

Smart Cities & IoT: Trends and Outlook for Urban IoT

https://marketpublishers.com/r/S7D547B2561EN.html Date: November 2016 Pages: 67 Price: US\$ 3,300.00 (Single User License) ID: S7D547B2561EN

Abstracts

This report explores the topic of the smart city from the perspective of the development of the Internet of Things in four vertical markets: mobility, the environment, public safety and managing flows (power, water, gas). It delivers a detailed snapshot of the technologies that could underpin the Internet of Things' deployment in cities. The four vertical markets examined are analysed in terms of the value-added brought by digital services, their value chain, stakeholders and business models. The report also supplies international quantitative data for each four vertical markets.

In terms of volume, IDATE estimates that the number of connected objects for the four vertical markets –urban mobility, urban environment, public safety in the city and flow management- will exceed 2 billion worldwide in 2021, which translates into an average annual growth rate of around 18% for 2015-2021.



Contents

1. EXECUTIVE SUMMARY

- 1.1. Rethinking urban mobility
- 1.2. A better governed urban environment
- 1.3. Meeting a societal demand for a safe and secure urban space
- 1.4. More sustainable cities

2. METHODOLOGY AND DEFINITIONS

- 2.1. General methodology of IDATE's reports
- 2.2. Methodology specific to this report
- 2.3. Definitions
- 2.4. The Internet of Things in the smart city

3. INTERNET OF THINGS TECHNOLOGIES

- 3.1. Sensors and connected objects
 - 3.1.1. Sensors are vital to acquiring data
 - 3.1.2. Objects and sensors that are specific to the city
- 3.2. Connectivity
 - 3.2.1. Specific constraints
 - 3.2.2. LPWA network
 - 3.2.3. Traditional cellular networks
 - 3.2.4. More complementary than competing
- 3.3. IT software and services
 - 3.3.1. Data storage and management
 - 3.3.2. Analytics and big data

4. ANALYSIS OF THE DIFFERENT VERTICAL SECTORS

- 4.1. Mobility
 - 4.1.1. Smart mobility in the smart city
 - 4.1.2. Value chain
 - 4.1.3. Business models
 - 4.1.4. Case study: SF Park San Francisco's smart parking system
 - 4.1.5. Case study: Optimod'Lyon, a multimodal transport application
 - 4.1.6. Spotlight on self-driving cars



- 4.2. The environment
 - 4.2.1. The value-added of smart environmental services
 - 4.2.2. Value chain
 - 4.2.3. Business model
 - 4.2.4. Case study: the city of Oslo's smart street lighting project
 - 4.2.5. Case study: Geneva's smart waste management project
- 4.3. Public safety and homeland security
- 4.3.1. The value-added of smart public safety services
- 4.3.2. Value chain
- 4.3.3. Business model
- 4.3.4. Case study: Mexico's centralised smart public safety system
- 4.3.5. Case study: London's pedestrian detection system
- 4.4. Smart grid & smart metering
 - 4.4.1. Value-added of smart grid and smart metering services
 - 4.4.2. Value chain
 - 4.4.3. Business model
- 4.4.4. Case study: the Nice Grid project, combining renewable energy and smart metering
- 4.4.5. Case study: Yokohama Smart City Project
- 4.4.6. Case study: actions geared to improving the yield of water distribution networks

5. MARKET ANALYSIS AND OUTLOOK

- 5.1. The smart city value chain
- 5.2. Recommendations
- 5.3. Quantitative market analysis
 - 5.3.1. Installed base of connected objects in the city
 - 5.3.2. Geographical distribution
 - 5.3.3. Distribution by application
- 5.4. Smart city market development outlook



Tables & Figures

TABLES & FIGURES

- Table 1: Field of application for sensors by smart city vertical sector
- Table 2: Physical pros and cons of each frequency band
- Table 3: Technologies adopted by a selection of major telcos
- Table 4: Features of the different IoT applications for 5G
- Table 5: Technical properties of the different IoT network technologies
- Table 6: Using digital technologies and the IoT for environmental applications
- Figure 1: The Smart City's vertical sectors
- Figure 2: Evolution of sensor sizes
- Figure 3: Pros and cons of the different sensor solutions
- Figure 4: Complete detection sensor for monitoring traffic
- Figure 5: Images taken from a sensor using thermal imaging
- Figure 6: Water level sensors using different low-power communication protocols
- Figure 7: Example of certain ISM and restrictions
- Figure 8: How the main LPWA technologies are positioned
- Figure 9: Bouygues Telecom's LoRa network in France: coverage and deployment
- Figure 10: Features of LTE 0 and LTE M
- Figure 11: LTE/MTC standardisation roadmap
- Figure 12: Roadmap for the introduction of the different IoT cellular technologies
- Figure 13: Example of a big data application for the smart city
- Figure 14: The Sentilo platform
- Figure 15: Map of managed sensors in Barcelona
- Figure 16: The different intelligent transport systems (ITS)
- Figure 17: 70 French smart mobility start-ups
- Figure 18: Smart mobility services value chain
- Figure 19: Screenshot from SFPark.org that allows users to locate available parking
- Figure 20: The Optimod'Lyon application for individual users
- Figure 21: Self-driving electric taxi from nuTonomy in Singapore
- Figure 22: Aerial view of Mcity
- Figure 23: Self-driving electric minibus made by Navya
- Figure 24: What will be measured by the 'Array of Things' initiative in Chicago
- Figure 25: Example of using a street lighting network to connect other equipment
- Figure 26: Example of a waste collection solution based on fill level sensors
- Figure 27: Example of an air pollution sensor on a street light, and a mobile app for delivering the data
- Figure 28: Value chain for smart environmental services



Figure 29: Countries taking part in the European E-Street intelligent road and street lighting project

Figure 30: Receptacle management interface with fill level indicator

Figure 31: France's video surveillance market

Figure 32: Value chain for smart public safety services

Figure 33: Mexico City's centralised public safety system

Figure 34: Diagram of the SCOOT system deployed in London

Figure 35: Functionalities enabled on the entire smart grid distribution chain

- Figure 36: Smart Grid services value chain
- Figure 37: How the Nice Grid platform works

Figure 38: The different applications deployed in Yokohama as part of its Smart City Project

Figure 39: The smart city market's overall value chain

Figure 40: Connected objects installed in smart cities around the world, 2015-2021

- Figure 41: CAGR for connected objects by vertical sector, 2016-2021
- Figure 42: Number of connected objects deployed by region, 2015-2021

Figure 43: Number of environment-related connected objects deployed by region, 2015-2021

Figure 44: Number of public safety-related connected objects deployed by region, 2015-2021

Figure 45: Number of energy-related connected objects deployed by region, 2015-2021

Figure 46: Number of mobility-related connected objects deployed by region, 2015-2021



I would like to order

Product name: Smart Cities & IoT: Trends and Outlook for Urban IoT

Product link: https://marketpublishers.com/r/S7D547B2561EN.html

Price: US\$ 3,300.00 (Single User License / Electronic Delivery) If you want to order Corporate License or Hard Copy, please, contact our Customer Service: <u>info@marketpublishers.com</u>

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <u>https://marketpublishers.com/r/S7D547B2561EN.html</u>