiatives to reduce our energy consumption and CO<sub>2</sub> emissions, such as implementing energy management systems, achieving managerial and technological improvements, and using clean and renewable energy. By the end of 2017, we had built solar power stations with total capacity of 19.3 million kWh. These solar power stations generated 17 million kWh of electricity in 2017, equivalent to a reduction in CO<sub>2</sub> emissions of over 15,000 tons. In 2017, we encouraged our electricity supplier to sign a clean energy electricity agreement with a gas power plant, and the supplier ended up getting 932 million kWh of clean energy electricity, all of which will be supplied for use by Huawei in 2018. Huawei obtained a statement on reducing greenhouse gas emissions from a third-party certification organization, and our CO<sub>2</sub> emissions reduction is estimated to reach 450,000 tons.

### Building an ISO 50001-based Energy Management System

Huawei has established an energy management system in accordance with the ISO 50001 standard and relevant laws and regulations. In 2017, our Shenzhen headquarters obtained an ISO 50001-based third-party certification. We continuously optimized our energy management system, making it more effective and energy-efficient, with lower energy consumption. This was achieved through multiple initiatives, including routine monitoring of energy conservation, energy auditing, internal auditing, and upgrading to energy-efficient technologies. When our energy management system was being scrutinized by the third party, we adopted 28 improvement measures, completed energy upgrading projects that saved 2.07 million kWh of electricity, and leveraged management approaches that saved 2.5 million kWh of electricity.



Certificate for our energy management system

## Sustainable Supply Chain

In 2017, we further implemented our Quality First strategy. Because sustainability is a key element of our strategy, it was assigned greater weight during supplier qualification, performance appraisal, and procurement decision-making. We strengthened cooperation in sustainability with customers, suppliers, and industry organizations. Procurement quotas were used as a means to drive the continuous improvement of our suppliers, minimize supply risks, increase customer satisfaction, and improve the competitiveness of our supply chain. In 2017, we focused on the following aspects as we managed supply chain sustainability:

- Enhancing cooperation with customers to expand joint audits and employee surveys, and increase supply chain transparency: In 2017, Huawei and four customers carried out onsite audits on eight suppliers, and we shared audit results with customers. Twelve suppliers received awards from our customers and the Joint Audit Cooperation (JAC).
- Enhancing cooperation with suppliers and building sustainability into procurement and supplier lifecycle management: In 2017, we reviewed the sustainability performance of 76 potential suppliers. We audited 1,088 suppliers with respect to sustainability risks, and conducted onsite audits on 117 medium- and high-priority suppliers. Among the 1,230 suppliers that took part in our performance appraisals, 3 suppliers had their business with Huawei restricted due to poor performance in sustainability.
- Enhancing cooperation with industry organizations, and promoting industry standardization and a market-driven green supply chain: The *IPC-1401 Supply Chain Social Responsibility Management System Guidance*, an international standard whose development was led by Huawei, was released in 2017. The *Manufacturer Green Supply Chain Management Guideline* (GB/T33635-2017), a Chinese national standard developed with Huawei as one of the core contributors, was released in 2017. In the same year, Huawei held the eighth Global Supplier Sustainability Conference, where our customers, industry experts, and suppliers discussed industry trends, requirements, and case studies under the theme of “CSR/sustainability creates business value”.

### Managing a Responsible Cobalt Supply Chain

In May 2016, Huawei joined the Responsible Cobalt Initiative (RCI) as one of the first core members. We are committed to driving the gradual resolution of CSR issues in the cobalt supply chain, through collaboration with upstream and downstream players, and with governments and non-governmental organizations. In 2017, Huawei released the *Huawei Statement on Responsible Cobalt Supply Chain*, stating our policy and stance on the achievement of a responsible cobalt supply chain. Our *Huawei Supplier Social Responsibility Code of Conduct* includes guidelines on responsible cobalt management, and specifies that our suppliers must engage in due diligence in cobalt management. We ran the first survey into the cobalt supply chains of our suppliers. This survey allowed us to adopt targeted approaches to managing cobalt due diligence.

*Huawei Statement on Responsible Cobalt Supply Chain:*

<http://www.huawei.com/en/about-huawei/declarations/statement-on-responsible-cobalt-supply-chain>

## Sustainable World

### Bridging the Digital Divide

Huawei has deployed base stations in the Arctic Circle and on the highest mountains of the world. But while digital networks are connecting different parts of the globe, there are many communities without any form of network access at all. Huawei is exploring innovative solutions and models to connect the unconnected and expand access to knowledge, education, and opportunities.

ICT is a powerful tool that allows people, governments, and businesses to share, engage, innovate, and create value. ICT technologies are becoming more and more deeply integrated into all industries, driving digital transformation and modernization. Huawei's ICT products and solutions are widely adopted in the telecom industry, and also in governments, transportation, manufacturing, healthcare, finance, and energy sectors. Our ICT solutions have delivered significant efficiency returns and value for these industries.

#### **Huawei RuralStar Solution Connects the Unconnected via Rapid Network Rollouts in Rural Regions**

Despite the existence of traditional tower-mounted macro sites deployed to provide wide-area coverage in remote rural areas, many of these areas still have little or no coverage. As rural economies develop, rural residents have growing needs for communications and also require broadband access. However, deployment of traditional tower-mounted macro sites is expensive in remote areas. Infrastructure is lacking, and there is often no access to mains power or transmission resources.

Huawei has released RuralStar2.0, an innovative site solution for data transmission, capital construction, base station design, and energy. This solution satisfies the increasing demand for voice and data services from the unconnected, and increases carriers' ROI for rural network deployment. RuralStar has been commercially deployed in many countries, including Ghana, Thailand, Algeria, and Nigeria. The RuralStar-powered mobile networks boost local economic development and improve local lives: They give farmers in remote regions access to agricultural information, and help women and children gain access to education resources via the Internet.



Solar-powered network in Ghana supporting agriculture



## Supporting Network Stability

Supporting network stability is our paramount social responsibility, and we strive to ensure that everyone is able to communicate, access data, and share information anytime, anywhere. Specifically, we have established a comprehensive customer network support system that considers a range of factors, including organizational structures, designated personnel, processes, and IT tools. To protect lives and property, we have established a mature business continuity management system, which provides a contingency plan for emergencies (e.g., earthquakes and wars) and allows us to quickly restore customer networks and resume stable operations following critical emergencies.

In 2017, we ensured smooth communications for over one-third of the world's population, and supported the stable operations of over 1,500 networks in more than 170 countries and regions. We guaranteed network availability during over 200 key events and natural disasters (e.g., the magnitude 8.2 earthquake in Mexico, the Jiuzhaigou magnitude 7.0 earthquake in China, and the Hajj in Saudi Arabia).

### Supporting Network Availability During the Mexico Earthquake

On September 7 and 19, 2017, Mexico City was struck by two earthquakes, recorded at magnitudes 8.2 and 7.1 respectively. The disaster disrupted 1,081 communications sites of our customers. Duty called. Soon after the first earthquake, our Global Technical Assistance Center initiated its Business Continuity Management procedures for emergencies and formed an emergency support team. To restore the damaged networks, within just 15 minutes of the disaster occurring, our team obtained customer consent to remotely access their networks and begin repair work. Our Mexican subsidiary also assigned experts to work on site.

Our close collaboration with local carrier customers supported strong lines of communications in disaster-stricken areas. We assigned over 170 engineers to work on site for over 2,200 hours, and supplied 12 diesel generators and 24 vehicles for relief efforts. We also helped a customer rapidly migrate users from a peer's congested network to a new one. We temporarily shut down 4G cells in order to extend the battery life of sites. We also implemented a contingency plan to protect networks from the impact of traffic surges.

Supporting smooth communications, and enabling rapid disaster recovery and stability of networks to protect lives and property: These are our most important social responsibilities. Our network support team won positive customer recognition through our professional processes and organizations, visualized real-time monitoring, and rapid emergency response measures.



Huawei recovered network services via authorized remote access

## Social Contributions

We proactively fulfill our social responsibility and support local communities while pursuing business development. Local recruitment is one of our priorities. We create jobs in local communities where we operate. Beyond that, we integrate the capabilities of leading local companies into our global value chain and promote these capabilities worldwide. By doing so, the value of local creation can be leveraged globally and the competitiveness of the local ICT industry can be improved. Together with governments, customers, and non-profit organizations, we leverage our ICT expertise and management experience to roll out many different projects aimed at giving back to local communities. Through these projects, we support ICT innovation; facilitate green initiatives and traditional cultural events; enable talent development and education; and support underprivileged groups. Our goal is to be a responsible and respected corporate citizen in every local community.

### Seeds for the Future Program

Seeds for the Future is our flagship global CSR program. Initiated in 2008, the program seeks to develop local ICT talent, enhance knowledge transfer, promote a greater understanding of and interest in the ICT industry, and improve and encourage regional development and participation in the digital community.

By the end of 2017, the Seeds for the Future Program had been operating in 108 countries and regions. To date, the program has benefited over 30,000 students from more than 350 higher education institutions worldwide. A total of 3,600 top college students have visited and studied at Huawei's headquarters in China.



Awards ceremony for the Seeds for the Future Program in Turkey

### ICT Training for Young People in Nigeria

With a population of 180 million, Nigeria is the most populous country in Africa. But its unemployment rate remains persistently high, topping 14.2%. This issue is particularly acute among young people, and may lead to serious social implications. In 2017, in cooperation with Nigeria's federal government, Huawei ran the ICT for Change training program free of charge for 2,000 participants. In this program, Huawei provided jobless youths with practical courses on website design, computer repair, and the Huawei Certified Datacom Associate (HCDA) Certification. This program boosted local employment by equipping youths with the skills needed for employment. It received wide positive recognition across the country.



Nigerian young people at Huawei's ICT for Change training class

For further details, please see the complete *Huawei 2017 Corporate Sustainability Report*.

# Abbreviations, Financial Terminology, and Exchange Rates

## Abbreviations

Abbreviation	Full Name
3GPP	3rd Generation Partnership Project
3GPP SA3	The 3rd Generation Partnership Project – Services & Systems Aspects – Security
AC	Audit Committee
AI	Artificial Intelligence
AP	Access Point
AR	Augmented Reality
BBF	Broadband Forum
BCGs	Business Conduct Guidelines
BG	Business Group
BOD	Board of Directors
BSI	British Standards Institution
BU	Business Unit
C&Q	Competency and Qualification
CAGR	Compound Annual Growth Rate
CCSA	China Communications Standards Association
CEM	Customer Experience Management
CFO	Chief Financial Officer
CGU	Cash-Generating Unit
CMP	Connectivity Management Platform
CNCF	Cloud Native Computing Foundation
COSO	Committee of Sponsoring Organizations of the Treadway Commission
CPE	Customer Premise Equipment
CRM	Customer Relationship Management
CSA	Cloud Security Alliance
CSP	Communications Service Provider
CSR	Corporate Social Responsibility
DC	Data Center
DDoS	Distributed Denial-of-Service Attack
DPO	Days of Payables Outstanding
DSO	Days of Sales Outstanding
DSTE	Develop Strategy to Execute
EANTC	European Advanced Networking Test Center

Abbreviation	Full Name
EC	Edge Computing
EHS	Environment, Health, and Safety
EI	Enterprise Intelligence
EMEA	Europe, the Middle East and Africa
ETSI	European Telecommunications Standards Institute
FC	Finance Committee
FPGA	Field Programmable Gate Array
GCI	Global Connectivity Index
GPO	Global Process Owner
GPU	Graphics Processing Unit
GSC	Global Service Center
GSMA	Global System for Mobile Communications Association
GSM-R	Global System for Mobile Communications – Railway
GSPC	Global Cyber Security and User Privacy Protection Committee
GTS	Global Technical Service Department
HCDA	Huawei Certified Datacom Associate
HCIE	Huawei Certified Internetwork Expert
HD	High Definition
HIRP	Huawei Innovation Research Program
HPC	High-Performance Computing
HR	Human Resources
HRC	Human Resources Committee
IAS	International Accounting Standard
IASB	International Accounting Standards Board
ICT	Information and Communications Technology
IEEE	Institute of Electrical and Electronics Engineers
IEEE-SA	IEEE Standards Association
IETF	Internet Engineering Task Force
IFAA	Internet Finance Authentication Alliance
IFRIC	International Financial Reporting Interpretations Committee

Abbreviation	Full Name
IFRS	International Financial Reporting Standard
IIC	Industrial Internet Consortium
IODT	Interoperability Development Testing
IoT	Internet of Things
IP	Internet Protocol
IPC	Association Connecting Electronics Industries
IPD	Integrated Product Development
IPR	Intellectual Property Rights
IPTV	Internet Protocol Television
ISC	Integrated Supply Chain
ISO	International Organization for Standardization
IT	Information Technology
ITO	Inventory Turnover Days
ITU	International Telecommunication Union
LTE	Long Term Evolution
LTE-V	Long Term Evolution – Vehicle
MBB	Mobile Broadband
NB-IoT	Narrowband Internet of Things
NFV	Network Functions Virtualization
NPU	Neural Network Processing Unit
NVMe	Non-Volatile Memory Express
O&M	Operations and Maintenance
OASIS	Organization for the Advancement of Structured Information Standards
OCI	Open Container Initiative
OHSAS	Occupational Health and Safety Assessment Series
ONAP	Open Network Automation Platform
ONUG	Open Networking User Group
OPEX	Operating Expense
OPNFV	Open Platform for NFV
OTN	Optical Transmission Network
OWS	Operation Web Services
PaaS	Platform as a Service
PC	Personal Computer
PD	Project Director

Abbreviation	Full Name
PRM	Partner Relationship Management
PV	Photovoltaic
QCC	Quality Control Circle
R&D	Research and Development
RBT	Ring Back Tone
ROADS	Real-time, On-demand, All-online, DIY, and Social
ROI	Return on Investment
SAP	Systems, Applications and Products in Data Processing
SAP HANA	SAP High-performance ANalytic Appliance
SDC	Strategy & Development Committee
SDN	Software-defined Networking
SD-WAN	Software-defined Networking in a Wide Area Network
SIM	Subscriber Identity Module
SLR	Single-lens Reflex Camera
SSD	Solid-State Drive
ST	Staff Team
TCO	Total Cost of Ownership
TUP	Time-based Unit Plan
UHD	Ultra High Definition
UPS	Uninterruptible Power Supply
URLLC	Ultra-Reliable Low Latency Communication
VAS	Value-added Service
vBRAS	virtual Broadband Remote Access Server
VoLTE	Voice over Long Term Evolution
VR	Virtual Reality
VRIF	Virtual Reality Industry Forum
WAF	Web Application Firewall
WAN	Wide Area Network
WDM	Wavelength Division Multiplexing
WFA	Wi-Fi Alliance
Wi-Fi	Wireless Fidelity
WTTx	Wireless to the X
WWRF	Wireless World Research Forum

## Financial Terminology

### Operating profit

Gross profit less research and development expenses, selling and administrative expenses, plus other (expenses)/income, net

### Cash and short-term investments

Cash and cash equivalents plus other current investments

### Working capital

Current assets less current liabilities

### Liability ratio

Total liabilities expressed as a percentage of total assets

### Days of sales outstanding (DSO)

Trade receivables at the end of the year divided by revenue, and multiplied by 360 days

### Inventory turnover days (ITO)

Inventories at the end of the year divided by cost of sales, and multiplied by 360 days

### Days of payables outstanding (DPO)

Trade payables at the end of the year divided by cost of sales, and multiplied by 360 days

### Cash flow before change in operating assets and liabilities

Net profit plus depreciation, amortization, exchange loss, interest expense, loss on disposal of property, plant and equipment and intangible assets, and other non-operating expense, less exchange gain, investment income, gain on disposal of property, plant and equipment and intangible assets, and other non-operating income.

### Exchange rates

CNY/USD	2017	2016
Average rate	<b>6.7453</b>	6.6568
Closing rate	<b>6.5222</b>	6.9448

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