Building Future-Oriented Smart Cities

Sergio GIANOTTI
Head of Sales and Marketing
Enterprise Business Group

enterprise.huawei.com

Huawei Smat City Solutions

HUAWEI TECHNOLOGIES CO., LTD.

Sustainable Growth

Chart values by year:
- 2007: 12.6
- 2008: 18
- 2009: 21.5
- 2010: 27.6
- 2011: 32.4
- 2012: 35.4

Who is Huawei?

- **Listed** on the 2012 Global Fortune 500

- Leading global ICT solutions provider

- Customer-centric culture

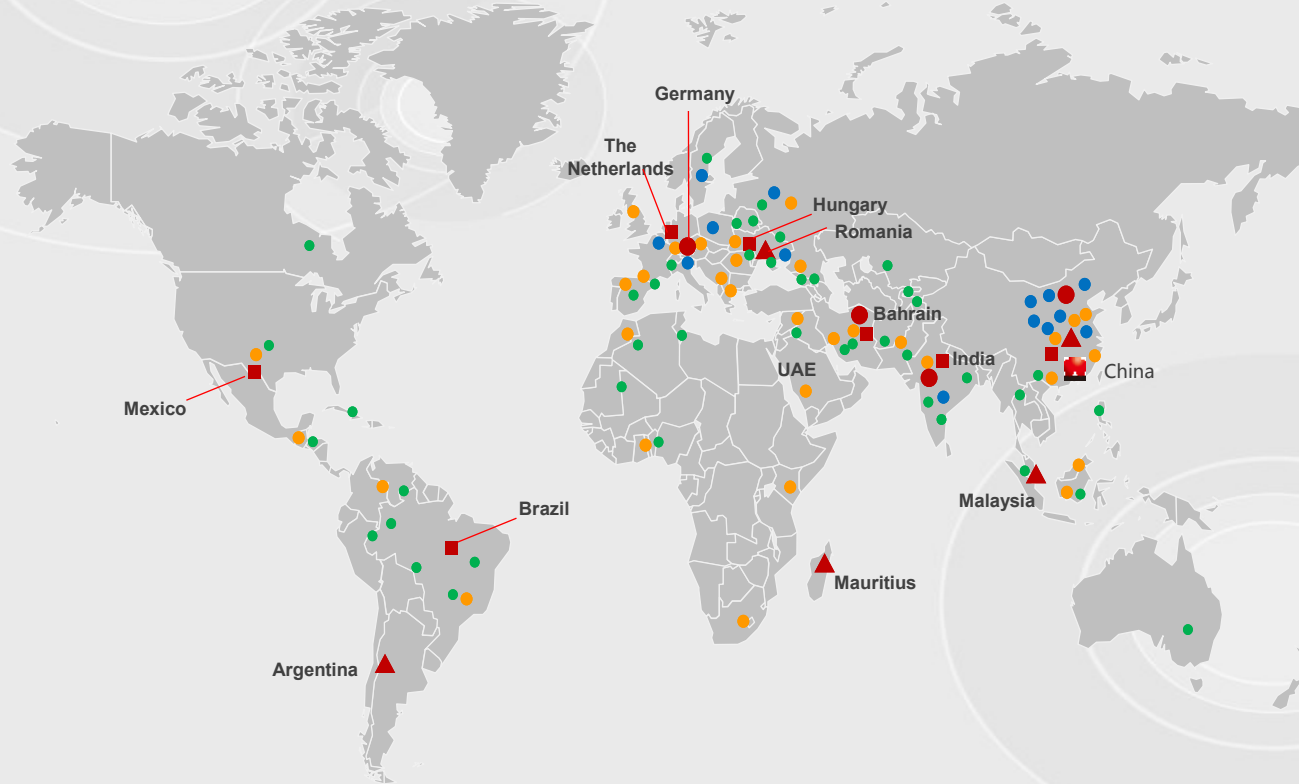- World-class management, process, and practice
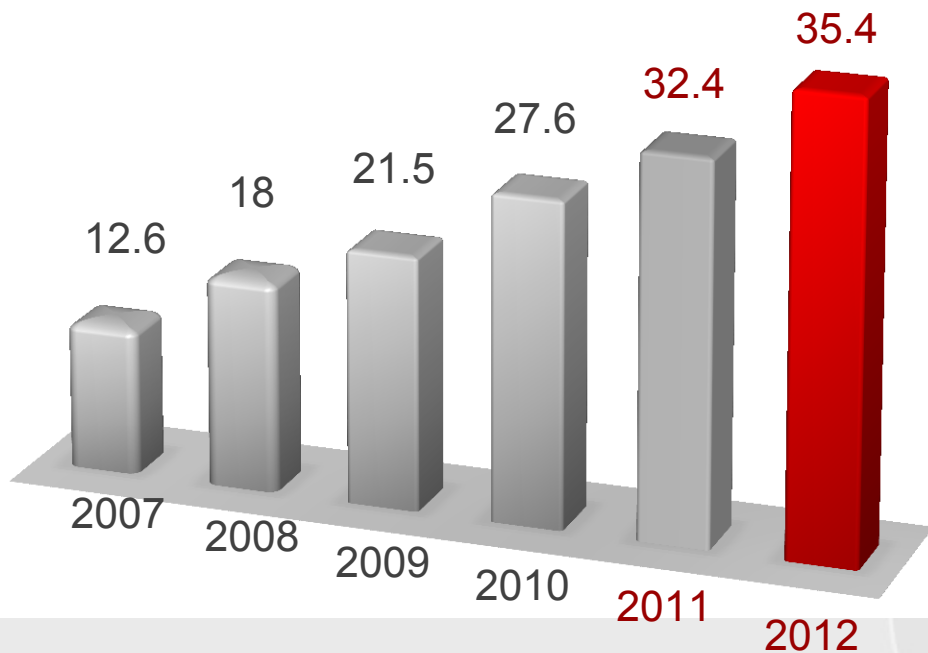
- Huawei Technologies releases an annual report with consolidated financial statements audited by KPMG. — *From Huawei annual report audited by KPMG*

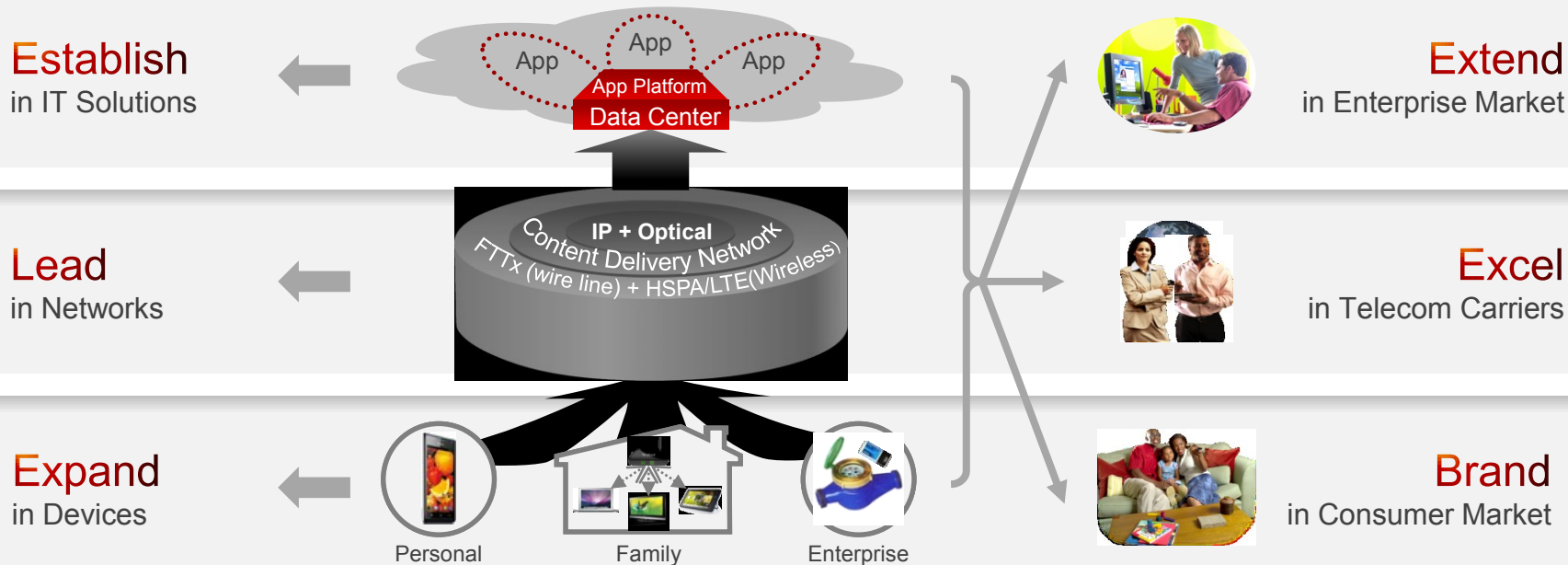# Huawei, A Global Company with Worldwide Expertise

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 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

App
App
App
App Platform
Data Center

IP + Optical
Content Delivery Network
FTTx (wire line) + HSPA/LTE(Wireless)

Personal
Family
Enterprise

Extend
in Enterprise Market

Excel
in Telecom Carriers

Brand
in Consumer Market

Urbanisation Trend calls for Smart City Solutions

Increasing Population

Food Safety

Pollution

Security

Traffic Congestion

Natural Disasters

Health & Education
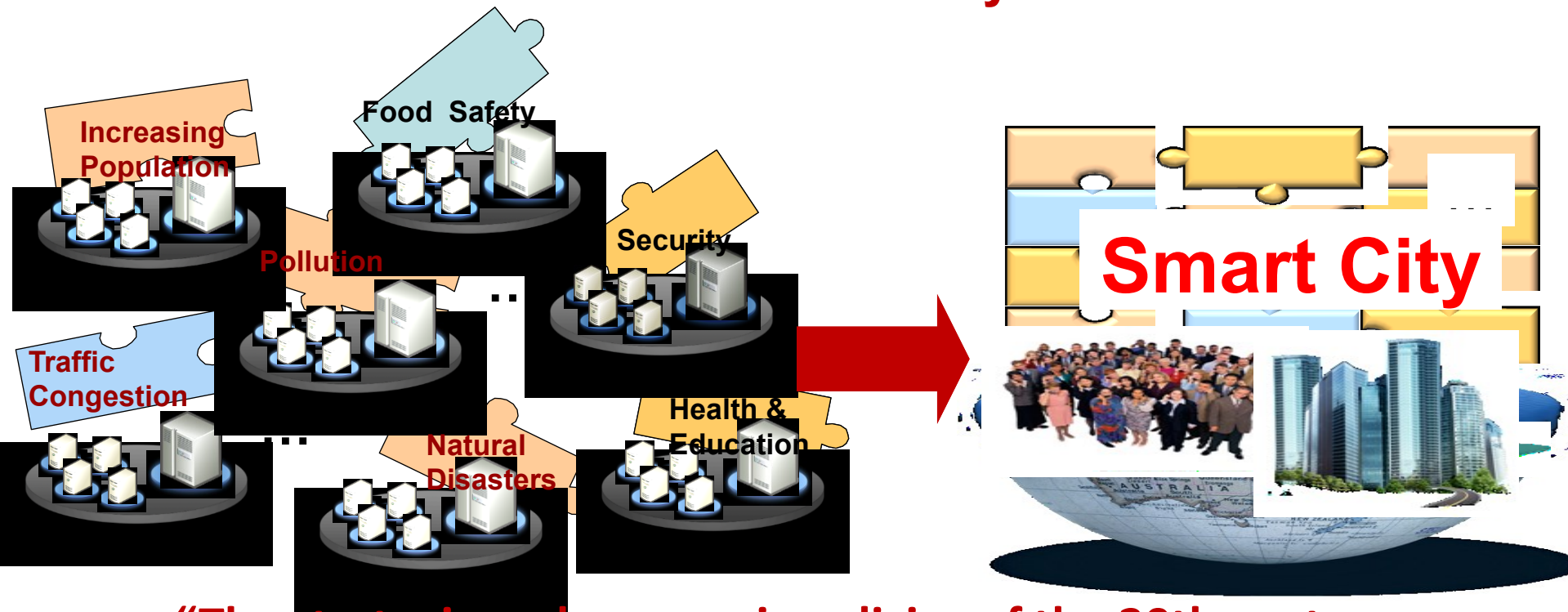
Smart City

"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 diagram with central "Smart City" node connected to: Safe City, Banking, Health, Monitor, Emerngy, Happy Life, Efficient Gov., Park, Tourism, Green Industry, Hotline, City Admin
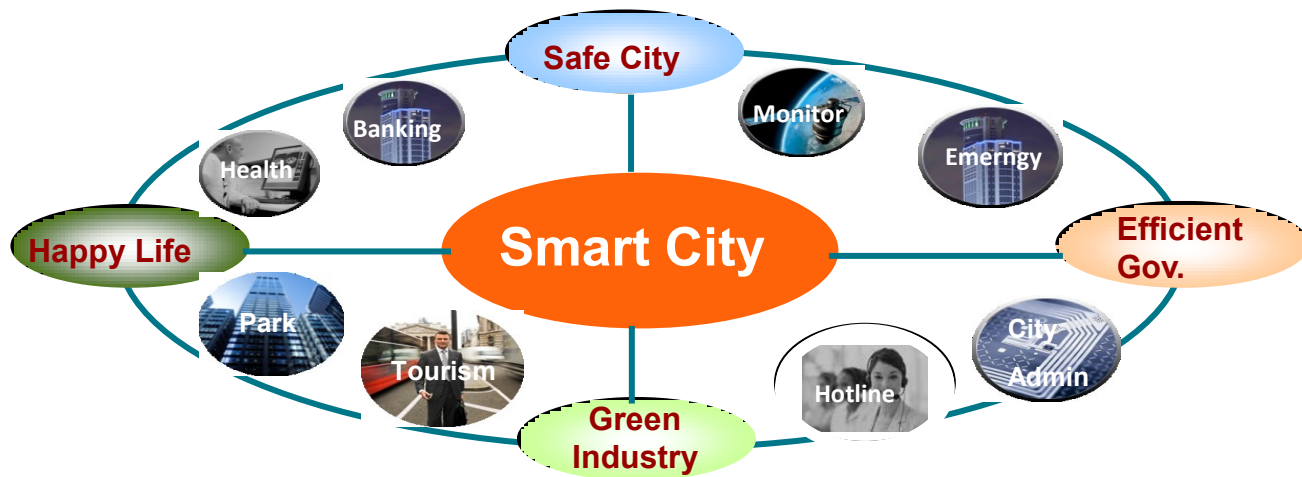
Smart City Development Relies on

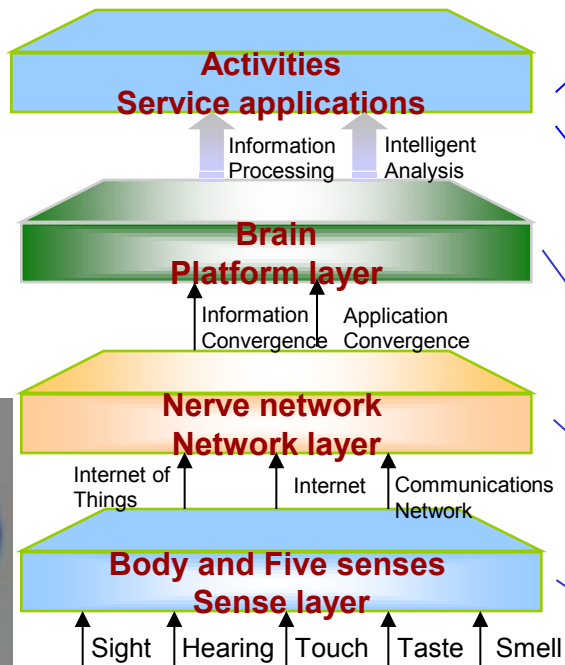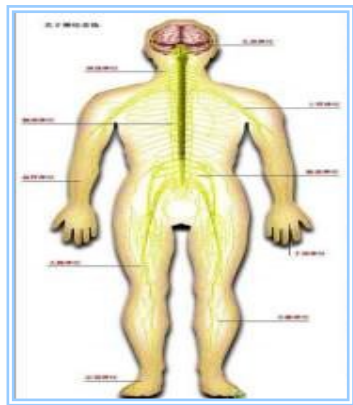| Standardization	Planning	Innovative	Coordination
Build a completion set of Information standards	Adopt right constructure model	Establish a clearly-defined city innovation mechanism	Well-managed and coordinated city operations

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)

Activities
Service applications

Information Processing | Intelligent Analysis

Brain
Platform layer

Information Convergence | Application Convergence

Nerve network
Network layer

Internet of Things | Internet | Communications Network

Body and Five senses
Sense layer

Sight | Hearing | Touch | Taste | Smell

1 **A Global Company on Your Side**

2 **Trends and Vision**

3 **Construction Key Elements**

4 **Why Huawei**

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

- Security Video Surveillance
- Emergency Command
- Digital Police
- Internet Surveillance
- e-ID
- Vehicle Management
- e-Passport
- Digital scenic spot
- Government OA + Portal
- Intelligent Kids (SCS)
- Government Hotline
- Intelligent Traffic
- Digital post (e-Post)
- Digital patrol
- Tourism
- Environment monitoring
- Intelligent Meter
- E-Education
- Digital Health care

Safe & Secure

Smart City

Green & Efficient

Smart & Socially Aware

Standardization
Planning
Innovative
Coordination

| DCN | IP Network | Transmission Network | Wireless Network | + | Call Center | UC | VC/TP | + | Server | Storage | Clouding Service | + | Security Gateway Firewall |

Basic Network Facilities | **Unified Communication** | **IT Infrastructure** | **Security Infrastructure**

Smart City - Safety and Operation

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

Prevent , manage, control

National Emergency Responding
The brain of Emergency command center

Monitor, analysis, decision-making, dispatch

Cyber Police
Controlling power: virtual network、carrier network

Intelligent, monitor, detection

Multi-dimension prevention, Integrated command, Comprehensive Controlling

Smart Services Everywhere

Smart Cards

Account Management

Countermand

Payment

Financial Service

Finance/Government
7X24H Non-Stop Services

Virtual terminal

Remote Client Cont...

Airport Lounge

Hotel

Rural District

Habitant District

Office, Market

HUAWEI

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
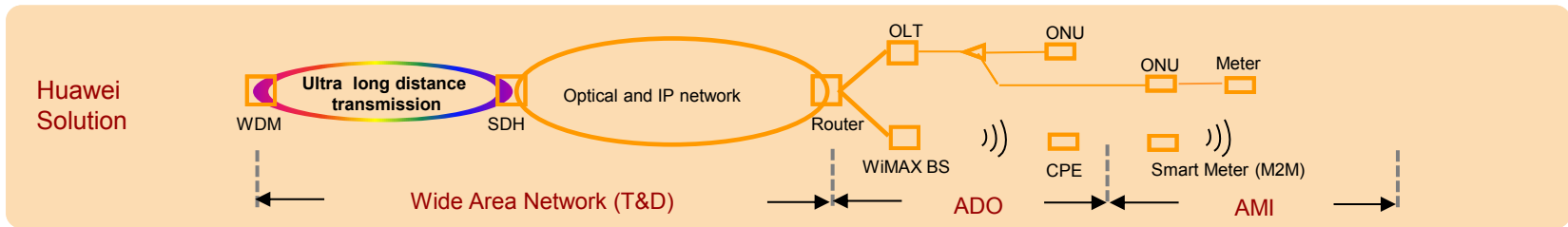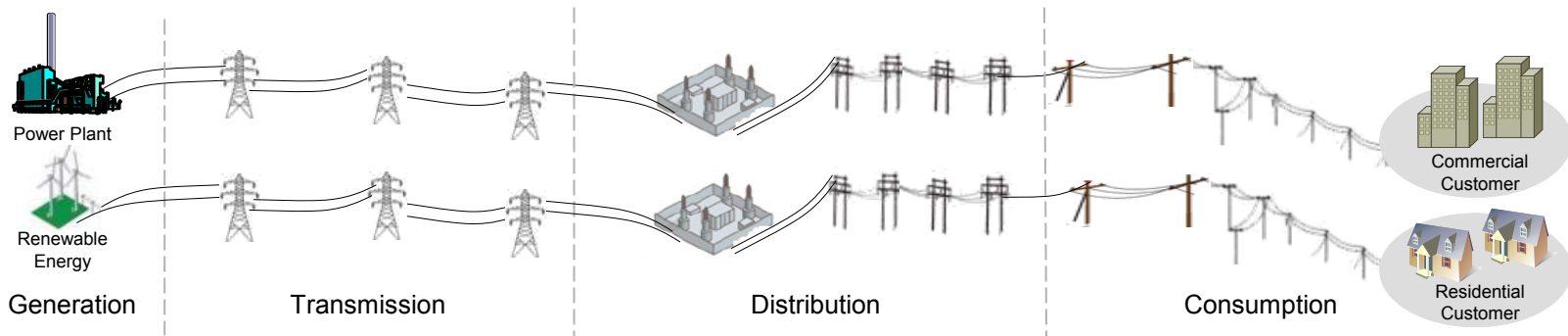
Smart Grid

- 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

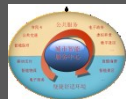1 **A Global Company on Your Side**

2 **Trends and Vision**

3 **Construction Key Elements**

4 **Why Huawei**

HUAWEI

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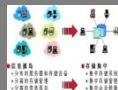
A new generation of information technology (cloud computing, Internet of things, big data, mobile Internet, space information) will be the Sensing System to support Data Sharing.

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
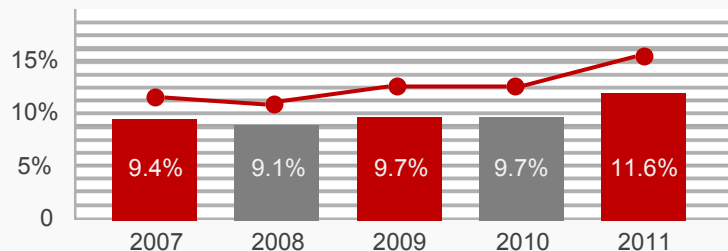
Continuous Investment in Innovation

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

Year	Percentage
2007	9.4%
2008	9.1%
2009	9.7%
2010	9.7%
2011	11.6%

Standards and patents

Standards

- 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

Patents

- **39,209** patent applications in China; 11,314 PCT patent applications and 12,477 patent applications outside of China.
- **26,539** patent applications granted (by June 2012).

Huawei: A Better Partner for Smart Cities Development

A company nearby: branches located in 140+ countries

Customer-centric culture and agile customer services

Continuous innovation, leading products, and wide-ranging solutions

A better partner

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

Responsible corporate citizen, your reliable partner

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