Connected Living

Connected Living -- Smart Cities

Developing collaborative mobile-based city solutions for smart cities

GSMA Mobile Smart Cities Overview

Table of Contents

- **Introduction to the GSMA's Smart Cities Project**
- Role of mobile in Smart Cities
- Current challenges facing Smart City projects
- Smart Cities Index and Community

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What is GSMA

- Founded in 1987 by 15 operators committed to the joint development of a cross border digital system for mobile communications

- In 24 years GSMA membership has grown to nearly **800 of the world's mobile operators** and **over 200 companies in the broader mobile ecosystem**, from 219 countries

- Innovating, incubating and creating new opportunities for its members, to drive the growth of the global mobile communications industry

- GSMA represents over 5 billion connections around the world

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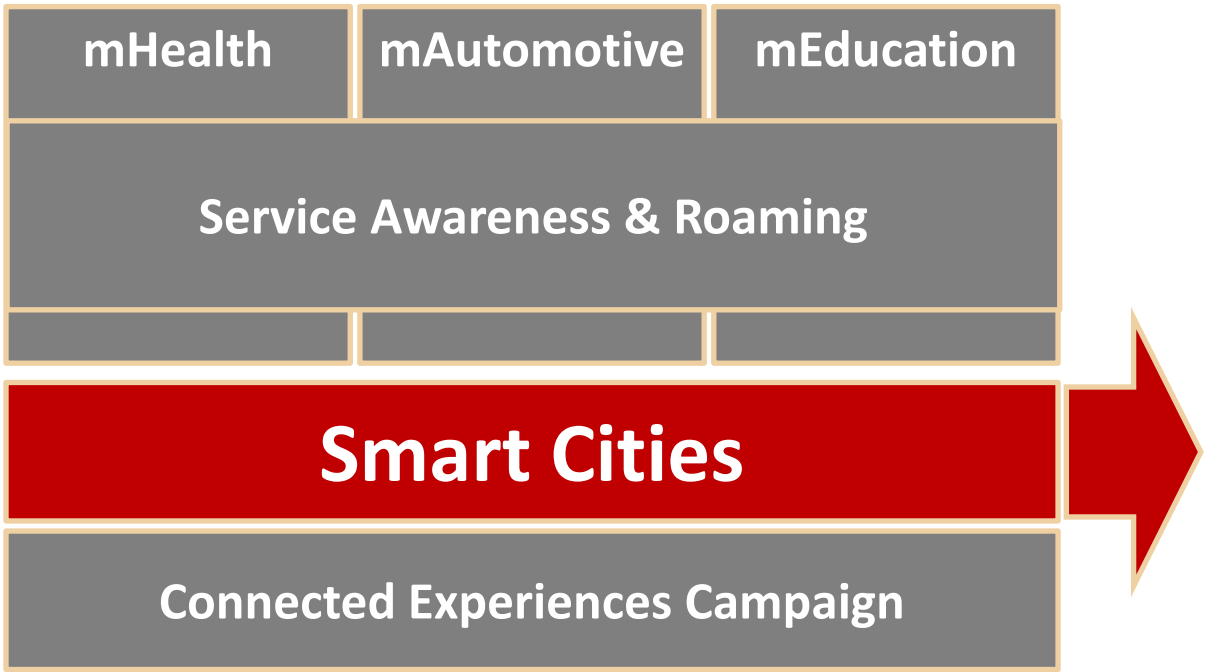
GSMA Smart Cities Project

Connected Living Programme



What we do in Smart Cities Project

- **Develop smart city community** to share mobile best practices and jointly develop and support innovative smart city projects
- **Coordinate and support** an innovation Smart Cities Hub in the Mobile World Capital for mobile focusing on Smart Cities in Barcelona
- **Track and share market intelligence** about Smart City projects with a focus on mobile technologies
- **Host Smart City Forums and networking events** to bring industry professionals together

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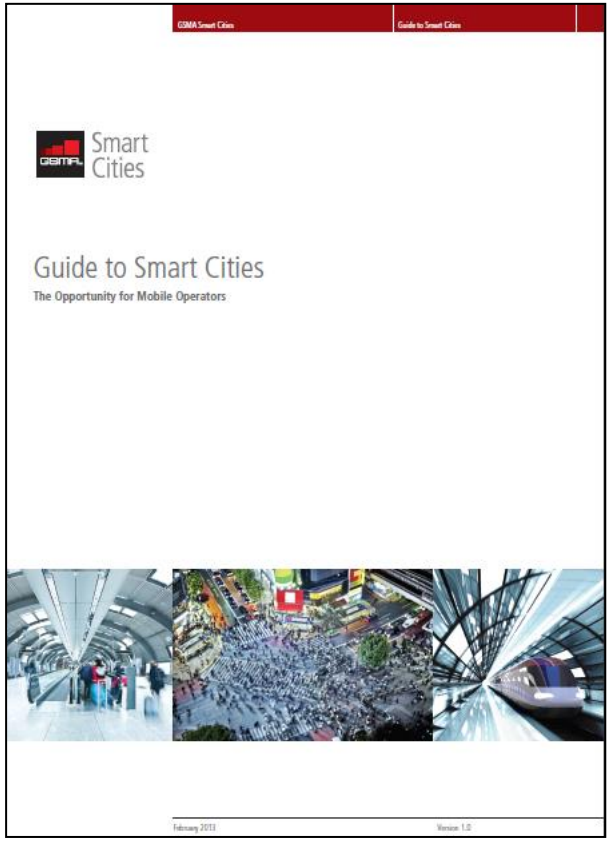
What is a Smart City?



- A Smart City makes extensive use of information and communications technologies, **including mobile networks**, to improve the quality of life of its citizens in a sustainable way

- Smart City combines and shares disparate data sets captured **by intelligently-connected** infrastructure, citizens and vehicles,

  to generate new insights

  and provide **ubiquitous services**

  that enable people to access information about city services, move around easily,

  improve the efficiency of city operations,

  enhance security

  fuel economic activity

  and increase resilience to natural disasters

http://www.gsma.com/connectedliving/guide-to-smart-cities

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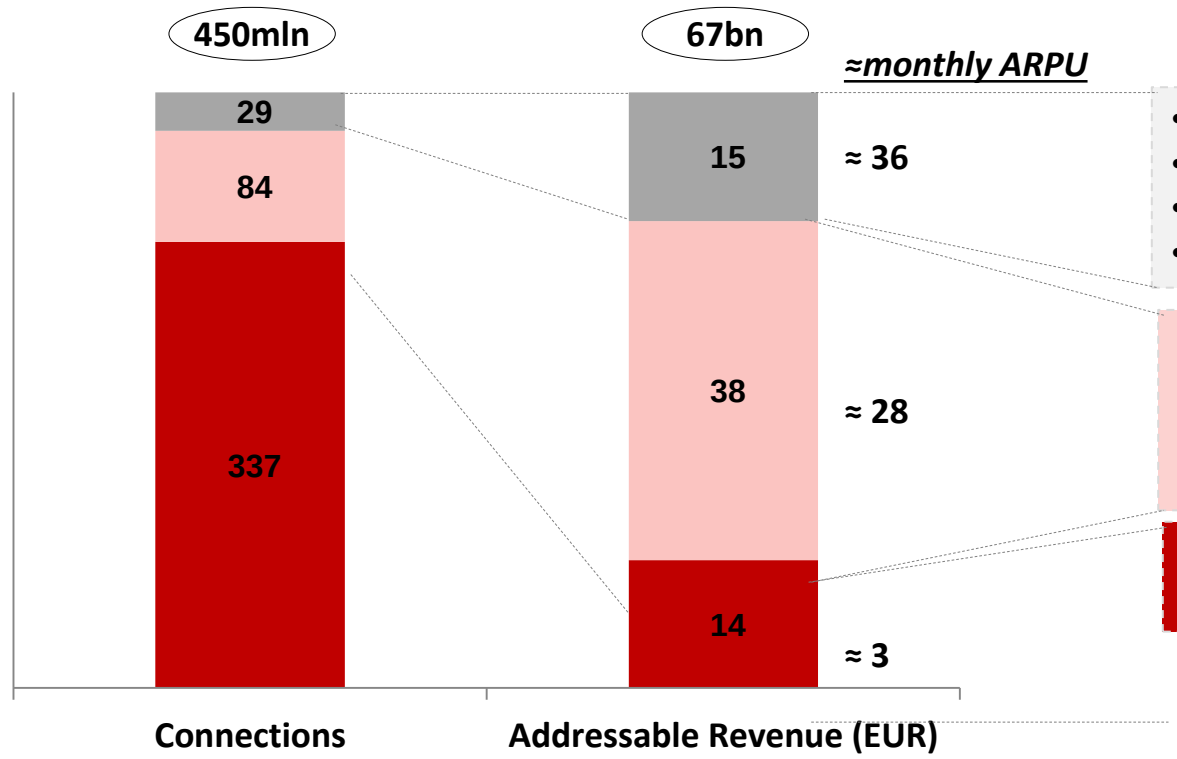
Smart city mobile opportunity of USD 67bn by 2020

Smart Cities market opportunity by 2020



Public Transport, environment, public safety
Intelligent Buildings
Energy and Utilities

Wireless WAN connections (2G, 3G, 4G) and Mobile addressable revenue (USD)

Service categories

- Public space advertising
- Environment and public safety
- Public transport
- Traffic management

- Building automation
- LAN equipment
- Micro-generation
- Security

- Electric vehicle charging
- Smart metering

Source: Machina, Utilities and Smart Cities reports

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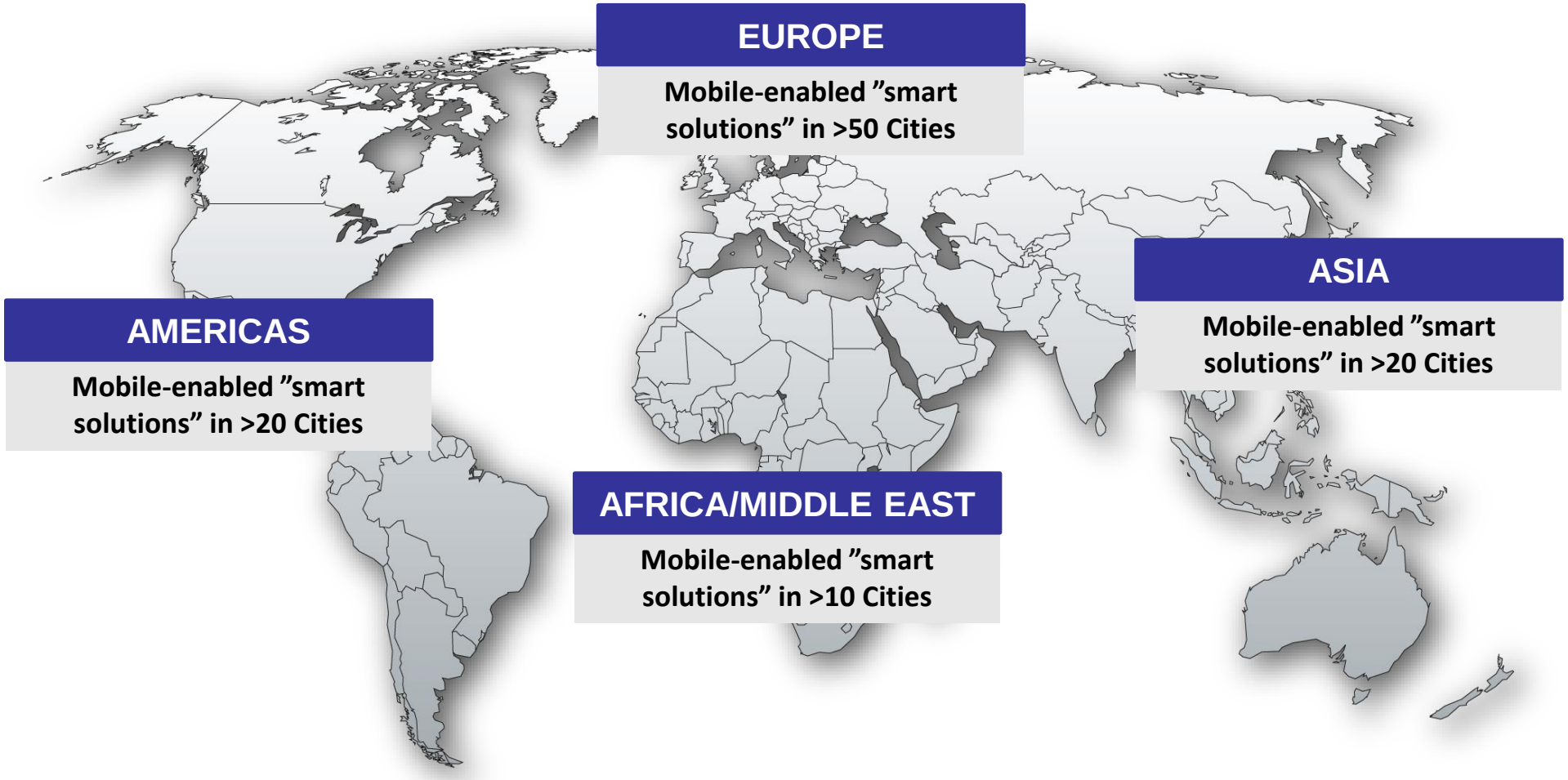
Mobile Smart Cities – Current Deployments



Source: Smart Cities Tracker, May 2013. http://gsmworld.com/connectedliving/tracker

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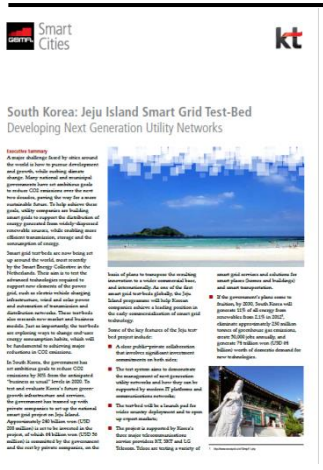
Mobile Smart Cities – GSMA's case studies

The GSMA published 6 case studies with deep dives on particular smart city projects, describing both the operation set-up and innovative technologies

Published in Sept-March 2013

Jeju Island Smart Grid Test-Bed



Busan Green u-City

Japan: Smart City Resilience

Germany: T-City Friedrichshafen

Finland: Forum Virium Helsinki

USA: Envision Charlotte, NC

http://www.gsma.com/connectedliving/resources/?project=Smart_Cities

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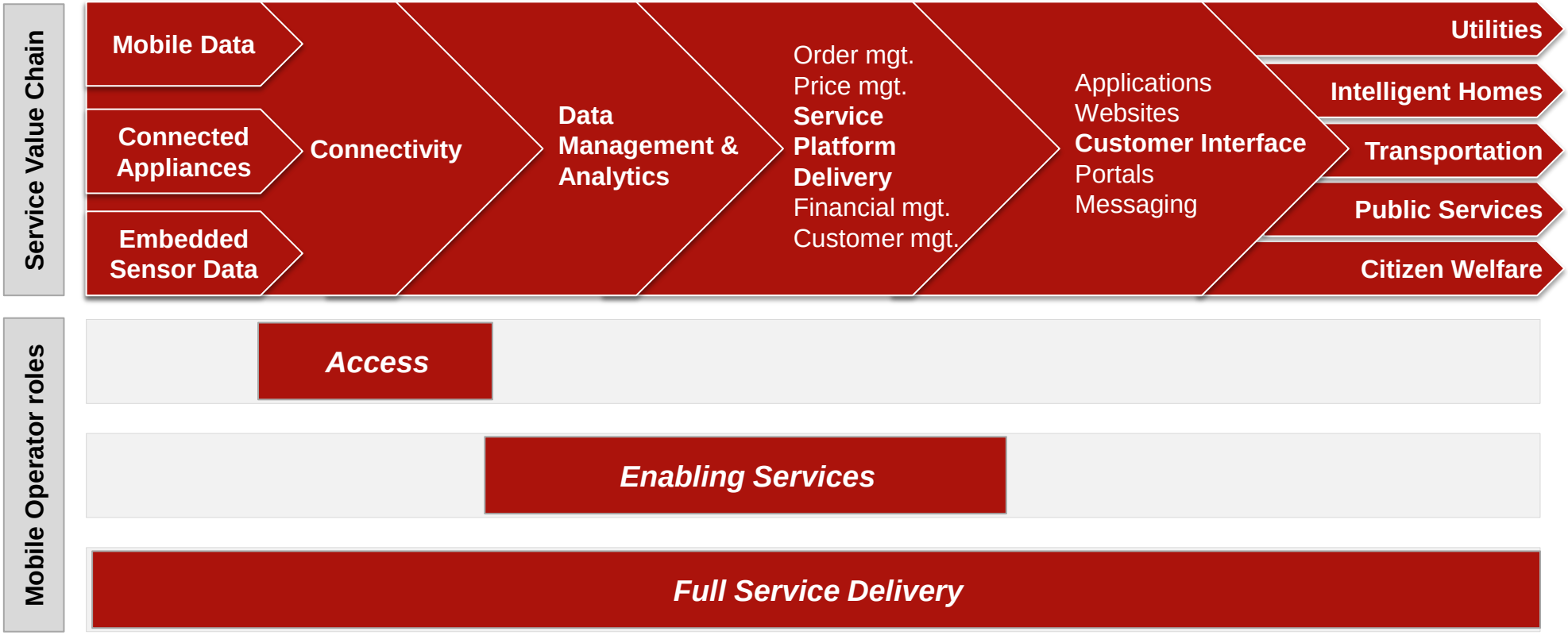
Mobile for Smart City – Beyond Devices



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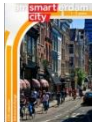
Mobile Smart Cities - Types of Collaboration

We believe that there are 3 general operating models for Smart Cities, they can be privately or publicly lead, or be a partnership between the two

	Description	Examples
1 **Private-Public Partnerships**	• Set-up jointly between the city and private companies to share access to information and develop complex projects jointly between various organizations	 • **Amsterdam Smart City** – partnership between businesses, public authorities, research institutions and citizens • **Busan Green u-City** - a collaboration between the local government, the global technology supplier, Cisco, and South Korea's largest telco, KT.
2 **Private Lead**	• Led by one main organization (not excluding partners), usually involving several different types of projects and services being developed	T-City Friedrichshafen We're living the future. IBM • **T-City Friedrichshafen** – project run by Deutsche Telekom with the aim of developing new technologies to improve the quality of life in the city • **IBM Smarter Cities challenge grant recipients** –e.g. Nanjing China, Singapore Jurong Lake District, Ahmedabad India, New Taipei City Taiwan
3 **City Lead**	• Set-up by the city to develop specific services or to promote and incubate private companies launching smart city projects • Advisory board representing both city and private companies	FORUM VIRIUM HELSINKI • **Forum Virium** – subsidiary of the City of Helsinki develops digital services by cooperating with the City, other public bodies and residents. SHANGHAI • Numerous **Smart City projects globally** led by municipalities – for example, Wireless cities – Smart Cities in China

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What are the challenges for Smart City projects?

Challenges facing Smart City projects and points for discussion

Funding of projects	• The tough economic environment creates challenges in obtaining financing • Only projects with a robust business and economic efficiencies will be adopted • Who and how should smart city projects be financed?
Retrofitting existing cities	• Standalone , brownfield projects create fragmentation between service verticals (e.g. one card seldom pays for all) • How can models be set up to integrate services across the city?
Lack of central governance	• Lack of centralized ICT strategy in the municipalities creates many inefficiencies • How can private and public bodies make sure that maximum capabilities of resources are used?
Open standards are critical	• Many different legacy systems exist across the M2M platforms and solutions • How can we foster innovation and create common APIs for M2M?
Data privacy	• Companies come under scrutiny for collecting private data in cities (e.g. Google cars) • What security measures need or should be enforced to address such challenges?

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GSMA Smart City Project in 2013/2014

2012/2013

Work with the Mobile World Capital and City of Barcelona to develop Smart City Demonstrators

Understand smart city opportunity and mobile value proposition
> Smart City Guide report and case studies

2013/2014

Smart Cities Index
> Social, economic and financial indicators to measure impact of mobile smart city projects

Joint development of mobile trials, proofs of concept and projects
> Smart City Mobile Community

Smart City Forums in Asia, Europe and the Middle East

2014/2016

Expand smart city community, Smart Cities Index web site and develop and follow mobile-based trials/ commercial projects

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Smart Cities Index for Decision-Support

GSMA is introducing the Smart City Mobile Indicators – a set of market, social and economic indicators
http://www.smartcitiesindex.gsma.com/

- Identify the benefits of launching smart city services
- Quantify their impact on the city's operations, its local economy and its citizens
- Help cities formulate their "smart" strategies
- Assist cities in understanding how they are positioned globally
- Better understand the dynamics of infrastructure and service deployments in the cities
- Help ICT and mobile companies to more effectively collaborate with the cities and develop better targeted smart city solutions

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Smart City ICT – Mobile Indicator Components

Smart City ICT – Mobile Indicators measure, quantify and evaluate the impact of ICT – mobile solutions on smart cities, their economies, businesses and citizens

BUSINESS, ECONOMY & MOBILE CLUSTER

The impact of smart city projects on the local economy and employment

- Support for innovation and start-ups
- R&D
- Jobs

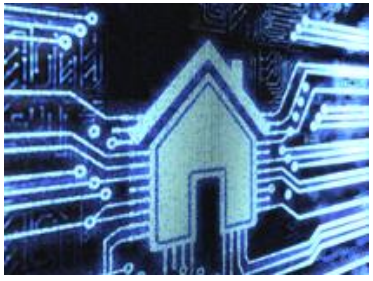
INFRASTRUCTURE

Quantifies the rollout and implementation of mobile infrastructure for smart city services.

- Mobile broadband &WiFi
- Connected Transport
- Smart Energy
- Sensor networks

SERVICES

How the cities use mobile technologies to improve a range of “smart” services for its citizens



- Payment
- Feedback mechanisms
- Public safety
- mGovernment
- Mobile smart city apps

CITIZENS

Tracks how connected and engaged the citizens and communities are

- BB access
- Mobile access
- Citizen engagement
- mLearning

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10 Cities Included in the Initial Smart Cities Index

Ten cities actively deploying smart cities initiatives and projects are included in the initial Index. The number of indicators and cities is set to be extended.

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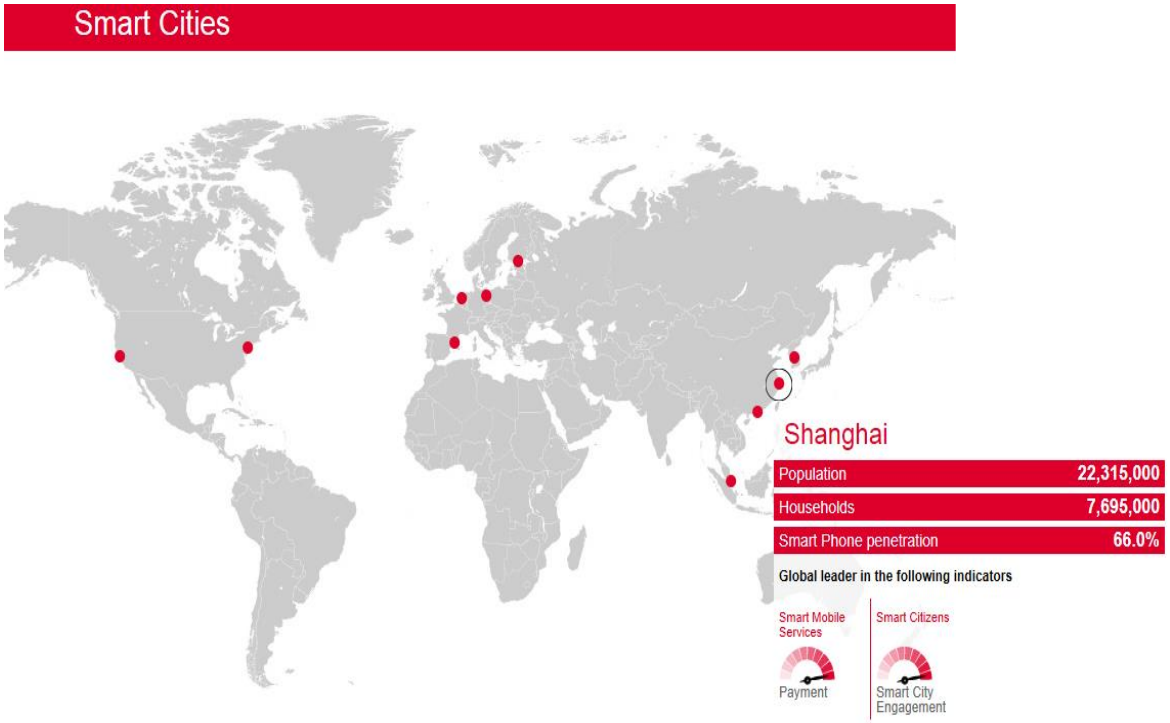
The Index is also a guide to the best mobile practices in leading smart cities



Smart Mobile Services - Payment

Leading city in deploying contactless and NFC infrastructure (162,000 points of sale).

Citizens can use their NFC devices for mobile credit card bill payment, top-ups, utility bill payment, online shopping and hotel and airline reservations.

Smart Citizens - Engagement

Shanghai citizens are among the most connected in China, with the highest penetration of smartphones, fixed line broadband and WiFi density.

Building the government service hotline “12345” to support its interaction with the citizens

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http://www.gsma.com/connectedliving/smart-cities