Welcome to the World of Standards

ETSI World Class Standards

Doc: M2M-Cons01(11)02
Source: ETSI Delegation
Agenda item: 3.4

M2M ACTIVITIES IN ETSI

Meeting of Potential Consolidation Partners#1

Seoul, 21 July 2011

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Introduction to TC M2M

Connecting Things

M2M in ETSI

- Established in Jan 2009, after 8 months of preparation in the ETSI Board
- 8 plenary meetings per year plus numerous ad-hoc meetings
- 3-5 conference calls per week
- Constantly increasing the number of documents per meeting (250 +)
- Constantly increasing plenary participation (70 +)
- Growing membership in M2M email list (395+)
- TC M2M has initiated active liaisons and cooperation with many other SDOs and consortia.
- Active delegates from Europe, North America, China, Korea, and Japan and currently about 30% Operators, 60% Manufacturers and 10% others
- Open approach, published and draft TR/TS are available on the public side of the ETSI server http://docbox.etsi.org/M2M/Open/

Scope of ETSI TC M2M

- TC M2M has the responsibility in ETSI;
  - to collect and specify M2M requirements from relevant stakeholders;
  - to develop and maintain an end-to-end overall high level architecture for M2M;
  - to identify gaps where existing standards do not fulfil the requirements and provide specifications and standards to fill these gaps, where existing standards bodies or groups are unable to do so;
  - to provide the ETSI main centre of expertise for M2M;
  - to co-ordinate ETSI's M2M activity with that of other standardization groups and fora.

The ETSI M2M Challenge

- Existing M2M solutions are highly fragmented and technology is typically dedicated to a single application (e.g. fleet management, meter reading, vending machines).
- Multitude of technical solutions and dispersed standardization activities result in the slow development of the global M2M market.
- Standardization is a key enabler to remove the technical barriers and ensure interoperable M2M services and networks, that may be deployed worldwide.

M2M is Inverting the Pipes

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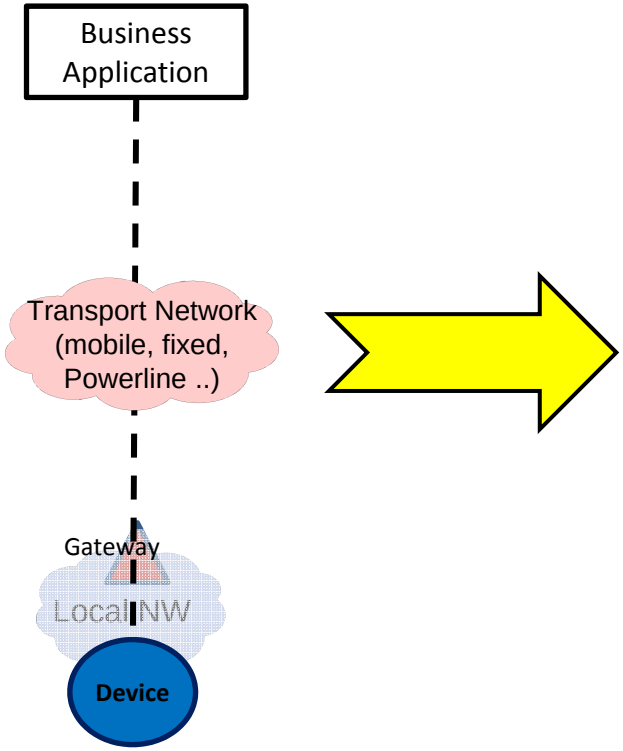
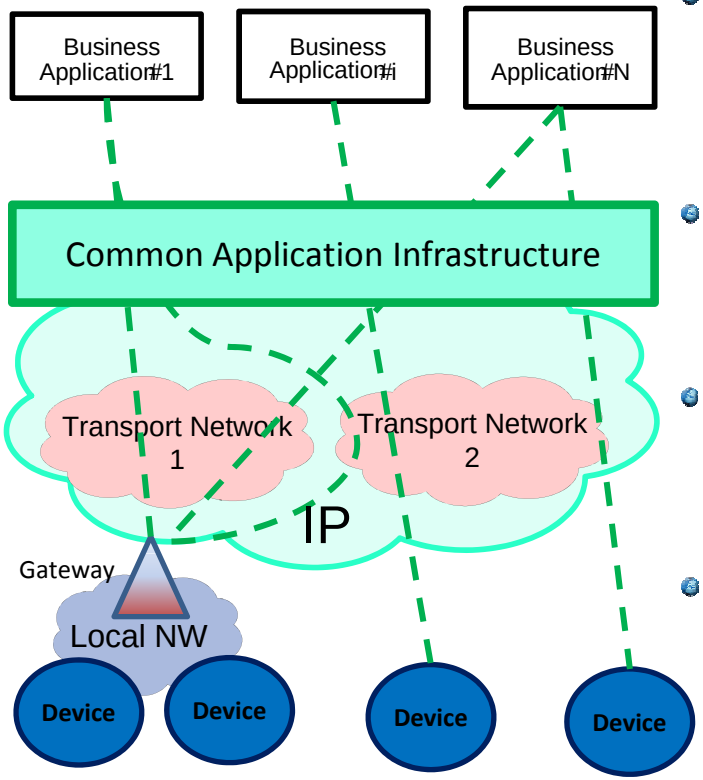
Pipe (vertical):

1 Application, 1 NW,
1 (or few) type of Device



Horizontal (based on common Layer)

Applications share common infrastructure, environments and network elements



- *M2M Applications providers* run individual M2M services. Customer is Device owner
- *M2M Service provider* hosts several M2M Applications on his Platform.
- *Transport Network operator(s)* Customer is the M2M service provider
- *End user* owns / operates the Device or Gateway

The ETSI M2M Vision

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Horizontal Multi-Service Platform

Multi – Application

Technology Independent

Existing Standards Re-use and integration

End to End

M2M Service Capabilities, Resource Based

Simple M2M Architecture

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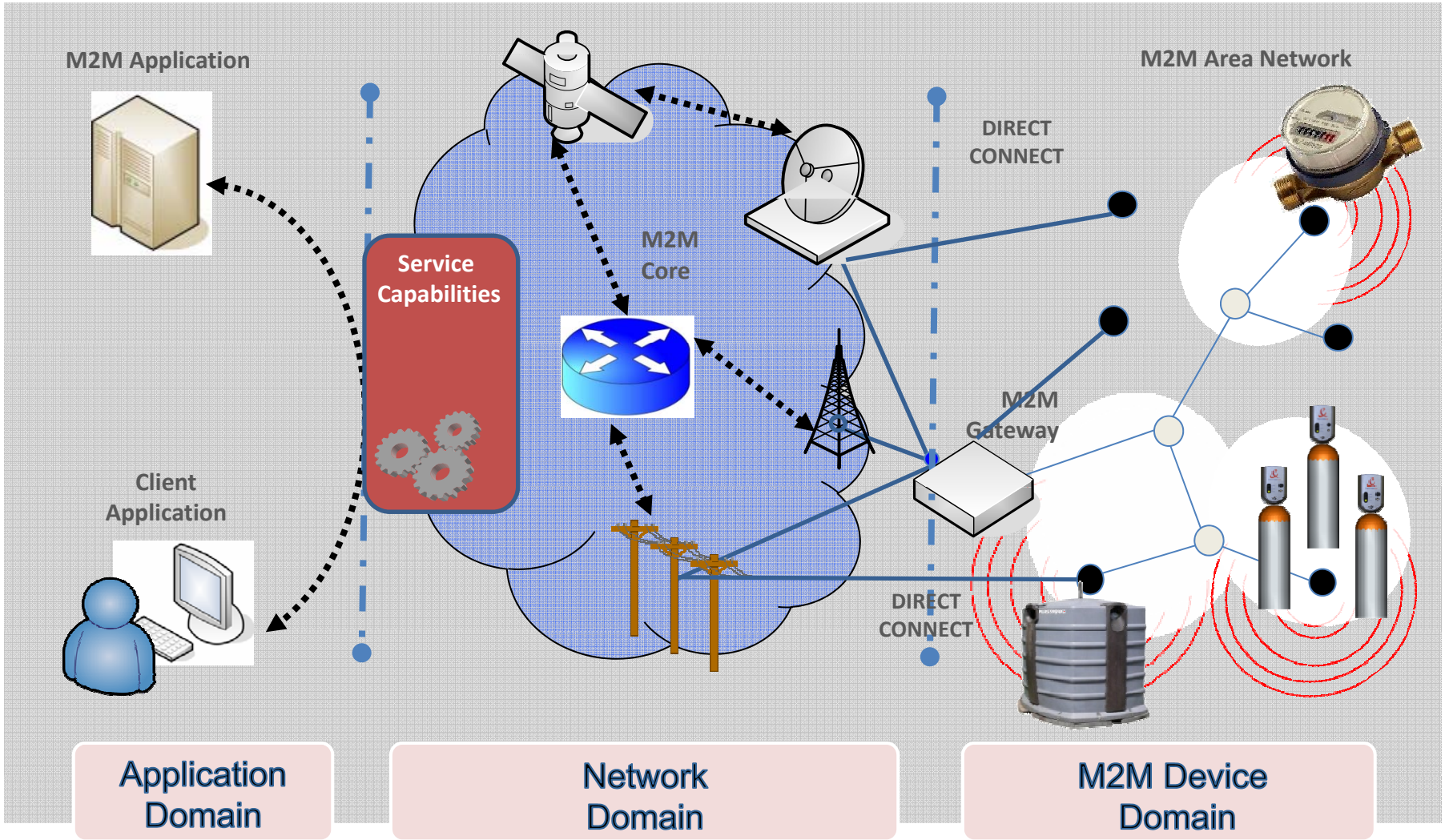

… based on existing Technologies

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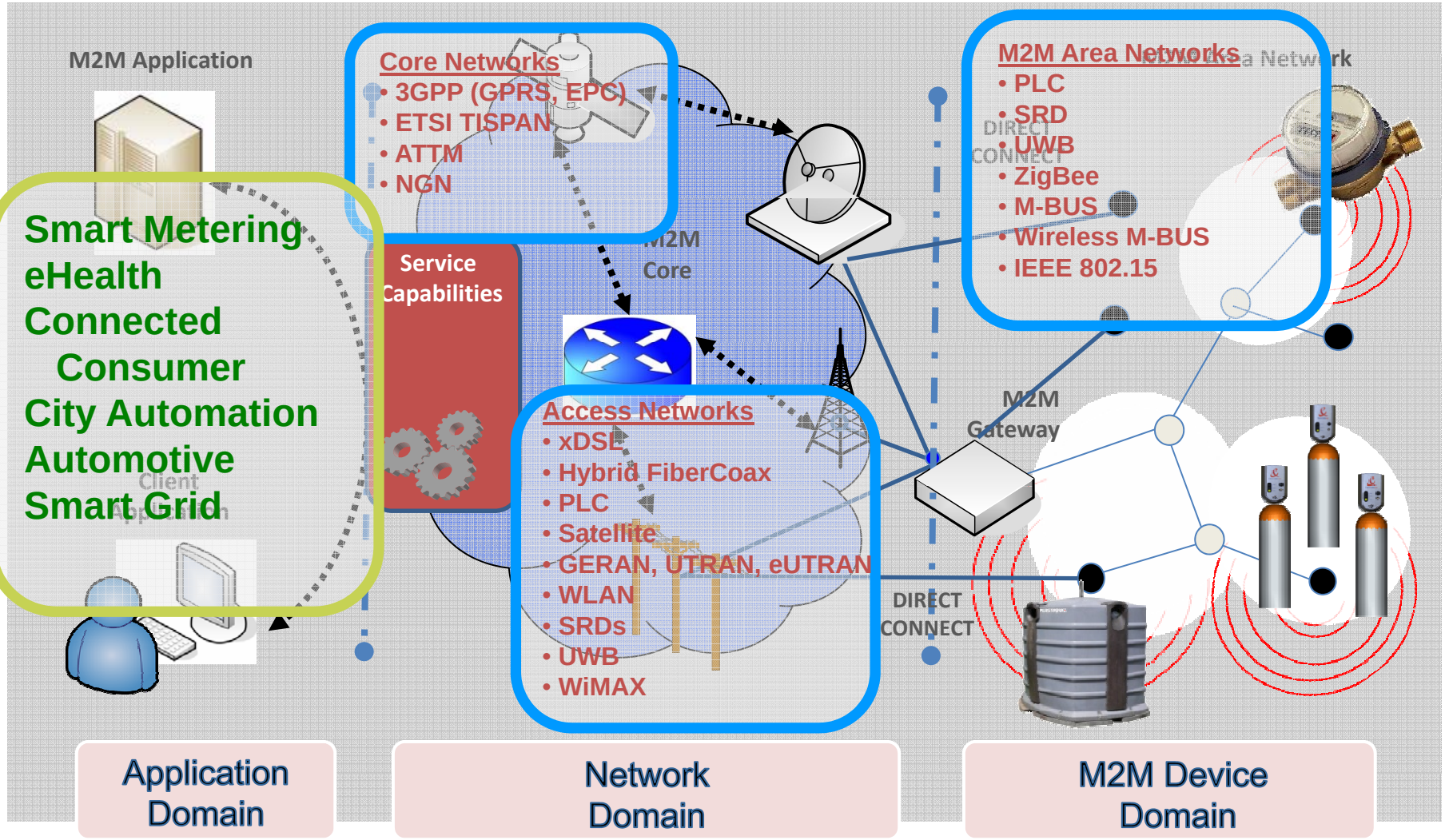

Key M2M Elements

- **M2M Device**
  - Device capable of replying to request for data contained within those devices or capable of transmitting data autonomously.
- **M2M Area Network (Device Domain)**
  - Provide connectivity between M2M Devices and M2M Gateways, e.g. personal area network.
- **M2M Gateway**
  - Uses M2M capabilities to ensure M2M Devices inter-working and interconnection to the communication network.
- **M2M Communication Networks (Network Domain)**
  - Communications between the M2M Gateway(s) and M2M application(s), e.g. xDSL, LTE, WiMAX, and WLAN.
- **M2M Applications**
  - Contains the middleware layer where data goes through various application services and is used by the specific business-processing engines.

M2M high level system overview

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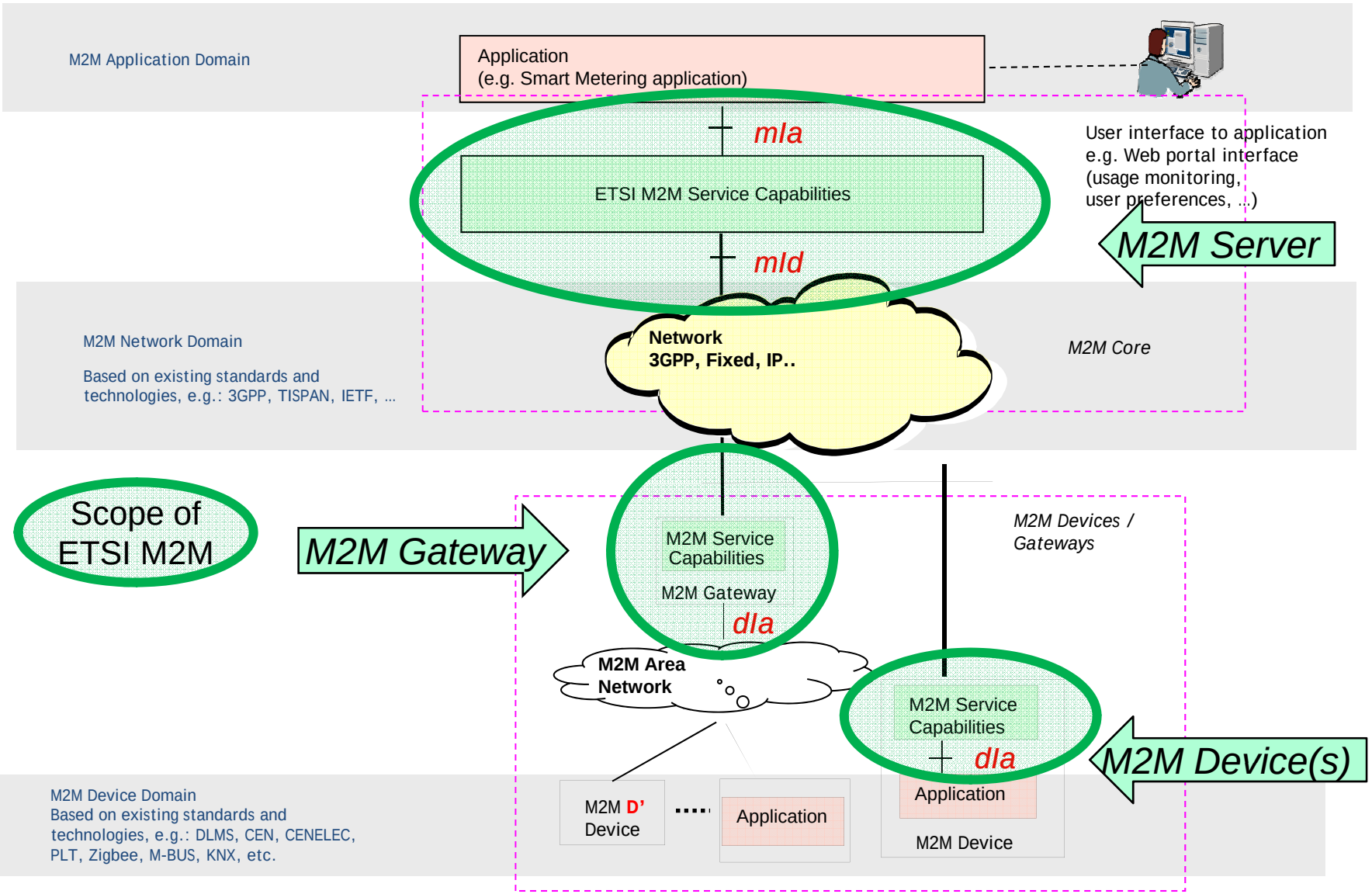

TC M2M Organization

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Chairman:	**Enrico Scarrone – Telecom Italia**
Vice Chairmen:	**Marylin Arndt – France Telecom** **Omar Elluomi – Alcatel Lucent** **Joachim Koss – Cinterion**
Technical Officer:	**David Boswarthick – ETSI**

TC M2M PLENARY

WG1	WG2	WG3	WG4	WG5
Use Cases & Requirements	Architecture & Network Interworking	Protocols & Interfaces	Security Aspects	Management Aspects
Patricia Maritigne France Telecom	Paul Russel Interdigital	Raymond Forbes Ericsson	François Ennesser Gemalto	Yongjing Zhang Huawei

ETSI M2M Specifications Work

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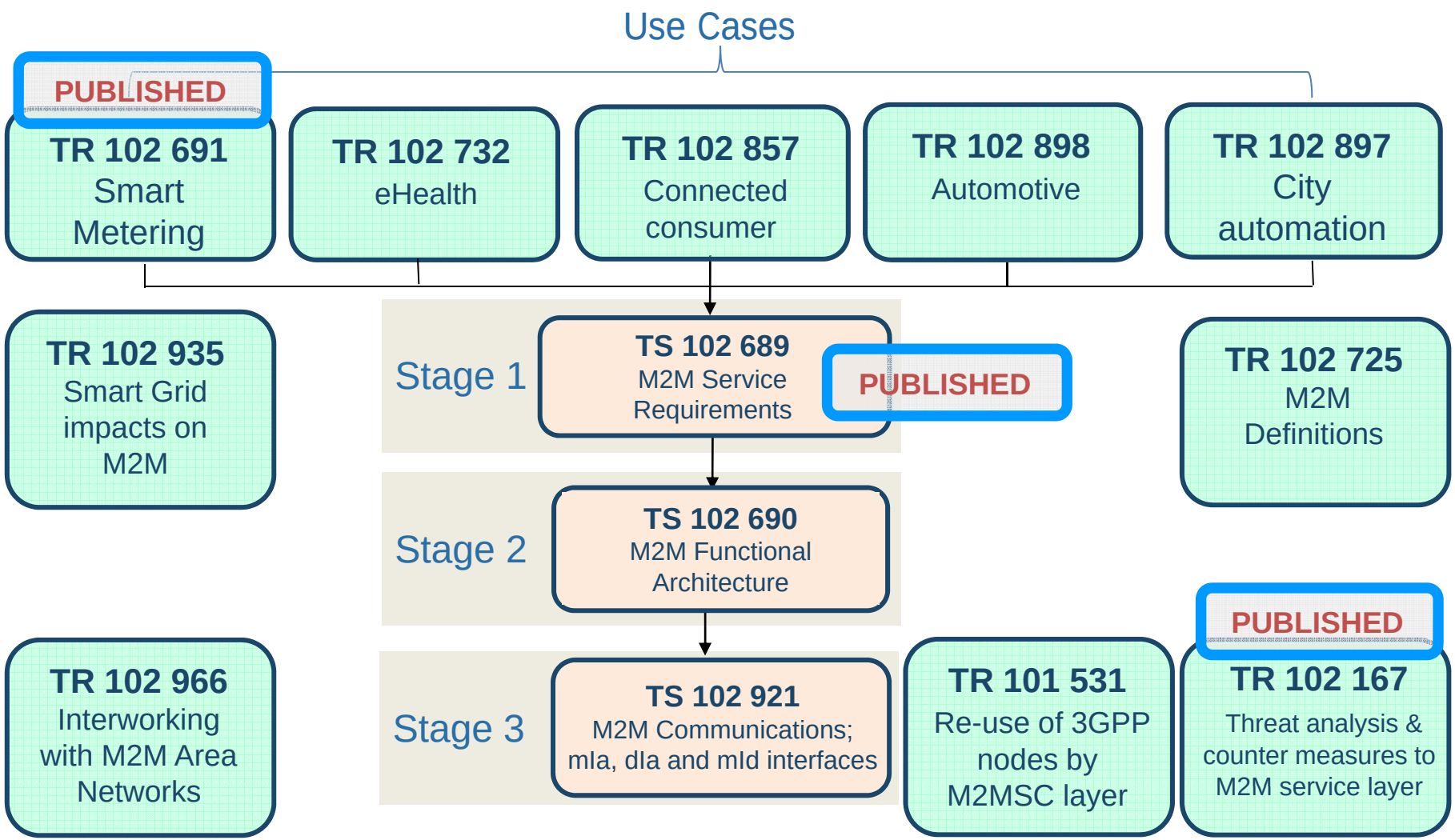

M2M Project Plan

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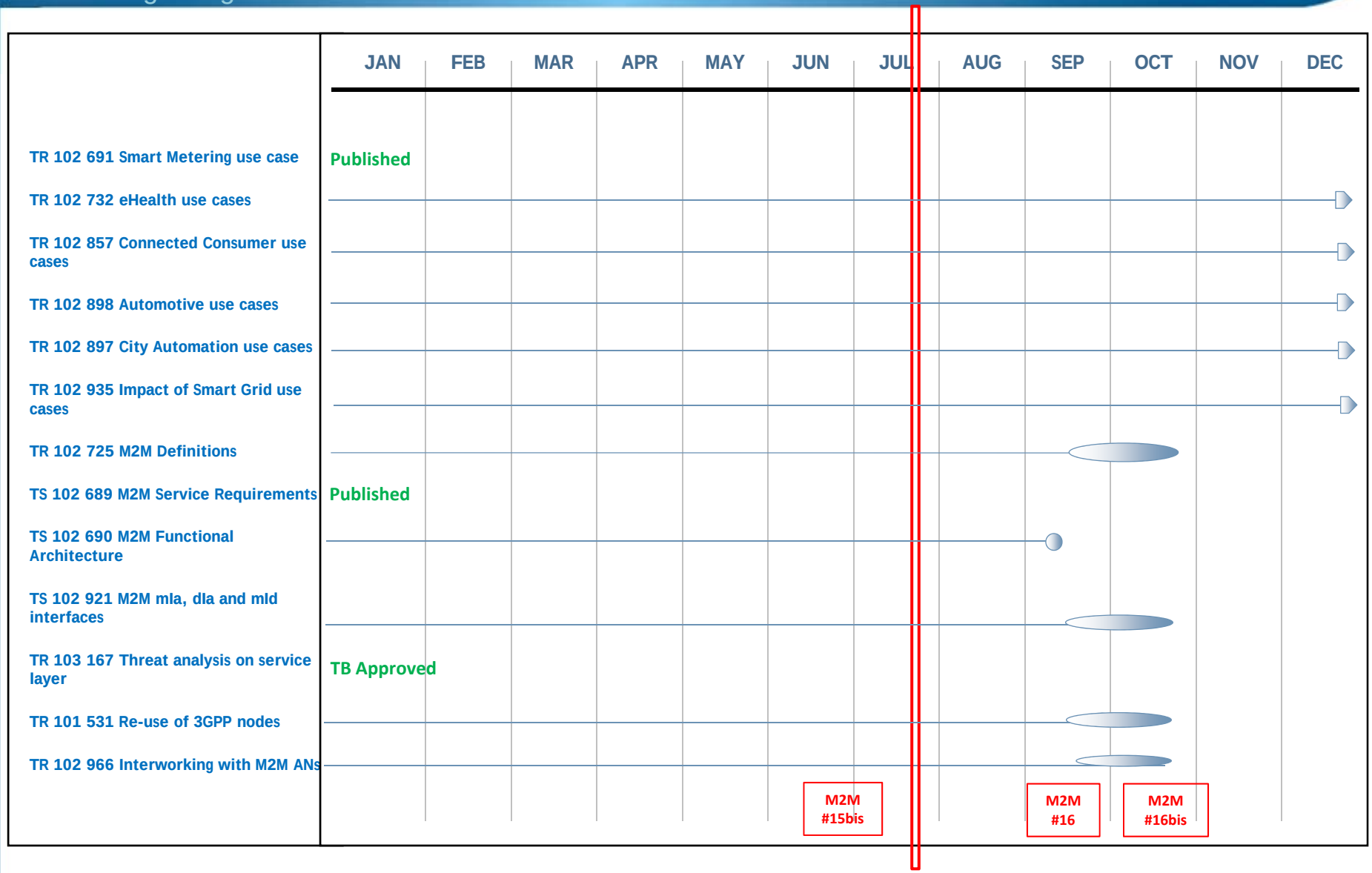

M2M Links & Collaborations

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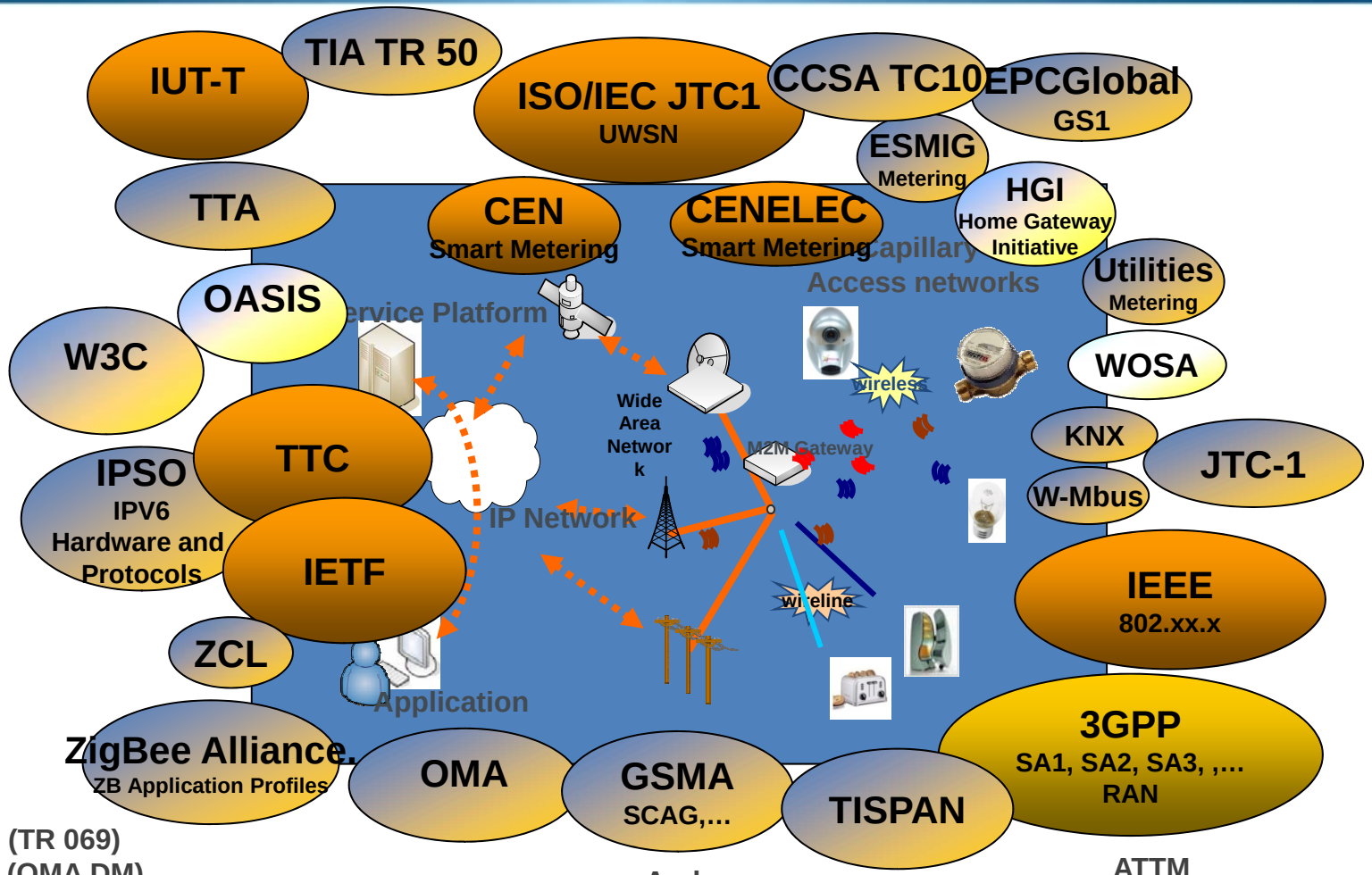

BBF (TR 069)
OMA (OMA DM)
3GPP (security aspects, M2M identifiers and the M2M server interfacing)
TIA 10 (coordination of M2M developments in TIA and ETSI M2M)

And…
ISO/IEC JTC1
ITU-T JCA-IOT
ZigBee

ATTM
ITS
TISPAN

+ a lot of others!!!

EU driven Smart Metering mandate

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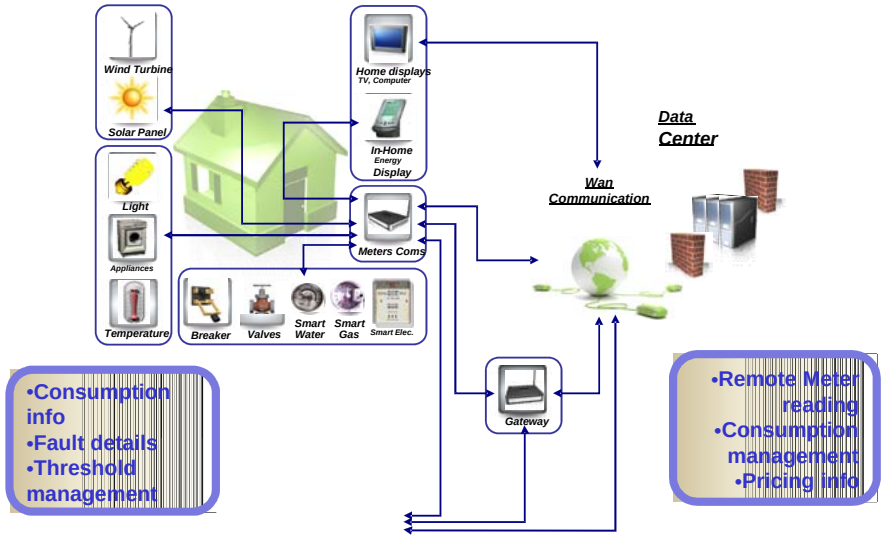

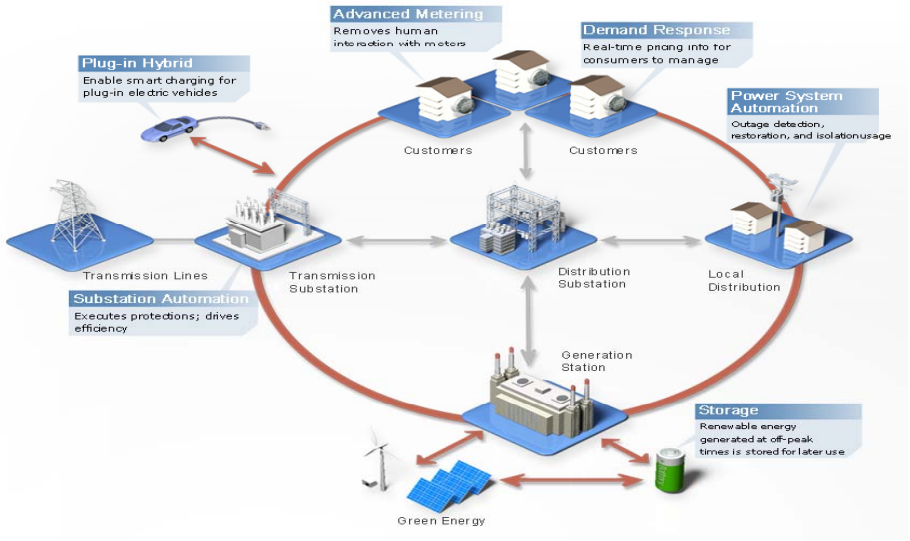

EC's M/411 Smart Metering Mandate:

- EC Mandate issued in March 2009 by DG TREN and sent to the 3 ESO's : CEN, CENELEC and ETSI
- Objective: to build standards for European smart meters, allowing interoperability and Consumer actual consumption awareness

EC's M/490 Smart Grid Mandate:

- EC Mandate issued in March 2011 by DG TREN and sent to the 3 ESO's : CEN, CENELEC and ETSI
- Objective: to build standards for European Smart Grids.

ETSI TC M2M is coordinating work inside ETSI and contributing to the mandates M411 and M490.

ETSI M2M Major industry events

- **October 2010** : **1st ETSI M2M Workshop. Sophia Antipolis.**
  - More than **220** participants,
  - Collected output fed into ETSI M2M requirements.

- **April 2011** : **1st ETSI Smart Grid Workshop. Sophia Antipolis.**
  - More than **280** participants,
  - Examining the architecture for Smart Grids,
  - Presentations from EU (Commission), US (NIST), China (State Grid) and Japan .

- **26 – 27 Oct 2011** : **2nd ETSI M2M Workshop. Sophia Antipolis.**
  - Presenting the M2M Release 1 package,
  - Examining future requirements of M2M standardization,
  - Feedback from early implementations of M2M solutions,
  - Multi Vendor interoperability DEMO.

Information on events http://www.etsi.org/WebSite/NewsandEvents/events.aspx

Beyond Release 1

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- On top of Release 1 maintenance, ETSI TC M2M is planning potential Release 2 extensions;
  - Additional architectural configurations (multi-hop service platforms, Gateway to Gateway and inter-M2M operator communications)
  - Sector standards Interworking/profiling/adaptation (specific integration of standards and solutions leading specific services segments)
  - Area Network Technology interworking/adaptation
  - Network convergence layers toward major telecommunication network technologies, including re-use/integration of existing functionalities
  - specification of additional functionality (transactions, compensation, automatic grouping, etc), extension to connectivity selection, charging, QoS classing, Logging, Device security, etc

- ETSI TC M2M welcomes the option to develop a common consolidated work together with the other regional SDO and the vertical segments standardization leading groups.
  In such case ETSI M2M will be happy to reconsider Rel. 2 developments and to discuss the related functionality in the context of the new joint effort.

QUESTIONS?

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