A Must-Attend WORKSHOP

M2M Network Infrastructures for Massively Distributed Smart City Applications

A full-day workshop on novel M2M technologies and their application

This one-day workshop will focus on how the telecommunication industry can embrace the opportunities from M2M (Machine to Machine) networks, matching the growing needs for Smart City solutions in terms of connectivity and platforms for cost effective development of applications.

The journey will take you from discussion of core technologies and network technologies to business development issues, ending up with views from the users: The cities – what are the real needs?

Copenhagen - 30 September 2015

ALMANAC
RELIABLE SMART SECURE INTERNET OF THINGS FOR SMART CITIES

Organised by the ALMANAC project in cooperation with

TIM and TDC

The ALMANAC project - RELIABLE SMART SECURE INTERNET OG THINGS FOR SMART CITIES
is partially funded by the European Commission under the 7th Framework Programme in the area of Future Internet and smart Internet of Things under Grant Agreement no. 609081. Duration: September 2013 – August 2016

#SMARTCITIES #IOT #M2M #SUSTAINABILITY #BIGDATA #CLOUD

Contact Project Coordinator Dr. Maurizio A. Spirito, Istituto Superiore Mario Boella
spirito@ismb.it // www.almanac-project.eu

Smart City perspectives are plentiful

Sustainable urban development is recognised as a key challenge at a global level. The 'Smart Cities' model provides opportunities and challenges for cooperation on issues related to areas including energy, water, environment, information and communication technologies and transport.

The "Mapping Smart Cities in EU" report issued by ITRE (Industry, Research and Energy Committee) of the European Parliament points out that more than half of all European cities with more than 100,000 residents have implemented or planned measures to have "smarter" cities. Frost & Sullivan research estimates a combined market potential of €1.3 trillion globally for the Smart City market in segments of energy, transportation, healthcare, building, infrastructure and governance. Yet, while the potential is huge, the challenge faced is finding funding and developing the right business model, as many cities in the Western world do not have the finances available to take on some mammoth-sized projects. The challenge is to find cost-effective ways to develop and deploy large scale Smart City applications.

Smart City market participants will assume one or more of four main roles in such engagements – integrators (the end-to-end service provider); network operators (the M2M and connectivity providers); product vendors (hardware and asset providers); and managed service providers.

This one-day workshop will focus on how the telecommunication industry has embraced the challenges of smart cities needs and connectivity; how the telecom operators can optimise their network solutions for massive Smart City application deployment and how third party Smart City application developers can utilise the network platforms and tools to efficiently and cost-effectively develop valued-added Smart City applications.

M2M networks create the opportunity

When billions of devices will be deployed in the Smart City, data must be gathered and managed in an efficient way. Only a standard communication platform can enable the "many billions" of smart objects in a future smart cities scenario. M2M communication will be a core technology for the proper functioning of future smart cities.

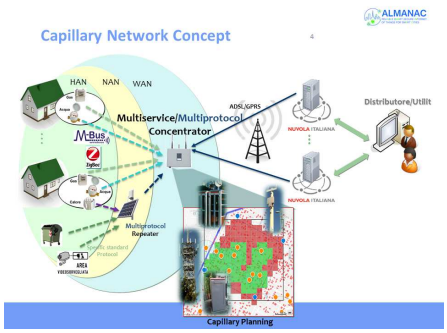
The European Telecommunication Standard Institute, ETSI has released a standard for M2M platforms (release 2 - 2013). The standard relies on the very powerful concepts of store and share. The data are collected from the devices, stored in a repository and shared to the applications willing to use them. The ETSI standard is based on a "resource" model with open REST APIs. The ETSI M2M horizontal scenario provides a REST service platform to enable data storage and sharing, multi-service and multi-application support, as well as abstraction of devices and applications with support for constrained devices.

In September 2012 ETSI M2M entered into the oneM2M Partnership Project with other standardisation bodies: Association of Radio Industries and Businesses (ARIB), Telecommunication Technology Committee (TTC) of Japan, Alliance for Telecommunications Industry Solutions (ATIS), Telecommunications Industry Association (TIA) of the USA, China Communications Standards Association (CCSA), and Telecommunications Technology Association (TTA) of Korea. The oneM2M initiative thus provides the foundation for Smart City applications developers with a worldwide internet based application development platform.

ALMANAC provides the solutions

The ALMANAC project develops a "lightweight" implementation of the ETSI standard release 2 integrated with higher functional layers such as semantic discovery and delivery capabilities thus providing Smart City developers with added value enablers such as data fusion and application delivery across a variety of "Capillary Networks" that connect distributed objects in the Smart City.

The term Capillary Network refers to an infrastructure that realises a dedicated network connecting a large number of Smart City objects such as humans, street furniture, water and electricity meters, light actuators, waste baskets, health devices, etc.



The ALMANAC middleware integrates Capillary Networks in the M2M architecture and supports the federation of private and public networks, thus hiding the complexity of linking sensors and actuators to the platform for the application developers. The middleware provides device abstraction, data management and virtualized access to data through a Smart City Resource Adaptation Layer (SCRAL) and a Data Management Framework, which is exposed through a Virtualization Layer. It also provides a Policy Management Framework, managing the privacy policies of individual providers, and a Communication Management Framework, handling Capillary Network aspects. The ALMANAC middleware is compliant with the ETSI M2M Network Service Capability Layer (NSCL).

Overall, the ALMANAC open federated IoT Storage Cloud provides elasticity in the data storage services with gateways enabling access to different logical parts of the Smart City structures for analysis and sharing among different stakeholders.

Final Programme

Time	Subject Topics to be covered		Time (mins)	Chair
08:30	**Welcome**	Arrival and coffee Welcome and introduction	20	IN-JET
08:50	**Introduction to TDC A/S** • Christian Kloch, Technology Manager, TDC		15	
09:05	**Introduction to the ALMANAC Smart City Project** • Jesper Thestrup, CEO, In-JeT ApS		10	
09:15	**Key Note Speaker: Societal Challenges: A Systemic View on Sustainable Smart Cities** • The European Union's response to the climate, environmental, energy and mobility challenges o Birgit de Boissezon, Head of Unit, Sustainable Management of Natural Resources, European Commission, Research and Innovation • Q & A session		30 + 15	
10:00	**Key Note Speaker: Networking Smart Cities: A Guide to the New Digital Urban Warfare** • Contenders for a low cost, wide area network for the Internet of Things o Rick Merritt, Silicon Valley Bureau Chief, EETimes • Q & A session		30 + 15	
10:45	**Coffee Break**		15	
11:00	**Session 1: Technology Components for IoT Networks** • Standards enabling the IoT service layer: ETSI and oneM2M standards for the IoT services layer o Enrico Scarrone, Vice Chair SC oneM2M, ETSI • ALMANAC Capillary Network Gateway Technologies o Roberto Gavazzi, Program Manager, Telecom Italia • Federated and Scalable Data Management in the ALMANAC Clouds o Peter Rosengren, CEO, CNet Svenska AB • reTHINK: A new Communication Infrastructure Supporting Smart Cities o Joachim Schonowski, Senior Project Manager T-Labs, Deutsche Telecom AG		90	ALEX
12:30	**Lunch**		45	

Time	Subject Topics to be covered	Time (mins)	Chair
13:15	**Session 2: Network Topologies and Management Plane Requirements for Smart City Infrastructures** • Core The network behind the Internet-of-Things o Lars Dittmann, Professor PhD, DTU • Mobile access architecture at TDC A/S o Christian Kloch, Technology Manager, TDC • M2M spectrum opportunities in the 700 MHz range. The ITU World Radio Conference 2015 sets the stage o Steffen Ring, CEO, Ring Advocacy	60	TIL
14:15	**Session 3: Business Aspects of Smart City Infrastructures** • Business Opportunities in Network Technologies o Nils-Henrik Faber, Engagement Manager, Ericsson • Building Digital Societies at Vodafone o Adam Armer, Business Development & Innovation Manager, Vodafone M2M Group • From the Modern City to the Smarter City - from Optimization to Innovation and Transformation of Service Delivery o Peter Lange, Executive IT Architect, IBM	60	CNET
15:15	**Coffee Break and Networking**	45	
16:00	**Session 4: Massively Deployed Smart City Applications – Views from Users** • Building the World's First Open Programmable City o Paul Wilson, Managing Director, Bristol Is Open • How smart is it actually to live in a Smart City? – Insightful Perspectives on Data Privacy o Mia Nyegaard, Member of CPH Municipal Council	60	IN-JET
17:00	**Summary remarks and discussion** • Jesper Thestrup, CEO, In-JeT ApS	15	
17:15	**Close of Day**		

TARGET GROUPS

The workshop targets technology managers and practitioners from all parts of the telecommunication industry including, but not limited to network operators, connectivity providers, manufacturers of telecommunication equipment, system integrators, and resellers.

The workshop also targets software architects, developers and planners of Smart City applications, general IoT applications, end-to-end service providers and asset providers.

Finally, the workshop targets the owners and planners of Smart City applications, including managed services providers, and cloud operators.

PRACTICAL INFORMATION

Venue:

The workshop will be held at

TDC Group Corporate Headquarters
Teglholmsgade 1
2450 Copenhagen SV
Denmark

The venue is kindly provided by the TDC Group.

The venue is 10 km (12 minutes by car) from Copenhagen Airport and 4 km (8 minutes) from Copenhagen Town Hall.

Date and time:

30 September 2015 from 08:30 to 17:00

Registration:

Participation is free and lunch is included, but registration is necessary. Send an email with your name, position and affiliation to: M2Mworkshop@almanac-project.eu. There are limited places available so early registration is encouraged. Registration is accepted until the day of the event.

Cancellations can be made freely up to the day of the workshop. However, participants failing to cancel their registration will be charged a no-show fee of €50.

Website:

More information about the workshop will be posted regularly on the project's website www.almanac-project.eu/M2MWorkshop

Accommodation and travel:

There are plenty of flights in and out of Copenhagen every day. Also hotels are abundant in Copenhagen. We kindly ask participants to arrange their own accommodation and travel.

Organisers:

The workshop is organised by the ALMANAC project. The ALMANAC project is co-funded by the European Union's Seventh Framework Programme for research, technological development, and demonstration under grant agreement no 609081, objective ICT-2013.1.4 'A reliable, smart and secure Internet of Things for Smart Cities'.

Please address all inquiries concerning this event to: Jesper Thestrup, In-JeT ApS at the above email address.