



# The IoT Guide

MOBILE WORLD CONGRESS 2018

**THE  
INTERNET  
OF THINGS**  
CREATING A

BETTER

FUTURE

CONNECTED



SECURE



INTELLIGENT



SUSTAINABLE



# THE INTERNET OF THINGS

## 25 Billion Connected Devices by 2025

\* Source: GSMA Intelligence, 2018

North America:  
**5.8bn**

Europe:  
**5.6bn**

Middle East/Africa:  
**1.4bn**

Latin America:  
**1.3bn**

Asia-Pacific:  
**10.9bn**

### OPPORTUNITY IN SELECTED VERTICAL SECTORS



Smart Cities: **0.9bn**



Connected Industry: **12.5bn**



Connected Vehicles: **1.2bn**



Consumer Electronics: **3.4bn**



Smart Home: **5.4bn**

# THE INTERNET OF THINGS - CREATING A BETTER FUTURE

Mobile technology has a significant impact on the lives of more than 5 billion people around the world, and the GSMA is dedicated to connecting everyone and everything to a better future.

The Internet of Things plays a vital role in creating this better future. From extreme wildlife tracking to protect species, to air and water quality monitoring for a cleaner environment, to smart traffic and crowd management for safer and more efficient cities, use cases for IoT solutions are near endless and the industries set to benefit from the IoT almost countless.

With 25 billion connected devices by 2025, the Internet of Things will be essential in protecting the environment, building smarter and sustainable cities, and improving quality life for billions of citizens. In short, the Internet of Things will be essential in creating not only a better future, but a future that is

Mobile operators' extensive experience of building and managing licensed cellular networks, coupled with a deep understanding of machine based mobile solutions, make them uniquely positioned to be key strategic IoT partners for cities, governments and enterprises.



# 6TH MOBILE IoT SUMMIT SCALING GLOBAL DEPLOYMENT



## SUNDAY, 25 FEBRUARY

13:00 - 17:30

**NH COLLECTION BARCELONA TOWER HOTEL**  
(formerly known as Hesperia Tower Hotel)

**Mobile IoT, also known as Low Power Wide Area (LPWA) in licensed spectrum, presents a huge opportunity for the mobile and IoT industries. GSMA Intelligence estimate that by 2025, there will be 1.9 billion licensed cellular LPWA IoT connections - more than half of all LPWA connections.**

The 6th Mobile IoT Summit will focus on the rapid growth and momentum behind both NB-IoT and LTE-M technologies. Since the beginning of 2017 there have been 35 commercial launches of Mobile IoT worldwide, and this number is growing exponentially in 2018.

Hear from leading mobile operators and industry players about:

- The commercial availability of Mobile IoT on a worldwide scale

- Deployments of Mobile IoT networks and the growth of the wider ecosystem
- Recent implementations and customer experiences of NB-IoT and LTE-M

Registration will open at 13:00, followed by lunch and interactive Mobile IoT demonstrations. A networking drinks reception follows the summit, from 17:30 - 18:30.

This event is free to attend, but advance registration is required. To register and view the latest confirmed speaker details, visit: [gsma.com/IoTMWC18](http://gsma.com/IoTMWC18)



### MOBILE IOT SOLUTIONS SHOWCASE

Demo	Partner	Technology
NB-IoT showcase	ARM, Vodafone	NB-IoT
NB-IoT Smart Metering	Deutsche Telekom	NB-IoT
inteliLIGHT® smart street lighting control using dual LTE Cat M1/NB-IoT module technology	Flashnet, u-blox	LTE-M, NB-IoT
NB-IoT @ Everything and Everywhere	Huawei	NB-IoT
Smart safety shoe providing additional protection for workers	Intellinium, Sierra Wireless	LTE-M, NB-IoT
LTE-M IoT button, asset tracker, smoke Detector, and water detector sensor	Sercomm	LTE-M
LTE-M showcase	Sequans	LTE-M, NB-IoT
Mobile IoT development kits and modules showcase	GSMA Mobile IoT Innovators	LTE-M, NB-IoT

# 6TH MOBILE IoT SUMMIT SCALING GLOBAL DEPLOYMENT

**13:00 - 14:00 Welcome Lunch, Registration and Demonstrations**

**14:00 - 14:10 Welcome and Introduction**

- **GSMA:** Graham Trickey, Head of Internet of Things

**14:10 - 14:40 Opening Keynote Presentations**

- **Huawei:** Cheng Zhu, Head of Cellular IoT Product Line
- **Sequans Communications:** Dr. Georges Karam, President and CEO

**14:40 - 15:40 Panel: Scaling Deployment of Mobile IoT**

- **AT&T:** Cameron Coursey, VP Product Development, Internet of Things Solutions; Chair of GSMA LTE-M Task Force
- **China Mobile:** Shen Hong Qun, Deputy General Manager, Marketing Dept.
- **Deutsche Telekom:** Johannes Kaumanns, Vice President IoT - Strategy & Business Development
- **Telefonica:** Vicente Muñoz, Chief IoT Officer
- **Vodafone:** Luke Ibbetson, Chief Engineer, Group R&D; Chair of GSMA NB-IoT Forum
- **Moderator:** Mohammad Chowdhury, Partner, PWC

**15:40 - 16:00 Refreshment Break and Demonstrations**

**16:00 - 16:45 Real-World Customer Deployments**

- **Intellinium:** Mathieu Destrian, CEO
- **Nimbelink:** Scott Schwalbe, CEO

**16:45 - 17:30 Panel: The Future Outlook for Mobile IoT**

- **Ericsson:** Marie Hogan, Head of Broadband and IoT Networks
- **Nokia:** Ankur Bhan, Global Head of Worldwide IoT Network Grid (WING)
- **Sierra Wireless:** Nicolas Damour, Senior Manager, Business and Innovation Development
- **u-blox:** Simon Glassman, Head of Strategic Partnerships, EMEA
- **Moderator:** Shane Rooney, Executive Director, IoT Networks, GSMA

**17:30 - 18:30 Networking Drinks and Demonstrations**

# GENERATING VALUE THROUGH IoT AND BIG DATA



## GSMA Seminar

**TUESDAY, 27 FEBRUARY**  
**09:00 – 11:00**  
**GSMA SEMINAR THEATRE 1, CC1.5**

The mobile industry plays a key role in unlocking the potential of the vast amount of data within the Internet of Things. Mobile operators are becoming increasingly successful in establishing services to commercialise their anonymised data, and offering high value, scalable data-driven services. The real benefits can be seen today in the positive changes this makes to people's lives.

Join us in this GSMA seminar to learn about the current global impact of services utilising big data. Case studies include examples of how air quality monitoring with IoT Big Data is improving the health of citizens in major cities within Europe, the Americas and Asia, and how IoT Big Data can be used to derive value from agriculture and the industrial IoT.

GSMA seminars are free to all Mobile World Congress 2018 attendees.

To register and view the latest confirmed speaker details, visit: [gsma.com/IoTMWC18](http://gsma.com/IoTMWC18)

# GENERATING VALUE THROUGH IoT AND BIG DATA

**09:00**

## Welcome and Introduction

- **GSMA:** Aruna Srinivasan, Executive Director for Industry Engagement - IoT

**09:10**

## Managing environmental impact through IoT and Big Data

- **Far EastTone:** Mike Lee, Executive Vice President
- **Telefónica:** Pedro Antonio De Alarcon Sanchez, Senior Data Scientist and Head of Big Data for Social Good

**09:45**

## Transforming Industry & Agriculture through IoT and Big Data

- **China Mobile:** Junling Mao, OneNET Senior Big Data Architect
- **Korea Telecom:** Do Kyoung (Denny) Kim, Senior Researcher

**10:20**

## Generating Value and Revenue with Network Data

- **MI:** Alex Keng Siang Tan, Chief Innovation Officer
- **Teralytics:** Alastair MacLeod, Chief Executive Officer
- **Turkcell:** Caner Canak Head of Digital Analytics - Business Analytics Solutions
- **Turkcell:** Kubra Mutlu, Data Analyst - Business Analytics Solutions

**10:50**

## Thank you and Wrap up

- **GSMA:** Aruna Srinivasan, Executive Director for Industry Engagement - IoT

# IoT SECURITY, DRONES: CREATING A CONNECTED AND SECURE FUTURE



GSMA Seminar

**WEDNESDAY, 28 FEBRUARY**  
**12:00 - 14:00**  
**GSMA SEMINAR THEATRE 1, CC1.5**

## **SESSION 1:** **SECURING A BETTER FUTURE**

**With 25 billion connected devices by 2025, the risk of cybersecurity breaches, leaked customer data, destroyed reputations and costly remediation is increasing exponentially. Without security, the Internet of Things will cease to exist. IoT companies must avoid short cuts to guarantee end-to-end security and allow the IoT market to scale to create a connected, secure, intelligent and sustainable future.**

Join leading industry experts to discover:

- Live hack: witness how easily devices can be compromised if not secured properly
- IoT security best practices and assessment frameworks
- IoT security certification and recent regulatory developments in the EU and US

### **Speakers**

**ElevenPaths:** Francisco José Ramírez Vicente, Security Researcher

**ENISA:** Apostolos Malatras, Network and Information Security Expert

**NIST:** Katerina Megas, Program Manager Cybersecurity for the IoT Program

**Telefónica:** Carlos Carazo, Global CTO Internet of Things

**GSMA:** Ian Smith, IoT Security Lead

# IoT SECURITY, DRONES: CREATING A CONNECTED AND SECURE FUTURE



## **SESSION 2:** **CREATING A BETTER FUTURE WITH DRONES**

**Serving numerous industries and use cases, drones are a rapidly emerging sector within the IoT. Their versatile application range and access to real-time data will make them valued additions to modern life, helping to make cities smarter to improve the quality of life for citizens.**

Join leading industry experts to discover:

- New connected commercial drone opportunities
- New challenges for the drone industry and how to address them
- Network coverage and secure communication enabled by mobile operators
- SIM card capabilities to enhance safety and security

### **Speakers**

**Globe UAV:** Joerg Brinkmeyer, CEO

**Infineon:** Lars Wemme, Head of Product Line Mobile Security

**Skyward, a Verizon Company:** Matt Fanelli, Director of Strategy

**GSMA:** Graham Trickey, Head of Internet of Things

GSMA seminars are free to all Mobile World Congress 2018 attendees

To register and view the latest confirmed speaker details, visit: [gsma.com/IoTMWC18](https://gsma.com/IoTMWC18)

# MOBILE IoT INNOVATORS DEVELOPER WORKSHOP



**WEDNESDAY, 28 FEBRUARY**  
**15:00 - 17:00**  
**GSMA SEMINAR THEATRE 1, CC1.3**

**Join Telefónica's technical industry experts who are at the forefront of Mobile IoT development to get hands-on experience, and learn about the practical implications and opportunities when building products and solutions with Mobile IoT. In particular, this in-depth workshop covers:**

- Connectivity from commercial modules to network services, solving a real use case
- How new Mobile IoT technologies meet business requirements
- 2G evolution to new Mobile IoT technologies
- How to use multi-technology chipsets and modules
- State-of-the-art standardisation for Mobile IoT
- IoT security guidelines for new Mobile IoT technologies
- Open Labs and The ThinX - accelerating the ecosystem

The Mobile IoT Innovators Developer Workshop offers a unique opportunity for device makers, product developers and solution providers interested in working with industry standard Mobile IoT technologies, specifically LTE-M and NB-IoT. Find out about the latest market developments and discover what it's like to develop new products and applications with Mobile IoT.

Numbers for this event are strictly limited due to its exclusive content, so advance registration is required. Places will be allocated on a first-come, first-served basis. A valid Mobile World Congress pass is required to access the workshop.

To register for the workshop, visit:  
[gsma.com/IoTMWC18](http://gsma.com/IoTMWC18)

# MOBILE IoT INNOVATORS NETWORKING RECEPTION



Mobile IoT = Trusted IoT

**WEDNESDAY, 28 FEBRUARY**  
**17:00 - 18:30**  
**GSMA SEMINAR THEATRE 1,**  
**CC1 NETWORKING AREA**

**Join the Mobile IoT Innovators Networking Reception for a relaxed afternoon and enjoy free drinks and nibbles over an informal chat with leading industry experts and pioneering companies in the Mobile IoT ecosystem.**

Meet experts from the mobile and adjacent industries, and network with your peers to discuss the latest market developments, use cases and network deployments for LTE-M and NB-IoT around the world.



**HUAWEI** Networking Sponsor

This event is free to all Mobile World Congress 2018 attendees.

To register and view the latest event details, visit: [gsma.com/IoTMWC18](http://gsma.com/IoTMWC18)

GSMA Mobile IoT Innovators

**Mobile IoT (licensed spectrum low power wide area) technologies, are designed for low data rate IoT applications, that require very long battery lives, are low cost, and often operate in remote and hard to reach locations. They are well suited for deployments across a number of different verticals such as utilities, smart cities, logistics, agriculture, manufacturing, and wearables.**

The GSMA has created the Mobile IoT Innovators to help build a vibrant ecosystem around Mobile IoT. The community consists of developers, device makers, network vendors, operators and end customers, and provide an easy way for companies to keep up to date with the latest information and industry developments.

Join the Mobile IoT Innovators Networking Reception to learn more about the benefits of Mobile IoT technologies, developer opportunities and the GSMA Mobile IoT Innovators.

# GSMA INNOVATION CITY

Creating a Connected, Secure, Intelligent, Sustainable Future

**HALL 4**  
**MONDAY, 26 FEB – THURSDAY, 1 MAR**  
**08:30 – 19:00**

**The GSMA Innovation City is open to all attendees with all pass types.**

**Join the GSMA and partners that are at the very forefront of mobile innovation, including: China Mobile, Far EasTone, Samsung and Telefonica, showcasing products and solutions that are changing the way the world communicates and helping to create a connected, secure, intelligent, and sustainable future with the Internet of Things.**

The Internet of Things Programme Team will be available in the GSMA Innovation City throughout Mobile World Congress 2018 to meet face to face and answer your questions.

## KEEPING TRACK OF THE WORLD



**Partner: Samsung**

With 35 commercial network deployments around the world, Mobile IoT (low power wide area in licensed spectrum) is set to transform everyday life around the world. This demonstration, the SmartThings Tracker, on live LTE-M and NB-IoT networks, is the world first tracker for consumers linking all that matters in life anywhere and anytime with trusted Mobile IoT connections, aspiring for a better future.

## THE IoT PUNCH BOXER – MOBILE IoT INNOVATORS SHOWCASE



**Partners: BeWhere**

Hit the IoT Punch Bag to find out how strong you really are and discover the impact of Mobile IoT! An accelerometer inside the IoT Punch Bag measures the power of your stroke, and LTE-M technology transmits the results. The accelerometer is used to measure impact and prevent goods from being damaged. For example, it can measure impact on defibrillators to register the threshold at which they are no longer covered by warranty and might pose a health hazard. Using Mobile IoT technologies allows companies to send small amounts of data intermittently, at low cost, over a wide geographic area, and in remote or hard to reach locations.

## THE AIR WE BREATHE



**Partners: China Mobile, Far EasTone**

Air pollution presents a growing health risk worldwide, potentially leading to asthma attacks, heart disease, lung cancer or chronic bronchitis. The development of the Internet of Things and advances in technology have led to the availability of new sensors and techniques for measuring and reporting on air quality data. This demo highlights how mobile operators are working with cities and using IoT Big Data analytics to improve the health prospects and quality of life for citizens.

# GSMA INNOVATION CITY

## SECURING THE IoT WITH THE SIM



**Securing the IoT with the SIM**

The SIM is the only common component across all types of cellular IoT devices, providing a trusted and standardised foundation to enable IoT services. These demonstrations show how IoT services can leverage the security of the SIM to create a secure IoT and a secure future for everyone.

**Partner: Able Device**

SIMbae's "Host It" solution for a smart traffic light resides within the SIM and extends the SIM's standard functionality to become the embedded IoT application processor for the traffic light. The solution leverages the mobile network's capabilities of secure SIM provisioning, communication and transmission of data.

**Partner: Telefónica, Ikerlan**

Telefonica is demonstrating how cellular enabled energy meters connected to Amazon Web Services can securely receive digital certificates "over the air" using the energy meters' SIM cards. This solution enables secure authentication between the energy meter and the AWS cloud, and the use of the SIM guarantees the secure transmission, storage and update of these IoT device credentials.

## SMART STADIUM



**Partners: Blip, FC Barcelona, Mobile World Capital, Tracktio**

Camp Nou "new field", the home stadium of Football Club Barcelona, is the largest stadium in Europe and the third largest association football stadium in the world. The stadium also houses the second-most visited museum in Catalonia, which receives more than 1.2 million visitors per year. With such significant numbers visiting the stadium, safety and efficiency are fundamental elements that FC Barcelona are continuously seeking to improve. Optimising transportation options and improving visitor experience are other key considerations. This demonstration explores how FC Barcelona are building new solutions using IoT Big Data and Mobile IoT technologies.

# IoT JOURNEYS THROUGH MWC18



## Discovering the Better Future

IoT Journeys through MWC18 give attendees the opportunity to explore innovative demonstrations throughout all halls at Mobile World Congress 2018. The self-guided journeys allow delegates to see at a glance key information about each demonstration and

understand the broad range of use cases of three essential areas of the Internet of Things, all of which will play a crucial role in creating a connected, secure, intelligent and sustainable future.

To see the latest information about IoT Journeys through MWC18, visit [gsma.com/iot/iot-journeys-mwc18](http://gsma.com/iot/iot-journeys-mwc18)



## Drones Journey

The Drones Journey explores how mobile networks will facilitate and accelerate the growth of the drones market. Guided drones journeys will depart on Monday, Tuesday and Wednesday at 10am. These journeys take a maximum of 1 hour 30 minutes. Meeting point details will be shared shortly.

Alternatively, you can take a self-guide Drones Journey around MWC18 by visiting the following exhibitions in your own time:

To register for a guided Drones Journey, visit [gsma.com/iot/iot-journeys-mwc18](http://gsma.com/iot/iot-journeys-mwc18)

Company	Demonstration	Location
Huawei	Connected Drone Exhibit A passenger-carrying Autonomous Aerial Vehicle (AAV) using tele-operated flying to provide safe beyond-line-of-sight flight control. An external operator remote-pilots the drone using live-stream video over a 4.5G cellular network. Don't miss the future of transport: flying connected drones.	Hall 4, Innovation City, 4A30
Saguna Networks Ltd.	Saguna, the leading provider of Multi-access Edge Cloud Computing (MEC) solutions, transforms communication access networks into powerful cloud computing platforms. With Saguna, innovative communication services providers (CSPs), enterprises and application developers can easily develop, integrate & deploy new Edge Applications for Internet-of-things (IoT), connected cars, drone control, content delivery, enterprise services & more.	Hall 5, 5E41
Sierra Wireless	Connected Autonomous Solar-Powered Drone This demonstration features a connected autonomous solar-powered drone designed for long-endurance flights while gathering critical data and monitoring remote locations.	Hall 4, Innovation City, 4A30
NexTech	Drone Zone Visit the Drone Zone in the NexTech Hall 8 to discover a range of exciting drone demos from a number of companies, including YUNEEC, Shenzhen AEE Aviation Technology, European GNSS Agency and Fundació i2cat.	Hall 8

# IoT JOURNEYS THROUGH MWC18



## Mobile IoT Journey

Designed for IoT applications that require long battery lives, are low cost, and often operate in remote and hard to reach locations, Mobile IoT (licensed spectrum low power wide area) technologies are set to securely and efficiently

scale the Internet of Things. The Mobile IoT Journey highlights the numerous industries that will benefit from Mobile IoT connectivity, and how these technologies will accelerate the growth of the IoT around the world.

Company	Technology	Demonstration	Location
China Mobile	LTE-M, NB-IoT	Commercial era of NB-IoT, universal module, turn-key, smart wearable/tracker, NB-IoT Qsite and NB-IoT smart detector	Hall 1, 1F70
Cisco IoT	NB-IoT	Connected roadways to prevent accidents and saving lives, smart watering systems to protect against droughts, smart street lighting for safer, more efficient cities	Hall 4, Innovation City
Deutsche Telekom	NB-IoT	Smart construction, smart machinery, predictive maintenance, smart city solutions and smart logistics solutions	Hall 3, 3M31
Ericsson	LTE-M, NB-IoT	VoLTE for connected elevator and vending machine, eHealth wearable, smart water irrigation, E-Kakashi smart greenhouse, landside disaster monitoring and alert system, smart city/urban transport	Hall 2, 2O60
Idemia	LTE-M	Bike fleet management - Remote subscription management & secure data retrieval: The bike operator deploys bikes connected to an LTE-M network with an eSIM allowing easy deployments and maintenance with a single keeping unit.	Hall 6, 6H30
Nokia	LTE-M, NB-IoT	Worldwide IoT enablement with Nokia WING	Hall 3, 3A10/3A30
Huawei	NB-IoT	Connected cow, smart mailbox, smart cold chain, smart whitegoods, smart utility, smart parking, shared bicycle, smart lock and smart luggage	Hall 3, 3I30
Sercomm	LTE-M	Personal asset tracker, soil detector, gas/water/power meter, small cell application in private network, smart home application and artificial intelligence on edge	Hall 2, 2G3
Sierra Wireless	LTE-M, NB-IoT	Smart safety shoe providing additional protection for workers	Hall 4, Innovation City, 4A30
Vodafone	NB-IoT	UV Sensor, temperature control and regulations, graffiti wall, connected boat and connected new 'things'	Hall 3, 3D30



# IoT JOURNEYS THROUGH MWC18



## Connected Vehicle Journey

The latest vehicles on the world's roads already contain very advanced information and communications technologies, including on-board computers, a wide range of sensors and, in many cases, both short-range and wide area connectivity. Advances in Cellular Vehicle-to-

Everything (C-V2X) technology, 5G networks, the GSMA Embedded SIM Specification, and improved security for connected solutions will further aid and accelerate the realisation of fully autonomous vehicles, which is demonstrated in the Connected Vehicle Journey.

Company	Demonstration	Location
AT&T Business Solutions	Experience how AT&T is helping shape the road ahead for connected transportation with in-vehicle entertainment, autonomous vehicles, and connected trucking. Explore the latest in connected car technology in a real vehicle connected by AT&T, the 2018 BMW M760Li xDrive.	Hall 4, 4D30
BMW Group	"THE NEXT DAY" invites you to interact with our upcoming BMW innovations. In two sections, we give you a glimpse at the BMW Connected Experience and the BMW Personal CoPilot Experience. Both of these contain a valuable gift for our future customers: the enrichment of their lives with relief. THE NEXT DAY IS YOUR DAY - see you at Networking Garden Activation in Zone 5.	Networking Garden Activation, Zone 5, OA3B.140
Cisco IoT	See how IoT connectivity and data control platforms are enabling Departments of Transportation to prevent fatal accidents with connected roadways.	Hall 4, Innovation City
Ford	Ford is collaborating with start-ups, major businesses and industry leaders across the globe to make the car more connected than ever before. From delivering your favourite navigation apps to helping you connect to meetings, Ford is making your car journey as seamless and stress-free as possible. Visit Ford's Connected Services stand and experience the latest in in-car technology demonstrated through SYNC 3 with AppLink.	Hall 1, 1A28
Idemia	Secure Solutions for Automotive: The user registers for a car rental app using their ID document and biometrics, and authenticates with a selfie to rent and open a car. The driver monitoring system secures their driving behaviour. IDEMIA enables to connect the car, to secure the vehicle's electronics and software, to identify and authenticate the driver, and offer value-added services.	Hall 6, 6H30
Nokia with Continental, Hertz, SAP	Ownership of things is being replaced by "The Shared Economy" - Nokia and their ecosystem have built a prototype shared vehicle that adapts to the user rather than having the user adapt to the vehicle. A "digital twin" mirror copy of the car adapts each car to the passengers including entry, settings, and entertainment. This provides a discussion of unique services that can be offered to consumers in a shared economy.	Hall 3, 3A10
SEAT	SEAT will highlight its 360° vision of the future of digitalisation with an impressive simulator. Visitors are invited to explore interactive and customized driving experiences. Besides the integration of Amazon Alexa in the SEAT Ateca, SEAT presents its partnership with one of the world's most popular entertainment systems, once again being the first carmaker to integrate this system.	Hall 3, 3B20

# MUST SEE IoT EVENTS MOBILE WORLD CONGRESS 2018

## MAIN CONFERENCE

### IoT SECURITY & THE BLOCKCHAIN



**MONDAY, 26 FEBRUARY**  
**11:00 - 12:10**  
**HALL 4, AUDITORIUM 4**

The scale of IoT is ever increasing, and use cases multiplying. Given the complexity and volume of devices, how does the industry agree on IoT security guidelines? Whilst industry bodies, the GSMA amongst them, have released work on this topic, the sheer scale, variety and therefore complexity, makes consensus difficult. Recent hacks have proven this point and the acute need for a wider initiative. Within this discussion we look at the role specific technologies, such as blockchain or hardware-based security, can take in the IoT. While some risk is inevitable, the industry must ensure that the balance between risk and reward is right to ensure businesses and consumers adopt the new technology and services enabled by IoT.

[mobileworldcongress.com/session/from-device-to-core-how-to-secure-the-iot](http://mobileworldcongress.com/session/from-device-to-core-how-to-secure-the-iot)

### MASSIVE & INDUSTRIAL IoT



**TUESDAY, 27 FEBRUARY**  
**14:00 - 15:00**  
**HALL 4, AUDITORIUM 4**

Industrial IoT is a time-tested application, having had a positive and direct impact on manufacturing plants of different sizes and output. With the industry looking for profitable and proven case studies for IoT, it is hard to look further than Industrial IoT. How can the industry adopt key lessons learnt from IoT in industrial settings and apply them to different verticals? What more can the industry do to deliver the full impact of Industrial IoT? How can Artificial Intelligence (AI) further enhance the usability of IoT and the data acquired to make better decisions? Is Industrial IoT the direction for the future?

[mobileworldcongress.com/session/massive-industrial-iot](http://mobileworldcongress.com/session/massive-industrial-iot)

# MUST SEE IoT EVENTS

## MOBILE WORLD CONGRESS 2018

### MAIN CONFERENCE

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#### SMART(ER) CITIES



**TUESDAY, 27 FEBRUARY**  
**15:30 - 16:30**  
**HALL 4, AUDITORIUM 4**

We are no closer than a year ago to a universal definition of what a smart city is. In fact, as technology progresses and use cases increase, the idea of a smart city becomes more difficult to define. However, many of the challenges remain the same...what are the key challenges a smart city should address? How can lessons learnt in one city apply to another? Is there a true gain for citizens in having a "smart city"? What impact does AI and open data have on the decisions cities can make for its citizens?

[mobileworldcongress.com/session/smarter-cities](http://mobileworldcongress.com/session/smarter-cities)

#### PRIVACY CHALLENGES IN THE INTERNET OF THINGS: PROVIDING CONSUMERS WITH TRANSPARENCY AND CONTROL IN A CONNECTED WORLD



**WEDNESDAY, 28 FEBRUARY**  
**09:30 - 11:30**  
**GSMA SEMINAR THEATRE 1, CC1.5**

Hyperconnectivity is the future, and that means all manner of devices will be collecting data about consumers' tastes, behaviours and activities like never before. The rise of the Internet of Things will embed billions of sensors into public and private spaces, feeding databases with information that organisations will use to deliver improved products and services to consumers and grow their business. In such an environment, people cannot reasonably be expected to grant permission for every use of their data. This session will shed light on new approaches to consumer transparency and will be of particular interest to anyone developing, delivering or partnering in IoT solutions.

[mobileworldcongress.com/session/privacy-challenges-in-the-internet-of-things-providing-consumers-with-transparency-and-control-in-a-connected-world](http://mobileworldcongress.com/session/privacy-challenges-in-the-internet-of-things-providing-consumers-with-transparency-and-control-in-a-connected-world)

# MUST SEE IoT EVENTS

## MOBILE WORLD CONGRESS 2018

### MAIN CONFERENCE

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#### NEW AND OLD: MANAGING THE TRANSITION TO AUTONOMOUS DRIVING



**WEDNESDAY, 28 FEBRUARY**  
**11:30 - 12:30**  
**HALL 4, AUDITORIUM 4**

Whilst most of the discussion around autonomous vehicles falls on the technology, there is a growing concern on how autonomous driving will co-exist with traditional, man-directed vehicles in the short term. Additionally, networks will need to be flexible to manage different requirements from vehicles that might require no-latency, 100% coverage, along with some that do not require much connectivity at all. How can both old and new coexist? What impact will this have on our roads, and our networks?

[mobileworldcongress.com/session/new-and-old-managing-the-transition-to-autonomous-driving](http://mobileworldcongress.com/session/new-and-old-managing-the-transition-to-autonomous-driving)

#### DELIVERING THE IoT ECOSYSTEM



**WEDNESDAY, 28 FEBRUARY**  
**15:00 - 16:00**  
**HALL 4, AUDITORIUM 4**

The proliferation of IoT presents an opportunity for service providers across the globe to open new revenue streams. Whilst there will be winners in IoT, it is unclear who this will be. How can mobile service providers position themselves in a way that they are delivering the service, not just the connectivity behind it? What impact does the data generated by users and devices have on IoT deployments, and how will AI be deployed to make sense of it all? What will the IoT ecosystem really look like, 5 years down the road?

[mobileworldcongress.com/session/delivering-the-iot-ecosystem](http://mobileworldcongress.com/session/delivering-the-iot-ecosystem)

# MUST SEE IoT EVENTS

## MOBILE WORLD CONGRESS 2018

### MAIN CONFERENCE

#### SMART COMMUNITY COLLABORATION



**WEDNESDAY, FEBRUARY 28, 2018**  
**15:00 - 16:00**  
**HALL 4, AUDITORIUM 5**

Cities and citizens are becoming smarter and more connected every day. While new technologies are constantly coming to market, a lack of community understanding, and readiness has slowed integration both in cities and in remote communities. This session will highlight successes and opportunities for cross-sector smart community collaboration, and how Mobile IoT solutions can help cities and communities become smarter and more efficient.

[mobileworldcongress.com/session/smart-community-collaboration](http://mobileworldcongress.com/session/smart-community-collaboration)

#### VEHICLES AS A SERVICE



**WEDNESDAY, 28 FEBRUARY**  
**16:30 - 17:30**  
**HALL 4, AUDITORIUM 4**

The sharing economy phenomenon has moved beyond car sharing and stretched to cargo, drones, aircraft, and just about any other mobility device imaginable. How can mobility services continue to be tailored to the user, creating highly customised and unique riding

experiences? How much is the customer ready to share with these services to benefit from tailored services? What efforts are needed from a regulatory perspective to keep up with the innovation taking place? Who are the disruptors - vehicle OEMs or telecom providers?

[mobileworldcongress.com/session/vehicles-as-a-service](http://mobileworldcongress.com/session/vehicles-as-a-service)

#### IDE DRONE SUMMIT: THE BUSINESS OF COMMERCIAL DRONES



**THURSDAY, 1 MARCH**  
**09:45 - 13:30**  
**NEXTECH HALL 8.0, THEATRE DISTRICT**

Planned topics are:

- Rule and regulations for drones
- Drones, air/land/sea autonomous vehicles and AI
- Search & rescue drone applications
- Drones, chips, and IoT
- The future of drone delivery
- How mobile networks are enhancing the commercial drone market
- UTM - technology and legal issues

[mobileworldcongress.com/session/ide-drone-summit/](http://mobileworldcongress.com/session/ide-drone-summit/)

# MUST SEE IoT EVENTS

## MOBILE WORLD CONGRESS 2018

### MAIN CONFERENCE

#### eSIM CHALLENGES



**WEDNESDAY, 28 FEBRUARY**  
**17:00 - 18:30**  
**GSMA SEMINAR THEATRE 1, CC1.5**

This seminar will explain the opportunities and threats of eSIM from company strategy to deployment. CEOs of the SIM industry will share the business transformation challenges brought by the digitalisation of the SIM in the first half. The second half, sponsored by the SIM Alliance, will focus on the challenges for the wider ecosystem.

[gsma.com/esim/mwc18](http://gsma.com/esim/mwc18)

#### IoT & 5G USE CASES



**THURSDAY, 1 MARCH**  
**12:00 - 13:00**  
**HALL 4, AUDITORIUM 4**

IoT and 5G...brought to life. See some of the most exciting IoT demonstrations live in areas such as automotive, manufacturing or connectivity. Leading players, disruptors and newcomers will display the latest and most exciting technology sure to make a direct impact on 5G and IoT applications. A slice of the MWC 2018 exhibition in Hall 4.

[mobileworldcongress.com/session/iot-5g-use-cases](http://mobileworldcongress.com/session/iot-5g-use-cases)

#### EXPLORE THE IoT WITH MWC TOURS



MWC Tours provide the opportunity for a guided tour focused on key industry topics, enabling an in-depth exploration of your area of interest and maximising your experience at Mobile World Congress 2018. Get the chance to stop by some of the largest and well-known companies and talk to the exhibitors for their thoughts and opinions on the role of mobile. Tour guides are subject matter experts with years of experience guaranteeing a detailed and up-to-date insight into the industry.

The 'IoT Tour' will dive into the connected future of the Internet of Things, exploring the latest products and innovative solutions the mobile industry has to offer.

The 'IoT Security Tour' will explore the security and privacy challenges of the Internet of Things, and which steps different companies are taking to overcome cybersecurity risks of the IoT.

To find out more, visit: [mobileworldcongress.com/experiences/mwc-tours-experiences/topic-tours/](http://mobileworldcongress.com/experiences/mwc-tours-experiences/topic-tours/)

# THE GSMA INTERNET OF THINGS PROGRAMME

**The GSMA's Internet of Things Programme is an industry initiative designed to help mobile operators accelerate the delivery of compelling and secure IoT solutions that harness big data to deliver value to individuals and enterprises alike.**

By developing key enablers, facilitating industry collaboration and supporting network optimisation, the Internet of Things Programme is enabling consumers and businesses to harness a host of rich new services, connected by intelligent and secure mobile networks. Bringing to the table decades of experience in providing trusted, secure and reliable connectivity, mobile operators are a key component of the IoT and invaluable strategic partners for cities, governments and companies.

The Internet of Things continues to grow and is a major theme of this year's Mobile World Congress with many more IoT conference sessions, live technology demonstrations and leading industry experts. The Internet of Things Programme is convening the mobile industry and focusing on securely scaling the IoT.

**Our vision is enable the Internet of Things, a world in which consumers and businesses enjoy rich new services, connected by intelligent and secure mobile networks.**

## Members of the IoT Programme Steering Group



# KEY INITIATIVES OF THE GSMA INTERNET OF THINGS PROGRAMME



## Mobile IoT = Trusted IoT

The GSMA is working with mobile operators and the wider ecosystem to accelerate the commercial availability of low power wide area (LPWA) solutions in licensed spectrum. Backed by 70+ of the world's leading mobile operators, OEMs, chipset, module and infrastructure companies, Mobile IoT technologies are delivering cost effective, managed solutions that securely scale the IoT.



## Industry Engagement

The GSMA is working to align market perspectives, drive adoption and grow the market across key vertical sectors, including smart cities, connected vehicles and drones. Regular engagement and communication with the industry will lead to better market understanding, resulting in improved customer service, a superior user experience and greater connectivity, enabling the market to develop.



## IoT Security

The GSMA has delivered a set of IoT Security Guidelines, backed by an IoT Security Assessment scheme, to provide a proven and robust approach to end-to-end security. To enable a secure market, companies have to take responsibility to embed security from the beginning, at every stage of the IoT value chain.



## IoT Policy & Regulation

A growing Internet of Things provides significant socio-economic benefits. Governments and regulators can unlock these benefits and drive digital transformation by implementing consistent policies that promote innovation and investment, and that give confidence to consumers and the industry. The GSMA is working to create a sustainable policy and regulatory environment to support the successful scaling and socio-economic benefits of the IoT.



## IoT Big Data

The Internet of Things is generating a huge amount of data that is retained in vertical silos. The GSMA is working with mobile operators to accelerate the development of the IoT Big Data Ecosystem through the delivery of key harmonised data sets, APIs and valuable insights generated from big data analytics.

# THE INTERNET OF THINGS – CREATING A BETTER FUTURE

Creating a Connected, Secure, Intelligent,  
Sustainable Future

## GSMA INTERNET OF THINGS PROGRAMME KEY CONTACTS



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Internet of Things  
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**Shane Rooney**  
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