The benefits of device intelligence for operators

Tyler Smith, GSMA Senior Product Director
We play a vital role in the use of mobile device identifiers

**TAC Allocations**

The GSMA manage the industry’s global device identity scheme, called TAC. TAC is an 8-digit code which identifies all connected equipment types at product / brand level.

![TAC Example](image)

**Device Identifiers**

The GSMA holds highly accurate and unique data for over 8 billion devices for identification and verification purposes.

![Device Identifier Example](image)

**Device Status**

Flag devices you own to indicate i) theft ii) fraud status to help block their use iii) trade iv) repair, v) subject to an ownership or financial claim.

![Device Status Example](image)

**Device Check**

Check the status and history of an IMEI for real time ecommerce valuation purposes, and to identify fraudulent / irregular claims.

![Device Check Example](image)

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TAC = Type Allocation Code | OEM = Original Equipment Manufacturers | IMEI = International Mobile Equipment Identity

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Our Data Primary Source

- We hold the records of over 200K+ Type Allocation Codes
- Details of over 8 Billion devices

<table>
<thead>
<tr>
<th>Device Category</th>
<th>Available device attributes / properties</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Device Identification</strong></td>
<td>Manufacturer, consumer recognized marketing name, model name, brand name, year released</td>
</tr>
<tr>
<td><strong>Hardware Information</strong></td>
<td>Device type (M2M device, Tablet, Smartphone, Watch, etc.), screen size, chipset, CPU, clock speed, RAM, VoLTE enabled, IoT endpoint, IoT enabler, IoT controller</td>
</tr>
<tr>
<td><strong>Operating System</strong></td>
<td>OS name and minimum OS version (e.g. Android 8, iOS 11, etc.)</td>
</tr>
<tr>
<td><strong>Network Protocols</strong></td>
<td>2G, 3G, 4G, 5G, LTE Category, VoLTE, VoWiFi</td>
</tr>
<tr>
<td><strong>Browser</strong></td>
<td>Name, version, rendering engine, etc.</td>
</tr>
<tr>
<td><strong>HTML5</strong></td>
<td>CSS, HTML5 properties</td>
</tr>
<tr>
<td><strong>Multimedia</strong></td>
<td>Streaming, Audio, Video codecs, Bluetooth</td>
</tr>
</tbody>
</table>

The 8-digit TAC identifies the brand owner, model and marketing name

The 15-digit IMEI identifies the individual device when seen on a network

<table>
<thead>
<tr>
<th>Type Allocation Code (TAC)</th>
<th>Serial Number</th>
<th>Check Digit</th>
</tr>
</thead>
<tbody>
<tr>
<td>86</td>
<td>916102</td>
<td></td>
</tr>
<tr>
<td>Reporting Body Identifier</td>
<td>Unique Number assigned to individual devices by the manufacturer</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A function of the other digits [calculated by the manufacturer]</td>
<td></td>
</tr>
</tbody>
</table>

International Mobile Equipment Identifier (IMEI)

Mobile / Feature Phone | Smartphone | Tablet |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>IoT Device</td>
<td>Wearable</td>
<td>Dongle</td>
</tr>
<tr>
<td>Modem</td>
<td>WLAN Router</td>
<td></td>
</tr>
</tbody>
</table>
GSMA’s device data overview

Our device intelligence is used in several industry sectors

- Device Traders
- Government and Regulators
- Insurers
- MNO/MVNO
- Mobile Application/Software
- Retailers

Benefits to customers

- Accurate and fast device identification on networks assists in network rollout / sunsetting of proper subscription rates
- Quickly verify device legitimacy at ports of entry
- Integration of our device data with internal analysis and workflows brings incremental value, i.e., determining an upsell campaign or valuation of a device
GSMA TAC based data service types

GSMA Device Database

- 10,000+ device models launched every year
- 10,000+ device models in the database
- 1 global source of device manufacturers

GSMA Device Map

- 150+ curated device capabilities
- 20+ IoT device-type classifications
- Mapped over GSMA TAC Data

- 2G-5G manufacturer and model identification
- Uplink/downlink MIMO and QAM band performance
- Operating system identification

- 2G-5G manufacturer, model, and marketing identification
- Consumer IoT vs M2M device monitoring
- Chipset and browser HTTP protocol
- Uplink/downlink MIMO and QAM band performance
Service delivery and data ingestion

• Secure end point connection
  ✓ Daily updates
  ✓ Automation of file retrieval
  ✓ Delta reporting

• General Web Portal Access

• Scoping real-time API for tighter and more seamless integrations