Orange Mobile IoT activities

GSMA Mobile IoT Summit - 26th February 2017

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1 **IoT in Orange Essential 2020**

2 Update on EC-GSM-IoT

3 Orange LTE-M activities at MWC2017

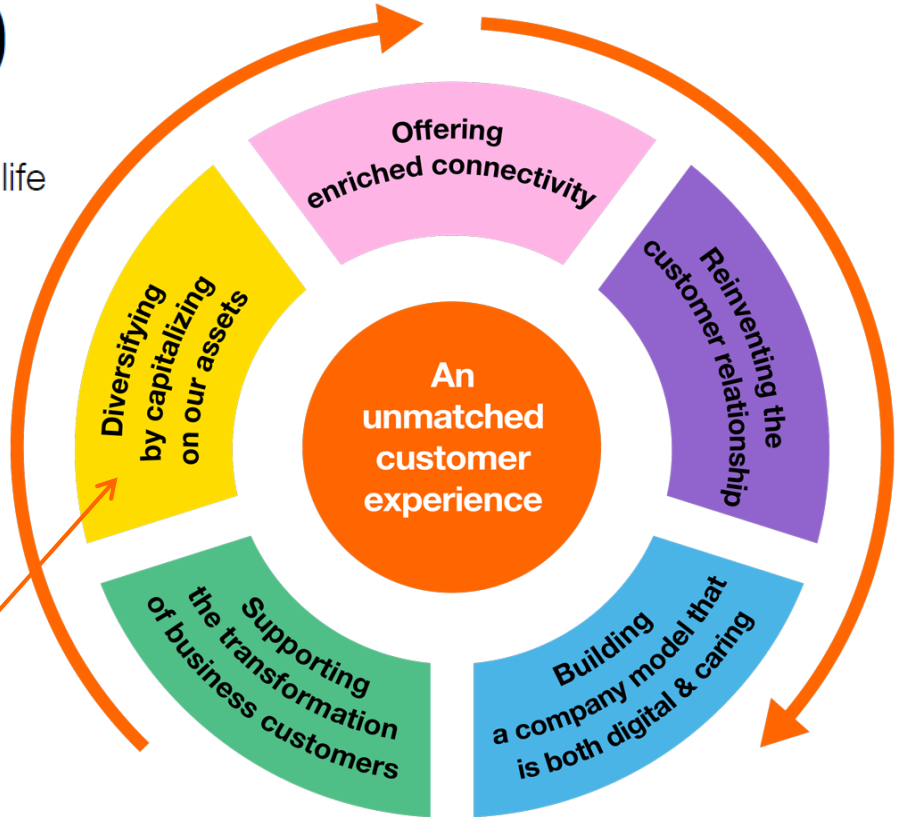
4 Mobile IoT activities and next steps on LTE-M

Essentials2020

Always in touch to connect what's essential in your life

our strategic ambition centered on Customer Experience translated into 5 Group-level action levers

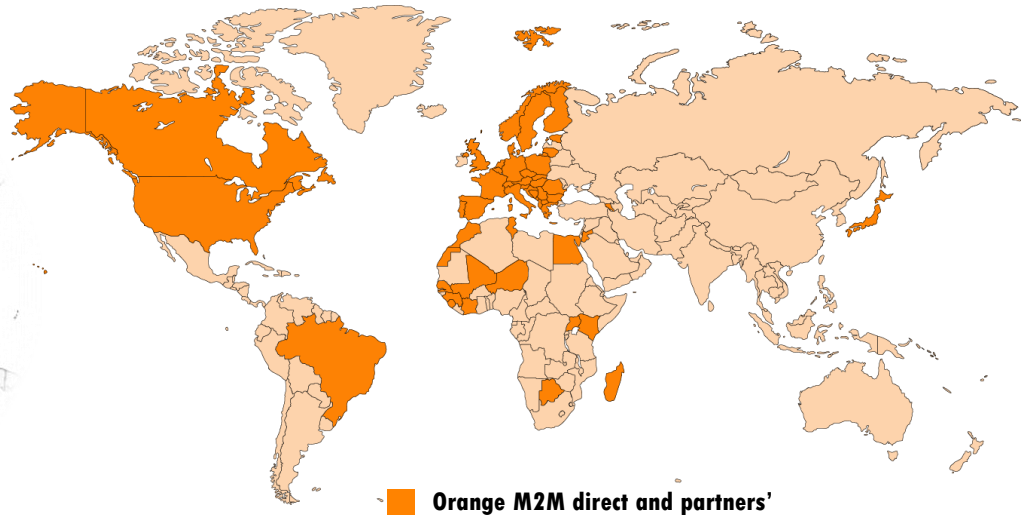
IoT / M2M identified as one of the two areas of diversification in Essential 2020



A digital, efficient and responsible company

Orange Global presence in M2M

Orange mobile networks + M2M partner networks + roaming partners



Orange M2M direct and partners' networks

Orange roaming network

Direct mobile and M2M operations in 29 countries

Extended by GMA in 33 additional countries with M2M specific offers

Completed by the largest roaming network worldwide covering more than 200 countries / 500 operators

IoT journey

some specifics must be taken into account

IoT is about **verticals**

main value will come from
generated data :
=> ecosystem, data analytics & privacy

part of the market will develop
through **b2b2c** offers => wholesale

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IoT connectivity requirements are extremely diverse

LPWA (new), actual M2M and high data M2M (new)

connected cars (infotainment)
wifi on board
video monitoring

External powering,
Mbps throughput,
Low latency,
High mobility

4G+

NEW

health (patient monitoring)
security
payment
connected cars (excepted infotainment)
gateway for smart metering
wearables
sensitive device tracking

Rechargeable battery,
Kbps throughput,
Real time transaction

2G /3G/ 4G

GSMA Mobile IoT

LTE-M
NB-IoT
EC-GSM-IoT

smart building
smart agriculture (with extended coverage)
sensors, smart meters, smart cities
insensitive devices tracking,
smart home, e-health (wellness)
smart plant

Low power,
Low cost
Long range

LoRa

LPWA

NEW

Multiple connectivity solutions are needed to fully adress all the verticals

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Mobile IoT

Orange Chair of EC-GSM-IoT Group GSMA Mobile IoT

EC-GSM-IoT rationale

- Standardised technology by 3GPP
- Reduced deployment cost and fast roll out by upgrades on 2G GSM
- Worldwide available spectrum
- Low cost modules (Target ~ 5$)
- Enhanced coverage with +20 dB over GPRS
- Low power consumption with PSM (Up to 10 years)

Orange & partners' activities

- Lab trial completed in Q4 2016 with prototype module from Sierra Wireless and BTS from Nokia showing Targeted Gain +20 dB in Uplink
- Pilot planned to start in Q1 2017 in rural areas in central Europe to:
  - validate the performance of EC-GSM-IoT
  - assess them in a real use case of smart agriculture targeting emerging markets

EC-GSM-IoT Demo @ MWC

- Demonstration at GSMA Innovation City of Groundtruth Weather station for Smart Agriculture with Sierra Wireless and Nokia
- Target markets for the use case are India then sub-Saharan Africa & Latin America

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GSMA Mobile IoT

Orange view LTE-M as the most versatile Mobile IoT solution to address new IoT (LPWA) and existing M2M use cases

LTE-M LPWA features

Low power
Up to 10 years (1msg/day)

Long Range
Deep indoor coverage

Low cost
Target cost module ~ 5$

+

LTE-M key features

Bidirectional
Uplink & Downlink

Throughputs
Up 1 Mbps (Full duplex)

Up to 350 Half Duplex

Low latency
Down to 200ms

Roaming
Roaming worldwide

Mobility
Handover in connected mode

Fast mobility (Up to 300 Km/h)

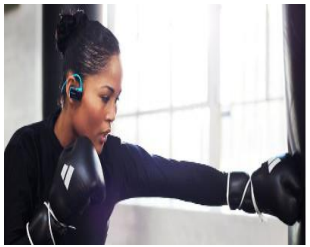
4G LTE Coverage
4G

Fast Network upgrade by Software

Secure
SIM-based authentication and encryption

Voice
VoLTE support

LTE-M target use cases

	Smart territories and Industry	Automotive and logistics	SmartHome	Personal IoT
Use case	Smart metering, vending machine	Fleet management Onboard Telemetry	Security application (video monitoring)	remote Trackers, wearables
Main requirements	Low power, bi-directional Indoor coverage	National coverage, roaming, fast moving	Throughput Indoor coverage	Coverage, on the move efficiency, voice
Example				

Orange LTE-M @MWC2017

- Pilots showcase on Orange booth
- First LTE-M IoT Open Labs in Europe
- Next steps for LTE-M ecosystem development

LTE-M demos and pilots

1. Smart metering

LTE-M connectivity enables to

- Monitor in real time the power consumption
- Change remotely the power level
- Switch Off/On the counter
- Adapt the user subscription dynamically

2. Smart wearable prototype

Prototype Object

LTE-M connectivity enables to

- Display in real time its position
- Monitor in real time its temperature
- Control its LED remotely

Sagemcom SONY orange altair a SONY company SIERRA WIRELESS

Orange LTE-M Open IoT Lab

Why?

- Bring your device to test and develop your IoT product and service with to LTE-M

For who?

- IoT device makers and service makers
- Startup and international companies

Where?

- Orange Gardens, Chatillon near Paris (France)

Benefits

- LTE-M network coverage
- Starter kit LTE-M for faster prototyping
- Tools for test in extension of coverage
- Battery and power optimisation
- Orange experts support

Available Starter kit LTE-M

MangOH Green

MangOH Red

mangOH™
OPEN SOURCE HARDWARE COMMUNITY FOR IOT

SIERRA WIRELESS®

orange™

Join us

partner.orange.com/open-iot-lab

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Mobile IoT Activities at Orange

LTE-M Demo at MWC2017

April 2017: Opening of LTE-M Open IoT Lab

H2 2017:

First Orange affiliates ready for Mobile IoT LTE-M launch

JUNE 2016

3GPP Rel13 Standards

Q3 2016

First Lab Test of Rel13 Standard solution.

Q4 2016 ➔ Q1 2017

Lab & Field Trial for EC-GSM-IoT

Lab and Start of Pilot LTE-M on wearables

Q2 ➔ Q3 2017

Several Use case and Customer oriented LTE-M pilots

- Smart Metering

- Wearables

3GPP A GLOBAL INITIATIVE

One year from specification to Pilot

Next steps on LTE-M ecosystem development with Orange

- Orange planning several pilots on LTE-M in Q2-Q3 2017 in European affiliates including:
  - Smart Metering
  - Wearables (Phase 2)
- Orange adapting its chipset and module certification programme to include LTE-M
- Orange working on the end to end integration of LTE-M from SIM to IoT Platforms

Several opportunities for module, object makers and IoT Service providers to join these pilots and the Orange LTE-M Open IoT Labs

- Orange working with supporting operators and industry players in GSMA LTE-M task force on several topics:
- Technology awareness and dissemination
  - White papers / webinars
- Roaming aspects:
  - Multi-band Modules for Global Roaming
  - Adaptation of Roaming model for IoT
- Use of e-SIM as enabler for faster adoption

Multi-operators initiative to take place during MWC2017 to stimulate and accelerate the development of a worlwide ecosystem of LTE-M modules and objects

thank you

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Visit Orange Booth in Hall 3 – 3D10