



Connected Living



Connected Living Summit Smart Cities

23 October 2012, Gothenburg, Sweden

Today's Agenda



14:45	GSMA Smart Cities Introduction	Maximilian Stella, Programme Manager Smart Cities, GSMA
15:00	Key Note: Smart cities in 2015 - Vision of the future innovative services and trends	Ajit Jaokar, Futuretext
15:15	Case Study: Commute Greener!	Magnus Kuschel, Managing Director, Commute Greener!, Volvo
15:35	Case Study: Stockholm Royal Seaport	Matilda Gennvi Gustafsson, Sustainability Director, Ericsson
15:55	Case Study: T-City Friedrichshafen	Jürgen Hase, Vice President M2M Competence Center, Deutsche Telekom
16:15	<i>Networking Break</i>	
16:30	Brainstorm and Discussion – Where the mobile industry would like the smart cities to be in 2015. Future areas for GSMA Smart Cities programme to tackle.	All attendees – moderated by: <ul style="list-style-type: none"> • Maximilian Stella • Ton Brand, Connected Living Director
16:50	Panel Discussion	Ken Figueredo (moderator) – Ventura Team <ul style="list-style-type: none"> • Jan Kristensen, Director Climate Change, Telenor • Ajit Jaokar, Futuretext • Matilda Gennvi Gustafsson, Ericsson
17:45	Close	
18:00	<i>Evening Networking Event</i>	

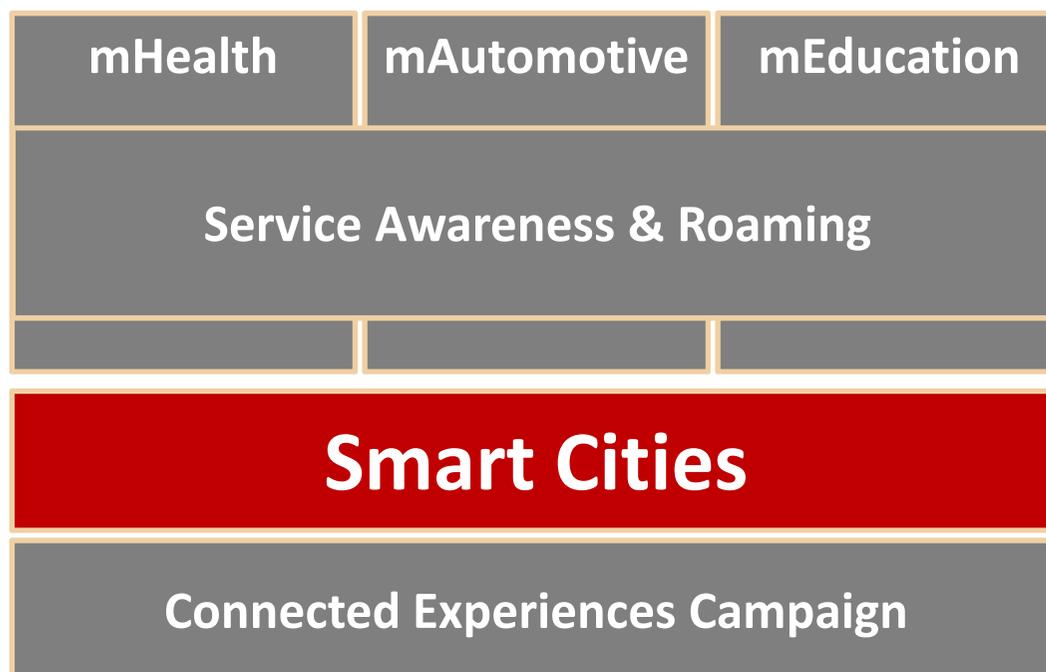
Agenda



- **Introduction to the GSMA's Smart Cities program**
- GSMA market intelligence resources
- Role of mobile in Smart Cities and types of collaboration opportunities
- Current challenges facing Smart City projects
- What's next for the Smart Cities market and how can the GSMA help?

GSMA Smart Cities Program Overview

Connected Living Programme



What we do in Smart Cities

- **Track and share market intelligence** about Smart City projects with a focus on mobile technologies
- **Investigate and publish case studies** showcasing innovative operating models and technologies
- **Organise networking events** bringing industry professionals together
- **Coordinate and support** an innovation hub (Mobile World Capital) for mobile technologies focusing on Smart Cities, in Barcelona

What is a Smart City?



- A city in which **citizens and service providers have access to enhanced information flow**
- A city which **uses innovative technology and innovation** to go beyond economic targets, to deliver sustainable, quality of life improvements for its citizens, its industry and the local environment
- A city which **combines disparate data sets to offer productivity insights** and enhancement to its citizens and service providers
- A city which **maximises the economies of scope and scale across its multiple infrastructure layers** through a common service delivery platform

Source: Smart Mobile Cities, April 2011, GSMA, Accenture, Cisco

A smart city can be built around several – or only one -- vertical sectors

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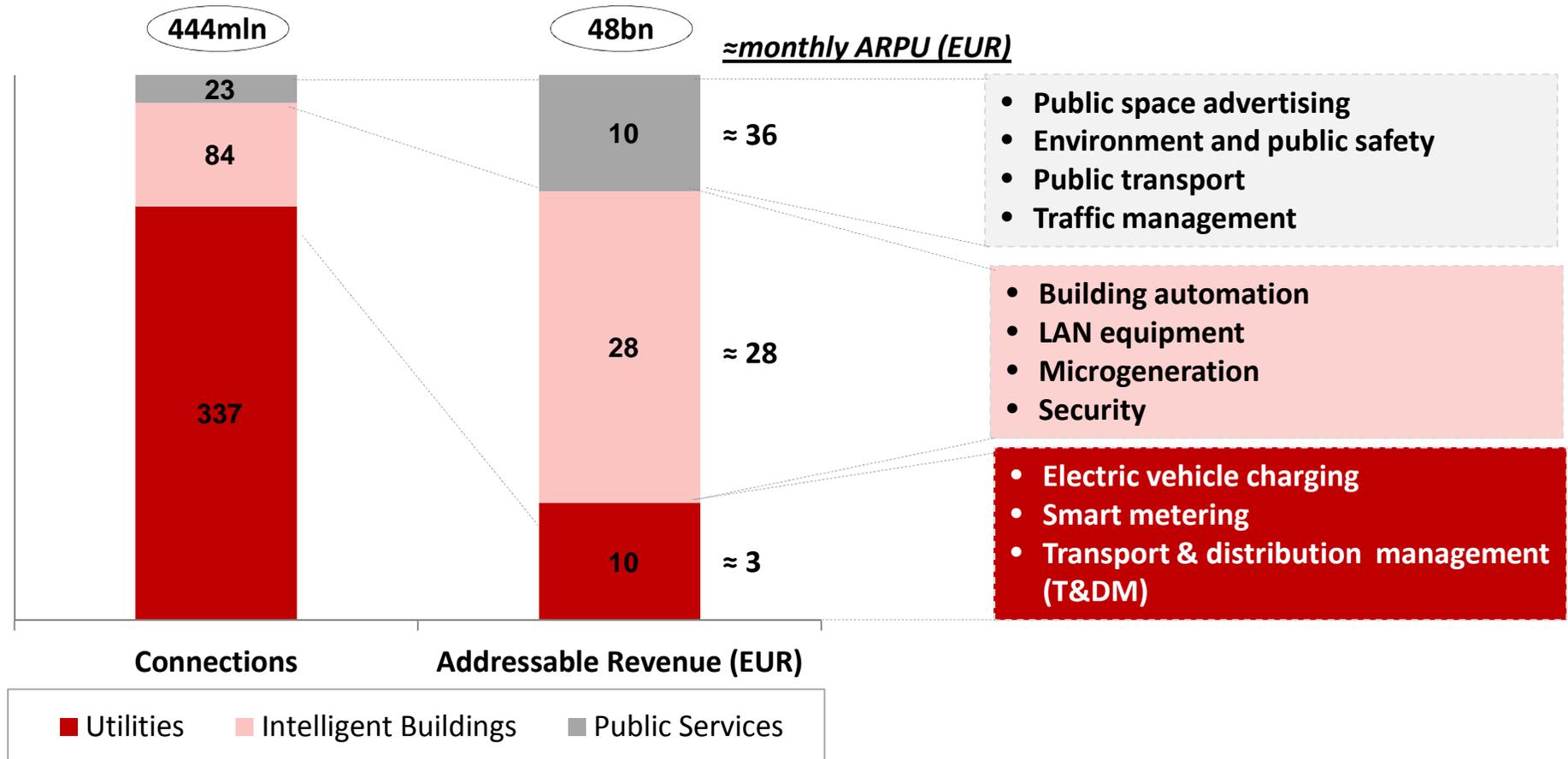
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Mobile operator opportunity of EUR 48 Bln by 2020



Smart Cities market opportunity by 2020 in Europe

Service categories



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

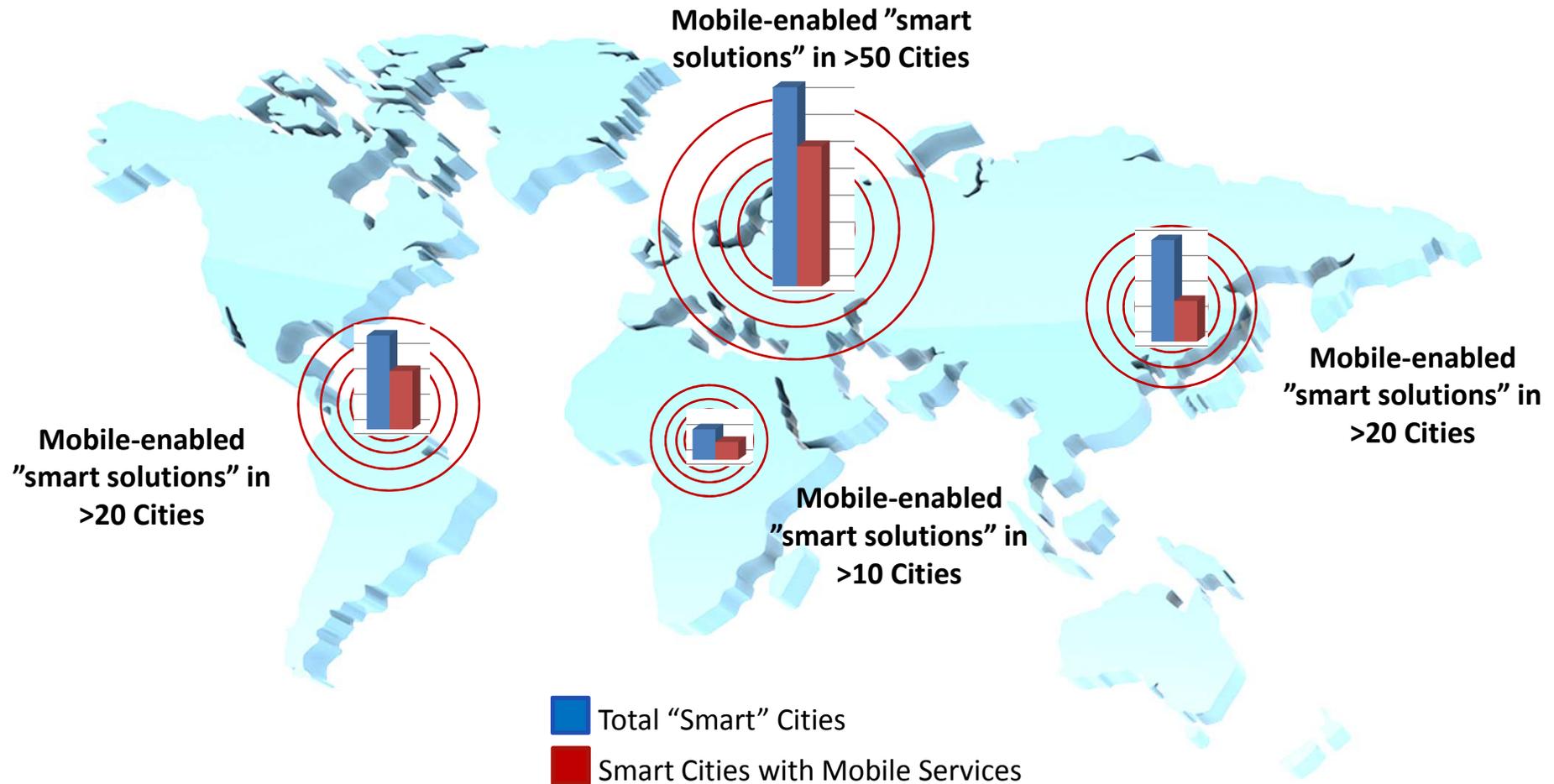
Source: Machina, Utilities and Smart Cities reports

Mobile Smart Cities – Current Deployments

Out of 150 Smart Cities GSMA tracks globally, mobile-based services **beyond** smart phone apps are available in over 100 cities. Half of these cities are located in Europe



GSMA Smart City Tracker



We encourage submissions to: smartcities@gsm.org

Source: GSMA Smart Cities Tracker, Sept'12

© GSM Association 2011

Smart Cities tracker

Launched in September 2012, the tracker compiles a unique knowledge base of mobile smart city projects around the world



Featuring 201 products & services

Sector: Smart Cities
Country: Select One
Organisation: Select One
Organisation Type: Select One
City: Select One
Reset All

Sweden

Smart Cities

- Kista Science City**
Organisation: Ericsson
- Smart Meter Goteborg Energi**
Organisation: Nuri Telecom
- Smart Metering E. ON Sweden**
Organisation: E.ON Elnät Sverige
- Stockholm Royal Seaport**
Organisation: City of Stockholm
- Unwire Text Message Parking System**
Organisation: City of Vasteras

We encourage submissions to: smartcities@gsm.org

Source: GSMA Smart Cities Tracker, Sept'12 <http://gsmworld.com/connectedliving/tracker>

Mobile Smart Cities – GSMA’s latest case studies

The GSMA is publishing 2 case studies per quarter with deep dives on particular smart city projects, describing both the operation set-up and innovative technologies

Published in
September 2012

Jeju Island Smart Grid Test-Bed



South Korea: Jeju Island Smart Grid Test-Bed Developing Next Generation Utility Networks

Executive Summary

A major challenge faced by cities around the world is how to pursue development and growth, while curbing climate change. Many national and municipal governments have set ambitious goals to reduce CO2 emissions over the next two decades, paving the way for a more sustainable future. To help achieve these goals, utility companies are building smart grids to support the distribution of energy generated from widely-dispersed renewable sources, while enabling more efficient transmission, storage and the consumption of energy.

Smart grid test-beds are now being set up around the world, most recently by the Smart Energy Collaborative in the Netherlands. Their aim is to test the advanced technologies required to support new elements of the power grid, such as electric vehicle charging infrastructure, wind and solar power and automation of transmission and distribution networks. These test-beds also research new market and business models. Just as importantly, the test-beds are exploring ways to change end-user energy consumption habits, which will be fundamental to achieving major reductions in CO2 emissions.

In South Korea, the government has set ambitious goals to reduce CO2 emissions by 30% from the anticipated “business as usual” levels in 2020. To test and evaluate Korea’s future green-growth infrastructure and services, the government has teamed up with private companies to set up the national smart grid project on Jeju Island.

Approximately 240 billion won (USD 200 million) is to be invested in the project, of which 64 billion won (USD 55 million) is committed by the government and the rest by private companies, on the



basis of plans to transport the resulting innovation to a wider commercial base, and internationally. As one of the first smart grid test-beds globally, the Jeju Island programme will help Korean companies achieve a leading position in the early commercialisation of smart grid technology.

Some of the key features of the Jeju test-bed project include:

- A close public-private collaboration that involves significant investment commitments on both sides;
- The test system aims to demonstrate the management of next generation utility networks and how they can be supported by modern IT platforms and communication networks;
- The test-bed will be a launch pad for wider country deployment and to open up export markets;
- The project is supported by Korea’s three major telecommunications service providers KT, SKT and LG Telecom. Telecoms are testing a variety of

smart grid services and solutions for smart places (homes and buildings) and smart transportation.

- If the government’s plans come to fruition, by 2030, South Korea will generate 11% of all energy from renewables from 2.1% in 2012, eliminate approximately 250 million tonnes of greenhouse gas emissions, create 30,000 jobs annually, and generate 74 trillion won (USD 64 billion) worth of domestic demand for new technologies.



Busan Green u-City



South Korea: Busan Green u-City Smart City Builds on Cloud Services Delivered by Public-Private-Partnership

Executive Summary

Connected devices, distributed sensors and Internet technologies are enabling cities to capture valuable data, deploy new services and enhance existing services, ushering in the era of smart cities. These services can improve the effectiveness of city management, generate new growth opportunities for local businesses and raise the quality of citizens’ lives.

An early example of a smart city, South Korea’s Busan Green u-City is using a cloud-based infrastructure delivered by a successful collaboration between the local government, the global technology supplier, Cisco, and South Korea’s largest telco, KT.

Building on a total investment of USD 320 million, Busan Green u-City is now moving forward and implementing its multi-staged development plan. This will result in the launch of community centres and numerous urban services for its citizens.

The benefits of these new services to citizens are varied and numerous, for example:

- Increase citizens’ benefits by timely welfare services information distribution
- Improve information accessibility by delivering information through various media channels and devices
- Improve learning experiences by two-way video communication enabled mentoring
- Increase free education contents and its quality for low income community residents and students, and thus to deal with social divide issues
- Reduce overall / regular health care cost, especially for low income residents and subside living aged people



- Improve access to care services for chronic diseases, reducing the need for patients to visit remote hospitals
- Create new markets for participatory urban regeneration projects applying u-City technologies
- Provide wider revenue creation opportunities by open innovation-based urban regeneration framework

In the first stage, the partnership set up the Busan Mobile Application Centre (EMAC) which has now generated new revenues of USD 1.2 million and online sales revenue of USD 42,000 through the launch of 13 new companies and the development of 70 new apps by small creative start-ups.

Busan’s Green u-City is underpinned by several key innovations:

- A cost-effective cloud-based architecture that enables the easy provision of new urban services to a large number of users. The Green u-City’s multi-service open platform can deliver both commercial services for the city, as well as free services for its citizens that can be expanded over

time. Moreover, by opening municipal data to third party developers, the Busan government is encouraging innovation in the public service sector.

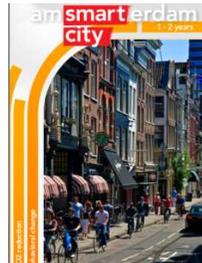
The public-private-partnership set up between Busan Metropolitan City, Cisco and KT, shares both the costs and the risks of the project. Building on their successful collaboration in IPEZ (Incheon Free Economic Zone) and Busan, Cisco and KT have established a joint venture, KC35, which is now providing a full range of ICT solutions to other cities in Asia.

The role of the mobile operators in the Green u-City model goes beyond connectivity. KT, for example, has been instrumental in supporting and investing in u-City design and development, and manages the overall operation of Busan u-City. KT is also providing several crucial enablers of the new cloud-based model: its mobile broadband network contributes to deliver ubiquitous coverage and bandwidth for the Green u-City, while cloud-based applications are accessible via mobile and embedded devices.

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

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

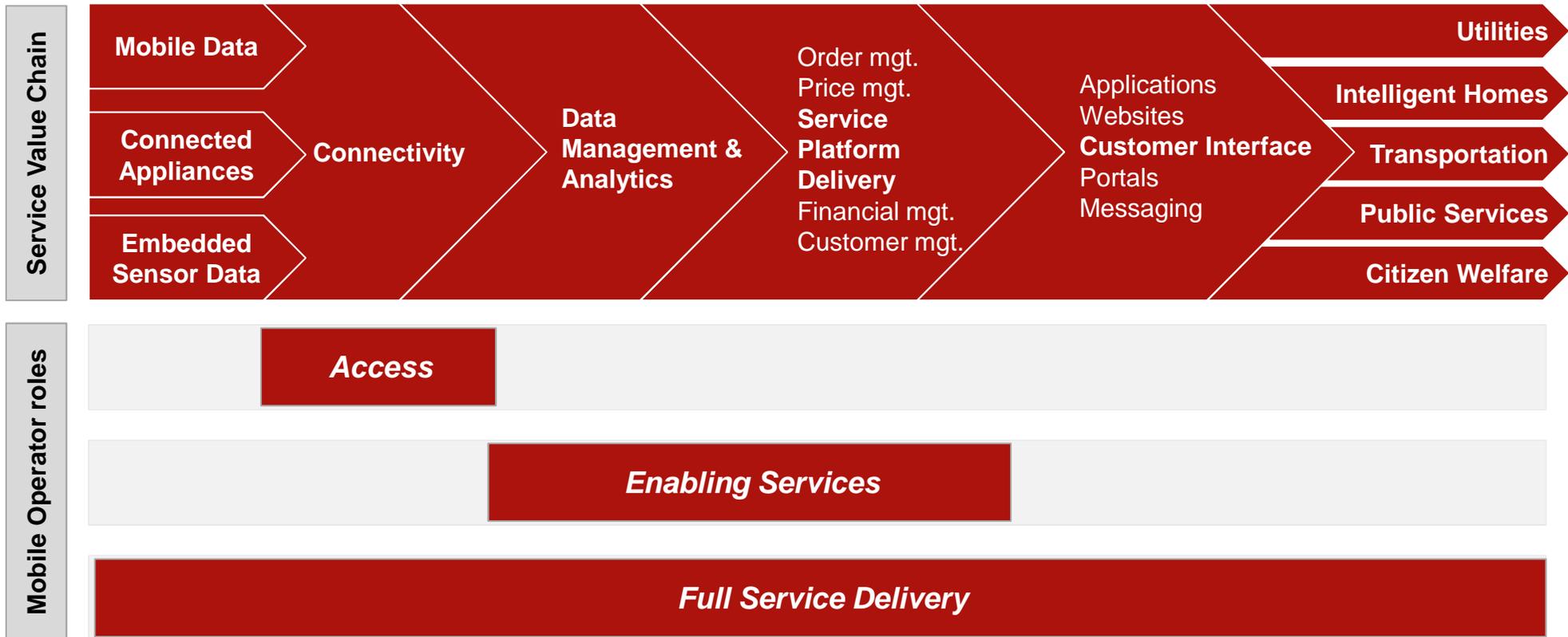
	Description	Examples
<p>1</p> <p>Private-Public Partnerships</p>	<ul style="list-style-type: none"> Set-up jointly between the city and private companies to share access to information and develop complex projects jointly between various organizations 	 <ul style="list-style-type: none"> Amsterdam Smart City – partnership between businesses, public authorities, research institutions and citizens Projects launched range from health and education to energy and transportation
<p>2</p> <p>Private Lead</p>	<ul style="list-style-type: none"> Led by one main organization (not excluding partners), usually involving several different types of projects and services being developed 	 <ul style="list-style-type: none"> T-City Friedrichshafen – project run by Deutsche Telekom with the aim of developing new technologies to improve the quality of life in the city 40 projects were developed across 6 main categories and several have now been commercially launched
<p>3</p> <p>City Lead</p>	<ul style="list-style-type: none"> 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 	 <ul style="list-style-type: none"> Forum Virium – subsidiary of the City of Helsinki develops digital services by cooperating with the City, other public bodies and residents Participating companies include: Elisa, Nokia, TeliaSonera, IBM, Digita, Siemens and more Forum Virium can serve as a promoter but also fully manage certain projects with several partners

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Mobile for Smart City – Beyond Devices



Partnerships and solutions beyond connectivity



SmartSynch Smart meters	AT&T	AT&T Partners: Elster SmartSynch	AT&T Partners: Elster SmartSynch	AT&T Partners: Elster SmartSynch	Utility clients
Smart meter manufacturers	DT/T-Mobile	T-Systems	T-Systems	T-Systems	Utility partners
Smart water meter manufacturers	Orange/FT	Orange.FT	Veolia	Veolia	M20 City (Orange/Veolia JV)



Mobile Operators are developing new expertise



Suk-Chae Lee, Chairman and CEO, KT

“ **This isn’t a one-off release or consulting partnership**, but a way of developing a long-term cooperative business model, which is by far the more meaningful. Through this project, KT’s core aim is not just the commercialization of smart space solutions, but the accumulation of business experience and the fostering of talented human resources and many other goals in other business fields also that can be accomplished through the strengthening of our global competencies”

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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 projects be set up to integrate services across the city?

Lack of central governance

- Lack of centralized ICT strategy 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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- **What's next for the GSMA's Smart Cities?**

So what's next for GSMA's Smart Cities?



- What types of collaboration should Smart City projects be managed under?
- What do mobile operators need to do to provide services beyond connectivity?
- How can mobile operators enable faster innovation and involvement of multiple parties?
- Should the GSMA focus on educating cities about the opportunity?
- Which multi-stakeholder topics need further research (e.g. how to monetize big data?)
- Should the GSMA coordinate technology projects such as interoperability with adjacent industries? Should the GSMA cover open data & cloud based services?

Overview of upcoming GSMA Activities



GSMA Activities	Oct	Nov	Dec	Jan	Feb
<ul style="list-style-type: none"> • Events <ul style="list-style-type: none"> – GSMA at Smart City Expo in Barcelona – Connected Europe in Brussels – Connected Living Summit North America • Publications <ul style="list-style-type: none"> – Case Studies x 2 – Case Studies x 2 • GSMA project planning <ul style="list-style-type: none"> – Scope of next year’s Smart City activities • Mobile World Congress <ul style="list-style-type: none"> – Connected City showcase – Connected Living seminar 		<p>15th</p> <p>28-29th</p>		<p>TBC</p> <p>30th</p>	<p>Board approval</p> <p>25-28</p>



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