Building Future-Oriented Smart Cities

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Huawei Smart City Solutions
1. A Global Company on Your Side
2. Trends and Vision
3. Construction Key Elements
4. Why Huawei
Huawei Technologies releases an annual report with consolidated financial statements audited by KPMG. — *From Huawei annual report audited by KPMG*

**Who is Huawei?**

- Listed on the 2012 Global Fortune 500
- Leading global ICT solutions provider
- Customer-centric culture
- World-class management, process, and practice
Huawei, A Global Company with Worldwide Expertise

Rely on globalization to localize operations

- 14 regions with business operations in 150+ countries
- 150,000+ employees from 150+ countries
- 25 joint innovation centers and 45 training centers

Shenzhen-based HQ
Accounting Shared HQ Services Center
Bid center (in construction)
Logistics center and transit station
R&D center
Training center
Technical assistance center
Huawei Redesigns Business Strategy to Cover All ICT Sectors

- **Establish** in IT Solutions
- **Lead** in Networks
- **Expand** in Devices
- **Extend** in Enterprise Market
- **Excel** in Telecom Carriers
- **Brand** in Consumer Market
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Urbanisation Trend calls for Smart City Solutions

Increasing Population
Food Safety
Pollution
Security
Traffic Congestion
Natural Disasters
Health & Education

"The strategic and economic policies of the 20th century are obsolete, and it is time to find new ones."
Our Smart City Vision

Smart City Development Relies on

- **Standardization**: Build a completion set of Information standards
- **Planning**: Adopt right constructure model
- **Innovative**: Establish a clearly-defined city innovation mechanism
- **Coordination**: Well-managed and coordinated city operations
Creating a Sensing System - Pattern of Smart City

Sense & Activities of an Smart City

- Intelligent Traffic Solution
- Urban Emergency Solution
- Digital City Management Solution
- e-Health Solution
- ...

- Brain of a smart city: VAE (Value Added Environment) and IDC (Internet Data Center)
- Nerve Network of a smart city: communications network, Internet, and Internet of Things
- Neuron of a smart city: M2M terminals and gateways
- Nerve Ending of a smart: wireless sensing network (WSN), IVS (Intelligent Video Surveillance)
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Huawei Smart City Construction Vision

Four Fields of Smart City Construction

City Safety & Operation  Efficient Gov.  Happy Life  Green Industry

Smart City Construction Panoramic View

Safe & Secure

Green & Efficient

Smart City

Efficient Gov.

Happy Life

Green Industry

Four Fields of Smart City Construction

DCN  IP Network  Transmission Network  Wireless Network

Basic Network Facilities

Clouding Service  App  App  App

Unified Communication

IT Infrastructure

Security Gateway  Firewall

Security Infrastructure

Standardization  Planning  Innovative  Coordination

Customer or partner logos placed in the upper right corner.
Smart City - Safety and Operation

National Security & Surveillance
Controlling power: Society entities like hot area, public, and vehicle

National Emergency Responding
The brain of Emergency command center

Cyber Police
Controlling power: virtual network, carrier network

Multi-dimension prevention, Integrated command, Comprehensive Controlling
Smart Services Everywhere

Virtual terminal

Airport Lounge  Hotel  Rural District  Habitant District  Office, Market

Remote Client

Smart Cards  Account Management  Countermand  Payment  Financial Service

Finance/Government  7X24H Non-Stop Services

City Safety & Operation  Efficient Gov.  Happy Life  Green Industry
Smart Transportation - Make Life More Convenient

City Traffic
Railway Transport
Metro Transport
Highway

Key Facility Monitoring
Traffic Surveillance Center
Emergency Command

Road
Checkpoint
Highway
Wireless
Vehicle-GPS
Station
ETC
Sensor Network
Traffic Light
Smart Grid

- Improved smart grid communication structure: End to end real-time, high-speed and bi-directional communication, elevate dispatch efficiency, reduce manpower costs, enhance power grid security and reliability
- Ease of maintenance: Designed with unified network deployment and management to reduce operating expense
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The Future Smart City

From IT-oriented to people-oriented, application will face the new demands of human society development and new expansion.

From a single dispersed Infrastructure towards a new generation of broadband, integration, intelligent, mobile, ubiquitous of Internet infrastructure.

A new generation of information technology (cloud computing, Internet of things, big data, mobile Internet, space information) will be the Sensing System to support Data Sharing.

From an Application Based Digital World to a new Automated, intelligent and Smart Application interaction

Big Data integration drive to support innovation and decision-making.

Application from led by IT technology, turn all-round to information resources use and development
Continuous Investment in Innovation

R&D investment

- **USD $4.5 billion** in 2012
- **70,000** R&D employees
- **15** R&D centers (6 in Europe and 5 in North America)

Continuous increase in percentage of R&D investment to total sales revenue

<table>
<thead>
<tr>
<th>Year</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
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<tr>
<td>R&amp;D investment</td>
<td>9.4%</td>
<td>9.1%</td>
<td>9.7%</td>
<td>9.7%</td>
<td>11.6%</td>
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Standards and patents

- **Membership in 150** international standards organizations such as IEEE, IETF, DMTF, Continua, and HL7
- **180+** positions in international standards organizations
- **23,000** standards-related manuscripts

Standards

- **39,209** patent applications in China; 11,314 PCT patent applications and 12,477 patent applications outside of China.

Patents

- **26,539** patent applications granted (by June 2012).
Huawei: A Better Partner for Smart Cities Development

Customer-centric culture and agile customer services

A company nearby: branches located in 140+ countries

Continuous innovation, leading products, and wide-ranging solutions

whole product portfolio: Cloud – Pipe – Devices
Strategic partner in the City end-to-end Vision

A better partner

Responsible corporate citizen, your reliable partner

2 billion users worldwide, rich ICT experience, and reliable quality