

SMi presents its 4th annual...

# Telecoms for Smart Grids

22ND - 23RD SFPT

Marriott Regents Park Hotel, London

2014

### Industry challenges addressed!:

- Developing telecoms networks specifically for smart utility grids
- Cyber security of the electric power grid and the interconnectivity and the potential vulnerabilities between smart grids and smart homes
- Telecommunications spectrum challenges for smart metering and grid rollout
- Developing a smart water network the iWidget project and what this means for EU utilities
- One year on Data Communications
   Company industry update

### **Key Speakers Include:**

- Adrian Butt, Policy Advisor, Smart Grids, Department of Energy and Climate Change
- Jonathan Simcock, Managing Director,
   Data Communications Company
- Gilles Thonet, Managing Director Europe, ZigBee Alliance
- Markus Hofsaess, Project Manager, Smart Meter Communication, Technology & Solutions, E.ON
- Denis O'Leary, Head of Smart Energy Technologies, ESB
- Prof. William Webb, CEO, Weightless
- John Bourke, Head of Systems and Services, Satellite Applications Catapult
- Prof. Dragan A. Savić, Professor of Hydroinformatics and Head of Engineering, University of Exeter
- David Greer, Executive Director Institute for Information Security, University of Tulsa
- Mark Ossel, Board Member, OSGP Alliance
- Colin Mallett, Director, Smart Homes & Buildings Association

### PLUS AN INTERACTIVE HALF-DAY POST-CONFERENCE WORKSHOP

Wednesday 24th September 2014, Marriott Regents Park Hotel, London

### **Business Choices: Choosing the Telecoms System for Smart Grids**

Workshop Leader: Andrew Thomas, Divisional Director & Dr. Andrew Wheen, Principal Consultant, Information Communications Technology, Mott MacDonald 8.30am - 12.30pm

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### 08.30 Registration & Coffee

### Chairman's Opening Remarks

Gilles Thonet, Managing Director Europe, ZigBee Alliance

### 09.10 ZigBee wireless standard for the 21st century smart grid

- Creating two-way communication and control of an increasing number of devices, providing energy providers a "last meter" wireless connection into homes with the ZigBee open and global wireless standard
- Current and upcoming smart grid developments using ZigBee technology across Europe
- ZigBee's role in addressing energy efficiency programmes for energy providers
- How an open global standard can be the catalyst for better communication between energy providers and consumers, better management of energy resources, and have a positive impact on the environment

Gilles Thonet, Managing Director Europe, ZigBee Alliance

### **KEYNOTE ADDRESS**

09.50 Addressing the challenges of deploying a smart grid in **Great Britain** 

- The work and aims of DECC's Future Electricity Networks team and the Smart Grid Forum (SGF)
- A smart grid vision and routemap
- Determining the benefits and challenges to implementation
- Actions the SGF and others are taking forward to make a smart grid a reality in Great Britain

Adrian Butt, Policy Advisor, Smart Grids, Department of Energy and Climate Change

### 10.30 Morning Coffee

### How to make renewable energy installations part of the integrated smart grid network based on proven M2M technology

- Deploying secure processor and communications circuits turn renewable energy installations into 'thin clients'
- Enabling wide area M2M management to provide an audit trail to panels, performance monitoring, and secure asset tracking
- Using trusted payment applications securely embedded in panels to create greater opportunities to exploit proven technology in renewables and smart grids

Colin Mallett, Director, Smart Homes & Buildings Association -SH&BA

### OVERCOMING SMART METERING TELECOMMUNICATIONS CHALLENGES

### Case Study: Looking at E.ON smart metering roll out considerations

- Smart metering requirements
- Regulatory considerations
- CAPEX and OPEX considerations
- Testing and results update

Markus Hofsaess, Project Manager, Smart Meter Communication, Technology & Solutions, E.ON

### 12.10 Networking lunch

### **KEYNOTE ADDRESS**

## 13.30 The DCC: Update on the current communications network

- · Challenges that still need to be overcome
- What will we need to expect in terms of future regulation Jonathan Simcock, Managing Director, The Data and **Communications Company**

### 14.10 Economic benefits of smart grid development – the latest from SmartGrid GB's report

- Focus on economics case for smart grid telecoms, return on investment and costs
- Next steps needed to push for smart grid development in Great Britain

Speaker tbc, SmartGrid GB

### 14.50 Afternoon Tea

### 15.10 Current communications technologies are far from ideal for smart metering - time for something different

- The issues with technologies such as GPRS for smart
- Designing a wireless technology specifically for M2M / metering - Weightless
- How might we achieve nationwide deployment?
- Can we rely on public networks and unlicensed spectrum for smart grid communications?

Prof. William Webb, CEO, Weightless

### 15.50 Modelling smart metering system in real scale: why static traffic predictions are not enough

- The analysis of such large-scale distributed systems together with the many possible communications network technologies can be extremely difficult
- This is often solved only partially because many modelling techniques tend to analyse individual components or subsystems, rather than the relationships and interactions between components, and their impact on the whole system. In case of communication network planning this task typically takes the form of static estimation of expected traffic in the system, based on transaction numbers derived from identified use cases
- This cannot capture the dynamic of the system end-to-end, and different methods and tools need to be considered and used, and we will introduce CLEVERsim as one of these tools

Dr. Dritan Koleshi, Senior Lecturer in Communications Networks, University of Bristol

### 16.30 Chair's Closing Remarks and Close of Day One

### WHO SHOULD ATTEND?

Managers, heads of department, and directors of the following job functions would benefit from attending Telecoms for Smart Grids.

- Telecommunications
- Smart Grid and Strategic

Distribution Engineering

- **Smart Metering**
- **Future Networks**
- **Research and Development**

**Network Operations** 

- **Distribution Automation**
- **Regulatory Policy**
- nformation Communication echnolo

Metering Infrastructure

smart Grief Analysis systems Integration

**Engineering** 

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The Israeli Smart Energy Association



### **Registration & Coffee**

### 09.00 Chairman's Opening Remarks

Gilles Thonet, Managing Director Europe, ZigBee Alliance

### 09.10 Maximising value from smart grid telecoms investments

- Utilising electricity infrastructure to roll out a high-speed fibre
- Communications options for smart metering
- Big Data the challenge for telecoms infrastructure
- Interconnecting of everything and telecoms strategy

Denis O'Leary, Head of Smart Energy Technologies, ESB

### 09.50 Capitalising on funding opportunities for smart grid projects

- What EU funding is available for your projects?
- How can you develop partnerships to aid funding approvals?
- Regulatory considerations

Tracey Sheehan, Partner, Taylor Wessing

### 10.30 Morning Coffee

### **OVERCOMING SMART ENERGY GRID TELECOMS CHALLENGES**

### 10.50 Delivering communications requirements

- Implementing smart grid applications under pinned by robust and dependable communications
- Understanding telecoms requirements making purchasing decisions in an uncertain and changing environment
- Examining the requirements and looking at commercial models of telecoms provision

Andrew Thomas, Divisional Director, Mott MacDonald

### 11.30 Satellite M2M devices, connectivity and platforms

- Introduction to the Satellite Applications Catapult
- Current M2M Connectivity options
- Future M2M Connectivity options

John Paget Bourke, Head of Systems and Services, Satellite Applications Catapult

12.10 Networking lunch

### 13.30 Open source smart grid protocols

- A Future proof Architecture for smart grid
- Communication for smart grids; the essence of managing
- What is connected to the grid?

Mark Ossel, Board Member, OSGP Alliance

### 14.10 Developing a smart water network - iWidget project and what this means for EU utilities

- Smart water telecoms challenges
- Water utility benefits from smart meters
- Customer benefits from smart meters
- · Joint water and energy management
- Customer engagement

Prof. Dragan A. Savić, Professor of Hydroinformatics and Head of Engineering, University of Exeter

### 14.50 Afternoon Tea

### 15.10 Spectrum challenges for smart metering and grid rollout

- Application radio communications requirements
- EUTC spectrum harmonisation programme
- Pit-falls for your rollouts

Adrian Grilli, Managing Director, JRC

### 15.50 Cyber security of the electric power grid and the interconnectivity and potential vulnerabilities between smart grids and smart homes

- The additional impact of electric vehicles on system security
- Taking into account the broader opportunities and challenges of the Internet of Things

David Greer, Executive Director Institute for Information Security, University of Tulsa\*

### 16.30 Chair's Closing Remarks and Close of Day Two

\*Subject to Final Confirmation

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### HALF-DAY POST-CONFERENCE WORKSHOP Wednesday 24th September 2014 | 1 8.30am – 12.30pm Marriott Regents Park Hotel, London

# **Business Choices: Choosing the Telecoms System for Smart Grids**

### Workshop Leaders:

Andrew Thomas, Divisional Director &

Dr. Andrew Wheen, Principal Consultant, Information
Communications Technology, Mott MacDonald

### Overview of workshop:

Delivering the benefits of smart grid solutions requires communications. Some of the user requirements are becoming clear but the future developments are still subject to debate. This workshop will consider:

- How a range of Smart Grid applications such as distribution automation, power quality monitoring relating to supply side management, and smart meter deployment will set the communications needs
- How will utilities provide communications?. Building on the themes of the conference what are the business implications/benefits of the communications choices you make?
- Applications for the future MV/LV smartgrid will demand communications. The workshop will examine the requirements and examine how these translate into a specification
- Communications systems options public vs private network, Requirements vs cost, In-source vs Out-source
- Spectrum, Mr A Grilli from the JRC (the UK utilities spectrum manager) will review the constraints spectrum imposes on communications options
- New commercial models for utilities and telcos

### Why you should attend:

The aim of the workshop leader is to leave participants with a deeper understanding of:

- The Utilities technical and performance requirements for smart grid communications
- The options open to utilities to source communications
- Industry trends around service provision
- Technology choices and the constraints of spectrum

### Programme:

### 08.30 Registration and coffee

### 09.00 Telecoms requirements

A utility's requirements are complex but to engage with suppliers they need to be understood. This session will present a consolidated view of technical and performance requirements for debate and challenge.

### 10.00 Coffee break

### 10.15 Technology & Spectrum

Radio is likely to be a primary part of any smart grid comms solution and the choice of technology is dependent on spectrum availability. Mr A Grilli will examine the constraints and opportunities and how utilities worldwide are co-operating to secure spectrum for smart grids.

### 11.15 Coffee break

### 11.30 Commercial imperitives

Finding a clear path between self provision and the many levels of outsourcing is preoccupying many utilities. This session will look at various ways in which this debate is evolving and some of the solutions which are being implemented.

### 12.15 Summary

12.30 Close of workshop

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Conference: Monday 22nd – Tuesday 23rd September 2014, Marriott Regents Park Hotel, London I Workshop: Wednesday 24th September 2014, London

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