Caribbean-Style Smart City

— Huawei Smart City Solution
1 Cities are Transforming

2 Smart City Initiative for Caribbean

3 Huawei, Best Partner for Smart City
New Challenges to Cities

City governance
Terrorist attacks, natural disasters, passive emergency command, and difficult cross-agency collaboration

People's livelihood
Regional education unbalance and poor healthcare conditions

Industry development
Insufficient decision-making support and difficulties in enterprise innovation, upgrading, and transformation

Environmental ecology
Insufficient pollution monitoring and poor green energy development

Cities
Take only 2% of Earth’s land
Contain 51% of the world’s population
Consume an estimated 80% of its resources
By 2050 approximately 80% will be urbanized
World Population from 7+ Billion to 9+ Billion by 2050
Smart City, The Best Initiative to Resolve New Challenges

**Efficient Municipal Governance**
- Social security
- Emergency response
- Utilities management
- Urban planning
- ...

**High-quality Public Services**
- Public transportation
- Education
- Healthcare
- Government services
- ...

**Sustainable Economic Development**
- Environmental ecology
- Industrial parks
- Tourism
- Intelligent manufacturing
- ...

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New ICT is the Key to become a Smarter City

New ICT is Becoming **Core Part of Production System**

- **Germany**: Industry 4.0
- **USA**: Industrial Internet
- **China**: MADE IN CHINA 2025
- **Japan**: Artificial Intelligence

New ICT is Building **a Better Connected World**

- **BIG DATA**
- **CLOUD COMPUTING**
- **5G**
- **IOT**
- **SDN**

New ICT is **Bringing Innovation** for Smart City

- **Gas Emission** -5%
- **Employment** +2~3%
- **Productivity** +5~10%
- **GDP** +1.3%
- **Innovation Efficiency** 15X
- **Broadband Penetration** 10%

**Germany**, **USA**, **China**, and **Japan** are examples of countries leading in Industry 4.0, Industrial Internet, MADE IN CHINA 2025, and Artificial Intelligence, respectively. These initiatives are driven by technologies such as Big Data, Cloud Computing, 5G, IoT, and SDN, contributing to a smarter, more connected world.
Smart City is not just a trend, it’s a Race

The world is NOT waiting. **Investment** and **talents** will be attracted to the front runner.
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Economic Value of a Smarter City

Potential Economic value as a Result of Street lamp

- Electricity Savings -> Additional Revenue -> Better Retail Business Create more jobs ->
- Safe City with Less Crime -> Increase in Property Tax -> Increase in GDP & Investment

- Multi-Level Control
  - 80% Energy saving

- Agile AR
  - Set time: 18:00 ON - 06:00 OFF
  - Brightness: ON - OFF
  - First week: 18:15 ON - 06:15 OFF
  - Next week: 18:20 ON - 06:20 OFF
  - Traffic
  - Hazy days

- IoT Connection Management Platform

- Flow
  - Brightness Sensor

- Lighting Controller

- 80% Energy saving

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Other Value because of a Smarter City

Smart Living in the Dubai (Desert Area)
- Streetlight maintenance costs 42% and energy costs 35%
- Sewage water treatment operational costs 70%
- Smart waste bins operating costs 65%

Power IoT, Lighting Up the Life of Nigerian People
- Reduced power line loss by 31%
- Bill collection time period: from 90 days to 1 day
- Reduced labor costs by 90%

Different Regions, Characteristic Smart City. Where is Caribbean’s way to Smart City?
Caribbean has the best locations, culture and resources......

- Scenery
- Shopping
- Festival
- Food
Tourism Industry Has Great Impact To Regional Economy

| Relative Contribution Rank No.1 | Tourism industry is extremely important for most Caribbean countries. |
| Absolute Contribution Left Behind | Tourism in Caribbean still have great room to grow. |

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<th>Region</th>
<th>2016 % share</th>
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Source: World Travel & Tourism Council
Smart Tourism: Driving Forces For Caribbean-Style Smart City

- Smart Tourism
- Smart Healthcare
- Safe City
- Smart Education
- Smart Agriculture
- National Broadband
- National Data Center
- Green Energy
Dunhuang: Making Tourism Smarter and better........

Project Background

- The dramatic tourist increase in the peak tourist season poses huge challenges on cultural heritage protection and tourist safety. In the off season, there are few tourists, resulting in tourism resource wastes.
- The large population fluctuation also poses severe challenges on city management and public services, including transportation, education, healthcare, and catering industries.

Huawei Solution

- Smart Dunhuang: Built a city e-Government cloud, helping construct a one-stop administrative platform.
- Safe Dunhuang: Constructed an integrated and open cloud platform, supporting multiple surveillance vendors.
- Wireless Dunhuang: Constructed nearly 10,000 wireless APs, implementing wireless smart tourism.
- Information Dunhuang: Developed high-reliability GPON solution, providing large-capacity pipes.

Customer Benefits

- Enhances service quality in the peak season and increases the tourists in the off season.
- Enabled rapid decision making and response based on the city management platform.
- In 2015, the number of tourists in Dunhuang reached 6.6 million, with annual growth rate of 32%. Dunhuang won the China’s leading Smart City award of IDC.
Safe City: To Serve and To Protect

Project Background
- Rising terrorist attacks: Frequent destructions by Somali Youth Party, serious casualties in the Westgate shopping mall explosion
- Frequent thefts & robberies: 1/3 residents were robbed or stolen. Vehicle thefts frequently occurred.
- Serious economy declining: reduced foreign investment and sharply decreased tourism revenue

Huawei Solution
- Constructed data centers and multiple systems such as video surveillance, eLTE communications, CAD, and VCN.
- Covered 1,800 cameras and 7,600 eLTE terminals in the capital, and served 9000+ police officers from 195 police departments.
- Provided multiple functions such as panoramic surveillance, converged command, intelligent analysis, and broadband trunking.

Customer Benefits
- Significantly improves the public safety situation and reduces the overall crime rate by 40%.
- Ensures zero casualty in case of major events.
- Increases tourists by 14% and significantly improves the economic benefits.
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Builder of Smart City's Nerve System

Central Nervous System – Brain

City operating center

+ Cloud data center

Peripheral Nervous System

City IoT

+ City communications network
Huawei Smart City Solution Framework

**Smart application**
- City dashboard
- Economic operation
- Energy consumption index

**Platform**
- Operation management platform (IOC)
- Big Data support platform
- ICT application enablement platform

**Cloud**
- Cloud data center

**Network**
- Urban communications network
- Urban IoT
The Best Smart City Ecosystem

Huawei Cooperate with Partners to Build a Sustainable Ecosystem

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8,000+ Channel Partners  
350+ Solution Partners  
2,100+ Certified Service Partners
Huawei smart city solution has served 400M People in 100+ cities, 30+ countries in the world
Huawei Diversified ICT Practice Worldwide

Nigeria e-Government
Smart Maldives
Singapore NBN
Malaysia NBN
Ghana e-Government
Britain NBN
Russia e-Government
Qatar NBN
Uzbekistan e-Education
THANK YOU