GSMA
Services Showcase
LIVE

#12 Accelerating digital connectivity through eSIM

Wednesday 24 January 2024
14:00 – 15:00 GMT

© GSMA 2024

Agenda

Time	Segment	Speaker
14:00	Welcome and housekeeping	Chris Sumner-Smith **GSMA**
14:05	Overview of the eSIM market and trends to watch in 2024	Pablo Iacopino **GSMA Intelligence**
14:15	Discussing the eSIM IoT ecosystem and how it will unlock mass IoT deployment	Gloria Trujillo **GSMA**
14:25	eSIM Version 3 and its importance to consumer devices	Yolanda Sanz **GSMA**
14:35	Updates on GSMA eSIM Discovery and the upcoming Push notification enhancements	Chris Li **GSMA**
14:45 – 15.00	Q&A and closing remarks	Chris Sumner-Smith **GSMA**

© GSMA 2024

GSMA Intelligence

Momentum for eSIM is accelerating

Some of the trends we see in the eSIM market

1. The launch of eSIM-only iPhones in the US in September 2022 has accelerated eSIM deployments and commercial launches globally. **2023 the strongest year so far**

2. More and more operators are launching eSIM service – although MNO commercial push remains low

3. Some operators have launched digital-first or digital-only consumer propositions (including digital brands), targeting digital native and tech-savvy customers

4. Consumer awareness of eSIM is growing, but adoption remains low outside of the US. Consumer transition to eSIM takes time!

5. IoT: eSIM making inroads into private networks while seeking scale beyond connected vehicles

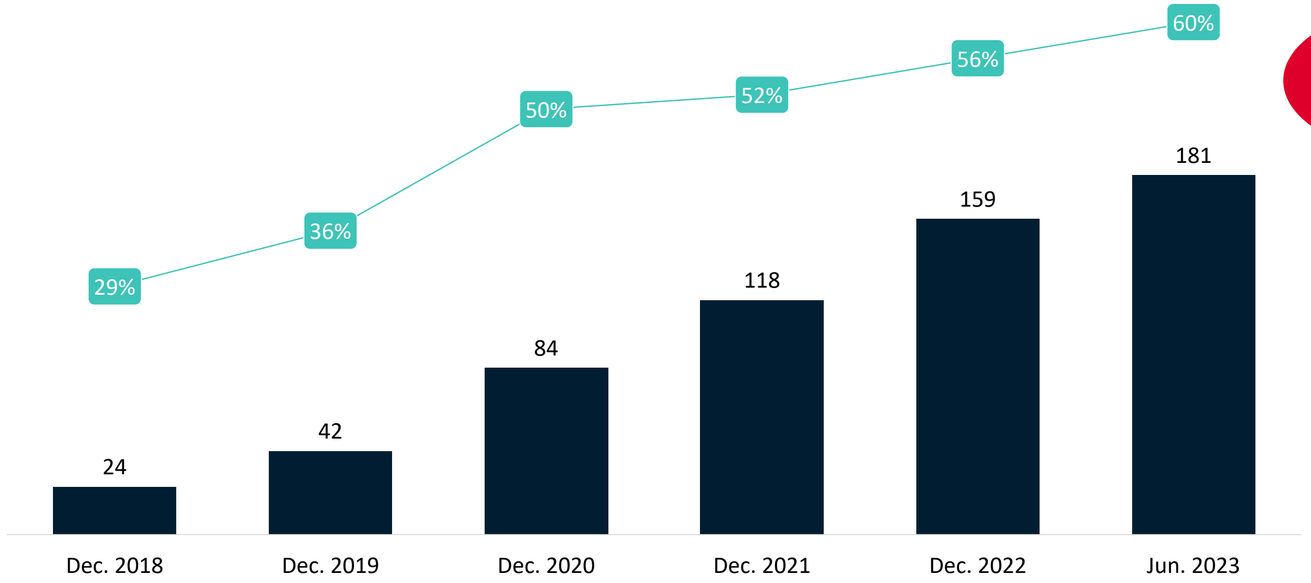
6. Ecosystem work on global specifications continues, including for IoT, consumer and integrated eUICC

eSIM availability in consumer devices

Commercialisation is ramping up, with 2023 the strongest year so far

How many eSIM consumer devices have been launched?

Number of models launched (cumulative figures for smartphones, smartwatches and tablets) and smartphone share (i.e. eSIM smartphones as % of total eSIM devices)



200+

Dec. 2023

- Significant growth over the last 5 years. Most of the top OEM brands have launched eSIM
- Wide range of eSIM devices: smartphones, smartwatches, tablets, laptops, 5G FWA devices, consumer IoT (bikes, GPS trackers, security cameras)
- eSIM-only iPhones a major milestone
- eSIM is mainstream in flagship smartphones. Limited availability beyond flagships

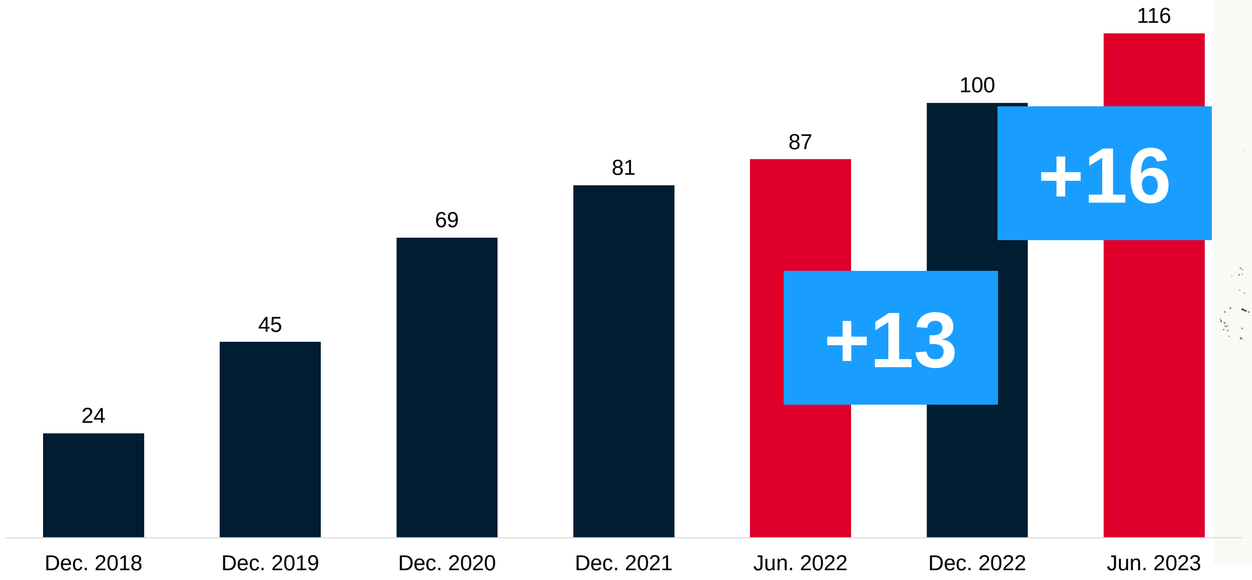
Source: GSMA Intelligence

eSIM service for smartphone is now global

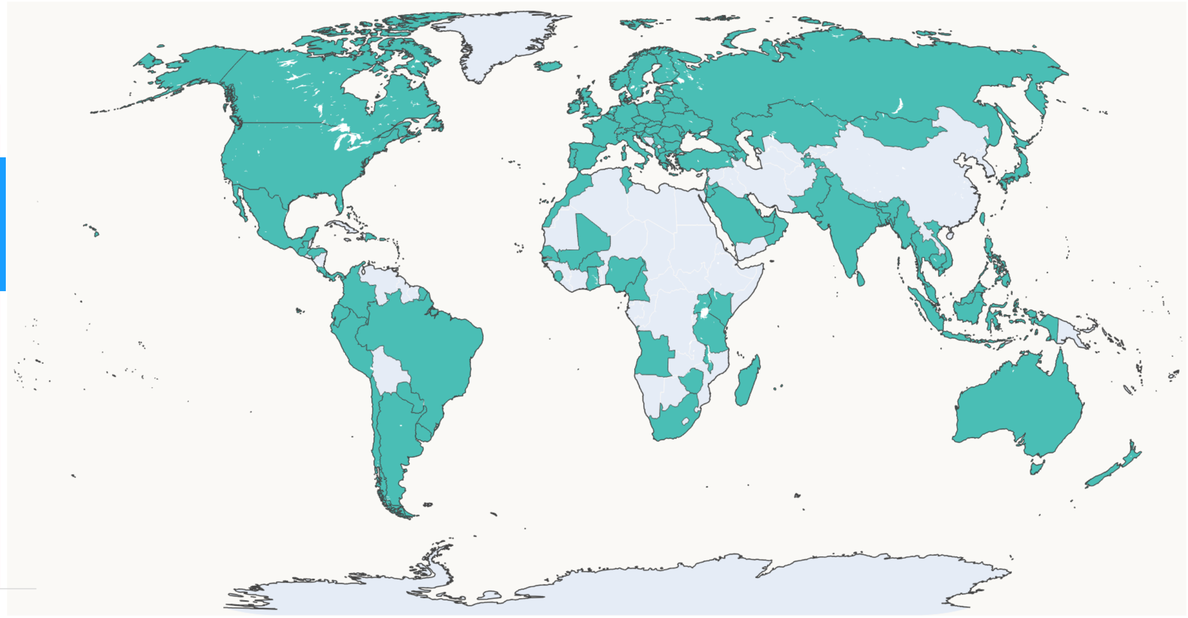
More than half of the world's countries have launched eSIM service

How many countries have launched commercial eSIM service for smartphones?

Number of countries



eSIM geographical reach



- China is still a notable exception: timeline is uncertain
- Africa is catching up: most of the 16 new launches in H1 2023 were in countries from Africa

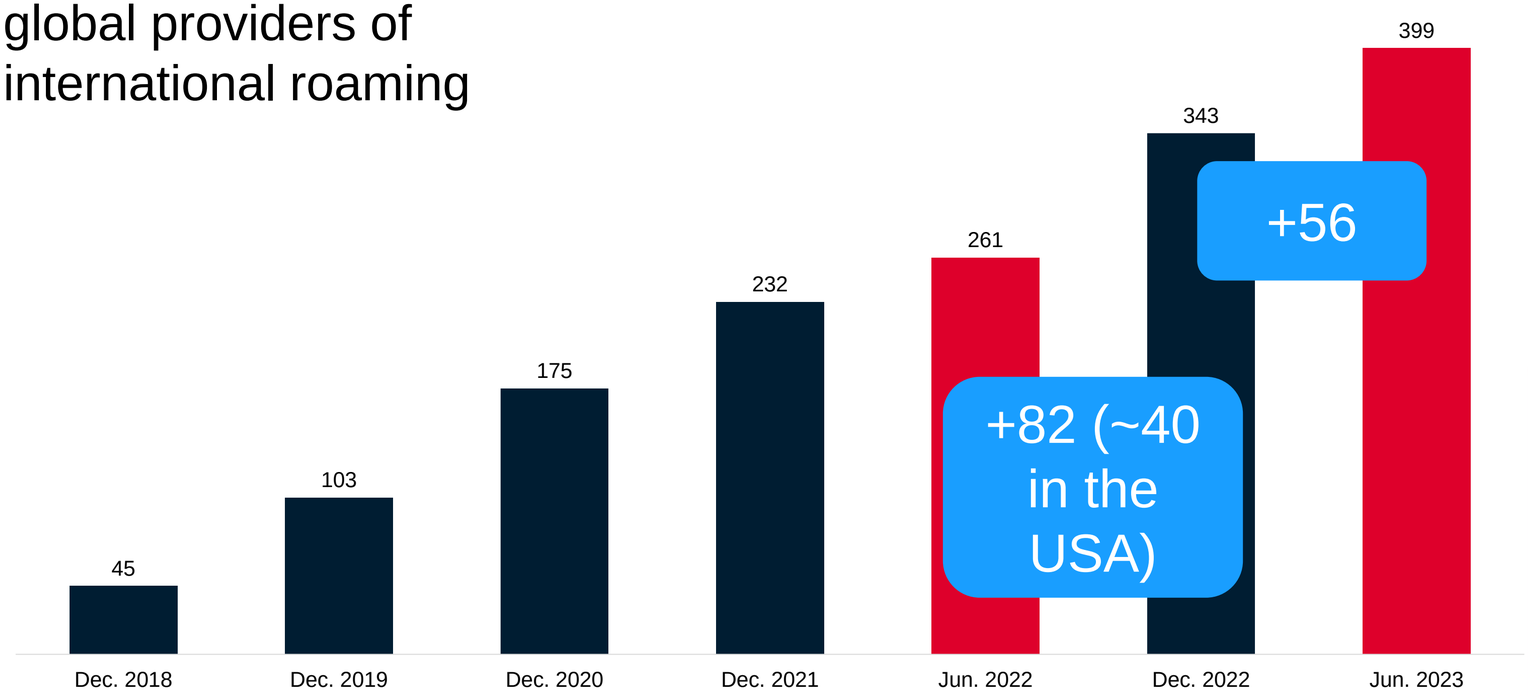
Source: GSMA Intelligence

Operators: acceleration of eSIM deployments/launches

~400 operators offer commercial eSIM service for smartphones

How many operators have launched commercial eSIM service for smartphones?

MNOs, MVNOs and global providers of international roaming



- eSIM-only effect since September 2022: a clear impact in the US and globally
- MVNOs are driving eSIM for international roaming

BUT…

- MNOs are not doing much (so far) to promote eSIM to their customers
- Only **11%** of eSIM-aware consumers have discovered the technology via operator channels

Source: GSMA Intelligence

New business models are emerging

Centred on digital; capitalising on the shift to digital

A range of operators have launched digital-first or digital-only consumer propositions (including digital brands), targeting digital native and tech-savvy customers

Leveraging eSIM as a main connectivity form factor

Digital brands

Some examples

- **Visible (US)**
- **Fizz (Canada)**
- **Telia Dot (Finland)**
- **Yoodo (Malaysia)**
- **Win by inwi (Morocco)**
- **Source (France)**

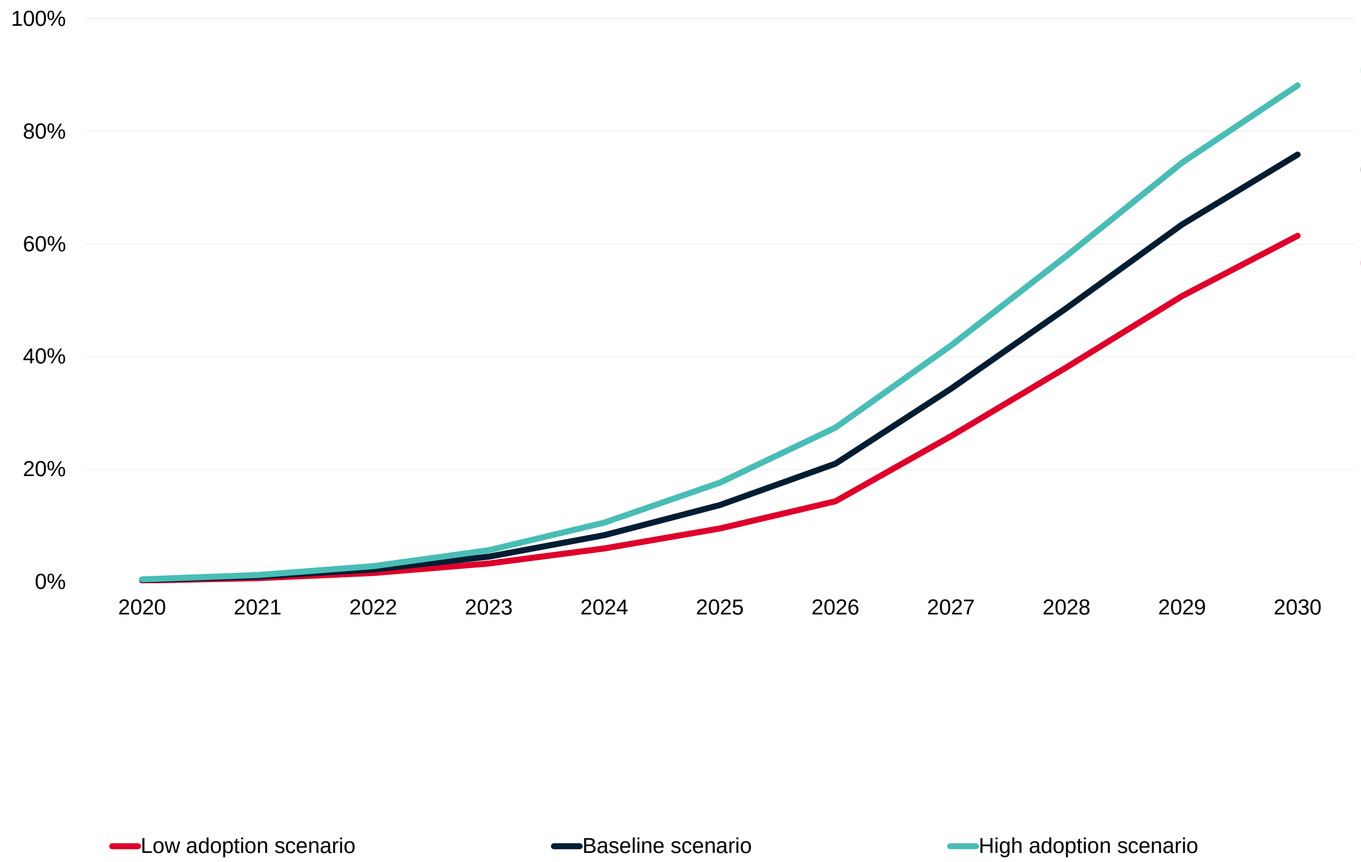
Source: GSMA Intelligence

Consumer awareness is growing, but adoption takes time

eSIM adoption in the smartphone market: forecast to 2030

eSIM smartphone connections to 2030

Percentage of total smartphone connections (installed base) globally



88% **8.0 bn**

76% **6.9 bn**

61% **5.6 bn**

eSIM smartphone connections (2030)

Key milestones: Baseline scenario (globally)

1 billion eSIM smartphone connections by **2025**

By 2028, half of smartphone connections will use eSIM

North America leading by far. Europe follows

Source: GSMA Intelligence

IoT is a promising market for eSIM

eSIM helps scale IoT, enabling digital transformation

SO FAR

Automotive

eSIM is already mainstream in connected vehicles

Beyond Automotive

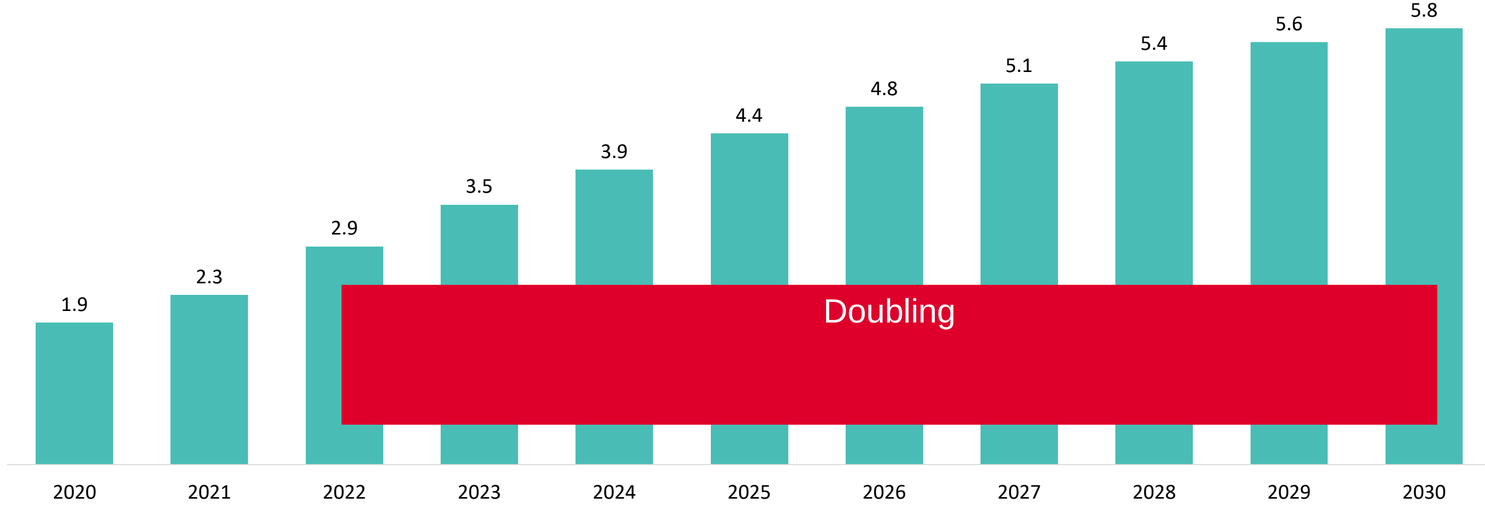
Single eSIM initiatives rather than sector-wide deployments

FUTURE OUTLOOK

Recent developments such as enhanced eSIM specifications, iSIM, RedCap – combined with continuous product innovation from eSIM vendors – should help accelerate adoption

IoT cellular connections globally

Billion. All SIM form factors



eSIM and iSIM targeting a growing share of the market

Source: GSMA Intelligence

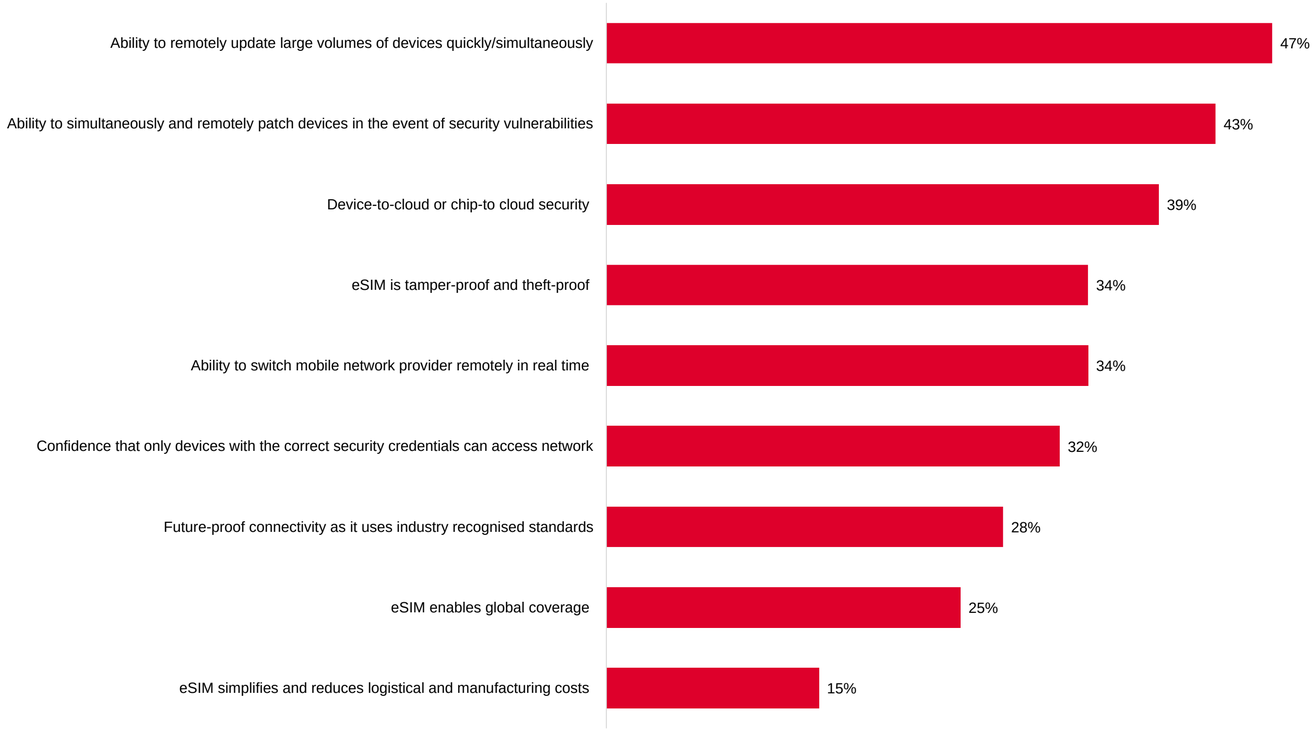
Why is eSIM important for IoT deployments?

Best-in-class security & scalability as the top eSIM benefits

It is encouraging to see an alignment between the benefits of eSIM for IoT deployments expected by enterprises and those promoted by operators: these centre around best-in-class security and scalability

Operator views: benefits of eSIM for enterprise IoT deployments

Percentage of respondents. Respondents could select the top three.



Source: GSMA Intelligence Operator Survey 2023

GSMA Intelligence

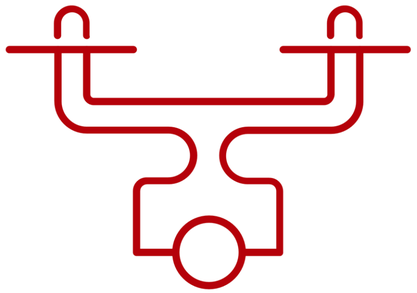
eSIM in 2024

Important developments to watch throughout the year

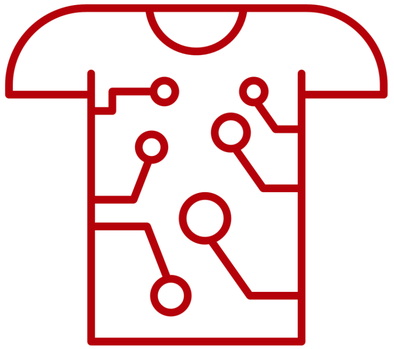
1. Will Apple launch eSIM-only smartphones in Europe?
2. Will we see greater availability of eSIM technology in low- and medium-end smartphones?
3. Will MNOs start to talk more about eSIM to their customers?
4. Will eSIM have an impact on churn?
5. Will eSIM start to scale in vertical sectors beyond automotive?

In Which IoT Device Could We Find an eSIM

Drone

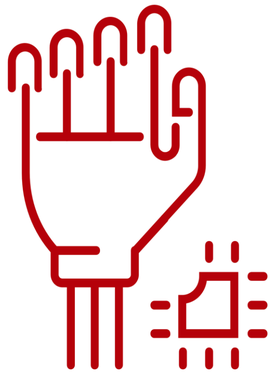


Smart Shirt



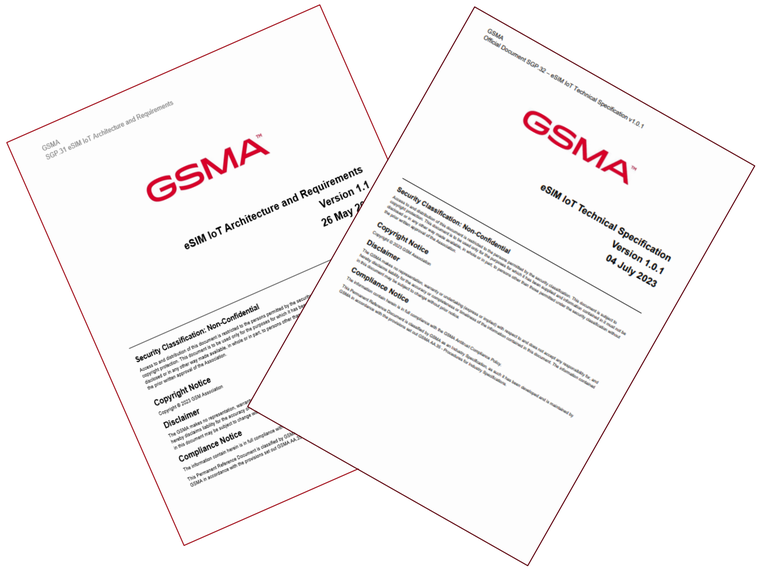
Smart Glasses

Smart Glove

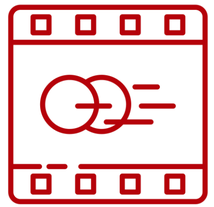


© GSMA 2024

The eSIM IoT Specifications



IoT Manager

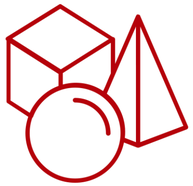


IoT Assistant

© GSMA 2024

How to get from specifications to products on the market?

2023



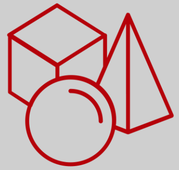
eSIM IoT Architecture and Technical Specs

eSIM IoT Security Specs for IoT eSIM

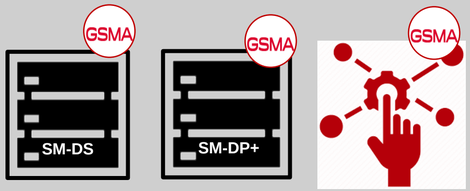
IoT eSIM Production Site

Server and IoT Manager implementation site

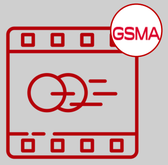
2024



eSIM IoT Architecture and Technical Specs Ready



Certified IoT Server and IoT Manager



Certified IoT Assistant (IoT Device)

Certified eSIM

© GSMA 2024

GSMA™

GSMA's eSIM Services

Security Accreditation Scheme (eSA)

Certification of eSIM Software and Hardware implementation

Security Assurance Scheme (SAS)

Certification of eSIM factory and Server implementation

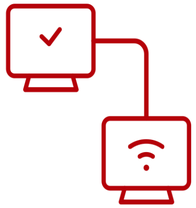
Compliance Process

Digital Certificate to operate on the GSMA eSIM Ecosystem

Identity Scheme (eIS)

Identification for the eSIM

eSIM Discovery



Digital method for profile activation

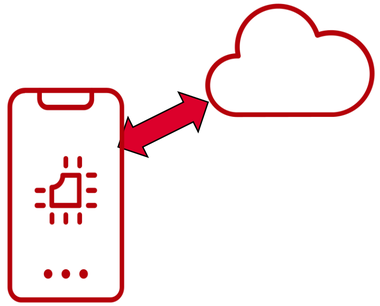
© GSMA 2024

GSMA™

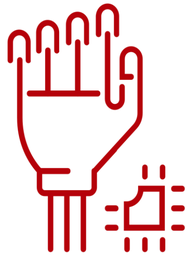
Highlights

TRUSTED CONNECTIVITY ALLIANCE

Download optimization (Light Profile Template)



End-user intent in Cloud/Server



IoT Devices without UI

No SMS or TCP/IP dependencies

Constrained IoT / B2B fleet management use-cases

Cover SMS-less and LPWAN (e.g. NB-IoT)

© GSMA 2024

GSMA

eSIM IoT Specifications

SGP.31

SGP.32

In which consumer devices can you find eSIM

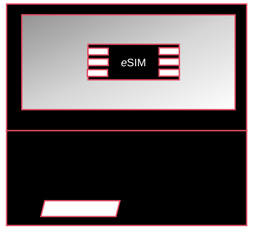
Smartphones

Wearables

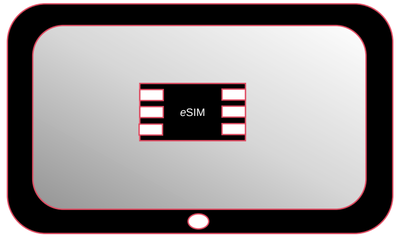
200+ eSIM Devices
have been launched*

300+ Operators
supporting eSIM technology*

Laptops



Tablets



© GSMA 2024

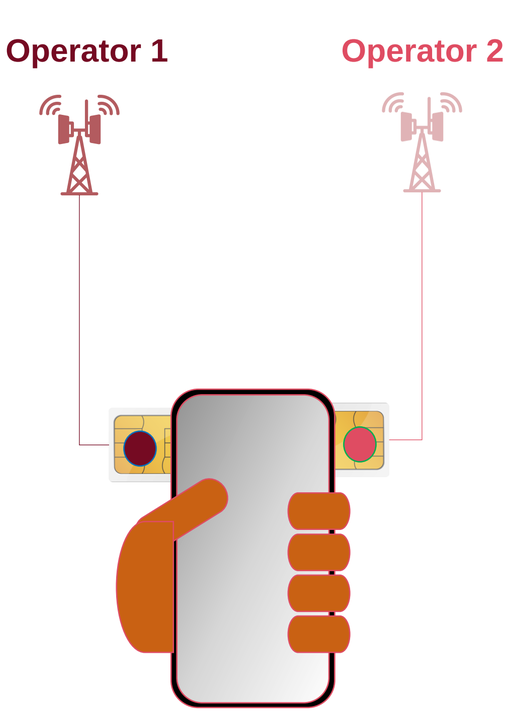
eSIM Consumer – Version 3 features

The list of version 3 features is not exhaustive

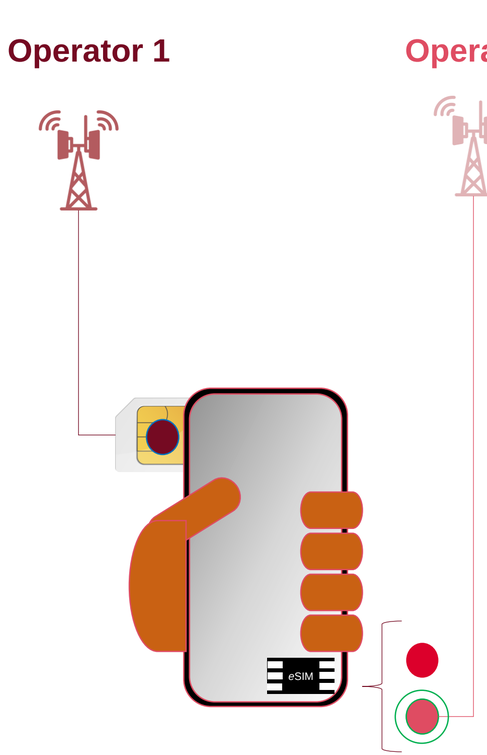
GSMA eSIM Services are playing a relevant role in version 3 Consumer, ensuring the robustness of the eSIM Ecosystem

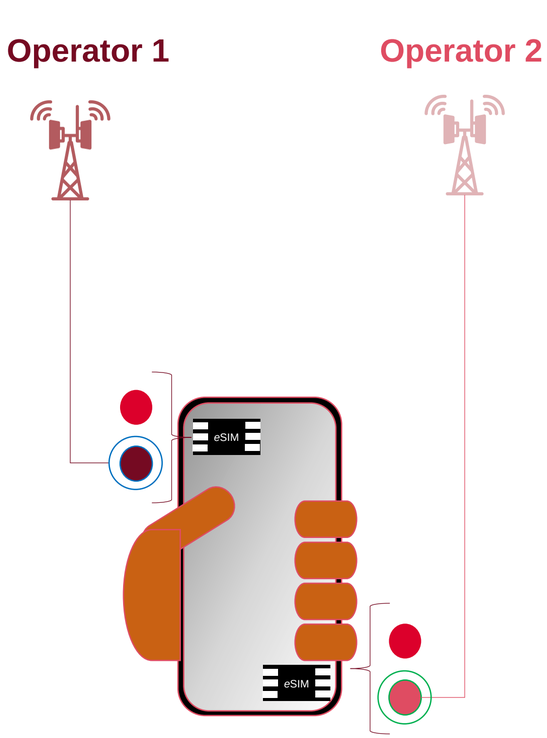
© GSMA 2024

Multiple enabled profiles

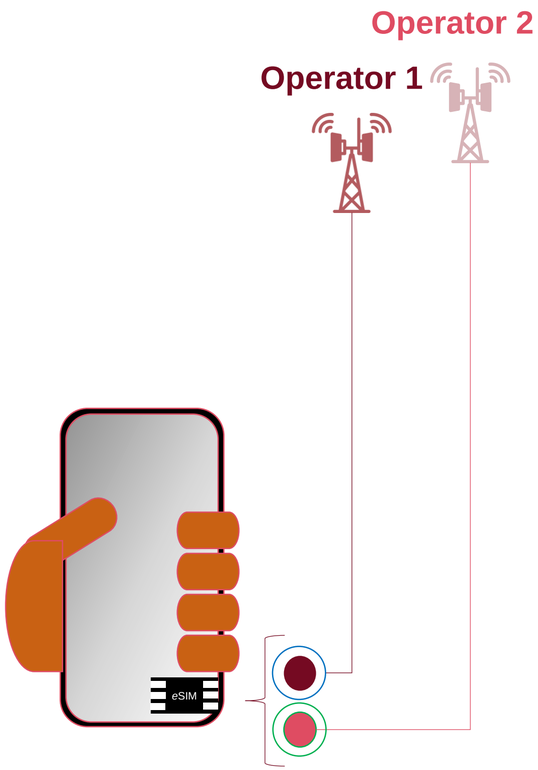


SIM card





eSIM – Version 2

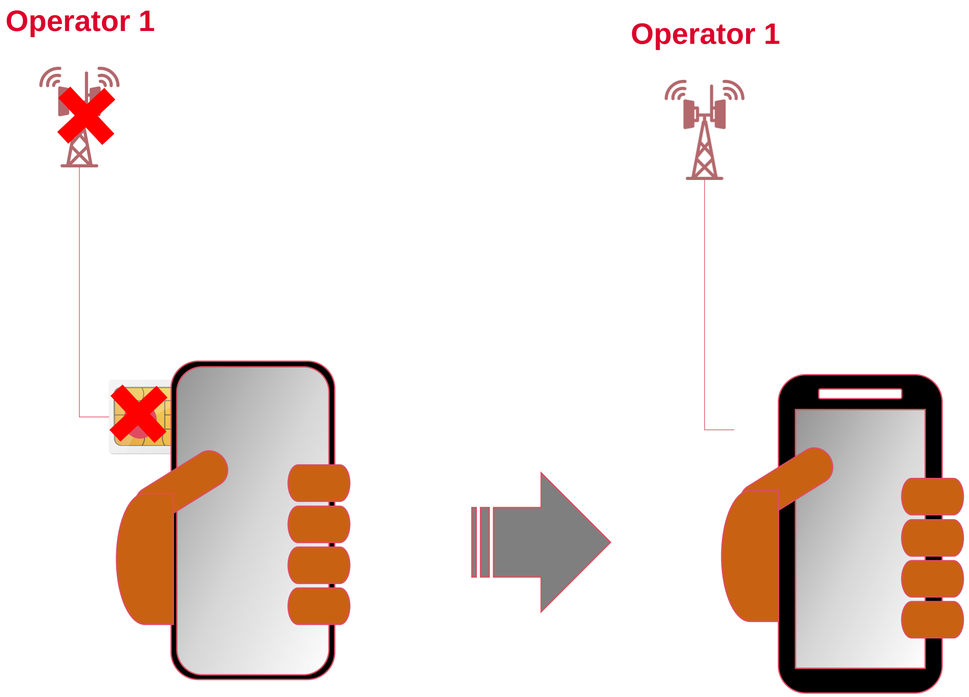


eSIM – Version 3

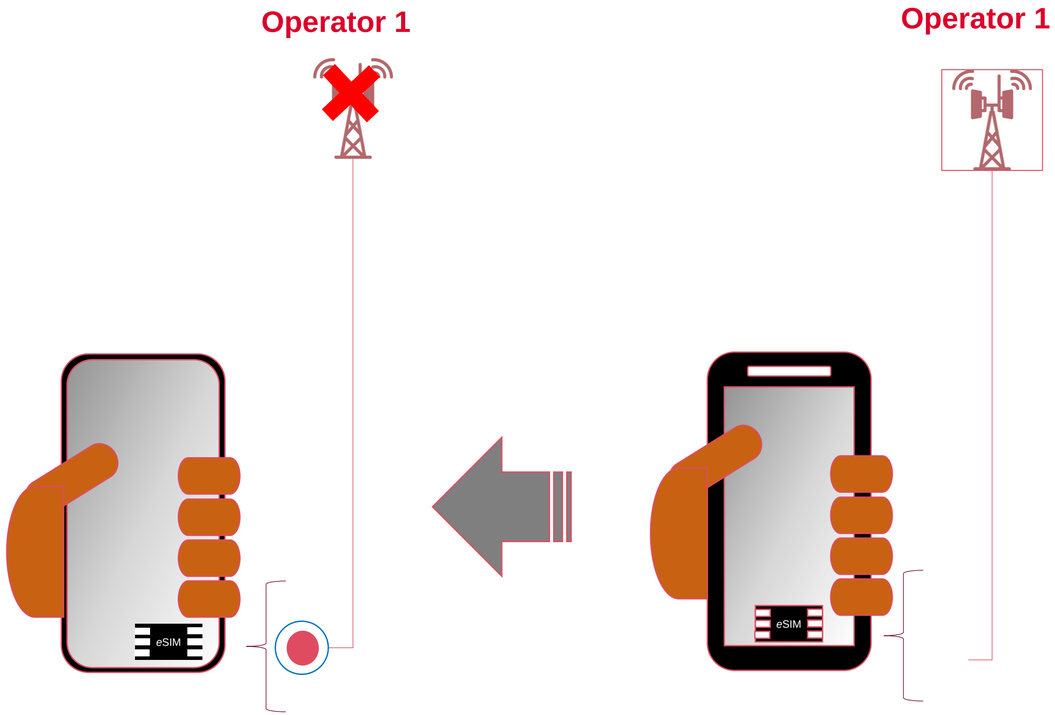
© GSMA 2024

GSMA™

Device change



SIM card



eSIM Device Change

© GSMA 2024

GSMA™

GSMA eSIM Services improve the eSIM Technology Robustness for the Consumer Market

© GSMA 2024

GSMA

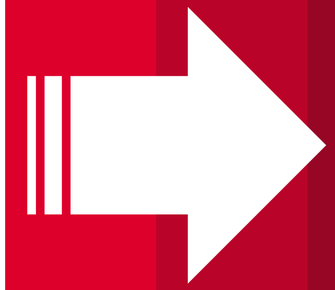
Conclusion

Complete Key Features

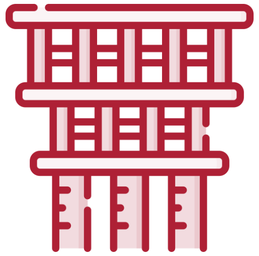
Maturity

Ready to Growth

Coming soon



In Factory Provisioning



Quantum Computers

© GSMA 2024

eUICC Identity Scheme

© GSMA 2024

GSMA

Current Consumer eSIM Challenges

Reliance on manual/ partial digitalised process

- Learning curve for consumers
- Operational issues for large scale deployment

Device dependent customer experience

- Smartphone and consumer IoT devices have various enrolment and download processing options
- Increased customer support challenges and costs

Challenges for Consumer IoT Devices

Selected devices with limited user interface require complicated procedures:

- Devices without cameras
- Devices which MNOs cannot pre-configure

© GSMA 2024

Introducing eSIM Discovery

Centralised location

Consumer and IoT eSIM devices retrieve the eSIM profile

Automatic, streamlined, independent

GSMA eSIM Discovery, also known as Root DS, provides a universal, independent lookup service to connect MNOs and devices for streamlined eSIM downloads

A superior “open box” experience and built to scale

© GSMA 2024

GSMA™

How it streamline customer experience

Deutsche Telekom Germany

“With eSIM direct, the activation of the eSIM profile on the end device is triggered by the network operator. The customer only has to confirm with "OK" on his or her device. The eSIM profile is transferred to the device immediately after the order is completed.”

- How Deutsche Telekom is ready to ride the eSIM wave
- Easy and simple: eSIM
- What is eSIM? (German)

Vodafone Germany

“From Vodafone’s perspective, we find its use in our direct distribution provides the best customer experience, by giving an almost no-touch device activation experience.” Fabrice Denis, Principal Manager Services & Platforms at Vodafone Group

- How Vodafone are driving growth through the broad adoption of eSIMs
- How can I push my eSIM profile to a device? (German)
- Everything about eSIM (German)

© GSMA 2024

Introducing eSIM Discovery

4+

eSIM Discovery Providers

50+

MNO Account from 30+ countries

200+

Device Models from 40 OEMs

78M+

unique devices since 2020

© GSMA 2024

GSMA™

eSIM Discovery Service Providers

Giesecke+Devrient
Creating Confidence

TRUPHONE

THALES
Building a future we can all trust

IDEMIA

More in pipeline:

Eastcommpeace
Invigo
Linksfield
Workz

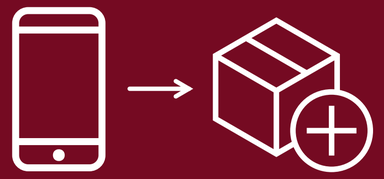
© GSMA 2024

GSMA

eSIM Discovery Process

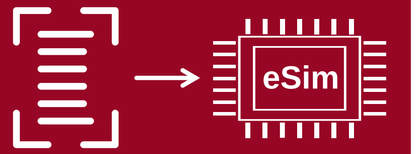
1

Customer visits MNO with existing device/ buys new device



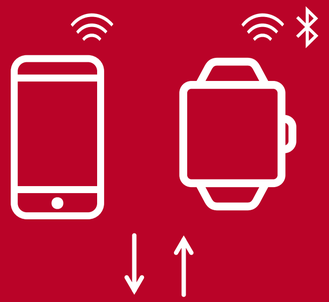
2

MNO scans EID and prepares eSIM profiles



3

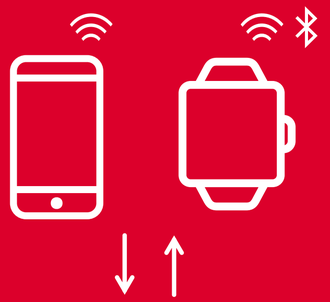
Once switched on, the device checks if there's a subscription via Root DS



GSMA eSIM Discovery

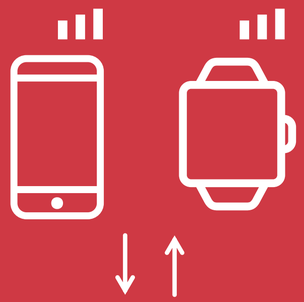
4

Device subsequently connects to MNO SM-DP+ for profile download



5

Device connects to MNO using eSIM profile



© GSMA 2024

GSMA™

OEMs supporting eSIM Discovery

Brands:

SAMSUNG

Google

SONY

SHARP

oppo

ZTE

Rakuten Mobile

Lenovo

DELL

hp

FCNT

Microsoft

KYOCERA

MONTBLANC

Models including:

S20 – S24 Series, Z flips, Z folds, A54, A34, A23 Watch 3 / 4 and more

G53, Razr, Edge Series

Pixel 8, 7, 6, 5, 4a and more

AQUOS wish2, wish, sense4 lite, sense6 and more

Xperia 1, 5, 10 Series Ace III, 10 III Lite

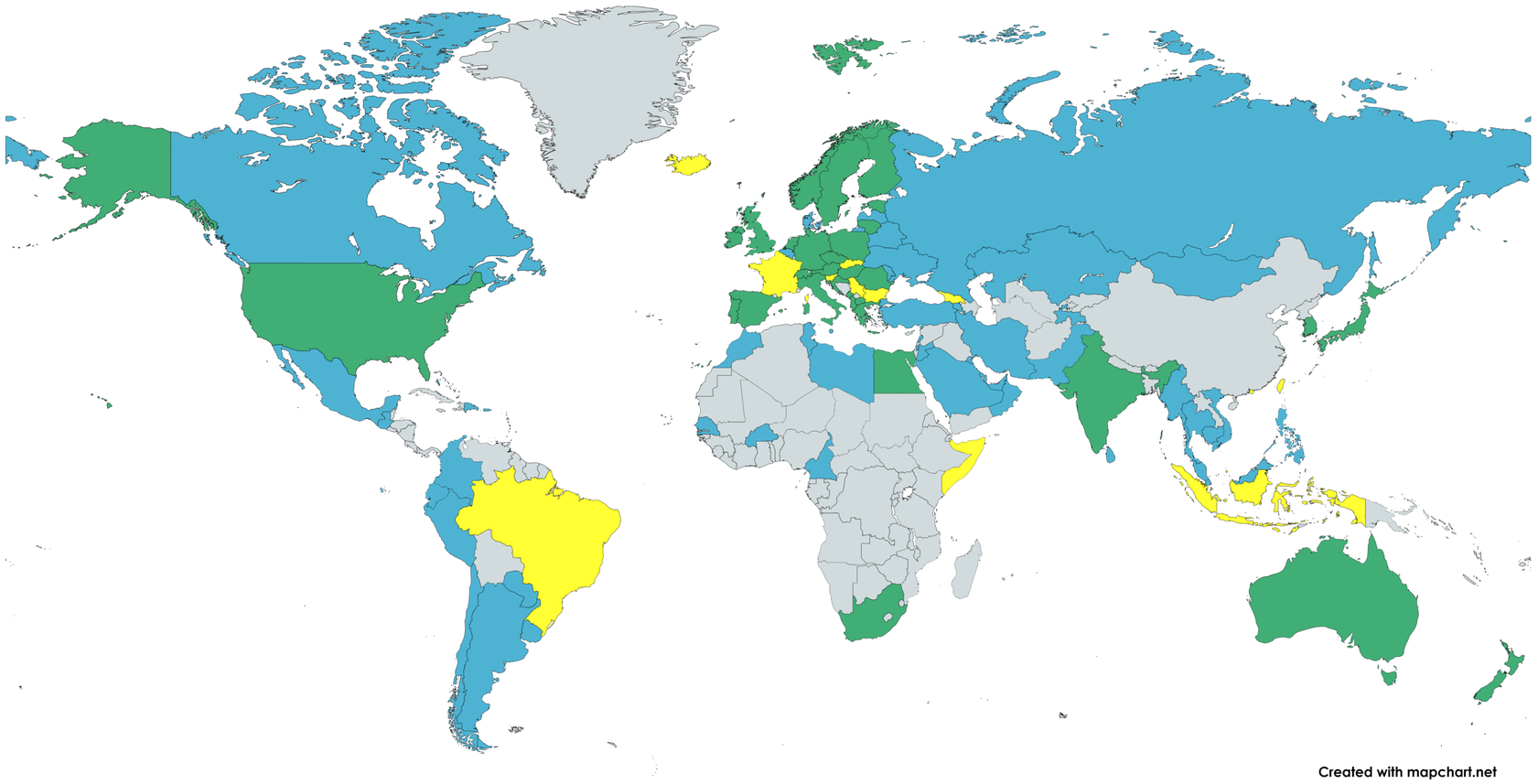
A73, Find X3 Pro, Reno 5A, Reno6 Pro 5G, A55s, OPPO Watch

Source: GSMA eSIM Discovery, December 2023

© GSMA 2024

GSMA

GSMA eSIM Discovery operator coverage



- Countries with operator(s) using GSMA eSIM Discovery
- Countries with operators interested in GSMA eSIM Discovery
- Countries with operators providing eSIM services to Smartphones

Source: Consolidated from GSMA eSIM Discovery and Online Information, January 2024

© GSMA 2024

GSMA™

Developments

Push Notification

- Push notification to proactively notify profile availability
- Reduces the need for user involvement
- Streamlines customer and enterprise user deployment (e.g. eSIM Profile update when the device transits between countries, or switching operators)

Expansion into IoT Segment

- eSIM IoT Architecture and Requirements (SGP.31 / 32)
- Alternative to M2M specification by reusing Consumer investments
- eSIM Discovery provides the same, central lookup service for IoT devices

© GSMA 2024

Ready to Scale

2023:
Cloud Migration

- SAS-SM Accredited Public Cloud Operation
- Improved resilience and scalability

Beyond

- Options available including:
  - Geo Redundancy
  - Improved SLA

© GSMA 2024

GSMA eSIM Discovery Values

Fully digitised

- Interfaces to SM-DP+ / Cost reduction
- Zero-delay to business processes

Streamline experience

- Simple, streamlined flow for everyone involved, customer, sales, support

Universal and standardised

- Supports all use cases / devices
- “spec compliance” of devices sufficient

Best option for IoT devices

- Unrestrained support of any IoT device, e.g.
- Devices without cameras
- Devices which MNOs cannot pre-configure

© GSMA 2024

Thank you for joining, any questions?