Who is the GSMA?

THE GSMA WAS FOUNDED IN 1987

12 OFFICES WORLDWIDE:
LONDON | DUBAI | ATLANTA | BRUSSELS | BARCELONA | HONG KONG | BRASILIA | BUENOS AIRES | SAO PAULO | NAIROBI | NEW DELHI | SHANGHAI

UNITING NEARLY 800 MOBILE OPERATORS WITH 300+
COMPANIES IN THE BROADER MOBILE ECOSYSTEM

The GSMA represents the interests of mobile operators worldwide

GSMA events attract over 200,000+
delegates from across the globe annually.

The GSMA works to deliver a regulatory environment that creates value for consumers by engaging regularly with:

- MINISTRIES OF TELECOMS
- TELECOMS REGULATORY AUTHORITIES
- INTERNATIONAL & NON-GOVERNMENTAL ORGANISATIONS

CONNECTING 24,000+ INDUSTRY EXPERTS
Exclusively for GSMA Members, InfoCentre is your place to connect with a global community of industry experts

GSMA Working Groups provide frameworks and standards in commercial, operational and technical matters that help maintain and advance mobile industry ecosystems

EIGHT BILLION+ MOBILE CONNECTIONS WORLDWIDE
The GSMA Board

Our Board comprises 25 members who represent the largest operator groups as well as smaller independent operators with global reach.
Programmes

Identity
Enabling trust and creating value through digital identity

Future Networks
Creating the Network for secure, smart and seamless services

Internet of Things
Mobilising the Internet of Things
MARKET GROWTH

IoT M2M Connections Forecast Growth

<table>
<thead>
<tr>
<th>Year</th>
<th>Connections</th>
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<tbody>
<tr>
<td>2015</td>
<td>6bn</td>
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<tr>
<td>2020</td>
<td>15bn</td>
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Source: Machina Research, 2016

MARKET OPPORTUNITY

Enable Operators to deliver the breadth of IoT solutions required and move up the value chain to achieve full market potential.

$1.3 TRILLION

Total IoT Services Revenue market in 2020

Source: Machina Research, 2016

FOCUSED DELIVERY ON KEY MARKET ENABLERS

- Mobile IoT to develop licensed LPWA opportunity and pilots
- Customer focused remote SIM provisioning
- IoT Big Data harmonised data and APIs
- Securing the IoT
- Sustainable IoT regulatory & policy environment
- Active industry engagement – Smart Cities, Automotive and Health

More info on IoT - www.gsma.com/connectedliving
IoT services can be linked by common infrastructure, data sets and technologies.

Mobile operators are able to provide connectivity and managed services for a variety of applications with very diverse requirements.
Mobile IoT refers to 3GPP standardized secure operator managed IoT Networks, in particular low power wide area network.

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Major Development: Growing Mobile IoT Ecosystem

Supported by all major vendors in the mobile ecosystem
Clear roadmap: LTE-M and NB-IoT will become part of 5G standard

Chipsets and modules

Infrastructure
Sample IoT Model
GSMA IoT Security Guidelines Structure

• IoT Service Providers
• IoT Device Manufacturer
• IoT Developers
• Network Operators
Security Challenges Inherent In The Growth of IoT

- Availability: Ensuring constant connectivity between Endpoints and their respective services
- Identity: Authenticating Endpoints, services, and the customer or end-user operating the Endpoint
- Privacy: Reducing the potential for harm to individual end-users
- Security: Ensuring that system integrity can be verified, tracked, and monitored
eSIM and Remote SIM Provisioning

OEM signed contract with Operator A

Business Step
ESIM Portability

Customer

Profile Generation

Profile Delivery

Service

Discovery

Device Agent

Embedded SIM

Fully encrypted download can be direct to Embedded SIM or to 'trusted' device agent.
Example – Endpoint Overview

Wearable Heart Rate Monitor

BLE+MCU

Photo Sensor
Flow of Data to Simple Back End Service
Resultant Service Ecosystem
Thank you

http://www.gsma.com/connectedliving/