Management Discussion and Analysis

20  Our Value Propositions
22  Business Review 2015
23  Carrier Business
28  Enterprise Business
33  Consumer Business
36  Research and Development
43  Cyber Security
46  Openness, Collaboration, and Shared Success
47  Results of Operations
49  Financial Risk Management

World’s northernmost LTE base station built by Huawei in Svalbard, Norway
Our Value Propositions

The convergence of ICT technologies continues to accelerate. New technologies, particularly cloud computing and Big Data, are becoming key enablers for ICT innovation and development. These new innovations are not only reshaping the CT industry, but also creating enormous business opportunities through the convergence of IT and CT. In response to these revolutionary changes, Huawei continues innovating based on customer needs and leading technology. Through open partnerships, Huawei focuses 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 their future transformations, a leader in providing enterprise ICT infrastructure, and a top smart device brand preferred and trusted by consumers.

Ubiquitous Broadband

The Internet makes it easier to disseminate and obtain information, which in turn stimulates consumers’ desire to go online anytime, anywhere, on any device. This level of connectivity enables users to access more high-quality content and applications and enjoy the convenience of mobile offices. Enterprises are now migrating their IT systems to data centers and clouds, which places higher requirements on networks. Harnessing future data surges will require networks with greater capacity, coverage, and agility. Huawei aims to bring the benefits of networks to more and more people.

Consumers’ desire for network connectivity, bandwidth, reliability, and security is far from satisfied. In response, Huawei provides carriers at different development stages with viable solutions to best suit their needs, thus helping them address business and technological challenges. Huawei is committed to helping carriers increase network capacity, optimize network management, and enable Internetized operations. As part of this goal, Huawei has continuously innovated new architectures (such as SoftCOM) and new technologies to deliver cutting-edge products and solutions that enable

Building a Better Connected World

Ubiquitous Broadband

- Ubiquitous networks with a superior user experience
- Enablement of customers’ transformation towards Internetized operations
- Integration of content, applications, and development resources worldwide

Agile Innovation

- One-stop ICT infrastructure
- Adaptation to vertical industry requirements
- Smooth migration via hybrid clouds
- Prompt identification of business opportunities via Big Data

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 under all scenarios
seamless evolution, and help our customers build highly efficient infrastructure networks. Huawei also supports carriers’ efforts to reconstruct their telecom networks with IT technologies, which is a key step to realizing Internetized operations and offering subscribers on-demand services and high-quality content. Specifically, Huawei helps carriers integrate their existing IT systems and transform their networks with NFV and SDN technologies; aggregate high-quality content to expand their revenue streams; and digitize operations to deliver a ROADS experience and make ubiquitous broadband readily accessible for all.

**Agile Innovation**

The ICT industry will continue to advance rapidly well into the future. New trends such as mobility, cloud computing, Big Data, and social networking are driving the industry to new frontiers. Significant digital changes are taking place in the physical world, with the Internet driving the modernization of traditional industries.

Enterprises in all industries need to rapidly identify business opportunities and continuously enhance IT-enabled organizational collaboration in order to launch new products and services faster and more effectively. IT is evolving from a support system to a production system, becoming one of enterprises’ core competences.

Huawei is committed to providing innovative one-stop ICT infrastructure. As part of this drive, we deliver cloud data center infrastructure and digital infrastructure solutions to help customers maximize resource utilization (e.g., storage, computing, and network resources). Through this, business systems can be quickly deployed, easily operated and maintained, and efficiently managed. Huawei also provides industry solutions that satisfy the needs of vertical industries. Our intelligent data analysis system leverages Big Data technologies to help customers identify business opportunities and achieve agile business innovations. Through cooperation and innovation, we integrate our ICT products into partners’ industry solutions to better meet the requirements of various industries.

The next 30 years will witness the gradual replacement of traditional data centers with hybrid cloud data centers. In response to this trend, Huawei has begun delivering hybrid cloud solutions by incorporating technologies for public cloud services. As a result, our solutions are a perfect fit for enterprise customers with diverse needs, and can help carriers deploy public clouds to seize the tremendous opportunities offered by cloud services.

**Inspired Experience**

In the future, smart devices will become an integral part of people’s lives, as they will be better at identifying user needs and developing situational and emotional awareness.

Through innovative industrial designs and key technologies, Huawei delivers premium products that are stylish, secure, and easy-to-use. By developing robust application and service ecosystems, Huawei offers a wide range of services, mobile phones, smart watches, and other smart devices for various scenarios (e.g., health, lifestyle, work, home, and outdoor settings). Our commitment to device-cloud synergy contributes to a superior user experience in all scenarios and creates a long-term emotional bond between Huawei and users. We also strive to provide users worldwide with a convenient online to offline (O2O) purchase experience and services, taking user experience to the next level.
Business Review 2015

In 2015, Huawei achieved significant results from its focus on the pipe strategy. The company achieved sustainable growth in the carrier, enterprise, and consumer businesses. Its annual revenue totaled CNY395,009 million, a 37.1% increase over the previous year.

Thanks to carriers’ massive 4G network rollouts, explosive growth in the smartphone sector, and the increased expertise of the Enterprise BG on industry solutions, Huawei earned CNY167,690 million in revenue in the Chinese market, up 54.3% year-on-year.

Rapid growth in wireless and fixed networks and increased share in the smartphone market yielded CNY128,016 million for Huawei in Europe, the Middle East, and Africa (EMEA), marking a 27.2% increase in revenue over 2014.

Due in large part to infrastructure build-out in markets such as India, the Philippines, and Thailand, Huawei maintained its momentum in the Asia Pacific Region to achieve CNY50,527 million in revenue, up 19.1% year-on-year.

In the Americas, carriers in Mexico, Argentina, Peru, and other countries increased their investment in communications networks. Huawei’s smartphone business also grew rapidly in the US market. These factors enabled Huawei to earn CNY38,976 million in revenue from this region, up 26.4% over 2014.

Over the next three to five years, Huawei’s revenue is estimated to grow at a CAGR of over 10%.
Carrier Business

The rapid development of the ICT industry is driving ubiquitous connections that change how we perceive the world, reshape how businesses operate, and transform how cities and countries are administered. ICT has become a national imperative backed by government policies, and is continuously fueling innovation and development around the world. At the same time, users are demanding the ultimate experience of ROADS (i.e., Real-time, On-demand, All-online, DIY, and Social), thus providing an outstanding experience has become the core foundation of carriers’ business competitiveness in a fully connected era, propelling their digital transformation.

Carriers connect the physical and digital worlds. As the Internet is sweeping the globe, carriers are challenged to transform themselves and the industry ecosystem in which they operate. Digital transformation is opening up new business opportunities for carriers to thrive and succeed in a Better Connected World. We believe carriers will soon lead the value chain and enable more than 100 billion connections through successful digital transformation, capability exposure, and collaborative innovation in the industry. By seizing ICT opportunities underpinning economic development, carriers will accelerate the transition toward tomorrow’s digital economy and become an important driver of economic growth.

Huawei is at the forefront of enabling carriers’ digital transformation through its five Big Initiatives: Big Video – Everywhere, Big IT – Enabling, Big Operation – Agile, Big Architecture – Elastic, and Big Pipe – Ubiquitous. We provide end-to-end SoftCOM solutions for these five Big Initiatives. In addition, by focusing on openness, collaboration, and shared success, Huawei is committed to working closely with carriers and industry partners to collectively drive digital transformation and create a Better Connected World through a robust industry ecosystem.

In 2015, aligned with our pipe strategy and with a strong focus on ICT infrastructure and ICT capability exposure, we continued to provide worldwide carriers with leading end-to-end ICT solutions to accelerate their digital transformation. Our technological leadership and competitiveness have been widely recognized by the industry and enabled us to achieve solid business performance. In 2015, our revenue from the carrier business totaled CNY232,307 million, an increase of
21.4% year-on-year. We made significant progress in each of our key business domains in terms of market and ecosystem development.

In the wireless network domain, our MBB 2020 strategy focused on experience and networks to evolve carriers’ business models and establish a robust industry ecosystem. Specifically:

- We delivered market breakthroughs across five continents, which has driven the adoption of our LTE solutions in more than 140 capital cities. We have commercially deployed over 400 LTE networks and over 180 EPC networks, serving approximately half of all 4G users around the world.

- 4.5G technology advocated by Huawei received a formal name from 3GPP, which approved LTE-Advanced Pro as the new marker for LTE standards.

- We collaborated with carriers, device manufacturers, chip makers, and research institutes to establish industry alliances and promote the sound and sustainable development of the mobile industry with 700 MHz, 450 MHz, and 3.5 GHz.

- Our wireless network solutions won international awards in 2015 and were widely recognized across the industry. Together with HKT, we won the coveted Best VoLTE Innovation award from consultancy firm Informa at the LTE World Summit 2015. In addition, our LampSite Solution won the Best Mobile Infrastructure award at the Mobile World Congress 2015.

In the fixed network domain, the global ultra-broadband industry developed rapidly in 2015, and there was significant upgrading of fixed broadband networks from 100 Mbit/s to 1,000 Mbit/s. More than 100 carriers that focus on mobile services announced their plans to increase investment in fixed broadband services. We launched our Gigaband development strategy, and encouraged industry players to work together to achieve the goal of building ultra-broadband networks that cover 90% of the world’s population and enable a 1 Gbit/s speed for all users by 2020. We continued to increase our investment in experience-focused solution development and reinforced our market leadership position in the fixed network domain. Specifically:

- In the carrier IP field, we partnered with Telefónica to complete the industry’s first SDN-based IP/optical field trial. We helped Telecom Italia construct a pan-Europe backbone network based on our terabit routing platform. We also partnered with China Telecom to construct the world’s largest SDN-based commercial backbone network.

- In the optical transport field, we partnered with a European carrier to build the world’s first 1T OTN, and collaborated with BT to complete testing for 3 Tbit/s optical transmission on live networks, the fastest speed in the industry.

- In the access field, we worked with TDC in Denmark to complete the world’s first DOCSIS 3.1 early field test, and helped BT launch the world’s largest customer trial of G.fast. We also partnered with Beltelecom to construct Europe’s first commercial 10G-GPON FTTH network, and provide users with one-stop smart home solutions.

In September 2015, Huawei announced its Gigaband development strategy at the 2nd Ultra-Broadband Forum held in Madrid, Spain. Huawei defined the development stages of the ultra-broadband industry for the first time, and explained its Gigaband strategy in terms of bandwidth, coverage, and experience. According to Huawei, the Gigaband strategy improves access speeds, enhances ultra-broadband network coverage, and offers a superior user experience.
In the global services domain, we adopted a Product + Service strategy, continued to increase investment in services, established a digital business ecosystem through open collaboration, and continued to improve network performance, service quality, and user experience. Through consulting and system integration services, we helped carriers achieve experience-driven operations transformation and infrastructure restructuring to advance their digital businesses. Specifically:

- By the end of 2015, we constructed or supported the operations of more than 30 Service Operations Centers globally with the HUAWEI SmartCare® CEM solution, providing services to 14 of the world’s top 30 carriers.

- Our Network Experience PLUS solution helped customers improve their brand reputation, deliver a differentiated service experience, and enhance the service experience in key regions and during key events. We provided the Indoor Connected Solutions for more than 40,000 hotspots for 120 carriers in 75 countries.

- The Infrastructure Enabling System catalyst program themed “utilizing future mode of operations (FMO) to establish a model-driven hybrid business orchestration”, a joint innovation of Huawei and carriers, won TMF’s Best Adoption of Frameworx award.

- We provided data center integration services for 255 cloud data centers, and helped carriers smoothly consolidate and migrate large-scale data centers across vast geographic areas and oceans.

- In NFV/SDN integration services, we implemented over 70 commercial NFV and SDN projects worldwide.

- Our managed services helped carriers rapidly transform toward ICT converged operations and create more value.

- Through ecosystem collaboration and our Open ROADS Community, we developed ICT transformation best practices to drive the industry forward. We also continued to increase investment in competence centers and open labs to provide compelling and optimal solutions that align with carriers’ strategies.

In the carrier software domain, our "Accelerate Digitalizing" strategy enabled carriers' digital operations and transformation. Specifically:

- We continued to create the world’s best digital operation enabling platform to help carriers improve their capabilities to operate digital businesses and enrich their portfolio of digital services. We developed the Universe Big Data analytics platform based on the management of customer assets to help carriers transform toward digital operations and enhance the user experience.

- We developed a Digital inCloud platform and established a digital service ecosystem that ensures shared success with carriers and partners based on our Digital Service Delivery Platform (SDP) and our capabilities in converged operations of digital services. Digital inCloud has connected 113 carriers worldwide, and helped over 2,400 partners deliver hundreds of thousands of pieces of content around the world. Huawei won TMF’s Open Digital Ecosystem Award for this platform’s leading concepts and successful practices.
In BSS, we continued to serve multinational carriers including Vodafone, Telefónica, América Móvil, and STC. Our Business Enabling System (BES), based on next-generation suites, continued to explore and gain experience in the areas of customer experience improvement, omni-channel transformation, and Internetized agile operations, enabling carriers’ digital operations transformation. BES was successfully deployed commercially, and won the Agile Business & IT Solution Provider Award at the TM Forum Live! 2015.

In the core network domain, we focused on the evolution of converged communications, Packet Core Network (PCN), NFV, convergent data, and IoT. We optimized full-connection management and actively promoted cloud adoption. By providing a superior user experience in dual HD voice and video, monetizing traffic in all-access smart pipes, and opening up communications capabilities, we helped carriers in their transformation toward future networks. Specifically:

- In 2015, our VoLTE and VoWiFi solutions served 68 networks, and we became a preferred strategic partner of world-leading carriers. We successfully helped leading carriers, including Vodafone and China Mobile, deploy VoLTE networks, and accelerated the development of 4G converged communications.


- Our PCN solutions continued to help carriers construct smart pipes that deliver an optimal user experience, and maintained the top spot in terms of market share. Our CloudEPC Solution, based on cloud architecture, received the Best NFV Innovation of the Year Award at the LTE World Summit 2015.

- In the convergent data field, we continued to help carriers create value from their data assets and monetize their network assets. A survey published by Frost & Sullivan ranked Huawei number one in the 2015 SDM market. Our flexible, real-time, and converged SmartPCC solution meets user demand for a differentiated service experience, and won the Best Traffic Management Solution award at the Policy Control Forum 2015.

- In October 2015, we unveiled an IoT connection management platform. This platform will enable us to continue to drive our strategy of openness, and work with developers worldwide to enable the 100 billion connections that will emerge in a fully connected era.

In the IT domain, capitalizing on the opportunity of traditional industry upgrading, Huawei focused on IT infrastructure, developed innovative hardware products, and opened up platforms to facilitate carriers’ transformation. Leveraging our deep understanding of carriers’ businesses gained over the years, the open IT architecture, and the company’s industry-leading ICT solutions, Huawei continued to help carrier customers achieve faster and more agile digital transformation and business success.
In 2015, Huawei was selected by more than half of top-tier carriers as their provider of storage, server, and cloud computing products:

• Our storage products were widely adopted in the core systems of carriers including Telefónica, Vodafone, and MTN.
• Our servers helped global carriers, including Telefónica and TalkTalk, expand their businesses.
• Our FusionSphere cloud operating system helped UK-based O2, France’s SFR, and other carriers build cloud platforms.
• Our converged resource pool solution helped many carriers build new basic network platforms.

By enabling shared success and providing differentiated and cutting-edge products, we made solid progress in ecosystem development in 2015:

• Deutsche Telekom selected Huawei as a partner under its public cloud strategy.
• China Telecom Global partnered with Huawei to build over 20 cloud sites worldwide and extend the coverage of public cloud services to enterprise customers around the world.
• As a leader of cloud architecture, we conducted in-depth collaboration with over 400 carrier customers and partners around the world to explore cloud transformation.

In the network energy domain, ICT network convergence and transformation are bringing challenges on massive data, traffic, and power consumption. We seized opportunities presented by the evolution of traditional power supply solutions toward the energy Internet; adhered to the core concepts of digitization, interconnection, and intelligence; and focused on telecom energy, data center energy, and smart PV. Through this, we provided solutions that meet the application requirements of all power supply scenarios in the ICT industry. They include:

• Next-generation intelligent MTS power supply solutions, which are the industry’s most efficient and apply to both wireless and fixed network scenarios
• Simple, efficient, and reliable intelligent data center energy solutions
• A full range of efficient modular uninterruptible power supply (UPS) solutions

These solutions helped carriers maximize network efficiency and smoothly evolve their ICT networks. Our achievements in the network energy domain in 2015 included the following:

• We partnered with Orange to help reduce energy consumption and improve energy efficiency across its networks.
• With an efficiency of 98%, our ultra-high-efficiency power supply products were commercially adopted on a large scale by world-leading carriers, including Vodafone and Telstra.
• Our innovative, intelligent MTS solutions helped Telefónica and América Móvil build sites and operate efficiently.
• Our data center energy solutions were applied in carriers’ data centers and deployed by BT and Telefónica. We won the largest share in China Mobile’s centralized procurement of UPS products for two consecutive years.
• To date, we have deployed 1.8 million telecom energy systems in 170 countries, and enjoy the largest global market share in this regard. We also received the 2015 Global Product Innovation Leadership Award in Telecom Energy Solutions from Frost & Sullivan.

Digital transformation is creating huge opportunities for the mobile communications industry. In 2016, we will continue to focus on the concept of Open ROADS to a Better Connected World, and collaborate with carriers to explore strategic options for digital transformation and methods for reshaping the telecom industry in four areas: services, operations, network functions, and network architecture. We believe that a fully connected and intelligent world is just around the corner. We are committed to joining forces with our global customers and the entire ICT industry to create Open ROADS to a Better Connected World.
Enterprise Business

The impact of innovative ICT technologies such as cloud computing, Big Data, IoT, and mobility on industries is increasing. Significant changes are taking place in customers’ business models, enterprise IT architecture, and the industry ecosystem. In response to customers’ business pain points and strategic demands, we have focused on ICT infrastructure and fully collaborated and jointly innovated with our partners on technology, hardware, software, services, and go-to-market. Through these efforts, we have provided our customers with innovative, differentiated, and leading products and solutions and helped them achieve business success.

In 2015, we achieved rapid growth in our focus industries, including public security, finance, transportation, and energy. Our revenue from the enterprise business reached CNY27,609 million, an increase of 43.8% year-on-year.

Focusing on high-value industries and working with partners and customers to build Business-Driven ICT Infrastructure

In the smart city domain, we have jointly innovated with Hexagon and other partners to develop the world’s first visualized and converged Safe City Solution. The solution:

- Helped city authorities and emergency response departments fully improve their capabilities in risk perception, comprehensive pre-warnings, timely responses, smart decision-making, and efficient cross-departmental collaboration.
- Served more than 400 million people in over 100 cities across over 30 countries in the Middle East, Africa, and Asia Pacific.

In the finance domain:

- Our Omni-Channel Banking Solution has been commercially deployed in more than 300 financial institutions, including 6 of the world’s top 10 banks.
- We have jointly innovated with more than a dozen top-tier financial institutions and independent software vendors around the world to research next-generation IT infrastructure for banks based on cloud computing and Big Data, and help financial institutions address the challenges associated with innovation in the Internet era.
- Huawei’s Financial Cloud and Big Data solutions have been adopted by over ten mid-sized and large banks such as the Industrial and Commercial Bank of China (ICBC) and China Merchants Bank (CMB). The solutions helped CMB significantly increase the number of customers applying for micro and small-sized loans, and remarkably reduce the number of text messages required to promote wealth management products.

In the transportation domain, our Digital Railway Solution served a total track length of over 100,000 km. We:

- Deployed an IP-based railway communications system in Spain.
- Completed commercial testing on the world’s first LTE-powered metro CBTC system in China.
- Signed a cooperation agreement with Deutsche Bahn to help it construct a future-proof scalable train-ground communications system.

Through these projects, we are pioneering the IP- and broadband-based development of railway operations and communications.

In the energy domain:

- The Huawei Better Connected Smart Grid Solution helped Thailand’s Provincial Electricity Authority (PEA) build a secure high-speed production network, driving the rapid development of smart grids.
- Huawei’s Advanced Metering Infrastructure (AMI) Solution helped IE, a power company in Nigeria, build a smart power consumption system. The solution dramatically reduced electric wire losses caused by non-technical reasons, and helped IE operate more efficiently.
In March 2015, Huawei showcased its latest innovations at CeBIT, the world’s largest ICT trade fair. With the theme of Innovative ICT to Build a Better Connected World, Huawei hosted various activities at the event, including exhibitions, a new product launch conference, a CIO forum, signing ceremonies with customers and partners, and small forums. The theme at CeBIT 2015 was d!conomy, which focused on digital transformation. As one of the key hot topics of CeBIT 2015, Industry 4.0 is a high-tech strategy proposed by the German Government to promote the development of digital technology infrastructure and economic growth. In line with the event’s focus, Huawei delivered a keynote speech titled “Innovative ICT Enables New Industrial Revolution” at the CeBIT Global Conferences.

In the education domain:

- Huawei’s Education Cloud Solution was applied in more than 40 countries and regions.
- Our Smart Campus Solution helped more than 200 universities around the world, including Newcastle University in the UK, Southern Cross University of Australia, and China’s Tsinghua University, apply innovative ICT to improve teaching and research.
- Our Smart Classroom Solution has been used to facilitate the elementary level education in multiple countries, including China, the US, Turkey, and South Africa.
- Through the Huawei Authorized Information and Network Academy (HAINA), we have worked with over 140 colleges and universities around the world, including the University of Reading in the UK, University of Sydney in Australia, University of Alicante in Spain, National University of Computer & Emerging Sciences (FAST-NU) in Pakistan, and City University of Hong Kong, and have trained more than 5,000 students.

In the Internet domain:

- Huawei’s data center solutions have been deployed on a large scale by many large websites, including France’s Criteo and India’s Flipkart.
- Our data center solutions also helped multi-tenant data center service providers, such as Evry in Norway, Digital Sense in Australia, and iAdvantage in Hong Kong, provide different types of applications (e.g., virtual desktop infrastructure) and basic services (e.g., IaaS) to enterprise customers.
- We have helped Internet service providers, such as Versatel of Germany, provide high-quality Internet services to end customers.

We have carried out in-depth cooperation with carriers worldwide in the enterprise market:

- Worked with Telefónica to help CEPSA, the largest oil company in Spain, achieve digital and smart development for flow manufacturing.
Partnered with Vodafone Global Enterprise to provide innovative one-stop enterprise connectivity services, which were replicated on a large scale by Vodafone’s high-value subsidiaries in Spain, Italy, and South Africa.

In the media and entertainment domain:

- We helped the Korean Broadcasting System (KBS) edit 4K ultra-HD programs to provide viewers with a superior visual experience.
- Huawei’s Media Cloud Solution helped broadcasters, such as China’s Henan Television, improve program production efficiency.
- Our innovative hybrid cloud architecture for TV stations which embrace omnimedia has been incorporated as part of the Whole TV Station Network Standards 2.0 of China’s State Administration of Press, Publication, Radio, Film, and Television.

In the government domain, China’s State Information Center adopted Huawei’s Hybrid Government Cloud Solution to build a backup enrollment system for the national civil service exam of the Ministry of Human Resources and Social Security of China. The system shared a portion of the exam enrollment service’s traffic, successfully stood the test of massive traffic outbreaks and long traffic peak hours, and helped ensure the enrollment service for the national civil service exam was implemented successfully.

Providing innovative one-stop ICT products and solutions based on cloud architecture to help customers achieve agile innovation

By adhering to the concept of Make IT Simple, Make Business Agile, we have continued to develop innovative IT products, which has allowed them to become more competitive in the marketplace. Our IT products and solutions have been deployed in over 150 countries and regions, and become a new engine and benchmark for enterprises’ digital transformation:

- According to a Gartner report, our storage products continued to grow rapidly. These products are now serving more than 4,000 customers across over 150 countries and regions.
- Another Gartner report showed that our server shipments in 2015 maintained the fourth spot; the growth rate of Huawei’s 8-socket mission-critical servers was the fastest worldwide; and shipments of Huawei’s blade servers ranked first in China.
- By the end of 2015, the number of Huawei’s enterprise cloud partners exceeded 500. Working together, we provided cloud services to over 2,500 customers in the government & public utility, telecom, energy, and finance sectors across 108 countries and regions, deploying more than 1.4 million virtual machines. By the end of 2015, we had built 660 data centers worldwide, including 255 cloud data centers.

In 2015, we launched our Agile Network 3.0 Solution, which extended the innovative architecture of Huawei’s Agile Network to the IoT domain. We continued to innovate on data centers, enterprise wireless campuses, and network security, and launched the Agile IoT, Cloud Fabric 3.0, Agile Mobile, and Anti-APT solutions. We also created the Cloud Mitigation Alliance (CMA) as a new security business model to protect against DDoS attacks. To date, over 2,000 customers worldwide have deployed our Agile Network Solution.

According to reports released by IDC, the market share of our data center switches grew the fastest worldwide. Following our enterprise router and firewall products, sales of both our data center switches and Ethernet switches jumped to the top spot in the Chinese market.

In addition:

- Our Onboard Solution, a sub-solution of our Agile Branch Solution, has been commercially deployed on a large scale.
- We worked with multinational carriers in Europe on the resale of our Virtual Customer Premise Equipment (vCPE) Solution.
- Our AMI Solution was successfully commercialized in multiple countries.
- Our High-Density Wi-Fi Solution was successfully delivered at China’s National Stadium, known more commonly as the Bird’s Nest, to support the World Athletics Championships 2015.
- Our Cloud Fabric Data Center Network Solution helped Switzerland’s Abraxas to successfully build an efficient SDN-ready cloud data center network.
- Our Agile Controller has been officially deployed on a commercial basis and adopted in multiple projects worldwide.

Huawei’s enterprise communications products and solutions have been applied in over 150 countries and regions, and helped customers improve efficiency and provide innovative services via efficient and reliable real-time audio and video communication. According to a report from IDC, in 2015, Huawei’s videoconferencing products had ranked first in China for three consecutive years and third worldwide for two consecutive years in terms of market share.

At the Huawei Network Congress 2015 (HNC 2015), Huawei and Tencent jointly launched an innovative WAN SDN solution, securing leadership in the commercial WAN SDN deployment domain. Huawei’s Agile WAN Solution has been extensively applied in more than 100 countries and regions, and adopted by many customers in Germany, France, Australia, Japan, and South Korea. Huawei’s All-optical Campus Solution, a new campus solution, was deployed by Mina A’Salam of Dubai, Four Seasons Hotel in Portugal, and Hollywood Roosevelt Hotel in Macau.

In 2015, many new partners joined the eLTE Industry Alliance, including Siemens CVC, research and analysis institution IHS, and British private network provider UK Broadband, bringing the total number of members to 78. The enterprise wireless ecosystem has developed rapidly, effectively driving up broadband adoption in the emergency communications market. By the end of 2015, Huawei had signed 164 eLTE network contracts, and commercially deployed 84 eLTE networks.

In the network energy domain, we are committed to providing our customers with simple, efficient, and reliable ICT power supply solutions. In 2015, we achieved the following:
- Our solutions were widely adopted and recognized in many industries, including the ISP, finance, transportation, and energy sectors. Our customers included Tencent, iAdvantage in Hong Kong, HSBC Malaysia, the National Commercial Bank of Saudi Arabia, London Underground, Saudi Aramco, and Pemex.
- Reports from third-party consulting firms, including CCID Consulting and ICTresearch, revealed that Huawei’s large-capacity UPS products and micro modular data center solution secured the largest market share in China and were ranked among the top worldwide in terms of market share.
- Huawei’s innovative intelligent micro modular data center solution received The Modular Deployment...
Award from DatacenterDynamics, establishing Huawei’s leading position in the ICT network energy industry.

By integrating digital information, the Internet, and PV technologies, our simple and digital Smart PV Solution that supports automated operations around the world has been recognized and applied extensively by customers:

- We won a 60% share in the Pioneer Project in Datong City, China’s first advanced demonstration base for PV technologies.
- China Minsheng Investment Corp., Ltd. (CMI) will use the solution to construct the world’s largest PV plant in China’s Ningxia Province with a capacity of 2 GW.
- We established comprehensive partnerships with China’s top 50 PV plants.
- The solution has been adopted by an increasing number of customers in Europe, the US, and Japan.
- We have established a robust smart PV ecosystem with upstream and downstream vendors by adhering to the principles of openness, cooperation, and shared success.

Adhering to the Being Integrated strategy and joint innovation to build a new ecosystem through open technologies and platforms

By continuing to follow our Being Integrated strategy, we have made new progress in our efforts to build a partner ecosystem characterized by openness, collaboration, and shared success. Our global partner base has been expanding steadily. By the end of 2015, in the enterprise business we had more than 8,000 channel partners and 350 solution partners worldwide.

We have firmly implemented transparent and stable channel policies, and provided strong support to our partners in the areas of training, joint solution innovation, marketing, finance, supply chain, and IT support systems. Through this, we have continued to improve their business capabilities, facilitate their transformation, and ensure shared success.

By adhering to open collaboration, we have joined forces with customers and partners, such as Deutsche Telekom, Telefónica, SAP, Intel, and Accenture, to build an open ecosystem in the areas of cloud computing and Big Data. In addition, we have actively contributed to open source communities and driven the standardization of cloud platforms:

- By the end of 2015, as a gold member and board director of the OpenStack Foundation, Huawei was ranked sixth in commits during the development of the OpenStack Liberty release.
- In the Big Data domain, Huawei was ranked third in the Hadoop community and fourth in the Spark community in 2015.
- In August 2015, we unveiled our open source Astro project, which will significantly drive the promotion of Spark in the industry.
Our contributions in the open source domain have won wide acclaim across the industry, and we were selected as a platinum member of The Linux Foundation in August 2015.

We provide efficient, rapid, secure, and reliable delivery and maintenance services to industry and channel partners. By developing core competencies in professional services, we strive to become a leader in high-end services in the industry. In 2015, we officially launched our professional service product series. We set the standards for ICT certification in the industry to connect job-seekers and employers and help develop ICT talent. We are also actively participating in and building an open ecosystem and working with our partners to provide services to our customers.

New IT technologies, cloud architecture, IoT, and Big Data in particular, are reshaping enterprises' IT systems and business models. We will continue to adhere to our Business-Driven ICT Infrastructure (BDII) guiding principle, and leverage our advantages to continuously innovate and rapidly embrace changes. By focusing on cloud, pipe, and devices, we will deeply integrate software and hardware platforms, build a more open industry ecosystem, and develop leading, innovative, and differentiated ICT infrastructure for industries. In doing so, we strive to facilitate enterprises’ transformation, continue to create value for customers’ business success, and jointly build a Better Connected World.

**Consumer Business**

2015 saw new achievements in our consumer business with regard to improving global brand awareness, developing channels and services, and building a product ecosystem. Our products are now trusted by more consumers and favored by more partners.

In 2015, our revenue from the consumer business reached CNY129,128 million, a year-on-year increase of 72.9%, and we shipped 108 million smartphones. We have now secured our position as one of the top three global smartphone brands.

**Remaining at the forefront of technology trends and making global breakthroughs in brand awareness**

In 2015, we continued to innovate, focusing on cutting-edge technology and an inspired user experience. By openly collaborating with more partners, we have worked hard to integrate technology with culture, fashion, and art, and become an active trendsetter in technology and culture. Our brand awareness, industry influence, and consumer interest also improved. Specifically:

- Our global brand awareness jumped from 65% in 2014 to 76%, and our brand awareness increased to 97% in the Chinese market.
- Our Net Promoter Score (NPS) rose to 47 globally.
- Huawei became the only Chinese company to earn a place on Interbrand’s Top 100 Best Global Brands list and BrandZ’s Top 100 Global Brands, ranking 88th and 70th, respectively.

The Huawei brand’s continued growth and premium product quality have won us recognition from top-tier brands worldwide.

By the end of 2015, the number of Huawei’s certified service partners (CSPs) around the world totaled 2,092, and another 13,000 engineers received a Huawei-issued certificate. The number of Huawei Certified Internetwork Experts (HCIEs), the highest-level technical certification offered by Huawei, stood at nearly 1,300. The capabilities of our service partners have continued to improve. In addition, we have continued to expand our global CSP ecosystem. By the end of 2015, we provided training and certification services to our partners across 60 countries, and to over 500,000 trainees from customers, partners, and universities.
We partnered with Swarovski to launch the world’s first smart watch designed for women, which has won wide acclaim with its elegance and high quality.

We joined forces with Harman Kardon, the world’s leading audio brand, on the M2 tablets to significantly improve their sonic experience.

The Nexus 6P, created in collaboration with Google, has become a new benchmark in native Android-powered smartphones, and raised Huawei’s position among Android smartphone makers to new heights.

Our dual Huawei and Honor brand strategy continued to create synergy. The Huawei and Honor brands have different focuses and have demonstrated their advantages amid fierce market competition. They have distinct characteristics in product presence, channel development, brand development, and user coverage. This dual-brand strategy has enabled Huawei to enter the global market and establish mobile smart ecosystems for smartphones, smart homes, and wearables.

Bringing together the world’s innovation capabilities to create an inspired user experience

We have always adhered to a strategy of high R&D investment. Through our 16 R&D centers worldwide, we bring together the world’s best talent and resources to develop our global innovation capabilities and keep pace with global fashion trends. Through this, we aim to create an inspired product experience and become an industry leader.

In the smartphone domain, we have continued to focus on our premium product strategy. With cutting-edge technology and stylish designs, we bring consumers a superior hardware and software experience, which has fueled rapid business growth. In 2015:

- Our mid-range and high-end smartphones accounted for over 30% of our total smartphone shipments.
- One million Mate 8 smartphones were sold within one month of its launch.
- The Mate S and Nexus 6P were top sellers in over 60 countries.
- We shipped over 5 million P8 smartphones and 7 million Mate 7 smartphones.
- More than 40 million Honor smartphones were shipped to over 70 countries and regions.

We have actively established our presence in the smart wearable, the smart home, and the Internet of Vehicles (IoV) domains. Through technological and

On September 2, 2015, in Berlin, Germany, approximately 1,000 journalists, analysts, and customer representatives from dozens of countries witnessed Huawei’s launch of the Mate S, the new flagship device that takes a revolutionary approach to touchscreen control. With disruptive Press Touch technology and a superior experience, the Mate S revolutionized the way we use smartphones, and became a top seller in high-end markets worldwide. It also won more than a dozen awards from international media, including Best of IFA 2015.
brand marketing innovation, we have collaborated with top-tier global partners to develop better smart life services and deliver a better smart experience under all scenarios:

- Our wearables integrate technology and fashion, and shipments achieved scale.
- Through cross-industry innovation, our tablet shipments saw a year-on-year increase of over 130%.
- Our MBB products maintained their leadership worldwide, with shipments of 4G wireless broadband devices exceeding 20 million units.
- In the smart home market, we worked to promote the joint development of an open HiLink smart home solution.
- Our IoV products were selected and recognized by leading car makers including Audi and Volkswagen.

We achieved rapid growth and made continuous breakthroughs in the consumer cloud service market. Through an open ecosystem, we worked with our partners to achieve shared success and deliver a better user experience to consumers:

- Our mobile cloud service users exceeded 130 million.
- App downloads in the Huawei AppStore (HiApp) reached 17.5 billion.
- The number of our partners for developing cloud services grew by 150% year-on-year.
- Our cloud services passed the CSA STAR Certification, an international influential certification in the cloud security domain, thus demonstrating Huawei’s industry-leading expertise in user privacy protection.

**Significantly increasing revenue and cementing our position among the global top three smartphone brands**

Cutting-edge technology and brand improvements helped us make breakthroughs and achieve strong growth in the consumer business in 2015:

- Annual revenue jumped by over 70% year-on-year.
- Annual device shipments reached 173 million units, an increase of 25% over 2014.
- Smartphone shipments rose by 44% year-on-year, far exceeding average growth in the global smartphone industry, making Huawei the first Chinese smartphone brand to top the 100-million-unit milestone.
- Revenue from our Honor smartphones grew many times over, and Honor became a leading Internet-based mobile phone brand.

After five years of continuous innovation, we have risen in the mid-range and high-end market, and increased our share in the global market:

- A report by GfK showed that Huawei smartphones have maintained a leading retail share in the Chinese market and secured the third spot globally with a market share of 9.9%.
- We grew rapidly and achieved a leading market share in Europe, Latin America, the Middle East, and Africa.
- In certain developed Western European countries, we achieved outstanding results in the high-end smartphone market, ranking among the top three in terms of market share.

**Huawei actively explores new brand cooperation strategies to bring together the best in technology, art, design, and culture.** On September 28, 2015, Huawei made its grand debut at Milan Fashion Week, and collaborated with Vogue to sponsor Fashion Week events. A special edition of the Huawei Watch, designed by renowned Italian designer Barnaba Fornasetti, was given as an exclusive gift to guests at Vogue China’s 10th anniversary party in Milan.
We have further improved our development of all types of channels:

- In 2015, we directly collaborated with 1,400 open channel customers in 135 countries.
- Revenue contributions from open channels (including e-commerce) increased by 130% year-on-year, accounting for over 58% of our total revenue from the consumer business.

Retail stores worldwide exceeded 53,000, greatly enhancing consumers’ retail experience with the Huawei brand.

By staying consumer-centric, we have built convenient brick-and-mortar service centers in major cities, and deployed multi-channel online platforms in over 100 countries. We also coordinated our online and offline operations.

In 2016, Huawei will embrace strategic opportunities to reshape the industry landscape and rise globally in the consumer business. As devices become smarter and more diverse, we will develop future-oriented capabilities to adapt to consumer needs under all scenarios, including the way they live, work, and play. We will seek to cooperate with more top-tier industry players in the areas of flagship products, smart homes, and cloud services. Through technological innovation and mutually beneficial collaboration, we will deliver more innovative gadgets and service experience to consumers worldwide.

**Research and Development**

Focusing on our ICT pipe strategy, we have continued to invest in key technologies, basic engineering capabilities, architecture, standards, and product development to build a Better Connected World. We aim to create a better user experience by providing broader, smarter, and more reliable pipes with higher performance and zero wait time.

We are committed to translating leading technologies into better and more competitive products and solutions to help customers achieve business success.

In the wireless network domain, Huawei was the first company to propose and define 4.5G. We have continued to lead innovation with key indicators including Gbps, Experience 4.0, and Connection+, to build faster mobile broadband networks that deliver a better experience and support more connections. Specifically, we:

- Released 4.5G-based NB-IoT technology. This technology equips cellular networks with the extensive connectivity of the IoT and allows for lower power consumption and more connections.
- Continued to optimize our SingleRAN solution, which supports multiple frequency bands, multiple modes, and multilayered networks.
- Launched our Blade Site Solution with a simplified design, making it more scalable and easier to deploy.

Retail stores worldwide exceeded 53,000, greatly enhancing consumers’ retail experience with the Huawei brand.

By staying consumer-centric, we have built convenient brick-and-mortar service centers in major cities, and deployed multi-channel online platforms in over 100 countries. We also coordinated our online and offline operations.

In the wireless network domain, Huawei was the first company to propose and define 4.5G. We have continued to lead innovation with key indicators including Gbps, Experience 4.0, and Connection+, to build faster mobile broadband networks that deliver a better experience and support more connections. Specifically, we:

- Released 4.5G-based NB-IoT technology. This technology equips cellular networks with the extensive connectivity of the IoT and allows for lower power consumption and more connections.
- Continued to optimize our SingleRAN solution, which supports multiple frequency bands, multiple modes, and multilayered networks.
- Launched our Blade Site Solution with a simplified design, making it more scalable and easier to deploy.

In the fixed network domain, we unveiled our UBB 2020 ultra-broadband development strategy to drive the industry into the Gigaband era. We also promoted DC-centered network reconfiguration to better support the development of 4K/8K ultra-HD video and cloud services. Specifically, we:

- Released the Any Media Giga Access Platform and were the first company to commercially deploy the DOCSIS 3.1 solution.
- Became the first company to launch the NE9000 petabit router and a 2T router line card, setting a new benchmark for core routers.
- Built the world’s first commercial 1T OTN in the transport technology domain, and unveiled the 400 Gbit/s short-reach optical interconnect module prototype.
- Unveiled the video experience measurement system U-vMOS and corresponding video experience optimization solutions and tools to help carriers shift the focus of their network construction to experience.

- Innovatively applied SDN technologies to multilayered networks and WAN to enable the commercial deployment of T-SDN. We also released the SDN algorithm Flow Engine 2.0, which targets IP+Optical synergy, improves network resource efficiency by over 40%, and increases algorithm efficiency 30-fold compared to conventional algorithms. These solutions focus on helping carriers more effectively shift toward digital operations and achieve agile operations.

- Received a number of awards in the ultra-broadband domain. Our core router NE5000E won the 2015 Best of Interop Grand Prize at Interop Tokyo, and our SDN-based WAN Virtualization Solution won the Best Virtualization Solution award at the Broadband InfoVision Awards, part of the World Broadband Forum 2015.

In the enterprise networking domain, we adhered to our vision of "Enable Networks to Be More Agile for Services", and continuously innovated based on the Agile Network architecture. Specifically, we:

- Launched our Agile IoT Solution by introducing SDN into the IoT domain for the first time to improve productivity and work efficiency in a fully-connected era.

- Leveraged SDN in our Cloud Fabric data center network architecture to develop a Fully-Connected SDN Solution to connect computing and storage networks, as well as multiple clouds, thus making cloud computing simpler. We also increased the link interconnection rate of data centers' internal switching fabric from 10G/40G to 100G and enabled smooth evolution from GE/10GE to 25GE servers.

- Launched innovative Agile Distributed Wi-Fi architecture and converged Wi-Fi and LTE technologies in our Agile Mobile Solution in the enterprise wireless network domain. These technologies are helping build wireless networks for large enterprise campuses that deliver the same experience as carrier networks and provide more value-added services.

- Unveiled our Big Data Anti-APT Solution that provides full-scale network protection for cloud, pipe, and devices.

In the carrier software domain, we have focused on our software platform strategy and remained committed to developing a digital service enabling platform and digital operation enabling platform. Specifically, we:

- Adopted advanced modular and cloud architecture in the Huawei Hybrid Video Solution as an important digital service enabling platform. We launched and commercially deployed a 4K ultra-HD video system that supports tens of millions of users. With this system, in the customer environment the fast channel change time is less than 0.7 seconds and the page switching time is less than 1 second. The system delivers the best service experience in the industry, and its launch marked a key milestone in the development of global ultra-HD video technologies.

- Developed the industry's first cloud- and service-based memory database optimization technology, and launched a large-capacity telecom service billing system with hour-level bill run capabilities as well as industry-leading automatic bill run and automatic accounting audit technology. The system supports elastic scaling (node scaling time < 1 minute) and active-active disaster recovery (switchover time < 3 seconds).

- Extended our digital operation enabling platform featuring cloudification, micro services, and suites to cover carriers' end-to-end processes for future digital service operations.

In the core network domain, we focused on providing customers with the best real-time voice/video, all-access smart pipe, and full connection management and control solutions, and continued to pursue industry-leading competitiveness in NFV, IoT, EPC, VoLTE, and future network architecture evolution. Specifically, we:
Launched our cross-DC cloud-based core network architecture, featuring high reliability, high elasticity, simplified deployment, unified operation, openness, and pre-integration. The architecture’s elastic scheduling algorithm supports small-capacity and efficient elastic deployment for enterprises as well as smooth and reliable expansion to the larger capacity required in the carrier market. The Huawei CloudEPC is the industry’s first cloud-based EPC solution with a cloud architecture that was commercially deployed. The Huawei CloudIMS is the industry’s first cloud-based IMS solution that supports releases of the OPNFV.

Actively implemented the IoT ecosystem strategy based on Huawei IoT connection management platform and agents. We also supported the on-demand and dynamic deployment of services between cloud platforms and edge gateways, and worked with oneM2M, AllSeen, Z-Wave, and other organizations to promote interoperability and openness in the IoT industry.

Became the first company to make breakthroughs in key H.265 high-fidelity and low-bandwidth technology and delivered the industry’s best end-to-end video call experience with our VoLTE solution.

In the network energy domain, we proposed the innovative concept of replacing copper with silicon in power electronics technologies, combined leading ICT technologies with power electronics technologies, and continuously innovated regarding the digitization and high-frequency application of power supply technologies. Specifically, we:

- Became the first company to launch an industry-leading rectifier with an efficiency of 98% in the telecom energy field.
- Released our modular UPS that adapts to all types of power grid systems worldwide and delivers industry-leading efficiency and power density.
- Proposed distributed computing and control architecture to address reliability issues in the parallel operation of modular UPSs, and verified the industry’s first parallel UPS system composed of 160 modules.
- Received industry-wide recognition for our Smart PV Solution.

In the IT domain, we continued to focus on SD-DC², our Service-driven Distributed Cloud Data Center solution, and made many achievements in innovation in 2015.

In the cloud computing field, we:

- Released FusionSphere 6.0, a cloud operating system that supports converged resource pools, converged SDN, and disaster recovery and data protection across data centers. Through the converged SDN networking of virtual and physical networks, the system supports the smooth evolution of traditional data centers toward cloud data centers.
- Developed the Huawei Enterprise Cloud based on distributed architecture across multiple data centers in the public cloud field. As a leading global public cloud service provider, we have worked extensively with world-leading carriers and helped them transform toward NFV and cloud-based operations.
- Achieved explosive growth in FusionStorage, our distributed software-defined storage system that supports classification, encryption, and deduplication. The system has been widely applied in public cloud data centers, and system capacity ranked first in the industry.

In the Big Data field, we developed key Big Data platform technologies for our FusionInsight solution based on the characteristics of the telecom and finance sectors. The technologies include real-time analysis, correlation analysis, and multi-tenant scheduling and management for massive numbers of small files and large-scale heterogeneous environments. These technologies helped preliminarily establish a favorable presence for Huawei in the telecom and finance sectors in 2015. With FusionInsight, financial risk control latency was reduced from seconds to milliseconds. Our clear and unified tenant models helped carriers construct their enterprise-class Big Data platforms. FusionInsight increases system throughput and utilization by more than three-fold in large-scale heterogeneous environments.
In the storage field, we:

- Released OceanStor 18000 V3, our high-end storage product that delivers up to 3 million IOPS, a latency of less than 1 millisecond, and 20 times faster data reconstruction.
- Released our OceanStor DJ data service platform. By virtualizing storage resources, developing templates for service deployment, and providing data applications in the form of services, the platform enables service-driven storage with multiple data application services and accelerates service launch within minutes.
- Enabled our OceanStor 9000 storage system to support both file and object interfaces, and resource pool sharing between files and objects. OceanStor 9000 also supports 4K HD video solutions, and is the industry’s first storage system to support 6-layer 4K HD video production.
- Became the first company to launch 25 Gbit/s networks in order to develop more cost-effective storage network solutions.

In the server field, we:

- Launched the industry’s first 32-socket x86 server, which fully meets the needs of enterprises regarding ultra large memory and running core applications.
- Launched our ES3000 NVMe SSD based on Huawei’s proprietary controller chips, which significantly improves the performance of databases and virtualization services and is driving SSDs into the NVMe era.

We have continued to increase investment in future-oriented basic research and innovation, and made tremendous achievements at the frontier of ICT development to drive industry development and business model success via technological breakthroughs.

In the next-generation mobile communications domain, we have pioneered 5G innovation and actively contributed to industry development. In 2015, we:

- Became the first company to release new air interface technologies for 5G, including Sparse Code Multiple Access (SCMA), Filtered-OFDM, and Polar Code. These new technologies flexibly adapt to various services and increase spectrum efficiency at least three-fold without introducing additional antennas or spectrums.
- Developed a new air interface algorithm that supported a peak rate of 3.6 Gbit/s during a large-scale 5G low-frequency field trial.
- Proposed a 5G network architecture concept: An NFV/SDN-based physical network is divided into multiple virtual network slices to support different service needs.
- Made innovative breakthroughs in large-scale antenna MIMO technology and full duplex prototype technology featuring multi-path fading cancellation and high bandwidth.
- Worked extensively with the EU’s 5G-PPP, the UK-based 5G Innovation Centre (5GIC), and the 5GVIA to complete large-scale testing and verification.
- Held extensive dialogues with industry players, and signed strategic partnership agreements with more than 30 leading global carriers.
- Conducted in-depth research and released a white paper on 5G security. We launched an end-to-end security architecture based on service slicing, a three-party trust model, and new concepts on security function decoupling and flexible security configurations.

In the future data center domain, we:

- Released our DC 3.0 prototype following wide industry acclaim for our DC 3.0 white paper in 2014. The prototype has performed much better than common architecture during the current period. As part of the prototype, we also launched the industry’s first TPCx-HS+FusionInsight solution.
- Developed a 100k-level data center network simulation framework, with a simulation speed of up to 10^6-level IPS.
- Developed a non-volatile memory based file system, the industry’s first user-mode memory file system, and a non-volatile memory based key-value system, with their performance achieving tens of millions of IOPS.
- Served as the editor for energy efficiency for TPCx-BigBench (TPCx-BB), an international standard for Big Data benchmarks, and developed measurement standards for Big Data analytics systems.

- Provided customers with high-performance, cost-effective, and green data center solutions through flat and scalable data configurations in our DC 3.0.

In the artificial intelligence domain, we:

- Made continuous breakthroughs in deep learning, created the industry’s most advanced Neural Responding Machine, and released the industry’s first single-turn dialogue generation model based on deep learning.

- Invented neural machine translation technology based on the deep memory framework and achieved the world’s top-tier performance in machine translation.

- Leveraged our achievements in machine learning to help carriers reduce their prepaid user churn rate from approximately 10% to 6%.

- Enabled automatic alarm correlation in GTS analysis automation for the first time in the world, and achieved an average alarm compression rate of more than 90% and a rule application rate of over 95%.

- Developed and released the world’s first open source streaming processing library on Spark.

In the battery domain, we announced our next-generation quick charging technology. A battery with a 3,000 mAh capacity can be charged to 48% capacity in five minutes to allow for ten hours of talk time on Huawei mobile phones. We bonded heteroatoms to graphite molecules in anode, which serves as a catalyst for the capture and transmission of lithium through carbon bonds. The heteroatoms enable battery charging speeds that are 10 times faster than normal batteries, without decreasing energy density or battery life.

In the video domain, we continued to strengthen research on basic communications technologies to achieve a better experience in the ultra-HD and mobile video fields. Specifically, we:

- Worked with industry players to establish open platforms and research the next-generation video coding technology Future Video Codec (H.266), jointly fueling the rapid development of enabling technologies for the video industry.

- Drove the application of IP Video that delivers a 4K ultra-HD experience. By adopting H.265 and Quality Driven Streaming (QDS), we increased the video fluency of 4K OTT and IPTV services by more than 60%. IP Video also delivers ultra-HD video at 1 Mbit/s for surveillance services, which effectively promotes the rapid deployment of 4K ultra-HD video services on live networks in different industries.

---

In June 2015, Huawei won the Biggest Contribution to 5G Development Award at the 5G World Summit 2015 for its continuous innovation breakthroughs and industry contributions relating to the research and verification of key 5G technologies.
In November 2015, Huawei introduced the Huawei Innovation Research Program (HIRP), Huawei’s platform for cooperative innovation, at the Enterprise 2020 Summit organized by CSR Europe. The HIRP has attracted around 100 academic institutions and over 1,000 scholars, and has funded the research of thousands of graduate students. In 2015, the HIRP sponsored over 100 new research projects to further strengthen basic research and technological innovation.

We have cooperated with global innovators through our 16 R&D institutes and centers and 36 joint innovation centers around the world. We have promoted technological progress toward a Better Connected World by sharing insights into ICT advances. Specifically, we:

- Actively promoted the development of the 5G industry and ecosystem as a major player along with our partners in North America, Asia Pacific, and Europe, made breakthroughs in key technologies on 5G air interface algorithms, and promoted 5G standardization. The tremendous value of key technologies for new 5G air interfaces was fully verified during the first field trial for 5G air interfaces in Europe. This field trial was performed in collaboration with universities, including the UK-based University of Surrey, drawing continued attention from Horizon 2020 and IMT-2020.

- Established NFV labs in collaboration with global leading carriers, Internet companies, and active industry partners to conduct open innovation and research, and influence and set standards. The collaboration is now a role model for partnerships on building NFV ecosystems for shared success in the era of ICT convergence.

- Worked with European universities to research key component behavior models for the first time in the industry. After four years of unremitting efforts, we have maintained industry leadership regarding the power amplifier efficiency of base stations, thus establishing Huawei’s long-term market and technological leadership in the wireless infrastructure domain. To address the dense deployment of base stations in the future, we explored a business model for crowdsourcing-based network construction for micro base stations integrated into intelligent street lighting.

- Collaborated with research institutes to propose a novel server architecture that enables a Programmable Architecture for Resourcing on-Demand (PARD) and full hardware virtualization for data centers. The proposed architecture, which provides critical hardware-level support to address the challenge of achieving both high utilization and high quality of service (QoS) in data centers, won high acclaim from academics.

- Worked extensively with many prestigious universities, companies focused on technological innovation, and open source organizations in the areas of distributed storage, storage class memory (SCM) systems, cloud computing platforms, Big Data, artificial intelligence, knowledge libraries, and HD video, in order to drive technological innovation.

As a major contributor to the ICT industry and ICT standards setting, we have been leading industry development to expand the total addressable market. We have also partnered with stakeholders to build a mutually beneficial industry and ecosystem.

We have been actively involved in and promoted the development and implementation of mainstream international standards. Specifically, we:

- Actively participated in ITU-R/WRC-15 to provide industry policy assurances for 5G standards, and actively promoted cooperation between China and Europe in science and technology to jointly develop unified 5G standards globally.

- Helped implement LTE-Advanced Pro to continuously evolve LTE-Advanced, and explored the possibility of applying cellular technologies such as LTE-V and LTE-T to vertical industries.

\[\text{In November 2015, Huawei introduced the Huawei Innovation Research Program (HIRP), Huawei’s platform for cooperative innovation, at the Enterprise 2020 Summit organized by CSR Europe. The HIRP has attracted around 100 academic institutions and over 1,000 scholars, and has funded the research of thousands of graduate students. In 2015, the HIRP sponsored over 100 new research projects to further strengthen basic research and technological innovation.}\]
Actively participated in activities organized by IEEE, and drove forward project progress on Wi-Fi standards (e.g., 802.11ax, 802.11ay, and 802.11aj) to promote the development of Wi-Fi technologies.

Were elected to the chair of the Focus Group on IMT-2020 to lead the development of 5G bearer network architecture.

Led the development of the future-proof 400 GE technology in IEEE to expand the application scope of the Ethernet industry.

Guided the direction of IP technology development by continuously investing in the IETF.

We are an active player in open source communities. Specifically, we:

- Participated in the establishment of open source communities such as ONOS, OCI, and CNCF to promote the robust development of the SDN and container industries.
- Became a platinum member of The Linux Foundation and gained a seat on its Board of Directors, enabling Huawei to lead industry transformation together with the industry and developers and rapidly respond to customer needs.

We have taken the initiative to establish industry alliances:

- Actively participated in activities organized by GSMA and ETSI to promote the development of NFV, millimeter Wave Transmission (mWT), and IPv6 standards and the industry as a whole, and stress shared success in the industry based on a balance of interests.
- Collaborated with TMF to share customer resources, had our leading concepts regarding transformation toward digital operations recognized in the industry, and won TMF’s Open Digital Ecosystem excellence award and President’s Award.

- Helped establish a series of industry alliances on NFV/SDN and NB-IoT to bring together industry players and expand the total addressable market.

As of December 31, 2015, we had filed 52,550 patent applications in China and 30,613 outside China, with a total of 50,377 granted.

As of December 31, 2015, Huawei had become a member of over 300 standards organizations, industry alliances, and open source communities, holding more than 280 important positions. Huawei is a board member of IEEE-SA, ETSI, WFA, TMF, OpenStack, Linaro, OASIS, and CCSA. We submitted more than 5,400 proposals in 2015, with the total number exceeding 43,000.

Huawei has consistently invested over 10% of its revenue in R&D every year. In 2015, approximately 79,000 employees were engaged in R&D, comprising 45% of our total workforce. Huawei’s R&D expenditures totaled CNY59,607 million in 2015, accounting for 15.1% of the company’s total revenue. We have cumulatively spent more than CNY240,000 million on R&D over the past decade.
Cyber Security

The new generation of network and information technologies (e.g., Big Data, cloud computing, IoT, and the mobile Internet) are driving the convergence of cyberspace and the physical world. Cyber security is a growing global challenge, and is exerting a profound and far-reaching impact on the ICT industry. Huawei’s commitment to cyber and service 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.

We attach equal importance to user privacy protection and cyber security. We have made every effort to facilitate user privacy protection in accordance with local, regional, and international laws and regulations, accepting that these are in a state of change. We have established a Global Cyber Security and User Privacy Protection Committee as the company’s highest organization for managing cyber security and user privacy protection. We have also appointed a Global Cyber Security & Privacy Officer, who reports directly to the CEO. All Huawei’s relevant business units have set up cyber security and user privacy protection offices. Privacy protection activities have been implemented at Huawei as part of day-to-day compliance and business operations. 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.

We continue to communicate and partner with governments, customers, and industry partners on security through various channels with an open, transparent, and collaborative approach, and have improved Huawei’s influence and reputation in security. Our efforts have been widely recognized:

- In April 2015, Huawei received the Transparency Award for cyber security from the governments of four cities in Lower Saxony, Germany. This is the first cyber security award received by Huawei from governments in Europe.

- In May 2015, Huawei was presented with the 10-Year Excellence in Information Security Testing Award by ICSA Labs, demonstrating that Huawei’s product security capabilities have been recognized in the industry.

- In November 2015, Telefónica awarded the Protocol of Security Development Assurance (PSDA) stamp to Huawei for several of our products at the second Huawei MBB Cyber Security Mindshare Forum held in Hong Kong. The PSDA is a successful cooperation initiative between Telefónica and Huawei, aimed at jointly building a global cyber security assurance system, openly and transparently.

We have played an active role in the development of security standards in the CT domain, such as 3GPP SA3, ETSI NFV, and Common Criteria (CC) cPPs. We have also made breakthroughs in critical security technologies, such as trusted computing, encryption algorithms, and authentication algorithms, and translated these technologies into security capabilities for our products. In addition, we are willing to share our understanding of and experience in cyber security with other industry players, and have cooperated with and learned from them while making contributions to the industry:

- Between 2012 and 2014, we published three cyber security white papers to explain our understanding of cyber security issues and demonstrate that our cyber security position and perspective are characterized by openness, transparency, and visibility. These
papers were designed to explore methods of making cyber security part of our company's DNA; to call for the development and implementation of unified international cyber security standards; and to share Huawei’s Top 100 cyber security practices and experience in a bid to raise security levels across all technologies.

- In September 2015, we attended the 6th Global Cyberspace Cooperation Summit held by EastWest Institute (EWI) in New York and delivered a keynote speech expressing our willingness to collaborate with stakeholders to address cyber security issues. Huawei, Microsoft, and The Open Group co-lead the Breakthrough Group on Increasing the Global Availability and Use of Secure ICT Products and Services, part of EWI's Global Network Initiative. Huawei’s Top 100 white paper has also served as an important input for the Breakthrough Group. Multiple US media reported Huawei’s contributions to cyber security standards at EWI.

- In October 2015, we successfully hosted the 5th plenary meeting of the ETSI Cyber Security Technical Committee and presented a proposal on Privacy Enhancing Technologies (PET) for Big Data mining. Applying PET in the Big Data domain demonstrates that we are committed to providing carriers with a reference standard on privacy protection in this domain to drive the industry forward.

- In October 2015, we sponsored and attended ETIS’s annual conference and delivered a presentation on 5G cyber security, which won wide acclaim from the audience and inspired vigorous discussions. In December, as a platinum sponsor of IEEE Globecom, we demonstrated our 5G solutions and 5G cyber security white paper on-site. The white paper was commended by attendees as the first document in the industry to describe 5G cyber security from 360 degrees.

- In November 2015, with the theme of “Building a More Secure Better Connected World”, we attended ISF’s Annual World Congress as a platinum sponsor. At the event, we elaborated on our cyber security practices and customer concerns and summarized the 100 things concerning cyber security that buyers must consider when selecting suppliers. We also showcased our latest security solutions for enterprise customers, and called for open collaboration among all parties to facilitate the development of cyber security standards, winning acclaim from experts in attendance.

- In 2015, we presented a stronger voice in the enterprise market through industry summits, channel conferences, and security associations in various countries and regions. We hosted the Global Financial Services Industry Summit in Beijing, the Channel Conference in London, the Western Europe Channel Conference in Munich, and the Southern Pacific Channel Conference in Singapore. We also attended the Second National Conference on Energy Cyber Security in Italy and ISF’s Annual World Congress in Atlanta. At these conferences, we communicated Huawei’s cyber security concepts and strategies and demonstrated Huawei’s end-to-end assurance system, security capabilities, and security image of openness and transparency, receiving positive feedback from customers and channel partners.

While actively communicating with external parties to improve mutual trust on security, we use what we call the ABC model internally, "Assume nothing, Believe nobody, Check everything", to constantly improve our end-to-end cyber security assurance system. Cyber security has been incorporated into all Huawei core processes, and we can demonstrate the process, progress, openness, and transparency everywhere within our company. We have used cyber security scorecards to demonstrate the progress on our work priorities in a quantitative manner and drive the implementation of key measures. We have also performed internal third-party auditing to discover cyber security issues and risks in organizations, operations, and services, allowing us to make improvements accordingly. In doing so, we have continued to improve our cyber security assurance system, which develops continuously and allows for closed-loop improvements. Specifically, we have adopted the following measures:
We have built an IT platform for security awareness education and training that targets all employees and regularly provided basic and business domain-specific cyber security awareness education and training. The security awareness of all employees has improved. In addition, training courses, learning materials, and skill frameworks have been created in the R&D domain and can be used during the day-to-day work of the majority of R&D employees. In 2015, over 46,000 employees received R&D cyber security training.

We have built sophisticated code compilation, configuration management, tool management, and traceability platforms in the R&D domain to automate security activities. Our R&D engineering capabilities have improved, and vulnerability tracing and automatic virus scanning capabilities have attained an industry-leading level.

Our independent verification approaches, such as the models adopted at the UK-based Cyber Security Evaluation Centre, Huawei’s Internal Cyber Security Lab, and third-party security verification models we have advocated at EWA and CC, have been recognized by numerous governments and carrier customers. Cyber security baselines have been implemented as a quality threshold. The density of issues regarding security has showed steady improvements over the past several years and continued to be a core focus of our R&D efforts. The number of security issues identified during external testing has also been reduced significantly, and CC, PCI, and customer certification have been successful for a range of Huawei products.

We have continued to improve the compliance levels and delivery quality of our cyber security activities throughout service delivery. 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 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 controlled our supply system from start to finish to ensure end-to-end security. We have improved suppliers’ delivery quality and compliance with security agreements and urged 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 to ensure that virtually every process and component is traceable. For software incorporated into configuration management, the affected products and customers can be identified automatically within one hour of a vulnerability’s disclosure. We have also built basic software integrity protection capabilities into our end-to-end processes through the inspection of materials from suppliers, digital signatures in product versions, integrity protection for gold images, and cloud-based software management in manufacturing and GTS.

Networks are shifting toward fully-connected services, NFV/SDN-based architecture, and Internetized operations. The emergence of smart lifestyles under all scenarios will bring about more challenges for user privacy protection and cyber security. A Better Connected World presents all of human society with exciting opportunities and daunting challenges. We will continue to position cyber security and user privacy assurance as a core corporate strategy. We will establish our cyber security and user privacy protection methods and practices by leveraging our ICT knowledge and expertise in cloud, pipe, and devices, end-to-end security approaches, and supporting ICT platforms. By relying on such knowledge and expertise, we will continue to support customers, governments, and key stakeholders so that they can understand the role ICT will play over the coming years, and benefit from our knowledge on security and privacy. We hope that our key concepts of teamwork, openness, and transparency will create more value for our customers so that they can better prepare themselves for future challenges and future benefits.
Openness, Collaboration, and Shared Success

The value of networks comes from their openness and interconnection. An open and collaborative Better Connected World is now on the horizon. In the digital economy, companies cannot innovate on their own. Instead, they must join forces with the entire industry and ecosystem to develop and thrive together.

Huawei views openness, collaboration, and shared success as important cornerstones that support its development, and is committed to establishing a robust ecosystem for a fully-connected information society.

In the carrier business, we have proposed the concept of Open ROADS to a Better Connected World. By focusing on ICT infrastructure and fully opening up our ICT capabilities, we strive to establish an open ecosystem conducive to carriers' digital transformation to bring together carriers and partners worldwide and achieve shared business success.

In the enterprise business, we adhere to the Being Integrated strategy, and have established extensive ecosystems focusing on our cloud computing, agile network, Safe City, finance, and eLTE solutions. We have more than 500 enterprise cloud partners and over 10,000 public cloud partners, and have created a FusionSphere open cloud computing alliance. By opening up our agile networks at all layers, we have developed more than 200 ecosystem partners in the areas of agile campuses, agile data centers, and agile IoT.

In the consumer business, we have partnered with top-tier international brands in the fashion, automobile, and home appliance sectors. Through this, we have conducted joint innovation on smartphones, smart watches, smart homes, and Internet of Vehicles (IoV), to bring the cutting-edge technology in each domain and a superior product experience to consumers worldwide.

We work closely with industry players, developers, academia, and standards organizations to drive business and technological innovation, and help establish a robust industry development ecosystem characterized by collaboration, shared success, and fair competition. In 2015, the number of Huawei's joint innovation centers increased to 36, and we announced a Developer Enablement Plan, in which we will invest US$1 billion over the next five years. Through our Huawei Innovation Research Program (HIRP), we sponsored over 100 new research projects in 2015. In addition, we have become more involved in international standards organizations, industry alliances, and open source communities.

To share benefits with our upstream and downstream partners on the value chain, we adhere to a Dig In, Widen Out approach, meaning we constantly tap into our own potential to reduce costs and increase the value of our solutions while providing more benefits to our customers and treating our industry partners with respect. In this way, we will drive the sound development of the entire industry.

To promote the ICT development of the countries where we operate, we actively participate in discussions on each country's ICT industry policies. Through this, we aim to help create a fair and reasonable policy environment, and balance the interests of infrastructure investors and consumers, thereby driving continued and sound development of the industry. We also leverage our innovative technologies and solutions to actively help implement the ICT development strategies of governments and facilitate local economic development and social progress.

By promoting openness, collaboration, and shared success, we strive to create value for our customers, make contributions to the healthy development of our industry and social progress, and ultimately build a Better Connected World.
Results of Operations

Financial Performance

<table>
<thead>
<tr>
<th>CNY Million</th>
<th>2015</th>
<th>2014</th>
<th>YoY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>395,009</td>
<td>288,197</td>
<td>37.1%</td>
</tr>
<tr>
<td>Gross profit</td>
<td>164,697</td>
<td>127,451</td>
<td>29.2%</td>
</tr>
<tr>
<td>– Gross margin</td>
<td>41.7%</td>
<td>44.2%</td>
<td>(2.5%)</td>
</tr>
<tr>
<td>Total operating expenses</td>
<td>(118,911)</td>
<td>(93,246)</td>
<td>27.5%</td>
</tr>
<tr>
<td>– as % of revenue</td>
<td>30.1%</td>
<td>32.4%</td>
<td>(2.3%)</td>
</tr>
<tr>
<td>Operating profit</td>
<td>45,786</td>
<td>34,205</td>
<td>33.9%</td>
</tr>
<tr>
<td>– Operating margin</td>
<td>11.6%</td>
<td>11.9%</td>
<td>(0.3%)</td>
</tr>
<tr>
<td>Net finance expenses</td>
<td>(3,715)</td>
<td>(1,455)</td>
<td>155.3%</td>
</tr>
<tr>
<td>Income tax expenses</td>
<td>(5,077)</td>
<td>(5,187)</td>
<td>(2.1%)</td>
</tr>
<tr>
<td>Net profit</td>
<td>36,910</td>
<td>27,866</td>
<td>32.5%</td>
</tr>
</tbody>
</table>

Revenue in 2015 totaled CNY395,009 million, representing an increase of 37.1% year-on-year. Net profit grew by 32.5% year-on-year to CNY36,910 million. Profit rose due to increasing revenue and higher efficiency.

- As the consumer business grew rapidly and contributed a larger share to total revenue, the company’s gross margin dropped by 2.5 percentage points since 2014.
- In 2015, Huawei continued to increase its efficiency through management transformation while increasing its future-oriented investment. As a result, the operating expense ratio decreased by 2.3 percentage points from 2014 to 2015.
- Huawei’s net finance expenses rose sharply due to foreign exchange losses.
- As Huawei enjoyed more tax deductions due to increased R&D investment and recognized more deferred tax assets because certain subsidiaries became profitable income tax expenses declined by 2.1 percentage points year-on-year.

Total Operating Expenses

<table>
<thead>
<tr>
<th>CNY Million</th>
<th>2015</th>
<th>2014</th>
<th>YoY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research and development expenses</td>
<td>59,607</td>
<td>40,845</td>
<td>45.9%</td>
</tr>
<tr>
<td>– as % of revenue</td>
<td>15.1%</td>
<td>14.2%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Selling and administrative expenses</td>
<td>62,281</td>
<td>47,468</td>
<td>31.2%</td>
</tr>
<tr>
<td>– as % of revenue</td>
<td>15.8%</td>
<td>16.5%</td>
<td>(0.7%)</td>
</tr>
<tr>
<td>Other (income)/expenses, net</td>
<td>(2,977)</td>
<td>4,933</td>
<td>(160.3%)</td>
</tr>
<tr>
<td>– as % of revenue</td>
<td>(0.8%)</td>
<td>1.7%</td>
<td>(2.5%)</td>
</tr>
<tr>
<td>Total operating expenses</td>
<td>118,911</td>
<td>93,246</td>
<td>27.5%</td>
</tr>
<tr>
<td>– as % of revenue</td>
<td>30.1%</td>
<td>32.4%</td>
<td>(2.3%)</td>
</tr>
</tbody>
</table>

In 2015, Huawei increased investment in future technologies, brand marketing, and management transformation. Due to ongoing transformation efforts, the company achieved higher efficiency and increased revenue. As a result, the company’s operating expense ratio dropped by 2.3 percentage points. As the company increased investment in future technologies, research and innovation, and R&D platform and capability improvements, the R&D expense ratio rose by 0.9 percentage points. Despite the increasing investment in brand marketing and management transformation, the company benefited from higher efficiency and increased revenue. As a result, the selling and administrative expense ratio decreased by 0.7 percentage points.
Net Finance Expenses

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2014</th>
<th>YoY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net foreign exchange loss</td>
<td>4,362</td>
<td>2,135</td>
<td>104.3%</td>
</tr>
<tr>
<td>Other net finance gains</td>
<td>(647)</td>
<td>(680)</td>
<td>(4.9%)</td>
</tr>
<tr>
<td>Total net finance expenses</td>
<td>3,715</td>
<td>1,455</td>
<td>155.3%</td>
</tr>
</tbody>
</table>

Net finance expenses in 2015 amounted to CNY3,715 million, an increase of CNY2,260 million over 2014. This is attributable to an increase of CNY2,227 million year-on-year in exchange losses due to a sharp depreciation of currencies in Africa and emerging markets.

Financial Position

<table>
<thead>
<tr>
<th></th>
<th>December 31, 2015</th>
<th>December 31, 2014</th>
<th>YoY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-current assets</td>
<td>70,509</td>
<td>52,668</td>
<td>33.9%</td>
</tr>
<tr>
<td>Current assets</td>
<td>301,646</td>
<td>257,105</td>
<td>17.3%</td>
</tr>
<tr>
<td>Total assets</td>
<td>372,155</td>
<td>309,773</td>
<td>20.1%</td>
</tr>
<tr>
<td>Among which: Cash and short-term investments</td>
<td>125,208</td>
<td>106,036</td>
<td>18.1%</td>
</tr>
<tr>
<td>Trade receivables</td>
<td>92,425</td>
<td>75,845</td>
<td>21.9%</td>
</tr>
<tr>
<td>Inventories</td>
<td>61,363</td>
<td>46,576</td>
<td>31.7%</td>
</tr>
<tr>
<td>Non-current liabilities</td>
<td>40,459</td>
<td>31,249</td>
<td>29.5%</td>
</tr>
<tr>
<td>Among which: Long-term borrowings</td>
<td>26,501</td>
<td>17,578</td>
<td>50.8%</td>
</tr>
<tr>
<td>Current liabilities</td>
<td>212,627</td>
<td>178,539</td>
<td>19.1%</td>
</tr>
<tr>
<td>Among which: Short-term borrowings</td>
<td>2,485</td>
<td>10,530</td>
<td>(76.4%)</td>
</tr>
<tr>
<td>Trade payables</td>
<td>61,017</td>
<td>45,144</td>
<td>35.2%</td>
</tr>
<tr>
<td>Owner’s equity</td>
<td>119,069</td>
<td>99,985</td>
<td>19.1%</td>
</tr>
<tr>
<td>Total liabilities and owner’s equity</td>
<td>372,155</td>
<td>309,773</td>
<td>20.1%</td>
</tr>
</tbody>
</table>

As of December 31, 2015, the balance of cash and short-term investments reached CNY125,208 million, up 18.1% year-on-year.
In 2015, Huawei’s DSO was 84 days, 11 days shorter than the 95 days in 2014. Its ITO decreased by 8 days to 96 days compared with the 104 days in 2014. The company’s DPO was 95 days, 6 days shorter than the 101 days in 2014.
As of December 31, 2015, total short-term and long-term borrowings amounted to CNY28,986 million, an increase of 3.1% year-on-year from CNY28,108 million in 2014.

Cash Flow from Operating Activities

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2014</th>
<th>YoY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net profit</td>
<td>36,910</td>
<td>27,866</td>
<td>32.5%</td>
</tr>
<tr>
<td>Adjustment for depreciation, amortization, and non-operating loss, net</td>
<td>10,387</td>
<td>10,193</td>
<td>1.9%</td>
</tr>
<tr>
<td>Actuarial losses on defined benefit obligations</td>
<td>(306)</td>
<td>(166)</td>
<td>84.3%</td>
</tr>
<tr>
<td>Cash flow before change in operating assets and liabilities</td>
<td>46,991</td>
<td>37,893</td>
<td>24.0%</td>
</tr>
<tr>
<td>Change in operating assets and liabilities</td>
<td>2,324</td>
<td>3,862</td>
<td>(39.8%)</td>
</tr>
<tr>
<td>Cash flow from operating activities</td>
<td>49,315</td>
<td>41,755</td>
<td>18.1%</td>
</tr>
</tbody>
</table>
Cash flow from operating activities in 2015 increased by 18.1% year-on-year to CNY49,315 million. This increase was attributable to the following factors:

- Net profit grew by 32.5% year-on-year due to increased revenue.
- Adjustments for depreciation, amortization, and non-operating losses (net) contributed an additional CNY194 million to cash flow from operating activities compared with that in 2014.
- Reductions in the capital tied up in operating assets and liabilities in 2015 contributed CNY2,324 million to the cash flow from operating activities.

Financial Risk Management

In 2015, Huawei amended and improved its financial risk management policies and processes to further enhance the company’s ability to withstand financial risks and better support its business development.

Liquidity Risk

Huawei has continuously refined its cash flow planning, budgeting, and forecasting system to better assess its short-term and mid-to long-term liquidity needs. The company has implemented a variety of prudent financial measures to meet its overall liquidity needs, including centralizing cash management, maintaining a reasonable level of funds, and gaining access to adequate and committed credit facilities. As of December 31, 2015, cash and short-term investments increased by 18.1% year-on-year to CNY125,208 million. An adequate capital reserve and a stable cash flow from operating activities enabled Huawei to mitigate its liquidity and borrowing risks, thus ensuring financial stability for the company.

Foreign Exchange Risk

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

- Natural hedging: The Group structures its operations to match receivables and payables in a foreign currency, to the greatest extent possible.
- Financial hedging: For certain currencies where natural hedging does not fully offset the foreign currency position, the Group hedges using a combination of short- and long-term foreign currency loans.

In countries where local currencies depreciated sharply or in those with strict foreign exchange controls, the Group managed foreign exchange exposures via different measures, including pricing in USD, accelerating payment collection, and promptly transferring payments out of these countries.

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

<table>
<thead>
<tr>
<th>Impact on net profit CNY million</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
</tr>
<tr>
<td>CNY appreciates 5% against USD</td>
</tr>
<tr>
<td>CNY appreciates 5% against EUR</td>
</tr>
<tr>
<td>2014</td>
</tr>
<tr>
<td>CNY appreciates 5% against USD</td>
</tr>
<tr>
<td>CNY appreciates 5% against EUR</td>
</tr>
</tbody>
</table>
Interest Rate Risk

Interest rate risks arise from Huawei’s long-term borrowings and long-term receivables. By analyzing its interest rate exposures, the company uses a combination of fixed-rate and floating-rate bank loans to mitigate interest rate risks.

a) Interest-bearing long-term financial instruments held by the Group as of December 31, 2015

<table>
<thead>
<tr>
<th>Fixed-rate long-term financial instruments</th>
<th>2015</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Effective Interest Rate</td>
<td>Amount CNY Million</td>
</tr>
<tr>
<td>Long-term borrowings</td>
<td>4.14%</td>
<td>8,070</td>
</tr>
<tr>
<td>Trade and other receivables</td>
<td>5.79%</td>
<td>(92)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Floating-rate long-term financial instruments</th>
<th>2015</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Effective Interest Rate</td>
<td>Amount CNY Million</td>
</tr>
<tr>
<td>Long-term borrowings</td>
<td>2.55%</td>
<td>18,431</td>
</tr>
<tr>
<td>Trade and other receivables</td>
<td>0.40%</td>
<td>(2,839)</td>
</tr>
</tbody>
</table>

Total: 23,570

b) Sensitivity analysis

Assume that the interest rate increased by 50 basis points as of December 31, 2015 and other variables remained unchanged, the Group’s net profit and owner’s equity would decrease by CNY64 million (in 2014, the amount was CNY66 million).

Credit Risk

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

Sales Financing

With global coverage, Huawei’s sales financing team maintains close contact with customers to understand their financing needs and tap into various financing resources around the world. As a bridge for communication and cooperation between financial institutions and customers, the sales financing team provides customers with professional financing solutions that contribute to ongoing customer success. Third-party financial institutions work with Huawei in export credit, leasing, and factoring activities to share the benefits and bear linked risks. Huawei has established systematic financing policies and project approval processes to strictly control financing risk exposures. Huawei only shares risks with financial institutions on certain projects, and makes provisions for risk contingencies to control business risks.