Meters and More Vision to Enable New Models in Energy Market

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Agenda

- European Energy Framework
- Impacts on Energy Value Chain
- Consumer Awareness Focus
- Meters and More Solution
- Conclusion
Energy Union

WHAT ARE THE NEEDS?

• Europeans need secure, sustainable and affordable energy
• Energy is vital for essential day-to-day services, without which we and our businesses cannot function
• Making sure we have all the energy we need, at a price we can afford, both now and in the future, is not so easy

WHAT ARE THE MAIN PROBLEMS?

→ EU depends on imports for more than half of our energy
→ EU doesn’t have a Europe-wide infrastructure in place

European Commission adopts a framework strategy for an Energy Union with a Forward-Looking Climate Change Policy to ensure that Europe has secure, affordable and climate-friendly energy

Source: //ec.europa.eu
2030 Goals for Climate and Energy

- Cut greenhouse gas emissions by at least 40% (compared to 1990)
  - 2020: -20%
  - 2030: -40%

- Increase the share of renewables in the energy mix to at least 27%
  - 2020: 20%
  - 2030: 27%

- Improve energy efficiency by at least 27% (compared to the ‘business-as-usual’ scenario)
  - 2020: +20%
  - 2030: +27%

Ambitious goals impacting deeply electric infrastructure, biz models and our way-of-life!

Source: //ec.europa.eu
A revolution, impacting and transforming all the energy value chain

Integrating distributed renewable energy sources
Electro Mobility
Energy Market Liberalization
Demand and Response Services

Enhancing customer awareness of Energy Usage

Efficient energy generation, distribution & consumption combined with advanced monitoring and control
Customer, a key role for the goal

- Knowing and understanding own consumer habits is the first step to a more efficient use of electricity and to identify the potential saving in the bill while respecting the environment.

- To achieve National and European emission reduction, economic competitiveness and energy security goals, a crucial role is assigned to consumers, who must also adopt more and more efficiency-oriented behaviors and have the opportunity to participate in active way to the energy market.

- Customer's active involvement concerns his involvement in the management of the power grid, through technological solutions that, by raising awareness of their electrical consumption, educate the consumer towards a more rational and efficient energy demand and lower polluting emissions.

- To motivate customers in their active consumption management, by providing them with information on the amount of electricity consumed, effective demand management must become a technically viable and easily applicable option through the offer of innovative products, economically advantageous and adequate support policies.
Meters and More Commitment

- **Meters and More** is committed to enable consumer awareness by delivering own technology evolution, which allows new services for customer to optimize energy consumption and stimulate forms of participation, thus responding to the challenges of electrical systems such as increased efficiency and reliability, infrastructure and investment planning.

- **Meters and More principles** drive technology evolution to be a viable solution, massive wide-spread, economically advantageous:
  
  ➔ **OPEN TECHNOLOGY**
  ➔ **STANDARDIZATION**
  ➔ **INTEROPERABILITY & CERTIFICATION**
  ➔ **EFFICIENT, ROBUST AND SECURE COMMUNICATION**
Meters and More at a glance

- International non-profit association created in 2010 to maintain to adopt, maintain and evolve the field proven Meters and More open communication protocol for smart grid solutions

- Promote the existence of a range of interoperable devices, applications and services by promoting open industry specifications without IPR limitations

- Provide a certification process to assure product compliance with Meters and More specifications

- Drive Meters and More protocol evolutions;

45 world leading companies and institutions, from different business sectors, have already joined the Association
Meters and More implements a large number of communication interfaces, supporting remote and local communication with the meter device.
The most field proven smart metring technology

Field proven technologies chosen for over 50 million customers worldwide

(*) METERS AND MORE is a new generation protocol which leverages the experience of Enel Telegestore
Meters and More SMITP is an European technical specification approved by CENELEC, and transposed in Italy by Comitato Elettrotecnico Italiano (CEI)

- **TS 50568-4** DLMS/COSEM suite. Physical Layer based on SMITP B-PSK modulation and SMITP Data Link Layer
- **TS 50568-8** DLMS/COSEM suite. SMITP B-PSK PLC communication profile for neighborhood networks – Including: The original-SMITP local data exchange profile and The Original-SMITP IP communication profile
The Certification Process

- Process fully defined by the Association
- Certification for
  - “Finished Products” (certified for compliance with whole M&M stack) or
  - “Basic Components” (certified for compliance with part of M&M stack):
- Full flexibility for the positioning in M&M ecosystem and application innovation beyond smart meter with Basic Component certification (e.g. End-Customer Device, Smart Home App, Heterogeneous networking)
- CESI Spa is one of the appointed certification laboratories
Meters and More’s declared goal is to also become a reference for real-time communication to customers

- The target is to develop extensions for complementary value-added services based on the same principles of openness, interoperability, efficiency, robustness and security of communications.

- New specification, called M2G I/F (Meter to Gateway Interface), for a new generation communication solution between the meter and in-home environment to make consumption data available in ‘near real time’ to the end customers.

- Exploiting M2G I/F, Meters and More has presented to the market the prototype of the METERS AND MORE smart energy gateway.
The Italian Case

- The resolution 87/2016 AEESI defined the requirements for the second generation Smart Meters in Italy in accordance to d.lgs 4 July 2014 n 102, thus receipting EU Directive on Energy Efficiency.

- The resolution also defined a new meter to the home interface, named Chain 2, and assigned to CEI (Comitato Elettrotecnico Italiano - the Italian Standardization Body) the definition of the relevant specifications.

- Chain 2 is intended to be the unique interface in Italy to access metering data from customer devices through PLC.

- Earlier in August CEI approved the specifications for Chain 2 on PLC, which are now available at CEI website: CEI TS 13-84 Part 1 (Use Cases), CEI TS 13-84 Part 2 (Data Model) CEI TS 13-84 Part 3-1 (PLC Profile on CENELEC C-Band).

- The PLC profile identifies Meters and More physical and datalink layers as the standard for Chain 2.
Italian Case – Enel OPEN METER

- In compliance with resolution 87/2016 of the AEEGSI, implementing d.lgs 4 July 2014 n 102, satisfying the EU Directive on Energy Efficiency, the OPEN METER allows also consumer active participation by smart meter and consumer interface, called **Chain 2**

- The OPEN METER implements the «chain 2» communication using the PLC Profile as defined by CEI TS 13-84, based on **METERS AND MORE M2G I/F (MAC/PHY Layer)**

- **32 Millions** of OPEN METER units are being installed in Italy!
Conclusions

- European energy and climate strategy framework sets ambitious goals, impacting all the electric energy value chain to be satisfied.

- A crucial role is assigned to the customers, who have to adopt efficiency-oriented behaviors and actively participate to the energy market.

- Meters and More with M2G I/F, based on principles of openness and interoperability, offers a viable technical solution to enable customer role, paving the way to new biz models based on new services and market needs.

- Implementing Italian regulations based on EU Directive on Energy Efficiency, the new Italian smart meter 2.0 platform makes, first in Europe, customer active participation happen by exploiting Meters and More technology.
For more information, visit us at Booth 1H57

Gateway demonstration is available for you!

http://www.metersandmore.com/