Connected Living Summit
Smart Cities

23 October 2012, Gothenburg, Sweden

Today's Agenda

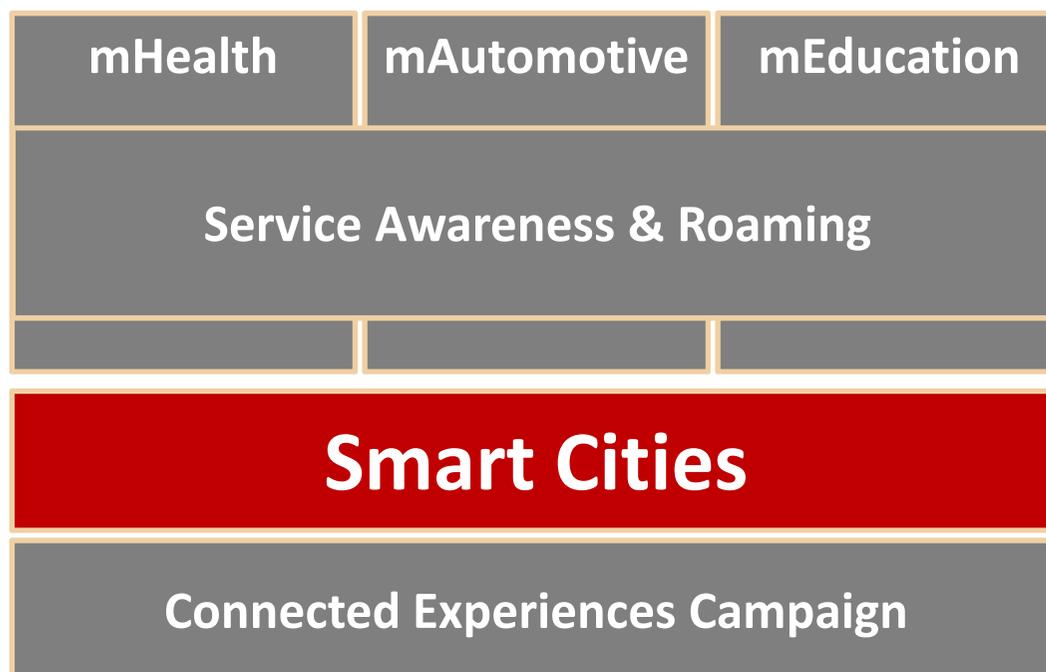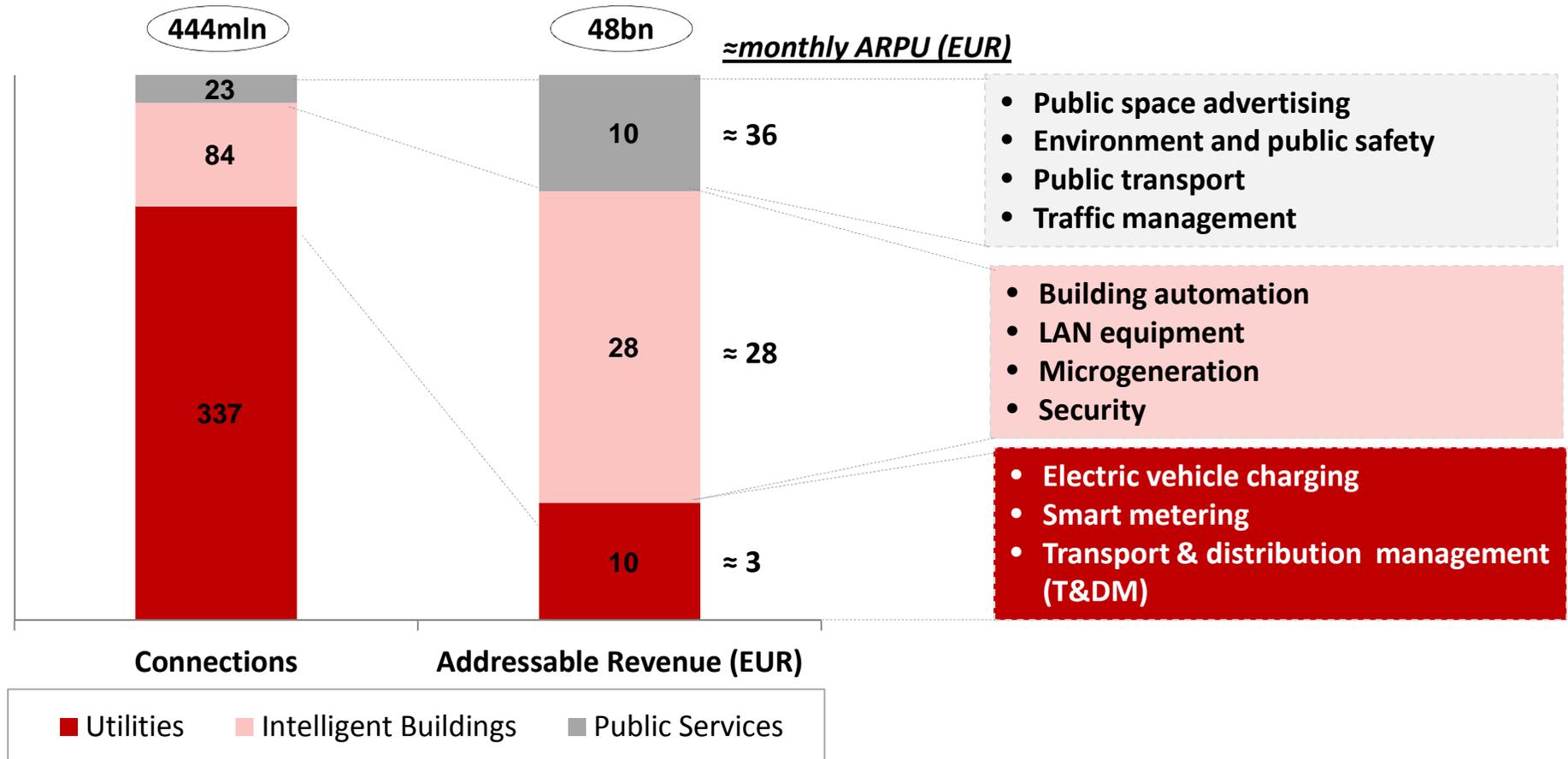|		
14:45	**GSMA Smart Cities Introduction**	**Maximilian Stella, Programme Manager Smart Cities, GSMA**
15:00	**Key Note:** Smart cities in 2015 - Vision of the future innovative services and trends	Ajit Jaokar, Futuretext
15:15	**Case Study: Commute Greener!**	Magnus Kuschel, Managing Director, Commute 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	*Networking Break*	
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: • Maximilian Stella • Ton Brand, Connected Living Director
16:50	**Panel Discussion**	Ken Figueredo (moderator) – Ventura Team • Jan Kristensen, Director Climate Change, Telenor • Ajit Jaokar, Futuretext • Matilda Gennvi Gustafsson, Ericsson
17:45	**Close**	
18:00	*Evening Networking Event*	

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

mHealth	mAutomotive	mEducation
Service Awareness & Roaming		

Smart Cities

Connected Experiences Campaign

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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Mobile operator opportunity of EUR 48 Bln by 2020

Smart Cities market opportunity by 2020 in Europe

Service categories

444mln **48bn** ≈*monthly ARPU (EUR)*

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

- **Building automation**
- **LAN equipment**
- **Microgeneration**
- **Security**

- **Electric vehicle charging**
- **Smart metering**
- **Transport & distribution management (T&DM)**

Connections: 23, 84, 337
Addressable Revenue (EUR): 10 (≈ 36), 28 (≈ 28), 10 (≈ 3)

Connections **Addressable Revenue (EUR)**

■ Utilities ■ Intelligent Buildings ■ Public Services

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
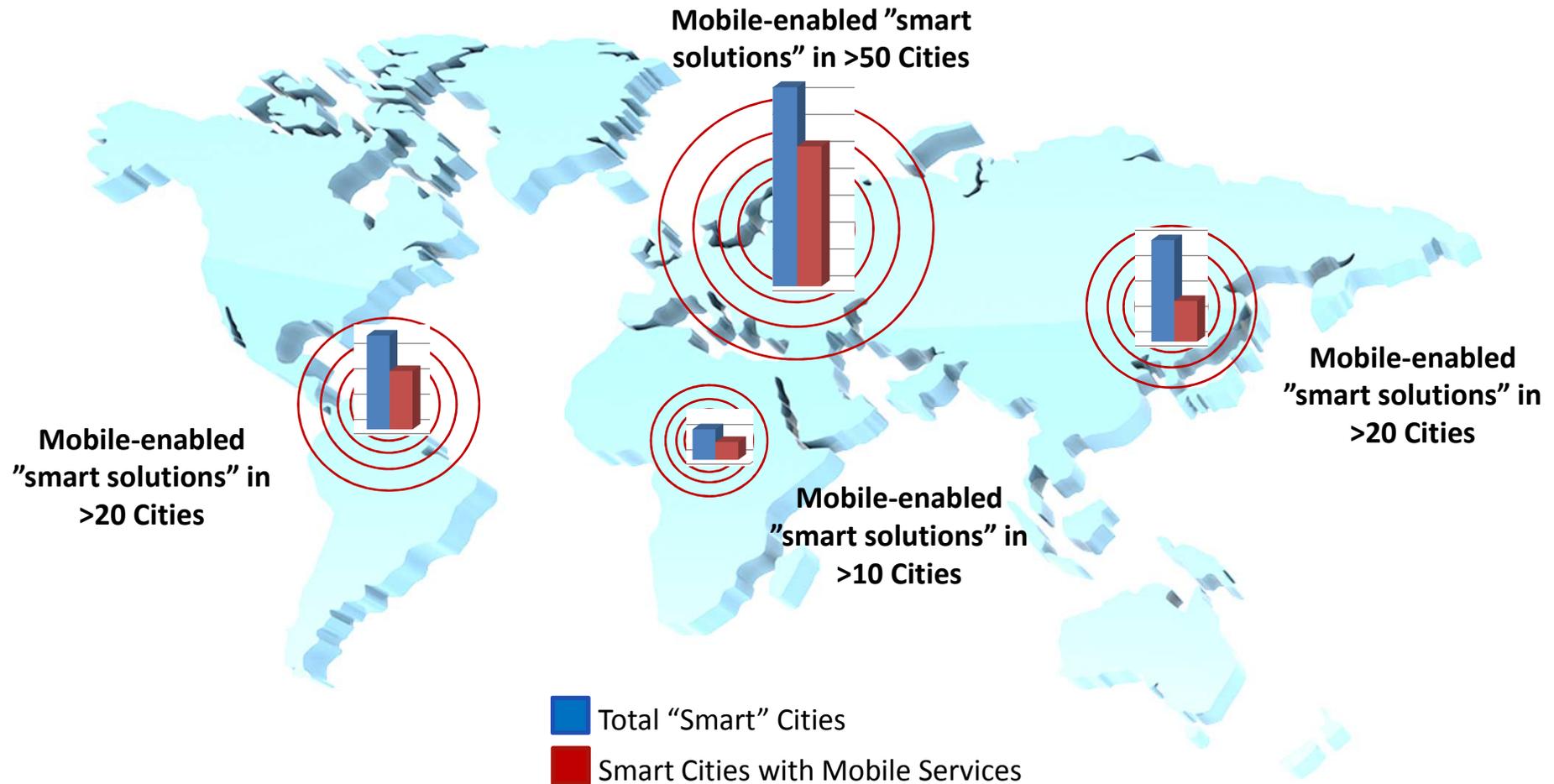
Mobile-enabled "smart solutions" in >50 Cities

Mobile-enabled "smart solutions" in >20 Cities

Mobile-enabled "smart solutions" in >20 Cities

Mobile-enabled "smart solutions" in >10 Cities

■ Total "Smart" Cities

■ Smart Cities with Mobile Services

We encourage submissions to: smartcities@gsm.org

Smart Cities tracker

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

We encourage submissions to: smartcities@gsm.org

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

Busan Green u-City

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**
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 • Projects launched range from health and education to energy and transportation
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** – 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
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** – 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 Virum can serve as a promoter but also fully manage certain projects with several partners
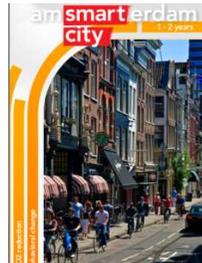
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Mobile for Smart City – Beyond Devices

Service Value Chain

- Mobile Data
- Connected Appliances
- Embedded Sensor Data

Connectivity

Data Management & Analytics

Order mgt.
Price mgt.
Service Platform Delivery
Financial mgt.
Customer mgt.

Applications
Websites
Customer Interface
Portals
Messaging

- Utilities
- Intelligent Homes
- Transportation
- Public Services
- Citizen Welfare

Mobile Operator roles

Access

Enabling Services

Full Service Delivery

Partnerships and solutions beyond connectivity

	Mobile Data
Connected Appliances	Connectivity
Embedded Sensor Data	

Data Management & Analytics / Installation

Order mgt.
Price mgt.
Service Platform Delivery
Financial mgt.
Customer mgt.

Applications
Websites
Customer Interface
Portals
Messaging

Utilities
Intelligent Homes
Transportation
Public Services
Citizen Welfare

		Connectivity	Data Mgmt	Service Platform	Customer Interface	
at&t	SmartSynch Smart meters	AT&T	AT&T Partners: Elster SmartSynch	AT&T Partners: Elster SmartSynch	AT&T Partners: Elster SmartSynch	Utility clients
T	Smart meter manufacturers	DT/T-Mobile	T-Systems	T-Systems	T-Systems	Utility partners
orange	Smart water meter manufacturers	Orange/FT	Orange.FT	Veolia	Veolia	M2O 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
• **Events**					
– GSMA at Smart City Expo in Barcelona		15th			
– Connected Europe in Brussels		28-29th			
– Connected Living Summit North America				TBC	
• **Publications**					
– Case Studies x 2		30th			
– Case Studies x 2				30th	
• **GSMA project planning**					
– Scope of next year's Smart City activities		Planning			Board approval
• **Mobile World Congress**					
– Connected City showcase					
– Connected Living seminar					25-28

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