



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
 - X DON'T enter into agreements that restrict other parties' actions or creates barriers to market entry
 - X DON'T discuss or exchange information on pricing, business plans, or any other confidential or commercially sensitive data

IoT Marketing Group





































































AGENDA















Key IoT Events 2020/21

Event	Date	Location	Description	Co-Marketing Opportunity
MWC20 Barcelona	24 – 27 Feb	Barcelona, Spain	 10th Mobile IoT Summit (Sunday 23rd) GSMA Innovation City Mobile IoT Innovators Session IoT Seminars 	All sponsorships & speaking slots complete
Hannover Messe	20 – 24 Apr	Hannover, Germany	IoT SeminarDemo Exhibition5G Manufacturing Forum	
Mobile 360 – Security for 5G	29 & 30 Apr	The Hague, Netherland	Small Exhibition Booth	
MWC20 Shanghai	30 Jun – 2 Jul	Shanghai, China	The Future IoT ConventionGSMA Innovation City5G Manufacturing Forum (TBC)	 Sponsorship, speaking & demo opportunity
Mobile 360 – Digital Societies	20 – 22 Oct	Kuala Lumpur, Malaysia	APAC IoT SummitDemo Exhibition5G Manufacturing Forum (TBC)	Sponsorship, speaking & demo opportunity
IoT Solutions World Congress	27 – 29 Oct	Barcelona, Spain	• TBC	
MWC20 Los Angeles	28 – 30 Oct	Los Angeles, US	GSMA Innovation City	 Sponsorship & demo opportunity
Mobile 360 – Eurasia	11 – 12 Nov	Moscow, Russia	• TBC	

Other industry events are being discussed for consideration. Please email Eric (eyu@gsma.com) to recommend any events.



Mobile IoT = TRUSTED IoT

- → Mobile operators and their ecosystem partners are experienced, trusted providers of end-to-end IoT solutions with existing mobile networks, so are best placed to extend their reach to serve the full range of IoT applications.
- → 3GPP standard technologies LTE-M and NB-IoT have been deployed quickly by adapting existing mobile networks to securely and sustainably scale the market.
- → Mobile IoT networks are available **today** in **all major markets globally**. There have been 130 commercial LTE-M and NB-IoT networks launched by 65 operators (as of January 2020).
- → Focusing on standardised Mobile IoT technologies will allow cost effective delivery of service and, with scale, supply mobile modules for devices for a few dollars.
- Mobile IoT networks deliver extended coverage and support low power devices with long battery lives, of up to 10 years.
- Mobile IoT operators support roaming and interoperability to provide high quality, cost effective global coverage for IoT solutions.
- → Mobile IoT is future proofed as a key enabler in the 5G Era.





CES Breakfast Briefing: Mobile IoT in the 5G Era



















7:30AM - 9:00AM MGM GRAND, LAS VEGAS



Key Takeaway Messages

- Mobile IoT is evolving with 5G
- Both LTE-M and NB-IoT are being deployed
- More focus on key capability & coverage to realise full IoT market opportunity



David Allen

Advanced Product Development – IoT Solutions

AT&T



Ricky Singh

Director of IoT Products and Solutions

Sprint



Brian Mecum

Wireless Network Vice President, Device Technology

Verizon



Amaia White

Programme Manager, Mobile IoT

GSMA



Developing Secure, Low Cost, Low Power Solutions with Cellular IoT

Wednesday, Jan 8, 2020 | Las Vegas, US

Technology Partners



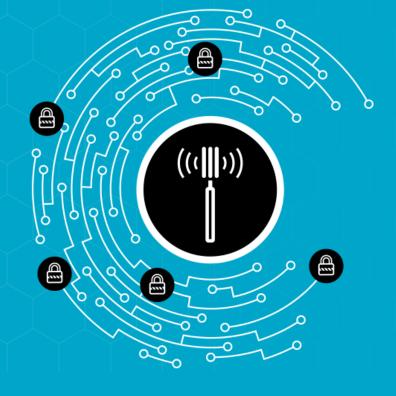




Curiosity™



Supported by



3x workshops held in parallel using Mobile IoT networks in partnership with leading industry players:

- Arduino & Arm
- Sprint
- Telit

2x sponsorships taken for enhanced brand presence (A&A, Sprint)

28 quality developer attendees: engineers, architects, senior and C-level decision makers with developer background



Overview IoT - All over CES and Scaling Fast

Coming together to simplify the smart home

 Hundreds of manufacturers are competing using dedicated applications, platforms and various connectivity protocols. Recognised need to integration with voice control a popular medium. Wi-Fi clearly the dominant wireless platform for the smart home.

More Robots

• LOVOT (the huggable robot); Samsung's Ballie (robot that rolls around the house); Charmin's RollBot (toilet paper delivery bot); Guardian XO's exoskeleton; and Omron's cobots

Health matters... even more

 The focus in 2019 on wearables and sleep was extended this year to include medical sensors for home diagnostics and monitoring to measure blood glucose, fertility, arrhythmia, blood oxygen and, in some cases even communicate with health professionals.

Vehicles, present and future

 Players not typically associated with auto tech such as Panasonic, Sony and LG Electronics also showcased how their technology will feature in vehicles. As well as Alexa everywhere...

Data and Al

Vendors are looking to create services and experiences: cases in point are LG Electronics' vision of
"everywhere is home" and Samsung announcing this as the "age of experience". Both these highlighted the
importance of AI in creating personalised experiences to make our lives more convenient.

Conclusion

IoT is not just about devices being connected, it is about the benefits it delivers to end-users, be it consumer or enterprise. CES 2020 proved that the industry has started to move in the right direction.











A plethora of paired fitness bands

Skiin Connected Health & Wellness System



Vision S – Sony Vehicle

Land Rover is showcasing its dual-eSIM connectivity











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Connectivity: $5\hat{\vec{G}}$ The 5G Era

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Deloitte.



Media and Entertainment

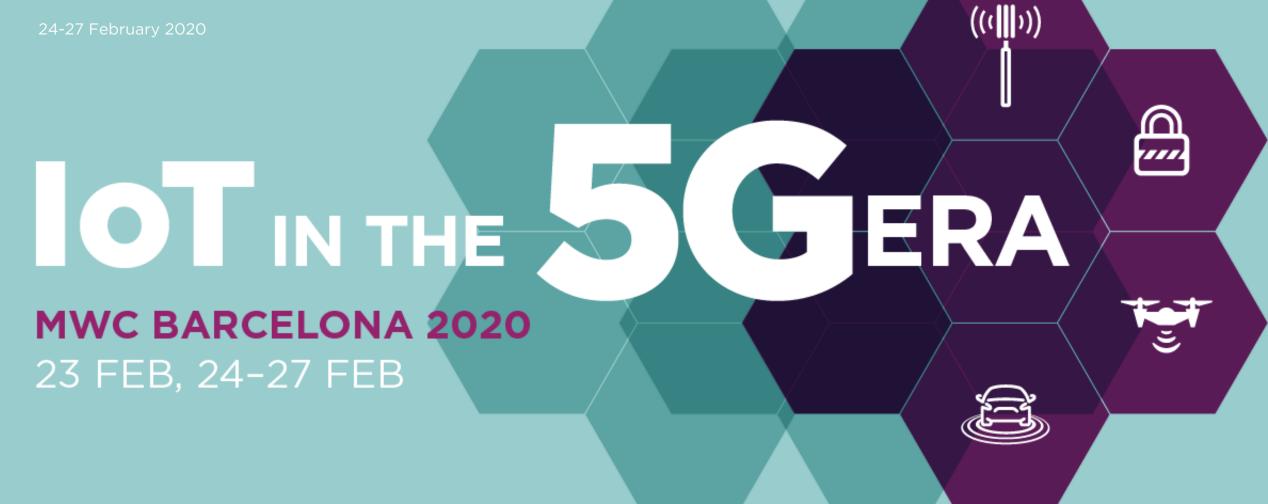
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Thursday 27 Feb

GSMA IoT at MWC20

Sunday 23 Feb



Monday 24 Feb



IoT PSG Meeting

5G in Manufacturing CXO Roundtable (by invitation)

Mobile IoT Forum Dinner

Tuesday 25 Feb





Connected Skies
Ministerial Session

Wednesday 26 Feb





5G in Manufacturing Forum Initiation

Innovation City 2020



10th Mobile IoT Summit THE 5G ERA

Hotel Hesperia Barcelona Tower Sunday, 23 February 2020



Platinum Sponsor



Silver Sponsors











THE 10TH MOBILE IOT SUMMIT

Date	Sunday, 24 February 2019		
Time	12:00 – 13:00: Lunch 13:00 – 17:15: Mobile IoT Summit 17:15 – 18:15: Networking Reception		
Venue	Hesperia Barcelona Tower Hotel near Barcelona Airport (map)		
Format	500-seat auditorium with demo area at the foyer		
Agenda & Speakers	https://www.gsma.com/iot/events/10th-mobile-iot-summit/		
IoT Demos x 10	https://www.gsma.com/iot/events/10th-mobile-iot-summit/#expo		

Speakers & Demo Partners













































GSMA Inmovation City 2020



Mobile IoT Strong Person

(LTE-M & NB-IoT)





Sustainable Coffee with NB-IoT Precision Processing

(NB-IoT)







Cloud Ginger: The 5G Intelligent Robot
Empowered by Cloud Brain
(5G | Al | Big Data | Machine Learning)



https://www.gsma.com/iot/events/mwc20-iot-innovation-city/



Smart Farming: Weed Elimination with 5G Autonomous Robots

(5G | AI | Big Data | Edge | Machine Learning)

NOKIA



5G Connected Cars: IoT Edge and Digital Twin

(5G | C-V2X | Digital Twi | Edge | IoT Device Management)



GSMA IoT at Hannover Messe 2020 GSMA INTERNET OF THINGS PROGRAM

Objectives

- Present operators as strategic partners for manufacturing industry
- Communicate power and benefits of 5G and operator managed IoT

Planned Activities

- Delivering the Manufacturing Story
- 5G & IoT Manufacturing Forum 22 April 2020
- Smart 5G & IoT Manufacturing Seminar 22 April 2020
- IoT Exhibition (55 sqm for demonstrating up to 3 demos and Mobile IoT modules and dev kits - *TBC*) – 20 – 24 April
- Networking Reception 21 April



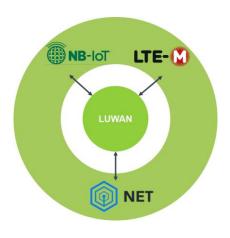
- Please promote the LTE-M and NB-IoT logos to your strategic partners
- View the Terms of Use, Logo Guidelines and download the logo sets:
 - LTE-M Logo: https://www.gsma.com/iot/resources/ltem-logo/
 - NB-IoT Logo: https://www.gsma.com/iot/resources/nbiot-logo/





Number of Downloads:

- LTE-M: 518
- NB-IoT: 1,309



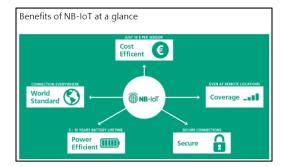
Source: Traxens



Source: Nordic Semiconductor @ MWC19 Los Angeles



Source: Quectel



Source: G+D Mobile Security





Source: <u>Telit</u>



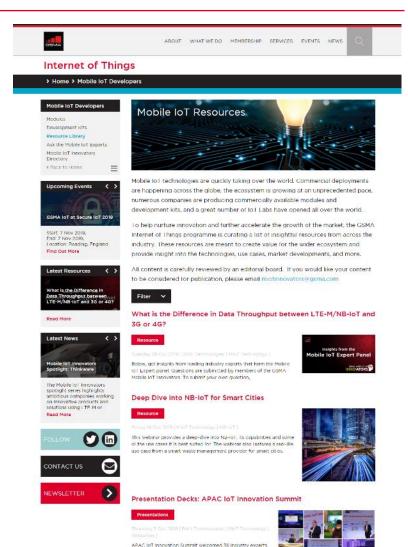


GSMA IoT Resources (Oct – Jan 2020)

Title	Programme Area	Asset Type	Link
Getting Started with NB-IoT: Part 1 (Jan 2020)	Mobile IoT Innovators	Video	<u>Here</u>
Critical Communications IoT: Technical Analysis of Service Levels (Jan 2020)	Programme General	Document	<u>Here</u>
Critical Communications IoT: Concepts Paper (Jan 2020)	Programme General	Document	<u>Here</u>
Presentation Decks: Mobile IoT Breaking Briefing at CES2020 (Jan 2020)	Mobile IoT	Presentation	<u>Here</u>
The Benefits of LPWA in the Licensed Spectrum [made by AT&T] (Jan 2020)	Mobile IoT	Video	<u>Here</u>
IoT Based Smart-Grid Solution by Dialog Axiata (Jan 2020)	Mobile IoT	Video	<u>Here</u>
Smart Poultry Solutions by XL Axiata (Jan 2020)	Beyond Connectivity	Video	<u>Here</u>
STARS: Smart Traffic Analytics & Recognition System by TM ONE (Jan 2020)	Beyond Connectivity	Video	<u>Here</u>
Data Delivery Platform for Smart Building by Softhard.IO (Jan 2020)	Mobile IoT	Video	<u>Here</u>
Smart Health Platform by IMEUS Healthcare (Jan 2020)	Programme General	Video	<u>Here</u>
Indoor Mushroom Cultivation with NB-IoT Enabled Control Environment by Momoku (Jan 2020)	Mobile IoT	Video	<u>Here</u>
Smart Access Management of Facilities by igloohome (Jan 2020)	Mobile IoT	Video	<u>Here</u>
Connected Urban Airspace Management for Unmanned Aircraft by Garuda Robotics (Jan 2020)	Drones	Video	<u>Here</u>
SMARTernak: AloT-powered Cattle-farm Assistant Platform by DycodeX (Jan 2020)	Mobile IoT	Video	<u>Here</u>
Industrial IoT Solutions for Manufacturing, Logistics & Utilities by Daviteq (Jan 2020)	Manufacturing	Video	<u>Here</u>
NB-IoT Water Utility Logger by Cre8IOT (Jan 2020)	Mobile IoT	Video	<u>Here</u>
Smart Home Solutions – Easy Control by ACIS (Jan 2020)	Programme General	Video	<u>Here</u>
Case Study: Dynamic No-Fly-Zones (Dec 2019)	Drones	Case Study	<u>Here</u>
IoT SAFE (IoT SIM Applet for Secure End-to-End Communication) (Dec 2019)	IoT Security	Document	<u>Here</u>
Interview with Italgas Reti about NB-IoT Gas Metering (Dec 2019)	Mobile IoT	Video	<u>Here</u>
Transformative IoT – Beyond Connectivity (Nov 2019)	Beyond Connectivity	Video	<u>Here</u>
Cellular Crash Course for IoT Developers – Part 3: Prototype to Production (Nov 2019)	Mobile IoT Innovations	Video	<u>Here</u>
Cellular Crash Course for IoT Developers – Part 2: Cellular Hardware Considerations (Nov 2019)	Mobile IoT Innovations	Video	<u>Here</u>
Cellular Crash Course for IoT Developers – Part 1: Technology Overview (Nov 2019)	Mobile IoT Innovations	Video	<u>Here</u>
IoT in the 5G Era – Opportunities and Benefits for Enterprises and Consumers (Nov 2019)	Mobile IoT	Document	<u>Here</u>

Mobile IoT Resource Library

- 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 (<u>eyu@gsma.com</u>) for considerations:
 - The document in PDF format, if applicable
 - The source URL of the resources.
 - A short blurb of less than 100 words







to share insights into SG, IoT Capability Beyond Connectivity.



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://gsma.at/iotplaylist

GSMA IoT Newsletter

https://www.gsma.com/iot/sign-up-for-newsletter/