



# Smarter Nations on the way

Joe so  
Huawei CTO of Industry Solutions

**LEADING NEW ICT**

# Agenda

- 1 Huawei Overview**
- 2 Huawei Smart City Infrastructure
- 3 References
- 4 Ecosystem Lead to Win-Win Cooperation

# Huawei: A Global Leader of ICT Solutions



**170+**  
Countries

**228**  
Ranking in Fortune  
Global 500 (Jul 2015)



**176,000**  
Employees

**79,000**  
R&D Engineers



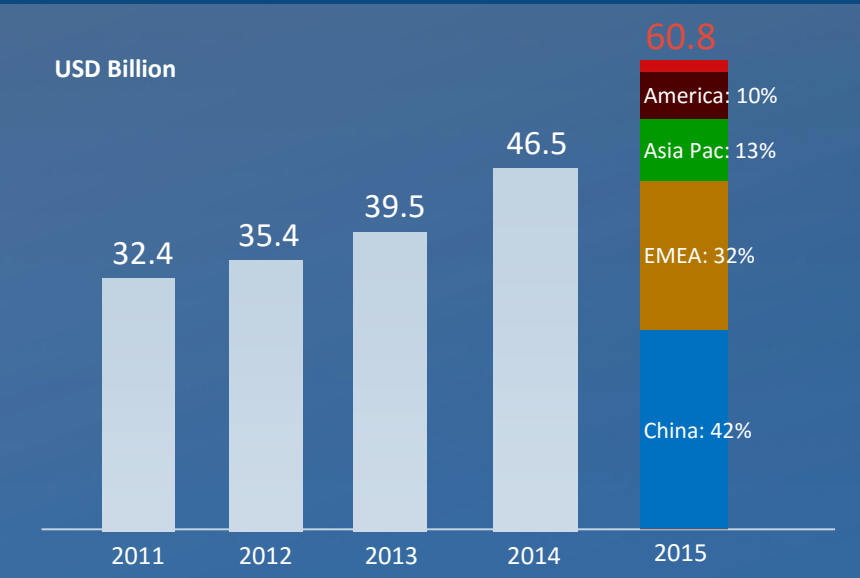
**36**  
Joint Innovation  
Centers

**16**  
R&D Centers

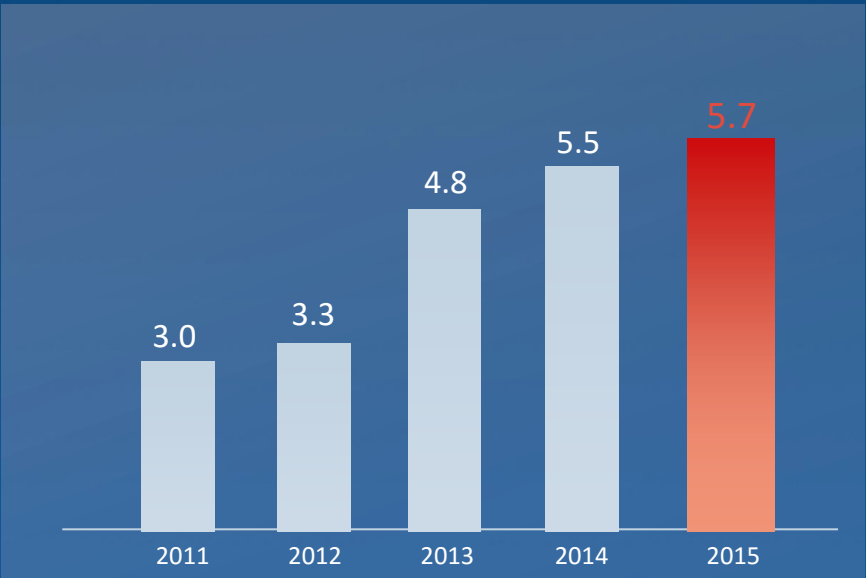


# Continuous Effective Growth

## Sales Revenue



## Operating Profit



CNY is the company's functional currency. The USD figures are converted based on the exchange rate at the end of the corresponding year.  
Exchange rate: US\$1 = CNY6.4927

# Continuous Innovation Investment

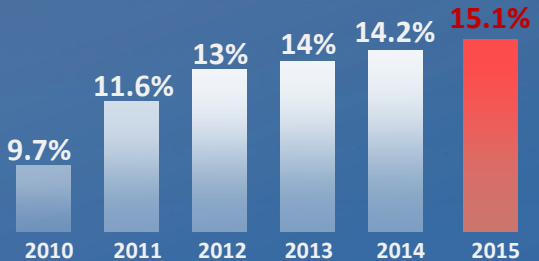
## R&D Investment

**USD37 billion** over 10 years (from 2006 to 2015)  
**10%+** percentage of R&D investment to total sales revenue  
**79,000** employees: **45%** are R&D engineers

## Standards

**300+** international standards organizations, industry alliances, 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



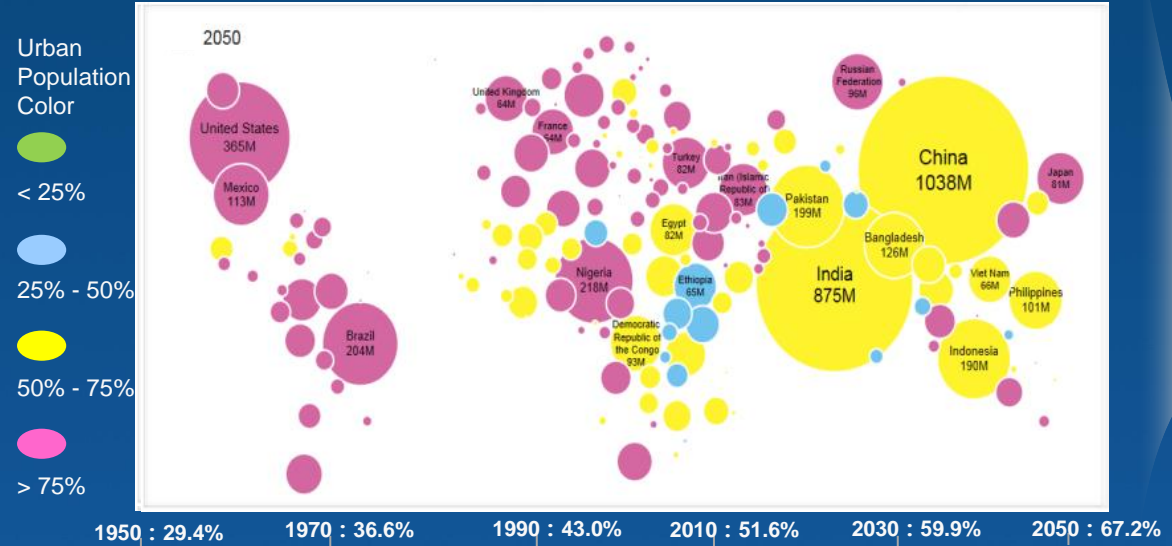
## Patents

**50,377** — patents authorized  
**52,550** — patent applications in China  
**30,613** — patent applications outside China

# Agenda


- 1 Huawei Overview
- 2 Huawei Smart City Infrastructure
- 3 References
- 4 Ecosystem Lead to Win-Win Cooperation

# Urbanization Brings More City Demands



Source : An urban world map, SOWC2012 unicef

### Quality Of Life



- Better Environment
- Healthcare
- Public Service
- Hospitality & Entertainment

### Prosperity



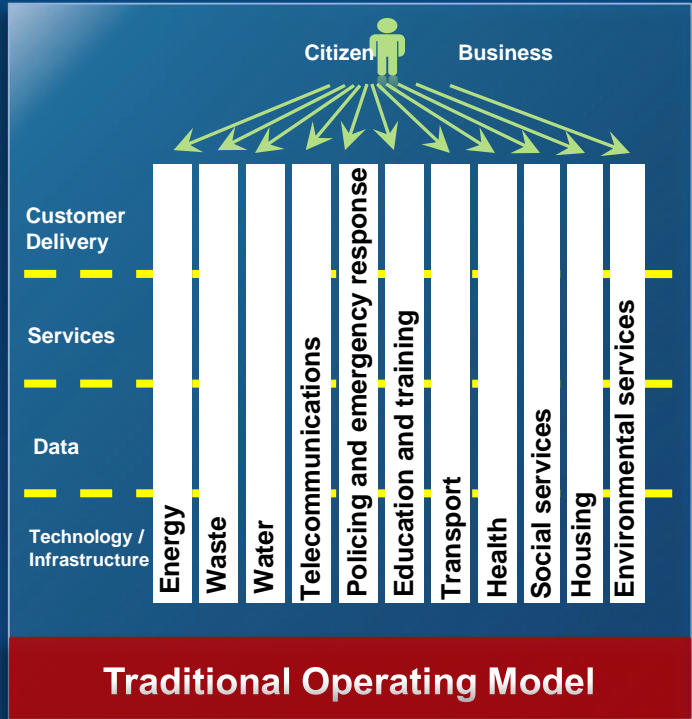
- Education
- Social Interaction
- Career Opportunity
- Community Welfare

### Security

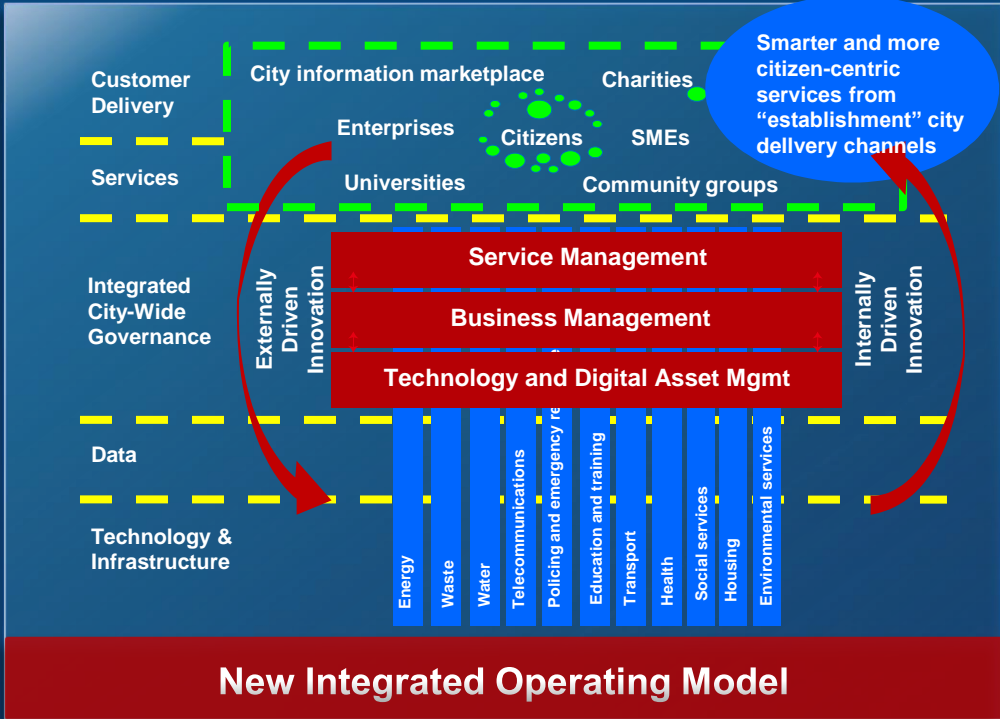


- Life Security
- Property Security
- Family Safety
- Traffic Safety

# Integrated Governance Facilitates Smart City Transformation



Traditional Operating Model



New Integrated Operating Model

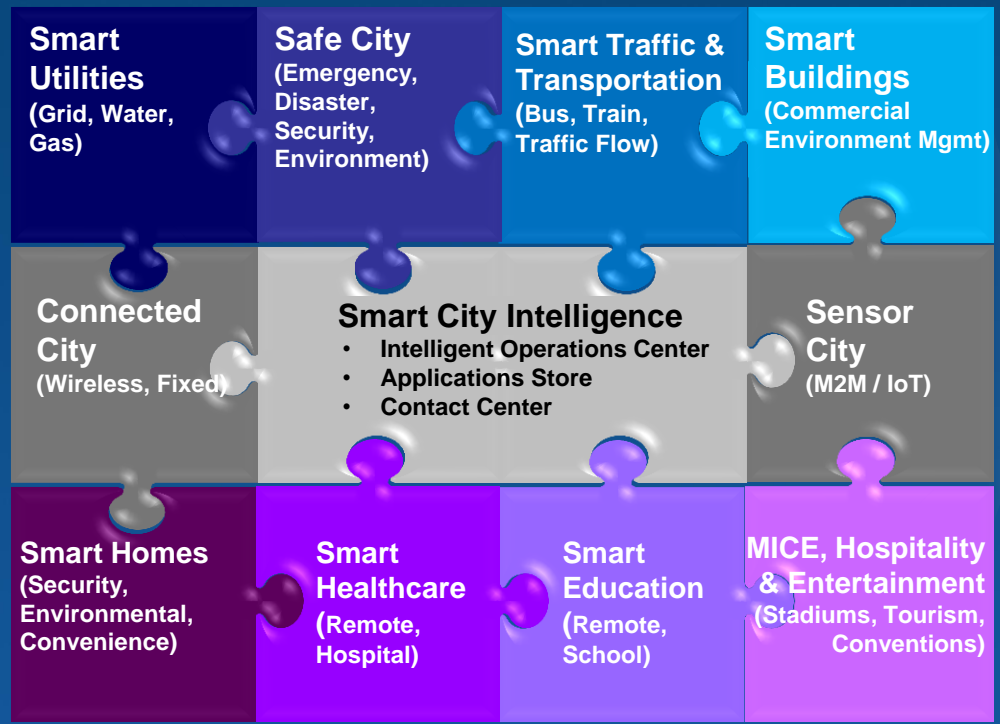
Sourcing: BSI PAS 181:2014 Smart city framework – Guide to establishing strategies for smart cities and communities



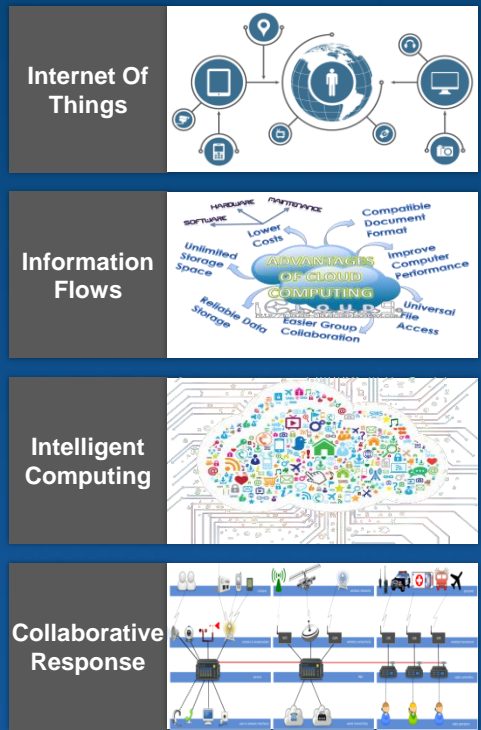
# Huawei positioned as a Smart City Enabler

*Urban Development, Security & Sustainability*

ICT Infrastructure



*Social Development Communities, Villages, Citizens*



# Search & Enterprise Integration, Traffic, Applications, Business Process



Utility



Police



Healthcare



Traffic



Education



Enterprises



Transport

## 4 Smart City Layers

Smart City Management



# 1.Safe Nation : Manage the uncertain threats



Crime case/Riot



Traffic Incident



Fire incident



Natural Disaster



Safe city



Safe Traffic



Disaster warning



Prime Office



Police



Transport



Fire



Health



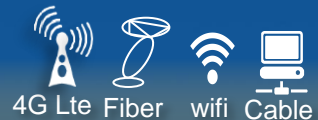
Disaster Prevent



Cloud Data Center



Command Center



Better Network



Multi-Terminal

## Before the incident

Smart Sensing



Omni Protection

- Video Prevention
- Intelligent Early - Warning

## During the incident

Smart Decision-Making



Rapid Response

- ◆ Multi-Agency Collaboration
- ◆ Empower the Field

## After the incident

Smart Clue Analysing



Efficient Case-Solving

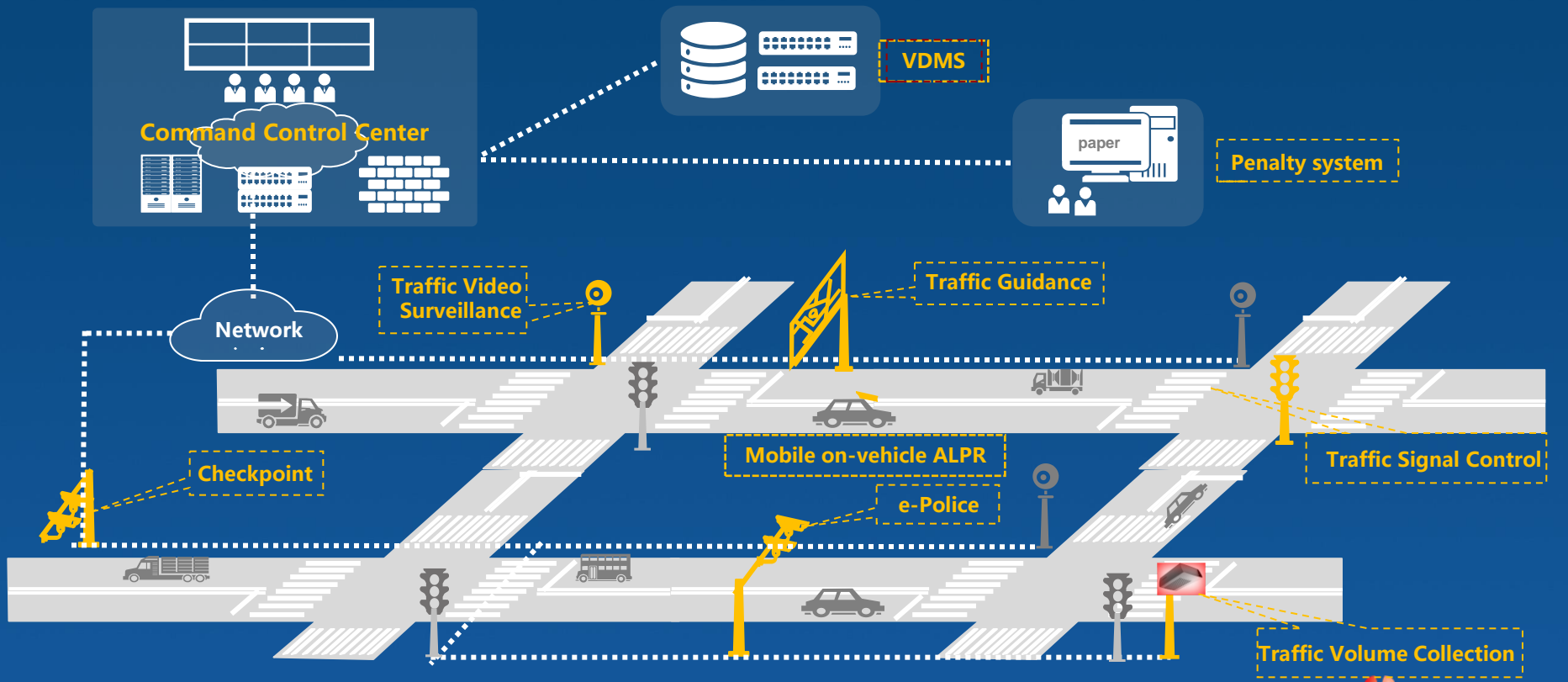
- Multi-dimensional intelligence
- Intelligent Analysis







# 3.Smart Transportation, Advanced, Efficient and Safe



# 4.e-Government : Build Service-oriented Government



Office Collaboration



One Stop Service Hall



Mobile Office



OA & Document



Government Portal



Email System

## Benefit



### Government

- ✓ Improve government efficiency
- ✓ Enhance the image of the government
- ✓ Reduce the Government IT Cost
- ✓ Reduce the office handling time
- ✓ Standardize government management



### Enterprise

- ✓ Make communication more convenient
- ✓ Fast response for administrative approval
- ✓ Make business inquires more convenient



### Public

- ✓ Real-time access to government information
- ✓ Enjoy quality public services

# 5.Smart Education: High Quality, Available for Everyone

### Sharing



Sharing all advanced resource all over the country

### Innovation



transform from traditional teaching process to interactive teaching

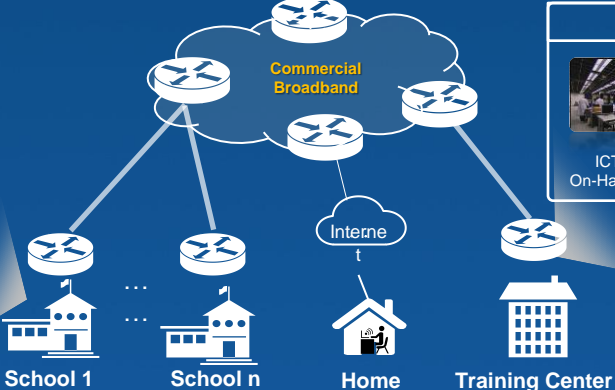
### Collaboration



Improve learning efficiency



### Commercial Broadband



### Scenes

Live Classroom    Remote Classroom  
Interactive Classroom    Multi-Media Classroom

### Scenes

ICT Training On-Hands Exercise    ICT Training Lecture Training

## 1 Basic Infrastructure

- Agile Campus Network Solution
- School Interconnection Network Solution
- Safe Campus Solution

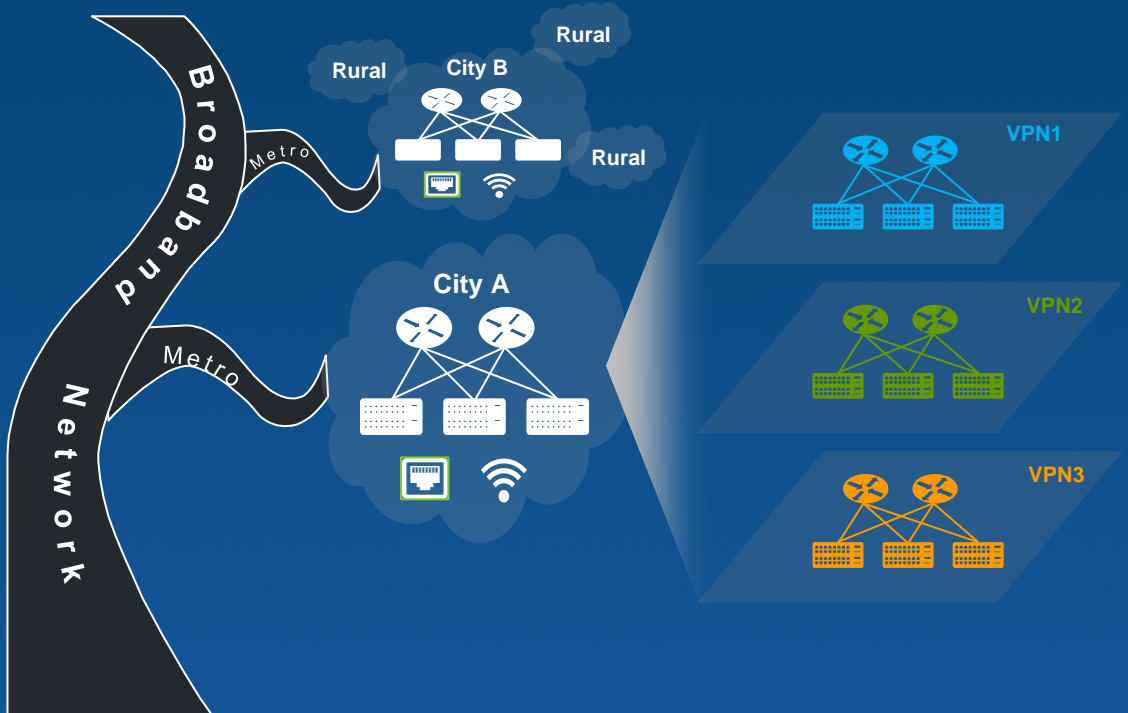
## 2 Cloud platform

- Resource Sharing platform
  - Digital Library
  - Online Learning
- Education Management platform
  - e-Management

## 3 Smart classroom

- Interactive Teaching Solution
- Telepresence Live Classroom
- Solar integrated Classroom

# 6. Ubiquitous Broadband is the Foundation



**Extension**  
Metro and access network is the extension of broadband.

**Convergence**  
Focus on ubiquitous broadband by both wired and wireless network.

**Security**  
VPN should be used by government and multi-industries, achieving investment efficiency and security.



# Agenda

- 1 Huawei Overview
- 3 Huawei Smart City Infrastructure
- 3 **References**
- 4 Ecosystem Lead to Win-Win Cooperation

# Global Best Practice Create Smart Future for Cities

Over 30 smart cities is building by Huawei in China, and we are supporting China government to formulate national standard



Global smart city living lab is building in Amsterdam



# Agenda

**1 Huawei Overview**

**2 Huawei Smart City Infrastructure**

**3 References**

**4 Ecosystem Lead to Win-Win Cooperation**

# Smart City Panorama

Vision

Happy lives for public and sustainable city development

Objectives

**ICT Infrastructure**

- Relatively complete ICT infrastructures, including broadband and cloud services
- Innovative, easy-to-access public services, enhancing stakeholders' confidence
- Obvious improvement in administration efficiency and one-stop government service platform
- Info sharing platform

**Management & Services**

- Complete ICT infrastructures
- More convenient, efficient, and intelligent large-scale public services
- Smart technologies that drive financial, community, campus, e-Commerce, logistics, and new industry development
- Eco-System with green innovation, improving the living environment
- Breakthrough in industry transformation and smart industry development

**Innovations & Interactions**

- Smart city service system that covers all major industries, public spaces, and city districts
- Smart industry system based on big data, cloud computing and IoT, providing diverse apps and services
- Internationally influential smart city with leading smart systems in featured fields

Tasks

Smart Infrastructure	Refined City Management	Quality Living Environment	Large-Scale Public Services	Modern Industry Development
<ul style="list-style-type: none"> <li>• Communications Network</li> <li>• Government Network</li> <li>• Sensing Network</li> <li>• Cloud DC</li> <li>• Big Data Center</li> <li>• Info Security</li> </ul>	<ul style="list-style-type: none"> <li>• Grid Management</li> <li>• Safe City</li> <li>• City Admin</li> <li>• Smart Transport</li> <li>• Refined Operation</li> </ul>	<ul style="list-style-type: none"> <li>• Smart Environmental Protection</li> <li>• Smart Water Affair</li> <li>• Smart Community</li> <li>• Low-Carbon City</li> </ul>	<ul style="list-style-type: none"> <li>• Smart Education</li> <li>• Smart Healthcare</li> <li>• Smart Pension</li> <li>• Smart Tourism</li> <li>• Online Business Hall</li> </ul>	<ul style="list-style-type: none"> <li>• Smart Industry</li> <li>• Industry Upgrade and Transformation</li> <li>• Smart Campus</li> </ul>

Key Projects

Industry Upgrade and Transformation Project

Smart Education Project

Safe City Project

Smart Community Pilot Project

Smart Healthcare Project

Networking Project

City Public Service Platform

Big Data Platform

Basic Network Platform

Smart City Operation Center

# Huawei Has Set Up Matured System to Support Partners

## eSDK



- Open software /hardware capability
- Easily integrated
- Support for forums /hotlines /emails

## Open Lab



- Interconnection /interoperability test: **150**
- Joint solution integration verification: **52**

## Joint Innovation



- Joint innovation center: **31**

## Co-Marketing



- Joint Exhibition Hall
- Joint Collateral
- Joint Event
- Joint Digital Marketing

## ISV certification



- ISV certification: **200+**
- Trained technical engineers: **1000+**

# Open System + Best Partners, Bring Best Solutions

LEADING NEW ICT



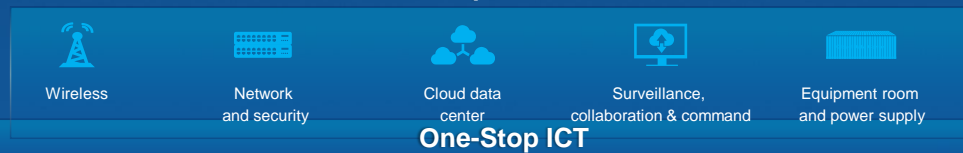
An open system for the tailored solution



Partners



eSDK Open Platform





**Join us in building a better connected world**

