

**GSMA**  
**Services Showcase**  
**LIVE**

# Driving 5G Innovation with GSMA Device Intelligence Showcase Live #16

Monday 25 November 2024  
14:00 – 15:00 GMT

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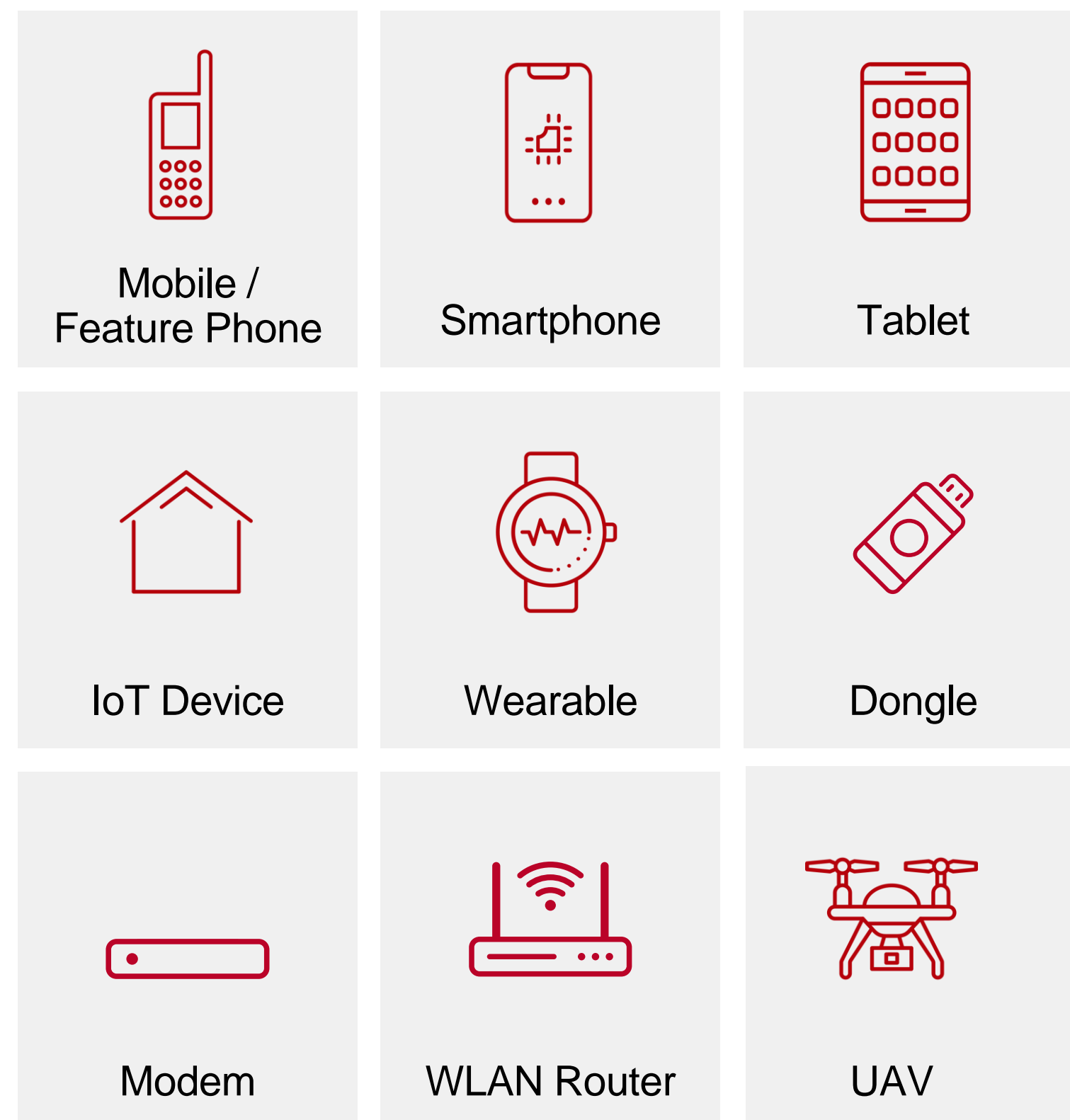
**GSMA**<sup>™</sup>

# Agenda

Time	Segment	Speaker
14:00	Welcome and housekeeping	Chris Sumner-Smith <b>GSMA</b>
14:05	<b>Exciting updates for Device Intelligence:</b> New device intelligence service updates including NTN Satellite support and outlines what to expect in 2025.	Tyler Smith, Senior Product Director, <b>GSMA</b>
14:15	<b>Enabling operators to make informed 5G related business decisions:</b> Overview of how Invigo's device management solution makes use of the Device Database service to correctly identify and remotely manage mobile devices, including smartphones, wearables, IoT devices, and 5G devices.	Ibtissam Hajjar, <b>Co-Founder, Invigo</b>
14:25	<b>Introducing 5G non-standalone GSMA Device Compatibility attribute:</b> Insight into a new 5G non-standalone service enhancement for Device Compatibility, crucial for optimising network capacity.	Emily Traxler, <b>Vice President of Revenue, PrologMobile</b>
14:35	<b>Driving automative connectivity solutions:</b> Use case of how Device Compatibility enhances Airnity' solutions which aim to simplify connectivity for the connected car industry.	Bertrand Cognet, <b>Partners Experience, Airnity</b>
14:45 – 15.00	Q&A and closing remarks	Chris Sumner-Smith <b>GSMA</b>

# Our Data Primary Source

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



## Type Allocation Code (TAC)

**86**

Reporting Body Identifier

**916102**

Type Identifier indicating brand owner and device model allocated by Reporting Body

## Serial Number

**991292**

Unique Number assigned to individual devices by the manufacturer

## Check Digit

**0**

A function of the other digits [calculated by the manufacturer]

## International Mobile Equipment Identifier (IMEI)



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

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

# What is GSMA's device information used for?

Companies operating in the mobile ecosystem use our data to manage and enhance their businesses in many powerful ways, for example:

## Device Validation



Gain confirmation on whether the device matches what's been registered by the true manufacturer

## Device Management



Assists in remote management of devices for software updates

## Network Management and Band Planning



Identify devices and usage patterns for network optimisation, and determine bandwidth utilisation for deployments, such as 5G rollout

## Business Analytics



Research technical or business trends by device type

## Precision Marketing



Develop compelling offers based on device characteristics and capabilities

## Counterfeit Detection



Detect misalignments between a device and the manufacturer's formal record

## Device Valuation



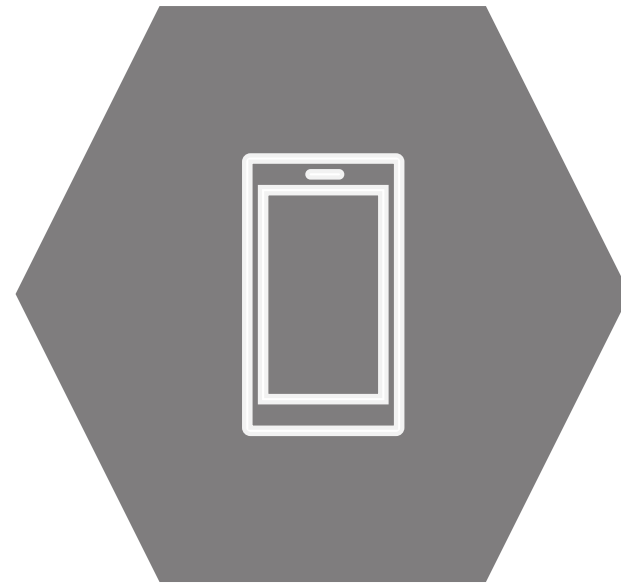
Determine an accurate device value for recycling or insurance purposes

# Coming soon to Device Intelligence...

- **NTN Satellite** - Implementation of NTN Connectivity and Frequency Bands allowing you to see whether mobile device equipment can connect via NTN
  - **UAS/UAV** - Inclusion of a new equipment type, UAS/UAV, (Unmanned Aerial System / Unmanned Aerial Vehicle) allowing you to gain data on this new attribute
  - **5G REDCAP** - Introduction of new Band performance attribute 5G REDCAP (Reduced Capacity)
- Highest OS Version:** quickly identify the highest OS Version a device can support
- Bluetooth Version:** Verify the highest version of bluetooth a device can operate or interact to ensure that devices have the best compatability with accessories or M2M communications.

# About INVIGO

## WHAT WE DO AND HOW THE GSMA DEVICE DATABASE HELPS



*The GSMA Device Database at the heart of our Device Management and Fraud Management solutions*



### Device Management

- Manage mobile, fixed, and IoT devices efficiently
  - Manage wearables through DES



### Fraud Management

- Control devices access to the network
  - Fight fraudulent devices behavior

### SIM & eSIM Management

- SIM Cards Management
- eSIM provisioning for consumer, IoT, and M2M

# Device Database and Invigo ADM

## HOW OPERATORS CAN BENEFIT

Allows operators to remotely detect, identify, configure, and manage mobile devices including **smartphones, wearables, and IoT** devices.

Device Identification is done thanks to the **GSMA Device Database service**

1

Full visibility of connected devices

3

Plan for informed network expansion & marketing campaigns

2

Seamless device onboarding

4

Target subscribers with promotional and marketing services



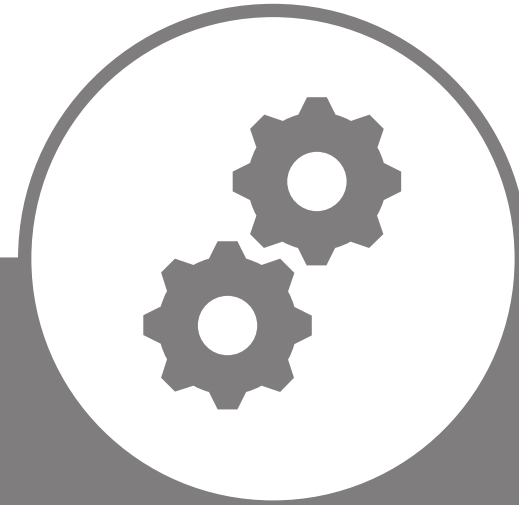
# What Is ADM?

## MAIN USE CASES



### Automatic Device Detection

Detect and identify mobile devices attached to the 2G/3G/4G and 5G networks



### Automatic Device Configuration

Configure data services like Internet, WAP, MMS, and other.



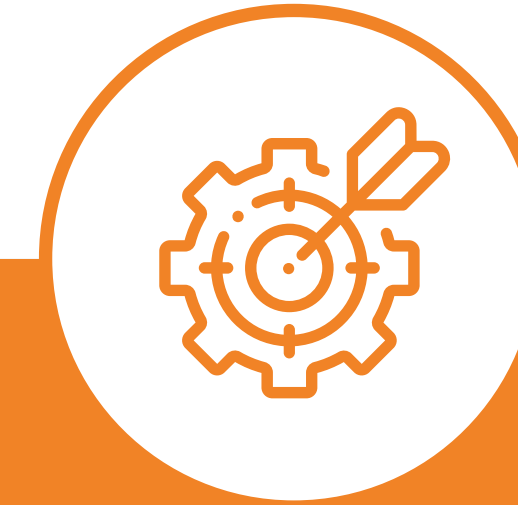
### Device Analytics

Big Data Reporting Center key for informed investment and business decisions



### Device Repository

One of the industry's richest device repositories with a rich set of attributes facilitating the work of customer care agents



### Automatic Targeted Triggers

Send triggers to external nodes and engage with subscribers through targeted campaigns

# Device Identification & Configuration

PROPER IDENTIFICATION ALLOWS SEAMLESS CONFIGURATION

- Subscriber Information
- Event History
- Device History
- Statistics
- Report a problem

MSISDN: 9613432964 | First Detected on: 2023-12-21 04:43:56 | EIR Status (since last detection): Whitelisted

Settings sent to device : None | Automatic OTA blocked for : None | Provisioned services : None | Sent Triggers : None

## Device Information : Samsung SM-S928BDS/Samsung Galaxy S24 Ultra



IMEI: 35526289682917  
IMSI: 415034171724475  
Device Updated on: 2024-04-19 14:17:25  
Manufacturer: Samsung  
Marketing Name: Galaxy S24 Ultra  
Technical Name: SM-S928BDS  
Year: 2024  
OS: Android OS 14.0  
Device Type: Phablet  
Latest Supported Generation: 5G

Show all

## Device Configuration

OTA Setting	Configuration Package	Manual Configuration Guide
MMS	☆ MMS	
APN	☆ internet	
Internet	☆ Prepaid Internet	
Other Messages	Welcome SMS	Before OTA SMS
	Promo SMS	eSIM Campaign

Manage Automatic OTA Configuration

Configure a non-detected device

Show all

Send all default settings

# Device Repository

OPERATORS CAN BENEFIT FROM A RICH SET OF DEVICE ATTRIBUTES







Device Information : Apple A3089/Apple iPhone 15

A3089

Manufacturer	Marketing Name	Technical Name	Year	OS	Device Type	Latest Supported Generation
Apple	iPhone 15	A3089	2022	iOS 17.x	Phablet	5G



Detected subscribers: 2670

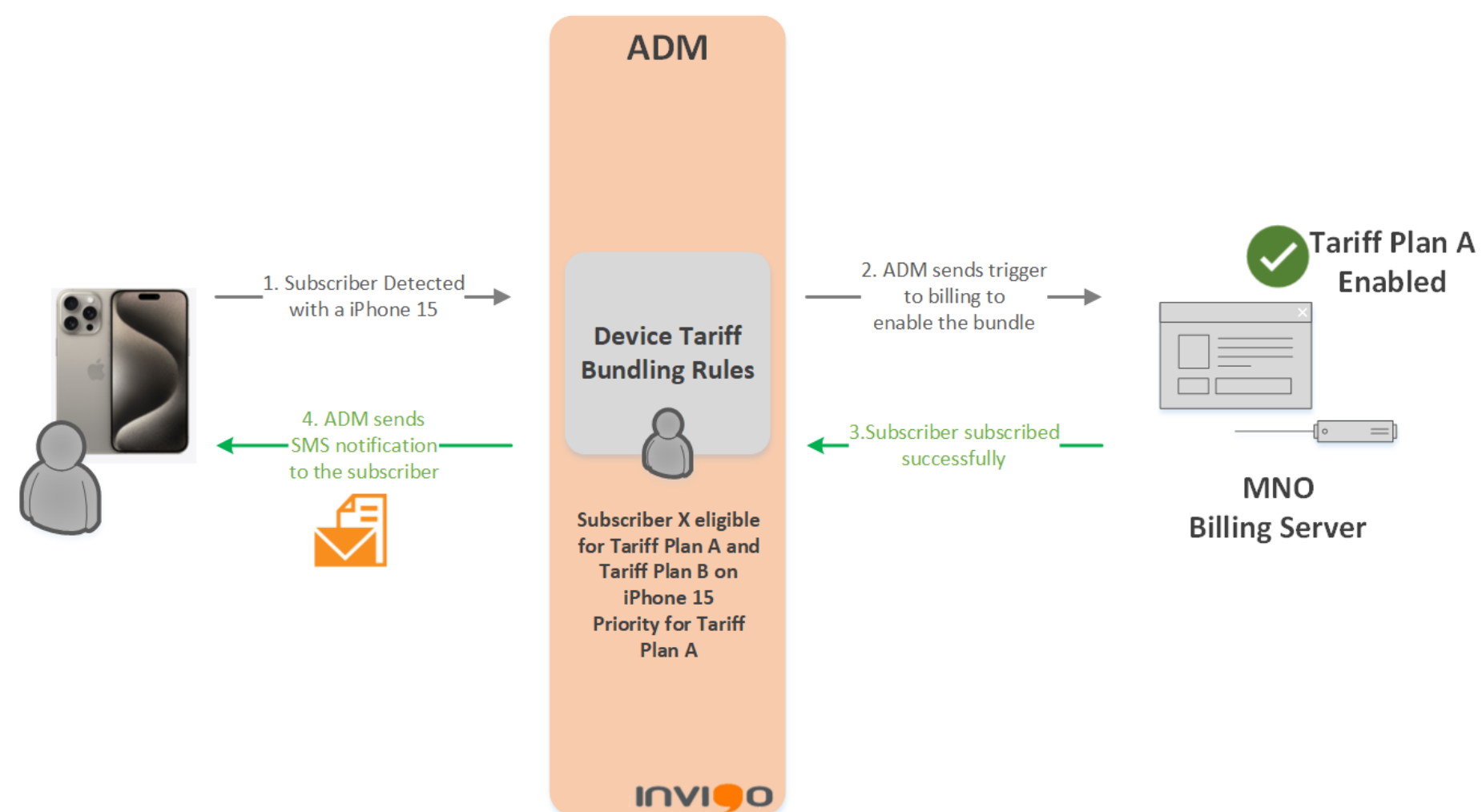
<b>Display</b>  Screen Size (inch) 6.1 Height (mm) 8.00 Width (mm) 72.00	<b>Battery</b>  Type N/A Battery Capacity 3349	<b>Hardware</b>  Chipset A16 Bionic RAM Capacity N/A
<b>Storage</b>  Internal Size (MB) 128k Expansion(s) N/A	<b>Camera</b>  Resolution (MP) 48 Type Dual camera	<b>SIM</b>  Dual Yes Type Mini SIM/eSIM

Main	Software	HW Physical Specs	HW Performance	Cellular	Communication	Multimedia	Custom
<p><a href="#">Edit</a> <span style="float: right;">Search</span></p>							
<b>Long Marketing Name</b>		Apple iPhone 15					
<b>Model</b>		Apple A3089/Apple iPhone 15					
<b>Marketing Name</b>		iPhone 15					
<b>Technical Name</b>		A3089					
<b>Manufacturer</b>		Apple					
<b>GSMA Manufacturer</b>		Apple Inc					
<b>Year</b>		2022					
<b>Release Date</b>		2022					
<b>Device Type</b>		Phablet					
<b>Price Range</b>		High					
<b>3GPP Release</b>		15					
<b>OTA Support</b>							
<b>M2M Device</b>		No					

# Device based Triggers

## 5G TRIGGERS FOR A SMOOTHER 5G LAUNCH

Triggers sent based on identified device model and characteristics makes 5G launch smoother for operators



### Example 1: Promoting 5G while ensuring compatibility

- The operator defines a whitelist of 5G devices compatible with its network.
- Upon detecting a subscriber holding a device belonging to this whitelist, the ADM platform sends a trigger to the subscriber to promote 5G services

### Example 2: 5G provisioning and activation

- Upon detecting a 5G device, the ADM platform sends a trigger to the operator HSS to activate the 5G service for the corresponding subscriber.

# Device Analytics

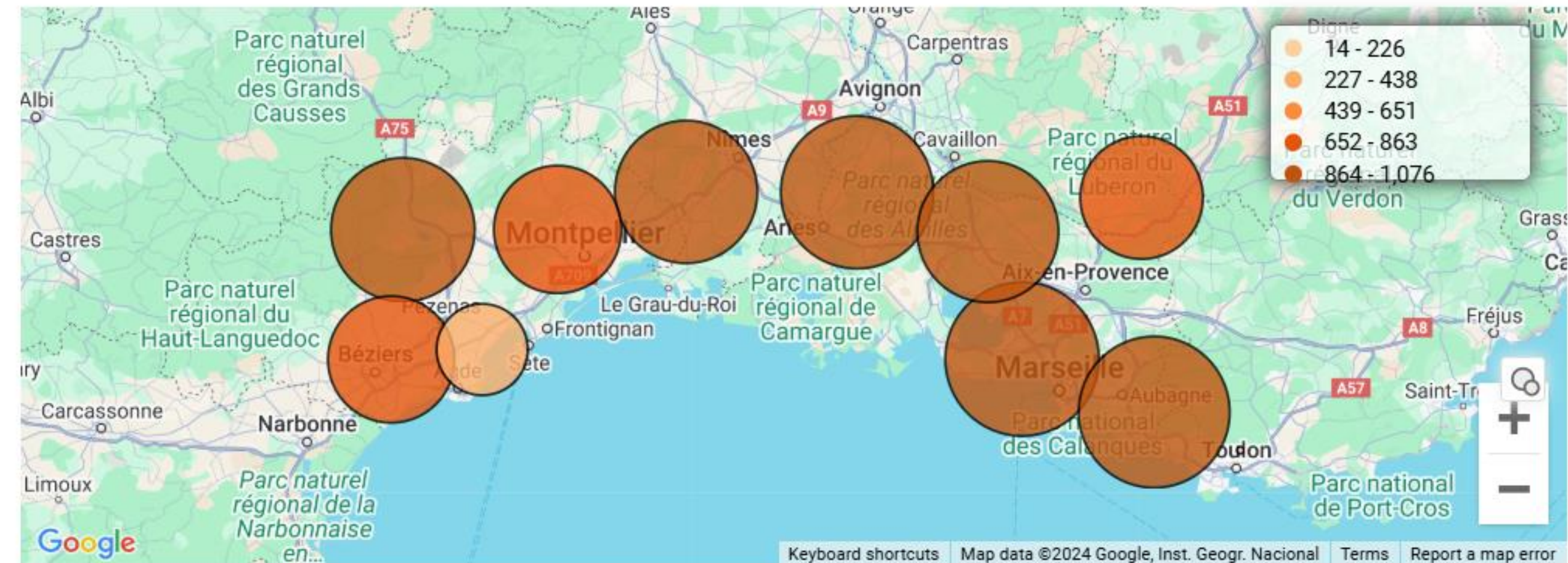
5G DEVICE STATISTICS TO MAKE THE RIGHT DECISIONS AND PROMOTIONS

## 5G Dashboard

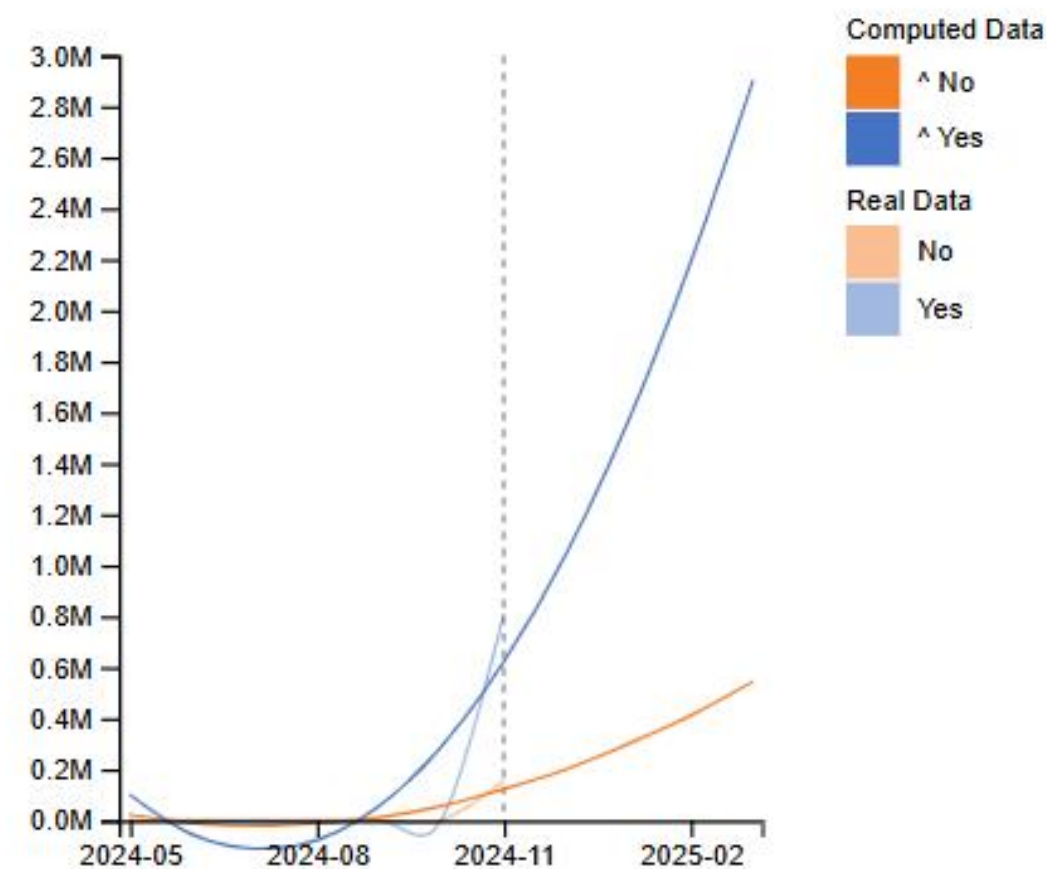
Total Count of 5G Devices

822,832

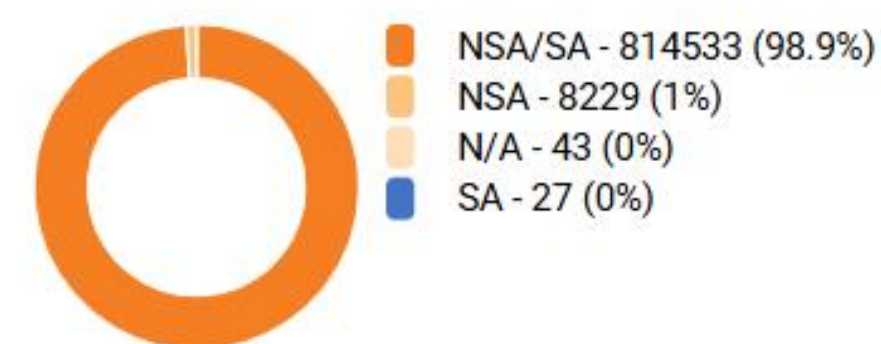
5G Devices Location



5G Devices Evolution Prediction



5G Devices Distribution by Network Architecture



Top five 5G Models



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# DEVICE COMPATIBILITY & 5G NSA

Instantly Determine Device-to-Network Compatibility

Powered by



# AGENDA

Introduction

Device Compatibility Overview

Why did we create Device Compatibility?

Use Cases

Q&A

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# INTRODUCTION



**Emily Traxler**

Vice President of Revenue  
PrologMobile

PrologMobile is the world's leading data-as-a-service provider for the secondary connected device market.

Our vision has always been to create transparency around every device before buying or selling in this rapidly expanding market.

We accomplish this vision by providing critical decision-making data points with only an IMEI or Serial Number.

Powered by



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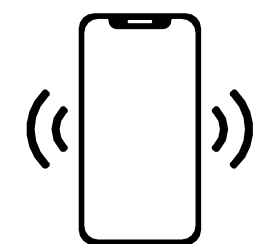
# DEVICE COMPATIBILITY



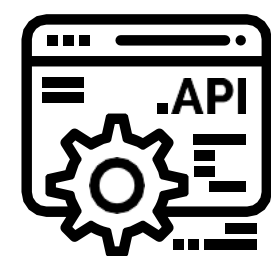
Determine exactly which segments of your network a specific device can connect to and utilize, offering insights towards optimal performance and coverage strategies.



Identify if a device is compatible with various network technologies, including 2G, 3G, 4G, 5G Standalone (SA), and 5G Non-Standalone (NSA).



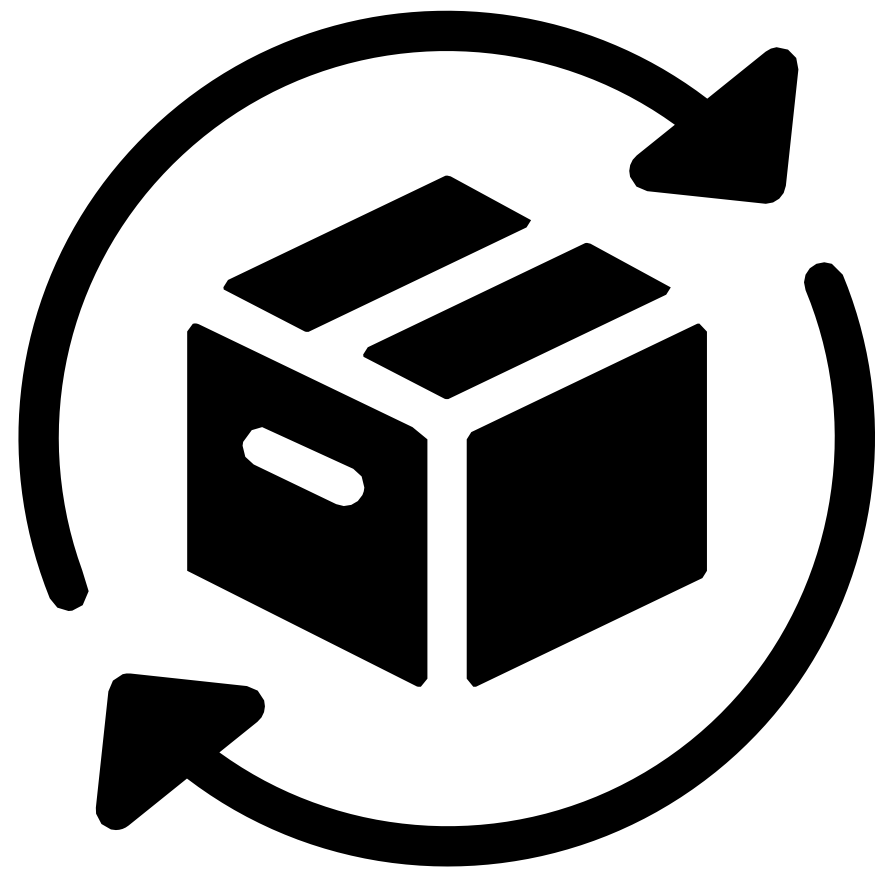
Assess device compatibility for new customers joining your network. If a device has a low compatibility score, proactively offer a newer or more suitable device to enhance their experience.



Enjoy the ease of use with our tool; the APIs are designed for quick and seamless integration into your existing systems.

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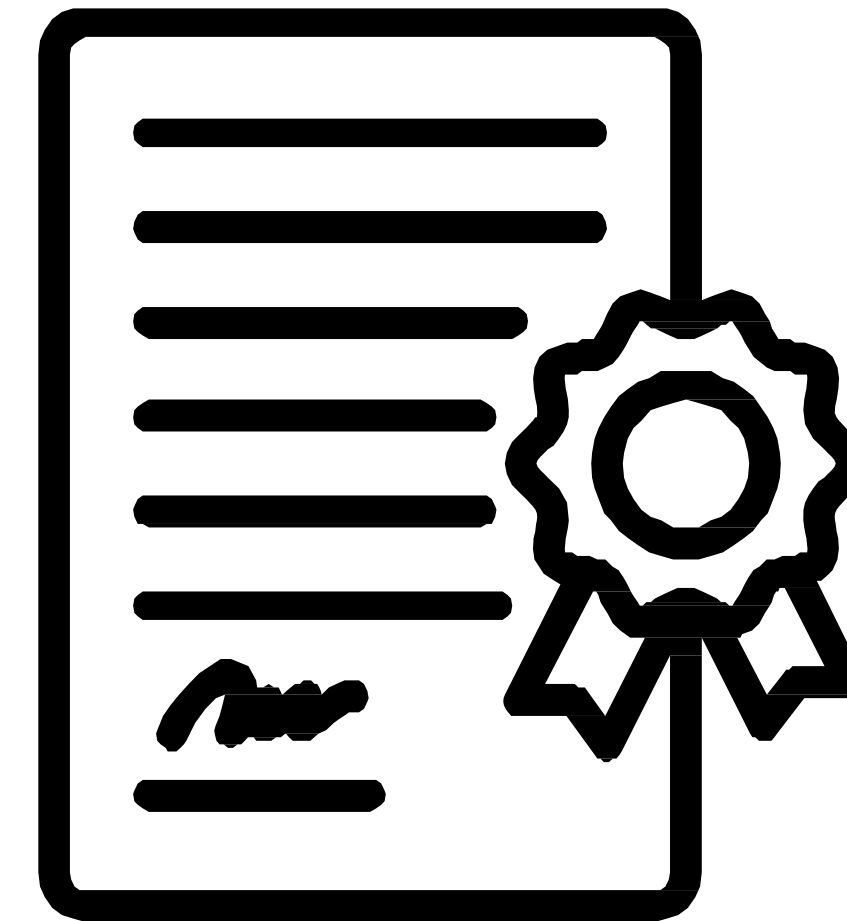
# A NEEDS BASED SOLUTION



European Devices shipped to Australia Returned Months Later



3PL Donates Devices to War Zone with Possible 40% Failure Rate



PrologMobile Researches, Files Patent, and Builds Solution



In Partnership with GSMA, Device Compatibility is Launched to Global Audience

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# INTRODUCING 5G NSA

A bridge to Full 5G

Enhanced Performance  
Insights

Cost Efficiency for Networks &  
Users

Increases Device LifeCycle

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# USE CASES

## CARRIERS & MVNOS

Overall Customer Experience



## ROAMING

Identify compatibility across carriers for roaming devices

## PROCESSORS & 3PLS

Shipping, sourcing, & investing in devices in certain areas.



## ACTIVATION

Support BYOD programs with immediate compatibility checks

## MARKETPLACES

Pricing and certification



## SUPPORT

Reduce RMAs by detecting low compatibility devices

## INSURANCE

Will they work as expected the first time?



## UPSELL

Optimize buyback programs by identifying compatible devices

## WHOLESALEERS & TRADERS

Will it work where I want to sell it?



## OPTIMIZE

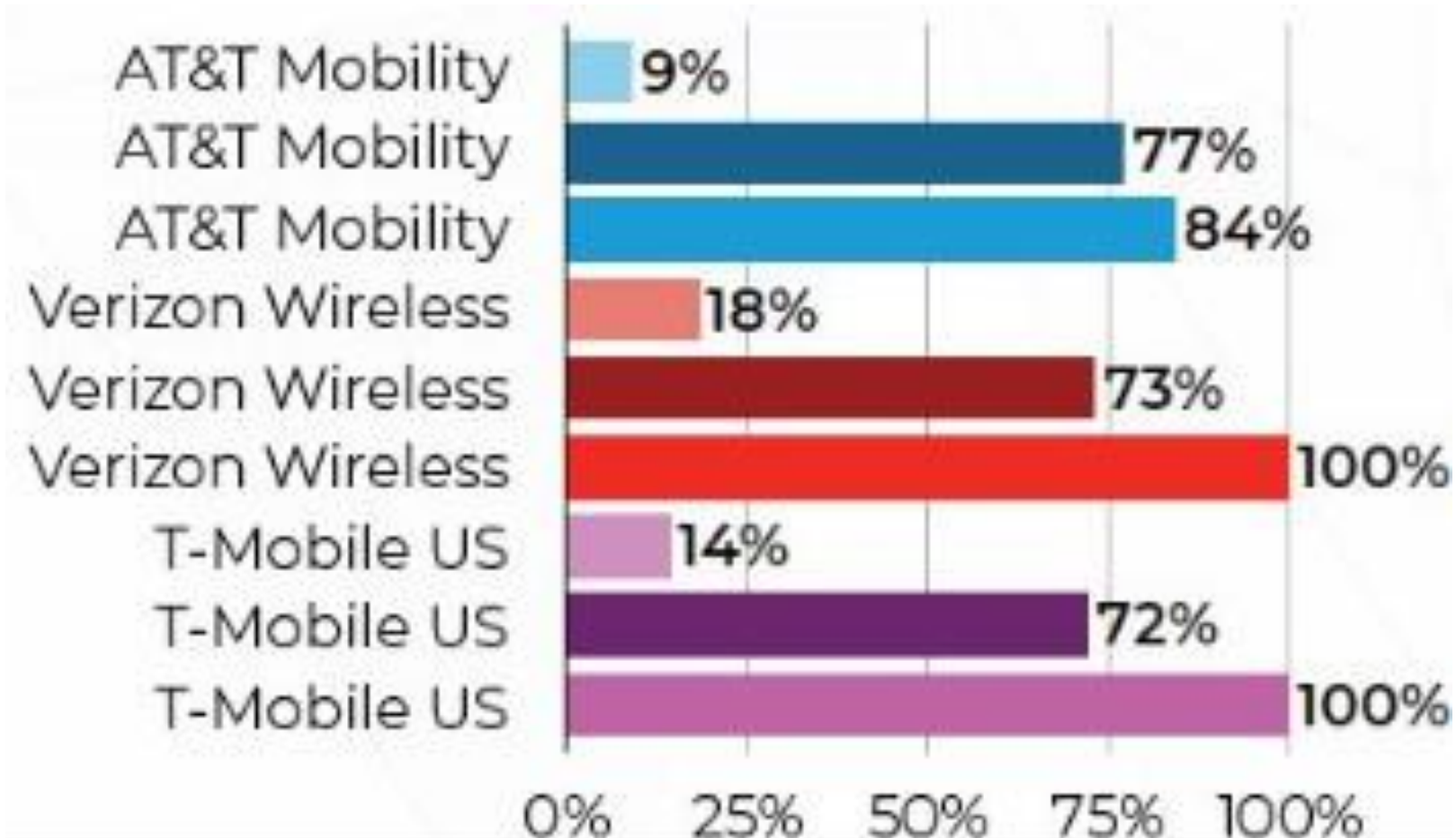
Target regions globally for device re-marketing

Powered by



# HOW IT WORKS

Our platform will identify the percentage level of fit for each IMEI tested for 2G, 3G, 4G, 5G, and 5G NSA network compatibility.



Results for 3 Same Model Samsung Devices  
Run Against US Carriers for 5G Compatibility

- Data is available for over 200 countries and territories and over 800 networks. And growing!
- Access is via a website user interface or an API.
- Results are served in seconds.

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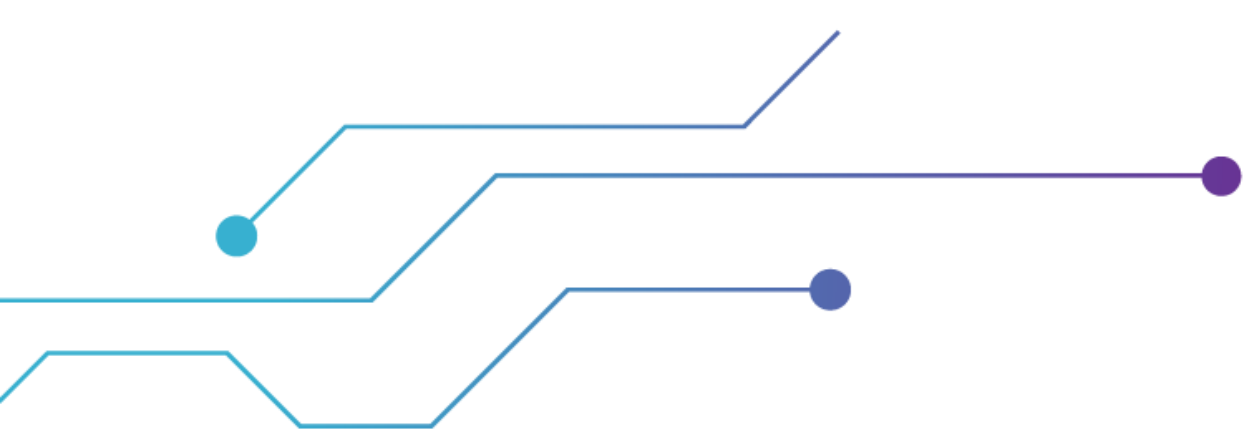
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# THANK YOU!

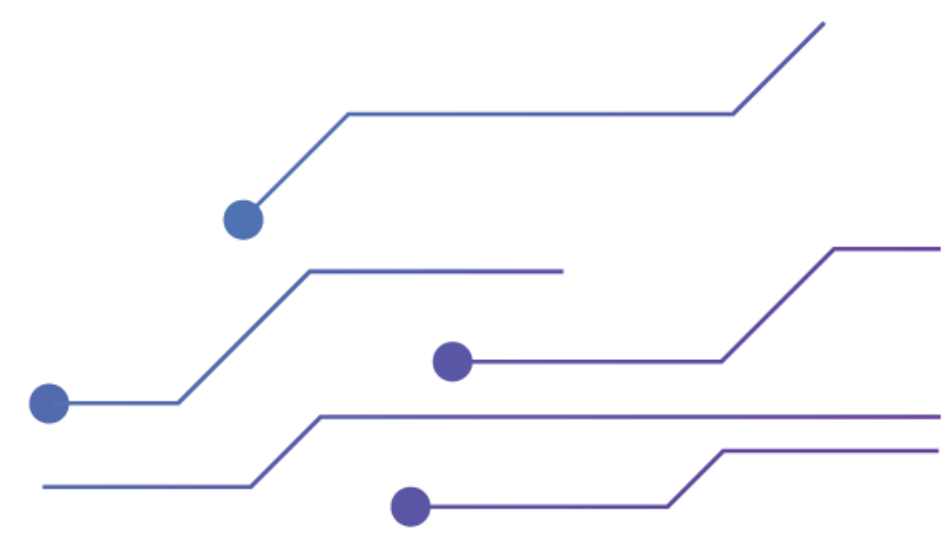
**[Emily.Traxler@prologmobile.com](mailto:Emily.Traxler@prologmobile.com)**

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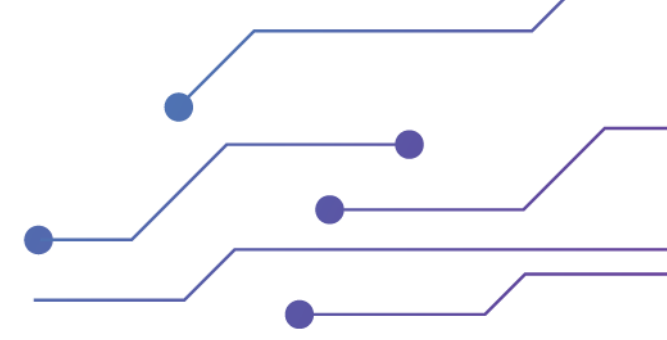




Connectivity on wheels

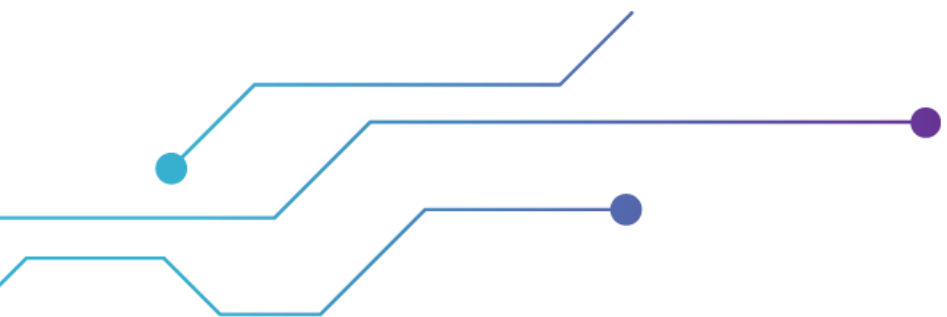


# Airnity in a nutshell

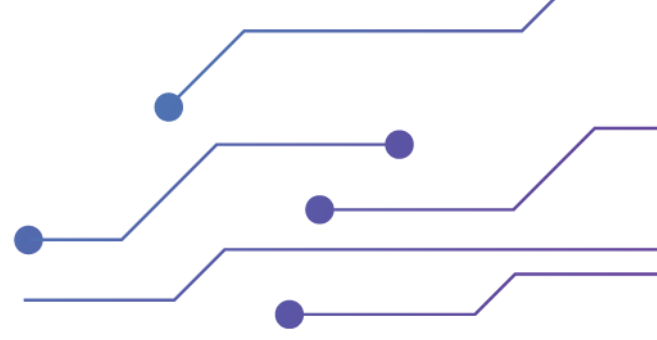


## Key points:

- Mobile Virtual Network Operator
- Pure player – connected vehicle
- Worldwide uniformized coverage



# Supported TelCo services



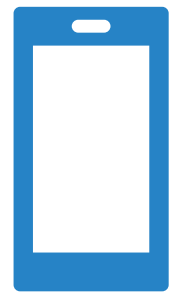
## Connectivity Services

- 2G/3G/4G/5G
- Voice and VoLTE, CLIP
- Multiple Public/Private APN per subscriber with configurable IP filtering rules
- Network slicing
- Integration with 4G & 5G Private Network



## Emergency and Safety Services

- Regulatory eCall
- NG-eCall
- Breakdown call / Assistance call



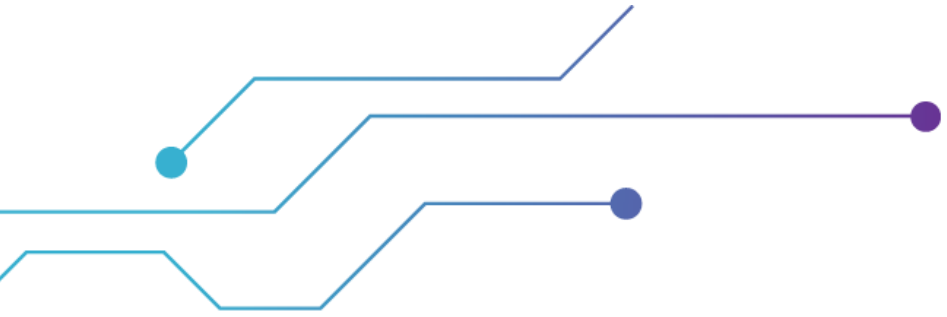
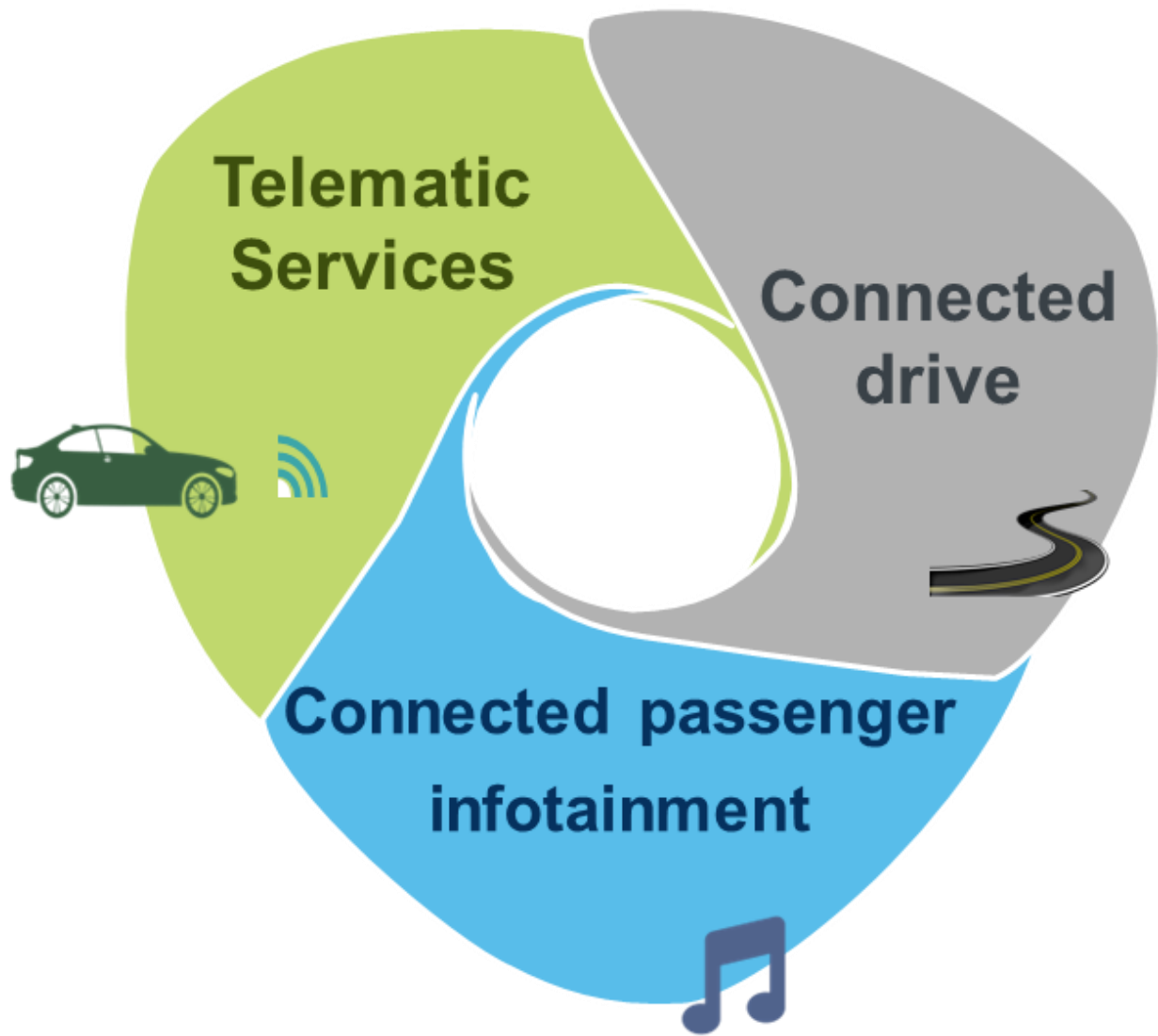
## Messaging Services

- SMS MO/MT, SMS over Data, SMSoLTE
- SMS AO and AT



## Call Routing and Management

- Direct link with TSP via SIP trunk
- Dynamic call routing based on location
- Call filtering





**Thank you  
for joining, any  
questions?**