



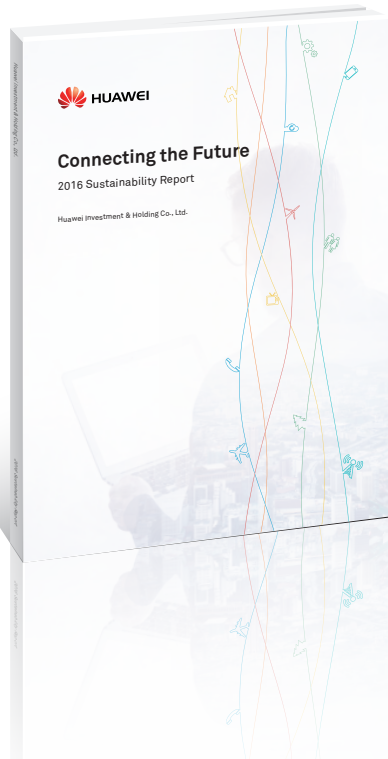
Connecting the Future

2016 Sustainability Report

Huawei Investment & Holding Co., Ltd.



Report Profile



2016 Sustainability Report

Huawei Investment & Holding Co., Ltd.

Every year since 2008, Huawei Investment & Holding Co., Ltd. ("Huawei", "the company", or "we") has voluntarily released sustainability reports and disclosed our sustainability performance so that the public can better understand the strategy, approach, and implementation of our sustainability efforts. Doing so helps us be more sustainable and facilitate communication, awareness, and interaction with our stakeholders and the public.

This report covers all entities that Huawei either has control of, or a significant influence over, in terms of financial and operational policies. The scope of the entities covered in this report is consistent with the scope of organizations discussed in the 2016 Huawei Annual Report. Unless otherwise specified, this report describes the economic, environmental, and social performance of Huawei and its subsidiaries worldwide during the January 1, 2016 to December 31, 2016 reporting period. All data contained herein is derived from Huawei's official documents and statistical reports.

This report is prepared in accordance with the Core Global Reporting Initiative (GRI) G4 Sustainability Reporting Guidelines. Huawei engaged TÜV Rheinland, an external assurance provider, to verify the reliability, fairness, and transparency of this report and to issue an independent assurance statement (see Appendix V).



As an independent record of sustainability, this report is published online and in print in both Chinese and English in June 2017. (The previous report was published in August 2016) The 2016 Sustainability Report can be viewed at www.huawei.com.

We would like to thank all stakeholders for sharing their feedback and recommendations as we strive to continuously improve both our sustainability performance and this report.

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 Sustainable Products and Services

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 Sustainable World

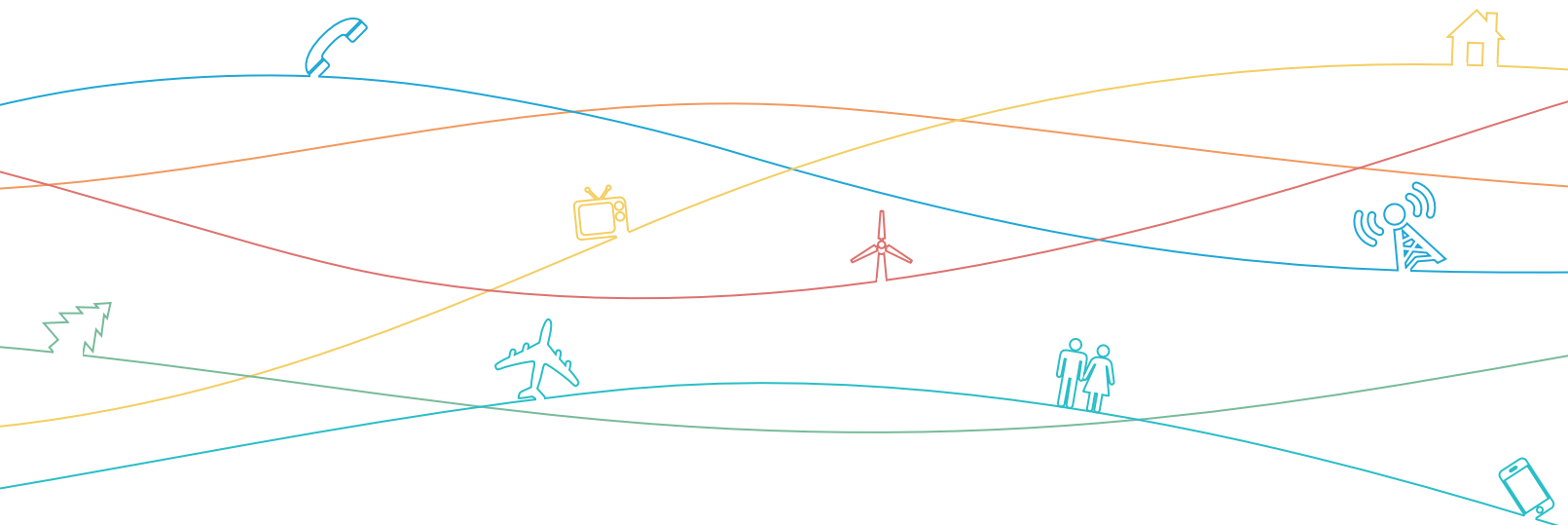
Connecting the Future)))

Like air and water, connectivity has become so pervasive that it is weaving its way into every aspect of our lives. A Better Connected World is taking shape – it is destined to profoundly influence every individual, organization, and industry. Connectivity is everywhere: between businesses, between people, between people and things, between things, and even between people's emotions. Enhanced connectivity will change the world for the better, allowing individuals to better sense and seize opportunities. However, the road ahead is beset with challenges. With a growing global population, deepening urbanization, and increasing resource consumption, we are faced with a worrying dilemma: How can we do more with less to be sustainable?

As a key player in the information and communications technology (ICT) industry, Huawei leverages connectivity-based ICT technologies – such as cloud computing, 5G, and the Internet of Things (IoT) – to drive global sustainability and build a Better Connected World. Our innovative ICT technologies bring people closer together and reunite the separated, no matter where they are. Our ICT technologies also create considerable business opportunities, deliver efficiency gains, and move the industry forward.

Huawei's vision for sustainability is to **Connect the Future**. In the future, we will **bridge the digital divide with communications technologies; honor our responsibilities to support network stability and security; deliver innovative technologies to make our world greener; devote ourselves to employee care and well-being; build harmonious communities and make dreams come true; and partner with industry players to achieve shared success.**

We stand ready to collaborate with all our stakeholders to establish a robust business ecosystem and build a Better Connected World.



Message from the Chairwoman



Information and communications technology (ICT) has played a significant role in stimulating economic growth and social progress. Now we must further leverage its potential to promote global prosperity, inclusiveness, and sustainability. Huawei is a staunch supporter of the United Nations' Sustainable Development Goals (SDGs), and we firmly believe that ICT will play a critical role in helping the UN implement its 2030 Agenda for Sustainable Development at scale and with quality.

Increasing connectivity to achieve sustainable development

In essence, ICT is an accelerator. It gives more people access to networks, increases overall connectivity, and raises efficiency. It also enables the widespread use of the technologies and solutions that are necessary to achieving the SDGs. For example, in Kenya, more than 200,000 residents now use Huawei's digital clinics and telemedicine platform, which has helped dramatically reduce medical costs. Another example is WTTx, a broadband access solution that uses wireless technology to provide fiber-like experience to households. Both in densely populated urban areas and also in vast, remote rural areas, WTTx has lowered the costs of last-mile broadband access by 75% compared to fixed networks. Now more people can integrate more closely with the outside world. ICT has created new opportunities for building a sustainable future.

Building a robust ecosystem to promote positive, expeditious change

Ultra-broadband has provided the foundation for emerging technologies like data centers, cloud computing, big data, artificial intelligence, and the Internet of Things (IoT), which are all becoming engines of economic growth. We are gradually approaching ubiquitous connectivity, and smart devices have

become an important part of our daily lives. Smart applications based on big data are emerging, including smart transportation, smart manufacturing, and smart healthcare, and all industries face the need to go digital. This will change both production and business models. It will also dramatically change the way we work and live; it will boost efficiency and value creation, and effectively reduce resource consumption.

As an enabler and driver of an intelligent world, Huawei has invested heavily in developing future-proof technologies, solutions, and business models. We work closely with all stakeholders to cultivate an ICT ecosystem that promotes positive, expeditious change. As our world evolves into an intelligent world, the only way we can ensure a sustainable future is by actively embracing change.

Responsive and responsible leadership

At the World Economic Forum in January 2017, I signed The Compact for Responsive and Responsible Leadership on behalf of Huawei. We will ensure that our company's strategic goals are aligned with the long-term goals of society as a whole. We are committed to sustainable value creation, and will not sacrifice long-term economic prosperity and social welfare for our own short-term interests. Huawei will hold true to the convictions outlined in the compact and adhere to sustainable development practices. We will launch favorable policies and initiatives to achieve sustainable growth and contribute to the UN's Sustainable Development Goals.

Building a sustainable, better connected world

To reach the targets set out in the SDGs by 2030, we must fully unleash the potential of ICT. Every organization along the value chain needs to deploy ICT infrastructure more extensively around the globe, especially broadband networks. We also need to create a favorable policy environment to promote the efficient application of ICT. This will drive greater economic, social, and environmental prosperity, helping ensure widespread sustainable development.

Huawei continues to maintain strategic focus, patiently applying ourselves to breakthroughs in key domains. It is our responsibility to support the UN in its pursuit of the Sustainable Development Goals, and it's one that we take seriously. Through open collaboration with our partners, we aim to connect all people and all things, and build a sustainable, better connected world together.

A stylized, handwritten signature in black ink, belonging to Sun Yafang.

Sun Yafang
Chairwoman of the Board

Message from the Chairman of the Corporate Sustainable Development Committee



Short-term thinking has become widespread amongst enterprise investors and executives, especially with the increase in global uncertainties and downward economic trends of the past few years. Strong determination and commitment to sustainable development on the part of executives can significantly reduce operational risks and drive healthy business development.

At Huawei, our corporate strategy aims to achieve long-term and sustainable value creation. We also regularly review our sustainability strategy so it can be better aligned with our corporate strategy. Our sustainability strategy is comprised of four strategic objectives: Bridging the Digital Divide, Supporting Network Stability and Security and Protecting Privacy, Promoting Environmental Protection, and Building a Healthy Industry Ecosystem. By realizing these strategic objectives, we have contributed to progress in the economy, environment, and society, and will continue to do so in the future.

Huawei has been fortunate enough to play the role of building and enabling a Better Connected World. In this role, we help to bridge the global digital divide. Our products and solutions now connect approximately 3 billion people in more than 170 countries and regions, including many underdeveloped and remote regions with harsh geographic environments. For example, in Nepal, Huawei and a local carrier deployed a network connecting the entire route up to the South Base Camp of Mount Everest. Thanks to our efforts, the base camp – once a "blind spot" with no signal coverage – was linked to the rest of the world. In Myanmar, our networks have connected 13 million people (about one-fifth of the country's population) for the first time. We achieved this by overcoming many challenges during network deployment, such as a complicated geographical landscape and patchy transportation infrastructure.

Connectivity itself cannot bridge the digital divide – there is also a critical need to create an enabling and inclusive environment and to boost ICT adoption. Participation in digital transformations will fall short if there is a lack of ICT skills. By the end of 2016, the Huawei Authorized Information Network Academy (HAINA) had trained over 20,000 students from 32 countries, with over 8,000 of these students gaining formal certification. Our flagship CSR program Seeds for the Future has benefited more than 25,000 students from 96 countries and regions. Our ICT technologies and solutions are popular across a range of sectors – Safe City, finance, transportation, and healthcare in particular – and are enabling efficiency and agile innovation in those areas. In 2016, our Kenyan smart healthcare project was completed. Its telemedicine and digital clinic solution has been deployed at over 40 medical facilities in Kenya and benefits more than 200,000 residents in remote areas like Lamu Island.

It is essential that the networks built by Huawei always remain stable and secure. Whenever a disaster occurs (such as an earthquake or tsunami), we are ready to take on the challenge

and keep networks stable. In 2016, we delivered robust network support services during nearly 200 key events and natural disasters worldwide, including the G20 Summit held in Hangzhou and the magnitude 7.8 earthquake in Ecuador. Supporting network stability is the ultimate social responsibility of all network equipment providers, and this is true for Huawei as well. We adopt an open and transparent approach to cyber security. Our commitment to cyber security will never be outweighed by our commercial interests. We have built an end-to-end global cyber security assurance system. In addition to ensuring our own cyber security, we also emphasize cyber security for our partners, helping to improve expertise in cyber security management across the supply chain. All six of our supply centers worldwide were ISO 28000 certified in 2016.

Huawei is committed to investing more than 10% of its annual revenue in R&D. Our R&D investment in 2016 totaled US\$11 billion, and this enabled us to develop innovative green products and build green communications infrastructure. In 2016, we improved the energy efficiency of our core routers and wireless base stations by 18% and 20%, respectively. We applied multiple technologies, such as Symbol Power Saving and Carrier Intelligent Shutdown, to reduce the energy usage of our base stations. These technologies, now widely used in carrier networks, have reduced the energy usage of our remote radio units by more than 20% during non-peak hours.

Also in 2016, eight Huawei smartphones, including the P9, Honor 8, and Mate 9, passed the UL110 Platinum green certification. Huawei's leading green ICT technology and extensive experience in this field are crucial to our competitiveness in sustainability. Huawei proactively contributes to projects aimed at mitigating and responding to climate change. Our goal is to reduce our carbon emissions per unit of sales revenue by 30% by 2020. To that end, we have launched multiple energy conservation and emissions reduction programs. For example, in 2016, we upgraded our energy systems to save 45.7 MWh of electricity, equivalent to a CO₂ emissions reduction of approximately 42,000 tons. We have built solar power stations with a total capacity of 19.3 MWh. In 2016, these solar power stations generated more than 17 MWh of electricity, achieving a reduction in CO₂ emissions equivalent to over 15,000 tons.

Huawei is a responsible corporate citizen and operates with integrity and in compliance with the law. Adherence to business ethics, international conventions, and national laws and regulations is key to our global operations. In an increasingly complicated business environment, we leverage the certainty of legal compliance to tackle the uncertainty of international politics, to bridge discontinuity in the macro environment. The contributions we make to the countries where we operate are not just in the form of direct tax payments, job opportunities, and positive influence on local industry. More importantly, we provide innovative ICT solutions to enable digital engines and drive digital transformation, economic growth, and improvements to quality of life and well-being. We do everything

we can to support and give back to local communities, bringing direct benefits to local people. In 2016, we ran approximately 200 community support programs in 70 countries and regions, through which we made significant contributions to local society.

As our 2016 sustainability maturity assessment indicates, Huawei has taken sustainability management to the next level. We achieved this by continuously optimizing our organizational structure, policies, and processes. But we aren't done yet. Moving forward, we will continue to view sustainability as one of our strategic priorities and invest in sustainability over the long term.

In 2017, we will focus on innovation in sustainable development and also on risk control, aiming to build competitiveness in sustainability. We will integrate sustainability further into our business operations to create greater value for business. In external communications, we will remain fact-based and objective as we seek to earn the trust of our stakeholders. Our goal is to build a robust ecosystem for Huawei to sustain its long-term development.



Kevin Tao

Chairman of the

Corporate Sustainable Development Committee

Overview of Huawei's Sustainability Initiatives in 2016

Everest

Provided mobile signals to connect the Everest South Base Camp with the rest of the world

Arctic Circle

Deployed a 100G submarine network in the Arctic Circle to meet communications needs in Greenland

200,000

Delivered a Smart Healthcare Project in Kenya to benefit 200,000 people

96

Rolled out the Seeds for the Future Program in 96 countries and regions to promote ICT knowledge transfer and a prosperous industry

1,500

Supported the stability of over 1,500 customer networks

200

Guaranteed network stability during approximately 200 major events and natural disasters worldwide

Fourth

Released the fourth cyber security white paper that addresses cyber security in the global supply chain of the ICT industry

ISO28000

Obtained the ISO 28000 certification for all distribution centers of global supply centers

23% 

Increased the energy efficiency of major products by 23% on average

8 

Received the UL110 highest-level green certification for 8 mobile phones

20.6% 

Reduced carbon emissions per unit of sales revenue by 20.6% in 2016 compared with the benchmark year

123,000 

Used green packaging in 60% of products to reduce the use of wood product by over 123,000 m³

CNY11.2 billion 

Invested CNY11.2 billion in employee benefits

97 

Appointed compliance officers for 97 countries and regions

IPC-1401 

Led the development of the IPC-1401 Supply Chain Social Responsibility Management System Guidance

200 

Launched approximately 200 community support programs in 70 countries and regions



01



Sustainability Management

Corporate Profile

Sustainability Strategy

Risks and Opportunities

Managing Sustainability

Stakeholder Engagement

1.1 Corporate Profile

Who is Huawei?

Huawei is a leading global information and communications technology (ICT) solutions provider. Driven by a commitment to sound operations, ongoing innovation, and open collaboration, we have established a competitive ICT portfolio of end-to-end solutions in telecom and enterprise networks, devices, and cloud technology and services. Our ICT solutions, products, and services are used in more than 170 countries and regions, serving over one-third of the world's population. With 180,000 employees, Huawei is committed to enabling the future information society, and building a Better Connected World.

What do we offer the world?

We create value for our customers. Together with telecom carriers, Huawei has built over 1,500 networks, helping connect over one-third of the world's population. Together with our enterprise customers, we employ open cloud solutions and agile networks to drive efficient operations and agile innovation in domains like Safe City, finance, transportation, and energy. With our smart devices and smartphones, 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 partners and peers, we are expanding the value of information and communications technology to establish a robust and symbiotic industry ecosystem. Huawei is an active member of over 360 standards organizations, industry alliances, and open source communities, to which we have submitted over 49,000 proposals to drive standardization and pave the way for more effective collaboration. We have 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 promote ongoing, collaborative industry development.

We boost economic growth. Huawei generates tax revenues, increases employment, and stimulates the development of the ICT value chain in the countries where we operate. Perhaps more importantly, we deliver innovative ICT solutions that drive the digital transformation of all industries, thereby fostering economic growth and greatly improving the quality of people's lives.

We drive 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 in disaster zones to help restore communications networks and ensure the reliable operation of essential telecom equipment. To further promote sustainability, we help develop the next generation of ICT talent with our global Seeds for the Future program, in which we give college students from 96 different countries and regions around the globe the opportunity to visit Huawei's headquarters, undergo training, and gain first-hand experience in the ICT industry.

We provide dedicated employees 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 performance results, 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 career growth. In this way, we have enabled hundreds of thousands of Huawei people to yield ample returns for their individual efforts, and gain memorable life experience.

What do we stand for?

For the past 29 years, hundreds of thousands of Huawei people have maintained an unwavering focus on our core business, refusing to cut corners and rejecting opportunism. With a solid, practical approach to everything we do, we have invested patiently, amassing the long-term, focused effort that leads to great moments of technological breakthrough. Our ability to maintain this strategic focus boils down to our core values of staying customer-centric, inspiring dedication, persevering, and growing by self-reflection.

The digital era has been generous. We will make the most of the historic opportunities it presents, and boldly forge ahead to build a Better Connected World.

Our Value Propositions

ICT is converging at an increasingly rapid pace. New technologies, especially cloud computing and big data, are becoming key enablers for ICT innovation and development. They are completely reshaping the communication technology (CT) industry, and creating enormous business opportunities through information technology (IT) and CT convergence. In response to these revolutionary changes, Huawei continues to innovate around customer needs, focusing on the development of leading technology that meets those needs. Through open partnerships, we focus on providing future-oriented information pipes to build a Better Connected World and continuously create value for customers and society. Huawei aims to become a strategic partner that assists carriers in future transformation efforts, a leading enterprise ICT infrastructure provider, and a

top smart device brand that consumers prefer and trust.

Building a Better Connected World



Ubiquitous Broadband

- ◆ Ubiquitous networks with a superior user experience
- ◆ Enabling customer transformation towards digital operations
- ◆ Integrating global content, applications, and development resources



Agile Innovation

- ◆ One-stop ICT infrastructure
- ◆ Adapted to vertical industry requirements
- ◆ Leading industry cloudification with open hybrid cloud architecture
- ◆ Big data-enabled identification of business opportunities



Inspired Experience

- ◆ Consumer centricity; a top smart device brand preferred and trusted by consumers
- ◆ Innovative, premium products
- ◆ Device-cloud synergy that provides a superior user experience across all scenarios

Staying customer-centric; innovating at the crossroads of customer needs and leading technology; building an industry ecosystem that thrives on shared success

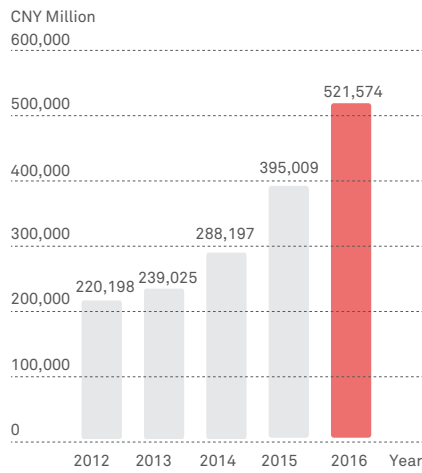
Sustainability Management

Business Review 2016

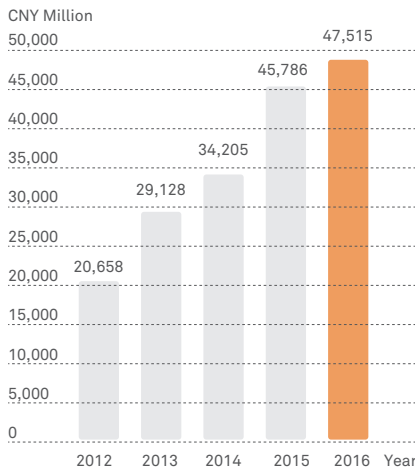
In 2016, we maintained our strategic focus, continued making breakthroughs, and created real value for our customers. Our annual revenue was CNY521,574 million, up 32.0% year-on-year.

Five-Year Financial Highlights

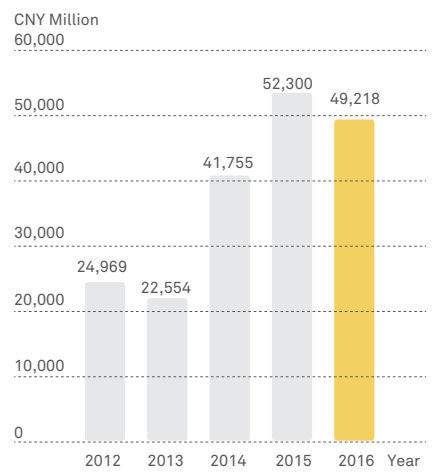
Revenue
CAGR: 24%



Operating profit
CAGR: 23%

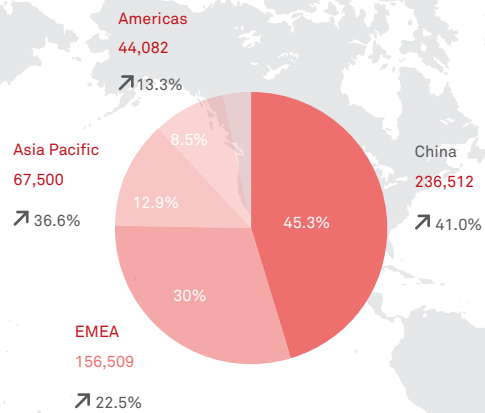


Cash flow from operating activities
CAGR: 18%



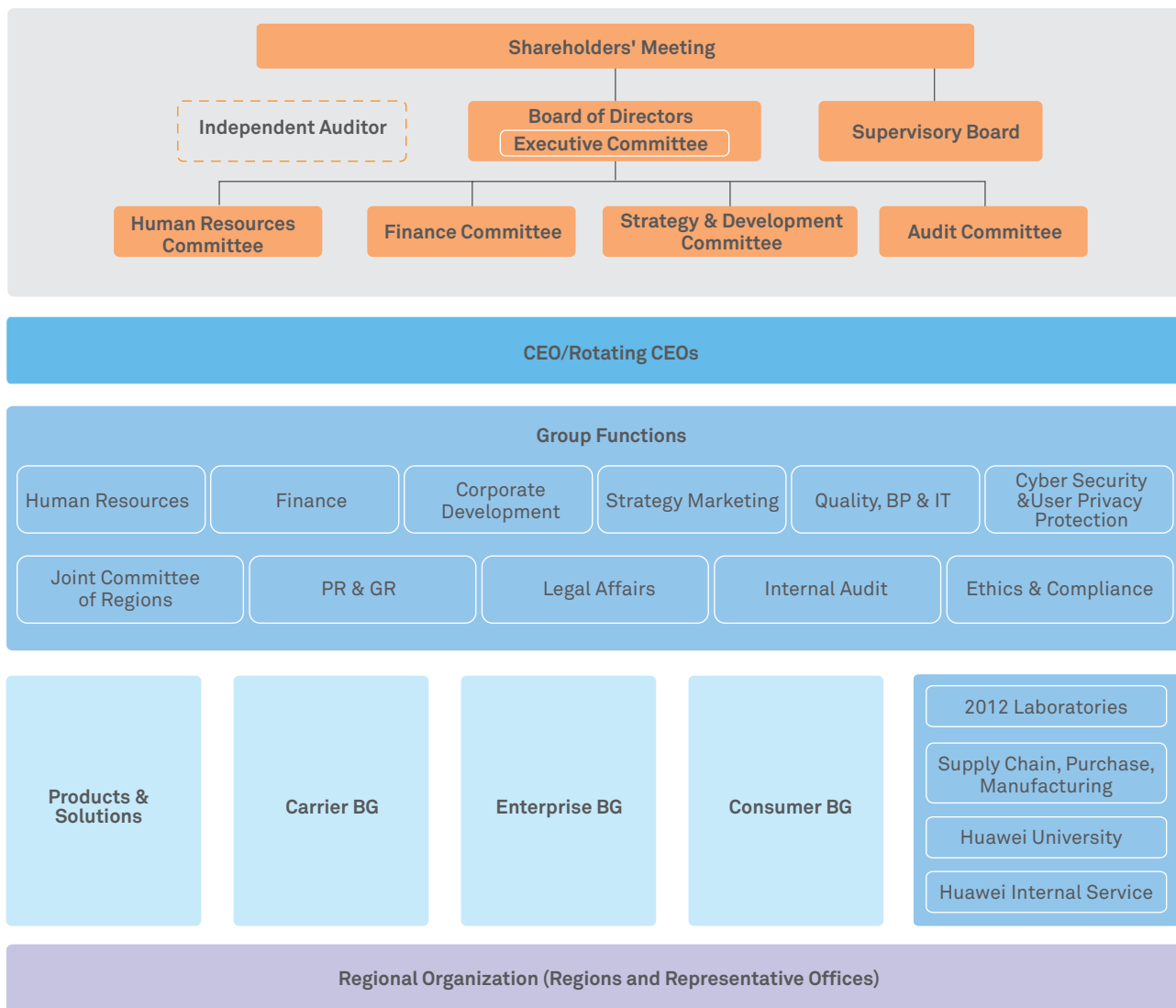
Revenue Performance by Region 2016

(CNY Million)	2016	2015	YoY
China	236,512	167,690	41.0%
EMEA	156,509	127,719	22.5%
Asia Pacific	67,500	49,403	36.6%
Americas	44,082	38,910	13.3%
Others	16,971	11,287	50.4%
Total	521,574	395,009	32.0%



Corporate Governance

By staying customer-centric and inspiring dedication, we have sustained long-term growth by continuously improving our corporate governance structure, organizations, processes, and appraisal systems.



Sustainability Management

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 81,144 employees as of December 31, 2016. The Scheme effectively aligns employee contributions with the company's long-term development, fostering Huawei's continued success.

Mr. Ren Zhengfei is the individual shareholder of the Company and also participates in the Scheme. As of December 31, 2016, 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 is the highest authority within the Company, and comprises two shareholders: the Union and Mr. Ren Zhengfei.

The Company's major issues, which involve the decisions of the Union as a shareholder of the Company, shall be primarily reviewed and decided on by the Representatives' Commission (the "Commission"). The Commission consists of all representatives of shareholding employees ("Representatives") and exercises rights on behalf of all shareholding employees. In 2016, the Commission held two meetings, at which it reviewed and approved proposals on annual profit distribution, capital increases, and long-term incentives, also voted in a new Supervisory Board.

Board of Directors and Committees

The Board of Directors (BOD) is the decision-making body for corporate strategy and management. The BOD guides and oversees the overall business operations and makes decisions on significant issues regarding strategy and operations. The BOD has established the Human Resources Committee, the Finance Committee, the Strategy & Development Committee, and the Audit Committee, which operate as authorized by the BOD.

Supervisory Board

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

Rotating CEOs

Huawei implements the rotating CEO system under the BOD's leadership. As the primary owner of the company's operations and crisis management during the tenure, the Rotating and Acting CEO is responsible for the company's survival and development.

The Rotating and Acting CEO convenes and chairs the company's Executive Management Team (EMT) meetings. During routine management decision making, the Rotating and Acting CEO promptly notifies BOD and Supervisory Board members of responsibility fulfillment.

For more information about Huawei's corporate governance, see the Corporate Governance Report section in the 2016 Huawei Annual Report.

<http://www.huawei.com/en/about-huawei/annual-report>



1.2 Sustainability Strategy

Huawei's role is to responsibly build a Better Connected World. We will accomplish this by fulfilling our sustainability vision – bridging the digital divide and promoting the harmonious and sustainable development of the economy, the environment, and society.

Our approach is based on operating with integrity and legal compliance, cooperating with stakeholders, contributing to a

positive business environment, and, above all, serving our customers and sharing benefits with society. Our sustainability strategy has been prepared to achieve our vision and integrate sustainability firmly into our company, so it is aligned with our corporate business strategies. It is based on our materiality assessment and identifies the key challenges we face across our entire value chain.

Sustainability Strategy



Bridging the Digital Divide

- ◆ Provide people across all geographic areas with easy access to voice communications services
- ◆ Ensure ubiquitous broadband for all and promote future-oriented ICT technologies to address global challenges
- ◆ Establish training centers and launch joint teaching initiatives to develop local talent, transfer knowledge, and increase people's engagement in the digital society
- ◆ Provide customized ICT applications and solutions that meet individual, corporate, and regional needs to improve economic performance, quality of life, productivity, and competitiveness



Supporting Network Stability and Security and Protecting Privacy

- ◆ Prioritize network stability and security over commercial interests, especially at critical times (e.g., earthquakes, tsunamis, and other natural disasters and emergencies)
- ◆ Enhance the robustness and defense of products through continuous innovation and full consideration of business continuity and network resilience; support independent testing, verification, and certification of products to provide internationally recognized security assurance to customers; work and communicate proactively with stakeholders in an open and transparent manner; comply with applicable security standards, laws and regulations
- ◆ Emphasize the protection of privacy; work with partners on privacy protection; adopt recognized methodologies and practices; integrate privacy protection into our day-to-day business activities



Promoting Environmental Protection

- ◆ Incorporate green concepts into product planning, design, R&D, manufacturing, delivery, and O&M; continuously innovate technology to improve resource utilization efficiency and provide leading energy-conserving and environmentally friendly products and solutions to customers
- ◆ Increase resource utilization 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 ensure the environmental compliance of Huawei's products and our partners' operations; promote energy conservation and emissions reduction across our supply chain and improve Huawei's competitiveness in the industry ecosystem
- ◆ Continuously promote green and integrated ICT solutions to support energy conservation and emissions reduction in various industries; and proactively drive an energy-saving, environmentally friendly, and low-carbon society



Building a Healthy Industry Ecosystem

- ◆ Provide employees with varied career paths based on their particular skill sets to help them realize their individual value
- ◆ Make significant contributions in all communities and countries in which we operate
- ◆ Abide by strict ethical business practices; oppose corruption, dumping, and monopoly; operate with integrity and in compliance with applicable laws and regulations
- ◆ Focus on sustainability risk management in our own operational activities and services, gradually become the sustainable development leader in the industry and around the world
- ◆ Work closely with suppliers to develop standards and benchmarks; shift our focus on supplier risk management to efficiency management, leading sustainable development in the industry ecosystem

Huawei Signs Compact for Responsive and Responsible Leadership

At the 47th Annual Meeting of the World Economic Forum in Davos, Huawei Chairwoman Ms. Sun Yafang and executives from over 100 other leading global enterprises signed The Compact for Responsive and Responsible Leadership, which is a commitment to long-term sustainable global investment and growth. The Compact emphasizes that corporate objectives must be aligned with the long-term goals of society. Enterprises should not sacrifice long-term economic prosperity and the welfare of society for the sake of short-term financial gains.




1.3 Sustainability Risks and Opportunities

ICT is advancing rapidly, and innovative solutions are being proposed to address many of the world's sustainable development challenges. These solutions include teleconferencing, telemedicine, and mobile finance. The UN Broadband Commission believes that ICT solutions, especially broadband, are absolutely crucial for achieving the Sustainable Development Goals (SDGs). The three pillars of sustainable development (economic social, and environmental development) rely on ICT as a key catalyst. But numerous problems and challenges are threatening sustainable development worldwide. These include excessive energy consumption, climate change, growing inequality for the

unconnected, environmental pollution, and waste, among others.

As a key ICT player, Huawei takes sustainability very seriously in our product design, procurement, manufacturing, delivery, and deployment. We want to ensure that we are making effective business decisions in our operations. When we develop our sustainability strategy and goals, we take the risks and opportunities into full consideration. Through this, we are better able to contribute even more positively to our customers and society.

Sustainability Risks, Opportunities, and Approaches



Bridging the Digital Divide


Risks

- ◆ The digital divide is narrowing, but more slowly than before.
- ◆ The digital divide is also rapidly deepening: Less people are getting left behind, but the consequences for those left behind are greater.

Opportunities

- Innovation in technologies and business models to deliver affordable products and services in emerging markets and developing countries and regions.
- Provide products and services that help bridge the digital divide between people of different income levels in developed countries and regions.
- Apply ICT technology to drive efficiency improvement, carbon emissions reductions, and social progress.

Approach Huawei has always worked relentlessly with our customers to bridge the digital divide, narrowing differences in access to connectivity, digital services, and tools around the world. By building more than 1,500 networks in over 170 countries and regions, we have brought affordable and high-quality connections to people in emerging markets, developing economies, and developed countries. Thus far, we have helped provide more than a third of the world's population with access to digital services. We are committed to leveraging our full spectrum of ICT advantages to create economic, environment, and social, benefits in all communities where we operate.



Supporting Network Stability and Security and Protecting Privacy

Risks


- ◆ Risks of cyber security and user privacy reduce the demand for ICT or the use of ICT.
- ◆ Connectivity has become such an important part of life that network disturbances can lead to serious economic and social consequences.

Opportunities

- Continuously provide more secure, reliable products and services to earn customer trust and support, and increase ICT adoption and efficiency.

Approach Our commitment to cyber security will never be outweighed by commercial interests. Establishing and implementing an end-to-end global cyber security and user privacy protection system is one of our core development strategies. We strive to ensure that everyone is able to communicate, access data, and share information anytime, anywhere. To that end, we have continuously increased investment in network stability and established a comprehensive customer network support system that considers a range of factors, including organizational structures, designated personnel, processes, and IT tools.

Sustainability Management

 Promoting Environmental Protection	Risks	<ul style="list-style-type: none"> ◆ Network energy consumption grows as a result of more connections and requirements for higher bandwidth. ◆ Negative environmental or social consequences result from the use of products with low energy efficiency and toxic materials. ◆ Carbon emissions grow due to the use of non-renewable energy or energy-intensive technology during operations. ◆ Improper behavior on the part of suppliers affects the environment as well as Huawei's supply chain, environmental performance, and brand reputation.
	Opportunities	<ul style="list-style-type: none"> ● Develop energy-efficient products and solutions to make our offerings more competitive that results in more business opportunities. ● Launch energy conservation and emissions reduction programs to reduce our operating expenditure and support Huawei's goal to be a green company.

Approach

Our decision-making process takes the above risks into full account, ensuring that Huawei is well positioned to provide our customers and consumers with more energy-saving products and services. Our approach to environmental protection is diverse. For example, when we design or package products, we emphasize their resource efficiency, durability, recyclability, and reusability. We take back, reuse, and recycle as many products as possible. To promote the circular economy, we reduce the use of energy, water, and other resources, and increase the use of renewable energy. We undertake multiple initiatives to make the supply chain greener and more efficient and competitive. These include introducing green technology into our business activities; launching green manufacturing and green operation programs to drive down costs; and collaborating with our customers and suppliers throughout the supply chain.

 Building a Healthy Industry Ecosystem	Risks	<ul style="list-style-type: none"> ◆ Complexities in the global legal environment for operational compliance could cause major challenges to the company. ◆ Risks could occur during product manufacturing and deployment. ◆ Partners or suppliers could fail to fulfill their social responsibility.
	Opportunities	<ul style="list-style-type: none"> ● Develop and retain outstanding employees, and give timely and proper rewards to dedicated employees. ● Incorporate social responsibility into our procurement strategy and practices; use procurement quotas as a means to drive the continuous improvement of our suppliers; participate in industry collaborations; and facilitate standardization. ● Serve as a responsible corporate citizen to create more jobs and contribute to the local economy, the environment, and society.

Approach

We view integrity and operational compliance as the lifeblood of the company. At the same time, we put the sustainability of the entire ecosystem high on our agenda. Occupational health and safety is one of our key focus areas. We continuously improve our products and services so that when they are delivered and used, they will not adversely impact the safety of individual users or society in general.

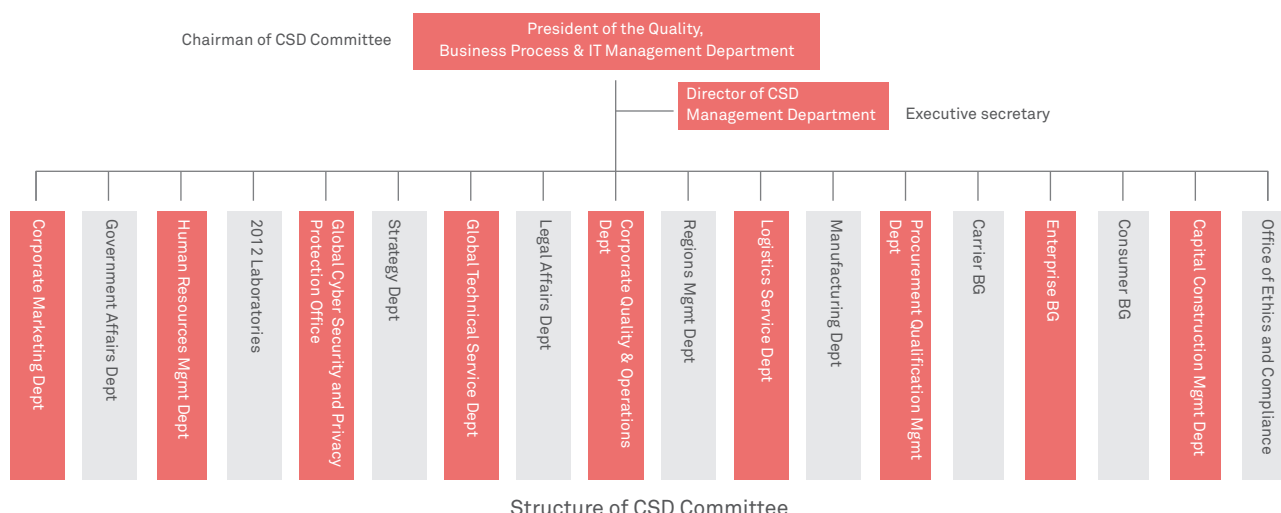
In collaboration with our customers and suppliers, we integrate social responsibility into our procurement strategy and practices, and use procurement quotas as a means to drive the continuous improvement of our suppliers. We also take solid action to facilitate the development of social responsibility standards. By launching social contribution projects in countries and regions where we operate, we give back to the local communities and enable them to prosper and grow. A case in point is our Seeds for the Future program, which has now been rolled out in 96 countries and regions.

1.4 Managing Sustainability

Organization and Leadership

In 2010, Huawei established the Corporate Sustainable Development (CSD) Committee, which is comprised of approximately 20 members representing our value chain, including research and development (R&D), manufacturing, procurement, human resources (HR), and project delivery. The committee is responsible for implementing the company's sustainability strategy, making decisions on critical issues, and supporting internal collaboration. It also sets forward-looking goals that Huawei uses to guide future actions. At the beginning of every year, the committee reviews the sustainability strategy with consideration to short-term business plans and long-term strategic plans, to ensure it remains focused and reflects our strategic objectives, as well as our internal and external business environments. The committee meets quarterly to assess performance and coordinate efforts to ensure that its work is on track.

The CSD Committee is chaired by Mr. Kevin Tao, President of the Quality, Business Process & IT Management Department, and Chairman of the CSD Committee. Mr. Tao reports directly to Huawei's rotating CEOs.



Establishing CSD Sub-committees

In 2016, we established CSD Sub-committees under the Corporate CSD Committee in various departments. This initiative has further solidified our CSD organization and enabled the involved departments to achieve more sustainable operations.

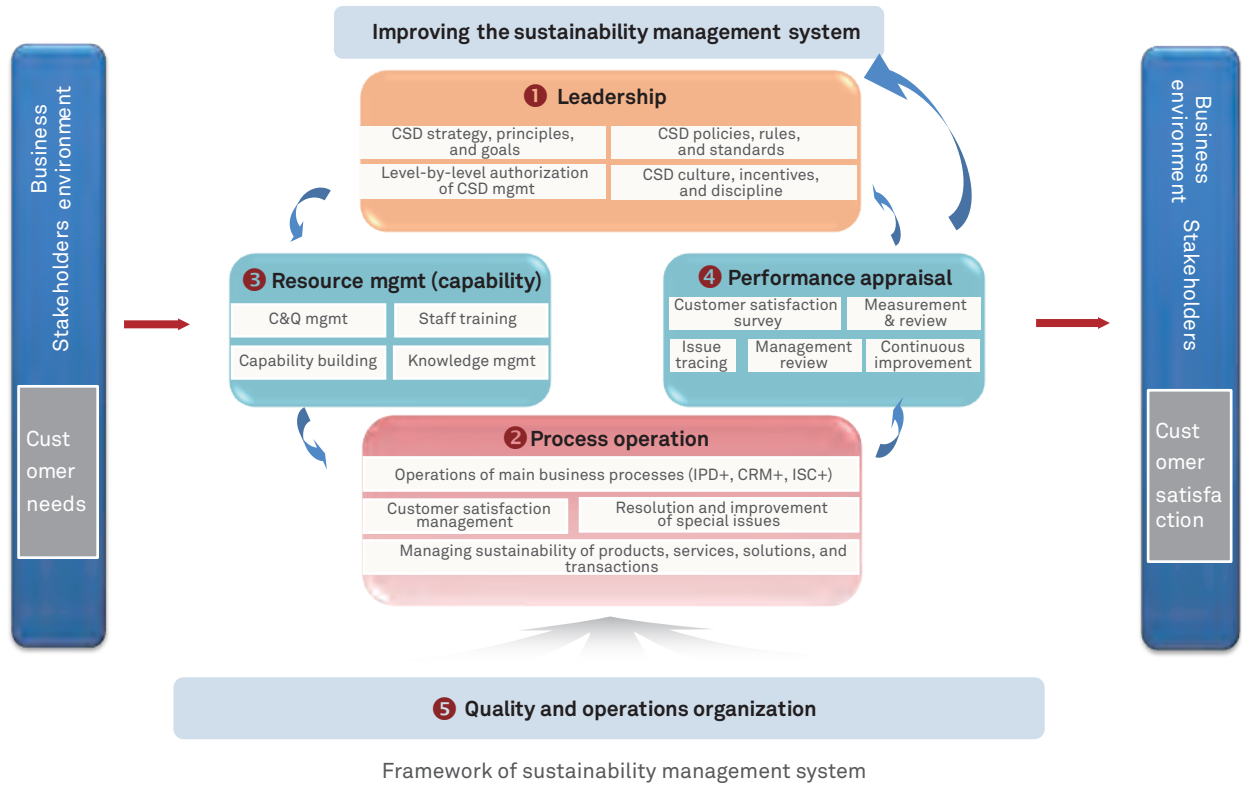
The sub-committees' job is to break down the corporate sustainability strategy into actionable tasks based on their areas of focus and relevance, and define their own sustainability responsibilities, objectives, and plans. With the guidance of the corporate CSD Committee, the sub-committees present routine work reports to the Committee and management of the respective departments. In 2017, Huawei will optimize the organizational structure and expertise of these sub-committees as we strive to attain our sustainability goals in a more systematic, professional, and efficient manner.

Sustainability Management System

Huawei has established a sustainability management system based on leading international standards including ISO 14001 and OHSAS 18001 (as well as SA8000 in Huawei's Consumer Business Group), and adopted the ISO 26000 guidelines to refine the system further. We have also put in place sustainability policies and processes in all business domains. The sustainability management system, policies, and processes allow us to systematically plan, implement, monitor, and improve our performance so our business becomes more sustainable.

Sustainability Management

In 2016, we continued rolling out processes to systemically plan, implement, monitor, and improve our sustainability efforts, and integrate sustainability requirements into our business operations. To help focus our improvement efforts, we conducted an annual and comprehensive Sustainability Maturity Assessment (SMA) to review the effectiveness of our sustainability management. The results identify weaknesses and pain points that show us where we need to improve. In this way, we ensure the continuous improvement of our system and management capabilities.

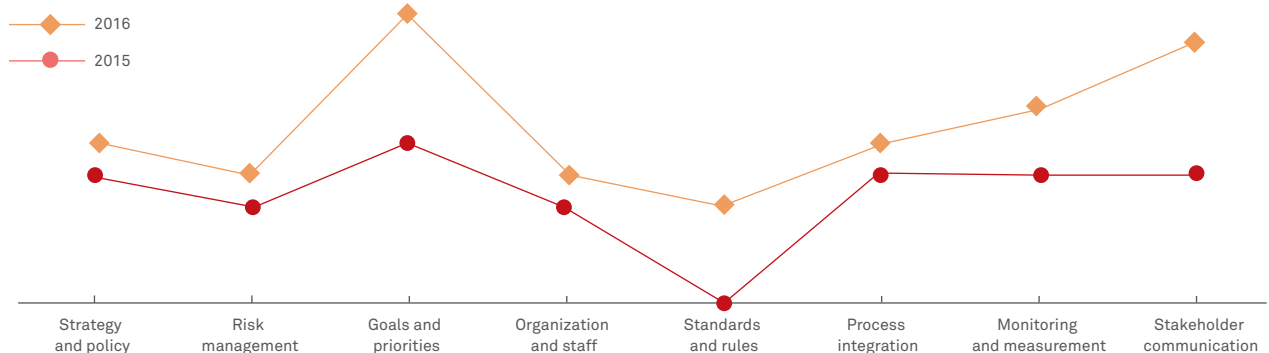


Growing Maturity in Sustainability

In 2016, we refined our Sustainability Maturity Assessment (SMA) tool to better align it with our business, so the results could reflect how mature our operations were in a more objective way. It examines the strategies and responsibilities of major departments, and covers eight dimensions: strategy and policy; risk management; goals and priorities; organization and staff; standards and rules; process integration; monitoring and measurement; and stakeholder communication.

integration; monitoring and measurement; and stakeholder communication.

In 2016, we found a notable increase in the scores across all SMA dimensions, indicating that our sustainability management system was improving and becoming more mature.



SMA scores in 2015 and 2016

Huawei Ranked First Among Chinese Private Enterprises with the Highest CSR Score

On October 30, 2016, the Chinese Academy of Social Sciences published the 8th edition of the Blue Book of Corporate Social Responsibility. The Blue Book provides a CSR evaluation of leading companies in China and covers Chinese state-owned enterprises, private Chinese companies, and foreign companies. The report also provides the CSR scores of 16 key industries such as electricity, banking, and food. Huawei ranked 1st among Chinese private enterprises with a CSR score of 88.6.

Sustainability Objectives

To guide our sustainability efforts, we have set both annual and mid- to long-term objectives. In the following sections of this report, we disclose our 2016 performance and major objectives, which were set based on our strategy workshops and analysis. The following table summarizes our performance in 2016:

Item	2016 Objective	Performance	Progress
Sustainability Strategy Execution	Successfully implement the Digital Divide project (Huawei's eHealth project in Kenya)	●	The project was successfully completed in October 2016
	Support 100% network stability during major events (including natural disasters)	●	Successfully supported network stability during nearly 200 major events and natural disasters worldwide
	Implement an end-to-end cyber security and user privacy protection system that covers design, operations, awareness, and expertise	●	Continuously improved the cyber security and user privacy protection system
	Reduce the energy consumption per unit of data traffic of major products by 10%–30%	●	Increased the energy efficiency of major products by 23%
	Launch energy conservation projects to reduce the energy use in manufacturing, laboratories, and data centers. Discuss and define Huawei's carbon emissions reduction goal for the next five years	●	Energy use in manufacturing, laboratories, and data centers was reduced by over 40 MWh. The carbon emissions reduction goal was agreed as 30% over the next five years compared to the benchmark
	Ensure the green building design solution for Huawei's new Global Compliance and Testing Center is LEED (USGBC) certified	●	Huawei is committed to LEED certification, and it is under way
	Decrease the carbon emissions per unit of sales revenue by 25% (compared to the 2012 benchmark)	○	Huawei achieved a 20.6% reduction in carbon emissions per unit of sales revenue. Influencing factors included significant business growth (Huawei experienced a 32% increase in revenue growth in 2016), expansion of our building area, and upgrade of our working facilities
	Ensure five smartphone models obtain the UL110 Platinum Green Certification	●	Eight smartphones obtained the UL110 Platinum Green Certification
	Expand the Global Green Recycling Program to deploy 700 recycling stations in 31 countries and regions	●	Expanded the Program to deploy 705 recycling stations in 36 countries and regions
	Ensure that no more than 2.0% of waste goes to landfills	●	1.55% of waste was landfilled
	Adopt green packaging to reduce the use of wood product by 100,000 m ³	●	Reduced the use of wood product by 123,000 m ³ worldwide
	Release an employee relationship whitepaper	●	The draft report was completed. It will be officially released in 2017
	Expand the Seeds for the Future program to 80 countries and regions	●	The program was expanded to 96 countries and regions
	Carry out social contribution programs around the world	●	Launched nearly 200 social contribution programs
	Management System	Conduct onsite audits on all of the 53 medium- and high-priority suppliers	●
Complete the 2016 Sustainability Maturity Assessment (SMA)		●	The assessment was completed successfully
Provide sustainability training to enhance internal expertise		●	Held more than ten departmental sustainability training sessions
	Present quarterly sustainability reports to senior executives to support leadership engagement	●	Presented quarterly sustainability reports to the Board of Directors, Supervisory Board, and CSD Committee

● Achieved ● In progress ○ Not achieved









Sustainability Management

1.5 Stakeholder Engagement

Stakeholder engagement is at the core of our sustainability management effort. We work closely with our stakeholders, listen to their needs, and use them as key inputs for management improvements. We have established the Stakeholder Engagement Management Process to engage with stakeholders through a broad range of activities, including individual meetings, attending or hosting meeting events, publishing whitepapers, and participating in industry working groups and pilot projects. Several examples are listed below:

- ◆ We pride ourselves on being customer-centric and proactively engage with our customers regularly.
- ◆ Our Public Affairs and Communications, Legal Affairs, and Standardization and Industry Departments regularly engage with governmental and intergovernmental bodies and community groups, while participating in hundreds of specific industry standards bodies and associations.
- ◆ Our HR, Procurement, Finance, and Public Affairs and Communications Departments regularly engage with key stakeholders (e.g., employees, suppliers, financial institutions, and the media) and have specific strategies for doing so.

From all these activities, we seek to understand stakeholders' expectations, requirements, and suggestions. Following this, we adjust our sustainability goals and actions accordingly to ensure we respond rapidly and effectively.

Stakeholder Group	Engagement Approaches and Activities
 Customers/Consumers	<ul style="list-style-type: none"> ◆ Customer satisfaction surveys ◆ Customer meetings ◆ Huawei Fan Club (for consumers) ◆ Participation in audits, surveys, and collaborative projects on sustainability (e.g., joint audits with the ICT industry's Joint Audit Cooperation [JAC])
 Employees	<ul style="list-style-type: none"> ◆ Meetings with employee representatives ◆ Employee surveys (e.g., organizational climate survey) ◆ Manager feedback process
 Suppliers	<ul style="list-style-type: none"> ◆ Supplier meetings and audits ◆ Supplier contracts and questionnaires ◆ Supplier training sessions and conferences (e.g., the Huawei Global Supplier Sustainability Conference)
 Governments	<ul style="list-style-type: none"> ◆ Government policy meetings ◆ Inputs to government standards and consultations ◆ Governmental and inter-governmental conferences ◆ Participation in government projects (e.g., green projects of the Chinese government)
 Industry/Standards Associations	<ul style="list-style-type: none"> ◆ Industry forums and working groups (e.g., ITU, GeSI, EICC, and QuEST Forum) ◆ Industry standards workshops ◆ Publication of research reports (e.g., the <i>ICT Sustainable Development Goals Benchmark Report</i>)
 NGOs and Communities	<ul style="list-style-type: none"> ◆ Participation in community projects ◆ Attending conferences organized by non-governmental organizations (NGOs) and inviting them to attend our conferences ◆ Meetings on specific issues of mutual concern ◆ Responding to requests for information
 Media and Opinion Leaders	<ul style="list-style-type: none"> ◆ Individual meetings and interviews ◆ Specific events for the media and opinion leaders in key markets (e.g., the Huawei Global Analyst Summit) ◆ Inviting the media and opinion leaders to attend our events ◆ Engagement through social media
 Research Institutes/Academia	<ul style="list-style-type: none"> ◆ Joint research projects and technology collaboration (e.g., cooperating with a research institute on the <i>ICT Sustainable Development Goals Benchmark Report</i>) ◆ Participation in events

We have identified areas for further focus, while in no way reducing our attention to existing stakeholder engagement activities. These include:

- ◆ Being more proactive when engaging with stakeholders on cyber security and privacy due to the rapid changes in this field, as well as diverse regulations around the world. We regularly engage with legal experts, attend events, and talk to specific stakeholders about this topic.
- ◆ Deepening our relationships with academic institutions and the developer community. We have established our European Research Institute to manage our R&D facilities in Europe, and hired new staff to engage with academia in key countries. We have also launched new initiatives to engage with the developer community.
- ◆ Expanding our engagement with the sustainability community. We seek proactively to learn from others' best practices, share our experiences, and identify opportunities to collaborate closely. Therefore, we have been more active in engaging with sustainability experts, participating in external events, and organizing our own events.

Actively Participating in China's Environmental Protection Initiatives

"Made in China 2025" is an initiative to comprehensively upgrade Chinese industry. One of its core components is green manufacturing, carried out through special project initiatives and the implementation of green manufacturing projects. Green manufacturing is one of China's "Five Major Development Concepts" (Innovation, Coordination, Green, Openness, Sharing) that are conducive to the coordinated development of industry and the natural environment.

Huawei has actively responded to the Chinese government's calls to strengthen environmental protection, and is proactively participating in the country's green manufacturing initiatives. In 2016, Huawei Device (Dongguan) Co., Ltd. was approved for the pilot project "Extended Producer Responsibility Pilot for Electrical and Electronic Product Manufacturers", an initiative of the Chinese government. It participates in the "Ecological (Green) Design Pilot" initiative of China's Ministry of Industry and Information Technology.

Stakeholder Engagement Activities

In 2016, Huawei participated in more than ten high-level sustainability conferences in Asia, Europe, and the US, to communicate our sustainability strategy and performance. We also hosted multiple events to engage with our stakeholders and interact with sustainability communities. The following are a selection of events in 2016:

10th CSR Asia Summit

In September 2016, Huawei sponsored the 10th CSR Asia Summit (Hong Kong) and was an event partner of the 5th Responsible Business Forum on Sustainable Development (Singapore). These two events were an excellent opportunity for regional stakeholders to come together and share innovation and experiences.



Huawei representatives at the CSR Asia Summit 2016

Sustainability Management

2nd Huawei–CSR Europe Sustainability Conference

In December 2016, Huawei and CSR Europe co-hosted the 2nd conference in Brussels, "Taking Action: One year on from COP21 and the launch of the SDGs". This one-day event brought together over 150 guests from the European Parliament, European Commission, business communities, NGOs, and other CSR groups.



2nd Huawei–CSR Europe Sustainability Conference

2nd Huawei Sustainability Salon

At the 2nd Huawei Sustainability Salon held in December 2016, 40 CSR directors from CSR Europe, businesses, and NGOs came together to discuss the fulfillment of the UN SDGs and the Paris Agreement.



Huawei Sustainability Salon

Receiving a CSR Award from the Government of the Netherlands

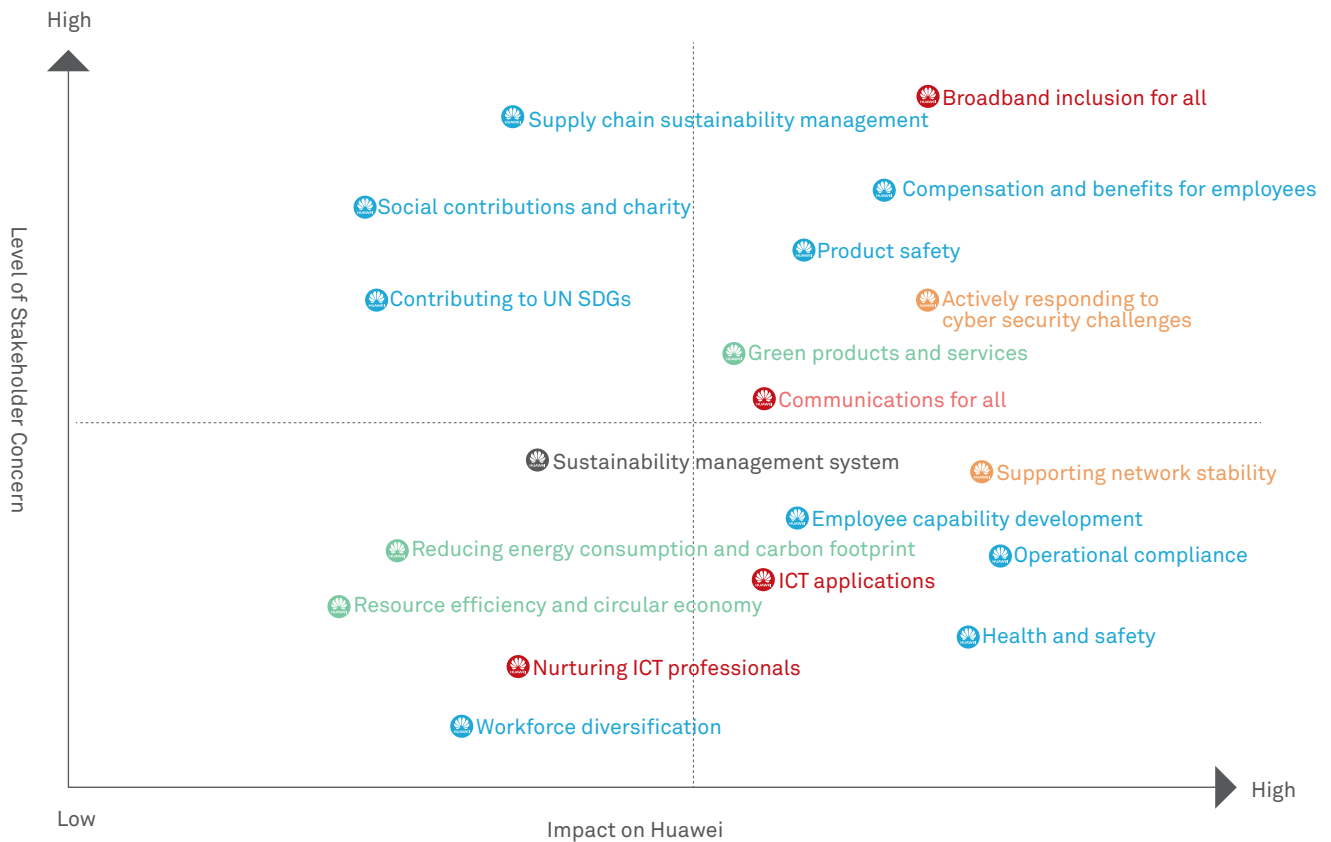
In January 2016, the government of the Netherlands issued a CSR award to Huawei in recognition of the company's contributions to the cooperation between China and the Netherlands, and for Huawei's CSR best practices.



Receiving CSR award in the Netherlands

Material Issues ("Materiality") Assessment

By identifying our material issues, we are able to focus our efforts for improvement and optimize our sustainability management. To assess our material issues, we specify which issues affect our business and which issues are important to our stakeholders. The result is a matrix that displays the issues of highest concern to stakeholders (vertical axis) and to our own business (horizontal axis). Based on the overall rankings from the survey reports of multiple stakeholders, we determine the priority of issues on the vertical axis. Based on risk analysis (led by in-house experts), strategy alignment, and maturity assessment results, we then determine the priority of issues on the horizontal axis.



Participation in Sustainability Initiatives

Through proactive cooperation with our partners, customers, and other stakeholders, we exchange and share best practices in sustainability management, explore opportunities for further collaboration, and drive standardization. Our goal is to help industry grow more sustainably.

At present, Huawei is a member of global and regional arms of the UN Global Compact (UNGC), Broadband Commission for Sustainable Development, Global e-Sustainability Initiative (GeSI), Electronic Industry Citizenship Coalition (EICC), CSR Europe, QuEST Forum, and Business for Social Responsibility (BSR).



Recognized as a "SDGs Business Pioneer" by the UN Global Compact

Huawei received the "SDGs Business Pioneer" title at the 2016 SDGs China Summit, an event organized by the Global Compact Network China in August 2016.

Joining the EICC

Huawei joined the Electronic Industry Citizenship Coalition (EICC) in October 2016. We have adopted the organization's Electronic Industry Code of Conduct for supplier management; launched EICC-based joint audits with leading global companies; and recognized the results of EICC joint audits.

Sustainable Operations



02



Sustainable Operations

Operational Compliance

Caring for Employees

Safe Operations

Green Operations

Sustainable Supply Chain Ecosystem

2.1 Operational Compliance

Context

Operational compliance is crucial to the survival of every company; it also leads to healthy business development and economic benefits over the long term. In an increasingly complicated business environment, it is vital to leverage the certainty of legal compliance to tackle the uncertainty of international politics, to bridge discontinuity in the macro environment. An excellent compliance system can help us gain unique strengths and lead the pack in this complicated business environment.

Approach

Adherence to business ethics, international conventions, and laws and regulations is key to Huawei's operational compliance worldwide. This also reflects our unwavering commitment to business integrity. To ensure operational compliance, we advocate fair competition, trade compliance, and protection of intellectual property, and oppose bribery and corruption. We proactively embrace best practices and embed compliance requirements into our corporate policies, regulations, and processes. Professional teams are in place to manage our compliance.

Improving Compliance Management

Operational compliance is always high on our agenda. We have incorporated compliance requirements into our routine operations. In key domains such as trade compliance and cyber security, we have established an operational compliance management system that meets industry standards and has been scrutinized by third-party auditors.

To ensure compliance, we hold frequent dialogues with government agencies and undergo their audits. Our active efforts have earned us recognition from government stakeholders.

We maintain routine communication with all stakeholders, aiming to spur transparency, mutual understanding, and trust on an ongoing basis. Together with our stakeholders, we aim to create a healthy business environment and define full compliance as a baseline.

In partnership with external consultants, our Legal Affairs Department provides legal guidance on building a global compliance system, trade compliance, IPR protection, anti-bribery and anti-corruption, and HR management. The department also conducts issue identification and evaluation, specifies compliance requirements, and releases warnings about internal and external legal risks. This helps other departments ensure legal compliance throughout their operations.

Fostering a Culture of Compliance

A robust compliance system cannot work without a culture of compliance that pervades the entire organization. Huawei continuously fosters a culture of compliance – both internally and externally – to ensure it can reinforce our compliance system.

Huawei Rotating CEO Mr. Guo Ping re-affirmed our commitment to compliance at a meeting with an external compliance consultant group in 2016. Mr. Guo also explained how our executives have always valued and supported the company's progress on compliance. In 2016, Huawei shared its compliance concepts and achievements during several meetings with government agencies and partners. Moving forward, we will continue to implement the individual accountability mechanism to discipline acts of non-compliance, thus gaining more benefits from our robust culture of compliance.

Building a Global Operational Compliance System

In 2016, we went to great lengths to build an operational compliance system in our subsidiaries outside China. In terms of organization, we appointed and trained compliance officers for 97 countries and regions. In terms of business development, we engaged with world-class consultants as part of our wider effort to ensure compliance. For example, we ran a pilot project in our German subsidiary, using Germany's IDW PS 980 standards to comprehensively evaluate the maturity of the unit's compliance management system. Our subsidiaries delivered on their compliance goals and fostered their expertise in compliance. We achieved this by bringing industry-leading compliance management concepts and methodologies into Huawei, and by adopting viable measures against compliance risks. In addition, we established supervisory organizations in subsidiaries to systematically oversee operational compliance and align the objectives of compliance management with corporate compliance strategy. All these efforts helped our subsidiaries operate in compliance with local laws and regulations.

Operational Compliance White Papers of Huawei Subsidiaries Outside China

In 2016, our subsidiaries outside China prepared and published operational compliance white papers as part of our efforts to improve local subsidiary compliance systems. In order to guide the operational compliance of subsidiaries, these white papers serve as guidelines on compliance management and operations, and provide definitions and details concerning the following items:

- ◆ Compliance management policies and objectives;
- ◆ Compliance management organizations and their roles and responsibilities;
- ◆ Operational compliance mechanism; and
- ◆ Strategies for managing critical compliance risks

In 2016, Huawei Russia, Huawei UK, and over 100 other subsidiaries released their operational compliance white papers.

"We uphold high standards of integrity and corporate governance in Russia, and carry out business in a legal, ethical, and honest manner. Responsible business conduct in all aspects is critical for achieving long-term business success and gaining the trust and confidence of our stakeholders, including the government, customers, business partners, and employees.

—CEO, Huawei Russia

Protecting Intellectual Property Rights

Huawei respects the intellectual property rights (IPR) of others, complies with international IPR laws, and resolves IPR issues through negotiation, cross-licensing, and product cooperation – in an open, positive, and friendly manner. We also employ legal means to protect ourselves against malicious infringements on our IPR.

Huawei is one of the world's largest patent holders and investors in R&D, so protecting IPR is in our best interest.

As of December 31, 2016, Huawei had filed 57,632 patent applications in China and 39,613 outside China, with a total of 62,519 patents granted.

62,519

patents

As of December 31, 2016, Huawei is a member of over 360 standards organizations, industry alliances, and open source communities, and holds more than 300 positions of responsibility within these organizations. Huawei is a board member of IEEE-SA, BBF, ETSI, TM Forum, WFA, WWRF, OpenStack, Linaro, OPNFV, and CCSA. In 2016, we submitted more than 6,000 proposals to standards organizations (over 49,000 to date).

In 2016, we ranked second in terms of invention patents in China, 7th in Europe, and 25th in the US.

Anti-bribery and Anti-corruption

Integrity is at the core of our operations, and we have zero tolerance for bribery or corruption. We have launched various activities to increase employee awareness of business ethics and legal compliance. For example, all employees are required to understand and sign our Business Conduct Guidelines (BCGs) and pass an online test on the subject every year to increase their awareness of anti-bribery and anti-corruption efforts. To increase our positive influence on suppliers, we include strong ethical provisions in all contracts with suppliers, and require them to understand and sign the Honesty and Integrity Agreement. In addition, we have established complaint channels through which employees and other parties can report unethical and illegal behavior.

Business Conduct Guidelines

The BCGs include regulations on the general business conduct that all Huawei employees must abide by. All new hires must study and sign these guidelines.

Public channels for submitting complaints and reporting violations:

E-mail: BCGcomplain@huawei.com

Tel: +86 (0)755 2856 2338

Huawei strictly protects the information and legal rights of whistleblowers who report BCGs violations under their own names. We forbid any attempts – direct or indirect – to obstruct, suppress, retaliate against or discriminate against whistleblowers.

99.63%

of employees studied and signed the BCGs.

Full Implementation of Anti-bribery and Anti-corruption Measures

Huawei adheres to all applicable laws and regulations of the countries and regions in which we operate, as well as relevant international conventions. We have anti-bribery and anti-corruption processes and systems, and implement a series of measures to achieve tangible prevention of bribery and corruption.

1. Organizational construction: Established subsidiary supervisory organizations, as well as the role of "compliance officer".
2. Formulation of systems and policies: These include letters of commitment signed by company management, anti-bribery and anti-corruption systems, Business Conduct Guidelines (BCGs), rules for gifts and receptions, and systems for handling of complaints.
3. Full implementation: Subsidiaries have a full series of anti-bribery policies that are completely and seamlessly implemented in all operating activities.
4. Inclusion into supplier contracts: Anti-bribery, anti-corruption, and other business ethics requirements are incorporated into contracts that Huawei signs with its suppliers.
5. Anti-bribery and anti-corruption training: All Huawei employees receive training on our BCGs, with special training and awareness campaigns that target staff in sales, procurement, and other key positions.
6. Risk appraisals and improvements: We carry out compliance risk appraisals to identify all potential risks and non-conformances. We appoint owners who handle risks to promote improvement.

2.2 Caring for Employees

Context

Workforce development is a key issue that every company must address as it goes increasingly global. Specifically, the company must give employees equal access to learning and promotion, irrespective of their nationality, gender, age, race, or religion. The company also needs to increase its workforce localization and effectively select, deploy, develop, and retain talented staff to unlock their fullest potential. A positive workplace where employees can work in harmony and take good care of each other is also essential.

Approach

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 performance results, 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 career growth. In this way, we have enabled hundreds of thousands of Huawei people to yield ample returns for their individual efforts, and gain memorable life experience.

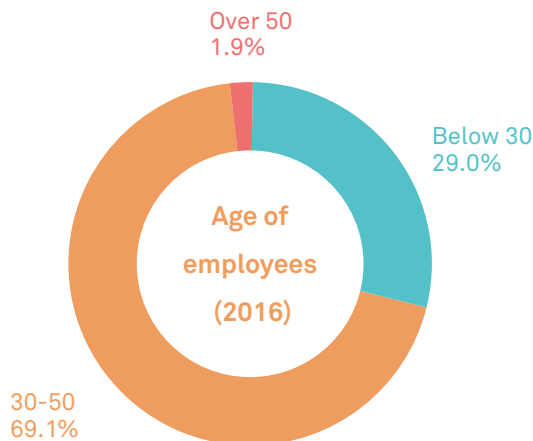
Workforce Diversification

As of December 31, 2016, Huawei employed approximately 180,000 staff in various business segments worldwide. In total, 45% of our employees – approximately 80,000 people – were involved in R&D.

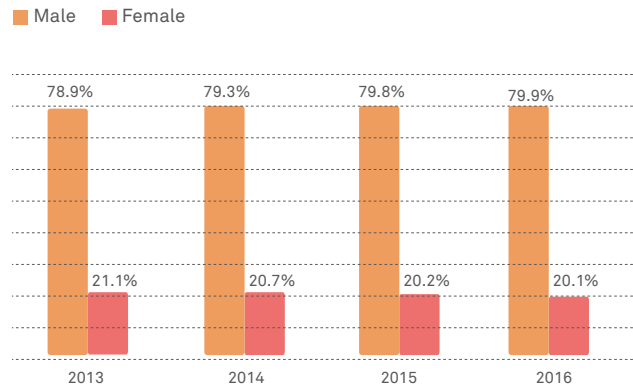
Percentage of R&D staff:

45%

Hailing from many different countries, races, and ethnicities, our 180,000 employees form a diverse family. They come from 163 countries and regions around the world. In China alone, our employees are from 38 ethnic groups. We have developed and launched many diversity initiatives in areas such as nationality, gender, age, race, and religion.



Ratio of female employees to male employees (2013–2016)



In the global industry as a whole, there is a relatively low ratio of female employees. To address this issue, we emphasize gender equality in employment and prohibit gender bias in strict compliance with all applicable international conventions as well as local laws and regulations. The ratio of our female employees has remained stable over the past several years. We also prioritize the selection of female managers and give female employees priority for promotion if they have the same qualifications as their male counterparts. In 2016, women made up 7.9% of our management team. Of our 17 board members, four are women.

Sustainable Operations

In response to a suggestion from our customer Vodafone, in 2016 Huawei became a supporter of HeForShe, a solidarity campaign for the advancement of women initiated by UN Women. The president of Huawei's Public Affairs and Communications Department is leading the initiative, calling for the company's male staff to support UN Women and to sign the HeForShe commitment. We are also spreading the word to our suppliers and partners at events like the Huawei Global Engineering Partner Convention.



As a global company, we actively recruit staff from all over the world to boost workforce localization. Hiring local employees enables us to better understand the unique culture of each country and region where we operate, while promoting local employment and economic growth. In 2016, Huawei employed more than 35,000 staff in countries outside China, with a localization rate of 71% for non-managerial employees and 16.2% for middle and senior managers.

Workforce localization rate:

71%

Capability and Career Development

As part of our efforts to help employees grow and unlock their value, we provide equal and ample access to training and promotion opportunities. In 2016, Huawei provided a total of 1,626 training courses that benefited 88,921 trainees. Each trainee spent an average of 29.42 hours in training.

Training hours per trainee:

29.42 hours

Strategic Reserve Enables Capability Transformation and Talent Mobility

Huawei's Strategic Reserve is the most important medium through which the company improves internal vitality and provides mobility and enablement to outstanding employees. As members of the Strategic Reserve, outstanding employees can receive training and work in key projects to hone the expertise required to become a manager. Through training and hands-on practice, outstanding employees can also rapidly learn new skills in key domains on which the company focuses. The Strategic Reserve utilizes a combination of training and practice to provide employees with opportunities for capability transformation and career development.

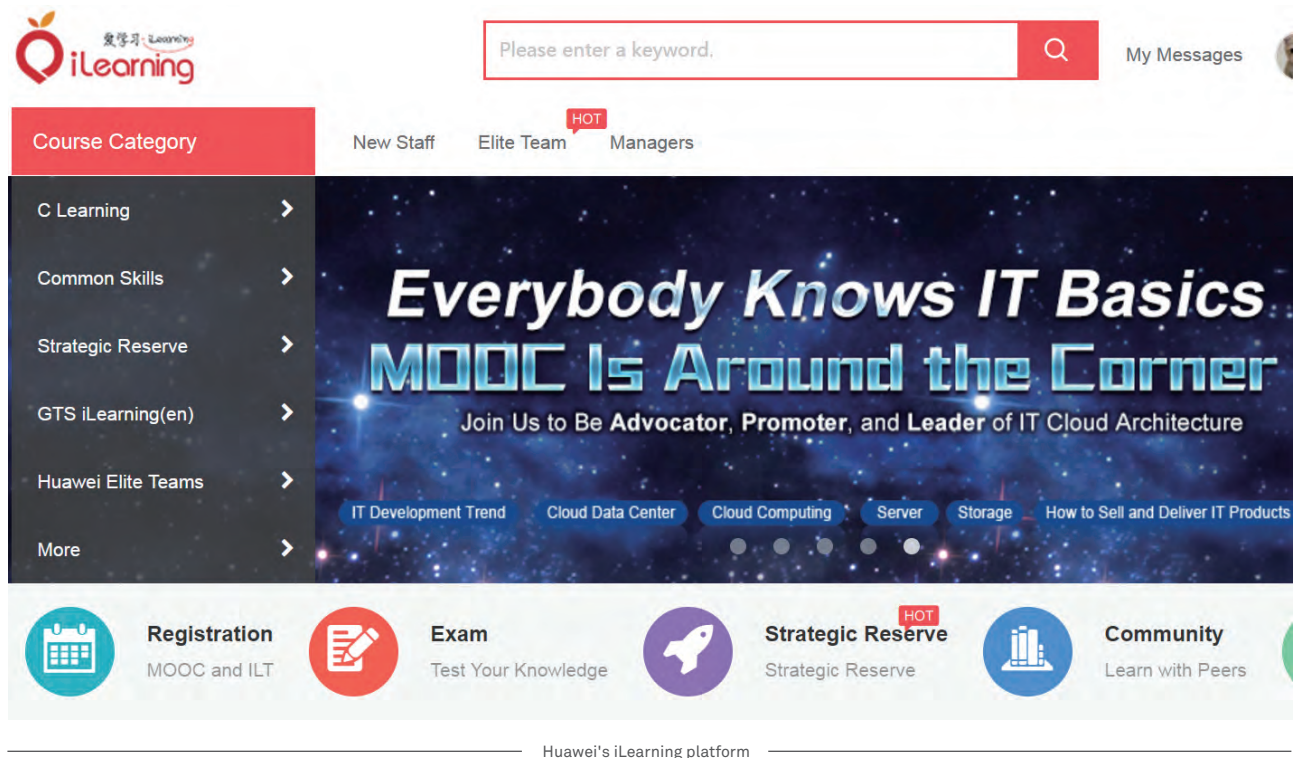
Since its establishment in 2014, more than 10 elite teams have been formed under the Strategic Reserve, covering all of the company's major divisions. In 2016 alone, more than 23,000 employees joined the Strategic Reserve, learning new skills and upgrading their knowledge base.



Training and practice with the Strategic Reserve

Our iLearning platform offers employees easy access to online courses on their mobile devices whenever and wherever they wish. The platform keeps our staff up to date with the latest practical skills, allowing them to develop personal competence and keep pace with the knowledge economy.

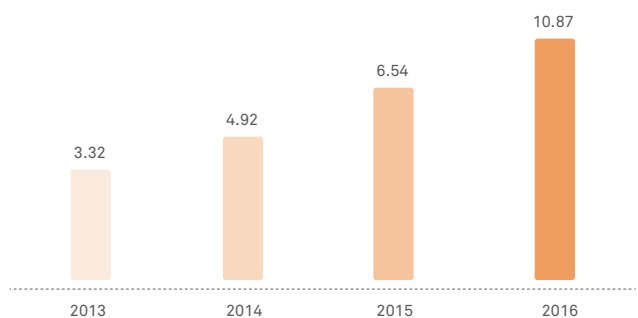
The iLearning platform provides a wide variety of quality courses, including courses on competency & qualification (C&Q), general skills, R&D, delivery, finance, and other domains. By the end of 2016, there were a total of 48,500 courses on iLearning.



Sustainable Operations

We value professional development and encourage our staff to chart their own careers in a way that suits their abilities and interests. We provide two career paths: managerial and professional. Our effective performance management system inspires managers at all levels to pay more attention to employee growth and development. We also explore different ways to improve how we manage employee performance, helping everyone to grow together with the company. In 2016, all employees received a performance appraisal and career development assessment. In line with talent needs and corporate policies, we accelerated the promotion of outstanding employees, helping them grow their career more rapidly.

Total attendance at iLearning training sessions from 2013 to 2016 (Unit: million)



Sustainable Operations

Compensation and Benefits

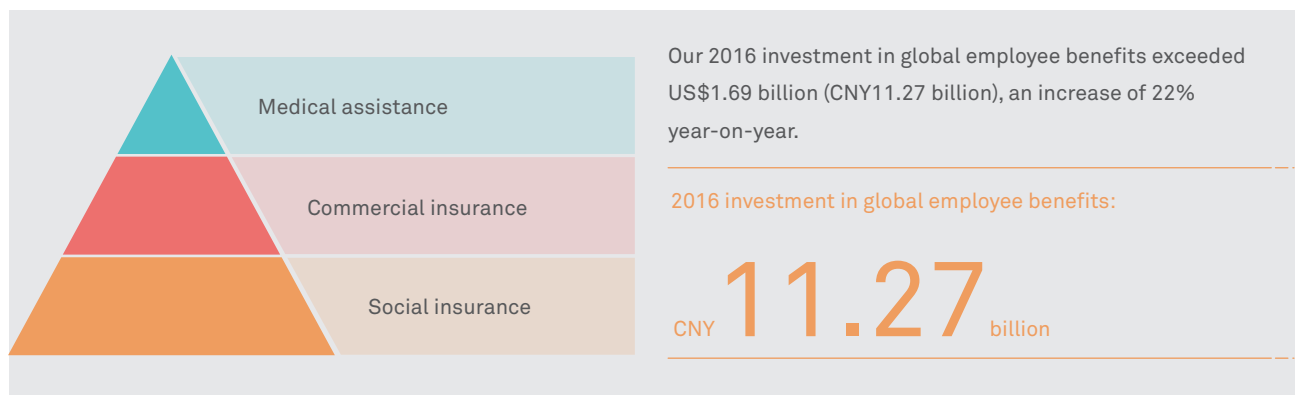
One of Huawei's core values is *Inspiring Dedication*. To live this core value, we encourage employees to hone their expertise, and at the same time we offer them the support they need to realize their individual value. We provide both monetary and non-monetary incentives to promote employee well-being.

Huawei has a highly competitive compensation system. We have established long-term partnerships with consultancies (e.g., the Hay Group and Mercer), regularly surveyed compensation data, and promptly adjusted employee compensation based on survey results, corporate performance, and individual performance. There is no gender bias in our compensation standards.

We employ a "Contribute and Share" bonus distribution system, which links employee bonuses to corporate, departmental, and individual performance. In line with our corporate compensation policy, we review the bonus distribution plan each year and revise it as necessary. In 2016, we continued implementing the Time-based Unit Plan (TUP) worldwide, granting time-based units to employees so they can share in the benefits of Huawei's

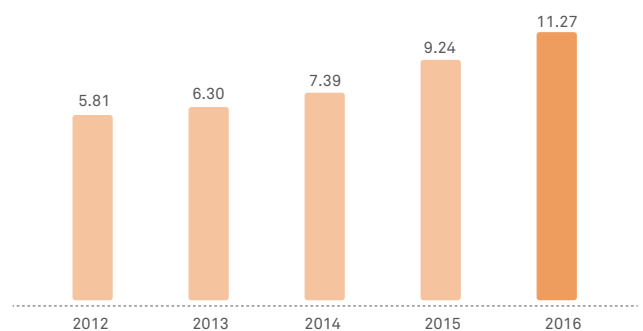
growth. This long-term incentive mechanism aligns employees' personal contributions with the company's long-term development, thus enabling Huawei's continuing success.

We have implemented an effective employee benefits system, which acts as an umbrella to protect our employees. Employee benefits include three parts: social insurance, commercial insurance, and medical assistance. Apart from mandatory insurance plans, we offer every employee global accident insurance, critical illness insurance, life insurance, medical insurance, and business travel insurance, as well as other forms of commercial insurance. We have also implemented medical assistance mechanisms to protect our employees under special circumstances. By combining these three types of employee benefits, we are able to offer sufficient benefits to protect employees from trouble and difficulty.



Natural disasters, critical illnesses, and deteriorating safety situations in certain regions could have considerable implications for employee health and safety. Huawei regards employee safety as a top priority, at all times and under all circumstances. We convey this principle to our employees, and have collaborated with international insurance companies and emergency rescue institutions to offer 24/7 employee healthcare services all over the world. In the event of an emergency, we waste no time in rapidly taking action. For employees suffering from critical illnesses or accidental injuries, we help them and their families address financial concerns and mental pressures. Employee care is an integral part of our corporate obligations.

Investment in global employee benefits from 2012 to 2016 (CNY1 billion)



iHealth Centers

Employee health and safety is always our top priority, and we have established a comprehensive employee benefit system. In 2016, we built multiple iHealth Centers where leading healthcare service providers offer our staff convenient access to specialized basic services.

In April 2016, we launched an iHealth Center in our Beijing Research Center, on a pilot basis, to provide the following services:

- ◆ Consulting: customized one-on-one health guidance, disease tracking, and intervention;
- ◆ Emergency treatment: providing first aid for emergency cases before the patient is taken to hospital, and offering first aid training and drills;
- ◆ Health awareness: spreading healthcare knowledge

iHealth Centers opened in our research centers in Nanjing, Shanghai, Hangzhou, Wuhan, Chengdu, and Xi'an in November 2016, serving approximately 70,000 employees.



iHealth Center at the Wuhan Research Center



iHealth Center at the Xi'an Research Center

Creating a Relaxing and Efficient Working Environment

Huawei believes in creating a positive workplace where employees can enjoy both work and life. To this end, we foster an efficient, relaxing, and caring working environment, which gives employees a strong sense of happiness and inspires them to find the right work-life balance. Every year we organize a series of

activities, including "Family Day", "3+1", and a "Charity Fun Run". These initiatives encourage managers at all levels to devote themselves to employee care. Our employees are also inspired to care for others, remain optimistic, and spread positive energy to change the workplace for the better.

Family Day

Since 2009, every department within Huawei holds an annual Family Day event, which has become a key activity for our employees and their families. It is a day that brings together the work of employees, the development of the company, and the happiness of families into one cohesive whole.

Activities include parent-child games, artistic performances, delicious buffet meals, and more. By touring the company offices, canteens, and product showrooms, family members can gain a better understanding of the company. In 2016, over 27,000 employees and their family members participated in Family Day events.



Family Day in Huawei Nigeria



Parent-child games

Sustainable Operations

To maintain a positive workplace, we regularly run organizational climate surveys, the Manager Feedback Program (MFP), employee interviews, and hold open discussions with staff. The aim is to better understand employee opinions and expectations for the company; identify issues that negatively affect our workplace; analyze root causes for those issues; and design constructive solutions to improve management.

Manager Feedback Program

Our Manager Feedback Program (MFP) is a regular initiative that conveys Huawei's basic requirements and key expectations for HR management. This program empowers managers to continuously optimize the way they manage their staff. By filling out an online questionnaire, staff can offer recommendations to their managers, and provide feedback on how well their managers work and where they need to improve. Based on the feedback, managers create and execute targeted improvement plans.

The questionnaire-based survey is anonymous, with the process and results kept confidential. The 2016 MFP covered every department across the company, with feedback received from approximately 120,000 employees.



Creating a Favorable Workplace

As a global company with a presence in over 170 countries and regions, Huawei has built a global value chain with the best resources from around the world. In every country and region, we operate in compliance with local laws and regulations, and share value with our global partners and customers. When executing corporate HR management policies, as well as developing and implementing local regulations, we always keep in mind local laws, regulations, and industry standards. We also give special consideration to local customs and conventions.

We place significant emphasis on the management and development of local hires. In addition to boosting the operating efficiency of our local offices, we support local communities by creating jobs and paying taxes. Through smooth communication, we enhance mutual understanding between Huawei and local governments, the media, and other external stakeholders. Our goal is to become an innovative enabler of the information society and a collaborative industry contributor.

When recruiting, promoting or setting compensation for employees, we never discriminate against our employees on the basis of race, gender, nationality, age, pregnancy, or disability. We prohibit the use of forced, bonded, or indentured labor. Moreover, we have enacted detailed, equitable regulations covering each major phase of an employee's relationship with the company, including recruitment, employment, and exit. No incidents of forced labor have taken place over the course of Huawei's history.

We strictly prohibit the use of child labor, and have effective polices and preventative measures in place to prevent the recruitment and use of child labor. We also require the same of our suppliers and conduct regular audits to ensure their compliance.

We respect employees' legal rights with regard to freedom of association and collective bargaining. In our China HQ and overseas subsidiaries, we have established or joined labor union organizations, and signed or endorsed collective agreements. Our local subsidiaries abide by local laws and regulations on labor unions, and have formed close relationships with labor bureaus, employer associations, and consultancies. We never prevent employees from participating in the lawful activities of registered labor unions as long as participation is voluntary and is not in violation of local laws.

Our Employee Relationship Department has created streamlined communication channels to collect and understand employees' opinions and suggestions. Employees can file complaints through the following channels: complaint hotline of the Committee of Ethics and Compliance (CEC); BCGs violation hotline; HR services complaint and suggestion hotline; grievance mailbox for performance appraisals; and complaint mailbox for procurement.



2.3 Health and Safety First

Context

Safety remains a major challenge to companies pursuing higher levels of sustainability. Every ICT company should emphasize both operational safety and the safety of in-house staff and contractors working in high-risk environments, especially during project delivery.

Approach

In all countries and regions where we operate, we implement an effective environmental, health, and safety (EHS) management system and corporate-level global accountability mechanism for safety incidents. We enforce our *EHS Absolute Rules*, strengthen manager involvement in project operations, and cultivate a robust safety-first culture. These actions enable us to minimize safety risks and protect the health and safety of our employees, contractors, and other stakeholders.

Global Safety Management System

We have incorporated occupational health and safety requirements into our operations, and taken concrete action to deliver on our commitment to occupational health and safety assurance. These efforts are conducive to our role as a responsible corporate citizen – and to our business development. We believe employee health and safety form the foundation basis of Huawei's survival and development, and are also crucial for our competitiveness.

In 2016, we continued to uphold our principles of putting safety first and caring for employees. We deployed and optimized our EHS management system in accordance with OHSAS 18001 standards. Our subsidiaries in an additional 25 countries were certified in terms of health and safety management. To better protect the staff of both Huawei and our contractors, we improved our management standards for occupational health and manufacturing safety, and continuously reinforced health and safety management when we deliver projects.

25

Our subsidiaries in additional 25 countries were certified in terms of OHS management

We take EHS incidents very seriously and adopt multiple initiatives to mitigate risks. For example, we have an IT-based EHS incident management platform that enables incident reporting, investigation, and improvement. If an incident occurs, we follow it through until it is resolved and closed. We discipline managers who are involved in EHS incidents with significant implications, and we also reward best practices in safety management. Through a variety of safety management initiatives in 2016, we significantly reduced the number of EHS incidents, especially those with serious implications.

Optimizing the EHS Management System of Huawei North Africa Regional Office

In 2016, our Northern Africa Regional Office continued to optimize its EHS system based on OHSAS 18001 standards and with reference to local business activities. Major measures included bolstering EHS leadership and culture; incorporating EHS standards into operations; deploying IT tools for risk monitoring; managing supplier EHS; and adopting a six-step approach to real-time tracking of onsite EHS management. These efforts achieved a significant reduction in EHS risks across the region.



Building EHS leadership: 200+ onsite EHS inspections by managers at all levels



Building safety awareness and compliance with EHS Absolute Rules through safety-oriented activities

Sustainable Operations

On November 30, 2016, Huawei and Egypt's Ministry of Manpower and Immigration held a signing ceremony for an *EHS Comprehensive Cooperation Agreement* in the Prime Minister's Office. In his remarks at the ceremony, the Minister praised Huawei for the work done in Egypt over the past 17 years, and for Huawei's continued investment in the telecom industry's management of EHS. The minister expressed his gratitude for our dedication to driving EHS standards in the telecom industry, and for having cultivated over 40 local contractors to comply with EHS requirements.



Egypt's Prime Minister witnessed the signing of the *EHS Comprehensive Cooperation Agreement*

Developing an OHSAS 18001 Management System in Huawei Southern-East Asia Regional Office

In 2016, our Southern-East Asia Regional Office began to develop an OHSAS18001 management system, aiming to further improve and institutionalize EHS management, and standardize operations to achieve the target of "zero injuries and fatalities". The president of the regional office sponsored the initiative and the president's office led the establishment of a program to manage the initiative. With guidance from Huawei headquarters and external consultants, the regional office adopted quality management methodologies for effective and improved EHS management, propelling the

development of its management systems to the next level.

By December 2016, all ten subsidiaries under the regional office had their management systems certified. They also released work mechanisms and a 2017 work plan to execute the management systems. An accountability system for safety was also in place to build safety awareness amongst employees. This has resulted in ongoing improvements to the management of work safety.



Huawei Nepal EHS training for contractors



Huawei Thailand EHS training by government experts

Manufacturing Safety

In 2016, we maintained our manufacturing safety levels. We achieved this by constantly optimizing how we manage manufacturing safety; enlarging the scope of our safety-enhancing processes and technology; and improving health and safety oversight. Our goal is to build safety awareness, manage minor risks, and prevent major incidents. We undertook multiple initiatives in 2016:

- ◆ Increased expertise in safety assurance;
- ◆ Refined design for manufacturing safety;
- ◆ Released over 600 safety baselines;
- ◆ Developed and utilized a safety process and technology system and a safety toolkit;
- ◆ Ran safety design certification for over 20,000 units of equipment;
- ◆ Published 16 safety management specifications and

technical standards;

- ◆ Carried out targeted projects for improving battery safety and precision manufacturing;
- ◆ Refined our approach to mitigating health and safety risks;
- ◆ Examined the compliance of positions involving health and safety risks;
- ◆ Organized physical checkups for staff vulnerable to health and safety risks

In 2016, the injury frequency rate was 0 per million man hours of manufacturing, and there were no serious safety incidents. This meant that Huawei had successfully ensured safe manufacturing.

Dealing with Safety Risk from Discarded Lithium Batteries

Huawei has initiated a program to minimize the risks relating to lithium battery disassembly, storage, shipping, and disposal.

The program enables the safe and hazard-free processing of discarded lithium batteries, including those from Huawei, electronic manufacturing services suppliers, and high-level repair centers. This is achieved through creating and adopting safety technology norms and standards; improving risk control technology for lithium batteries; developing and adopting solutions for new lithium battery discharge fixtures and safe processing of damaged lithium batteries; and minimizing shipment risks.



New lithium battery discharge fixtures

Building a Culture of Safe Manufacturing

Huawei works with leading companies to exchange ideas on safe manufacturing. This enables us to learn from others in the industry, build a culture of safety, and bolster our safety achievements.

In 2016, Huawei held an "Experience Sharing Forum for Advanced Safety Manufacturing Management" and an "Experience Sharing Event on Transportation Safety", which were attended by over 10 equipment manufacturing suppliers, equipment vendors, and security consultancies. Huawei also arranged training and educational tours for safety personnel to improve their safety awareness and capabilities.



Experience Sharing Forum for Advanced Safety Manufacturing Management

Office Safety

A safe, pleasant workplace can contribute to higher work efficiency. It is appealing to potential hires, and supports our brand as well as overall employee health and safety.

Working with a world-leading safety services provider, Huawei has established safety management baselines and standards for different country offices based on their specific business activities and risks. We have evaluated safety risks in 25 high-risk countries, and developed a safety management plan for each of them. Safety assurance services are now available in our overseas offices and staff dormitories. We have upgraded the safety protection systems for our facilities, and provided safety training and drills for our staff and their families. In addition, we run multiple social contribution programs in countries and regions where we operate, offering help to the needy and contributing to a safer society.

Risk assessment	Risk intelligence	Security guard	Emergency plan	Emergency drill	Relationship
Emergency materials	Regulations & rules	Organization	Transportation	Rescue system	Supplier management
Site selection	Physical defense	Safe house	Technology	Training & publicity	Budgets

18 aspects of our safety management baselines: building safety via software, hardware, training, and social contribution programs

Sustainable Operations

Improving Workplace and Living Facilities

In 2016, we pressed ahead with efforts to upgrade offices and living facilities in our subsidiaries outside China. Our goal is to create a safer, more convenient environment for our employees, especially those in hardship regions.

Backed by our corporate policies for hardship regions, we invested over CNY 700 million in the phase-I project and over CNY 500 million in the phase-II project. By the end of 2016, our phase-I project team upgraded offices, dormitories, cafeterias, vehicles, and safety and fire systems in 72 countries across more than 10 hardship regions, providing tangible benefits to our employees, both at work and in life.



Office in Huawei Zambia



Cafeteria in Huawei Uganda

Logistics Safety Support

EHS is part of our property service contracts, and we collaborate with suppliers so our subsidiaries can be served by EHS experts and capability. Our administrative service teams outside China are able to deliver 24/7 logistics support and safety assurance by adopting advanced approaches to manage facilities and safety, and respond to requests for logistics services. We have carried out safety checks in our cafeterias around the world, and took concrete actions to address the identified problems. In 2016, we installed the on-board diagnostics (OBD) and GPS systems in company-used vehicles at more than 80% of our subsidiaries. These tools effectively identify speeding and driver fatigue, making our vehicles safer and ensuring compliance with EHS standards. These tools also track the movements of vehicles and provide data for evaluation to ensure their effective utilization.

80%

In 2016, we installed the on-board diagnostics (OBD) and GPS systems in the vehicles of more than 80% of subsidiaries.

Project Delivery Safety

With a firm belief that health and safety matter most, we set a goal of "zero injuries and fatalities" for project delivery, and continuously optimize our EHS management around the world. Our accountability mechanism extends beyond project managers and requires managers at all levels to be responsible for safety. Our leadership development programs include the fulfillment of safety goals from the top down. We have also established an EHS management maturity model for our project delivery activities, and have adopted IT systems for automatic measurement and efficient digital management. Through these measures, we have increased our EHS maturity score from 1.93 in 2015 to 2.71 in 2016, an increase of 40%. Our major delivery EHS management initiatives in 2016 were as follows:

Our EHS maturity score grew from 1.93 in 2015 to 2.71 in 2016, an increase of

40%

◆ Improving expertise

We have continuously invested in safety assurance, putting the required tools, equipment, and human resources in place. We have assigned EHS managers to 1,000 large delivery projects in over 170 countries and regions, and issued over 44,000 safety qualification certificates to our partners. More than 12,000 Huawei delivery engineers have taken part in EHS-related online training and exams.

◆ Applying OBD for road traffic safety

We developed a mobile app to improve onsite EHS management at 250,000 base stations. To improve road safety, we installed on-board diagnostics (OBD) systems that assist driver safety. A total of 8,000 OBD-aided vehicles were accident-free for 140 million kilometers.

◆ Launching third-party checks

In terms of EHS management, we work closely with third parties that carry out independent onsite checks and proactively identify safety risks. As a result, our field offices are able to promptly fix their problems and protect the safety of our customers, Huawei staff, our partners, and other stakeholders in our delivery projects.



EHS onsite check at a delivery site

Earning Recognition for EHS Management

Our performance has been recognized by governments in countries where we operate. For example, in 2016, we received the *Excellent Work Skills Improvement and Contribution Award* from the Indonesian government as well as the *Excellent Commitment and Improvement Towards EHS at Workplace Award* from the Malaysian government.



Excellent Commitment and Improvement Towards EHS at Workplace Award in Malaysia

Strengthening EHS Communication and Cooperation with Our Customer

The 10th Vodafone and Huawei Group EHS Summit was held in August 2016. At the event, Huawei explained our achievements and commitment to managing EHS in delivery projects. To achieve these results, Huawei had continuously improved its leadership, organizational structure, expertise, and resource deployment. It had also reduced the occurrence of EHS incidents and achieved a record of zero injuries, fatalities, and serious incidents in Vodafone projects for 48 consecutive months.

At the summit, Huawei also shared its best practices of using advanced tools and platforms (e.g., OBD, Smart QC [quality control], and drones) to optimize EHS management. Vodafone highly recognized Huawei's positive practices and expressed

interest in learning more about them and expanding them on a larger scale.



10th Vodafone and Huawei Group EHS Summit

Sustainable Operations

2.4 Reducing Our Environmental Impact

Context

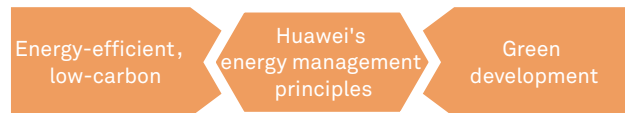
Global emissions of carbon dioxide have increased over 50% since 1990, according to the UN Millennium Development Goals Report. Global greenhouse gas (GHG) emissions show no sign of abating and have serious implications for the world's climate, which in turn affect natural ecosystems, weather patterns, the frequency of extreme weather events, and result in substantial social risks. Reducing GHG emissions remains a critical and pressing challenge to our planet. Sustainable development goals will be impossible if existing production and consumption patterns are not changed.

Approach

Minimizing the environmental footprint of our operations is a long-term initiative at Huawei and we use a number of approaches to reduce our energy consumption and CO₂ emissions. These include implementing an ISO 50001-based energy management system, launching energy conservation programs, achieving managerial and technological improvements, and utilizing clean and renewable energy. Our goal is to help fight climate change.

Minimizing Energy Consumption and Carbon Emissions

Huawei has established an energy management system in accordance with the ISO 50001 standard and applicable laws and regulations. We have made our energy management system more effective through routine energy monitoring, energy audits, internal reviews, and technology upgrades. This allowed us to minimize energy consumption, make the best use of energy, and meet our energy management principles and goals.



Our energy management system, with a full clarification of the energy management responsibilities of different departments, provides the necessary framework for ensuring the sustainability of our energy conservation efforts. Breaking down energy conservation goals into actionable tasks and defining responsibilities are vital for us to achieve our goals at different stages of development.

As a result of our business growth and building expansion, in 2016, our energy consumption (measured in standard coal equivalent) totaled 224,000 tons, an increase of 27.3% from 2015. That said, we decreased our energy consumption per unit of sales revenue by 20.2% compared to our benchmark year (2012). Our China region operations saved 45.7 MWh of electricity, equivalent to a CO₂ emissions reduction of approximately 42,000 tons. We also utilize renewable energy. By the end of 2016, we had installed solar power stations with a total generating capacity of 19.3 MWh. They generated 17.07 MWh of electricity in 2016, equivalent to a CO₂ emissions reduction of over 15,000 tons.

In 2016, our energy consumption per unit of sales revenue decreased by

20.2%

compared to the benchmark year (2012).

Solar power stations with a total capacity of

19.3 MWh

In the past year, we took the following initiatives to cut energy usage by our offices, laboratory equipment, and manufacturing facilities.

- ◆ **Strengthening energy management:** We regularly collected and analyzed energy statistics to better meet our energy targets. We also expanded energy management training, and improved awareness with internal promotional events.
- ◆ **Improving electricity metering and management systems:** We built and connected electricity management systems in our campuses to monitor and analyze real-time electricity usage in different locations and to effectively manage our energy consumption.
- ◆ **Optimizing energy management in laboratories:** In 2016, we cut laboratory energy usage by replacing legacy direct current power modules with more efficient equipment; deploying automatic switch-off tools; identifying and removing idle equipment; and enclosing the hot and cold air conduits within air conditioners. As a result, we saved 32.92 MWh of electricity.
- ◆ **Promoting more efficient technologies:** We continued to upgrade our lighting systems (e.g., installing more energy-efficient bulbs, LED bulbs, and lighting control systems) and air conditioners (e.g., centralizing refrigeration controls and improving maintenance procedures). In 2016, these measures helped us save 3.5 MWh of electricity.
- ◆ **Optimizing our manufacturing:** In 2016, we reduced energy usage by 3.86 MWh. This was achieved by reducing energy consumption (e.g., upgrading our air compressors and removing evaporative cooling pads; and adjusting the working hours of air conditioners), optimizing equipment

(e.g., the operational usage of air conditioners, adjusting the time of temperature testing, retrofitting improved machinery, and electricity self-circulation during product aging procedures), and upgrading lighting systems (e.g., replacing metal-halide lamps and installing energy-efficient bulbs).

Huawei's Energy Consumption Statistics from 2012 to 2016:

Energy	Unit	2012	2013	2014	2015	2016
Natural gas	10,000 m ³	450	423	491	522	993
Gasoline	Ton	1,543	1,668	390	363	358
Diesel	Ton	48	60	46	41	116
Electricity	MWh	86,885	94,082	113,325	134,700	168,653
Steam	Ton	25,447	20,854	19,881	20,561	20,352



Increasing Energy Efficiency in R&D Labs

Some of our first R&D labs were scattered in different places, and their air conditioners and power systems were inefficient, with an average power usage effectiveness (PUE) as high as 2.5.

To increase energy efficiency and reduce carbon emissions, we built large centralized labs in the Chinese cities of Dongguan, Langfang, and Chengdu. Leading technologies and facilities – such as free cooling, separation of hot and cold air conduits, and efficient power supply cabinets – reduce lab PUE to below 1.5 and make the labs 40% more energy

efficient. As a result, our labs are able to save 71 MWh of electricity every year, equivalent to a CO₂ emissions reduction of over 65,000 tons.

65,000 tons
of CO₂ emissions avoided



Large centralized labs with higher energy efficiency

Sustainable Operations

Greenhouse gas (GHG) management is an integral part of our operations. We have adopted the ISO14064 standard to identify GHG emissions, and have taken concrete steps to save energy and reduce emissions.

After quantifying and analyzing our GHG emissions, we set a goal of reducing the GHG emissions per unit of sales revenue by 30% by 2020 compared to 2012 (our designated benchmark year). At present, we are continuously monitoring and improving our GHG management performance. To decrease our carbon footprint, we have established energy management systems, rolled out energy conservation projects, and introduced clean energy sources.

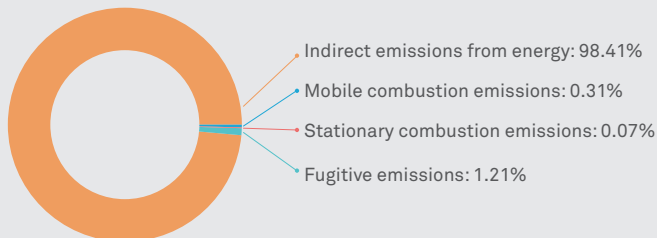
Huawei's Greenhouse Gas Policy

- ◆ Set increasingly challenging goals for GHG emissions reductions, conduct regular internal audits and management reviews, and continuously monitor and improve GHG management performance;
- ◆ Introduce green concepts at the design phase to maximize products' energy efficiency and reduce GHG emissions at the usage stage;
- ◆ Develop a procurement strategy that highlights safety and green concepts, and strive to influence suppliers in terms of GHG management;
- ◆ Actively reduce resource consumption and promote clean production approaches to lower GHG emissions during operations.

GHG Emissions by Type

Type of GHG	CO ₂	CH ₄	N ₂ O	HFC _s	PFC _s	SF ₆	Total Emissions (Unit: Ton)
Emissions (t-CO ₂ e)	1,566,199	6,641	40	12,489	0.00	0.00	1,585,369
Proportion	98.79%	0.42%	0.003%	0.79%	0.00%	0.00%	100.00%

Proportion of Each Scope's GHG Emissions



Note: | Scope 1 includes stationary combustion emissions, mobile combustion emissions, and fugitive emissions.
| Scope 2 includes indirect emissions from energy.

In 2016, the GHG emissions of our China Region operations totaled 1,585,369 tons, an increase of approximately 24.5% from 2015.

This increase is attributable to two factors. First, our business grew significantly, with annual revenue increasing to CNY 521 billion, up 32% from 2015. Second, we expanded our building facilities.

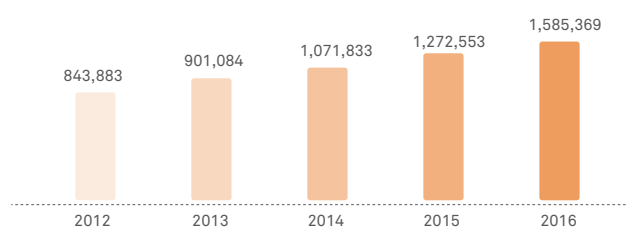
In 2016, our CO₂ emissions per unit of sales revenue were 3.04 tons per million RMB, 20.6% lower compared to the benchmark year.

CO₂ emissions per unit of sales revenue down by

20.6%

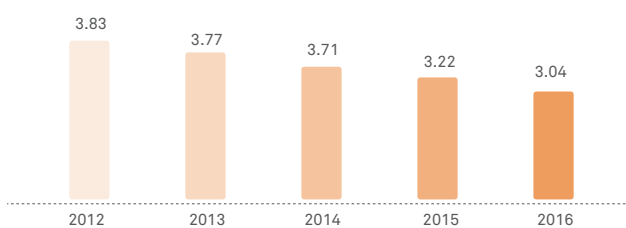
Total GHG emissions from 2012 to 2016

Unit: ton



Intensity of GHG emissions from 2012 to 2016

Unit: ton/million RMB



2016 Best Chinese Supplier with Effective Response to Climate Change Award

As a member of the Carbon Disclosure Project (CDP), Huawei's high-quality GHG report was recognized and honored with the 2016 Best Chinese Supplier with Effective Response to Climate Change Award.

Water Resource Management

Huawei takes water conservation seriously and has launched initiatives to better manage our water consumption. We are seeking to use water more effectively and reduce waste by adjusting the proportion of water types and changing the way we use water. For example, we have built facilities to recycle and reuse rainwater, wastewater, reclaimed water, cooling water, and condensates. We have also effectively managed and maintained water supply networks, water facilities, equipment, and appliances to prevent water leakage.

Most of the water we consume in our operations is used for landscaping, canteens, and air-conditioning systems. To reduce water usage, we have rolled out clean production technologies and adopted a variety of measures such as collecting rainwater, recycling cooling water, and buying reclaimed water for cleaning and landscape maintenance on campuses.

In 2016, we used 9.36 million m³ of water, an increase of 2.36 million m³ year-on-year. This increase was largely attributable to our business growth, larger construction and landscaping areas, and the use of reverse osmosis water purification systems on all our campuses.

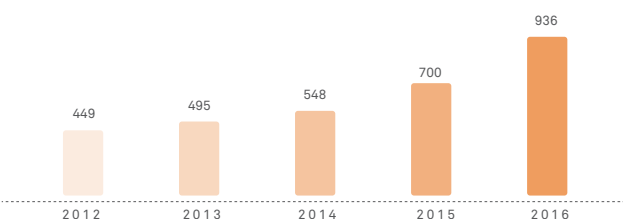
For our new building projects, we deployed rainwater harvesting systems and water reclamation facilities to reuse reclaimed water and increase water utilization efficiency. For example, by using reclaimed water for cleaning and landscaping on our Beijing Campus, we managed to reduce the use of ordinary municipal water by 90,000 m³.

90,000 m³

ordinary municipal water saved

Water consumption in Huawei's China Region

from 2012 to 2016 (Unit: 10,000 m³)



Our effluent discharges come primarily from domestic sewage. Domestic sewage at all of our campuses is sent to municipal wastewater plants for treatment, and is monitored by third parties to ensure compliance with local and national standards.

Lowering the Waste to Landfill Rate

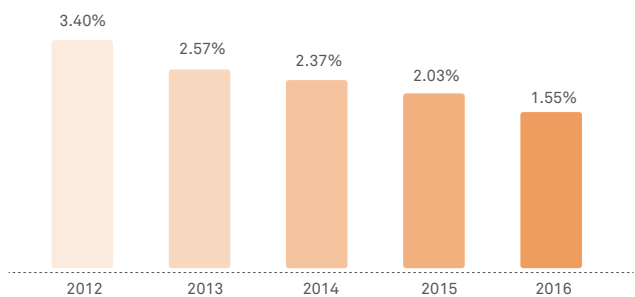
We obey laws and regulations relating to electronic waste in all countries in which we operate. By recycling and reusing as many waste products as possible, we have lowered the landfill rate of waste from our operations.

In 2016, we disposed of 11,718 tons of waste globally, of which 98.45% was recycled or reused, and only 1.55% ended up in landfills.

98.45%

of waste was recycled or reused

Landfill rate of waste from 2012 to 2016



In 2016, we continued to work with leading waste management service providers in Asia Pacific, Northeast Europe, and the Middle East who are able to meet our needs and local government requirements. Our close collaboration resulted in more effective disposal of e-waste, a lower landfill rate of waste, and improved green processing.

2.5 Sustainable Supply Chain Ecosystem

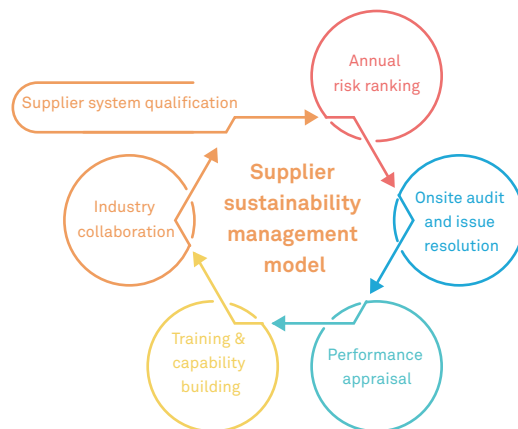
Context	Approach
<p>In recent years, awareness is growing about issues such as climate change, labor, human rights, and the protection of consumer rights and benefits. Large companies have focused more resources on the impact of their supply chains on local economies, the environment, and society. They are also concerned about supply availability and risks, and the overall compliance and sustainability of their suppliers. Sustainability has become not just be a strategic goal of the buying company, but its importance is also being recognized by suppliers.</p>	<p>Sustainability is part of Huawei's procurement strategy and process. It is a prerequisite for our supplier qualification and selection. To be eligible to work with Huawei, our suppliers must be able to comply with applicable laws, regulations, and Huawei's Supplier Sustainability Agreement. We use procurement quotas as a means to continuously drive supplier improvements. We also take viable measures to monitor and control risks, thereby contributing to a more healthy supply chain ecosystem.</p>

In 2016, we more broadly implemented our *Quality First* strategy. As sustainability is a key element of our Broad Quality Principle, it was assigned greater weight during our materials and supplier qualification, performance appraisals, and procurement decision-making. We strengthened cooperation in sustainability with customers, suppliers, and industry organizations. In addition, we adopted the "Top Four Initiatives" on a larger scale, which aims to achieve IT-based management, promote production automation, develop employee expertise, and retain staff in key positions. Our redline requirements for sustainable development were continuously enforced, and we employed procurement quotas as a tool to help suppliers become more sustainable. All these efforts enabled us to minimize supply risks, increase customer satisfaction, and boost the competitiveness of the supply chain.

In 2016, we focused on the following areas as we managed supply chain sustainability:

- ◆ Enhancing cooperation with customers to expand joint audits and increase supply chain transparency: In 2016, Huawei and three customers carried out onsite audits on ten suppliers, and we shared audit results with customers. Additionally, Huawei and two customers used Laborlink to survey the staff of ten suppliers, and adopted mobile technology to improve employer-worker communications in the supply chain. In April 2016, Huawei and Deutsche Telekom held a joint workshop on Creating Value for Business Through CSR and Sustainable Development, where industry experts, customers, and suppliers discussed business model innovations that could result in a more sustainable supply chain.
- ◆ Enhancing cooperation with suppliers and building sustainability into procurement and supplier lifecycle management: In 2016, we reviewed 57 potential suppliers in terms of their sustainability performance, and the 12 suppliers that failed the review were denied the opportunity to cooperate with Huawei. We audited 938 suppliers with respect to sustainability risks, and conducted onsite audits on 53 suppliers. Among the 951 suppliers that took part in our performance appraisals, two suppliers had their business with Huawei restricted due to poor performance in sustainability.

- ◆ Enhancing cooperation with governments and NGOs, and reinforcing a market-driven green supply chain mechanism: Our supplier audit tools and processes used the enterprise environmental data of the Institute of Public and Environmental Affairs (IPE). In 2016, routine queries about the environmental data of 500 key suppliers revealed 15 violations of environmental protection rules. Together with the IPE, we audited ten suppliers onsite and asked that they make improvements within a predefined timeframe to meet our requirements. In the same year, we attended multiple workshops on green supply chain, and introduced our Three-Pillar green supply model. We participated in developing China's green supply chain management guidelines, and defining the green supply chain management and evaluation requirements of China's Ministry of Industry and Information Technology (MIIT).
- ◆ Enhancing cooperation with industry players to develop standards and drive joint actions: In 2016, Huawei was an expert member in a project dedicated to establishing CSR management systems and standards for China's ICT industry. We played a leading role in developing the IPC-1401 Supply Chain Social Responsibility Management System Guidance. We advocated that social responsibility should be integrated, as a customer requirement, into product lifecycles and the value chain. We also drove collaboration across industries and along the supply chain, helping industry players fulfill their social responsibility and become more competitive.



New Supplier Qualification

We have a comprehensive qualification process for all new suppliers, including suppliers' sustainability systems. This qualification process examines suppliers' capacity and their compliance with applicable laws, regulations, and the Supplier Sustainability Agreement. This process includes three stages, in which different departments of Huawei shortlist, audit, and review suppliers to ensure fairness throughout the process.

Shortlisting phase: Sustainability requirements are one of the minimum conditions that potential suppliers must meet. Those who fail this phase are excluded before formal selection begins.

Qualification phase: Onsite audits are performed to assess whether a supplier meets the criteria stipulated in the Supplier Sustainability Agreement. The audits include activities such as employee interviews, document reviews, onsite inspections, and third-party information searches.

Review phase: An expert panel reviews the results of the supplier audit. Compliance with sustainability requirements is the precondition for acceptance. Any supplier that fails to meet the standards will not be accepted. Suppliers are also required to conduct regular internal audits to make continuous improvements.

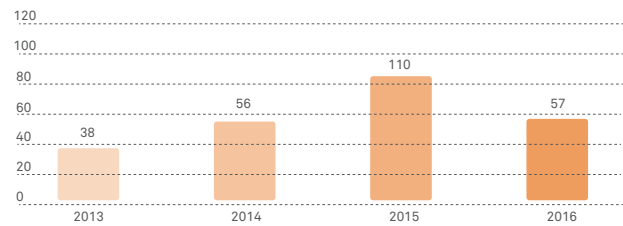
Risk Ranking and Auditing

We divide suppliers into different categories to ensure their continued compliance with our requirements. Every year, we audit suppliers, which combined represent 90% of our procurement spending, and assign them one of three priority levels: high, medium, and low. On this basis, a list of suppliers which require particular attention is drawn up. The factors considered during the audits are: supplier location; product/material category; potentially high-risk manufacturing processes; business volume and relationships; sustainability performance; environmental risks; and risk management systems.

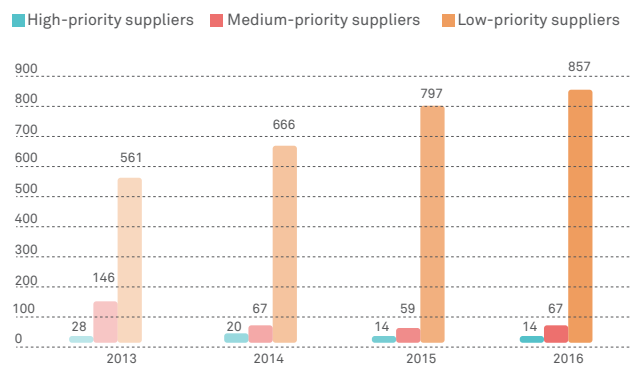
Routine audits are a key part of our approach to supplier sustainability management. Through audits, we discuss with suppliers' management teams about their buy-in and ownership concerning sustainability, find out where problems exist, and then seek to solve those problems and prevent the occurrence of future issues. Huawei performs onsite audits on medium- and high-priority suppliers every year.

If we discover a problem during an audit, we help the supplier analyze root causes, identify ways to mitigate, and take targeted actions using Huawei's Check, Root Cause, Correct, Prevent, and Evaluate (CRCPE) methodology. All problems are logged in Huawei's Supplier Corrective Action Requirement (SCAR) system for follow-up until closure. We are always ready to help our suppliers improve.

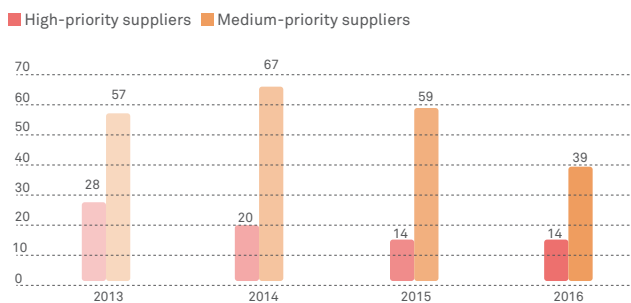
Number of Qualified New Suppliers (2013 to 2016)



Supplier Audit Results from 2013 to 2016

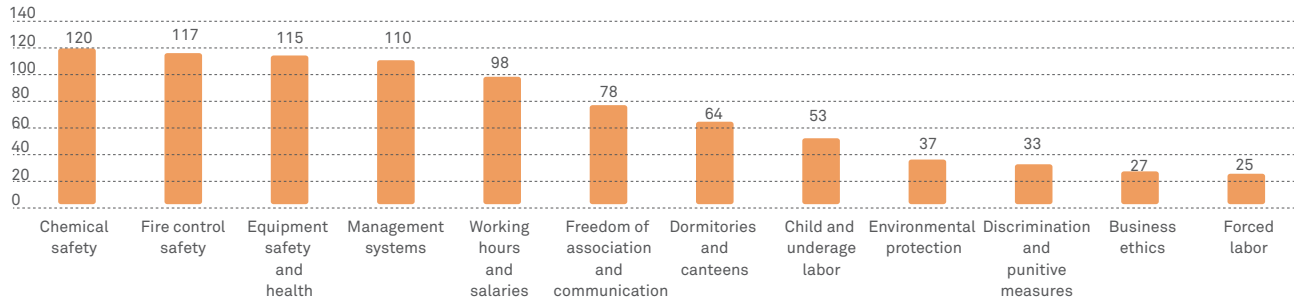


Number of Suppliers Audited Onsite from 2013 to 2016



Sustainable Operations

Problems Discovered during 2016 Supplier Audits



Note: During supplier audits in 2016, we did not discover any instances of child labor or forced labor, though the management systems of certain suppliers were found to be incomplete.

Deepening Cooperation with Customers

Sustainability is a key component of customer requirements. To boost transparency across the supply chain, we take multiple initiatives, such as joint audits on suppliers, employee surveys, joint workshops, and supplier capability improvement projects. In 2016, Huawei and three customers ran onsite audits on ten suppliers.

Joint Audit Cooperation

The Joint Audit Cooperation (JAC) is the primary supply chain CSR joint auditing organization established by leading European and US telecom carriers. The 13 carriers that participate in JAC have unified standards, and delegate a third-party auditing firm to carry out supplier audits, share audit results, and collaboratively encourage suppliers to make improvements. This helps to reduce repeat auditing and accelerates improvements along the supply chain.

In 2016, Huawei designated eight suppliers to participate in JAC joint auditing, with expert groups from a third-party auditing firm carrying out onsite audits. The auditing experts and customers expressed satisfaction with the results of the audits on the eight suppliers. In particular, the suppliers were found to have incorporated customer CSR requirements into their internal operations. By making improvements related to social responsibility, the suppliers enhanced internal operating efficiency, customer satisfaction, and employee satisfaction.

Using Improved Mobile Technology to Strengthen the Link Between Employers and Workers within the Supply Chain

Using innovative technology and methods to drive supply chain sustainability has become a trend of development in recent years. As mobile phones have become more prevalent, using mobile technology to conduct surveys of employees has facilitated a better link between workers and employers. This has resulted in more transparency within the supply chain.

In 2016, in collaboration with two customers, we invited a third-party organization to promote the use of a mobile

phone-based communication platform at ten suppliers as a way to better connect workers and employers through employee surveys. The brief training gave employees the knowledge they needed to use the platform wherever and whenever they wished to provide anonymous responses to questions about overtime hours, working conditions, and living conditions. Survey results collected in this confidential manner have provided a more objective reflection of actual factory conditions and sentiments of employees. The approach has improved the transparency of the supply chain, and made it easier for customers and suppliers to assess the strengths and weaknesses of factory management, allowing for the formulation of targeted improvement measures.

Supplier Performance Management

We appraise suppliers' sustainability performance annually based on their onsite audit results and improvements. Performance appraisals cover key factors such as labor, health and safety, the environment, business ethics, and management systems. Suppliers are classified into four grades (A, B, C, and D) based on their performance, which represent their performance level in descending order. In 2016, we appraised the performance of 951 suppliers and rated 488, 366, 95, and 2 suppliers as A, B, C, and D, respectively.

Two suppliers

In 2016, we restricted the tendering rights or reduced the quotas of two suppliers due to poor sustainability performance.

The amount of business we do with each supplier depends on their performance, which is also a factor considered in our tendering, supplier selection, portfolio management, and other processes. Suppliers that perform well are given higher procurement quotas and more business opportunities, while the reverse is true for low-performing suppliers. Depending on the situation, we instruct low-performing suppliers to correct existing issues within a specified timeframe and may even terminate business relationships with suppliers that display exceptionally poor performance. In 2016, we restricted the tendering rights or reduced the quotas of two suppliers due to poor sustainability performance.



Supplier Capability Development

Sustainability awareness and capability development are essential to ensuring suppliers are managing their own operations effectively. We provide training and coaching for suppliers as necessary. We also encourage them to embed sustainability into their business models and strategies, and to view sustainability as the key to reducing their business risks and enhancing operating efficiency. Alignment of understanding among peers and learning best practices are low-cost and efficient ways for capability development.

Sharing Best Practices, Improving Supplier Capabilities

In April 2016, Huawei held a workshop that asked the question: "How can the turnover, work quality, and productivity of factory employees be improved?" Huawei invited suppliers to share their best practices, and some beneficial ideas were discussed about how to address the common issues faced by modern manufacturing. The discussions provided a good framework upon which to pursue subsequent improvements to factory efficiency and to reduce employee turnover.



Workshop on improving employee turnover

In June 2016, to address the popular topic amongst suppliers of how to prevent factory fires, Huawei invited industry experts to provide special training to 64 suppliers. The training gave new perspectives to safety engineers, and explored the use of proactive safety management approaches through the combination of safety management and factory operations. Safety management was used as a way to reduce risks and improve efficiency.



Special training on prevention of factory fires

Joint Workshop on Supply Chain Sustainability

In April 2016, Huawei and Deutsche Telekom held a joint workshop on supply chain sustainability titled "Creating Value for Business Through CSR and Sustainable Development". In attendance were over 40 customers, experts, and supplier representatives, including individuals from Orange, GE, the Ethical Trading Initiative (ETI), Social Accountability

International (SAI), and the Association Connecting Electronics Industries (ACEI). Attendees discussed the challenges and opportunities relating to sustainable development, and exchanged insights, experience, and case studies. Attendees also committed to working collaboratively to accelerate tangible progress for sustainable development.



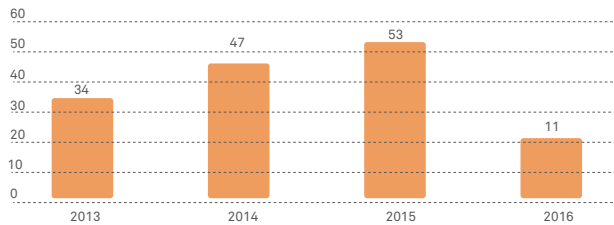
Joint Workshop on Supply Chain Sustainability

Sustainable Operations

Building a Greener Supply Chain

The Huawei Green Partner (HW GP) Program aims to ensure that no Huawei products or parts contain any chemicals banned by law or our customers. The program requires full compliance with environmental laws, directives, standards, and requirements. It inspires our suppliers to systematically manage their environmental protection efforts, and to follow green initiatives throughout a product's lifecycle, from green design to green manufacturing. By controlling the use of restricted substances from the outset, we can contribute to a greener supply chain. In 2016, Huawei certified 11 suppliers as Green Partners.

Number of Certified Huawei Green Partners

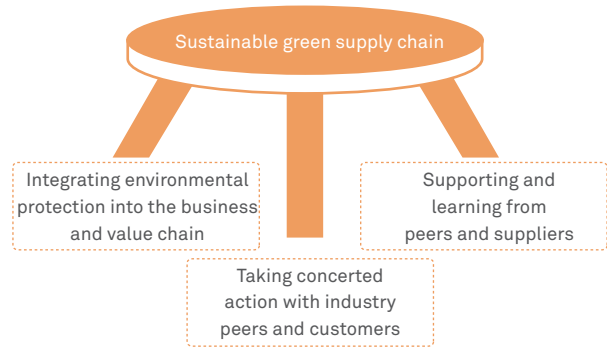


Since 2011, Huawei has been a member of the Green Choice Alliance, which was established by the Institute of Public and Environmental Affairs (IPE), a non-governmental organization. We have added a query function connected to the IPE's enterprise environmental database to our supplier audit list and supplier self-checklist. When query results show that a supplier violates environmental rules, Huawei immediately asks them to solve the problems within a designated timeframe. In 2016, routine queries about the environmental data of 500 key suppliers revealed 15 violations of environmental protection rules. Together with the IPE, we audited ten suppliers onsite and asked that they make improvements within a predefined timeframe to meet our requirements. On the IPE's 2016 *Greening the Global Supply Chain – Corporate Information Transparency Index (CITI)*, Huawei was scored as the leading Chinese company and ranked 5th in the ICT sector.

No. 1

On the IPE's 2016 *Greening the Global Supply Chain – Corporate Information Transparency Index (CITI)*, Huawei was scored as the leading Chinese company and ranked 5th in the ICT sector.

In 2016, Huawei attended multiple workshops on green supply chain where we introduced our *Three-Pillar Green Supply Model*. We participated in formulating China's green supply chain management guidelines, as well as the green supply chain management and evaluation requirements of China's Ministry of Industry and Information Technology (MIIT). We recommended that environmental protection be incorporated as a procurement requirement into product certification and supplier qualification, so that procurement quotas can be used as a tool to drive continuous improvement in the environmental performance of both products and suppliers.

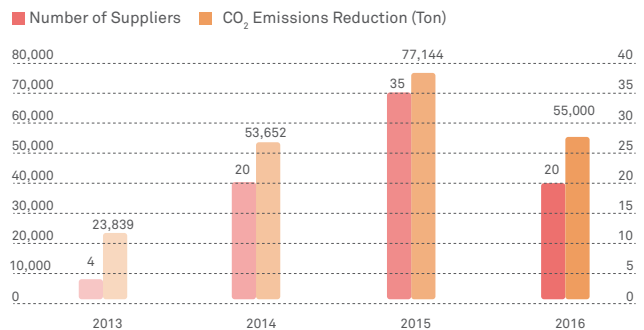


Reducing the Carbon Footprint of the Supply Chain

We always encourage our suppliers to audit their energy usage, identify opportunities to reduce energy use and CO₂ emissions, study industry-leading practices and business case studies, and develop and implement their own energy conservation and emissions reduction plans. In 2016, a total of 20 suppliers took part in our program, together reducing CO₂ emissions by 55,000 tons.

55,000 tons

of CO₂ emissions reduced



Prohibiting the Use of Conflict Minerals

"Conflict minerals" refer to tantalum, tin, tungsten, gold, and other minerals that are mined under conditions of armed conflict, notably in the Democratic Republic of the Congo and adjoining countries. The profits from the sale of these minerals finance ongoing armed conflicts in the countries where they are mined or smelted. The problem of conflict minerals has drawn the attention of the electronics industry and other sectors. Governments in the US and Europe have passed laws to address the problem. The types of conflict minerals and the regions involved are expanding. The problem is complex and will only be resolved through collective commitment and close cooperation between businesses, governments, and NGOs.

Huawei takes the problem of conflict minerals very seriously, and has taken solid action in this regard. We began to address

this problem in 2002, and have released an open statement announcing that we will not procure or support the use of conflict minerals. We require all suppliers to not procure conflict minerals. We also ask our suppliers to cascade this requirement to their suppliers. Through the Conflict Free Sourcing Initiative (CFSI), we work with companies around the world to jointly address this problem, using the CFSI conflict mineral questionnaire and the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas to survey the supply chain and share results with our customers. In 2016, we shared the survey results with over 10 customers, including the survey results of the company and products. We are also an active participant in the projects of multiple industry organizations, seeking to jointly work out viable solutions to conflict mineral issues.

Huawei Statement on Conflict Minerals:

<http://www.huawei.com/en/about-huawei/declarations/statement-on-conflict-minerals>

We are aware that when it comes to conflict minerals, the international community is setting its eyes beyond tantalum, tin, tungsten, and gold (3TG) and the Democratic Republic of the Congo. With this in mind, Huawei proactively works with other members of the IDH Indonesian Tin Working Group in pursuit of effective solutions to tin-related issues. To help reinforce governance in the cobalt supply chain, Huawei – as a core member of the Responsible Cobalt Initiative (RCI) – drives the supply chain's due diligence system and standards. We also partner with other industry players to design sustainable solutions aimed at addressing human rights and labor issues in the cobalt supply chain. Moving forward, Huawei will seek to play a bigger role in industry organizations like the GeSI, IPC, and CFSI. Together with our customers, suppliers, and other industry players, we will continue to explore sustainable solutions to conflict mineral issues.

Industry Cooperation

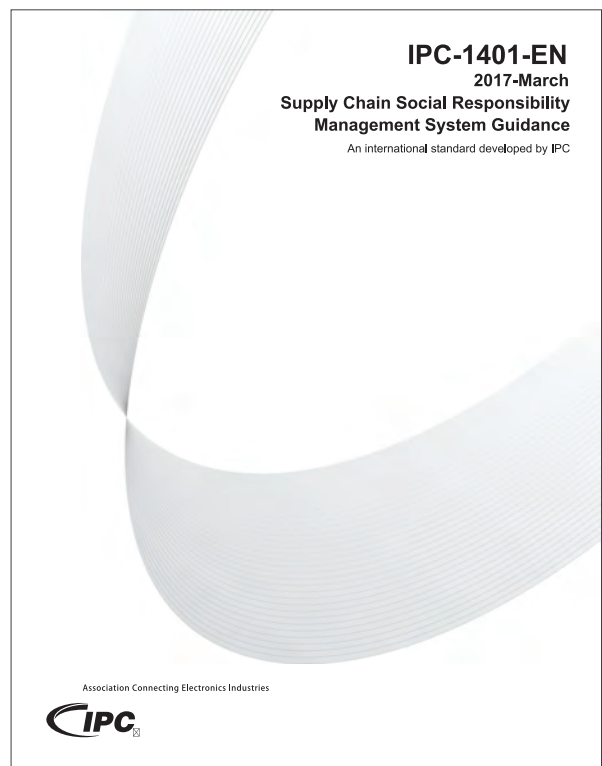
Cooperation with industry players is a key factor for building a sustainable supply chain. In partnership with industry players, we can better address sustainability opportunities and challenges. Through industry organizations, we engage in cross-sector dialogs and initiatives to align understandings, take well-coordinated actions, and share resources. In a nutshell, collaboration allows us to combine strengths and gain leverage to boost industry competitiveness.

In 2016, Huawei experts played a central role in the development of the CSR standard for China's ICT industry, which has incorporated Huawei's proposals. This standard uses the framework of the ISO 9001 quality management system, and demands that social responsibility – as customer needs – should be embedded into products and their lifecycles as well as into the value chain. The standard was released in 2016.

Leading the Development of the IPC-1401 Supply Chain Social Responsibility Management System Guidance

Electronics Industries (IPC) named Huawei and Flextronics as leaders in the development of the organization's Supply Chain Social Responsibility Management System Guidance. Over the past three years, Huawei has organized over 10 workshops with more than 160 volunteer experts from nearly 80 electronics companies and 10 industry associations. Together with these experts, we analyzed how supply chain social responsibilities have evolved over the past two decades – as well as the actions, challenges, and needs of customers and suppliers. All participants agreed that it is necessary to adopt compliance audit models beyond traditional approaches; implement ISO management systems and frameworks; leverage industry best practices; regard social responsibilities as customer requirements and as requirements for products and production; and integrate social responsibilities into procurement strategies, procurement processes, material qualification, supplier qualification, and procurement decision-making. It is widely accepted that procurement quotas should be used as a means to drive the continuous improvement of suppliers, and that social responsibilities should be fulfilled to improve business competitiveness.

The IPC-1401 Supply Chain Social Responsibility Management System Guidance has passed three rounds of review and will be published and enacted in 2017.



IPC-1401 Supply Chain Social Responsibility Management System Guidance



03



Sustainable Products and Services

Cyber Security and Privacy Protection

Green Products and Services

Safe Products

3.1 Cyber Security and Privacy Protection

Context

Technological innovation is accelerating in cloud computing, IoT, video, big data, and artificial intelligence, while smart devices are connecting more and more people. Against this backdrop, the scale of personal data shared and collected is growing at an unprecedented rate. Rapid technological development and globalization are constantly presenting new challenges to cyber security and presenting us with a fresh set of challenges related to privacy protection.

Approach

At Huawei, we adopt an open, transparent, pragmatic, and rigorous approach to cyber security. Huawei's commitment to cyber security will never be outweighed by its own commercial interests. Establishing and implementing an end-to-end global cyber security assurance system is one of our core development strategies. In addition to steadfast concentration on cyber security assurance, Huawei places special emphasis on user privacy, ensuring that we comply with all local laws and regulations related to privacy and personal data protection.

Global Cyber Security and User Privacy Protection Committee

Our Global Cyber Security and User Privacy Protection Committee 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 have a stable and capable security workforce, and our Global Cyber Security & Privacy Officer reports directly to the CEO. All of Huawei's relevant business units have cyber security and privacy offices. We release a large number of policies and ensure the timely and comprehensive update of all related processes. We recently published the Huawei General Privacy Protection Policy, which specifies the privacy-related responsibilities of Huawei's business departments and employees regarding the processing of personal data. Protecting end users' privacy and freedom of communication has been included in Huawei's Employee Business Conduct Guidelines (BCGs), and all Huawei employees around the world are required to learn, sign, and comply with the BCGs.

Joining Efforts to Address the Global Challenge of Cyber Security

It is our belief that all stakeholders must work together, joining efforts to address the global challenge of cyber security. We have taken the initiative to share our ideas and practices and have presented a proactive voice in cyber security:

◆ In February 2016, Huawei Global Cyber Security & Privacy Officer John Suffolk delivered a keynote speech at the Munich Security Conference entitled *Upcoming Security Challenges and Ways to Deal with Them*. In the speech, he elaborated on Huawei's approach to cyber security, and highlighted the importance of focusing on today's cyber security issues while also reviewing tomorrow's security risks.



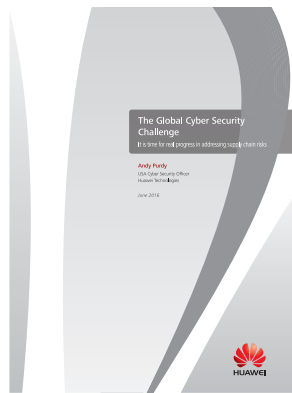
John Suffolk delivers a keynote speech at the Munich Security Conference

◆ In March 2016, David Francis, European Cyber Security Officer (CSO) at Huawei, delivered a keynote speech at the Commonwealth Cybersecurity Forum 2016. He explained that security should be built into devices, network architecture, and employee ethos—rather than bolted on as an afterthought. Francis also outlined why organizations need to take an open and cooperative approach to cyber security, to ensure product security is given the same priority as product quality. Shola Taylor, Secretary-General at the Commonwealth Telecommunications Organisation, applauded Huawei's efforts in cyber security.



The Secretary-General at the Commonwealth Telecommunications Organisation has recognized Huawei's cyber security practices.

- ◆ In June 2016, Huawei published its fourth cyber security white paper, entitled *The Global Cyber Security Challenge – It is time for real progress in addressing supply chain risks*. Authored by Huawei's USA CSO, Andy Purdy, the white paper was designed to inform ongoing efforts, best practices, and standards on how the global ICT industry can address supply chain security challenges. The white paper discusses how to ensure security in the global supply chain, shares best practices from supply chain experts and standards bodies as well as Huawei, and calls for all stakeholders pick up the pace of collaboration to address this common challenge.



- ◆ In November 2016, the Third Huawei MBB Cyber Security Mindshare Forum was held in Tokyo, which focused on the security challenges introduced by 5G/NFV, advocating industry-wide cooperation. A number of carriers (including Telefónica, SoftBank, Telenor, O2, and Bharti), international organizations (including 3GPP, P3, and Infineon), and Huawei's cyber security experts reached a consensus on 5G cyber security challenges and how to address them. At the event, Huawei released its second white paper on 5G cyber security entitled *5G Scenarios and Security Design*, which was well received by attendees. Huawei also released a 2016 technological cooperation initiative for cyber security, and established technology focused partnerships with Deutsche Telekom, Telefónica, and China Mobile.

- ◆ At Huawei, we recognize the value of connecting directly with carriers' security teams, and are committed to in-depth collaboration. As of the end of 2016, we have established direct working relationships with the Computer Emergency Response Teams (CERTs) of 31 leading global carriers. We have put in place a robust collaboration apparatus for security emergency response to reduce security risks on our customers' live networks, an initiative that has received positive recognition from our customers.

Wide Recognition of Huawei's Cyber Security Practices

Governments, customers, industry organizations, and other stakeholders have commended Huawei's cyber security efforts, which are expected to drive closer and more pragmatic cooperation. These efforts include the following:

- ◆ In September 2016, the Open Group announced that Huawei has been accredited under the Open Trusted Technology

Provider™ Standard – Mitigating Maliciously Tainted and Counterfeit Products (O-TTPS) for our Wireless Business Unit's Frequency Division Duplex (FDD) product line. The certification covers the full lifecycle from product R&D to manufacturing, transportation, maintenance, and retirement, and has stringent requirements for supply chain management. Achieving this accreditation demonstrates the maturity of Huawei's cyber security management system and our security management capabilities. Huawei is the world's first and only vendor to be accredited for both hardware and software.

- ◆ In October 2016, Huawei and REDtone were presented with the Cybersecurity Project of the Year award by CyberSecurity Malaysia in recognition of our B2B public cloud services for government and businesses. The award was an endorsement of the security of Huawei cloud services.

- ◆ After awarding the Protocol of Security Development Assurance (PSDA) stamp to several of our products in 2015, Telefónica presented this certificate to Huawei again in 2016 in recognition of our USN, UGW, and eNodeB products and our product security capabilities.

- ◆ In October 2016, our distribution centers in the Netherlands and Panama received ISO 28000 certification. All six of our supply chain distribution centers around the world have now passed ISO 28000 certification. We have established an ISO 28000 security management system to ensure the cyber security management capabilities of our supply chain and continue to earn customer trust.

ISO 28000 certification for all

six of our supply chain distribution centers

End-to-end Cyber Security Assurance System

While actively communicating with external parties to develop transparency and trust, we are constantly building and improving upon our end-to-end cyber security assurance system. We use a built-in approach and an ABC model (Assume nothing, Believe nobody, Check everything) to provide comprehensive cyber security assurance in the areas of strategy, processes, laws and regulations, employees, R&D, verification, supply, and audits:

- ◆ On an annual basis, we develop a strategic plan for cyber security and privacy protection, which reviews the results we achieved over the previous year, seeking to identify gaps, adjust goals, and continuously improve our end-to-end approach to cyber security and privacy above and beyond Huawei's processes, strategies, and regions.
- ◆ We provide basic and business domain specific cyber security awareness education, training, and competency & qualification (C&Q) assessments that target all employees

Sustainable Products and Services

on an ongoing basis. In 2016, 99.63% employees studied and signed the BCGs, and the job qualification certificate system was implemented in all key countries.

All

The job qualification certificate system was implemented in all key countries.

- ◆ Our mature code compilation, configuration management, tool management, and traceability platforms in the R&D domain have enabled us to steadily develop our security engineering capabilities. The test automation rate of product security cases has continued to improve, and vulnerability tracing and automatic virus scanning capabilities are industry-leading. Our assessment results based on the Building Security in Maturity Model (BSIMM) are well above industry average in all aspects. We are an industry leader in key security technologies, including trusted computing, prevention of product tampering during runtime, and anonymity/anonymization technologies. These technologies have been used to bolster the security capabilities of our products.
- ◆ We are now a leader in security technology standards with a strong team of senior technical experts. In 2016, 154 of the security proposals that we submitted to 3GPP SA3 were approved, and 60 of our proposals were approved by ETSI NFV. We hold 17 chairperson/vice chairperson positions in security standards organizations.
- ◆ Our independent verification approaches, such as the model adopted at the UK-based Cyber Security Evaluation Centre, Huawei's Internal Cyber Security Lab model, and third-party security verification models, have been recognized by numerous governments and carrier customers. Our Internal Cyber Security Lab performs independent security evaluations on products before launch to ensure products are secure prior to reaching customers. In recent years, the density of security-related issues has dropped on a yearly basis, with the average density from 2014 to 2016 going down 66% year-on-year. The number of security issues identified during external testing has also been reduced significantly, with the average number from 2014 to 2016 going down by 43% year-on-year.
- ◆ We have continued to improve the compliance levels and delivery quality of our cyber security activities throughout the service delivery process. We have effectively reduced privacy risks by using mature processes and platforms to process customer data stored on spare parts. In addition, we have enhanced the security of our managed services and Global Network Operation Centers (GNOCs) and validated all tools currently in use to improve field delivery quality and ensure security in all delivery activities.
- ◆ We have controls in place within our supply system to ensure end-to-end security. We have improved suppliers' delivery

quality and compliance with security agreements and have required them to promptly provide solutions and patches for vulnerabilities in third-party software. In doing so, we have put in place a comprehensive security mechanism for managing suppliers.

- ◆ We have established a mature system for tracing supply chain components and enhanced security management through version control, reverse logistics management, and traceability. For software incorporated into configuration management, the time required to automatically identify affected products and customers after a vulnerability's disclosure has been shortened from 10 days to less than one hour.
- ◆ We have continued to conduct independent third-party cyber security and privacy protection audits from different perspectives (i.e., processes, BGs, and countries) to ensure that all of our approaches and requirements are effectively implemented and managed, risks are promptly identified, and improvements are made.

Direction of Future Work

Looking ahead, we need to accept that what we have done in the past will not continue to be adequate in a fully digitized, cloud, mobile, DIY world. There are many things to consider. How can we optimize our development processes to enable rapid service launch while also continuously improving security capabilities? As 5G and IoT create a potentially global attack surface, how do we secure a world we cannot see or touch? How can we adapt evolving quality standards to meet customer requirements? How should we change our O&M models? Concerns about cyber security will shift from cyberspace security to data security.

An intelligent world is rapidly approaching. In the areas like IoT, big data, and cloud computing, cyber security assurance must ensure the security of integrated solutions, not merely individual products. As an ICT leader, Huawei has extensive experience in the technology, deployment, and management of integrated network products that cover devices, data pipes, and the cloud. We will leverage our decades of experience in CT security technology to align security products with market demand at the strategic level, and further explore and develop approaches to ensure the end-to-end security and privacy of solutions and products.

We are aware that as we progress toward an intelligent world, the industry needs to continue fleshing out its technical solutions and management methodologies for cyber security and privacy protection, and continue to raise awareness. This will underpin the sustainable development of the ICT sector. We will continue to work with all stakeholders across the industry to continuously improve cyber security and privacy capabilities, so that security and privacy will be protected to the maximum extent possible while still enabling users to enjoy the many conveniences of new technology.

3.2 Green Products and Services

Context

As society continues its rapid development, the number of network connections is soaring, leading to enormous traffic growth and huge bandwidth demand. ICT infrastructure is becoming smarter and can offer faster and smoother connectivity. However, ICT infrastructure and smart devices are consuming increasingly more energy and resources. The ICT industry is facing the significant challenge of how to maximize the efficiency of networks and minimize energy consumption and other environmental impacts, without compromising network performance and user experience.

Approach

Our approach to environmental protection is based on the concept of the circular economy, which seeks to improve resource and energy efficiency and enable the reuse of raw materials, components, and products. At the product design stage, we aim to maximize product lifespan and ensure easy take-back, maintenance, recycling, and reuse. Our design approach also adopts the lifecycle assessment (LCA) methodology and tools to help us select recyclable or compostable materials, thus minimizing material use. We are committed to providing our customers with green and efficient products and solutions that consume less energy, so as to lower operating expenses (OPEX) and carbon emissions.

Leading Green ICT Technologies

We strive to provide highly efficient and energy-saving green products and solutions that help customers slash their operating expenses and carbon emissions. To make this happen, we have embedded green requirements into our end-to-end product lifecycle, from development and manufacturing to delivery and O&M. All our offerings meet or exceed applicable laws, regulations, standards, and customer requirements, allowing our customers to enhance their environmental performance. Through continuous technological innovation, we offer energy-efficient solutions for networks, sites, and equipment that enable customers to operate at lower costs and with higher energy efficiency.

Green Certification for Mobile Phones

We are conscious of the environment when we design our consumer products, and we implement rigorous controls throughout product lifecycles, from selection of raw materials, manufacturing, packaging, transportation, and usage to scrapping, disposal, and recycling. Our goal is to minimize the impact of our products on the environment.

In 2016, Huawei smartphones, including the P9 series, Mate 9 series, and Honor 8, received the highest level (Platinum) of UL110 certification.

CERTIFICATE OF COMPLIANCE



HUAWEI
MHA-AL00 · MHA-TL00 · MHA-L29 · MHA-L09

UL 110 - 2012 Platinum - Standard for Sustainability for Mobile Phones
Standard

4787524875
Project Number

84475-4270
Certificate Number

10/26/2016 - 10/26/2019
Certificate Period



Environment

UL Environment investigated representative samples of the identified Product(s) to the identified Standard(s) or other requirements in accordance with the agreement and any applicable program service terms in place between UL Environment and the Certificate Holder as of the date of the report. UL Environment will not be held responsible for the identification of the product(s) covered by the UL Test Report in accordance with the terms of the agreement. This Certificate is valid for the identified Product(s) only.

UL110 Platinum Certification for Huawei Mate 9

In 2016, we implemented the following initiatives regarding energy conservation and emissions reduction of our products and solutions:

- ◆ We saw high energy efficiency as a key element of our design and development activities, and part of our effort to continue to improve our product and solution capabilities. Through low-power chips, efficient cooling of power supply, improved software design, and dynamic energy management technologies, we increased the energy efficiency of core routers and wireless base stations by 18% and 20% compared with 2015.

Energy efficiency of core routers up by

18%

Energy efficiency of wireless base stations up by

20%



Sustainable Products and Services

Switch Products Awarded TÜV Rheinland Green Mark Certificate

At HUAWEI CONNECT in August 2016, TÜV Rheinland granted Green Mark certificates to two models of the Huawei S5320 series switches. Equipped with the Energy Efficient Ethernet (EEE) technology, the switches can start working immediately after being powered up. When there is no traffic passing through the switch port, the port's PHY chip shuts down automatically, which can save power consumption of the entire device by 30%. The entire switch also supports sleep mode power saving. When there's no traffic passing through the switch, the switch chip can be set to sleep mode. In doing so, the switch saves power consumption by more than 63%.



Huawei switch products awarded Green Mark Certificate

Contributing to Low-carbon Networks with Our Highly Energy-efficient Cluster Router

In September 2016, Huawei released the NE5000E 1T cluster router at the annual IP Technology Gala. The cluster router, with a capacity of up to 128 Tbit/s, supports flexible 1 Tbit/s line card and high-density 100GE/10GE ports. With capacity doubled, the router will be able to meet traffic demand for the next 5 to 10 years.

Enabled by innovative energy-saving technologies such as the cutting-edge chip design, and dynamic frequency modulation, our NE5000E cluster router is energy efficient. It consumes as little as 0.9 Wh of electricity per gigabyte of data per second, 40% more efficient than the industry average. The router supports SDN-based traffic optimization, which allows balanced optimization of network-wide bandwidth utilization and flexible adjustment of traffic at the data center egress. These features maximize the usage of network resources. As the router is compatible with legacy 400G and 100G line cards, it has a longer lifespan, thus helping protect our customers' investment.



Huawei releases the NE5000E 1T 2+8 cluster router at the annual IP Technology Gala

- ◆ We researched innovative energy-saving technologies to support future network evolutions: In active collaboration with universities and research institutes from home and abroad, we made ground-breaking progress in multiple 5G areas such as Massive MIMO, network architecture, air interface, and all-digital radio frequency technology. These technologies lower end-to-end network costs while boosting spectrum utilization and energy efficiency. In other domains, we worked closely with customers to enhance their energy efficiency and contribute to their goals of achieving energy savings and CO₂ emissions reduction.
- ◆ We provided services to enhance the energy performance of customers' existing networks. Network modernization is an efficient, cost-effective approach which carriers can adopt to cope with rapid business development. Energy conservation is one of the key factors needed to push network modernization. We help customers redesign networks according to actual conditions such as traffic distribution, networking characteristics, and the power consumption of equipment and infrastructure. Our energy conservation solutions and configuration policies are highly feasible and ensure the networks' quality of service. In 2016, we applied multiple technologies to reduce the energy usage of our base stations, such as Symbol Power Saving, RF Channel Intelligent Shutdown, and Carrier Intelligent Shutdown. These technologies, now widely used in carrier networks, reduce the energy usage of remote radio units by more than 20% during non-peak hours.

Energy usage of remote radio units down by more than

20%

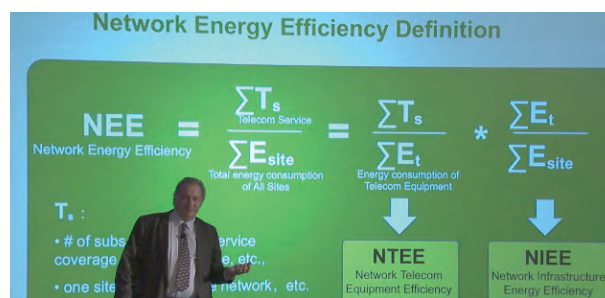
New-Generation Kirin 960 Chip Achieves Improvement in Performance and Energy Efficiency

The Huawei Mate 9 Pro is equipped with a new-generation Kirin 960 System-On-a-Chip (SOC), featuring pioneering Cortex A73 CPU and Mali G71MP8 GPU. Compared with its predecessor, the Kirin 960, with a multicore CPU, is 18% more efficient and consumes 15% less energy. GPU image processing has also been greatly improved, with a 20% increase in energy efficiency.

- ◆ Through open collaboration, we drove the research and development of energy conservation and carbon reduction standards for the ICT industry. In 2016, we were an active member of and major contributor to energy conservation and carbon reduction standards teams of ITU, ETSI, 3GPP and CCSA, and we submitted multiple proposals. These proposals involved base stations, radio access networks, routers, servers, NFV, and circular economy in the ICT sector. We thus helped boost the standards' accuracy and feasibility.

Huawei's SEE Became International Standard After ITU Approval

In 2016, Huawei's Site Energy Efficiency (SEE) proposal was approved by ITU as an official international standard. The SEE indicator can be further divided into telecom equipment efficiency (TEE) and infrastructure energy efficiency (IEE). The division of energy efficiency indicators can help analyze and solve energy efficiency issues through understanding and comparing the indicators of different sub-networks and sites. Therefore, SEE is better suited to telecom and tower operators' construction and O&M organizations, and can facilitate quantitative management of energy savings and emissions reduction efforts.



Paolo Gemma, President of the ITU-SG5 WP3, introducing Huawei's SEE standard

Use of Renewable Materials

Bioplastics offer unrivaled advantages in terms of environmental protection as compared to traditional plastics. Unlike traditional plastics, bioplastics are made from plant-based raw materials which are a substitute for nonrenewable resources such as oil. This helps protect the environment and the earth's nonrenewable resources.

In 2016, Huawei utilized bioplastics in smartphone products including the P9, P9 Plus, Mate 9, Mate 9 Pro, and the Honor 8. The bioplastics used in these products contain more than 30% castor oil, and achieve a reduction in CO₂ by 60% compared with traditional oil-based plastics.



The Mate 9 shell utilizes bioplastics

60%

less CO₂ emissions

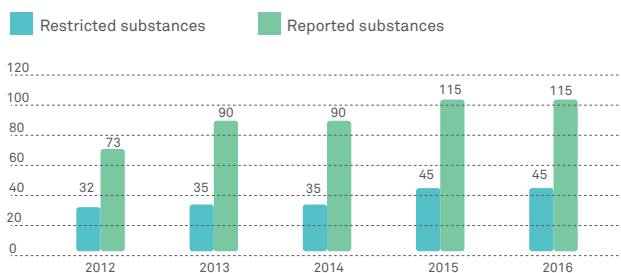
To minimize the impact of our product packaging on forest resources, Huawei has sought FSC® certified packaging for our products. FSC is a supply chain management certification that ensures the materials for our packaging come from well-managed sustainable forests.

In 2016, the packaging for many of our products was FSC certified, including the P9, P9 Plus, P9 Lite, Honor V8, Nova, Nova Plus, Mate 9, Mate 9 Pro, and Honor Magic.

Management of Hazardous Substances

Hazardous substances are substances that pose a potential danger to people, other living things, or the environment. As environmental problems continue to escalate and technologies advance worldwide, more and more substances are being banned or their use curtailed. Complying with laws and regulations such as RoHS and REACH on hazardous substances is not our only goal: We have gone one step further by restricting the use of hazardous substances that are not yet prohibited but which can significantly affect the environment. In 2016, Huawei restricted the use of six substances in our consumer products, including new mobile phones, tablets, and wearables. These substances include brominated flame retardants, chlorinated flame retardants, PVC, phthalates, antimony trioxide, and beryllium and beryllium compounds.





Number of restricted and reported substances between 2012 and 2016



Green Packaging

Huawei strictly complies with environmental regulations across the entire lifecycle of packaging materials, including selection, manufacturing, usage, and disposal. We have implemented a green packaging strategy with Right Packaging as the core. Our renewable steel pallet plus high-density cardboard packaging solution has replaced wooden pallets and plywood crates, cutting our use of forest products and emissions of green house gas.

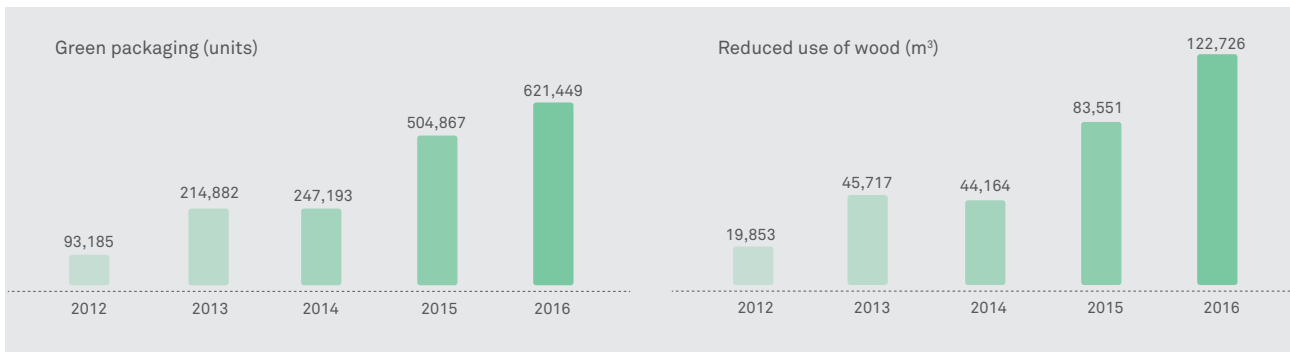
Sustainable Products and Services

	<p>Metal packaging</p> <p>Shipped 240,000 units, saving 50,300 m³ of wood</p>		<p>Lightweight pallets</p> <p>Shipped 19,000 units, saving 1,500 m³ of wood</p>
	<p>Corrugated cardboard packaging</p> <p>Shipped 310,000 units, saving 44,800 m³ of wood</p>		<p>Industrial packaging in overseas supply centers</p> <p>Saved packaging materials for about 12,000 pallets, or 2,000 m³ of wood</p> <p>Used lightweight box plank to save 25,600 m³ of wood product</p>

Huawei's green packaging initiatives and results

In 2016, Huawei shipped 621,000 units of green packaging, saving 123,000 m³ of wood and 225,000 tons of CO₂ emissions.

225,000 tons
of CO₂ emissions avoided



Contributing to a Circular Economy

The growing population and demand worldwide is leading to increased resource scarcity, environmental pollution, and ecological damage. This forces all industries to raise sustainable development to a strategic level, and this is how the idea of a circular economy originated. Under the circular economy model, substances are managed in a closed-loop manner. The goal is to maximize product value and reduce waste and resource consumption, as well as environmental and ecological impact.

Huawei has incorporated circular economy practices into our product design. We use the latest technology to improve resource efficiency. And we conduct cradle to cradle recycling practices, implement circular economy policies and requirements, and reward circular economy efforts for sustainable resource use.

Elements of Huawei's Design Approach for the Circular Economy:

- ◆ Recyclable design: Use more recyclable materials and secondary raw materials
- ◆ Coatings: Coatings compatible with product recycling processes
- ◆ Design for disassembly: Avoid welds, glue, rivets, and other permanent joints where possible
- ◆ Uniformity of materials: Reduce recycling costs for higher returns
- ◆ Surface mounting: Improve the reusability of PCBs

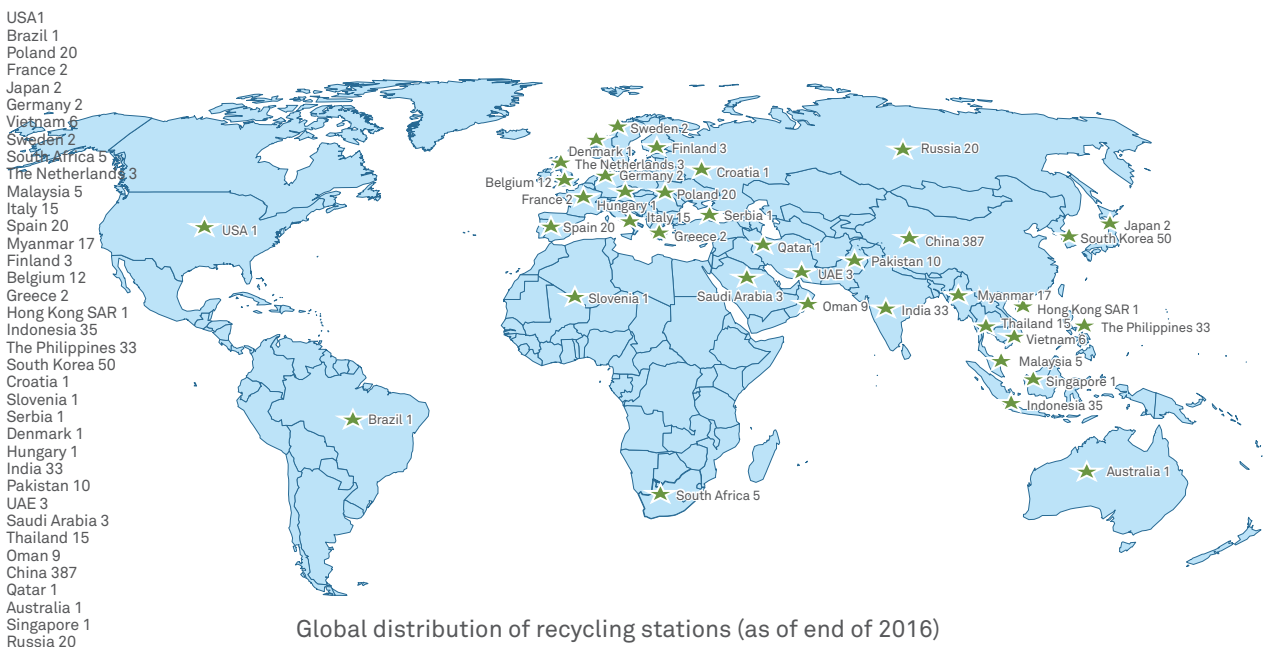


We have put in place a global management system for returned materials, incorporating the collection, storage, disassembly, testing, repair, and disposal of waste. Every scrapped item is categorized by lifecycle phase and quality, so that we can recover as much of its value as possible. Reusable materials are allocated to our internal reuse channels – such as the R&D, manufacturing, parts, and assets departments – where materials are reused or auctioned off without incurring cyber security risks. For reusable equipment, we perform final assembly test (FAT) of the whole product to avoid unnecessary material waste caused by dismantling. Non-reusable materials are allocated to the raw material recycling channel, in which certified recycling service providers dismantle and recycle the materials.

Global Green Recycling Program for Mobile Phones

Huawei runs a Global Green Recycling Program, in which we strive to fulfill our extended producer responsibility. As of late 2016, we had 705 recycling stations in 36 countries and regions around the world for handling of scrapped mobile phones, tablets, and other electronic products. In addition, through our recycling initiatives including in-store and online trade-in, we give consumers greater understanding of the benefits of properly recycling products such as mobile phones, and allow them to participate in the process.

By collaborating with leading, qualified product recyclers, we maximize the value of the electronic products and ensure the scrapped items are properly processed in an environmentally responsible manner. This reduces environmental pollution and damage caused by e-waste, and promotes the development of a circular economy.



3.3 Safe Products

Context	Approach
In recent years, mobile broadband, smartphones, and wearables have advanced rapidly and are now reshaping the way people work and live. ICT products and services are delivering rich user experience while also increasing safety challenges, and this is why users are more concerned about product safety (e.g., electrical safety, electromagnetic radiation, and noise) than product quality.	Huawei has developed strict systems for product safety control, and enforced strict product safety standards. Our areas of focus continue to be reducing electromagnetic and laser radiation and improving electrical safety. Our goal is to deliver safe, reliable products and services to customers and consumers.

Electromagnetic Radiation

Huawei has developed strict standards for controlling electromagnetic radiation. Our ongoing research and innovation helps to ensure that our products conform to all legal and technical standards. Base stations are becoming smaller and lighter, and are being installed closer to ground level. In response, we are building additional electromagnetic radiation protection into their design, and carrying out more research and testing. This allows us to deliver both excellent communications services and product safety.

In 2016, we hired world-leading scientists in electromagnetic field exposure and product conformity testing. By coordinating electromagnetic safety compliance, standardization, and supervision issues, they help us resolve product radiation problems at the R&D and market stages.

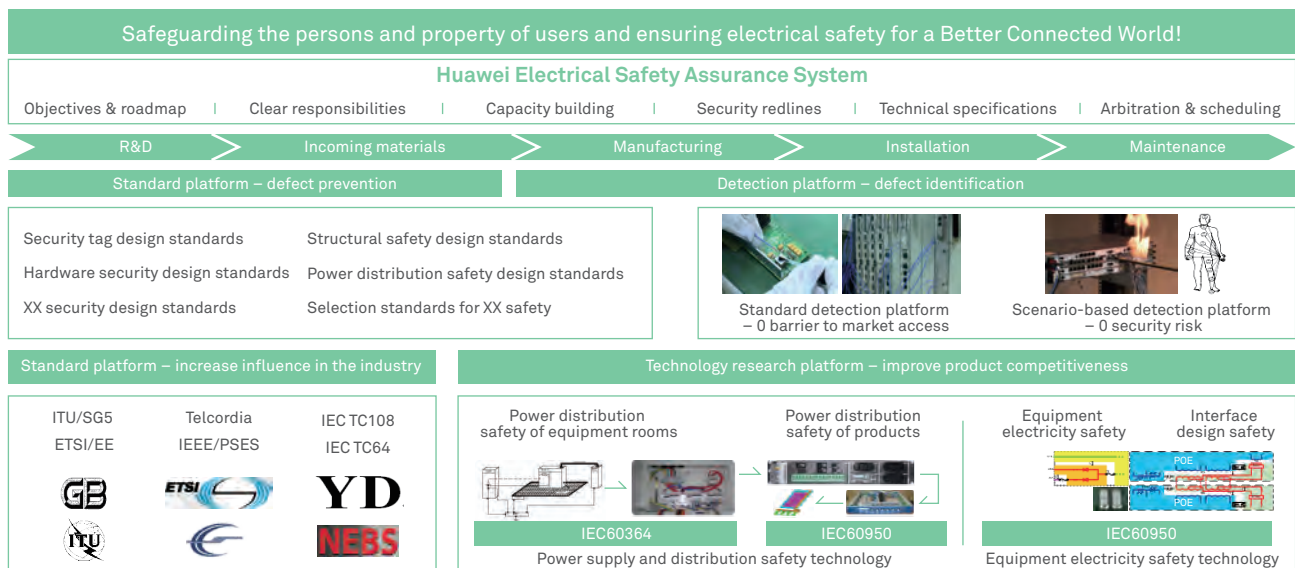
The increasing penetration of smartphones and new form factors of device products pose a big challenge to the industry. There is a trade-off between the control of a device's electromagnetic radiation level and the improvement of its signal strength. Stricter regulations on electromagnetic radiation of consumer products are being released in many countries. To conform to relevant standards, manufacturers have to invest a lot more in product R&D, manufacturing, and cost control. Huawei attaches great importance to consumer safety. We invest in product R&D and manufacturing to ensure

our products are safe in terms of electromagnetic radiation. We have a dedicated lab that tests the radiation levels of our products, including mobile phones, tablets, and wireless routers. In addition, we collaborate with third-party verification organizations in major countries and regions to ensure that our products comply with security laws and regulations of different countries.

Electrical Safety

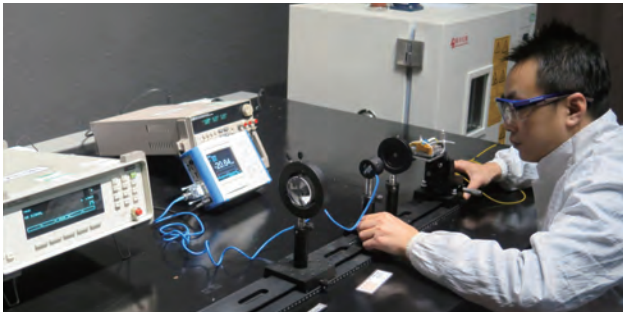
Huawei has established a systematic electrical safety assurance system, and we implement safety baselines, standards, and requirements at different stages throughout the lifecycle. To deliver safe and reliable products, we continue to invest in the research and application of key technologies relating to electrical safety protection and risk mitigation and detection, and we are actively involved in standards initiatives led by the International Electrotechnical Commission (IEC).

Huawei has a dedicated electrical safety lab that is certified by both the American Association for Laboratory Accreditation (A2LA) and the China National Accreditation Service for Conformity Assessment (CNAS), and is a long-term strategic partner of major testing and certification organizations such as UL, TÜV, and ITS. We perform product design and testing in strict compliance with international safety standards and differentiated national standards to ensure the electrical safety of our products.



Laser Safety

We strictly conform to the IEC 60825 security standards when designing, testing, and verifying all laser products. Huawei has a dedicated laser safety lab to strictly test the safety of all laser products, from optical modules to laser transmission systems. This enables us to ensure that users can use our products without concern for laser radiation.



Laser safety testing

All our laser products are certified by major international certification organizations such as UL and TÜV, which means the radiation levels of our laser products pose no harm to users.

Ergonomics

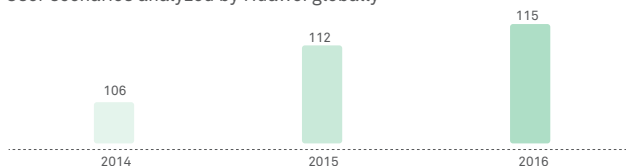
Huawei has a specialist ergonomic design team, which promotes safe product design based on real user scenarios. Ergonomic design is built into every phase of product planning, design, development, and testing, so that our products are adapted to users' engineering habits and technical needs – while reducing health and safety risks at the installation and usage stages.

As of the end of 2016, we had collected 115 user scenarios in 26 countries and regions, involving major telecom carriers across Europe, North America, Latin America, Africa, and Asia.

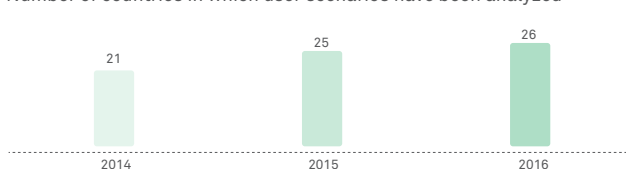
115

user scenarios in 26 countries and regions

User scenarios analyzed by Huawei globally



Number of countries in which user scenarios have been analyzed



Applying Ergonomics in Product Design

Huawei FusionModule2000 is a next-generation modular data center solution. Its ergonomic design enables fast, on-demand deployment and easy O&M. Installation takes only one week, which is 50% faster than competitor products.



Huawei's smart modular data center

Noise Reduction

We have adopted multiple methodologies to greatly reduce the noise of multiple products. For example, we introduced industry-leading noise simulation technology into our company. A "whitebox" approach was used to study the factors that determine product noise. We also redesigned product shapes and sizes to minimize noise.

One example is our core router, which cancels noise by 10 dB (compared with 6.5 dB of the previous model) and reduces noise energy by 90%. In order to make this happen, we used noise simulation technology to redesign the router's ventilation pipes and noise cancelling module, without having a significant impact on the product's cost or size. The next generation of the core router is expected to achieve 12 dB noise reduction, thus reducing noise energy by over 93%.

90%

of noise energy reduced

We track the latest developments in noise reduction technology, and have close links with universities and research institutes working on noise control. The Huawei Environmental Acoustics Lab has long been ISO/IEC 17025 certified by both the American Association for Laboratory Accreditation (A2LA) and the China National Accreditation Service for Conformity Assessment (CNAS), and is recognized by major testing and certification organizations such as UL, MET Laboratories, and National Technical Systems (NTS). The lab supports our efforts to measure, locate, and control environmental noise with some of the world's most advanced noise testing equipment.



04



Sustainable World

Bridging the Digital Divide

Supporting Network Stability

Contributing to a Greener World

Supporting Local Communities

4.1 Bridging the Digital Divide

Context

Connectivity possesses extraordinary power to transform lives, promote economic growth, and drive social development by empowering people and communities. It does so by reducing the cost of information, which in turn lowers the cost of economic and social transactions. This promotes innovation, efficiency, and inclusion, as people get access to more and more services and opportunities.

Whilst universal access can improve equality, uneven access – the digital divide – leads to inequality. Countries and communities that are ill-equipped to adjust to the new digital economy risk being left further behind.

Approach

Huawei has been actively involved in bridging the digital divide by providing basic connections, broadband connections, applications that drive demand and transform lives, and ICT education and skills. Since 1987, Huawei has worked relentlessly with our customers to ensure all people have access to connectivity and digital services around the world. By building more than 1,500 networks in over 170 countries and regions, we have brought affordable connections, smartphones, and applications to more than one-third of the world's population – many of them for the first time.

According to the International Telecommunication Union (ITU) estimates, 3.5 billion people were expected to be online by the end of 2016, but that leaves more than half of the world's population still offline. 2 billion people do not have a mobile phone and half a billion people are outside areas with mobile phone signal coverage. Many of them are disproportionately located in developing countries. In the 48 countries designated as "Least Developed" by the UN, only one in seven people were expected to be online at the end of 2016.

Pushing basic connectivity and digital infrastructure, especially to remote areas, continues to be very challenging. Although mobile phones have become more common, only about 12% of people in emerging economies have a broadband data connection. Improving ICT skills and digital literacy is also a major barrier to overcome. Unconnected people could often benefit the most from better access to healthcare, government services, improved education, and other services that digital innovations provide.

Connecting the unconnected is a problem with no single solution. It requires governments, carriers, equipment vendors, and application developers to work together. Huawei is proud of its collaboration – often in some of the world's most challenging and remote places – to bring the benefits of the digital world to as many people as possible and make sure no one is left behind.

Communications for All

According to the ITU, more than 87% of the world's population is now within the range of a mobile signal (55% for 3G networks). Among the world's poorest 20% of households, nearly 7 out of 10 have a mobile phone – more households in developing countries own a mobile phone than have access to electricity or clean water. However, there are still up to half a billion people unconnected to any form of telecommunications services and they are disproportionately located in developing countries. Huawei understands this challenge. Our technologies can enable the widest possible coverage through higher power and more targeted transmission. We also integrate multiple technologies such as cellular, Wi-Fi, and microwave to make

their deployment both faster and cheaper. Affordability is critical if we are to overcome the digital divide.

To minimize network costs, Huawei provides end-to-end services and works closely with its customers to reduce their expenses, and consequently the costs for the end consumer. We continuously innovate network technologies to adapt to the needs of emerging economies and demanding geographies. One example is our renewable energy power supply solution, which is suitable for base stations in remote and sparsely populated areas. This solution also removes the need for highly polluting diesel generators.

In 2016, Huawei continued to deploy these technologies in remote regions that were connected for the first time. Every day thousands of Huawei staff work in tough conditions like these throughout the world to extend network coverage, with the aim of bringing everyone within range of a mobile signal.

Connecting Myanmar for the First Time

Myanmar's challenging geographical landscape contains dense forests and hard-to-reach communities. Because of difficult weather conditions (e.g., a seven-month rainy season) and other challenges such as flooded roads and patchy energy supplies, Myanmar is perhaps one of the last great telecom "green fields" in Asia. These factors present enormous challenges for network deployment and pose exacting requirements on network quality and efficiency.

To meet our customer's needs, Huawei's design included fixed and mobile network technologies, energy generation facilities, 7,000-plus base stations, and advanced cable engineering and network protection technology used for over 2,000 km coverage. We utilized 20 different base station tower designs, seven different wireless solutions, 18 different types of power generation units, and 26

different microwave solutions. Huawei completed the network project after 26 months of extraordinary work. For the first time, 13 million people (one fifth of the country's population) now have access to an advanced telecommunications system.

13 million

people have access to an advanced telecommunications system

Our commitment doesn't stop there. Huawei continues to invest resources in Myanmar to improve digital inclusion. For example, Huawei inaugurated its first Huawei Authorized Information Network Academy (HAINA) in Myanmar with Thanlyin University of Science and Technology in Yangon, which is our 147th academy worldwide. The objective of HAINA is to help grow urgently needed technical knowledge and expertise in Myanmar, and ultimately to ensure the benefits of connectivity are shared by local people.



Base station under construction



Myanmar children enjoying access to the Internet for the first time

Enabling Visually Impaired Users to Conveniently Use Smartphones

Data shows that there are approximately 13 million visually impaired people in China. Using a mobile phone to communicate and obtain information is a major hurdle that they face in everyday life. Huawei initiated its Information

Accessibility Project based on insights into the intense desire of the visually impaired to use a mobile phone normally.

Since the Emotion User Interface 5.1 (EMUI5.1) system, Huawei has partnered with the influential industry organization Information Accessibility Research Association. Throughout the development of the Information Accessibility Project, Huawei leveraged its expertise in technology to enable accessibility functionality to better meet the needs of target users.

Huawei's text-to-speech (TTS) functionality comes by default in new devices, enabling visually impaired users to configure a new phone independently after turning it on. When a new Huawei smartphone is powered on for the first time, the TTS functionality can be enabled simply by placing two fingers anywhere on the screen. With the assistance of Chinese language TTS, the entire process of phone setup becomes easy. The user can hear phone numbers by tapping the dial pad, thus avoiding unintended commands being made by double-taps during calls. This feature makes phone calls much easier. Huawei also added differentiation between the Chinese words for "he" and "she", which sound the same in spoken Chinese, helping users to more accurately express and obtain information.

The Huawei EMUI 5.1 system provides more than 50 standard accessibility options, which have made more user-friendly for the visually impaired. Its accessibility enables users to live, travel, shop, and seek out entertainment independently. By making the phones "accessible right out of the box", Huawei is bridging the digital divide for visually impaired people.



A visual impaired person is using a mobile phone to communicate and obtain information

Broadband for All

The number of Internet users has more than tripled in a decade – from one billion in 2005 to an estimated 3.5 billion at the end of 2016. However, that still leaves around four billion people offline. Access to affordable and effective broadband is a vital enabler of economic growth and sustainable development. Many of these people live in the developing world. The largest

challenges are in Africa – where about one in five people are connected.

The ITU estimates that 148 nations have national broadband plans in place to promote broadband quality and penetration, which shows just how critical this infrastructure has become. It is no surprise therefore that the global market for broadband shows strong growth. However, its growth is unevenly distributed. Broadband access for all in developing countries has not been fully achieved. In addition, the global online gender gap is thought to be widening slightly. Greater effort is needed to connect remaining offline communities, who are now found in more rural areas, and are disproportionately poorer, less educated, and mostly female.

Huawei provides a full range of solutions including international submarine networks, backhaul networks, backbone networks, fixed networks, and mobile networks, as well as the software that enables them all. Our solutions enable carriers to cut costs, continuously invest in new high-speed networks, and deliver superior services to more users. Mobile phones provide the main form of Internet access in developing countries. Affordable high-quality devices are also critical infrastructure and we provide a wide range of products at different costs for all types of users. In 2016, we shipped over 139 million phones. We also work to extend battery life, which is essential in many places without convenient access to electricity.

Connecting the Unconnected with WTTx Innovation

Huawei's WTTx (Wireless To The X) is a wireless broadband network solution using 4G/4.5G technologies that is able to deliver cost-effective fiber-like broadband access to households and businesses. This is a particularly important technology in emerging economies because traditional fixed-line broadband is often too expensive to address the issue of the last mile access encountered in both densely populated urban areas and sparsely populated rural areas. By avoiding many of the costs associated with fixed broadband (e.g., license applications, civil engineering, and maintenance), telecom carriers can save time and money by providing wireless connections for the "last mile" and bring access to their customer's door. With WTTx, deployment can be 75% cheaper and completed in 90% less time compared to fixed-line technology.

75%

With WTTx, deployment can be 75% cheaper and completed in 90% less time compared to fixed-line technology.

This offers a real chance to connect previously inaccessible communities and is a key part of Huawei's contribution

to the ITU's target to connect 50% of households (430 million households) in the developing world to the Internet by 2020. WTTx is already used in over 30 countries serving more than 30 million households (the equivalent of 56 million people) in Asia Pacific and Africa. We have also used this solution to connect rural communities in Europe and North America.

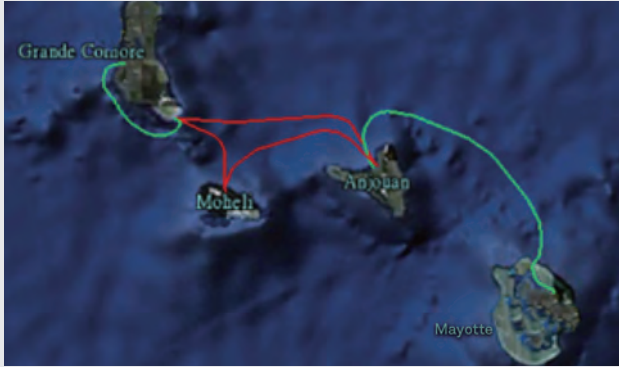
In 2016, Huawei bought WTTx to the Philippines where its 7,000 islands make fixed broadband very costly. Not surprisingly, until now broadband penetration has been low. Globe Telecom, which is the second largest carrier in the Philippines, selected Huawei's WTTx solution and was able to reduce its deployment costs by 80% and deployment time by 90% compared to fixed broadband. In densely populated urban areas, WTTx can connect hundreds of households per site. Nigerian carrier Swift, for instance, has deployed WTTx in Lagos and Abuja and is serving 200 households per site. In 2016, Huawei and Sri Lankan mobile carrier Dialog started 4.5G trials to help accelerate the commercial adoption of the latest generation of WTTx.

WTTx is transformational. In the Philippines, Globe Telecom has experienced a 39% year-on-year increase in household broadband subscribers. In Sri Lanka, WTTx has contributed to a 200% year-on-year increase in household broadband, with one million households projected to enjoy broadband by the end of 2017, accounting for one-fifth of total households. We are convinced that by working with our customers to improve affordability, Huawei's WTTx can make a significant contribution to ensuring broadband for all.

Connecting Africa and the World

Connecting people in Africa remains a top priority. Huawei Marine Networks, in partnership with 20 carriers, has helped construct eight marine cable systems and upgrade two existing systems in Africa to provide better international data access for 15 countries. To date, Huawei Marine Networks has deployed 6,000 km of marine cable between Cameroon and Brazil that has improved international connectivity for a huge number of people.

In 2016, Huawei Marine Networks announced the successful delivery of the Avassa submarine cable system. The new system improves connectivity for approximately one million people on the Comoros islands, located on the east coast of Africa. The new 260 km submarine cable will improve on the existing microwave technology that has carried the majority of inter-island capacity, but due to its low speed and limited capacity was no longer sufficient to support the island's growing economy. This new high-speed, large-capacity submarine system will help support local economic development and provide local businesses and residents with an improved user experience.



Applications for All

ICT is a powerful tool that allows people, governments, and businesses to share, engage, create value, and innovate. As such, it drives demand for connectivity infrastructure, digital services, and data. ICT applications are able to unlock new opportunities in areas such as smart metering, smart parking, logistics tracking, and smart cities in ways that drive efficiency gains in how services are provided and consumed.

Huawei offers a wide range of ICT solutions that help to transform customers in various sectors such as healthcare, railway, manufacturing, public safety, energy/smart grid, finance, government, and education. These solutions lead to significant improvements to human health and well-being, water, agriculture, natural resource management, and climate change mitigation. They will also play an important role in helping to increase resource utilization and decrease natural resource consumption, which is essential for sustainable development.

 Healthcare It takes strong medicine to stay healthy and Huawei's innovative IT solutions help make it happen	 Railway Make the connection with on-time performance and better user services... any time, any destination
 Smart Grid Smart electricity service management and reliable distribution from generating plant to customers	 Finance From banking to insurance and beyond – intelligent, modern solutions for the financial industry
 Manufacturing Connecting labor, application systems, and smart machines to forge factories of the future	 Public Safety Leading New ICT, Making Cities Safer
 Government Better services, quick and useful decision-making, forward-looking planning – government done right	 Education Communicate, educate, succeed. spread knowledge online to make students smarter and teachers better.

Connecting Partners and People to Improve Healthcare in Kenya

To improve access to healthcare services in rural Kenya, Huawei worked with the Government of Kenya, Safaricom, MicroClinic Technologies, and the United Nations Population Fund (UNFPA) to connect over 40 medical facilities to a telemedicine and digital clinic solution.

This collaboration benefited over 200,000 residents in remote areas like Lamu Island. As a result, people no longer need to travel to distant facilities for diagnosis or treatment. Instead they can continue using their local clinic and communicate with medical specialists remotely. In addition, Huawei's digital solution allows the government to build up health data, predict and manage the demand and supply of medicine, and assess the productivity of staff or workload in facilities to decide on staffing, training or investment in facilities.

This collaborated benefited

200,000

 residents

On November 16, 2016, our eHealth project was recognized at the 2016 Smart City World Congress with the Innovative Global South Award.



Training for local healthcare staff



Innovative Global South Award

Improving Financial Inclusion Together with the Bill & Melinda Gates Foundation

Today, two billion adults are excluded from the formal economy because they lack access to formal financial services. The main reason for this is that they rely almost entirely on cash and are ill-equipped to weather financial shocks, such as illness, crop failures, livestock deaths, and farming-equipment breakdowns. Digital financial services that allow for personal savings accounts, insurance, credit, or cash transfers are critical for helping people to permanently pull themselves out of poverty.

To help address this problem, Huawei became one of the first major partners to join the Bill & Melinda Gates Foundation's Level One Project – an initiative focused on developing and deploying digital financial services that serve customers at all levels of the financial pyramid. Scalable, low-cost, interoperable, and fraud-resistant payment solutions are being developed based on open Application Programming Interfaces (APIs). These solutions will help people improve their lives by connecting them with digital tools that enable easier purchases, transfers, saving, borrowing, and insurance. As part of the Level One Project, Huawei will collaborate with industry associations, government agencies, technology firms, banks, and others to establish the global baseline for interoperability, which will help promote economic security for all.



Signing between Huawei and the Bill & Melinda Gates Foundation

Knowledge for All

Connectivity itself cannot bridge the digital divide – there is a critical need to create an enabling and inclusive environment. Without ICT awareness, skills, and education, participation in digital transformations will fall short and its benefits will not be fully realized.

ICT infrastructure and content need to be conceived and developed in a way that is focused on people and sustainable development. This includes women and men of all ages, cultures, places, and economic backgrounds. This is why Huawei continues to focus on improving ICT education. With the right ICT skills, people will be able to invent, create, as well as share conversations and knowledge with others, which we hope will also help create better environments to live in.

Huawei's ICT Academy Continues to Grow Around the World

Huawei believes that ICT skills create opportunities for young people and vocational education is essential for sustainable industrial growth. In support of our vision, in 2013 we launched a global ICT skills training program known as the Huawei Authorized Information and Network Academy (HAINA, or Huawei ICT Academy). This is Huawei's not-for-profit education program that supports a wide range of universities and further education colleges to deliver Huawei Certificated courses to their students.



Since the program's inception, over 20,000 students from 32 countries have participated with over 8,000 gaining formal certification. In 2016, 3,500 students were awarded certificates and have continued their training to further their careers. Huawei continues to invest in the HAINA program and in 2016 we were honored to include Edinburgh Napier University (UK), Northumberland College (UK), Open University (UK), University of Surrey (UK), University of São Paulo (Brazil), University of Johannesburg (South Africa), and Shanghai Jiao Tong University (China) as new participating institutions. We now offer six different courses covering routing and switches, security, WLAN, cloud, storage, and big data.

Starting in 2016, Huawei also launched a new annual ICT skills competition. Over 12,000 students from participating HAINA institutions in seven countries as well as students from several guest universities in China participated in the competition. Based on their results, winners will receive Huawei mobile devices.



30 HAINA students from the University of Reading visiting Huawei's UK office



Students at the National University of Computer and Emerging Sciences (Pakistan) competing in Huawei's new global ICT skills competition

Huawei Upgraded Addis Ababa University's Campus Network

Addis Ababa University (AAU) is Ethiopia's largest university, having nearly 50,000 students, 5 museums, and 13 campuses as well as numerous branches nationwide. However, the capacity of its existing network was increasingly insufficient and the system was becoming too complex and costly to maintain.

Huawei worked with the university to upgrade its campus to provide greater bandwidth for more real-time educational applications, such as desktop cloud, VoIP, and on-demand high-definition video. Before the upgrade, user experience had been poor. Huawei's restructuring resulted in a ten-fold improvement in bandwidth. The previously complex network structure, which required high levels of expertise to maintain, was replaced with a new integrated system that can be centrally managed. The new infrastructure has enabled excellent operations at AAU and is based on similar systems that Huawei has also installed in other world-class institutions, such as Peking University (China), Tsinghua University (China), and Newcastle University (UK).

Huawei Connects Upwards of 1,000 Schools in China

Education authorities from the city of Yuxi, in China's Yunnan province, worked with Huawei to create a digital campus that would bridge the gap between its urban and rural schools and improve access to information and knowledge. Huawei provided broadband access and enabled cloud-based resource sharing between schools, giving students access to online and mobile education resources, as well as an "e-school bag" (a digital workspace). Network capacity was tailored to each school's individual needs to ensure proper cost control and was designed for security, stability, and easy maintenance.

Yuxi became the first city in Yunnan to deploy an ICT-based education system. Huawei's Agile Education Campus Network Solution helped connect nearly 1,000 schools in the area to create more flexible and equitable access to education for the city's children.

4.2 Supporting Network Stability

Context

Connectivity is fundamental to modern life. When networks are down, there are real economic and social consequences. In recent years, there have been numerous major natural disasters: The tsunami in Indonesia, earthquakes in Wenchuan, China, the Fukushima nuclear leak in Japan, and the earthquake in Chile, just to name a few. Every second without connectivity could be a matter of life or death. During major events such as sports and traditional holidays, growing demand for data and voice services results in a huge impact on networks. Network reliability and stability will have a direct influence on user experience and loyalty.

Approach

Huawei has a well-established business continuity management (BCM) system that provides a contingency plan for ten typical scenarios (such as for earthquakes or outbreaks of war) and allows us to quickly restore customer networks and resume stable operations following critical emergencies, thus helping safeguard life and property. Even under extreme conditions, our employees will do their utmost to support network stability. This is the responsibility shouldered by each and every Huawei employee. This obligation outweighs any commercial interests.

Huawei invests heavily in network stability, striving to ensure that everyone is able to communicate, access data, and share information whenever and wherever needed. 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. We have also established a mature BCM system that provides a contingency plan for emergencies (such as for earthquakes or outbreaks of war). This system allows us to quickly restore customer networks and resume stable operations following critical emergencies, thus helping safeguard life and property.

We have established three global and nine regional technical assistance centers. More than 3,900 Huawei technical support engineers provide services worldwide on a 24/7 basis. In 2016, we ensured smooth communication for nearly 3 billion people worldwide, and supported the stable operations of over 1,500 networks in more than 170 countries and regions. We guaranteed network availability during nearly 200 major events, natural disasters, and special occasions (such as the magnitude 7.8 earthquake in Ecuador, the G20 Summit, and the Hajj in Saudi Arabia).

We supported stable operations of over

1,500

networks in more than 170 countries and regions.

We guaranteed network availability during nearly

200

major events, natural disasters, and special occasions.

Restoring Communication Networks Following the 2016 Earthquake in Ecuador

On April 16, 2016, a powerful 7.8 magnitude earthquake occurred just outside the small town of Muisne in Ecuador, with tremors spread across the five provinces of Manabi, Guayas, Esmeraldas, Santo, and Domingo. This was the most devastating earthquake in the country in nearly 70 years. Duty called. Within 30 minutes after the earthquake, Huawei Ecuador initiated its Business Continuity Management (BCM) procedures for emergencies and formed an emergency assurance team. We quickly analyzed and identified network problems, and discussed solutions with the customer to deal with damaged network equipment.

Huawei Ecuador's emergency repair personnel were then assigned to multiple smaller sub-teams to work with customer personnel. Braving the danger of continuing aftershocks, power outages, and supply shortages, the teams delved deep into the disaster zones of Portoviejo, Jama, and Pedernales to make emergency repairs. After five hard days of work, the fiber optics team repaired 51 fiber optic lines, re-adjusted network connections, established new mirror sites and two redundancy links for four disaster-stricken provinces, and added two additional sites in Portoviejo. These efforts ensured normal communication in the disaster area.

More than 800 aftershocks were felt in the disaster area during the following week. Water and power lines were cut, and materials were in short supply. Because the power grid had been severely damaged in the earthquake zone, some base stations were facing power shortages. In addition, voice traffic following the earthquake was multiple times its normal levels. Huawei Ecuador quickly procured and dispatched diesel generators and lighting systems, and worked to disperse the network congestion being faced by local carriers. Nearly 300 Huawei staff members were directly involved in the network recovery work. Focused on a single aim, the team worked urgently

to repair communication equipment and maintain the normal operation of the telecom network.

Furthermore, Huawei Ecuador donated 11 tons of spring water to the region of Portoviejo, providing a source of drinking water to residents in this area. Huawei Ecuador



The network support team was discussing the network recovery plan

also proactively coordinated vehicles for three Chinese rescue teams, and provided emergency supplies to ensure the teams were able to gain quick and efficient access to areas most in need.



Donating spring water to the earthquake zone

Supporting Network Stability at the Hangzhou G20 Summit

The 11th G20 Summit was held from September 4 to 5, 2016 in Hangzhou, China. Huawei assigned high priority to supporting network availability for the event, and therefore set up a G20 Communication Support Project Team comprised of personnel from field operations, R&D, and related departments. To enable network stability during the summit, the Project Team kept in close contact with the customer, clarified objectives, and developed a comprehensive plan.

Beginning in March 2016, Huawei experts and engineers invested over 8,600 person-days in enormous amounts of work. This included network-wide inspections, addressing any issues that were uncovered, and updating network emergency response plans. In total, Huawei deployed, expanded, and upgraded over 5,000 base stations to prevent potential network risks so as to lay a solid foundation for a successful summit.

Beginning in early August 2016, Huawei assigned 431 staff members to work onsite and 280 staff members to support the project remotely. The onsite and remote teams worked together seamlessly, and provided 24/7 uninterrupted

support for network operations. Huawei also established a special G20 line to ensure rapid response to any issues that might occur during the summit. From August 20 to September 7, 2016, Huawei's work involved China's three major carriers, 24 key regions, 6 key transportation routes, 11,000 private transmission lines, 13,000 international roaming users, 868,000 IPTV live broadcast users, as well as VoLTE, FDD/TDD, and OTT services. The network operated stably throughout this time period, and the quality of all the services remained high. Huawei successfully completed the project, with zero network incidents, disruptions, and complaints.

Huawei's robust support provided strong backing to a variety of telecom services. We won strong customer recognition through our professional processes and team organization, visualized real-time monitoring, and rapid emergency response measures. Our work during the G20 Summit demonstrated Huawei's ability to provide high-quality support to major events. We lived up to our commitment to ensure stable network operation, and fulfilled our social responsibility.



The Huawei Support Teams for the G20 Summit in Hangzhou



4.3 Contributing to a Greener World

Context

In its 2013 Energy Efficiency Market Report, the International Energy Agency (IEA) forecasts that by 2020, the ICT industry will account for more than 14% of global energy consumption. The ICT industry is the fifth largest in energy consumption: It accounts for 2%–4% of global energy consumption and carbon emissions, with an increase of 4%–5% per year. Research shows that if no action is taken, by 2020 the ICT industry's CO₂ emissions will be double the amount of 2007.

Approach

Huawei is dedicated to reducing energy consumption and carbon emissions in the ICT industry and to enabling other industries to do the same. We are committed to a low-carbon world: We provide smart and clean energy solutions, enable smart cities and green industries, and help our customers conserve energy and cut emissions. Through these efforts, we aim to make the world greener.

Smart Network Energy Solutions

Huawei's research has found that 40% of the power used by communications networks is wasted, 57% of network outages are caused by infrastructure issues, and base station maintenance requires huge labor inputs. During a ten-year period, 50% to 60% of the cost of a data center is the cost of powering it. Solar power stations never achieve an efficiency of more than 80%. When a 100MW power station goes down, the losses are counted in the millions of US dollars.

Huawei believes in simple, efficient, and reliable power sources for a green, better connected world. To achieve this vision, we use bits to control watts, and we cut the number of watts needed to power our bits. Digital technology, networks, and smart technology can revolutionize our infrastructure. By focusing on three key areas – network energy, data center energy, and solar energy – Huawei is steering ICT infrastructure onto a greener path.

Huawei has deployed over two million network energy solutions across more than 170 countries. We have constructed over 800 data centers. According to IHS and GTM Research, Huawei's PV inverter is the most popular in the world, ranking No. 1 in shipment in the market. We have broad, ongoing relationships with the world's top 50 network energy customers.

Smart, Efficient, Green Base Stations

As networks evolve to 4G and 5G architecture, they face significant power challenges. Huawei solutions provide energy savings at the equipment, base station, and network levels. They can help carriers increase power efficiency and cut costs. Starting with base station design and smart temperature controls, our smart base station solutions can achieve energy efficiencies of up to 95%. Comprehensive efficiency techniques raise overall network efficiency by 20%.

Smart base station management means that 90% of the labor can be automated or handled remotely. Added value functions such as remote management, automated O&M, and smart big data analytics mean that dumb equipment can be made digital, and base station power consumption optimized. Onsite inspections and fault handling can be reduced by 60%, which

means our carrier customers can boost their O&M efficiency by 150%.

ICT Energy Efficiency Forum: Making Networks Greener

The ITU and Huawei jointly hosted the ICT Energy Efficiency Forum in Madrid in May 2016. The theme of the event was "Building a Better Connected World, Making Networks Greener." Executives from leading global carriers, industry experts, and consultants shared their insights on topics including energy efficiency standards for green networks, strategies and practices for improving energy efficiency, and innovative ideas and technological solutions to reduce energy consumption and CO₂ emissions.



The ICT Energy Efficiency Forum

Hybrid Power Solutions Cut Carbon Emissions

In the Middle East and Africa, power is the biggest cost for mobile carriers. Energy can burn up 70% of the O&M budget for a network. Where mains supplies are unreliable or unavailable, Huawei's green hybrid power solutions not only require much less fuel than traditional diesel generators, they also cut maintenance costs and emit much less CO₂. To date, Huawei has delivered over 50,000 hybrid base station power solutions to more than 130 customers in 93 countries and regions.

50,000+

hybrid base station power solutions delivered

Huawei Wins Green Initiative Award 2016

At the Middle East & Africa (MEA) Tower Summit Meeting in October 2016, TowerXchange presented the Green Initiative Award to Huawei and IHS. The award recognized the contributions which Huawei has made to energy efficiency, carbon emissions reduction, O&M cost savings, and long-term sustainability in the ICT industry.



Huawei receives the Green Initiative Award from TowerXchange

Leading the Industry in Smart Energy Efficiency

Huawei's Smart Data Center solutions are based on independently functional modules for quick rollout and flexibility. To meet the high uptime needs of large cloud data centers and enterprise applications, Huawei has developed a new uninterruptible power source (UPS) module that can adapt to the challenges of power supplies anywhere in the world. The solution also uses iCooling and other technologies to achieve optimum power usage effectiveness (PUE). The infrastructure is also digitized with IT technology so that O&M can be proactive rather than reactive. This enables high reliability at the same time as best-of-breed O&M efficiency.

Huawei Receives the "Global Modular UPS Company of the Year Award" from Frost & Sullivan

In November 2016, Frost & Sullivan officially presented the "Global Modular UPS Company of the Year Award" to Huawei at an award ceremony in Paris in recognition of Huawei's product innovations, industry leadership, and outstanding contributions to the sustainable development of the modular UPS industry.



Frost & Sullivan award ceremony in Paris

Supporting Smart Cities

Smart cities combine ICT with IoT to enable the city to manage its assets more safely and efficiently. Urban assets include cities' information networks, schools, libraries, transport systems, hospitals, power stations, water pipe networks, waste disposal systems, law enforcement, and other community services. With CCTV networks and sensors, infrastructure data and public information can be collected for big data analytics, to ultimately improve the quality, effectiveness, and interactivity

of urban services. At the same time, cost and waste can be reduced.

Huawei is a supporter of smart city development. We provide ICT infrastructure that can be integrated into comprehensive smart city solutions by our many partners, as part of a healthy smart city ecosystem. Together we can deliver exciting new solutions to make our cities smarter.

Smart Lighting IoT Solution Powers Smart Cities

The Climate Group estimates that there are approximately 304 million street lamps around the globe, and that this figure will reach 352 million in 2025. The prevalence of street lamps brings significant convenience to peoples' lives. However, traditional high pressure sodium lamps consume huge amounts of electricity, are costly to manage, and are thus a persistent headache for city administrations.

Huawei's Lighting IoT Solution connects all street lamps across a city into a unified IoT network, and gives city

administrations a clear picture of all street lamps in every local district. The solution's flexible lighting policy can accurately turn on or off lamps and adjust their brightness. This on-demand approach can reduce electricity usage by as much as 80%. A lighting network linking hundreds of millions of lighting facilities is the first step towards building a better connected public facility IoT. When smart devices for lighting, road traffic management, environment monitoring, and public facility management are linked together, a better connected public facility IoT will take shape to power a smart city.



Smart Lighting IoT Solution Powers Smart Cities

Building the Smart Solar Ecosystem

The Huawei FusionSolar solution merges digital, Internet, and photovoltaic technologies into the industry's leading smart PV solution. By making simpler, all-digital solar stations that support automated O&M globally, Huawei has made solar power stations more efficient, smarter, safer, and more reliable. We are helping our customers maximize value over the lifetime of their installations, and our solution is already in use all over the globe.



Shifting the economy of Datong from coal to solar

Smart Solar Conference on Location

On July 5, 2016, Huawei and the China Renewable Energy Society (CRES) organized the Smart Photovoltaic Technology Forum at Datong, in northern China. 500 of China's leading experts on solar power attended including CRES members, engineers, investors, and business leaders. The discussion covered past experience with solar power station projects, the future developments of the industry, and how the latest technologies will help the industry as it faces a tail-off in supportive subsidies. The success of the forum has helped spur technological advances in China's photovoltaic industry, and make the industry both broader and deeper.



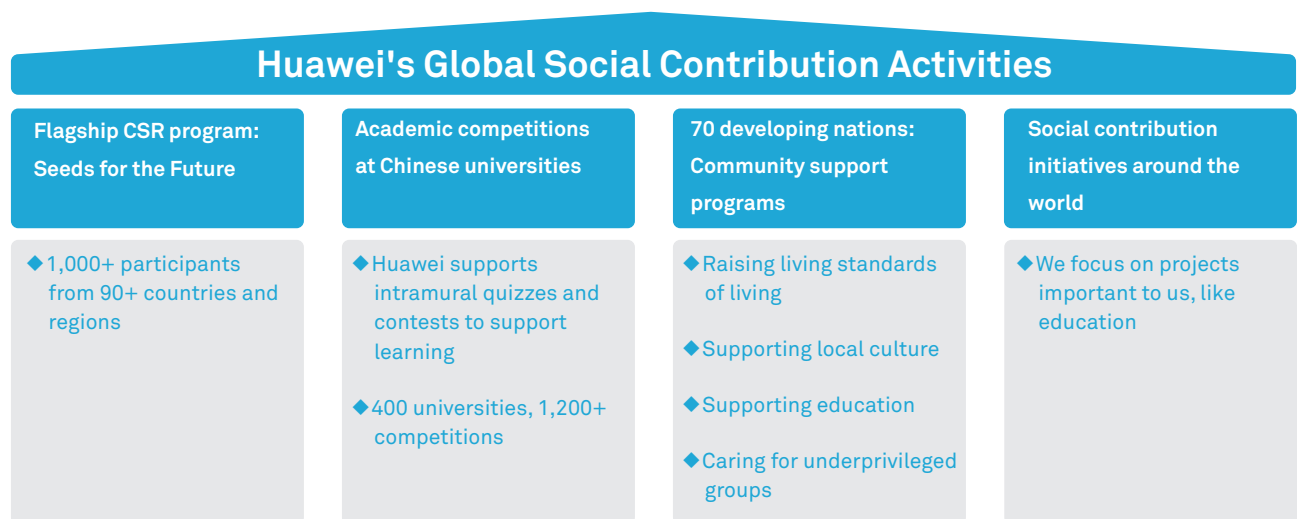
Smart Photovoltaic Technology Forum, organized by China Renewable Energy Society and Huawei

Huawei's philosophy of openness, collaboration, and shared success has led it to work with many partners, both upstream and downstream, to build an open and supportive smart photovoltaics industry. As the price of solar power becomes more competitive, renewable energy will be able to develop in a healthier, more sustainable way. Through collaborative effort, the industry can build a supplier ecosystem for the energy Internet.

4.4 Supporting Local Communities

Context	Approach
<p>Every company, large or small, can contribute to the local community over the long term by providing employment, reducing poverty, and fostering an entrepreneurial environment.</p> <p>Companies enrich local culture, support local healthcare, generate income, and build infrastructure. Today, as communications technology evolves at a lightning pace, the ability to access and use information as well as ICT literacy and skills are the keys to narrowing the gaps between different countries and regions. All companies, particularly ICT companies, should embrace the opportunities they have to deliver training and education to local communities, and to support the spread of new technologies and talent development. They should expand access to information and other factors that drive economic and social progress, as part of their responsibility to the community.</p>	<p>Huawei is committed to supporting local communities in addition to pursuing our own business growth. Leveraging our ICT expertise and experience, we initiate social contribution projects with governments, customers, and non-profit organizations. These efforts include supporting ICT innovation and start-ups; facilitating local communities' green initiatives, and cultural, sports, and traditional events; enabling ICT talent education; offering support to local charity organizations; and supporting underprivileged groups.</p> <p>In 2016, our Seeds for the Future program was active in 96 countries and regions. Huawei organized community support programs in over 70 developing countries and regions. In China, we began sponsoring academic competitions. In total, we organized several hundred social contribution programs in more than 100 countries and regions worldwide.</p>

Focus areas of global social contribution activities



Giving Back to Local Communities for Shared Growth

A company receives the support and respect of the local community when it considers the impact of its operations on the community. Companies should take real action to solve local problems by supporting local traditions, caring for underprivileged groups, and developing local education. As a responsible corporate citizen, Huawei undertakes a range of social contribution projects, and works hand-in-hand with community organizations to deliver health services, support in times of natural disaster, and many other community benefits.

Together with our partners, we are committed to delivering universal ICT technology and ICT literacy. We help to train future ICT professionals, offer more opportunities for education, and bring more people into the connected world. By establishing training centers and educational partnerships around the world, we encourage the development of local ICT professionals, enable knowledge transfer, and increase people's engagement in the digital society. We are committed to helping build ICT industries in countries where we work, to spur sustainable development for the economy, the environment, and society.

Seeds for the Future

Since 2008, our flagship CSR program, Seeds for the Future, has taken root, blossomed, and yielded fruit in 96 countries and regions. In 2016 alone, more than 1,000 top university students from over 90 countries and regions took part in a study trip to China as part of the program. They studied Mandarin, immersed themselves in China's unique culture, learned about Huawei's corporate culture, and discussed the company's path to growth. They also studied ICT technology under the guidance of senior Huawei experts, and applied what they learned in our world-class ICT labs.

As an ICT industry leader, Huawei leverages its technical expertise to nurture ICT professionals around the world, thus helping up-and-coming talent to contribute to ICT development in their own countries. We do not require program participants to join Huawei, and we do not impose any other conditions for participation. The program is simply an opportunity to share knowledge and bridge the digital divide.

"This internship was great experience for my career. It was amazing."

"The program gave us a precious opportunity to explore different cultures and the most advanced communications technology."

"I will recommend this program to others. Thank you, Huawei, for offering me this once-in-a-lifetime opportunity!"

---Comments from program participants



UK Minister of State for Energy and Intellectual Property Baroness Neville-Rolfe (third row, sixth from the right) attended the closing ceremony of the Seeds for the Future Program and handed out certificates to UK and Irish university students.

Seeds for the Future in Uganda

On April 12, 2016, President Museveni of Uganda hosted a ceremony at the State House to congratulate the Ugandan Seeds for the Future participants on their upcoming trip to China. He thanked Huawei for its efforts to train Uganda's ICT professionals, signed special T-shirts, and urged Huawei to continue with the annual Seeds for the Future program.



President Museveni waves the flag to see off the Ugandan Seeds for the Future

Seeds for the Future in Saudi Arabia

On August 25, 2016, Dr. Abdulaziz Al-Ruwais, Governor of Saudi Arabia's Communications and Information Technology Commission (CITC), visited Shenzhen to attend the graduation ceremony of Saudi Arabia's second group of Seeds for the Future students. On August 13, he and the Chinese ambassador to Saudi Arabia had seen the same group of students off at an event held in the CITC offices in Riyadh.

Dr. Abdulaziz Al-Ruwais thanked Huawei for the important contribution that the Seeds for the Future program makes in Saudi Arabia. He praised the company for its social responsibility, and said that he sees Huawei as a strategic partner for CITC in the Saudi ICT sector. This year, CITC searched more than 20 universities across the country, and selected one outstanding ICT student from each to participate in the program. The universities also expressed their appreciation and active support for the program.



Saudi Arabian participants with Dr. Abdulaziz Al-Ruwais, Governor of CITC (standing center left), and Mr. Li Huaxin, Chinese ambassador to Saudi Arabia (standing center right)

Community Support Programs Worldwide

Huawei aims to support the ICT sectors of all the countries where we operate, but we are also aware of important cultural differences, which we address through ongoing engagement with local communities and residents. We do everything in our power to support and give back to local communities, bringing direct benefits to local people. This enables us to better serve and integrate into local society.

In 2016, we ran more than 200 community support programs in 70 developing countries and regions. The projects addressed the needs of local people in various ways: improving living standards; supporting cultural, sports, and traditional events; offering assistance to underprivileged groups; and enabling education. These initiatives reinforced cultural exchange and social integration, and gave a strong boost to local community development.



Huawei Nigeria donates rice and beef to local communities at Eid



Huawei Uganda donates cooking oil, noodles, sugar, and other essentials

Community Support Programs in Tanzania

In Tanzania, the rainy season begins in early April. In 2016, constant rain for half a month led to serious flooding in some villages on Zanzibar Island. Food and water became a problem for villagers as a result of the flooding. The government of Zanzibar issued a public statement proclaiming its resolve to rescue the affected residents. Upon getting word of the difficulties being faced, Huawei's Zanzibar Office quickly initiated preparations for rescue work. With the President Office of Zanzibar, we arranged for delivery of rice and water to residents affected by the disaster.

The Minister of the President Office of Zanzibar thanked Huawei for the prompt aid, and gave strong recognition and praise to Huawei for having lived up to its image as a responsible corporate citizen. He said: "We thank Huawei for the enormous assistance given to the Zanzibar government and people when it mattered most. Huawei is a responsible corporate citizen. The relationship between China and Tanzania continues to strengthen."



Minister of the President Office of Zanzibar in front of a temporary shelter, shaking hands with Huawei's Zanzibar Office Supervisor



Minister of the President Office of Zanzibar and children affected by the flooding thank Huawei for the enormous support we provided



Instant Network Schools Provide Online Education for Refugees

In 2010, Huawei and Vodafone together initiated an instant network project in response to their call for joint innovation to develop network solutions aimed at providing emergency communication services around the world. The Vodafone Foundation's Instant Network Schools program, as part of the project, aims to promote tablet-based online education by giving young people in refugee camps or remote regions around the world access to large volumes of new information resources. To achieve this, the program provides hardware, software, digital content, program design, and onsite implementation support to humanitarian partners such as the Office of the United Nations High Commissioner for Refugees (UNHCR). Online education solutions have been made available to 120 million clients and 3 million refugees in 7 countries in Africa. The Instant Network Schools program is a flagship initiative of the Vodafone Foundation.

Huawei has actively supported the program since it was started. We have donated communication equipment, consumer devices, and technology training, including donating over 2,300 tablet computers to support the online educational services of multiple Instant Network Schools. Our cooperation with the Vodafone Foundation demonstrates Huawei's vision of bridging the digital divide in underdeveloped regions and building a Better Connected World. In 2016, the Instant Network Schools program recorded some impressive achievements:

- ◆ Each month, the program provided high-quality online education services to over 600 teachers and over 40,000 students at 27 refugee camp schools in 4 countries.
- ◆ A free online education platform was established in Ghana. In 2017, this platform will be deployed to another 6 countries in Africa, and by 2020 is expected to make online education services available to 3 million refugees (especially women).
- ◆ Connected 84,000 devices and offered the equivalent of 15 million minutes or 1.7 billion WhatsApp messages to refugees in Greece.
- ◆ Arranged for 17 instant network volunteers to serve in 10 refugee camps and 7 disaster zones.
- ◆ Trained 20 new volunteers in 20 countries, bringing the total number of volunteers to 70.
- ◆ Released three new innovative solutions: Instant Classroom Lite, Instant Classroom Xtra, and Instant Charge. The Instant Classroom Xtra can be used in disaster zones to install emergency cybercafes to keep families connected.
- ◆ Provided Leadership Lessons, giving refugees the opportunity to speak with 12 well-known international figures, including Nobel Prize laureate Malala Yousafzai. The Leadership Lessons is a sub-program under the larger umbrella of the Instant Network Schools program, and is jointly operated by the Vodafone Foundation and the UNHCR. Inspirational speakers and experts from different backgrounds share their personal stories and knowledge with the young people, and answer related questions about their expertise.



Instant Network Schools students receiving Huawei MediaPad



Instant Network Schools students learning with Huawei MediaPad

Overview of Huawei's Major Social Contribution Activities in 2016

Seeds for the Future: UK, France, Germany, Italy, Spain, Portugal, Switzerland, the Netherlands, Belgium, Ireland, Denmark, Sweden, Norway

Seeds for the Future: Colombia, Brazil, Mexico, Panama, Venezuela, Ecuador, Trinidad & Tobago, El Salvador, Costa Rica, Canada, the US

- ◆ Huawei is a founding partner in a charity in the US named K to College. For the past six years, we have donated tablet computers and other school supplies to teachers and students.
- ◆ Donated computers to impoverished children who were disabled in traffic accidents in Costa Rica.
- ◆ Built three distance education showcase centers in Panama.
- ◆ Supported the Argentinian medical charity Hospice Buen Samaritano.
- ◆ Donated to the relief efforts in earthquake-struck Ecuador.
- ◆ Donated an ICT lab to Cochabamba Department, Bolivia.

Seeds for the Future: Japan, UAE, Kuwait, Saudi Arabia, Pakistan, Jordan, Bahrain, Turkey, Uzbekistan, Mongolia, Azerbaijan, Tajikistan

- ◆ We have donated to children's educational projects in the Fukushima earthquake zone every year since 2013.
- ◆ We have given financial support to the Keidanren Nature Conservation Fund every year for the past five years.
- ◆ For many years, we have supported the Summer Dance Festival in Higashi Shin-koiwa, Tokyo.
- ◆ Donated reconstruction funds to Kumamoto Prefecture in Japan.

Seeds for the Future: Hungary, Romania, Serbia, Poland, Greece, Austria, Slovenia, Bulgaria, Iceland, Macedonia, Cyprus, Estonia, Latvia, Lithuania, Slovakia, Czech Republic, Finland, Belarus, Ukraine, Russia

- ◆ With the Evrika Foundation, Huawei provided scholarships for 10 outstanding students in Bulgaria.
- ◆ Donated funds to the Center for Major Disease Control, a public health institution in Bosnia and Herzegovina, to support disease prevention
- ◆ Sponsored an elementary school competition in Umraniye, Turkey.

Seeds for the Future: Benin, Congo, Algeria, Egypt, Tunisia, Ethiopia, Morocco, Cameroon, Senegal, the African Union, Kenya, Namibia, Zimbabwe, Zambia, Mozambique, Botswana, Angola, Tanzania, Uganda, Ghana, Nigeria, South Africa, Malawi

- ◆ Donated funds to improve ICT research and training for ICT students at the University of Zululand in South Africa.
- ◆ Donated phones to the Joyful Women Organization (JOYWO), a Kenyan NGO, to help women get better connected.
- ◆ Built a multimedia classroom at a school for orphans in Equatorial Guinea, with computers, projectors, and other equipment.
- ◆ Gave tablet computers to a women and children's shelter in Benin, to give local children a better childhood.
- ◆ Donated security equipment to Madagascar to help make the country a safer place to live.
- ◆ Gave funds to the Malawian president's Peter Mutharika Foundation to support better infrastructure for schools in remote areas.
- ◆ For 5 years running, we have sponsored the MTN Marathon; funds will be used for charitable purposes in Uganda.
- ◆ Donated to Foundation Congo Assistance to support education campaigns.
- ◆ Donated 60 Huawei tablets in Botswana to be given as prizes for top-performing students, teachers, and schools in graduation exams.
- ◆ Gave money to the Sulu Foundation to support local communities.
- ◆ Donated computers, desks, and chairs to schools in Mumbwa district in Zambia.
- ◆ Worked with ZiDi, a social enterprise in Kenya, to deliver telemedicine solutions to local clinics for better healthcare.
- ◆ Supported ITU's Girls in ICT Day in Ethiopia.

Seeds for the Future: Thailand, Bangladesh, Vietnam, Laos, Cambodia, Sri Lanka, Singapore, Malaysia, Indonesia, Brunei, the Philippines, Australia, New Zealand

- ◆ Worked with Akshay Patra and SOS Children's Village to support education and children's health in India.
- ◆ Donated computers to organizations for the disabled in Lao Cai and Yen Bai provinces, Vietnam.
- ◆ Set up a scholarship for King Mongkut's Institute of Technology Ladkrabang University, one of Thailand's top institutions.
- ◆ Donated to the Prince's Well project in Cambodia, funding the construction of 50 wells in regions without easy access to clean water.
- ◆ With Brunei's largest telecom carrier DST, donated funds to support better housing for single-parent families.
- ◆ With Ooredoo, a telecom carrier in the Maldives, donated Huawei data scratch cards to 1,000 local teachers.
- ◆ With Sri Lankan carrier Dialog, provided broadband connections to schools and free replacement CPEs to users affected by natural disaster.
- ◆ Donated funds to the Red Cross in Cambodia's Prey Veng Province.
- ◆ Donated rice, drinking water, and other basic supplies to people hit by flooding in Sri Lanka.
- ◆ Donated to Shelter, an NGO in Nepal, to cover the tuition costs of 30 orphans.
- ◆ Donated phones to villages and schools to help restore communications in hurricane-struck regions of Fiji.

Appendix I: ICT Sustainable Development Goals Benchmark

The United Nations Sustainable Development Goals (SDGs), also known as Global Goals, offer a pathway to end poverty, fight inequality, and tackle climate change, while ensuring that no one is left behind.

Huawei believes that the SDGs provide an opportunity for long-term growth. ICT infrastructure will be crucial to help the world achieve these goals. Thus, there is a positive correlation between Huawei's vision of Building a Better Connected World and society's ability to achieve the goals. We believe that ICT is a critical enabler to achieve the SDGs at the scale and speed necessary to fulfill the 2030 Agenda for Sustainable Development.

ICT Sustainable Development Goals Benchmark

Agreed by over 150 world leaders in September 2015, the United

Nations 2030 Agenda for Sustainable Development and the associated 17 SDGs provide a framework for sustainable development (see Figure 1). However, relying solely on a business-as-usual (BAU) trajectory will mean that many developed and developing countries will miss the goals by a wide margin. That current trajectory, combined with a global landscape increasing in geopolitical volatility and environmental vulnerability, further underlines the need to catalyze progress toward achieving the SDGs.

The Goals are achievable, but require breakthroughs in both the speed and degree of progress. Meeting the SDGs calls for a rate of change that a BAU approach cannot deliver. ICT will be a key accelerator, particularly to increase the scale and diffusion of solutions. ICT will be essential catalysts for achieving the SDGs by their target date of 2030, and possibly even sooner.

Figure 1 United Nations Sustainable Development Goals (SDGs)

SUSTAINABLE DEVELOPMENT GOALS



ICT Enablers for Sustainable Development

ICT offers a wide range of benefits to society. There is ample research showing the economic benefits from ICT: ICT is instrumental in helping organizations access information, allowing individuals to communicate with each other, and scaling development through discovering cheaper and faster ways of deploying and leveraging resources. Digital and ICT technologies have spread quickly across much of the world, but their use and application in solving social and environmental problems has lagged behind, and remains far less well understood. If the global population is to reach its potential within an increasingly resource-constrained world, governments and companies must promote digital advances that focus on and enable sustainable development.

Our work seeks to explore the relationship between ICT and sustainable development. To meet these objectives, we chose to focus on six SDGs where we anticipated a clear link between SDG performance and ICT, and analyzed a sample of 15 countries, which represent a range of developed and developing economies, different geographies, and different phases of ICT development. In the analysis, we evaluated SDG and ICT performance using four indicators for each SDG (using World Bank and UN data; further details can be found in the full report on Huawei.com) and the 11 ICT indicators included in the ITU's most recent ICT Development Index. We reviewed ICT and SDG performance separately to test correlation, and then combined the data into one index: the 2017 ICT Sustainable Development Benchmark.

Key findings

- ◆ There is a high correlation between ICT and the selected six SDGs ($R^2 = 0.89$).
- ◆ Developed countries have higher ICT scores than SDG scores, suggesting that ICT development in these countries is outpacing progress on the six Goals, while the opposite is the case for developing countries.
- ◆ SDG 9: Infrastructure, Industrialization and Innovation, SDG 4: Quality Education and SDG 3: Good Health and Well-being are the most correlated with ICT, indicating that ICT may hold the most potential to help achieve these goals.
- ◆ While GDP is a factor in results, there exist several outliers in our sample making correlation less straightforward. There is a much higher correlation with the UNDP's Human Development Index (HDI) ($R^2 = 0.96$), suggesting that although the amount of economic resources available matters, how those resources are used is more important.

The ICT Sustainable Development Goals Benchmark indicates a country's performance on ICT development and its progress towards sustainable development within the selected Goals. The 2017 results show that one particular developed country is currently leading the Benchmark, indicating its strong performance on both ICT and the SDGs. However, this country has not yet achieved the highest possible score, indicating that the sustainable development inherent in the SDGs has yet to be

realized by any one country. A developing country, has the median score (54 points).

SDG Scores vs. ICT Scores

Comparing country SDG scores to ICT scores reveals a strong correlation between the two (89%), with some deviations. Overall, developed countries tend to have higher ICT scores than SDG scores, suggesting that ICT development in these countries is outpacing progress on sustainable development. Meanwhile, the opposite is the case for developing countries: Less developed countries tend to have higher SDG scores than ICT scores. While it is hard to draw a conclusive explanation of why that is the case (other aspects such as culture, economic development, and national policies also influence performance on the SDGs), this result suggests that developing nations have significant opportunities to boost their ICT infrastructure and investment, and through this, achieve greater sustainable development. While some developing nations have embarked on ICT investment and experienced its benefits, there is still more benefit to be had, and a need to continue to develop ICT in order to achieve the SDGs.

An interesting exception among developing nations is one particular country, which has a slightly higher ICT score than SDG score. This is likely due to its past policies and a strong trend of globalization that ushered in rapid development of its ICT infrastructure. Even for countries that score high on both SDG and ICT development, greater ICT investment and ICT application to sustainable development will be necessary if they are to achieve the SDG targets. For countries that score lower on both SDG and ICT, a joint strategy focused on the indicators inherent in the SDGs and the ITU Development Index will be important to boost those countries' overall development.

Breakdown of SDG Scores

More developed countries have more even scores across the six SDGs. A number of developing countries have a gap between ICT performance and their scores for SDG 9: Infrastructure, Industrialization and Innovation. Developed countries tend to have a more mature ICT infrastructure, which may enable increased opportunities and a greater diversity of sustainable development initiatives and their associated benefits.






Appendix I: ICT Sustainable Development Goals Benchmark

Correlations between selected SDGs and ICT Scores

In terms of prioritizing SDGs for ICT investment, SDG 9: Industrialization and Innovation, SDG 4: Quality Education and SDG 3: Good Health and Well-being are the most correlated with ICT, indicating that ICT may have the most potential to help achieve these goals (see **Table 1**). More details on how ICT may benefit these specific SDGs can be explored in the full report. Performance on SDGs 11 and 13 are relatively even across all countries. We also find that these goals do not have as strong a correlation between SDG and ICT performance. For SDGs 11 and 13, this may be because both ICT solutions and national policy initiatives around these goals – Sustainable Cities and Climate Action, respectively – are relatively nascent and will need more time to empirically show the relationship between ICT and the indicators used to measure these goals. The lack of correlation between ICT and SDG 13 also highlights the issues with available data to reflect progress on this SDG.

The SDGs are unique in that they were developed with participation from the private sector, as well as civil society, governments and multilateral institutions. Companies have a renewed role to play in helping countries develop not only economically, but sustainably. Initiatives like Huawei's Safe City solution, for example, which uses LTE technologies to provide police and emergency services with real-time video and data to fight crime and make cities safer, not only helps improve communities, but also champions the use of ICT to improve SDG scores (in this case SDG 11: Sustainable Cities and Communities).

Table 1 Correlations Between Country Scores on Individual SDGs and ITU scores

	SDG	Correlation
	9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	80%
	4: Ensure inclusive and quality education for all and promote lifelong learning	77%
	3: Ensure healthy lives and promote well-being for all at all ages	72%
	5: Achieve gender equality and empower all women and girls	66%
	11: Make cities and human settlements inclusive, safe, resilient and sustainable	36%
	13: Take urgent action to combat climate change and its impacts by regulating emissions and promoting developments in renewable energy	0.13%

Correlation between ICT Sustainable Benchmark Scores and GDP

While GDP per capita is broadly correlated with Benchmark scores, there exist several outliers in our sample which make the correlation less straightforward. For example, among the 15 evaluated countries, a developing country from Asia has a much higher GDP per capita than another developing country in this region (approx. \$40,000 vs. \$6,000) but is only about 10 points higher than the latter on the ICT Sustainable Development Benchmark. This phenomenon was also found in the comparison of some other countries.

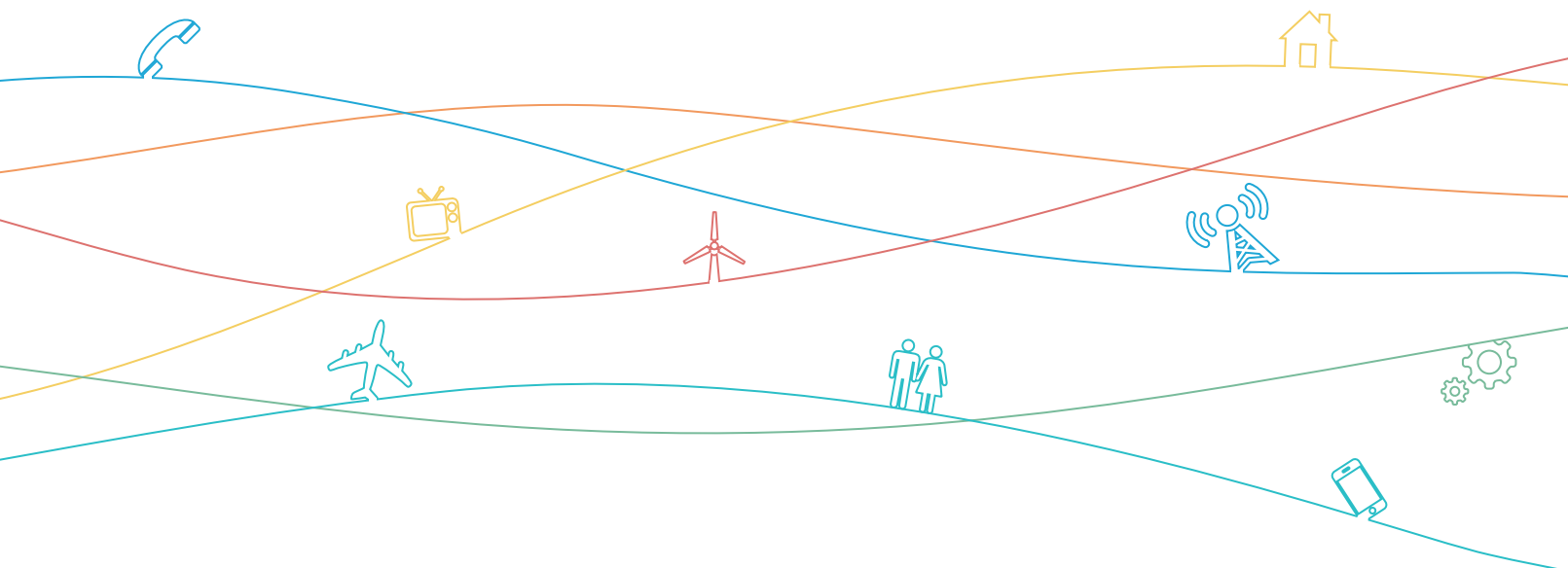
In fact, we found a much higher degree of correlation with the UNDP's influential Human Development Index ($R^2 = 0.96$), suggesting that although a country's economic wealth matters, sustainable development is more dependent on how its resources are being used. The HDI assesses country development in a broad range of areas (economic development, health, life expectancy, education, etc.) providing a broader and more holistic assessment of a country's level of development.

Conclusion

The benchmark shows that ICT investment can support more rapid progress towards achieving the SDGs. By leveraging ICT investments that catalyze progress toward the SDGs, nations and their inhabitants can contribute to building a more equitable, prosperous and sustainable future.

To download the ICT Sustainable Development Goals Benchmark, please visit: <http://www.huawei.com/en/sustainability>

More information about Huawei's contribution can be found in Appendix III.



Appendix II: Huawei's 2017 Sustainability Goals

No.	Strategy	2017 Goals and Initiatives
1	Bridging the Digital Divide	Release whitepaper: <i>Huawei ICT Sustainable Development Goals (SDGs) Benchmark</i>
2		Gather knowledge on how to bridge the digital divide
3	Supporting Network Stability and Security and Protecting Privacy	Support 100% network stability during key events and natural disasters worldwide
4		Align security products with market demand; explore and establish end-to-end security and privacy methodologies integrating both solutions and products
5	Promoting Environmental Protection	Reduce carbon emissions per unit of sales revenue by 18% compared to the benchmark year
6		Conserve 43 MWh of energy
7		Conserve 80,000 tons of water
8		Reduce the landfill rate of waste to 1.85%
9		Reduce the energy consumption per unit of data traffic of major products by 10%–30%
10		Step up green packaging efforts to reduce the use of wood product by 450,000 m ³
11		Certify an additional 10 strategic suppliers as Green Partners, and review the qualifications of suppliers whose Green Partner certificates are no longer valid
12		Expand the Global Green Recycling Program with 1,000 recycling stations in 50 countries and regions
13		Ensure that 10 device products (e.g., smartphones, tablets, PCs, and wearables) obtain the highest level green certification
14	Building a Healthy Industry Ecosystem	Release operational compliance white papers by all subsidiaries outside China
15		Audit all new suppliers and medium- and high-priority suppliers in terms of their sustainability, and follow up on their improvement efforts
16		Implement social contribution programs worldwide and launch Seeds for the Future (Huawei's flagship CSR program) in 100 countries and regions
17		Sponsor university competitions in China (charity programs)
18		Strengthen communication with customers, governments, the media, and other key stakeholders
19		Ensure zero serious manufacturing incidents, and zero EHS fatalities in delivery projects
20	Management System	Further develop CSD sub-committees and consolidate the CSD organization
21		Optimize sustainability standards and incorporate them into business processes
22		Complete the 2017 sustainability maturity assessment

Appendix III: GRI G4 Sustainability Reporting Guidelines

The GRI Guidelines are widely used by organizations around the world. Huawei's 2016 Annual CSD Report contains standard disclosures based on this framework. In addition, this year, we have used the SDG Compass tool (prepared by the GRI, UN Global Compact and World Business Council for Sustainable Development (WBCSD)) to increase transparency and map how our reporting is aligned with the SDGs.

The UN Sustainable Development Goals: On 1 January 2016, the UN's 17 Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development officially came into force. For the next fifteen years, with these new Goals that universally apply to all, the world will work together to mobilize efforts to end all forms of poverty, fight inequalities and tackle climate change, while ensuring that no one is left behind. More information can be found here.

STANDARD DISCLOSURES FIRST PART: GENERAL STANDARD DISCLOSURES

1. STRATEGY AND ANALYSIS

Profile Disclosure	Disclosure	SDG	Page
G4-1	Provide a statement from the most senior decision-maker of the organization (such as CEO, chair, or equivalent senior position) about the relevance of sustainability to the organization and the organization's strategy for addressing sustainability.		3-5
G4-2	Provide a description of key impacts, risks, and opportunities.		17-18

2. ORGANIZATIONAL PROFILE

Profile Disclosure	Disclosure	SDG	Page
G4-3	Report the name of the organization.		10
G4-4	Report the primary brands, products, and services.		10
G4-5	Report the location of the organization's headquarters.		The back cover
G4-6	Report the number of countries where the organization operates, and names of countries where either the organization has significant operations or that are specifically relevant to the sustainability topics covered in the report.		10
G4-7	Report the nature of ownership and legal form.		14
G4-8	Report the markets served (including geographic breakdown, sectors served, and types of customers and beneficiaries).		12
G4-9	Report the scale of the organization.		12
G4-10	Report the total number of employees by employment contract and gender.	SDG8	31
G4-11	Report the percentage of total employees covered by collective bargaining agreements.	SDG8	/
G4-12	Describe the organization's supply chain.		46-51
G4-13	Report any significant changes during the reporting period regarding the organization's size, structure, ownership, or its supply chain.		No significant changes
G4-14	Report whether and how the precautionary approach or principle is addressed by the organization.		17-18
G4-15	List externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses.		25
G4-16	List memberships of associations (such as industry associations) and national or international advocacy organizations in which the organization: <ul style="list-style-type: none"> · Holds a position on the governance body · Participates in projects or committees · Provides substantive funding beyond routine membership dues · Views membership as strategic This refers primarily to memberships maintained at the organizational level.		25

3. IDENTIFIED MATERIAL ASPECTS AND BOUNDARIES

Profile Disclosure	Disclosure	SDG	Page
G4-17	a. List all entities included in the organization's consolidated financial statements or equivalent documents. b. Report whether any entity included in the organization's consolidated financial statements or equivalent documents is not covered by the report.		12
G4-18	a. Explain the process for defining the report content and the Aspect Boundaries. b. Explain how the organization has implemented the Reporting Principles for Defining Report Content.		24-25

Appendix III: GRI G4 Sustainability Reporting Guidelines

G4-19	List all the material Aspects identified in the process for defining report content.		25
G4-20	For each material Aspect, report the Aspect Boundary within the organization.		25
G4-21	For each material Aspect, report the Aspect Boundary outside the organization.		25
G4-22	Report the effect of any restatements of information provided in previous reports, and the reasons for such restatements.		/
G4-23	Report significant changes from previous reporting periods in the Scope and Aspect Boundaries.		No significant changes

4. STAKEHOLDER ENGAGEMENT

Profile Disclosure	Disclosure	SDG	Page
G4-24	Provide a list of stakeholder groups engaged by the organization.		22
G4-25	Report the basis for identification and selection of stakeholders with whom to engage.		22
G4-26	Report the organization's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process.		22-23
G4-27	Report key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting. Report the stakeholder groups that raised each of the key topics and concerns.		22-23

5. REPORT PROFILE

Profile Disclosure	Disclosure	SDG	Page
G4-28	Reporting period (such as fiscal or calendar year) for information provided.		Inside the front cover
G4-29	Date of most recent previous report (if any).		Inside the front cover
G4-30	Reporting cycle (such as annual, biennial).		Inside the front cover
G4-31	Provide the contact point for questions regarding the report or its contents.		Inside the front cover
G4-32	Report the 'in accordance' option the organization has chosen.		Inside the front cover
G4-33	Report the organization's policy and current practice with regard to seeking external assurance for the report.		98-99

6. GOVERNANCE

Profile Disclosure	Disclosure	SDG	Page
G4-34	Report the governance structure of the organization, including committees of the highest governance body. Identify any committees responsible for decision-making on economic, environmental and social impacts.		19
G4-35	Report the process for delegating authority for economic, environmental and social topics from the highest governance body to senior executives and other employees.		19-20
G4-36	Report whether the organization has appointed an executive-level position or positions with responsibility for economic, environmental and social topics, and whether post holders report directly to the highest governance body.		19
G4-37	Report processes for consultation between stakeholders and the highest governance body on economic, environmental and social topics. If consultation is delegated, describe to whom and any feedback processes to the highest governance body.	SDG16	19
G4-38	Report the composition of the highest governance body and its committees by: <ul style="list-style-type: none"> · Executive or non-executive · Independence · Tenure on the governance body · Number of each individual's other significant positions and commitments, and the nature of the commitments · Gender · Membership of under-represented social groups · Competences relating to economic, environmental and social impacts · Stakeholder representation 	SDG5,16	19
G4-39	Report whether the Chair of the highest governance body is also an executive officer (and, if so, his or her function within the organization's management and the reasons for this arrangement).	SDG16	19
G4-40	Report the nomination and selection processes for the highest governance body and its committees, and the criteria used for nominating and selecting highest governance body members.	SDG5,16	19
G4-41	Report processes for the highest governance body to ensure conflicts of interest are avoided and managed. Report whether conflicts of interest are disclosed to stakeholders.	SDG16	19

Appendix III: GRI G4 Sustainability Reporting Guidelines

G4-42	Report the highest governance body's and senior executives' roles in the development, approval, and updating of the organization's purpose, value or mission statements, strategies, policies, and goals related to economic, environmental and social impacts.		15
G4-43	Report the measures taken to develop and enhance the highest governance body's collective knowledge of economic, environmental and social topics.	SDG4	19
G4-44	a. Report the processes for evaluation of the highest governance body's performance with respect to governance of economic, environmental and social topics. Report whether such evaluation is independent or not, and its frequency. Report whether such evaluation is a self-assessment. b. Report actions taken in response to evaluation of the highest governance body's performance with respect to governance of economic, environmental and social topics, including, as a minimum, changes in membership and organizational practice.		20
G4-45	a. Report the highest governance body's role in the identification and management of economic, environmental and social impacts, risks, and opportunities. Include the highest governance body's role in the implementation of due diligence processes. b. Report whether stakeholder consultation is used to support the highest governance body's identification and management of economic, environmental and social impacts, risks, and opportunities.	SDG16	20
G4-46	Report the highest governance body's role in reviewing the effectiveness of the organization's risk management processes for economic, environmental and social topics.		17-19
G4-47	Report the frequency of the highest governance body's review of economic, environmental and social impacts, risks, and opportunities.		17
G4-48	Report the highest committee or position that formally reviews and approves the organization's sustainability report and ensures that all material Aspects are covered.		19
G4-49	Report the process for communicating critical concerns to the highest governance body.		20
G4-50	Report the nature and total number of critical concerns that were communicated to the highest governance body and the mechanism(s) used to address and resolve them.		/
G4-51	Report the remuneration policies for the highest governance body and senior executives for the below types of remuneration b. Report how performance criteria in the remuneration policy relate to the highest governance body's and senior executives' economic, environmental and social objectives.		/
G4-52	Report the process for determining remuneration. Report whether remuneration consultants are involved in determining remuneration and whether they are independent of management. Report any other relationships which the remuneration consultants have with the organization.		/
G4-53	Report how stakeholders' views are sought and taken into account regarding remuneration, including the results of votes on remuneration policies and proposals, if applicable.	SDG16	34
G4-54	Report the ratio of the annual total compensation for the organization's highest-paid individual in each country of significant operations to the median annual total compensation for all employees (excluding the highest-paid individual) in the same country.		/
G4-55	Report the ratio of percentage increase in annual total compensation for the organization's highest-paid individual in each country of significant operations to the median percentage increase in annual total compensation for all employees (excluding the highest-paid individual) in the same country.		/

7. ETHICS AND INTEGRITY

Profile Disclosure	Disclosure	SDG	Page
G4-56	Describe the organization's values, principles, standards and norms of behavior such as codes of conduct and codes of ethics.	SDG16	30
G4-57	Report the internal and external mechanisms for seeking advice on ethical and lawful behavior, and matters related to organizational integrity, such as helplines or advice lines.	SDG16	30
G4-58	Report the internal and external mechanisms for reporting concerns about unethical or unlawful behavior, and matters related to organizational integrity, such as escalation through line management, whistleblowing mechanisms or hotlines.	SDG16	30

STANDARD DISCLOSURES SECOND PART: SPECIFIC STANDARD DISCLOSURES

DISCLOSURES ON MANAGEMENT APPROACH

Management Approach	Disclosure	SDG	Page
G4-DMA	Generic Disclosures on Management Approach		25

Appendix III: GRI G4 Sustainability Reporting Guidelines

ECONOMIC

Indicator	Disclosure	SDG	Page
G4-EC1	Direct economic value generated and distributed	SDG2,5,7,8,9	12
G4-EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change	SDG13	42
G4-EC3	Coverage of the organization's defined benefit plan obligations		34
G4-EC4	Financial assistance received from government		/
G4-EC5	Ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation	SDG1,5,8	34
G4-EC6	Proportion of senior management hired from the local community at significant locations of operation	SDG 8	32
G4-EC7	Development and impact of infrastructure investments and services supported	SDG11,2,5,7,9	/
G4-EC8	Significant indirect economic impacts, including the extent of impacts	SDG1,10,17,2,3,8	32
G4-EC9	Proportion of spending on local suppliers at significant locations of operation	SDG12	/

ENVIRONMENTAL

Indicator	Disclosure	SDG	Page
G4-EN1	Materials used by weight or volume	SDG12,8	/
G4-EN2	Percentage of materials used that are recycled input materials	SDG12,8	60-61
G4-EN3	Energy consumption within the organization	SDG12,13,7,8	43
G4-EN4	Energy consumption outside of the organization	SDG12,13,7,8	43
G4-EN5	Energy intensity	SDG12,13,7,8	42
G4-EN6	Reduction of energy consumption	SDG12,13,7,8	42-43
G4-EN7	Reductions in energy requirements of products and services	SDG12,13,7,8	57
G4-EN8	Total water withdrawal by source	SDG6	45
G4-EN9	Water sources significantly affected by withdrawal of water	SDG6	45
G4-EN10	Percentage and total volume of water recycled and reused	SDG12,6,8	45
G4-EN11	Generic Disclosures on Management Approach	SDG14,15,6	/
G4-EN12	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	SDG15,6	/
G4-EN13	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas	SDG14,15,6	/
G4-EN14	Total number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk	SDG14,15,6	/
G4-EN15	Direct greenhouse gas (GHG) emissions (Scope 1)	SDG12,13,14,15,3	44
G4-EN16	Energy indirect greenhouse gas (GHG) emissions (Scope 2)	SDG12,13,14,15,3	44
G4-EN17	Other indirect greenhouse gas (GHG) emissions (Scope 3)	SDG12,13,14,15,3	44
G4-EN18	Greenhouse gas (GHG) emissions intensity	SDG13,14,15	44
G4-EN19	Reduction of greenhouse gas (GHG) emissions	SDG13,14,15	42-43
G4-EN20	Emissions of ozone-depleting substances (ODS)	SDG12,3	/
G4-EN21	NO _x , SO _x , and other significant air emissions	SDG12,14,15,3	/
G4-EN22	Total water discharge by quality and destination	SDG12,14,3,6	/
G4-EN23	Total weight of waste by type and disposal method	SDG12,3,6	45
G4-EN24	Total number and volume of significant spills	SDG12,14,15,3,6	No significant spills
G4-EN25	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally	SDG12,3	/
G4-EN26	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the organization's discharges of water and runoff	SDG14,15,6	/
G4-EN27	Extent of impact mitigation of environmental impacts of products and services	SDG12,13,15,6,8	57-61

Appendix III: GRI G4 Sustainability Reporting Guidelines

G4-EN28	Percentage of products sold and their packaging materials that are reclaimed by category	SDG12,8	59-60
G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	SDG16	No fines
G4-EN30	Significant environmental impacts of transporting products and other goods and materials for the organization's operations, and transporting members of the workforce	SDG11,12,13	/
G4-EN31	Total environmental protection expenditures and investments by type	SDG12,13,14,15,17,7,9	/
G4-EN32	Percentage of new suppliers that were screened using environmental criteria		47
G4-EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken		50
G4-EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms	SDG16	/

LABOR PRACTICES AND DECENT WORK

Indicator	Disclosure	SDG	Page
G4-LA 1	Total number and rates of new employee hires and employee turnover by age group, gender and region	SDG5,8	31
G4-LA 2	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation		34-35
G4-LA 3	Return to work and retention rates after parental leave, by gender	SDG5,8	/
G4-LA 4	Minimum notice periods regarding operational changes, including whether these are specified in collective agreements	SDG8	/
G4-LA 5	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs	SDG8	36
G4-LA 6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender	SDG3,8	37-38
G4-LA 7	Workers with high incidence or high risk of diseases related to their occupation	SDG3,8	38-39
G4-LA 8	Health and safety topics covered in formal agreements with trade unions	SDG8	36
G4-LA 9	Average hours of training per year per employee by gender, and by employee category	SDG4,5,8	32
G4-LA 10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	SDG8	32
G4-LA 11	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category	SDG5,8	32
G4-LA 12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity	SDG5,8	31
G4-LA 13	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation	SDG10,5,8	34
G4-LA 14	Percentage of new suppliers that were screened using labor practices criteria	SDG16,5,8	47
G4-LA 15	Significant actual and potential negative impacts for labor practices in the supply chain and actions taken	SDG16,5,8	48-49
G4-LA 16	Number of grievances about labor practices filed, addressed, and resolved through formal grievance mechanisms	SDG16	/

HUMAN RIGHTS

Indicator	Disclosure	SDG	Page
G4-HR1	Total number and percentage of significant investment agreements and contracts that include human rights clauses or that underwent human rights screening		/
G4-HR2	Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained		32
G4-HR3	Total number of incidents of discrimination and corrective actions taken	SDG16,5,8	36
G4-HR4	Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights	SDG8	48
G4-HR5	Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor	SDG16,8	48

Appendix III: GRI G4 Sustainability Reporting Guidelines

G4-HR6	Operations and suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor	SDG8	48
G4-HR7	Percentage of security personnel trained in the organization's human rights policies or procedures that are relevant to operations	SDG16	100%
G4-HR8	Total number of incidents of violations involving rights of indigenous peoples and actions taken	SDG2	No related incidents
G4-HR9	Total number and percentage of operations that have been subject to human rights reviews or impact assessments		/
G4-HR10	Percentage of new suppliers that were screened using human rights criteria		47
G4-HR11	Significant actual and potential negative human rights impacts in the supply chain and actions taken		47-48
G4-HR12	Number of grievances about human rights impacts filed, addressed, and resolved through formal grievance mechanisms	SDG16	/

SOCIETY

Indicator	Disclosure	SDG	Page
G4-SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs		78-83
G4-SO2	Operations with significant actual and potential negative impacts on local communities	SDG1,2	/
G4-SO3	Total number and percentage of operations assessed for risks related to corruption and the significant risks identified	SDG16	29-30
G4-SO4	Communication and training on anti-corruption policies and procedures	SDG16	29-30
G4-SO5	Confirmed incidents of corruption and actions taken	SDG16	29-30
G4-SO6	Total value of political contributions by country and recipient/beneficiary	SDG16	No related contributions
G4-SO7	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes	SDG16	/
G4-SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	SDG16	No related fines
G4-SO9	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations		47
G4-SO10	Significant actual and potential negative impacts on society in the supply chain and actions taken		47-48
G4-SO11	Number of grievances about impacts on society filed, addressed, and resolved through formal grievance mechanisms	SDG16	/

PRODUCT RESPONSIBILITY

Indicator	Disclosure	SDG	Page
G4-PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement		62-63
G4-PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes	SDG16	/
G4-PR3	Type of product and service information required by the organization's procedures for product and service information and labeling, and percentage of significant product and service categories subject to such information requirements	SDG12	/
G4-PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes	SDG16	No incidents of non-compliance
G4-PR5	Results of surveys measuring customer satisfaction		22
G4-PR6	Sale of banned or disputed products		/
G4-PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship, by type of outcomes	SDG16	No incidents of non-compliance
G4-PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	SDG16	No incidents of non-compliance
G4-PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	SDG16	No fines

Appendix IV: Terms and Abbreviations

Abbreviation	Full Name
3G	The Third Generation Mobile Communication Technology
4G	The Fourth Generation Mobile Communication Technology
5G	The Fifth Generation Mobile Communication Technology
APP	Application
BCG	Business Conduct Guideline
CDP	Carbon Disclosure Project
CEO	Chief Executive Officer
CFSI	Conflict-Free Sourcing Initiative
CSR	Corporate Social Responsibility
CSD	Corporate Sustainable Development
CAGR	Compounded Annual Growth Rate
CNAS	China National Accreditation Service for Conformity Assessment
EHS	Environment, Health and Safety
EICC	Electronic Industry Citizenship Coalition
EMT	Executive Management Team
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GeSI	Global e-Sustainability Initiative
GRI	Global Reporting Initiative
GSMA	Global System for Mobile Communications Association
ICT	Information and Communications Technology
IEC	International Electrotechnical Commission
IPC	Association Connecting Electronics Industries
ISO	International Standardization Organizations
ITU	International Telecommunication Union
JAC	Joint Audit Cooperation
LCA	Life Cycle Assessment
LEED	Leadership in Energy and Environmental Design
LTE	Long Term Evolution
LED	Light Emitting Diode

Appendix IV: Terms and Abbreviations

Abbreviation	Full Name
MFP	Manager Feedback Program
NGO	Non-governmental organization
NFV	Network Functions Virtualization
OBD	On-Board Diagnostics
OECD	Organization for Economic Co-operation and Development
PCB	Printed Circuit Board
PUE	Power Usage Effectiveness
SDN	Software-Defined Networking
TUP	Time-based Unit Plan
UNGC	United Nations Global Compact
UPS	Uninterruptible Power Supply
VoLTE	Voice over LTE
WLAN	Wireless Local Area Network
WTTx	Wireless To The x



Independent Assurance Statement

Introduction:

TÜV Rheinland (Guangdong) Ltd., member of TÜV Rheinland Group, Germany (TÜV, We) has been entrusted by the management of Huawei Investment & Holding Co., Ltd. (HUAWEI, the Company) to conduct independent assurance of HUAWEI Corporate Sustainability Report 2016 (the Report). All contractual contents for this assurance engagement rest entirely within the responsibility of HUAWEI. Our task was to give a fair and adequate judgment on the HUAWEI Report 2016.

The intended users of this assurance statement are stakeholders having relevance to the HUAWEI overall Sustainability Performance and impacts of its business activities during 2016 (January 2016 ~ December 2016). TÜV Rheinland is a global service provider of CSR & Sustainability Services in over 69 countries, having qualified professionals in the field of Corporate Sustainability Assurance, Environment, Social and Stakeholder Engagement. We have maintained complete impartiality and independence during the assurance engagement and were not involved in the preparation of report contents.

Assurance Standard:

The Independent Assurance was carried out in accordance with AccountAbility, U.K Standard AA 1000 AS (2008) and related standards AA 1000 APS(2008), AA 1000 SES (2015), Principles of Inclusivity, Materiality & Responsiveness, Global Reporting Initiative (GRI), 'In accordance'-Core" reporting guidelines as per G-4.0.

Scope & Type of Assurance:

Our Assurance engagement covers the following:

- ◆ HUAWEI Corporate Sustainability performance as described in the report 2016 in accordance with GRI reporting guidelines and performance indicators and according disclosure on management approach (DMAs) from Economic, Environment & Social category, also defined in Reporting boundaries.
- ◆ Evaluation of disclosed information in the report as per the Assurance Standards.
- ◆ Type-1, Moderate as per AA 1000 AS (2008)

Limitation: The assurance engagement was carried out at HUAWEI Headquarter at Bantian Longgang, Shenzhen and site visits to major manufacturing unit located at Dongguan within P. R. China (Songshan Lake Factory). The consultations with external stakeholder were not carried out. We have not observed any significant situations to limit our assurance activity. The verification is carried out based on the data and information provided by HUAWEI, assuming they are complete and true. We did not verify the reported financial data as same is verified by another third party in annual report.

Assurance Methodology:

TÜV has challenged the report contents and assess the process undertaken by HUAWEI from source to aggregate in disclosure of information/data related to Sustainability performance. Our judgment is based on the objective review of reported information as per criteria defined under Assurance standards.

Analytical methods and the performance of interviews as well as verification of data, done as random sampling, to verify and validate the correctness of reported data and contents in light of contractual agreement and the factual HUAWEI Corporate Sustainable Development strategy (CSD) as mentioned in the report. Our work included consultation with over 50 HUAWEI representatives including senior management and relevant employees. The approach deemed to be appropriate for the purpose of assurance of the report since all data therein could be verified through original proofs, verified database entries.

Appendix V: Assurance Statement

The Assurance was performed by our multidisciplinary team of experienced professionals in the field of Corporate Sustainability, Environment, Social and Stakeholder Engagement. We are of the opinion that our work offers a sufficient and substantiated basis to enable us to come to a conclusion mentioned below and based on the content of our contract.

Positive Observation:

We would like to mention some of the positive aspects observed during HUAWEI assurance engagement as below:

- ◆ In 2016, Huawei established CSD Sub-committees under the Corporate CSD Committee in various departments, to further solidify the CSD organization and enable the involved departments to achieve more sustainable operations. The sub-committees operate under the guidance of the corporate CSD Committee. They break down the corporate sustainability strategy into actionable tasks and define their own sustainability responsibilities, objectives, and plans, based on their areas of focus and relevance.
- ◆ HUAWEI continuously optimize the EHS management around the world. The company established an EHS management maturity model for delivery projects, adopted IT systems for automatic measurement and efficient digital management, and used various tools and platforms to optimize EHS management.

Adherence to AA 1000 principles:

Inclusivity: Huawei has established the Stakeholder Engagement Management Process. Through a variety of stakeholders' engagement activities, including organization meeting, releasing study report and participating workgroups and pilot projects, HUAWEI actively understood stakeholders' expectations and existing issues, and responded timely.

Materiality: HUAWEI identified the material issues related to sustainable development viz. economic, environment & social performance as an outcome of its stakeholder engagement and business priorities and provide balance information in the report. The Corporate Sustainable Development (CSD) strategy is aligned to address identified material issues.

Responsiveness: HUAWEI responded to its stakeholders against identified material issues critical to sustainable development through disclosure made in report 2016, including Corporate Sustainable Development strategy, risks, opportunities and approaches, management system and its essential, 2016 sustainability object progress, and stakeholders' engagement.

Conclusion:

In conclusion, we can mention that no instances or information came to our attention that would be to the contrary of the statement made below:

- ◆ HUAWEI Corporate Sustainability Report 2016 meets the requirement of Type-1, Moderate Assurance according to AA1000AS (2008) and Global Reporting Initiative (GRI) , 'In accordance'-Core" reporting guidelines as per G-4.0.
- ◆ The Report includes statements and claims that reflects HUAWEI achievements and challenges supported by documentary evidences and internal records.
- ◆ The performance data we found in the report are collected, stored and analyzed in a systematic and professional manner and were plausible.
- ◆ TÜV Rheinland shall not bear any liability or responsibility to a third party for perception and decision about HUAWEI based on this Assurance Statement.



For TÜV Rheinland Group

Taobo SHI

Taobo SHI
Lead Verifier

Guangzhou, 10 May 2017

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