Welcome to the World of Standards

ETSI

World Class Standards

oneM2M Showcase demos

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Introduction

- The ETSI M2M Workshop provides an ideal opportunity to demonstrate the progress in the development of products based on oneM2M standards.
- We are at the point where Release 1 of oneM2M standards is mature. oneM2M work is progressing well, focusing on the release 2.
- ETSI and TTA have organized the first oneM2M Interop test event in Sept 2015 where 30 companies have participated showing the interest of the industry in oneM2M release 1.
- This is an excellent moment to examine where we are with interoperability of products based on oneM2M standards. This workshop provides a state-of-the-art of oneM2M products as well as the level of adoption of agreed specifications and standards.

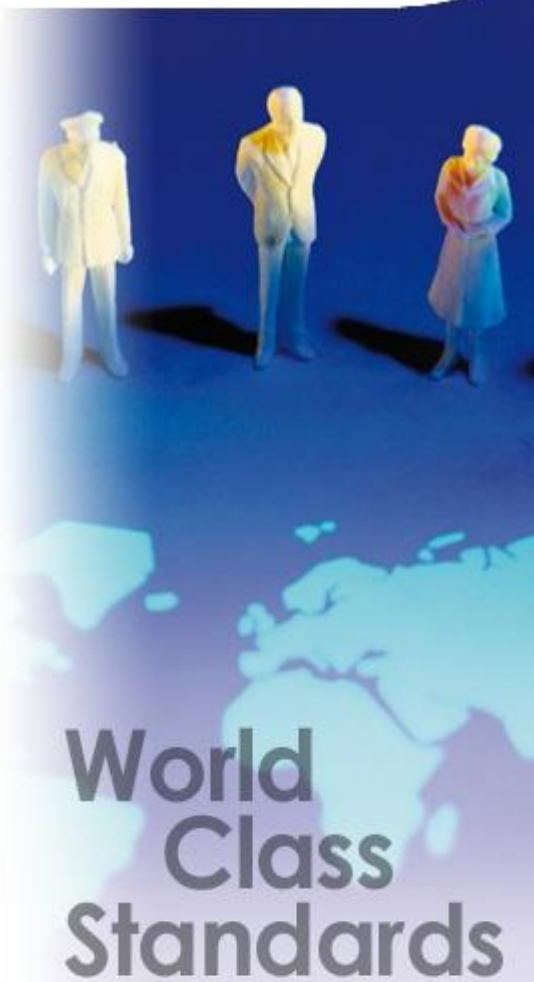
This year, we have selected:

10 comprehensive interoperability demos involving 32 companies

Application domains

- The 10 demos cover a cross section of the application domains such as:
  - Smart Metering,
  - Home automation,
  - Energy Efficiency,
  - Smart living,
  - eHealth,
  - Smart City,
  - Intelligent Transport System

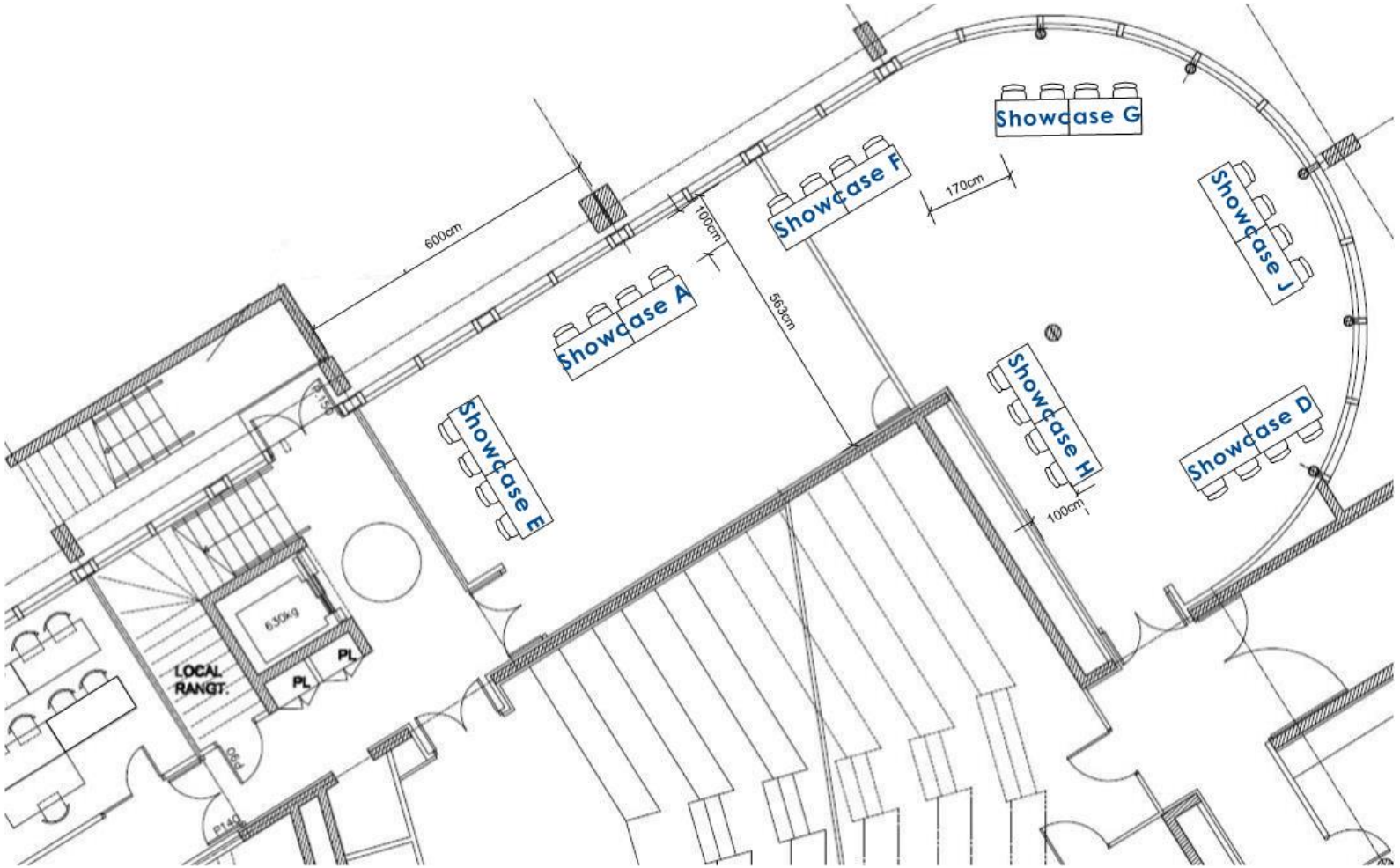
- ETSI has encouraged the candidate demos:
  - that implement oneM2M standards
  - that show multi vendors interoperability
  - that demonstrate horizontal service layer platforms
  - that are related to the domains of Smart Cities (including connected vehicles) and Smart Living (including eHealth)



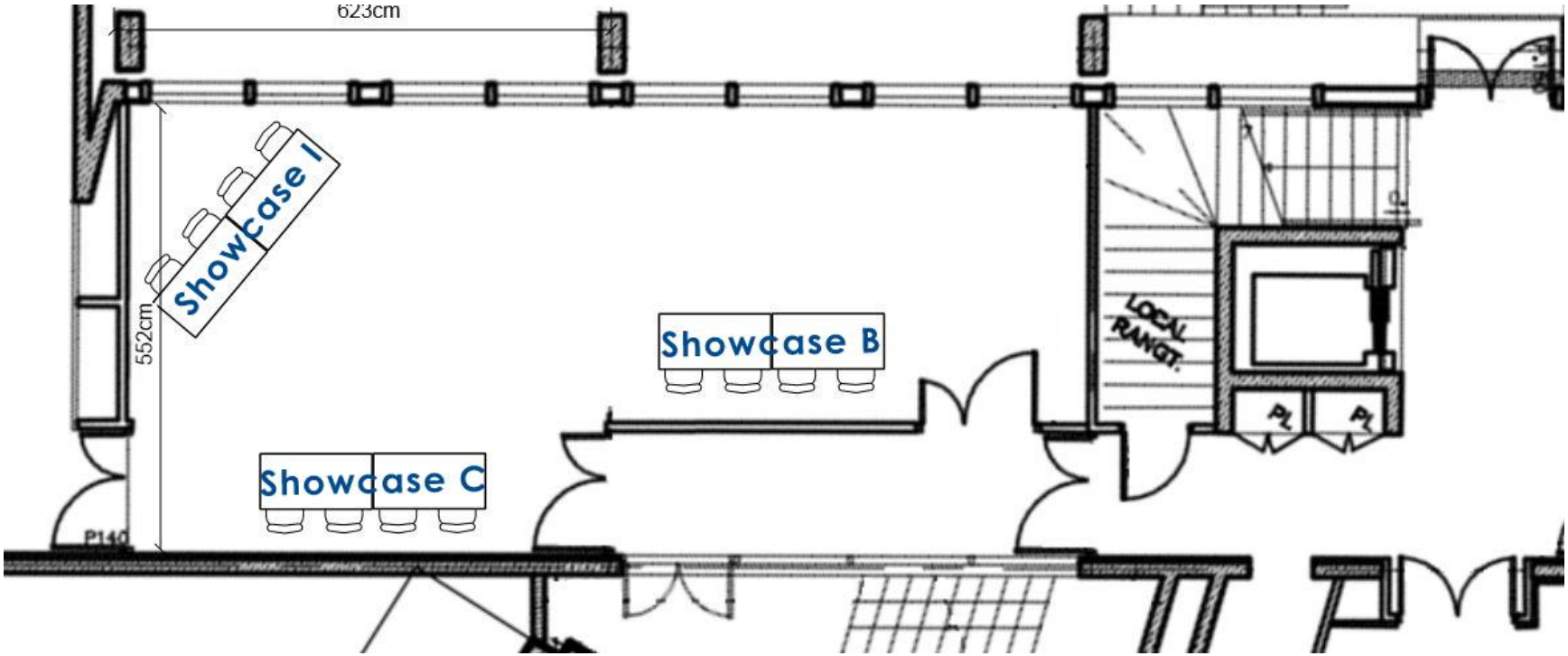
Demo list

- **Showcase A: FIWARE-oneM2M interoperability**
  Easy Global Market, KETI,NEC, Sejong University,Telefonica
- **Showcase B: Application of oneM2M technologies for Low Power Wide Area network radio communications (LPWA-LoRa) in the city**
  Actility, Abeeway
- **Showcase C: oneM2M Based Lightweight M2M Gateway for Smart Living and Connected Vehicles**
  Eurecom, Mios
- **Showcase D: oneM2M enabled dual-SIM smartphone management**
  Huawei Technologies Co., Ltd., China Academy of Information and Communications Technology (CAICT)
- **Showcase E: eHealth Demo: A oneM2M based Connected Health (eHealth) solution featuring commercial monitoring devices**
  InterDigital Communications, Convida Wireless, LNI, Continua, iconetiv
- **Showcase F: Advanced Home Energy Management**
  ESMIG, Sierra Wireless, Kamstrup, Green Energy Options, Cybergrid, Energate
- **Showcase G: Turnkey Smart city service platform using LPWAN (LoRa) and oneM2M API**
  Multi-Tech Systems Inc, Incl Vertical M2M, Sierra Wireless
- **Showcase H: Vehicle Data Collection Network**
  TOYOTA InfoTechnology Center, KDDI
- **Showcase I: GridPocket and WAGO Contact oneM2M Energy Efficiency ecosystem**
  GRIDPOCKET, WAGO
- **Showcase J: OM2M opens the box of smart applications**
  LAAS-CNRS, Orange, SRC Solution

Room B2B3



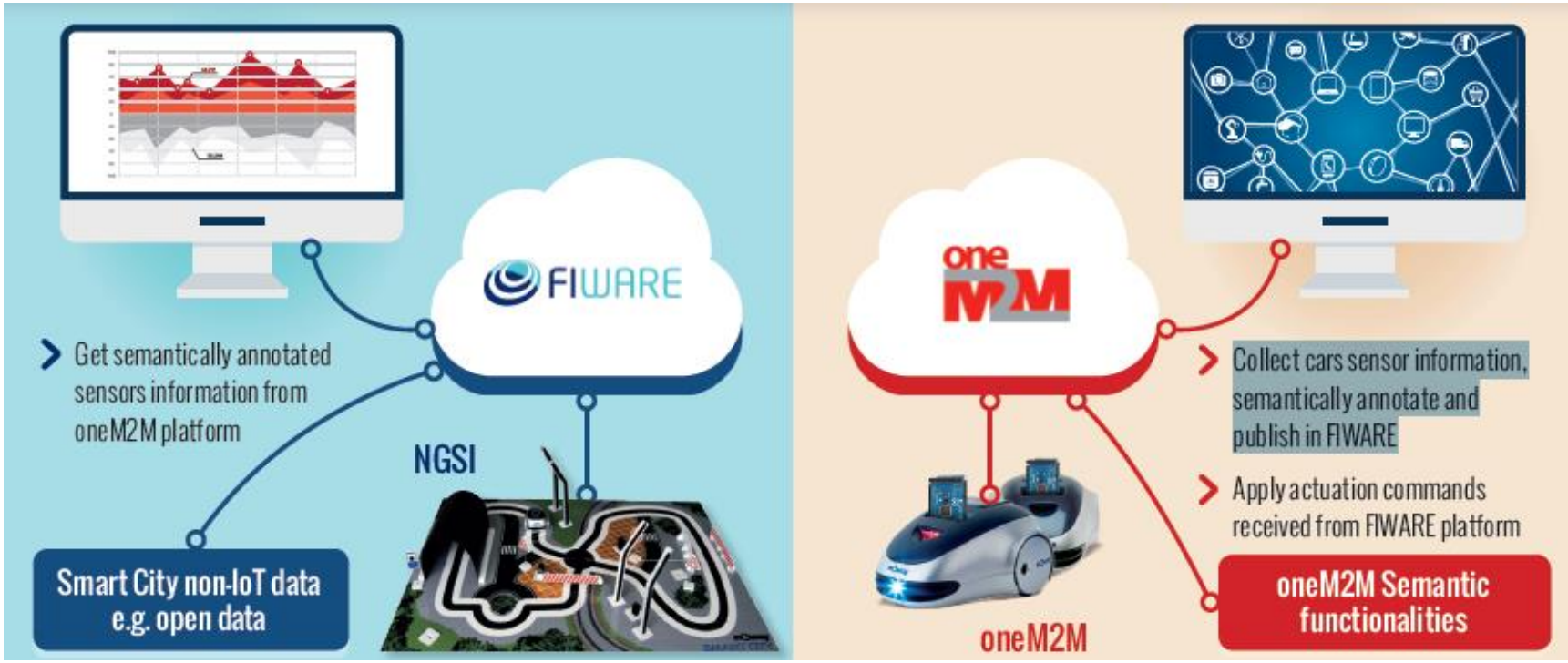
Room B1AB



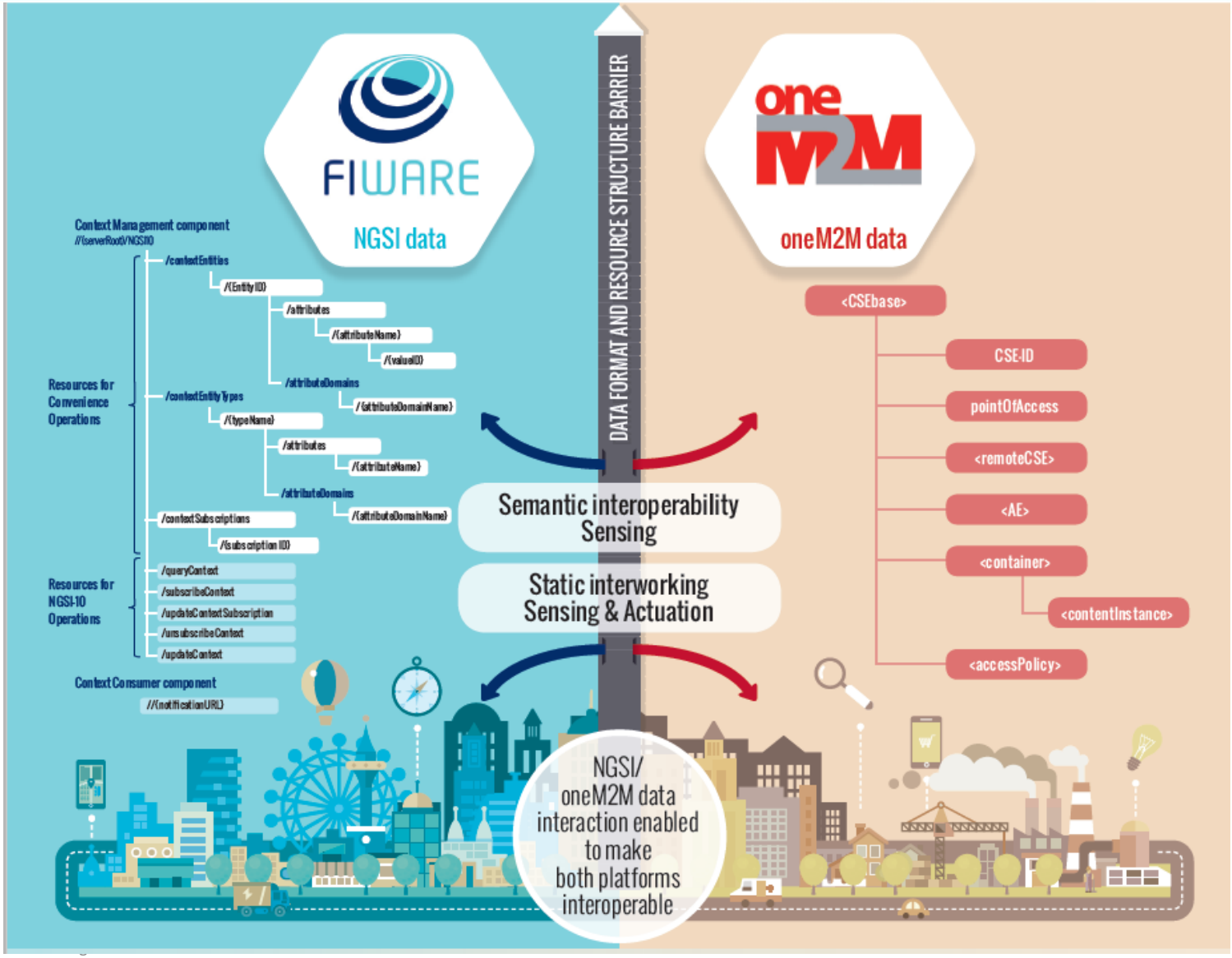
Showcase A:FIWARE-oneM2M interoperability

- **Easy Global Market, KETI, NEC, Sejong University, Telefonica**
- This showcase is about demonstrating interworking between oneM2M horizontal platform and the FIWARE ecosystem, in the context of a smart city deployment.

  The scenario includes sensing & actuation interactions between a city model and cars connected on one side to FIWARE (API reference implementation) and on the other to oneM2M (Mobius open source implementation).



Showcase A:FIWARE-oneM2M interoperability



Showcase B: Application of oneM2M technologies for Low Power Wide Area network radio communications (LPWA-LoRa) in the city

- **Actility, Abeeway**
- The demonstration will present breakthrough LoRa – ThingPark Wireless radio technologies and how they can be combined with oneM2M system level standards to form a complete solution for pervasive IoT networks, providing uniform REST interfaces enabling bidirectional communication with both wireless and wired M2M devices.
- This combination makes the perspective of national low power, low cost M2M coverage in the next few years.
- The demonstration will be held in participation with the company Abeeway, specialized in geo-localization systems and who has developed a tracker solution.

Smart City management using LoraWan & oneM2M

Remote lighting demo using LoraWan & oneM2M

End-User
Application Server

HTTP Post

ThingPark Cloud
oneM2M storage RMS (IN-CSE)

XML

4

LRC
(Core Network in France)

1

Remote Control

3

5

Internet backhaul
(here : WIFI)

7

Smart Plug Lamp

2

6

LoRa

LRR
(Base Station or Picocell)

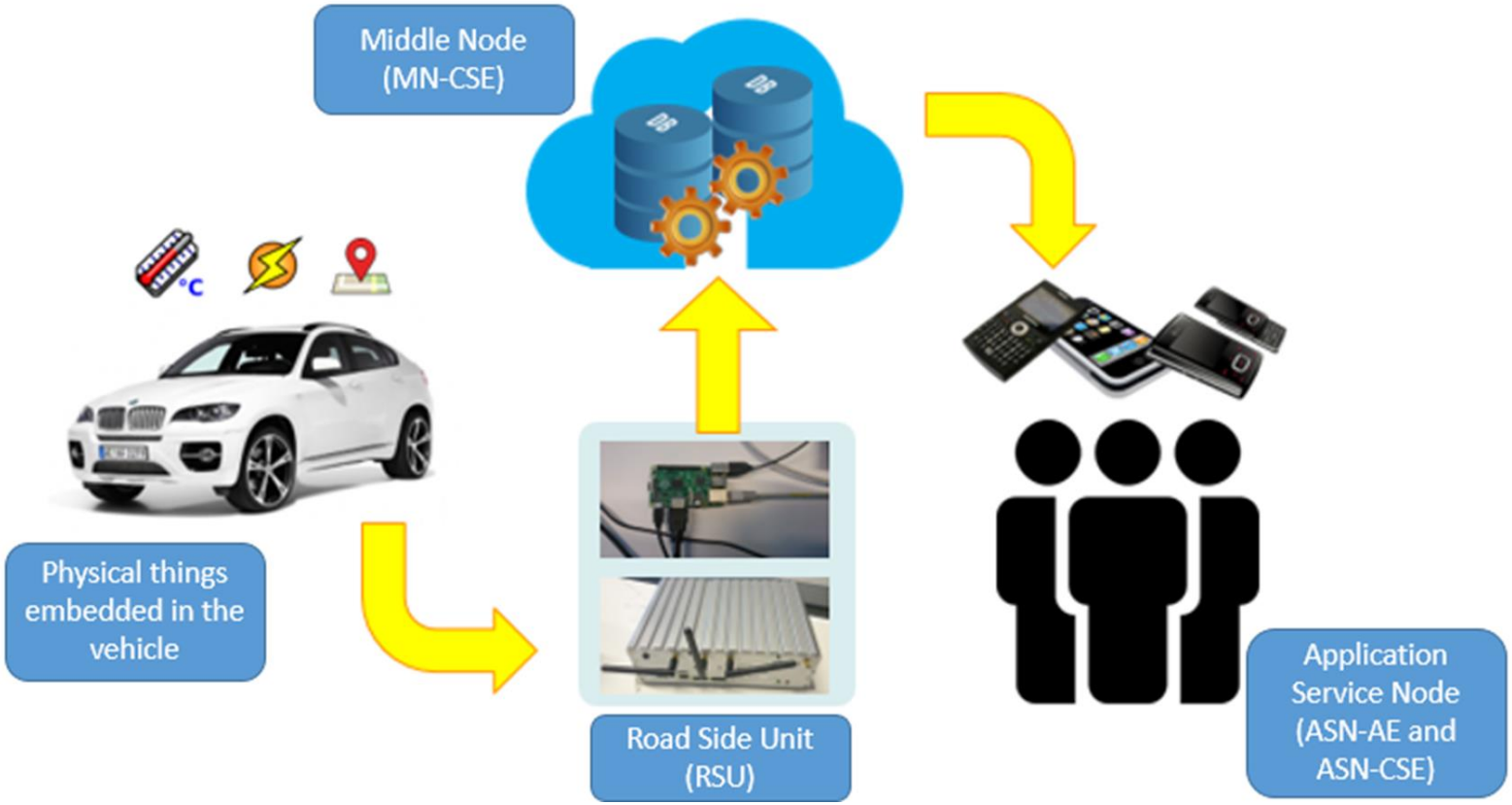
LoRa

Vertical Use cases:

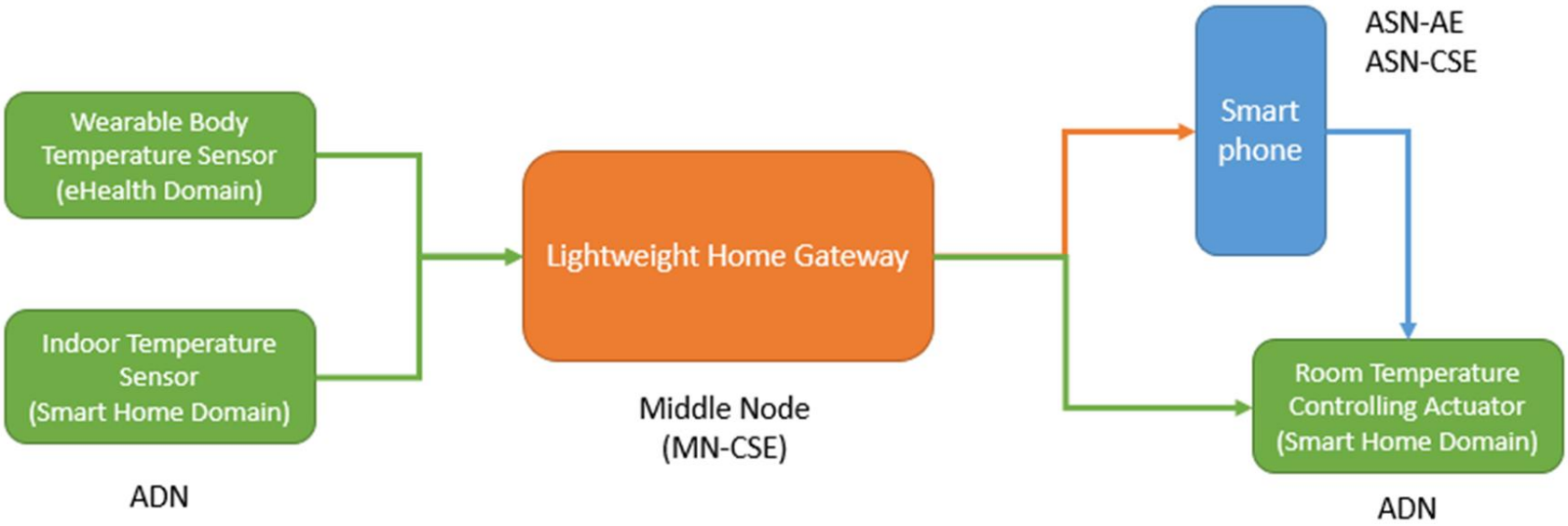
- Home Appliances
- Facility Mgmt
- Street lighting

Showcase C: oneM2M Based Lightweight M2M Gateway for Smart Living and Connected Vehicles

- **Eurecom, Mios**
- The demo shows a complete IoT platform that can be deployed for connected vehicles and smart living , including intelligent home control and eHealth (for semantic based health and wellness management)



Showcase C: oneM2M Based Lightweight M2M Gateway for Smart Living and Connected Vehicles



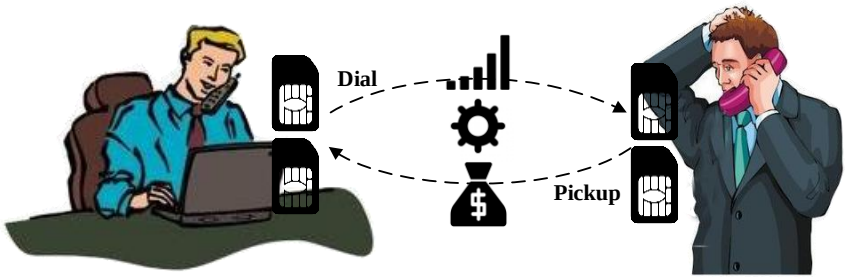
Scenario: The body temperature measurements are processed at the MN. If fever is deduced, a notification is sent to consumer mobile devices. The MN polls the indoor room temperature and provides an option to the person to set a comfortable room temperature through actuation. This smart living scenario combines the elements from both the Smart Home and eHealth domains

Showcase D: oneM2M enabled dual-SIM smartphone management

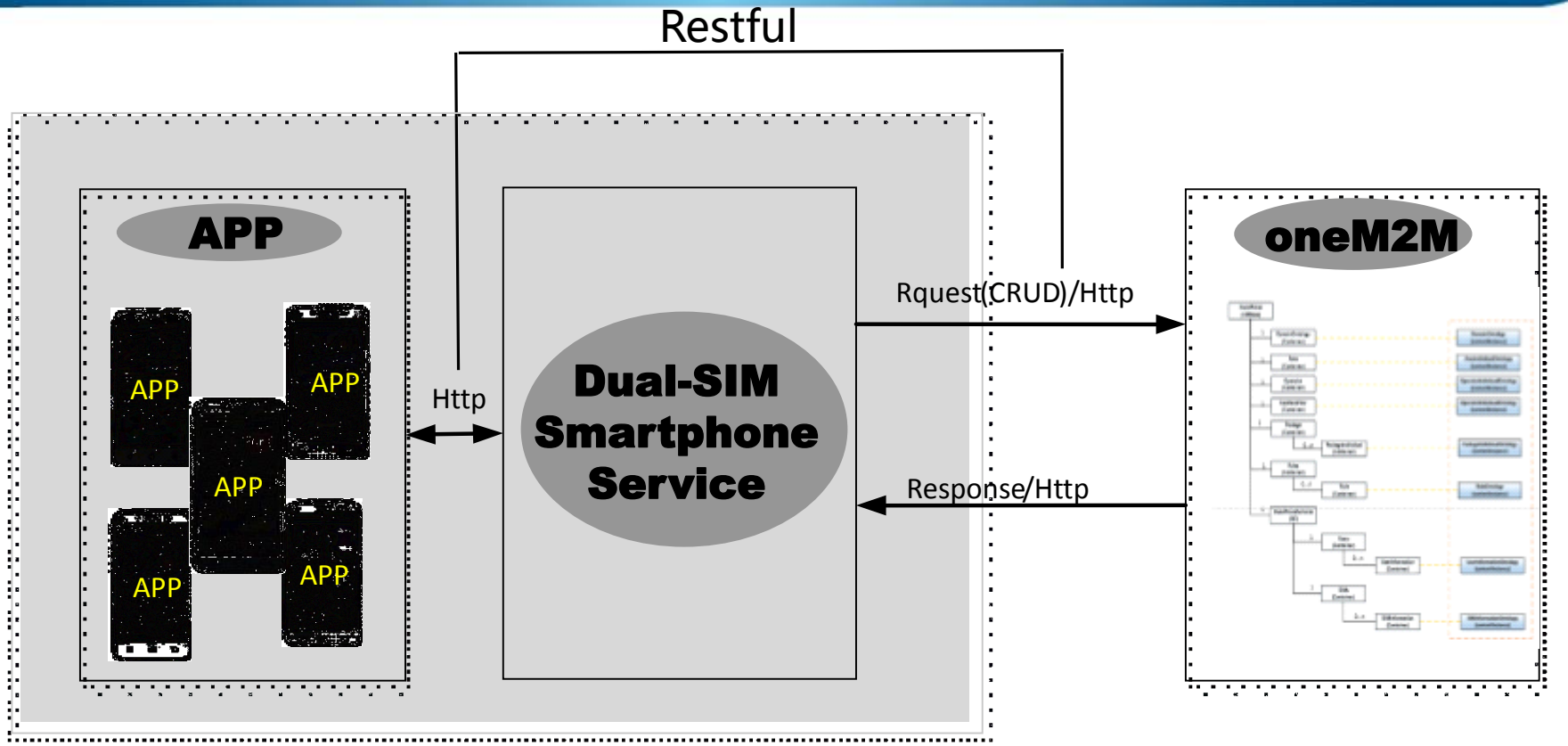
- **Huawei Technologies Co., Ltd., China Academy of Information and Communications Technology (CAICT)**

- **Dual-SIM smartphone**
  - A types of phones with two SIM cards operated simultaneously (“double standby”)
  - Two SIM cards belong to different operators (There are 3 operators in China), and the fare package is also different
  - Estimated sales of dual-SIM smartphones in 2016: 500 millions

- **Issues**
  - Users have to manually choose which card is used to make the call; and, to which number of the receiver’s phone number to call
  - Without proper treatment, the “double standby” status makes dual-SIM smartphones experiencing much fast battery drain, especially when the radio connection of one of the SIM cards is poor.
  - **How to automatically choose a SIM with better calling plan and service coverage to ensure great quality of calls with minimum charges?**



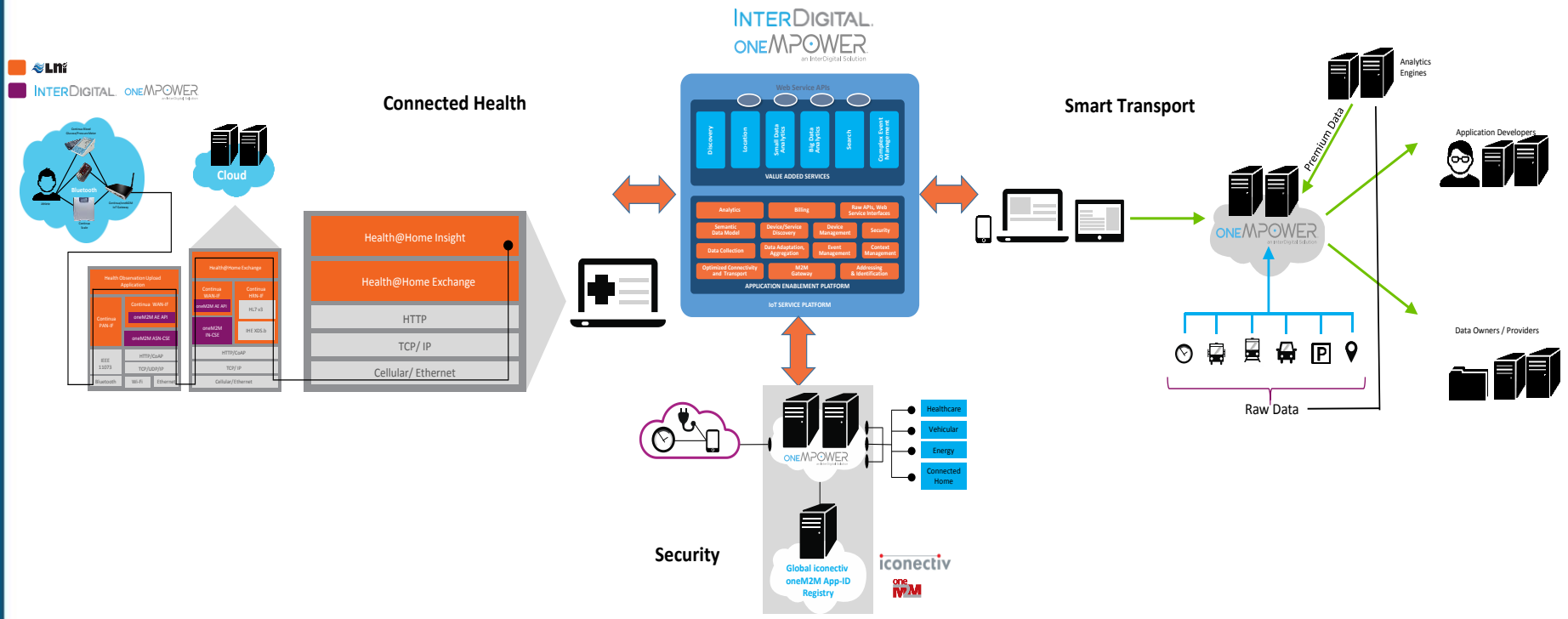
Showcase D: oneM2M enabled dual-SIM smartphone management



- **APP**: provides GUI and communicates with the Service (send request/get response)
- **Dual-SIM smartphone Service**: retrieves data from the oneM2M platform, and produces a better calling plan after reasoning
- **oneM2M Platform**: stores the platform's ontology repository, and provides common services, such as registration, Data Management & Repository, Discovery

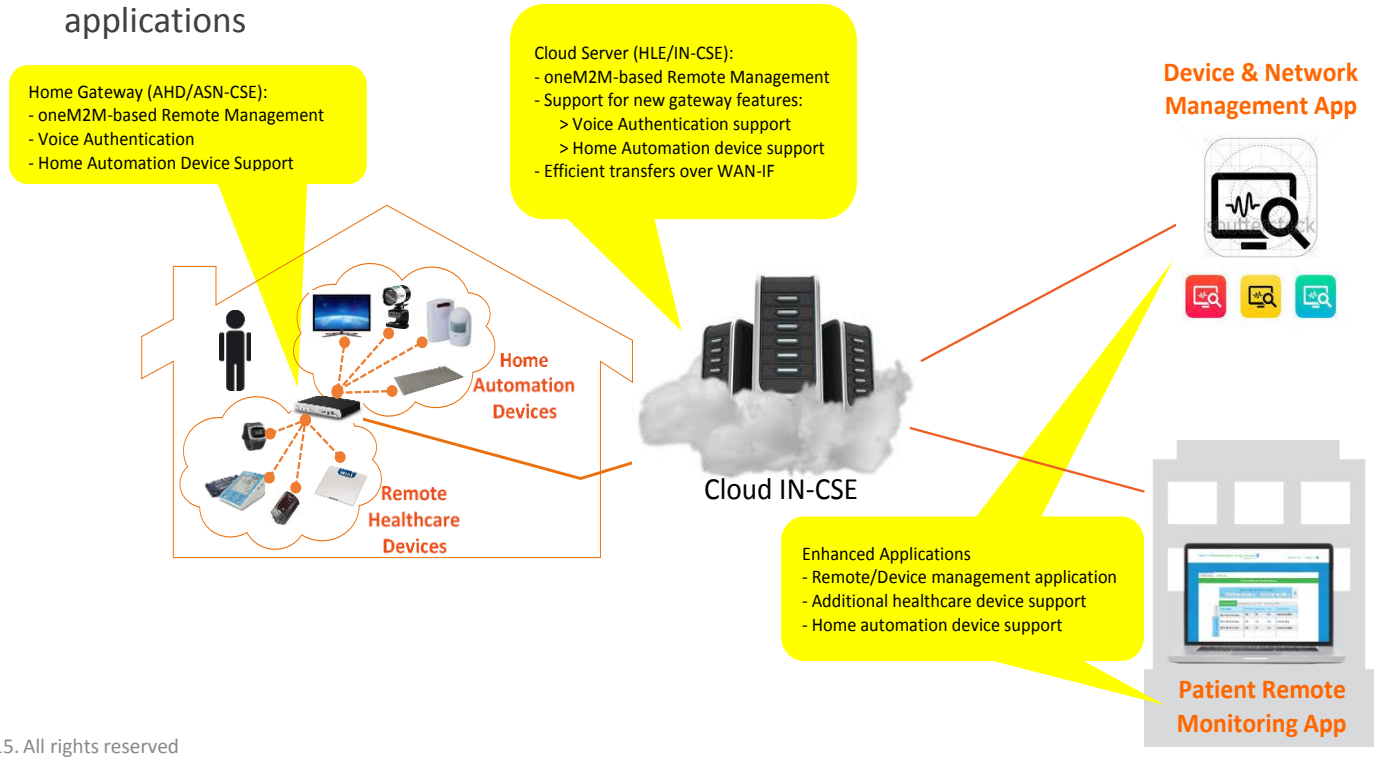
Showcase E: Connected Health & Smart Transport

- InterDigital, Continua, Convida wireless, iconectiv, LNI (Lamprey Networks Inc)



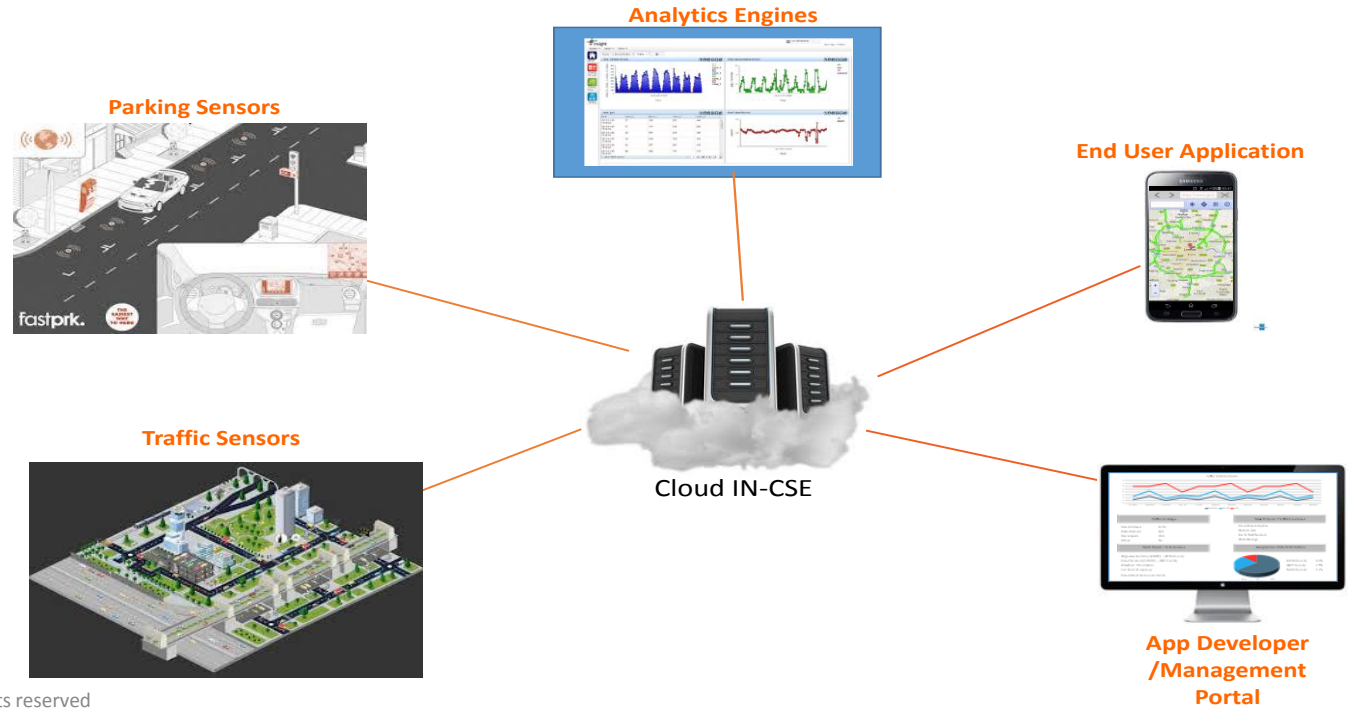
Showcase E: Connected Health

- The demo is based on the InterDigital oneM2M platform with advanced health solutions from Lamprey Networks showcasing the following functions:
  - Integrated Device Management allowing the management of the Continua compliant health care devices and the gateways that service them
  - Voice authentication at the gateway to ease & facilitate multi-user support of the health care devices and gateway (assisted living facility, etc.)
  - Integration of home automation devices into the system which enhances the health care monitoring capabilities (such as motion sensors, etc.) but also provides a secondary use case for the end applications



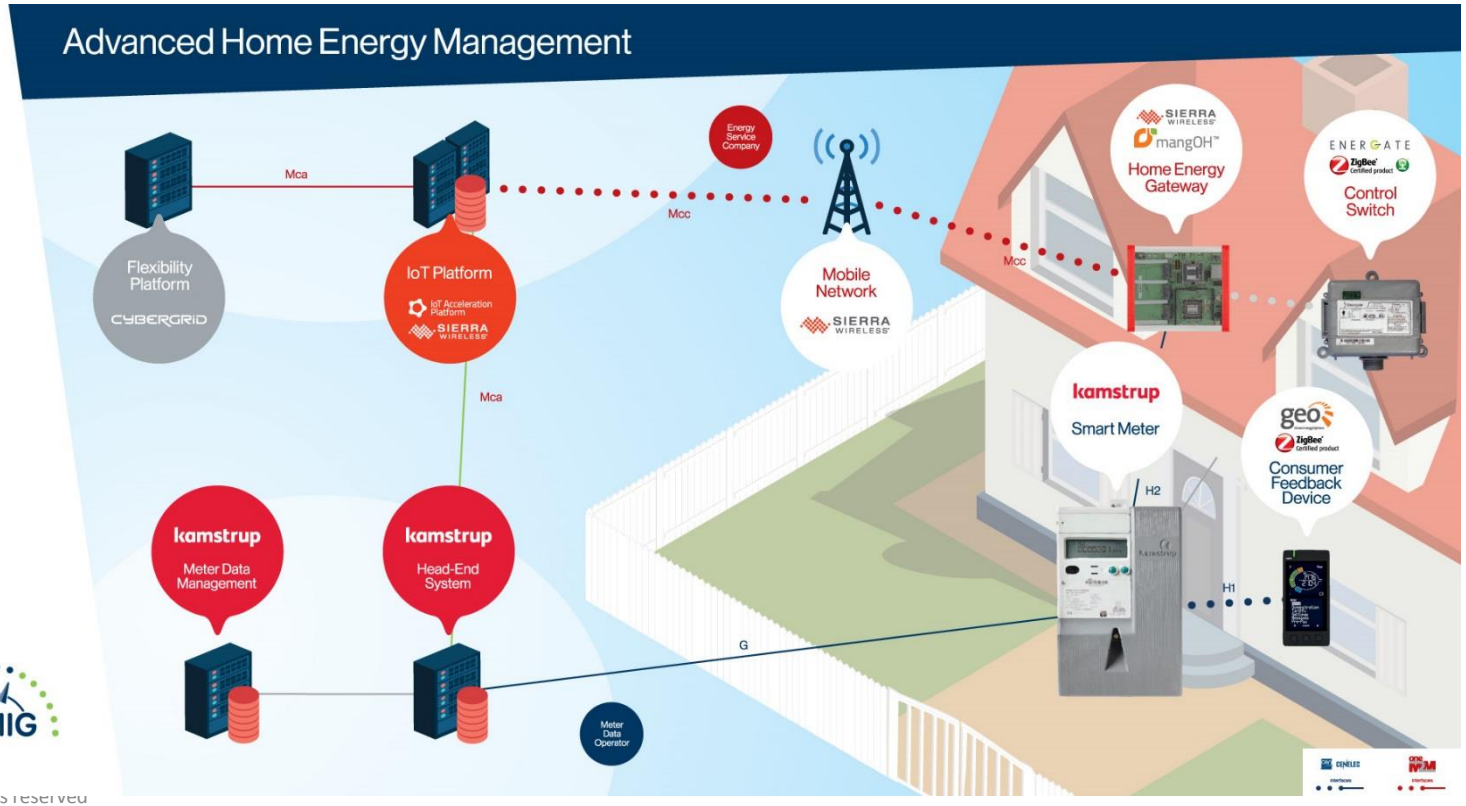
Showcase E: Smart Transport

- The demonstration will show the InterDigital oneM2M service delivery platform integrating information from databases and deployed sensors to infer traffic flow/congestion, parking availability, etc.
- oneM2M applications will have access to databases, raw sensor data, and “premium” or processed data generated by advanced analytics engines
- The platform is used within the UK-based oneTransport project. This project is a real-life implementation of InterDigital’s oneM2M Service Delivery Platform to integrate different transport systems and geographies in the UK



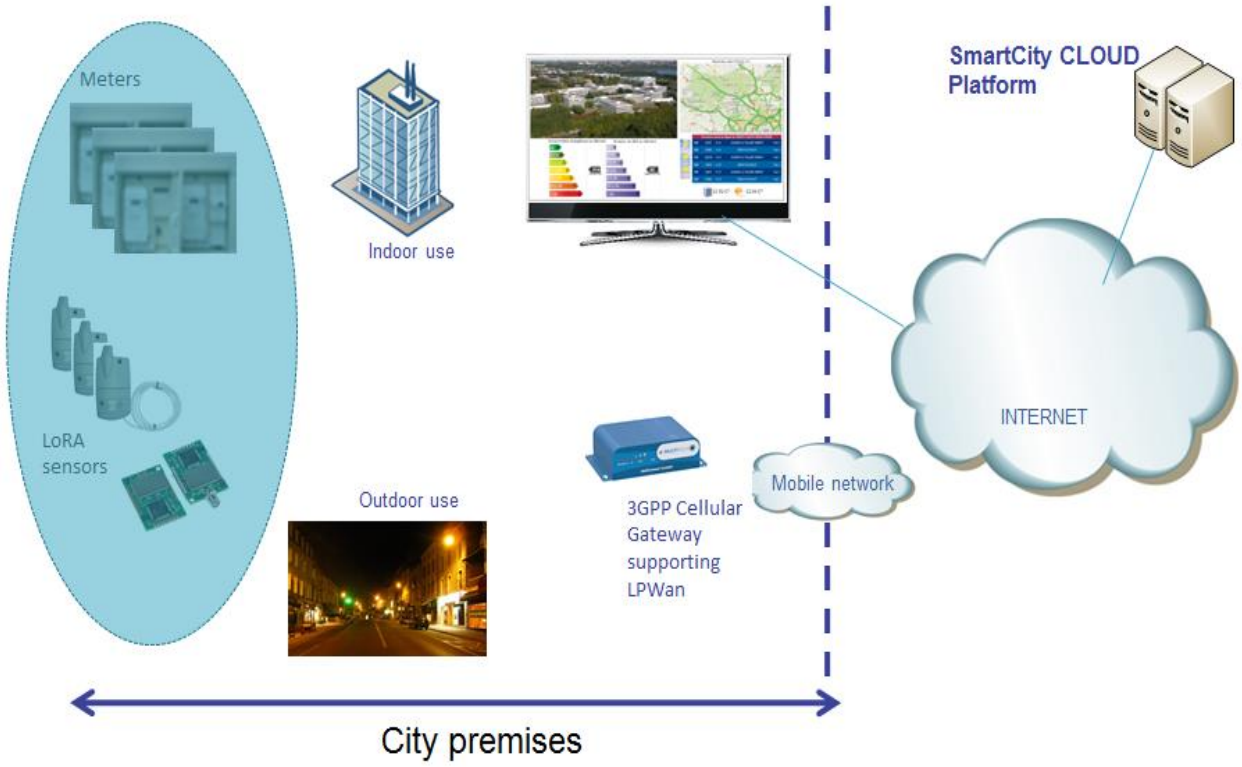
Showcase F: Advanced Home Energy Management

- **ESMIG, Sierra Wireless, Kamstrup, Green Energy Options, Cybergrid, Energate**
- This showcase demonstrate a complex home energy management solution based on both the standards defined in oneM2M and in CEN/CENELEC.
- It shows how data can be exchanged and shared securely across different stakeholders using a oneM2M-compliant system relying on intelligent communication gateways and energy appliances, with the corresponding adequate cloud-based infrastructure.



Showcase G: Turnkey Smart city service platform using LPWAN (LoRa) and oneM2M API

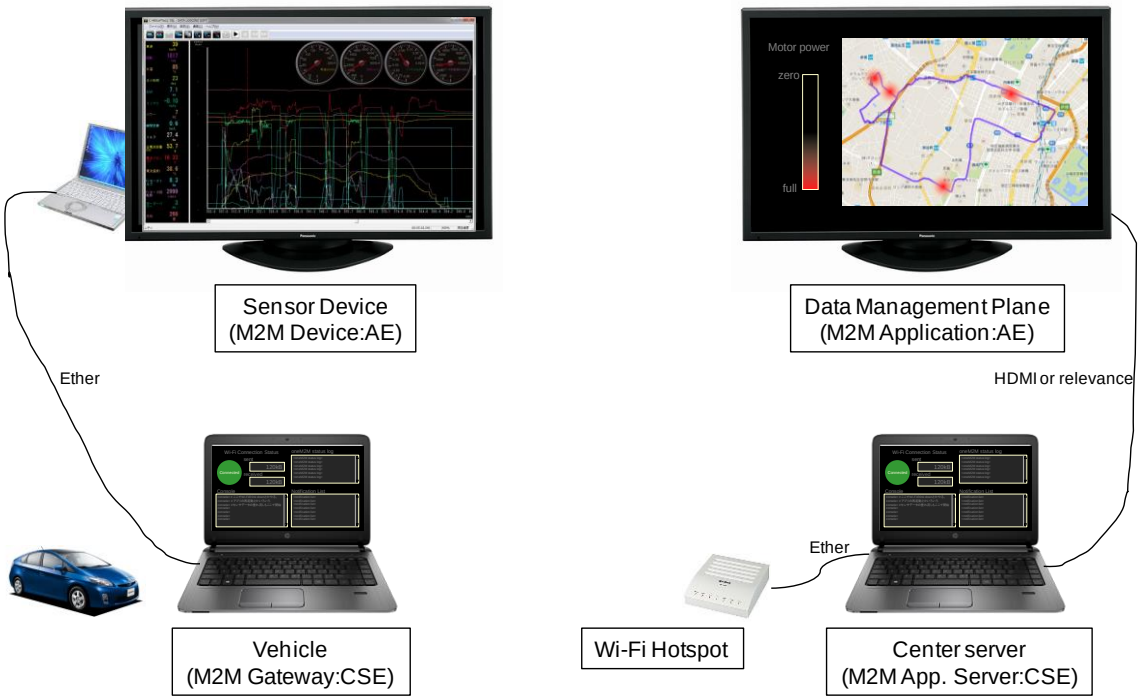
- **MultiTech, Vertical M2M, Sierra Wireless**
- It demonstrates Smart City building automation & energy management applications, highlighting both innovation and intelligence to the edge to efficiently monitor and control assets, incorporate oneM2M architecture to interface directly to a service platform showcasing the following technical components



Showcase H: Vehicle Data Collection Network

- **TOYOTA InfoTechnology Center and KDDI**

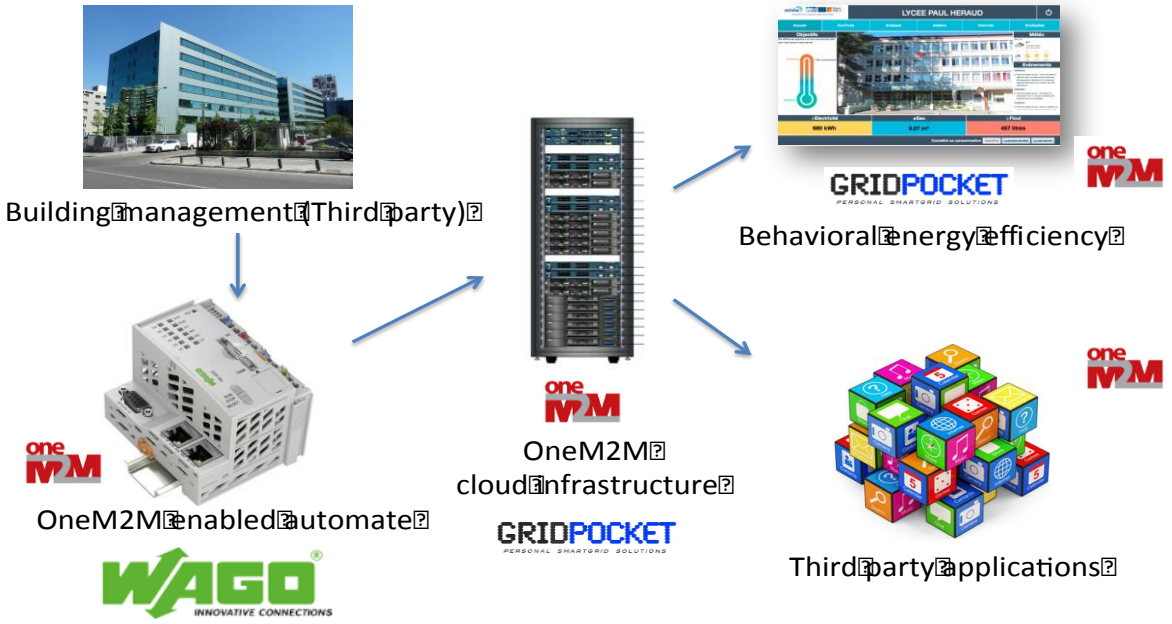
- In the demonstration, it is presented that a M2M application server such as a data center collects various sensor data via vehicle gateway in an efficient and unified fashion on the basis of oneM2M rel 1.



Showcase I: oneM2M Energy Efficiency ecosystem

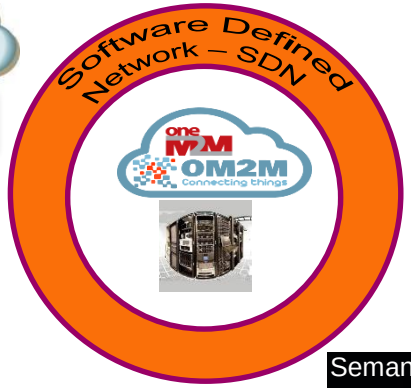
GridPocket and WAGO

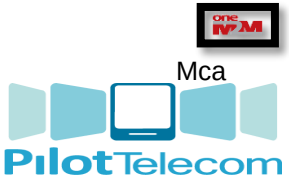
- The demo includes the oneM2M platform of GridPocket (PowerVAS), a behavioural building management application, and an innovative Linux based Programmable Logic Controller of WAGO.
- It shows how large equipment manufacturers can easily build a very powerful applicative ecosystems using oneM2M approach targeting energy management for Smart. The PLC proceeds data measurement from wired sensors and IoT sensors based onto LoRa technology.

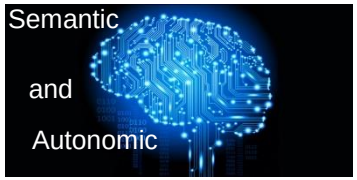


Showcase J: OM2M opens the box of smart applications

- **LAAS-CNRS, Orange, SRC Solution**
  - Open source OM2M V1.0 implementing oneM2M standards
  - Interoperability between several Smart Home technologies
  - Autonomic computing service based on semantic capabilities
  - Homogeneous security model and a fine grained right management
  - Network management adapted to IoT communication behavior with Software Defined Network (SDN) principle







Now your turn !!!

- **Opening hours for the oneM2M Showcase exhibition area:**

Wednesday 09 December	09.00 – 18.00
Thursday 10 December	09.00 – 18:00
Friday 11 December	09:00 – 12:30

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