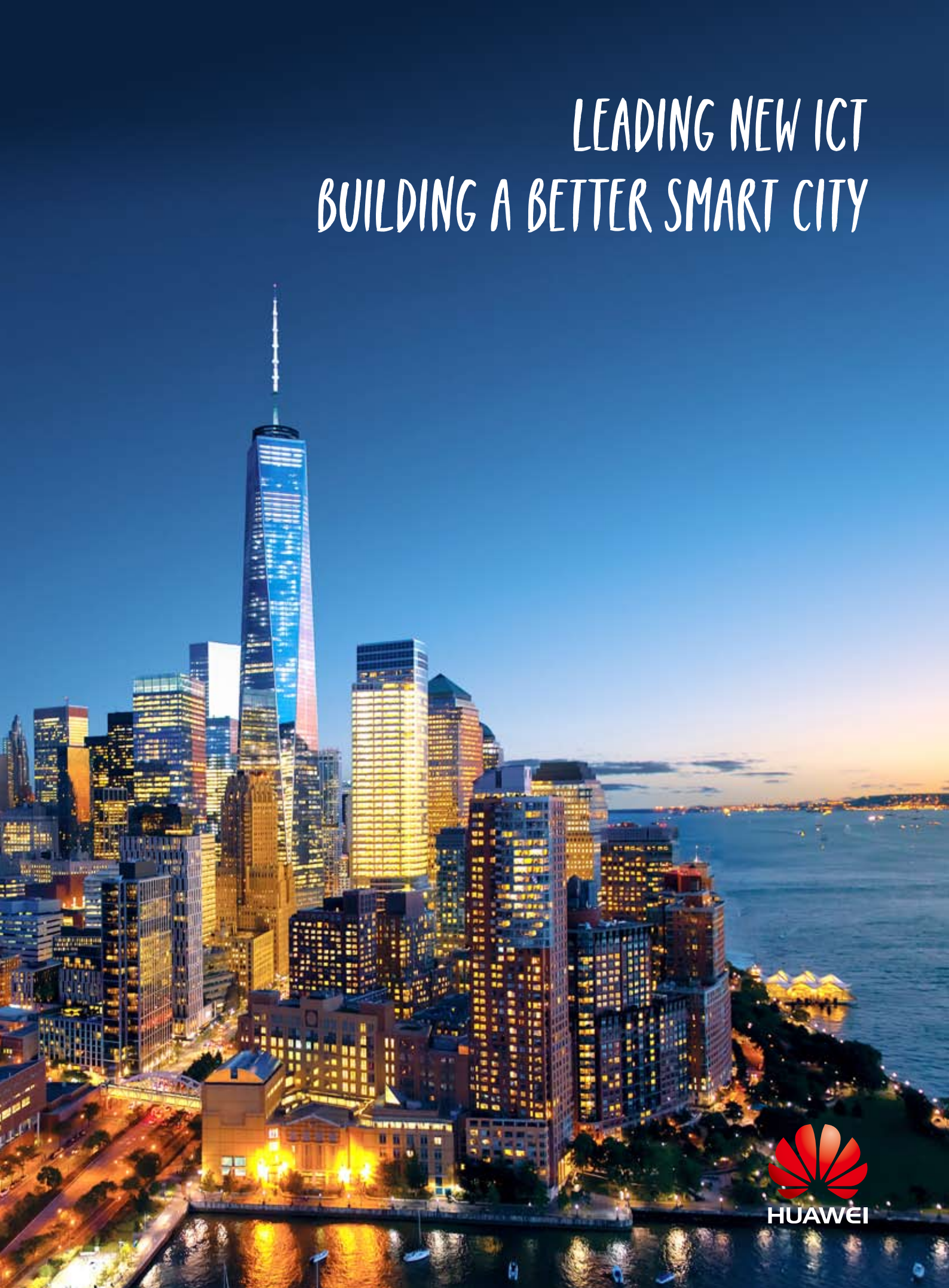
LEADING NEW ICT
BUILDING A BETTER SMART CITY



HUAWEI

Sustainable Development Models Are Urgently Required to Resolve the Increasing Challenges of Urbanization

Global urbanization is accelerating. Today, 50 percent of the population and 70 percent of Gross Domestic Product (GDP) come from cities, and the proportions are growing. Cities face mounting pressure from intensifying urbanization and continuous population growth.

Public Safety

Resource Imbalance

Traffic Congestion

Environmental Pollution

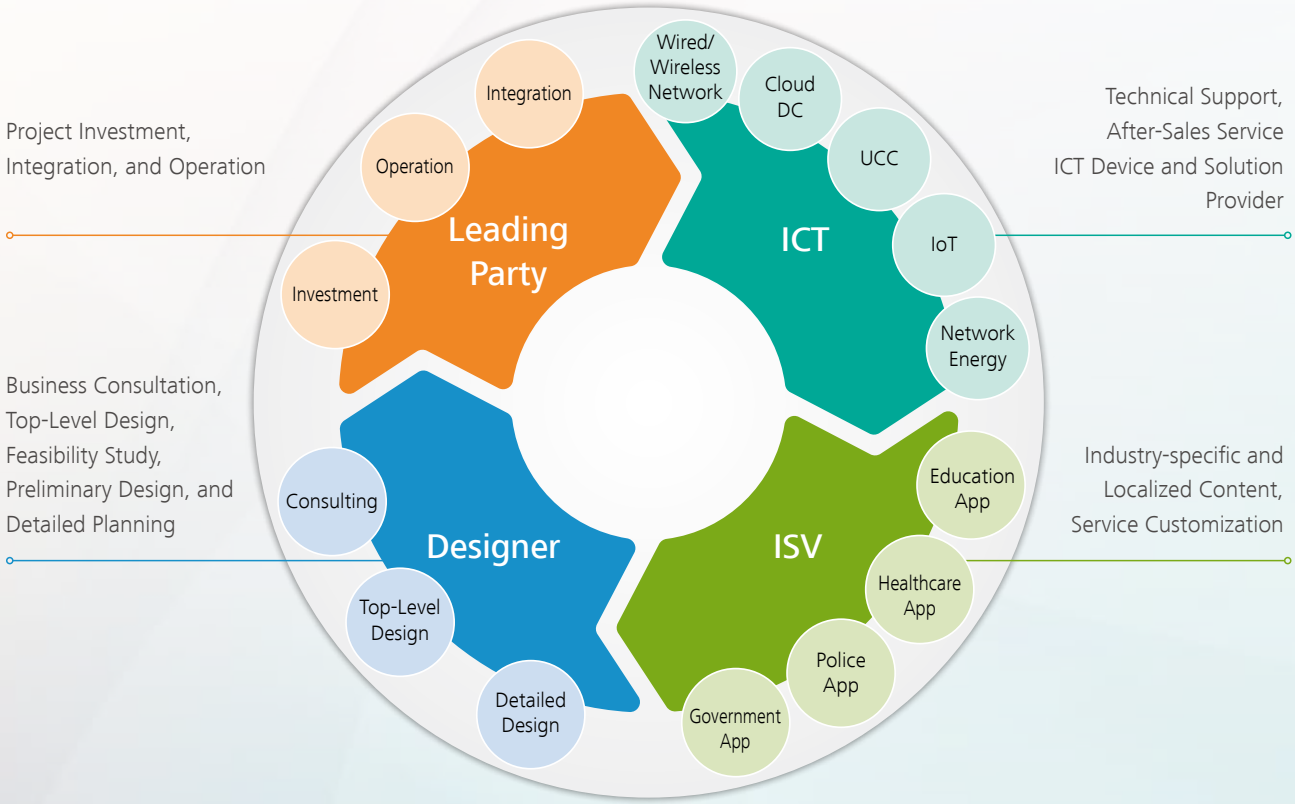
Energy Shortage

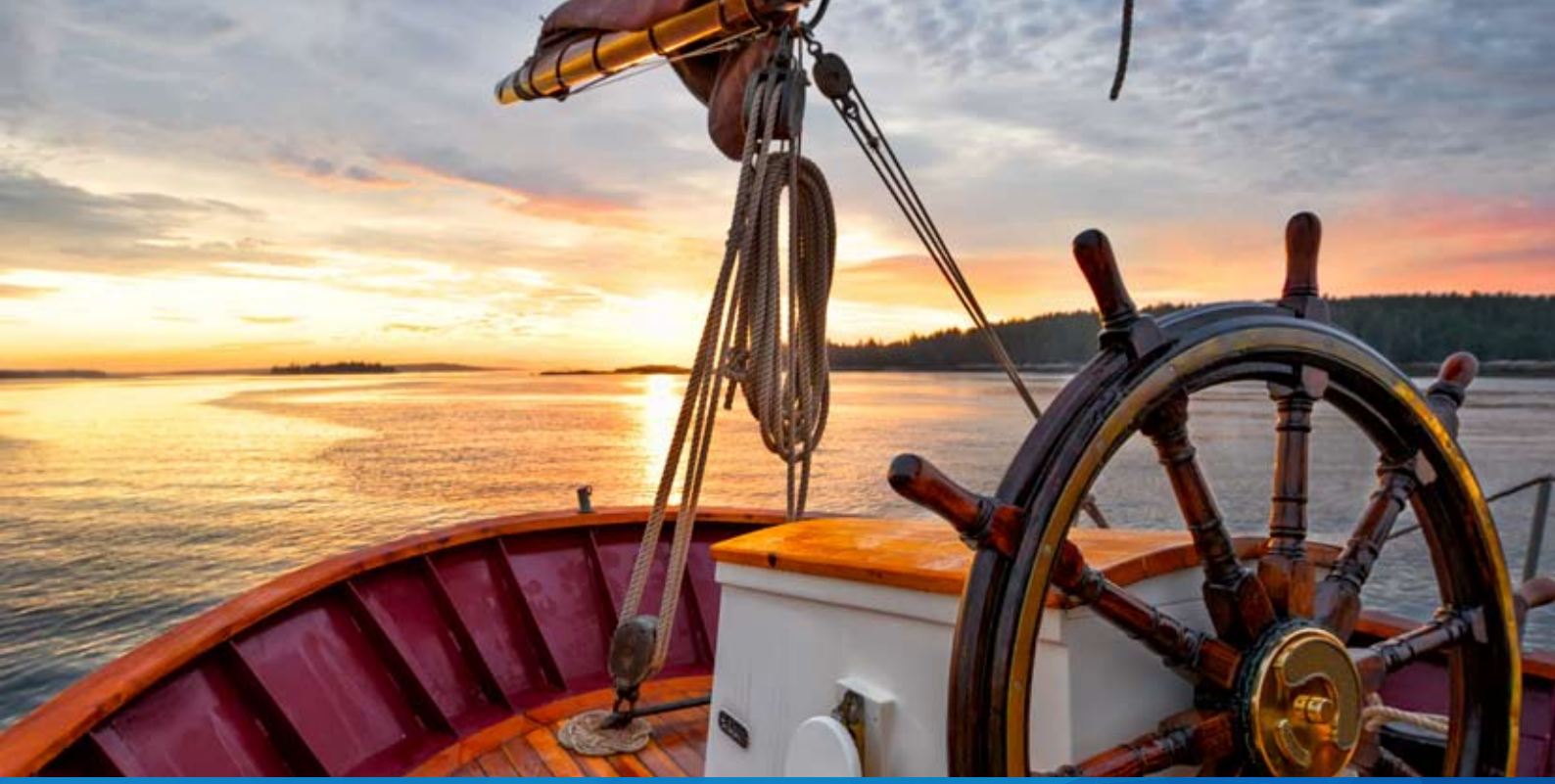
Smart City Facilitates Sustainable Urban Development

The Smart City concept has been developed by many countries as a strategy for sustainable urban development. A growing number of governments worldwide are building Smart Cities via an impressive array of leading-edge ICT technologies. Advanced wireless networks and the Internet of Things (IoT) make omnipresent connectivity possible; cloud computing makes data sharing and integration, data mining, and analysis possible; Unified Communications and Collaboration (UC&C) makes cross-agency collaboration possible; and the Intelligent Operations Center increases urban management and public service efficiency.

Orchestrating a New Ecosystem to Build Smart Cities

A Smart City solution is a comprehensive system that involves top-level design, integration, operations, service applications, and new ICT infrastructure; therefore, enterprises in the industry chain must cooperate with each other and maximize their own advantages to develop evolving Smart City solutions tailored to customer needs.





Strategic Positioning

Huawei is committed to becoming the partner of choice in terms of innovative Smart City solutions. In the Smart City sector, Huawei focuses on ICT infrastructure and works with partners to orchestrate a robust Smart City ecosystem and develop comprehensive solutions for customers.

Smart City Business Benefits

From technology innovations to creating an open platform to sustain a win-win ecosystem, Huawei is a comprehensive enabler of Smart City.

Leading Technologies and Open Platforms

Industry's Most Extensive Product and Solution Portfolios

Public Safety | e-Government | Energy | Transportation | Education | Healthcare | Campus | Community

Open Platform

eSDK

UCC	CC, UC, VC/TP, IVS, VDI	Efficient
Information Security	xDC, Network, Mobility, Data Leak Prevention, Compliance, Security Mgmt	Secure
Cloud DC	Data Center, Server, Storage, Cloud OS	Reliable
Network	DC, IP, Transmission, Wireless, IoT	Agile

Leading Technologies and Open Platforms

Huawei can provide a wide assortment of ICT products and solutions, including IoT communications modules and operating systems, wired and wireless access, agile networks, cloud-based distributed data centers, and Big Data platforms.

Relying on its industry-leading ICT infrastructure, Huawei has developed an open Smart City platform. The platform employs cloud computing technology to centralize ICT system construction, eliminating information silos while enabling data sharing and service collaboration. Big Data technology is used to process and exploit the full benefits of massive amounts of urban data. The platform also leverages the Internet of Things (IoT) technology to collect data about public facilities, road traffic, water, and air quality, presenting the status in real time. By doing so, the platform implements data collection, transmission, storage, and analysis to support scientific decisions and enhance city management efficiency. Meanwhile, Huawei teams with partners to develop state-of-the-art solutions in a variety of industries, including government, public safety, energy, transportation, education, healthcare, and on campus.

Continuous Investment in Innovation

R&D Investment

USD $37 billion over 10 years (from 2006 to 2015)

10%+ percentage of R&D investment to total sales revenue

79,000 R&D employees

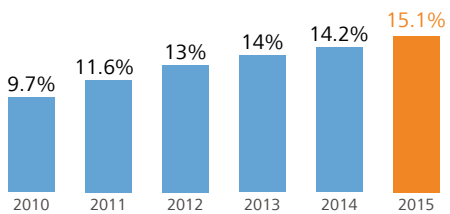
Standards

300+ international standards organizations, industry alliances, and open-source communities

280 important positions in standards organizations

43,000 accumulated proposals

Continuous Increase in Percentage of R&D Investment to Total Sales Revenue



Patents

50,377 —— patents authorized

52,550 —— patent applications in China

30,613 —— patent applications outside China

Joint Innovation with Partners

To support ICT transformation across various industries, Huawei is building 10 connected Glocal OpenLabs worldwide, five of which have already been established. The OpenLab includes an Innovation Center, ISV Support Center, Verification Center, and Experience Center.

Adhering to the "open, cooperative, win-win" concept and practicing the Business-Driven ICT Infrastructure (BDII) strategy, through joint innovation with partners, the Glocal OpenLab combines the strengths of both global expertise and local services and provides more valuable solutions and services to customers in all fields.

Smart City Ecosystem

In line with its strategy of "being integrated," Huawei focuses on the Infrastructure layer, enables the platform layer, and aggregates the service layer to drive the healthy development of the Smart City ecosystem. In this context, Huawei provides its customers and partners with a world-leading ICT infrastructure featuring advanced technologies and high reliability.

Huawei has established partnerships with 400+ vendors to develop Smart City solutions and has created open service platforms and labs to enable joint innovations and authorized verification. With the support of 2,300+ channel service partners, Huawei has mature project operation processes, implementation expertise, and delivery systems.

HUAWEI
Enterprise Partner
Solution
CERTIFIED

400+
Solution Partners

Open Lab

HUAWEI
Enterprise Partner

2,300+
Channel Service Partners

eSDK

Smart City Ecosystem

Building Smart City partner resource pools via open cooperation

ABB · 北明软件 · CYG长园 · DE · Epoint 新点软件 · 高伟达 · Honeywell
ASC · 宝信软件 · · Deloitte. 德勤 · 京华信息 · · IESLab 积成
Atos · Bandweaver 波汇科技 · CIC · DHC 东华软件股份公司 · funkwerk · SAC 国电南京自动化 · Infosys
ALSTOM · COMTECH · CRSC 全路通信 · DS 迪爱斯 · First Data · 国人通信 · iOmniscient
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ADTEC · CETC · 神州控股 · 易程股份 · FREQUENTIS · HUNDSUN 恒生 · InnSpire
BBDTEK · 千方科技 · DFE 东方电子 · e·Hualu 易华录 · 未来国际 · 東方正通 · iDIRECT
BOMBARDIER · CLOU ELECTRONICS · Digital Heaven 数字天堂 · 蓝海联盟 · GTV · HOPERUN 润和软件 · CS&S 中软国际
· · Neusoft 东软 · SMARTBI 思迈特软件 · 四方 · UNITED 众合 · · iSoftStone
MICROSYS · · SCT · SIEMENS · WASION · 南方银谷 · milestone XPROTECT · JinPeng 金鹏
NARI 国电南瑞 · SIE 赛意 · sobey · · · 佳讯飞鸿 · MTM 梦天门科技 · POWERRICH
国家信息中心 · TIANWEN · 宇信科技 · SuperMap 超图软件 · Kingdee 金蝶 · 鸣啸科技 · · Selex ES
TAIJI 太极计算机股份有限公司 · 智业软件 · 泰豪 TELLHOW · LonShine · MICRO FOCUS · 泛华集团 · SAP · 点逸
中铁信息工程集团 · cityzenith · VEOLIA · 三川智慧 · walkbase · GITECH 伟景行 · Reach 锐取 · 数字冰雹
Microsoft · 南瑞继保 · 瑞华基业 · 信雅达 · TIGERTMS · ZZNC · 山东中微 · ...

Global Footprint: Serving 100+ Cities Across 40+ Countries

Smart Longgang: Building a Converged Smart City

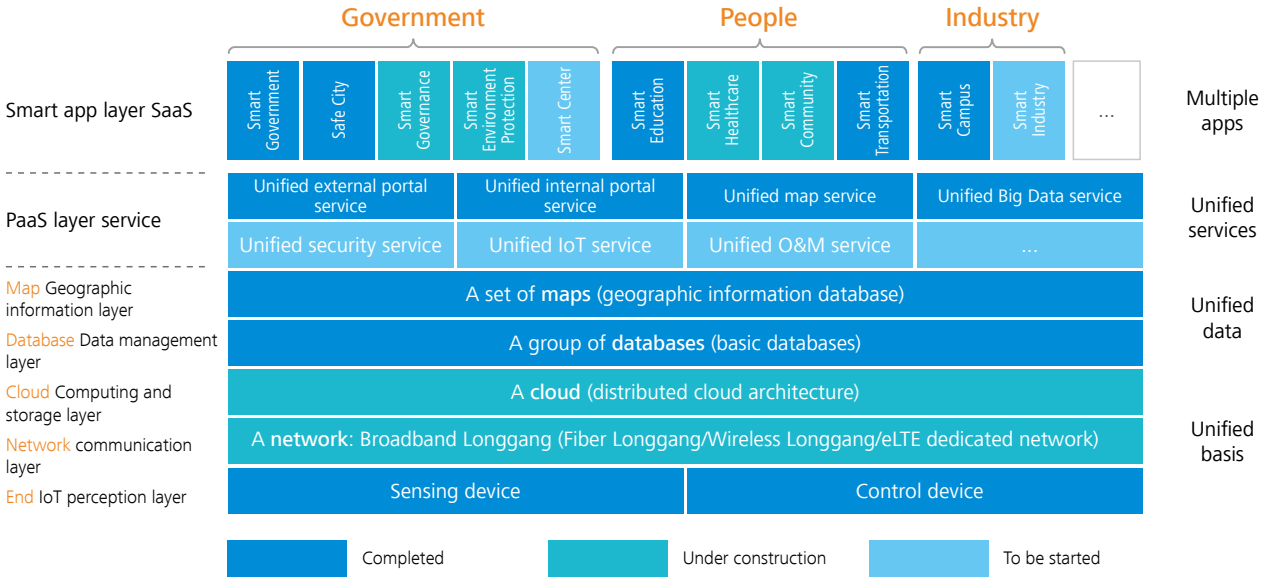
Challenges

- Limited space resources: Only 11.4 square kilometers of new land is available for construction use, accounting for less than 3% of the whole district area.
- Difficult urban management: 65% of the population has junior middle school or lower education.
- Slow industry transformation: 90% enterprises at the lower end of the industry chain.
- Weak public service capabilities: Medical facility implementation rate is 40%, educational facility implementation rate is 64%.

Solutions

"Smart Longgang" is an intelligent system based on a "Device + Network + Database + Image + Cloud" architecture. The solution involves eleven key projects that gradually will enable intelligent infrastructure, efficient and collaborative government productivity, convenient public services, refined social management, livable urban environments, and high-end industry development.

Smart Longgang Top-Level Design



Benefits

Urban Management, Intelligent Operation Center

- More efficient emergency response: unified command and dispatching on emergencies, enhancing resource coordination efficiency by 60%
- Timely pre-warning of hidden risks: aggregates data from different sources, identifies exceptions in advance
- Scientific city management: By big data analysis and visible live data presentation help to conduct easier city management

Ubiquitous and Smart Public Security System

Improved social security: the number of public-order and criminal cases reduced by 28.79% YOY, the biggest drop in Shenzhen, due to:

- Space-to-ground seamless surveillance: improving prevention and control
- Visualized and converged command: improving the command efficiency
- Video cloud (big data analytics): enhancing massive video search efficiency

Smart Industrial Park, Inspiring Innovation

- Enhancing investment attraction and business operation convenience with:
  - Cloud-based O2O service
  - Anytime anywhere service
- Big Data-driven energy conservation: 60% of the campus power consumption is controlled with intelligent electrical equipment

Collaborative & Efficient Government Services

- Unified basic database: aggregated 0.16 + billion data records from 32 agencies, enabling data sharing among different agencies
- One cloud to aggregate applications: improving service TTM
- One-window government services: 600+ services across 32 agencies are already on line
- Enhanced government service efficiency: the cross-agency approval efficiency improved by 50%

Dubai DSOA Improves Energy Efficiency with a 7.2 Million Square Meters of Smart Living

> Dubai Silicon Oasis will play a fundamental role in the country's overall economic development and assist in the development and training of the local talent for advanced technology manufacturing.
>
> - H.H. Sheikh Ahmed bin Saeed Al Maktoum
> Chairman, Dubai Silicon Oasis Authority

Background

- Dubai Silicon Oasis spans 7.2 square kilometers, with estimated population of 162,400.
- DSOA hosts 1920 companies in 2015, of which 71% are IT companies.
- Total investments for the Silicon Park Smart City project amounted to USD 1 billion in 2015, with an additional USD 0.35 billion by 2018.

Objectives

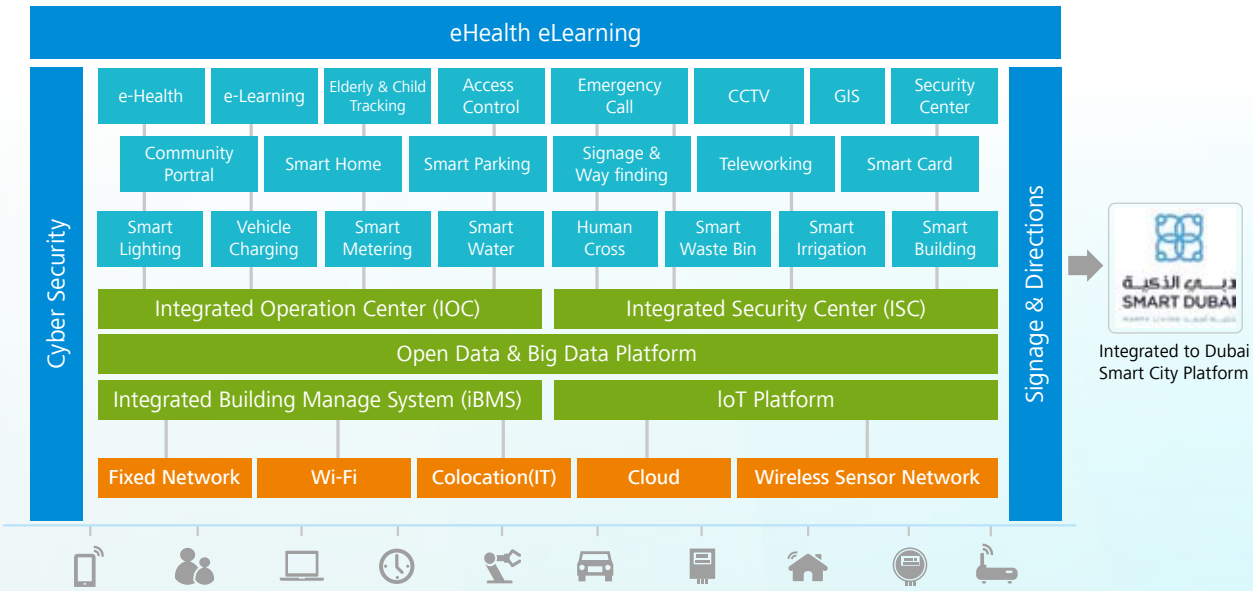
DSOA to act as the Center of Excellence for test pilot projects and develop upscale models:

- To develop an agile and "replicable" Dubai approach/model for Smart City development.
- To be a hub where new technologies, ideas, and cultures converge.
- To create a sustainable smart habitat ecosystem.

Solutions

- Smart Streetlights: Using motion sensors, smart streetlights provide 25 percent visibility until triggered to full power by approaching vehicles and pedestrians, lowering energy consumption.
- Smart Building: Intelligent technologies within DSO include high-tech sensors to manage power consumption plus automatic temperature regulation throughout each building for additional energy and cost savings.
- Sewage Water Treatment: DSO generates more than 3 billion gallons of treated water over the current sewage treatment plant to reduce operational costs by 70 percent.
- Smart Waste Management System: DSOA has installed smart waste bins that work through the Internet of Things technology and alert the operations and services team when the bins are filled and need to be emptied, with an automatically optimized route design.
- Smart Street: DSOA, in collaboration with Huawei, installed the Middle East's first Smart Street Solution at the high-tech park. The Smart Street Solution incorporates a number of advanced features such as digital signage, integrated Wi-Fi, CCTV, and environmental sensors — all geared towards creating a friendly and secure environment for the community.

DSOA Smart City Top-Level Design



Benefits

- Smart streetlights reduced maintenance costs by 42% and energy costs by 35%.
- Sewage water treatment reduced operational costs by 70%.
- Smart waste bins lowered operating costs by 65%.

Dunhuang Leads Regional Smart City Construction with Silk Road Tourism Services

Background

- Dunhuang is a world-renowned cultural heritage site.
- Cultural and historic sites attract many tourists domestically and abroad.
- The local population of Dunhuang is only 50,000 with more than 40,000 tourists per day during peak seasons.

Challenges

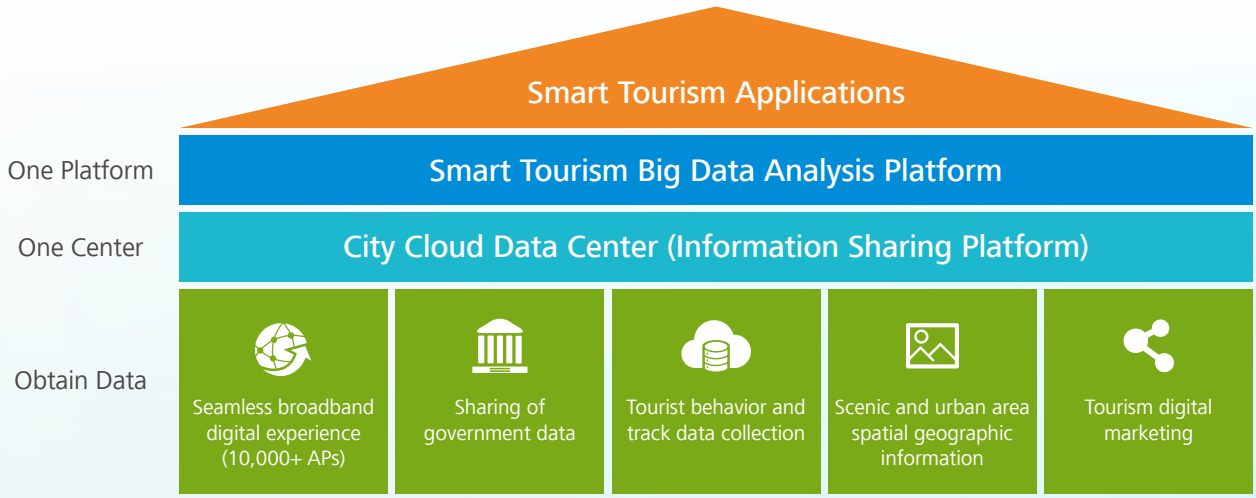
- Increased tourist traffic in peak seasons threatened cultural relic protection and tourist safety.
- Less visitors during off seasons greatly wasted tourism resources.
- Fluctuating populations created huge challenges to city government and public services such as transportation, education, healthcare, and catering.

Solutions

Smart Tourism is deployed to protect cultural artifacts, balance services during peak and off-peak seasons throughout different areas, improve each tourist's experience, as well as advance modern education and healthcare.

- Build IoT in scenic locations to analyze tourist behavior and traffic distribution feature models.
- Provide digitized experience and exhibition throughout the entire travel process to guide tourists and vehicles in real-time.
- Build VR, AR, and 3D exhibition centers to improve customer experiences, stickiness, and redistribute tourist traffic in peak hours.
- Cooperate with scenic spots along the Silk Road to build a tourism Big Data platform where tourist feature models are analyzed and implement precision marketing based on the models.
- Use the Internet Plus marketing mode that integrates online digital marketing and offline travel services to increase the number of tourists during off seasons and promote balanced, sustainable regional economic development.
- Build a cloud data center that shares data for scenic locations and government departments, functioning as a Smart City infrastructure to implement unified collaboration with quick decision-making and response.
- Develop TV Centers for Smart Home, Smart Education, and Smart Healthcare based on Smart Tourism infrastructure to improve the livelihood for residents.

Dunhuang Smart Tourism Basic Architecture



Benefits

- Smart Tourism improved service quality in peak seasons and increased tourist traffic during off seasons.
- An efficient City Management Platform was built upon a cloud data center.
- Smart Education, Smart Transportation, Safe City, and Wireless City have been developed.
- In 2015, the number of Dunhuang tourists rose to 6.6 million, a year-on-year increase of 32%, and Dunhuang won the Award for "China's Leading Smart City" from IDC.

South Africa Smart Ekurhuleni Metro Municipality Digitally Empowers its Citizens

Background

The City of Ekurhuleni Metropolitan Municipality was formed in 2000 by combining nine former local councils and their administrations. The region covers 1,975 square meters, with over 650 municipal offices.

Challenges

- Digital Divide has widened as a result of poverty, inequality, and unemployment.
- Lack of convenient and cost-effective Citizen-to-Government (and vice-versa) engagement platform.
- No online payment facility for municipal services results in long queues at Customer Care Centers.
- Manual customer records in clinics creates inaccuracies and risks.
- Inability to access and provide reliable information for decision-making.

Solutions

- Broadband Communications Platform: Fiber (1,400 km, 697 sites) and Wi-Fi (2,000 hot spots) connectivity rolled out across 250 sites.
- Shared Cloud Computing Platform: Enables seamless access to a single view of data.
- Applications Platform: Improves convenience for public services with one central system for accurate patient records (eHealth), electronic invoicing and payment for services (eSiyakhokha), electronic logging of service incidents, and other services.
- Data Platform: Open access data architecture enables data monetization by entrepreneurs using co-creation and highly collaborative models.

EMM empowering citizens through digital inclusion

Benefits

- Total broadband users with free Wi-Fi reaches 132,945 to date. Free Wi-Fi has saved citizens USD 1.5 million within half a year.
- eHealth system was implemented to address 60% of healthcare issues.
- eSiyakhokha makes it easier to pay for services, and saves transportation costs for citizens.
- Incident Logging Solution enables citizens to log any service delivery problem using their mobile device, reducing the time spent logging queries in the Call Center.
- LEAP App — a location and event-based App provides citizens with information on schools, clinics, parks etc. — makes the city's data easily accessible and usable for citizens.

Nairobi Implements Safe City to Protect the Freedom and Safety of Kenya

Background

Kenya, known as the "Cradle of Mankind", is famous for its vast, picturesque landscapes and extraordinary animal life. The Kenyan government has leveraged these unique national resources since 1970. By establishing sixty-five wildlife parks that occupy eleven percent of the country's total land area, Kenya's tourism industry contributes greatly to its economic vitality.

Challenges

Unfortunately, the beauty and vitality of Kenya are compromised by threats such as criminal incidents and terrorist attacks, as well as routine public safety matters.

- Terrorist attack: Westgate terrorist attack in 2013 resulted in over 200 casualties.
- Public crimes: Crime rate in Nairobi from 2013 to 2014 increased by 40%.
- Insufficient police force lowers efficiency: Ratio of police to residents is 1:1,000+.
- The number of international visitors decreased by 11.1%, while tourism revenues decreased by 7.3% in 2014.

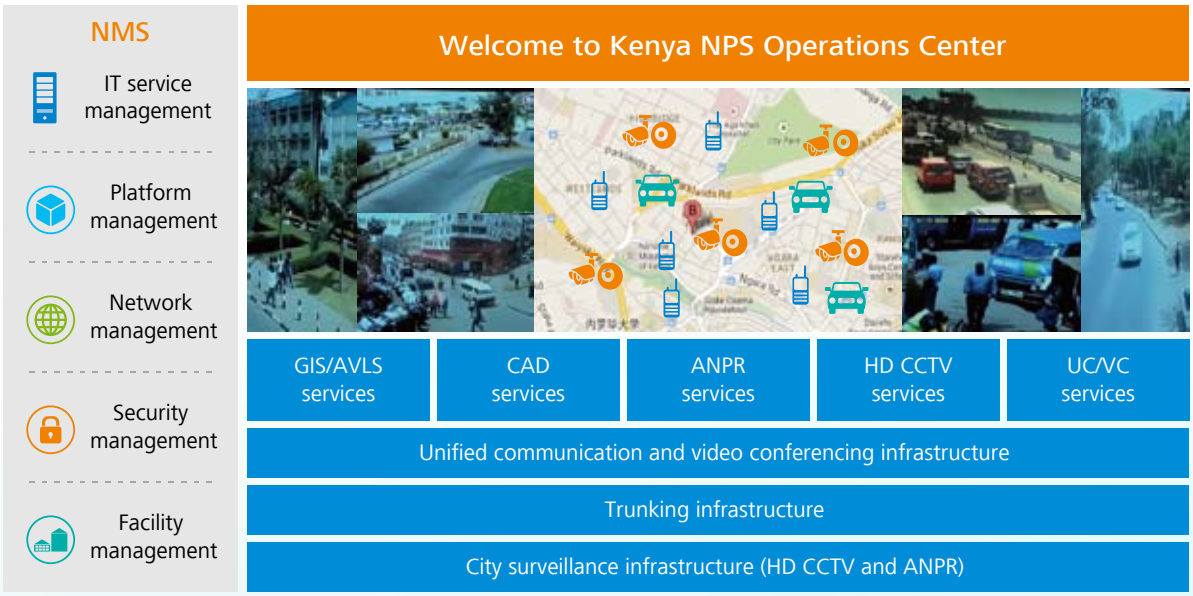
Solutions

Safe City Solutions requiring innovative ICT for security management are part of Kenya's national strategy. Huawei partnered with Safaricom, Kenya's leading mobile network operator, and deployed in Nairobi and surrounding suburbs:

- HD Video Surveillance System
- 4G LTE Broadband Trunking System
- Converged Command Center

Field officers can now upload on-site HD videos that stream to large screens in the Command Center simply by pressing a button on their handheld trunking devices. The Command Center sends the videos to police cars with vehicle-mounted trunking terminals, implementing visual command and collaboration.

Safe City Solution with Visual Communications



Benefits

The Safe City solution has drastically improved safety conditions in the country to actively protect lives and property.

- Crime rate reduced by 46% in the area covered by the system in 2014 to 2015.
- International visitors increased by 14%.
- VIP visits with Zero casualties.
- Safer environment boosts investment and employment and supports sustainable development of the society.

Huawei Agile Network Helped Amsterdam ArenA Migrate into a High-Tech Stadium

General introduction

- One of the two UEFA five-star stadiums in Amsterdam, Netherlands.
- Built from 1993 to 1996 at a cost of €140 million.
- Used for association football matches, American football matches, concerts, and other events.
- One of the Euro 2000 stadiums. Many Dutch and international artists gave concerts in ArenA.

Challenges in Improving the User Experience

High user density

- To achieve 100% Wi-Fi coverage, many APs need to be deployed.
- Increased APs cause severe interference, affecting the network capacity and service experience.

Large network scale

- Massive terminals bring security risks.
- Large volumes of traffic presents a performance bottleneck to the wireless controller.
- Network reliability and scalability degraded.

Various terminal and service types

- Wi-Fi network should provide differentiated services and identify different applications.
- High-quality services can be delivered to VIP users, and bandwidth for high-priority services, such as monitoring and video services can be guaranteed.

Extend the Experience Area from Stadium to a Big Campus

Solutions Highlights

High-density Wi-Fi network optimize service experience

- Implements 100% coverage for ArenA stadium.
- Supports 100% concurrent online users.
- Allows 25% users to enjoy concurrent video services.

SDN-based centralize control on policies

- Service experience, and network security.
- Service quality of VIP users and key applications.

ENP chips offer AC functions

- Realizing innovative features of the agile campus.
- Large specifications of the ENP chips meet large-scale access requirements of the stadium.

Benefits

- Helps to increase user experience & engagement level.
- Enhances competitive edge by improved connectivity.
- Increases attendance and brings additional revenue to the stadium owners.
- Aids stadium management by enabling remote control of facilities such as the pitch, roof, and lighting.

Beijing Builds Government Service Center to Better Serve Citizens

Background

In 2015, the Beijing municipal government released a blueprint to create a government service center based on cloud computing technologies to streamline administration processes, build service-oriented governments, and improve service efficiency. The new service center was designed to interconnect with a wide assortment of service resources, enable unified service handling, approval, payment, and presentation, and eventually enhance government service quality.

Challenges

The legacy IT-based government service systems faced a number of challenges:

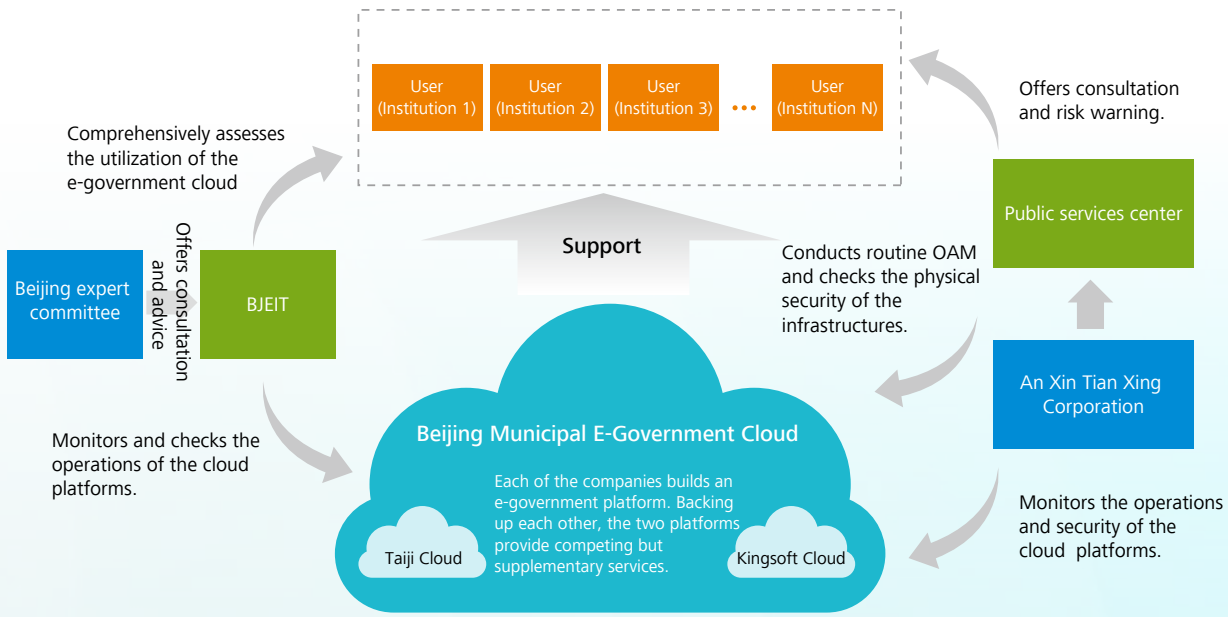
- Information silos existed as a result of separate IT systems built by different agencies. This increased difficulties in information-sharing and cross-agency collaboration.
- Computing and storage resources could not be shared across agencies. As a result, average resource usage was less than 16%.
- Different agencies used different kinds of security protection, increasing potential risks.
- Each agency needed at least two IT engineers to handle Operation and Maintenance (O&M). This resulted in low troubleshooting efficiency and quality and increased O&M costs.

Solutions

Huawei worked with its partners to provide a complete solution that included Infrastructure-as-a-Service (IaaS), Platform-as-a-Service (PaaS), and Software-as-a-Service (SaaS). The service center has built a unified data sharing and service exchange platform based on Huawei's Distributed Cloud Data Center. With it, unified administrative approval and collaborative office systems have been developed.

- A distributed architecture provides virtual Data Center (vDC) services for 44 government bureaus and 16 districts or counties throughout the city, enabling data sharing.
- Unified Data Sharing and Service Exchange Platform provides access to administrative and non-administrative approval services, enabling smooth information sharing and service interconnection across the city.
- Unified Administrative Approval System enables unified service consultation, acceptance, handling, dispatching, supervision, and feedback.
- Collaborative Office System supports daily office tasks. This system comprises an internal office portal and office platform.

Layout of Beijing E-Government Cloud



Benefits

- The Beijing Government Service Center has accommodated 740 approval services (83 percent) from 44 agencies (89 percent). It centralizes service acceptance, handling, and certification, and streamlines administration processes. Citizens can process services at a single window without traveling to different agencies.
- Investment project approval processes have been reduced from 80 to 50, and the average approval time has been shortened from 300 to 109 workdays.
- The distributed cloud data center improves IT resource usage from 16 percent to 55 percent, increases O&M efficiency by 70 percent, and delivers 99.9999 percent data reliability.

Power IoT Lighting Up the Life of Nigerian People

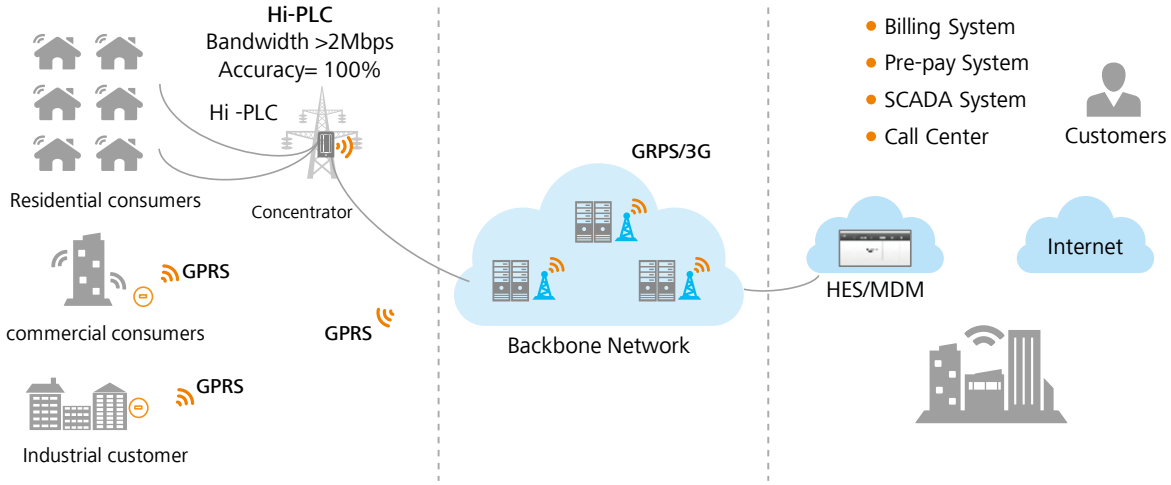
Background

Nigeria, with 173 million people, has the largest population in Africa. It also is Africa's largest economy. Nigeria is attempting to improve its infrastructure, focusing on energy production, including renewable energy sources, as well as power transmission and distribution. However, the country's power supply continues to face challenges as its economy develops.

Challenges

- Severe Line Losses, Serious Electricity Theft: In Nigeria, electricity theft often occurred due to the country's out-of-date electric power infrastructure. The line loss rate was up to 40%.
- Time-Consuming, Difficult Bill Collection: Electricity bill collection was difficult. Only 60% of the electricity charges were collected, and the time needed to collect the bills was 3 months to 4 months.
- Poor Work Efficiency: There was no IT system that could be used to support service management or process user requirements. O&M staff had to read meters manually and, as a result, meter reading was inefficient and many times inaccurate.

AMI solution overview



Solutions

Smart Electric Meters

Huawei's AMI Solution deploys smart electric meters that support multiple electricity theft detection and metering methods.

Smart Metering Network

Huawei's AMI Solution builds a smart metering network that collects power utilization information in real time and generates alarms on electricity theft incidents.

IT-Based Application System

Huawei's AMI Solution deploys IT-based application systems that analyze line losses and electricity theft behavior through data statistics, and enables automatic charging, dunning, and selling of prepaid electricity.

Benefits

Lower Line Losses, Fast Bill Collection

Ikeja Electric has reduced their line losses by 31% and shortened the bill collection time period from three months to zero months, thus achieving real-time bill collection.

Lower Labor Force Costs

Ikeja Electric is able to audit processes, reducing labor force costs by up to 90% by using the IT-based office systems.

Higher Work Efficiency

The open and unified management platform accelerates electricity charging and bill collection, and integrates application systems such as electronic bills, improving work efficiency and user experience.

Henan Extends Quality Medical Resources to Faraway Patients

Background

Henan Province ranks No. 1 among all of China's provinces in agricultural revenues and population. However, with a population of 100 million, the province faced uneven distribution of medical resources.

According to the statistics, 80% of quality resources are owned by the top 30% of cities; less than 3% medical resources are available for the last 30% of cities, and almost no resources are available for suburbs and villages.

Challenges

The severe imbalance of medical resources creates inconveniences for patients as well as for large hospitals.

Patients: Difficult Accessing to Hospital Treatment

- Time-consuming: It takes about 3 days for people outside of Zhengzhou(capital city of Henan Province) to travel to and from FAHZU. To receive treatment, they need to queue in the hospital for at least 3 hours.
- Costly: Nearly USD 200 is required for expenses like traveling, accommodations, food.
- Delayed treatment: Misdiagnosis made by an average hospital often results in missing the optimal treatment time for the patient.

Hospital: Waste of Resources

- FAHZU is the world's largest hospital with over 10,000 beds in use.
- FAHZU is burdened with numerous patients experiencing mild symptoms and unable to focus on more serious illnesses, resulting in a waste of more than 1/3 of expert resources.

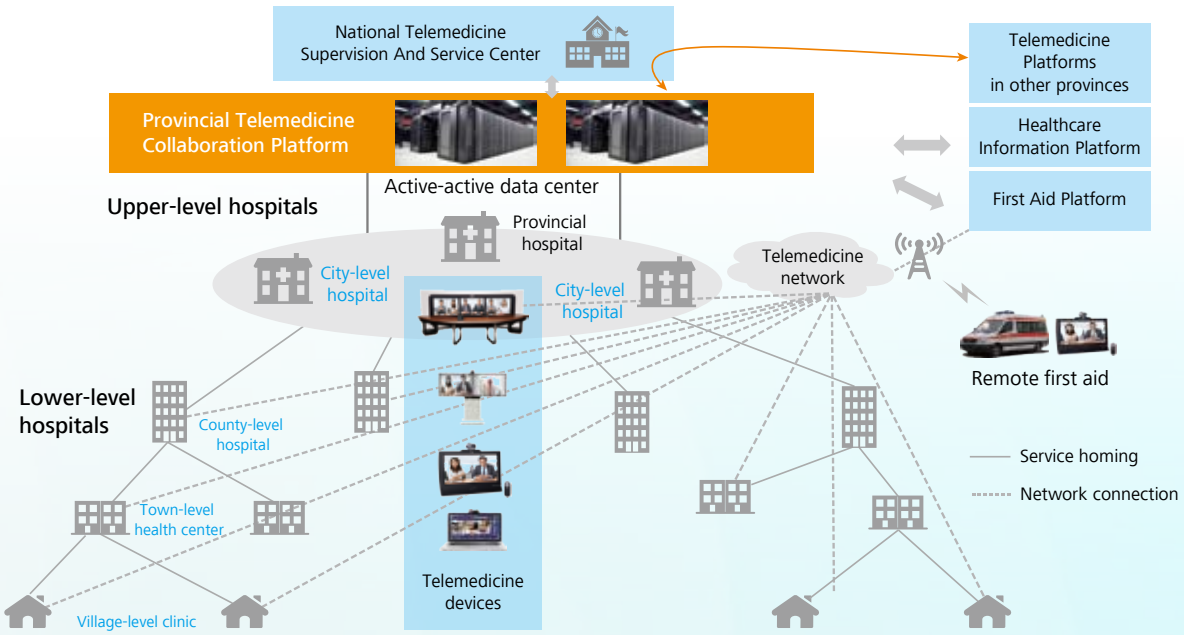
Solutions

FAHZU developed telemedicine services and formulated the following service development strategies:

- Build a superior resource pool to connect more experts with leading technologies and enable continuous expansion of knowledge.
- Extend high-quality medical resources to help average hospitals retain patients and provide treatment without having to travel long distances.
- Launch a web portal for the existing medical resources to offer personalized medical care services.

The project was constructed based on the "Province-City-County-Town-Village" five-level structure. The provincial level provides a Dual-center Provincial Telemedicine Cloud Platform, a convergent Videoconferencing Platform, and a Medical Big Data Analysis Platform. The Telemedicine Centers deploy all or some of the following facilities at each level: Teleconsultation Center, imaging teleconsultation room, ECG teleconsultation room, pathology teleconsultation room, tele-education room, remote surgery demonstration room, electronic library, Emergency Command and Treatment Center, and Integrated Command and Dispatch Center.

Fully-Connected, All-Scenario Hierarchical Medical Care System



Benefits

- World's largest telemedicine network: Currently, the service network covers hospitals in 18 cities and 130+ counties, and over 1,000 primary care institutions. The solution connects to telemedicine systems of other provinces such as Sichuan as well as other countries such as the United States, Russia, and some African countries, to form the world's largest telemedicine network.
- Easier access to medical treatment: Each year, approximately 120,000 patients are treated through tele-consultation, and 320 tele-education sessions reaching 400,000 people are conducted.
- Massive Cost Saving: saving medical and training costs by USD 160 Million each year.
- Mitigate the severe imbalance of medical resources due to reduced referral rate: general referral has been reduced by 21%.
- Enhanced patient satisfaction: the satisfaction rate has reached 97%.

Kenya Transforms Healthcare through Telemedicine with Hospital and Clinic Digitization

Background

The public healthcare system was inefficient, poor quality, and lacked health experts in smaller cities like Lamu. The cost and time for citizens to travel to other facilities frequently delayed proper diagnosis or treatment. Few sustainable solutions have proven feasible despite the high priorities of the Health and ICT Ministries in Kenya (and similar countries).

Challenges

Poor Quality Healthcare

- 1 in 3 patients receive incorrect treatment.
- 65% of clinics report out-of-stock for essential drugs.

Lack of Health Specialists

- Many patients live far away from advanced facilities. 17 more referral hospitals are required.
- 86% of patients spend more on transportation to facilities than on healthcare.
- 2 doctors for every 10,000 people.

Inefficiencies

- Facilities spend 2 days to 4 days per month on reporting.
- 50% of health budget wasted by inefficiency and corruption.

Solutions

A network combines health facilities with power, IT devices, IT software, and connectivity to create system-wide improvements in healthcare. The solution provides a high-tech facility and patient services which incorporates:

- Huawei Matebooks and MicroClinic ZiDi™ software in health facilities improve the efficiency of reporting and billing, managing commodities, staffing, and patients.
- Cloud synching and real-time web portal for managing and sharing medical records and patient referrals dramatically improves efficiency.
- Real-time video conferencing managed by Huawei's SMC and MCU based in the Regional Referral Hospital enables remote consultations for patients and trainings for health workers.
- Connectivity is provided over the new fiber network covering major cities in Kenya, or 3G in smaller towns.

Solution Strategy for Transforming Healthcare in Kenya

Benefits

- Digital Clinics will increase revenue by 30%.
- 50% more (at least 4,000) patients will receive quality healthcare per year.
- 300+ doctors will receive training weekly.

Newcastle University: Huawei Delivers First 100GE University Core Network in the UK

Background

Founded in 1834, Newcastle University boasts a long history and cultivates many celebrities and outstanding alumni. Currently, the University has over 20,000 students from all around the world and over 5,000 faculty and staff. The number of students is still rapidly increasing.

Challenges

New teaching models such as real-time remote education, interactive classroom, online Video on Demand (VoD), and online examination as well as modern office models such as videoconferencing and cloud platform pose high requirements on network bandwidth. What makes the matter worse, an increasing number of students adds the burden on the campus network. Therefore, as part of the University's substantial Digital Campus investment, it decided that the core network and Wi-Fi would be a good starting point for improving the student experience.

Solutions

- Huawei's digitized campus network solution features large capacity and outstanding reliability.
- The Newcastle University campus network is unique in being the first UK university to deploy a 100GE core network utilizing Huawei industry leading and award winning CloudEngine 12800 core switches. Along with Huawei's full 10GE aggregation switches, Huawei switches build the industry's best campus backbone network, which can accommodate the University's campus network bandwidth requirement over the next 10 years.
- The Education experience continues to change dramatically as do the expectations of the users. The students today demand the same user experience as they would get at home. They carry numerous devices and expect to be able to connect those devices anywhere at any time. Huawei's WLAN solution has transformed the student experience from both educational and recreational perspectives. High performance, free of charge Wi-Fi is now available to all students across campus and halls of residence as well as high density Wi-Fi in public areas, sports arena and auditoriums.

Benefits

- E2E ultra-wideband (UWB) campus network and 100G core network, accommodating service growth over the next 5 years.
- High-speed, seamless access with wired and wireless network convergence, significantly improving service experience and simplifying network O&M.
- Complete virtualization — 1:16 virtualization, N:1 virtualization through CSS and SVF, drastically lowering TCO.

Langfang: City-Wide Transportation System Gets Smart

Background

Langfang City is in a preferred location for many Chinese and foreign enterprises. Along with rapid economic development, there has been a corresponding big rise in the amount of traffic. However, the traffic command and traffic security facilities have been relatively slow in keeping pace, which leads to frequent traffic congestion and high accident rates.

Challenges

To improve the traffic conditions of the city, the following issues must be addressed:

- Serious traffic violations
- Lack of appropriate traffic guidance
- Ineffective mitigation of traffic congestions in some areas
- An inflexible and antiquated system for dispatching police officers and patrol cars

Solutions

- Using a comprehensive geographic information data system and electronic maps as the main operating platform, Huawei's solution integrates many systems, including signal control, video surveillance, traffic flow information collection, traffic guidance, vehicle interception and traffic police officer and patrol car dispatch, electronic police, 122 alarming, GPS positioning, mobile police, roadway traffic management information, etc. The solution manages traffic information in a unified manner, comprehensively monitors traffic conditions, and coordinates and schedules traffic police officers and cars.
- The platform shares information with the related departments of public security command centers, transportation departments, and municipal administrations, to provide them with value added services. With outstanding capabilities for traffic information collection, processing, integration, sharing, and distribution, timely response and more effective coordination can be realized.

Benefits

- Smoother traffic: morning and evening peak time reduced from 1 hour to 40 minutes.
- More efficient command: improves the traffic dispersion rate by 20%; improves the efficiency of traffic management by more than 30%.
- Safer travels: realizes nearly 40% reduction in the number of traffic accidents.

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