



# Mobile IoT Marketing Update

31 January 2019

Andrew Parker, Programme Marketing Director IoT, GSMA  
Eric Yu, Marketing Manager IoT, GSMA

# GSMA Antitrust Policy

- Anti-trust law prohibits (i) agreements (written or implicit) between competitors which may negatively impact consumers or competitors and (ii) sharing of confidential information
- All GSMA participants **must** abide by the following rules:
  - ✓ **DO** clearly identify the positive purpose of each project and follow it
  - ✓ **DO** consult with legal in areas where you are unsure
  - ✗ **DON'T** enter into agreements that restrict other parties' actions or creates barriers to market entry
  - ✗ **DON'T** discuss or exchange information on pricing, business plans, or any other confidential or commercially sensitive data



# Mobile IoT Marketing Group



# Agenda

1. GSMA IoT Programme Objectives 19/20
2. CES19 Post-Event Update
3. GSMA IoT at MWC19 Activity Summary
4. Mobile IoT Commercial Launches Update
5. GSMA IoT Resources Update
6. AOB



# IoT Programme Ambition

## Global Connectivity & Empower Beyond Connectivity

*Operators need new market growth to replace declining traditional revenue. IoT offers this growth opportunity but it has been slower than expected and so far, has been based largely on connectivity.*

**Operators must deliver secure global machine connectivity and scalable vertical services by focusing on industrial, automotive and consumer markets.**

### Strategic levers to drive scale

**CONNECT** IoT through cost effective secure networks to deliver global & universal benefits

**CAPABILITY** to empower higher value services beyond connection, at scale

**CUSTOMERS** IoT users using mobile technologies in key markets including industrial, consumer and automotive





# Impact map: Internet of Things Programme

GSMA INTERNET OF THINGS

Numbers to be validated

Impacts

Increase IoT number of connections:  
Total number of IoT PSG Operator connections: Dec. 2019: 1.2 Billion (+346m Y-o-Y)

Outcomes

## Mobile IoT Solutions

Increase adoption of Mobile IoT solutions by engaging with 3 early adopter vertical segments;  
Initiate **at least one PoC** in each vertical;  
Ensure Mobile IoT is interoperable.

## Operator Services Beyond Connectivity

Increase number of operator-led data services:  
40 operators offer services “beyond connectivity” by March 2020.

## Market Engagement for Intelligent Connected Vehicles

Advocate benefits of cellular technologies for drones, V2X, 5G smart city transport use cases (PoCs and Policies)

Outputs

Mobile IoT deployment guides and toolkits for operators & developers to support growth, interoperability and roaming

Mobile IoT and Security-by-design Developer events

Feasibility study of global QoS for critical IoT

Paper defining 5G Use cases for IoT

Report quantifying IoT Big Data Opportunity, e.g. utilising analytics and machine learning

Deliver an Edge PoC and a Distributed Ledger PoC

PoC on cellular V2X technology to demonstrate benefits for intelligent vehicles

Regulatory positions on 5G spectrum, liability & Cross Border Data Transfer



## CONNECT

*Support / Help operators to enhance their core/foundational IoT capabilities*

- **Drive growth of Mobile IoT solutions** - assist operators with ecosystem development & adoption; ensure interoperability, e.g. using IoT Device certification and testing; joint procurement feasibility study
- **Evaluate the requirements and feasibility of common QoS levels for Critical IoT-** agree if/how these can be implemented across multiple operators for both 4G and 5G
- **Demonstrate Operator leadership in IoT Security & Privacy** by understanding potential/known threats & leveraging operator assets as mitigation; investigate impact of cross border data transfer rules; contribute to IoT security certification and testing
- **Identify 5G IoT Use Cases** and the Industry position on allocating 5G Spectrum to verticals



## CAPABILITY

*Demonstrate and advocate operator IoT capabilities beyond connectivity to empower operators to increase IoT revenue*

- **Continue to drive Operator led IoT Big Data** – document different ways of utilising analytics, machine learning and related capabilities in the IoT, define market opportunity, deliver operator-led demonstrators.
- **Pilot Distributed Ledger Technology & Edge Computing for IoT** - identify key customers, requirements and operator value add; conduct DLT and Edge Computing POCs e.g. IoT device access control for DLT, image recognition for Edge.



## CUSTOMERS

*Show the benefits for IoT users in multiple verticals to convince them to use mobile technologies*

- **Creating growth of mobile IoT applications in industrial and consumer sectors** : engage with manufacturers and developers to support creation of Mobile IoT solutions within three early adopter markets of Mobile IoT.
- **Intelligent Connected Vehicles** – show benefits of V2X & 5G across all smart city transport use cases by promoting PoCs. Advocate technology neutral policies & agree industry position on liability rules; advocate benefits of cellular for drones using results of operator PoCs and driving an event.





**CES<sup>®</sup>**

**2019**





# GSMA IoT ACTIVITIES AT CES

Mobile IoT Breakfast Briefing



Attendee: 112 | Registration: 330

Speakers: AT&T Cognizant digitalkeys Verizon

**Luxor Hotel & Casino**  
3900 S. Las Vegas Blvd.  
Las Vegas, NV 89119

Mobile IoT Developer Workshop



Attendee: 100 | Registration: 349

Supporting Partners: arm ERICSSON SEQUANS SIERRA WIRELESS  
 Sprint Telit T-Mobile u-blox Verizon

GSMA IoT Exhibition Stand



Booth 2210, Westgate



Consumer  
Technology  
Association™





# MOBILE IoT BREAKFAST BRIEFING

The Low Power Opportunity for Consumer Electronics

The banner features a blue background with a globe and network icons. It includes the GSMA logo, the event title 'MOBILE IoT BREAKFAST BRIEFING', the subtitle 'The low power opportunity for consumer electronics', and the text 'Free to attend'. At the bottom, it specifies the date and time: 'Jan 9, 2019 | 7:30am - 9:00am Luxor Hotel, Las Vegas' and a 'REGISTER NOW' button. A CES logo and a mobile antenna icon are also present.



112 Attendees  
330 Registrations

The icon shows three stylized human figures in white on a red background.

## Speakers

- AT&T
- Verizon
- Digital Keys

Panel discussion  
moderated by  
Fierce Wireless



## Presentations from AT&T and Verizon on:

- Latest Mobile IoT updates
- How the global deployment of LTE-M and NB-IoT technologies helps enable the development of new, innovative consumer devices
- How operators will incorporate Mobile IoT into 5G – and what 5G will mean for the Internet of Things





# MOBILE IoT DEVELOPER WORKSHOP

How to Develop Low Power Consumer Solutions with Cellular IoT

**HOW TO DEVELOP LOW POWER CONSUMER SOLUTIONS WITH CELLULAR IoT**  
Interactive Showcase

Free to attend  
Jan 9, 2019 | 1pm - 5pm Luxor Hotel, Las Vegas

Supported by

arm ERICSSON SEQUANS SIERRA WIRELESS Sprint Business Telit T-Mobile ublox verizon



100 Attendees  
349 Registrations



## Speakers & Experts

- Ericsson
- AT&T
- Verizon
- Sprint
- T-Mobile US
- Arm
- Sierra Wireless
- Sequans
- Ublox
- Telit

### Key Topics:

10 Experts attended the interactive showcase to talk to the US developer audience about LPWA technologies. Topics included:

- Low Power Cellular IoT technologies - Ericsson
- Cellular IoT Networks – US MNO's
- Faster Device Development – Arm





**Intelligently Connecting  
Everything**

**MWC19 Barcelona**

**24 Feb, 25-28 Feb**





# OVERVIEW IoT PROGRAMME AT MWC19

		MON, 25 FEB	TUE, 26 FEB	WED, 27 FEB	THU, 28 FEB
	SUN, 24 FEB	<b>Intelligent Connectivity GSMA Innovation City</b> Fira Gran Via, Hall 4 Stand 4A15 & 4A30			
		<b>The Mobile IoT Experience</b> Fira Montjuic, 4YFN Hall M8 Stand 9			
AM			IoT Seminar <b>The Internet of Skies - Connecting Drones</b> 11:00 - 12:30 GSMA Seminar Theatre 1 & 2	<b>Drones Meeting</b> 09:30 - 11:30 Room 3.14b, CC3  <b>Mobile IoT Meeting</b> 09:00 - 13:00 CC8 Hall 8	
PM	<b>8th Mobile IoT Summit</b> Hesperia Hotel Barcelona Tower 12:00 - 17:00 Lunch included	<b>PSG Meeting</b> 15:00 - 17:30 Room 3.14C, CC3	IoT Seminar <b>Future Proofing the Internet of Things – IoT Security Today and Tomorrow</b> 15:30 - 17:00 GSMA Seminar Theatre 1 & 2  IoT Seminar <b>Operator Capability, unlocking the value of IoT</b> 17:30 – 18:30 GSMA Seminar Theatre 1 & 2  <b>IoT Emerging Markets</b> Roundtable 16:30 – 18:00 Ministerial Programme, Hall	IoT Seminar <b>Operator Capability Beyond Connectivity – The Next Opportunity in IoT</b> 13:30 - 15:30 GSMA Seminar Theatre 1 & 2	



# 8th Mobile IoT Summit

# GOING GLOBAL

Hesperia Barcelona Tower Hotel | Sunday, 24 February 2019



Platinum Sponsor



Silver Sponsor



Supporting Sponsor



Analyst Partner





## Theme: **GOING GLOBAL**



Date	Sunday, 24 February 2019
Time	12:00 – 13:00: Lunch 13:00 – 17:00: Mobile IoT Summit 17:00 – 18:00: Networking Reception From 18:00: Bus services to Plaza Catalonia
Venue	<a href="#">Hesperia Barcelona Tower Hotel</a> near Barcelona Airport ( <a href="#">map</a> )
Setting	500-seat auditorium with demo area at the foyer
Details	<a href="https://www.gsma.com/iot/event/8th-mobile-iot-summit/">https://www.gsma.com/iot/event/8th-mobile-iot-summit/</a>
Mobile IoT Demos	<a href="https://www.gsma.com/iot/event/8th-mobile-iot-summit/#demo">https://www.gsma.com/iot/event/8th-mobile-iot-summit/#demo</a>

## The Internet of Skies - Connecting Drones



## Future Proofing the Internet of Things – IoT Security Today and Tomorrow



## Operator Capability Beyond Connectivity – The Next Opportunity in IoT



## Operator Capability – Unlocking the Value of IoT



**Key topics:**

- The support of safe BVLOS (Beyond Visual Line Of Sight) and autonomous operation of unmanned aircraft (UA)
- The use of mobile connectivity to enhance the efficiency and effectiveness of UA, by enabling BVLOS operation, supporting real-time data transmissions from on-board cameras and sensors
- Mobile connectivity requirements for registration and identification, flight planning and approval, the transmission of meteorological information, geo-fencing, geo-gating and tracking

**Registration:**

<https://www.gsma.com/iot/event/mwc19-barcelona-seminar-the-internet-of-the-skies-connecting-drones/>

**Key topics:**

- IoT Security Today
  - A live hack highlighting current vulnerabilities
  - Industry code of conducts, standards, guidelines and assessment processes
- IoT Security Tomorrow
  - Future certification developments within Europe
  - SIM-based IoT security solutions

**Registration:**

<https://www.gsma.com/iot/event/future-proofing-the-internet-of-things-iot-security-today-and-tomorrow/>

**Key topics:**

- Emerging capabilities and trends which enable revenue growth in the IoT industry
- The use of technology enablers such as Distributed Ledgers Technology (DLT), Machine Learning and Edge Computing

**Registration:**

<https://www.gsma.com/iot/event/mwc19-barcelona-seminar-beyond-connectivity-operator-iot-capability/>

**Key topics:**

- Successful roll out of the OneNET cloud services platform in Greater China
- Cutting platform deployment and network experience from China Mobile
- Live customer experience implementing NB-IoT solutions using the OneNET platform
- Latest Edge Computing IoT applications delivering high performance localised solutions

**Registration:**

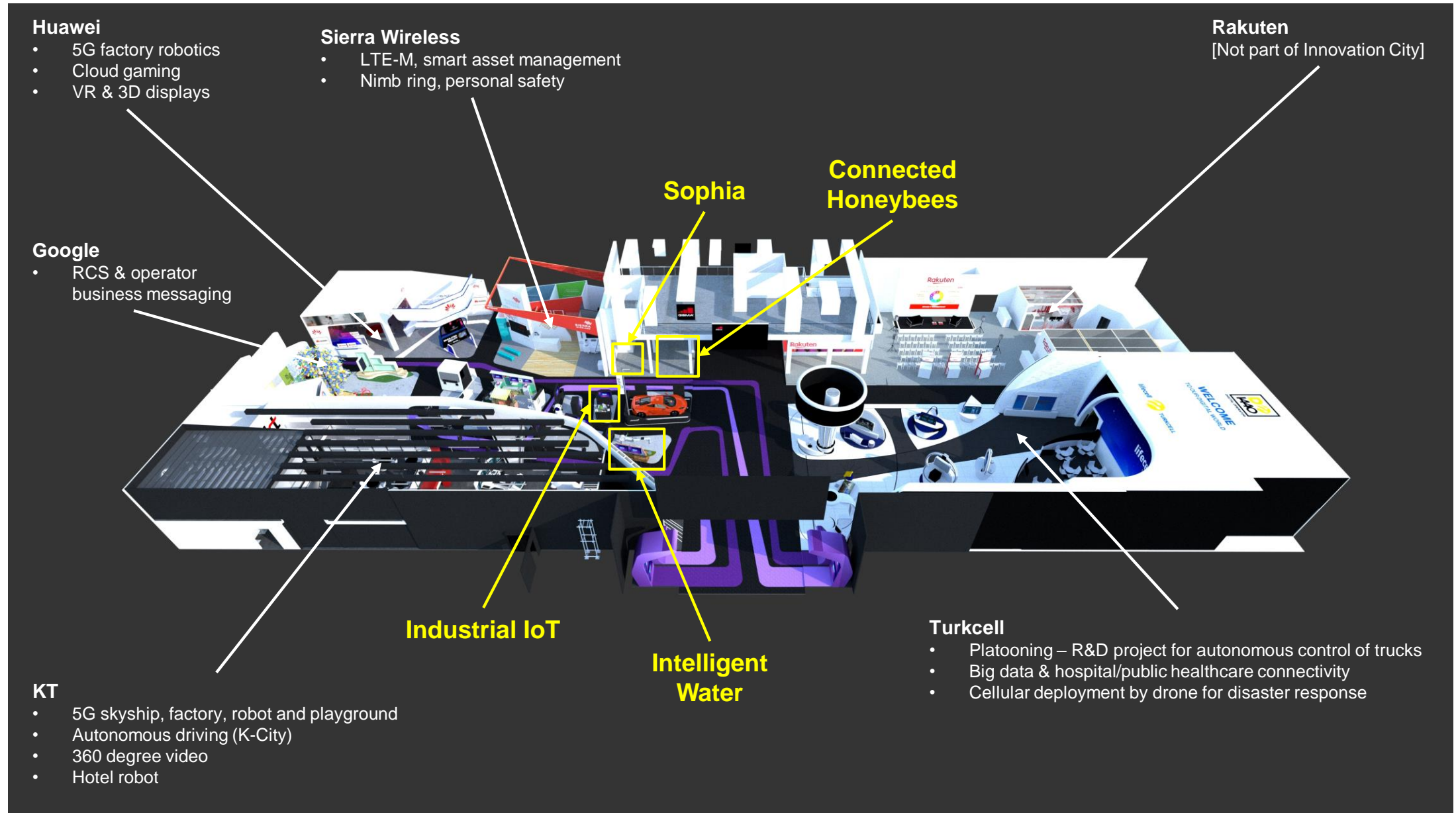
<https://www.gsma.com/iot/event/wc19-barcelona-seminar-operator-capability-unlocking-the-value-of-iot/>



# GSMA INNOVATION CITY – HALL 4, FIRA GRAN VIA







### Huawei

- 5G factory robotics
- Cloud gaming
- VR & 3D displays

### Sierra Wireless

- LTE-M, smart asset management
- Nimb ring, personal safety

### Rakuten

[Not part of Innovation City]

### Google

- RCS & operator business messaging

Sophia

Connected Honeybees

Industrial IoT











Intelligent Water

### KT

- 5G skyship, factory, robot and playground
- Autonomous driving (K-City)
- 360 degree video
- Hotel robot

### Turkcell

- Platooning – R&D project for autonomous control of trucks
- Big data & hospital/public healthcare connectivity
- Cellular deployment by drone for disaster response

<h3>Intelligent Water in Toronto</h3> 	<p>Unplug and Play – Keep chilled with <b>Singtel’s Network-first IoT</b> and its <b>Open and Intelligent IoT Ecosystem</b></p> 	<p>Sustainable Environment with Intelligent Connectivity: <b>Connected Honeybees</b></p> 	<h3>Intelligent Protocol Droid – Humanoid Showcase</h3> <p>C3PO is on its way</p>  <p>Innovation Champion for UNDP GSMA Innovation City Ambassador</p>
 		 	
<ul style="list-style-type: none"> <li>• Intelligently connect city pipeline in <b>Toronto</b></li> <li>• Demonstrate how future smart cities can better manage their water supplies for <b>improved future sustainability</b></li> <li>• Data collated and analysed by an <b>AI</b> powered smart platform for <b>performance optimisation</b></li> </ul>	<ul style="list-style-type: none"> <li>• Frictionless on-boarding of low power devices on <b>LTE-M</b> and <b>NB-IoT</b></li> <li>• <b>Atomic, AI-based</b> and <b>network-driven</b> IoT capabilities that coordinate and execute the decisions across the IoT ecosystem</li> <li>• A <b>centralised data fabric</b> that continuously aggregates data from networks, devices, cloud, and external sources for performance-based metrics</li> <li>• <b>Predictions</b> and <b>Insights</b> based on self-learned KPIs</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Protect</b> food supply and <b>preserve</b> endangered wildlife species</li> <li>• Leverage <b>LTE-M</b> to provide beekeepers <b>real-time hive management</b> – temperature, humidity, motion, anti-theft with accelerometer &amp; location (GPS)</li> <li>• <b>Predictive Analytics</b> for optimisation of pollination</li> </ul>	<ul style="list-style-type: none"> <li>• <b>5G-enabled</b> humanoid to interact with the surrounding environment and IoT devices and execute assigned tasks with minimum supervision</li> <li>• <b>Artificial Intelligence</b> and <b>Machine Learning enabled</b> to mitigate errors</li> <li>• Real-time access to <b>Cloud</b> and <b>environmental data</b></li> </ul>

<h2>Expert Zone</h2> 	<h2>Training Zone</h2> 	<h2>Demo Zone</h2> 	<h2>MIoT Innovators Zone</h2> 
			
<p>Get your hands on live developer kits and talk to technical experts to understand IoT platforms, how to develop an IoT application, and more.</p>	<p>Get a 360° view on IoT in our series of keynotes, lightning talks and workshops:</p> <ul style="list-style-type: none"> <li>• <b>Mobile IoT – Technical</b>, incl. device creation lifecycle and connectivity aspects</li> <li>• <b>Mobile IoT – Beyond Technical</b>, incl. network coverage, 5G outlook, and engaging with MNOs and accelerators</li> <li>• <b>IoT Security</b>, incl. industry best practices and SIM security capabilities</li> </ul>		<p>Explore wide range of commercially available development kits and modules, and find out more about the official industry community around Mobile IoT that unites over 2100 members from than 1100 companies.</p>



## Interactive online guide to everything IoT at MWC19 Barcelona, including

- 8<sup>th</sup> Mobile IoT Summit
- Seminars
- Self-Guided IoT Journeys
- Main Conference
- And more...

Download: <https://www.gsma.com/iot/resources/iot-guide-to-mwc19/>



- Empowering delegates to explore Mobile IoT demos on their own across MWC19 Barcelona
- Promotion across GSMA IoT channels: website, email, newsletters, social, IoT Guide to MWC19

- **Required information:**

- Company name
- Technology (LTE-M, NB-IoT or both)
- Location (hall and stand number)
- Max. 25 word description

COMPANY	TECHNOLOGY	DEMONSTRATION	LOCATION
AT&T	LTE-M	Smart shelving solution	Hall 4, 4A10
CMCC	LTE-M, NB-IoT	Dynamic demonstration of typical IoT applications scenarios including logistic tracking, industry IoT and smart wearables	Hall 1, 1G50
Ericsson	LTE-M	Fleet management; industrial power tool; smart agriculture	Hall 2, 2O60
Ericsson	NB-IoT	Connected conference hall; connected factory	Hall 2, 2O60
Giesecke & Devrient	NB-IoT	Smart city solutions like smart mining, smart environment and smart lighting	Hall 7, 7A41
Huawei	NB-IoT	Smart parking	Hall 1, 1J50
Nokia	NB-IoT	Gas meter with a Teltit NB-IoT module running on Nokia's infrastructure	Hall 3, 3A10
Oberthur Technologies	LTE-M	Securing LPWA networks: demonstration of an LTE-M module using a GSMA Embedded SIM to support mobile operators in their evolution to 3GPP LPWA	Hall 6, 6H30
Sequans	LTE-M	Demonstration of IoT devices using Monarch LTE-M chip, devices from e.g. Encore Networks, Gemalto, LinkLabs, Nimbelink, Pycom	Hall 7, 7I81
Telefonica	LTE-M	Connected meter	Hall 3, 3K21
	NB-IoT	Lost & found tracker; smart bottle; digital shield	

Draft for MWC19. You may view the journeys from [2017](#) and [2018](#)

- Read here: <https://www.gsma.com/iot/resources/mobile-iot-journey-through-mwc-barcelona-2019/>



**MWC**19  
Barcelona

25-28 February 2019

# #MWC19

**INTELLIGENT  
CONNECTIVITY**

AN EVENT OF  
 **MOBILE  
WORLD CAPITAL  
BARCELONA**

Intelligent Connectivity = 5G Mobile + Artificial Intelligence + the Internet of Things

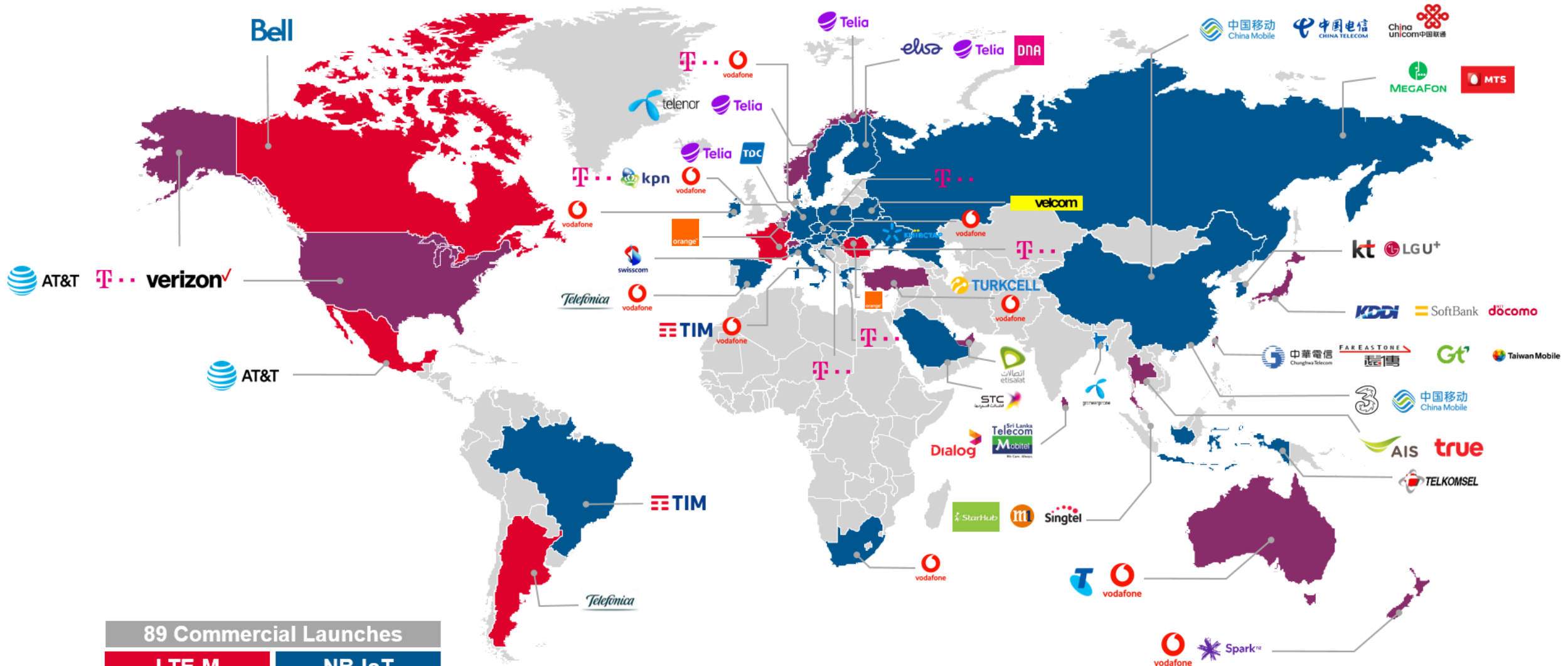


# MOBILE IoT COMMERCIAL LAUNCHES





# MOBILE IoT GLOBAL COVERAGE



89 Commercial Launches	
LTE-M	NB-IoT
Both LTE-M and NB-IoT	

As of 15 February 2019

Full details: <https://www.gsma.com/iot/mobile-iot-commercial-launches/>

# **NEW GSMA IoT RESOURCES**





# IoT WEBINAR SERIES

DRONES | IoT CAPABILITY | MOBILE IoT | IoT SECURITY

Topic	Attendance/Registration	View On-Demand
How does Mobile IoT fit into <b>5G</b> future?	324 / 576 (56%)	<a href="#">Here</a>
Industry 4.0 – Optimising <b>Industrial</b> IoT with Mobile IoT	84 / 520 (16%)	<a href="#">Here</a>
Cellular – The Missing Link for <b>Drones</b> ?	85 / 287 (29%)	<a href="#">Here</a>
What Next For <b>Mobile Operators</b> in the IoT?	69 / 409 (17%)	<a href="#">Here</a>
SIMply <b>Secure</b> – Leveraging the SIM to Create a Trusted IoT	107 / 451 (24%)	<a href="#">Here</a>



# GSMA IoT Resources (Nov 2018 – Feb 2019)

Title	Programme Area	Asset Type	Link
Mobile IoT Case Study: How Asia Pacific Intelligently Connects to IoT (Feb 19)	Mobile IoT	Case Study	<a href="#">Here</a>
The IoT Guide to MWC19 (Feb 19)	IoT General	Report	<a href="#">Here</a>
Infographic: A Look into the Future of Mobile-Enabled Drones (Feb 19)	Drones	Infographic	<a href="#">Here</a>
Mobile IoT Toolkit (Feb 19)	Mobile IoT	Technical Document	<a href="#">Here</a>
IoT Takes Centre Stage as MWC Rolls into View (Feb 19)	IoT General	Blog	<a href="#">Here</a>
Top 5 IoT innovations at CES 2019 that caught your eye (Jan 19)	Mobile IoT/IoT General	Blog	<a href="#">Here</a>
Case Study: Ground-to-Air LTE Communication Services for Industrial Drone Applications (Jan 19)	Drones	Case Study	<a href="#">Here</a>
5G and Mobile IoT Prove Natural Partners for the Year Ahead (Jan 19)	Mobile IoT/5G	Blog	<a href="#">Here</a>
LTE-M Commercialisation Case Study: How AT&T and Telstra Connect Million More IoT Devices (Jan 19)	Mobile IoT	Case Study	<a href="#">Here</a>
Connected Honeybee Hive – The Bee Corp, NimbeLink and Verizon (Jan 19)	Mobile IoT	Video	<a href="#">Here</a>
TED Talk: How the Internet of Things is Helping Solve Real Problems (Dec 18)	IoT Capability	Video	<a href="#">Here</a>
Opportunities and Use Cases for Edge Computing in the IoT (Nov 18)	IoT Capability	Report	<a href="#">Here</a>
Using Mobile Networks to Coordinate Unmanned Aircraft Traffic (Nov 18)	Drones	Report	<a href="#">Here</a>
Blockchain: From online Hype to Commercial Reality? (Nov 18)	IoT Capability	Blog	<a href="#">Here</a>
Video: IoT Big Data (Nov 18)	Capability	Video	<a href="#">Here</a>



- We welcome third-party LTE-M and NB-IoT resources to be hosted on Mobile IoT Resources Library for IoT developers and solutions as reference materials
- Filtered by *Both Technologies, LTE-M* and *NB-IoT*
- Please submit the following materials to Eric Yu ([eyu@gsma.com](mailto:eyu@gsma.com)) for considerations:
  - The document in PDF format, if applicable
  - The source URL of the resources
  - A short blurb of less than 100 words



The screenshot shows the Mobile IoT Resource Library website. At the top, there is a navigation menu with links like 'About', 'Mobile IoT (LPWA)', 'Mobile IoT Innovators', 'Mobile IoT Modules', 'Mobile IoT Development Kits', 'Mobile IoT Resource Library', 'Ask the Mobile IoT Experts', 'Mobile IoT Innovators Directory', 'Remote SIM Provisioning for M2M', 'IoT Security', 'IoT Big Data', 'Operator IoT Capability', 'IoT Knowledgebase for Policy & Regulation', 'Smart Cities', 'Connected Vehicles', 'Drones', 'Intelligent Connectivity', 'Industry News', 'Events', 'Resource Library', and 'IoT Newsletter'. Below the menu is a search bar and a 'Filter Mobile IoT Resources by Area of Interest' dropdown menu set to 'All'. The main content area features three resource cards: 'Development Guide: NB-IoT for Agriculture' (October 5, 2018), 'LPWA Expert Panel: Answering Your Questions on Designing Low Power IoT Applications' (September 26, 2018), and 'Industrial IoT Feasibility Study: How...'. On the right side, there are sections for 'LATEST RESOURCES', 'INDUSTRY NEWS', and 'UPCOMING EVENTS'. At the bottom right, there are social media icons for Newsletter, Contact Us, LinkedIn, and Twitter.

# THANK YOU!

## GSMA IoT

<https://www.gsma.com/iot/>

## GSMA Twitter

<https://twitter.com/GSMA>

## GSMA IoT on LinkedIn

<http://gsma.at/iot>

## GSMA IoT YouTube Playlist

<https://www.youtube.com/playlist?list=PLj1MyDu3jckroOrl5RAW8gAH5Tg0zYjpC>

## GSMA IoT Newsletter

<https://www.gsma.com/iot/newsletter/>