Holafly GLOBAL eSIM INDEX 2026

THE GLOBAL STATE OF eSIM: a GLOBAL ASSESSMENT OF eSIM READINESS AND ADOPTION

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Holafly

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GLOBAL eSIM INDEX 2026

Executive Summary

The global eSIM market reveals a structural paradox: the technology is mature, widely deployed by operators, and increasingly supported by device manufacturers across premium and mid-range segments, yet its mass adoption remains constrained by factors outside the technology itself. The bottleneck is not supply, but friction — primarily regulatory constraints, limited access to compatible devices, and suboptimal activation experiences.

Global leadership is clearly concentrated in advanced markets across North America, Northern and Western Europe, and selected Asia-Pacific economies. In these environments, a combination of pro-digital regulation, high penetration of eSIM-compatible devices, and fully digital onboarding processes has enabled eSIM to evolve from a technical feature into a foundational layer of connectivity. In these markets, eSIM is no longer optional; it is becoming the default.

In contrast, emerging markets across Sub-Saharan Africa, parts of South and Southeast Asia, and most of Latin America show a markedly different trajectory. Here, regulatory frameworks are primarily designed around identity control and national security, often requiring biometric verification, in-person registration, or limiting profile flexibility. These measures directly undermine the core value proposition of eSIM (instant, remote activation) creating a structural tension between digitalization and control that slows adoption even where operator capabilities are already in place.

The Holafly Global eSIM Index 2026 quantifies these dynamics across 50 markets and 171 mobile operators. The United States leads the ranking with a score of 90.2 out of 100, followed by Estonia (83.6) and the United Kingdom (82.8). Thailand and Canada tie in fourth and fifth position with 82.7 points each, illustrating that eSIM leadership is no longer the exclusive domain of mature Western economies. At the opposite end of the ranking, Sudan (38.3), India (45.6), and Liberia (48.5) reflect the structural barriers described above. Four markets, Turkey, India, the United Arab Emirates, and Oman apply restrictions that effectively block international travel eSIM providers, triggering an explicit penalty in the model.

From a competitive standpoint, eSIM has become a strategic lever for mobile operators in three key areas: reducing operational costs, digitizing customer relationships, and enabling new service layers such as wearables, multi-device ecosystems, and IoT. However, the same features that simplify onboarding and switching also increase churn risk, which partly explains the cautious approach of some operators toward full digital deployment.

Device availability remains another critical constraint. In most markets, the installed base is still dominated by low- and mid-range smartphones that do not support eSIM. Even in more advanced markets, long device replacement cycles delay the transition. As a result, the pace of adoption is increasingly dependent on OEM strategies rather than operator initiatives.

Travel eSIM providers, meanwhile, have identified a clear market opportunity in the gap between regulatory friction and traveler demand. By offering instant activation independent of local registration requirements, they are reshaping the roaming value chain and, in specific segments, providing an alternative to operator-led offerings. This is an early signal of how connectivity models may evolve if local activation barriers persist.

Looking ahead, eSIM growth is broadly anticipated but uneven across regions. Markets that successfully balance security with digital user experience will lead the transition toward "eSIM-first" models, while those constrained by regulatory rigidity or economic barriers will lag behind. The defining factors of adoption will not be technological, but political, economic, and strategic.

Ultimately, eSIM is more than a replacement for the physical SIM: it is a redistribution of power across the telecom value chain, reshaping how connectivity is provisioned, who controls activation, and who owns the customer relationship.

Holafly

Global eSIM Index

1.	United States	90,2
2.	Estonia	83,6
3.	United Kingdom	82,8
4.	Thailand	82,7
5.	Canada	82,7
6.	Switzerland	81,9
7.	Finland	81,7
8.	Germany	81,6
9.	Malaysia	80,1
10.	Saudi Arabia	79,7
11.	Australia	79,7
12.	Israel	79,6
13.	Japan	79,6
14.	Netherlands	79,5
15.	Poland	78,9
16.	Denmark	78,7
17.	Spain	78,5
18.	Sweden	78,4
19.	New Zealand	78,4
20.	Singapore	78,3
21.	Kazakhstan	78,1
22.	Belgium	78,1
23.	South Korea	78,1
24.	Brazil	77,6
25.	Qatar	75,8
26.	France	75,6
27.	Italy	74,3
28.	Argentina	72,2
29.	Philippines	71,2
30.	Costa Rica	71,2
31.	Russia	70,9
32.	Tunisia	70,1
33.	Chile	69,4
34.	Colombia	68,0
35.	Morocco	67,1
36.	China	66,3
37.	South Africa	64,5
38.	Nicaragua	64,5
39.	Iran	62,1
40.	Nigeria	60,4
41.	UAE	59,0
42.	Egypt	58,7
43.	Mexico	58,2
44.	Kenya	56,1
45.	Turkey	56,0
46.	Bolivia	55,5
47.	Oman	55,3
48.	Liberia	48,5
49.	India	45,6
50.	Sudan	38,3

Americas

Americas

Pos.	Country	Score	Level	% eSIM Dev.	Key Note
#1	United States	90.2	Advanced	80%	iPhone eSIM-only since 2022; largest travel eSIM market
#5	Canada	82.7	Advanced	80%	Push provisioning; CRTC drives portability
#24	Brazil	77.6	Maturing	30%	Vivo #6 global; Anatel reviewing travel eSIM regulation
#28	Argentina	72.2	Maturing	25%	Personal acquired Movistar (64% market share)
#30	Costa Rica	71.2	Maturing	30%	Liberty leader; small and competitive market
#33	Chile	69.4	Emerging	50%	Highest device penetration in LATAM
#34	Colombia	68.0	Emerging	30%	Claro and WOM require in-store activation
#38	Nicaragua	64.5	Emerging	18%	Claro leader; nascent market
#43	Mexico	58.2	Emerging	22%	Telcel conservative; 70% of smartphones without eSIM
#46	Bolivia	55.5	Nascent	10%	ENTEL state-owned; mandatory in-store activation

|#1| United States

AMERICAS

90.2

The United States ranks 1st in the eSIM ranking. The high level of market development has led to a maturity in eSIM offerings that has surpassed the physical SIM. This consolidation is the result of a combination of technical and regulatory factors that have strategically driven a mobile market with 170% penetration toward eSIM adoption.

The U.S. market features three major mobile operators competing in a mature and well-developed 5G landscape. Verizon, the market leader, bases its eSIM strategy on security and network robustness, making it particularly strict in terms of identity verification. T-Mobile positions itself as the leader in ease of use, with an app that enables instant activations, leveraging eSIM as a customer acquisition tool. Finally, AT&T follows a hybrid strategy, with a strong eSIM positioning aimed at the corporate sector. From a device perspective, the market is dominated by smartphones that prioritize eSIM development. Apple's 2022 decision to remove the physical SIM tray from iPhones sold in the U.S. was the definitive catalyst. Over time, the installed base of eSIM-only devices has reached critical mass.

Country Profile

MARKET	ACTIVATION	ADOPTION	REGULATION
VERY MATURE	VERY MATURE	VERY MATURE	MATURE

Samsung and Google have followed this trend in their flagship models, reserving physical SIM slots only for entry-level or international variants. This growth prompted the Federal Communications Commission (FCC) to introduce measures to prevent SIM swapping. Regulations require mobile operators to implement strong customer authentication (SCA). As a result, activating an eSIM based solely on a password or security question is not permitted. Additional rules require operators to clearly disclose the actual cost of eSIM services, post-data-limit speeds, and any hidden fees.

Despite these advances, some market conditions still prevent full maturity. Although eSIM is available on most smartphones, a segment of the population finds manual configuration or QR code scanning confusing. This has forced operators to maintain costly physical retail presence to support processes that could otherwise be digital. Additionally, local regulations allow devices purchased through operator financing plans to remain locked, preventing users from adding a second eSIM from another provider until the device is fully paid off.

Outside of traditional mobile operators, travel eSIM providers such as Airalo, Holafly, and Saily have experienced significant growth. These services are not limited to tourists but are increasingly competing with local operators in the prepaid segment, with ease of activation as their main differentiator.

|#1| United States

AMERICAS

90.2

The development of IoT will further expand eSIM adoption into areas such as smart water meters, transportation fleets, and medical devices. This will drive continued market growth; currently, around 80% of smartphones support eSIM. Overall, the U.S. market is robust, supported by strict FCC regulation and strong competition. eSIM has become the invisible infrastructure underpinning mobility in the 5G era.

|#5| Canada

AMERICAS

82.7

Canada ranks 5th in the eSIM ranking, making it one of the most advanced markets in this technology. By 2025, mobile penetration reached 106%, driven by the proliferation of wearables and IoT devices. In this context, eSIM has become a core component of the market's digitalization strategy.

The mobile market is structured around three main players — Rogers Communications, Bell Canada, and Telus — which account for the majority of the country's mobile lines. The fourth operator, Freedom Mobile, acts as a challenger and has used eSIM to lower customer entry barriers, thereby intensifying competition across prepaid, postpaid, IoT, and wearable services. All four mobile operators support fully digital activation. In cases such as Rogers and Bell, the implementation of push provisioning —where the profile is automatically downloaded after an in-app purchase— has eliminated the need to scan QR codes for installation. Another defining feature of the market is dual SIM usage, where users maintain a primary SIM and a secondary one for travel. Additionally, operators have integrated digital biometric validation, comparing real-time selfies with official identification databases.

Country Profile

MARKET	ACTIVATION	ADOPTION	REGULATION
VERY MATURE	VERY MATURE	VERY MATURE	INTERMEDIATE

The Canadian regulator, the Canadian Radio-television and Telecommunications Commission (CRTC), has played a key role in turning eSIM into a consumer-friendly tool through the implementation of the Wireless Code. This framework ensures, among other things, that number portability is fast and free, a process further accelerated by eSIM. It also mandates that devices cannot be locked, allowing users to use SIMs from different mobile operators.

Despite these advances, some barriers remain. One of the main challenges was the initial resistance from leading operators, as eSIM facilitated customer churn. Additionally, some mid-range devices face compatibility issues, particularly in cases where operators do not recognize their International Mobile Equipment Identity (IMEI), preventing proper operation. A significant issue is also the rural gap, where high-speed mobile data coverage is limited and instant activation is not always feasible. Today, the market shows that eSIM has evolved from a hardware feature into a tool for consumer empowerment.

It is estimated that around 80% of active smartphones in Canada support eSIM technology. Mobile operators have turned competition around activation into a key lever for market dynamism.

|#24| Brazil

AMERICAS

77.6

Brazil ranks 24th in the eSIM ranking. With mobile penetration at 101.8%, the market features a competitive landscape with 5G offerings covering state capitals and major cities. eSIM services are part of a broad portfolio aimed at advancing digital connectivity, although regulation remains one of the main barriers to mass adoption. The competitive landscape is shaped by three major nationwide mobile operators: Vivo (Telefónica), Claro (América Móvil), and TIM (Telecom Italia).

Vivo, the market leader, maintains a strong positioning around user experience and eSIM integration through its mobile app. Claro, the second-largest player, bases its strategy on convergent services and seeks to position itself as a digital operator, although its online offerings remain inaccessible outside Brazil. Finally, TIM aims to accelerate the digitalization of its prepaid and postpaid customer base by promoting eSIM adoption across multiple devices.

Country Profile

MARKET	VERY MATURE
ACTIVATION	VERY MATURE
ADOPTION	MATURE
REGULATION	INTERMEDIATE

From a regulatory perspective, the main constraint on eSIM growth is imposed by the Agência Nacional de Telecomunicações (Anatel). Through Resolution No. 765/2023, aimed at preventing SIM swap fraud, any remote SIM activation must undergo positive biometric validation. This requires mobile operators to perform remote certification via real-time facial recognition, cross-checking with national identity databases, and device validation.

Additionally, Law 10.703 mandates the nominal registration of every line. This has created challenges for international travel eSIM providers, which have had to adapt their platforms to comply with Brazilian regulations if they wish to operate locally or partner with national operators.

One of the main barriers in the market is the smartphone base. While high-end devices are fully eSIM-enabled, they are not the most widely used in the market. Until the technology reaches mid-range devices, large-scale development will remain limited.

Moreover, the promise of instant activation is not always fulfilled due to regulatory requirements. In some cases, mobile operators cannot complete identity validation due to technical issues, such as smartphones with faulty cameras that fail to capture the user's face properly. This forces users to visit physical stores, a process that many abandon in favor of traditional SIM cards.

|#24| Brazil

AMERICAS

77.6

Brazil's strong tourism sector creates growth opportunities for travel eSIM services. Leading providers such as Holafly, Airalo, and Saily are active in the market, mainly because they allow users to bypass local bureaucratic processes. However, Anatel has begun to scrutinize these services, requiring international providers to establish legal representation in the country, which could increase costs in the near future.

In summary, Brazil's eSIM market is driven by operator competition through digital offerings and 5G development, although the regulatory framework remains restrictive and slows growth. It is estimated that around 30% of the market has an active eSIM-capable smartphone, and approximately 60% of new smartphones sold in 2026 are expected to support this technology.

|#28| Argentina

AMERICAS

72.2

Argentina ranks 28th in the eSIM ranking. With a mobile penetration of 132%, the market is undergoing a phase of consolidation among two of its main players, Movistar and Personal. The market is also in a stage of maturation between the deployment of 5G Standalone (SA) networks and eSIM, which has enabled greater adoption of this technology.

In competitive terms, the Argentine market, which had traditionally been divided into roughly equal thirds in terms of mobile lines, shifted toward a dominant-player structure following the acquisition of Movistar Argentina by Personal. The combined group now accounts for the majority of the country's subscribers, although both brands continue to operate separately in the market. Claro Argentina remains the second-largest operator and the only major competitor facing the combined entity.

Country Profile

MARKET
VERY MATURE

ACTIVATION
INTERMEDIATE

ADOPTION
MATURE

REGULATION
INTERMEDIATE

The eSIM offering from these three mobile operators is structured around four pillars: postpaid, prepaid, wearables, and IoT. Multi-SIM and One Number services have become established value-added features for eSIM. Over the past year, operators have also expanded prepaid offerings through the digitalization of activation processes.

From a regulatory perspective, the Argentine market maintains strict conditions regarding digital identity. The regulator, Ente Nacional de Comunicaciones (ENACOM), enforces resolutions requiring mobile operators to validate the identity of all lines, whether SIM or eSIM, meaning every line must be linked to a National Identity Document (DNI). However, this validation can be performed remotely through biometrics, without requiring users to visit a physical store. Among the barriers facing the service is limited interoperability, as it remains difficult for an eSIM to move automatically between operators without their intervention. The gap between mid- and low-range smartphones and high-end devices also results in a significant inactive installed base. Restrictions on identity validation through passports by local operators create an opportunity for travel eSIM services, which enable instant activation. The market includes offerings from Holafly, Airalo, Nomad, Saily, Roamless, Get eSIM, and Vodafone Travel.

It is estimated that 25% of active devices in Argentina are eSIM-capable. This growth reflects a global strategy by original equipment manufacturers (OEMs) that Argentina has been able to capitalize on following the easing of import restrictions, allowing the proliferation of high-end devices. As a result, eSIM is no longer perceived as a luxury, but rather as a tool for security and convenience for the average user.

|#30| Costa Rica

AMERICAS

71.2

Costa Rica ranks 30th in the eSIM ranking. Over the past 15 years, the market has evolved from a monopoly into a competitive ecosystem with penetration exceeding 130%. This transition toward digitalization and device modernization has driven the growth of eSIM.

Competition is intense and shaped by three mobile operators pursuing differentiated strategies to maximize the value of their customer bases. Market leadership is contested between Liberty Costa Rica, which reached its current scale following the acquisition of Movistar Costa Rica and has adopted a convergent strategy focused on capturing multi-device services within the eSIM segment, and Kölbi, the state-owned operator that maintains a strong presence in the corporate and government markets — a position further strengthened through the launch of eSIM services. Claro Costa Rica completes the top three. It was the first operator to deploy eSIM in 2022 and sought to position itself around digital self-management capabilities.

Country Profile

MARKET
MATURE

ACTIVATION
MATURE

ADOPTION
MATURE

REGULATION
INTERMEDIATE

The rollout of eSIM in the market has been closely linked to global smartphone evolution, particularly driven by Apple's decision to remove the physical SIM slot in certain models. Between October 2022 and January 2023, all three mobile operators launched the technology. Following the 5G spectrum auction in 2025 and subsequent service development, the market experienced further eSIM growth. The regulatory framework is overseen by the Superintendencia de Telecomunicaciones (SUTEL). Costa Rica has adopted a regulatory approach that seeks to balance national security and digitalization. Resolution RCS-216-2024 requires that all devices supporting eSIM be homologated. Additionally, local regulations prohibit anonymous eSIM activation, meaning operators must validate user identity.

Despite these advances, several barriers limit mass adoption. One is the gap in digital self-management between operators such as Claro, which offer digital processes, and others like Kölbi, which still require physical presence. Another operational barrier is QR-based activation, which requires an external internet connection and can create confusion among users. The device base remains a significant constraint. A large portion of smartphones are still low- or mid-range models without eSIM support. Furthermore, many compatible devices are imported by users from abroad, often leading to software restrictions that prevent activation on local networks. Travel eSIM services have found a niche among tourists and digital nomads seeking to bypass regulatory and operational barriers. Tourism is a well-developed sector in Costa Rica, making it an attractive market for providers such as Airalo, Holafly, Saily, Ubigi, and Maya Mobile.

|#30| Costa Rica

AMERICAS

71.2

It is estimated that around 30% of smartphones in Costa Rica are eSIM-capable. This is driven by manufacturers such as Samsung, Motorola, Honor, and Oppo, which have incorporated the technology into their mid- and high-range devices, representing the majority of contract-based sales in the country. The market is expected to grow steadily in the coming years, supported by 5G development. Achieving mass adoption will require greater digital literacy, regulatory flexibility, and more streamlined activation processes from certain operators.

|#33| Chile

AMERICAS

69.4

Chile ranks 33rd in the eSIM ranking. It is one of the most digitalized markets in Latin America, with mobile penetration at 125% and a well-developed 5G offering. The country has undergone an aggressive transition toward eSIM, driving widespread adoption of the technology.

The Chilean mobile market is characterized by mature competition among four mobile operators, where the focus is increasingly on monetizing and digitalizing existing users rather than capturing new subscriber lines. Market leadership is held by Entel, which has focused on 5G deployment and a digital self-management strategy linked to eSIM adoption. Closely behind are Movistar Chile, with a convergent strategy positioning eSIM within multi-device services; ClaroVTR, focused on mass-market plans and home solutions; and WOM, which targets younger segments through a value-oriented positioning. The development of eSIM services has moved the technology away from its premium perception. Unlike many Latin American markets, Chile shows a stronger preference for mid- to high-end devices that already include eSIM. Mobile operators are also actively promoting adoption through service digitalization, as it represents lower operational costs compared to physical SIM cards.

Country Profile

MARKET	ACTIVATION	ADOPTION	REGULATION
VERY MATURE	INTERMEDIATE	MATURE	IMMATURE

The regulatory framework is overseen by the Subsecretaría de Telecomunicaciones (Subtel), which has sought to maintain security without hindering eSIM adoption. The key regulation is Resolution No. 566, which mandates biometric validation to prevent SIM swapping. Mobile operators can enable remote activation through "liveness" checks using AI or cross-referencing with government databases. However, if these validations fail, users must visit a physical store.

Despite these advances, challenges remain in the eSIM market. Adoption in the prepaid segment is still limited, as many devices in this category do not support the technology, making it a key challenge for broader market development. The travel eSIM segment is competitive, with providers such as Airalo, Holafly, Maya Mobile, and Saily focusing on tourism and digital nomads.

In this context, the Chilean market is moving toward an "eSIM-first" phase, with a gradual decline in physical SIM models. The digitalization of activation processes and zero-cost provisioning are essential steps for achieving mass adoption. It is estimated that around 50% of smartphones in the country are eSIM-compatible. The remaining challenge is to include lower-income segments to avoid digital exclusion.

|#34| Colombia

AMERICAS

68.0

Colombia ranks 34th in the eSIM ranking. The market has a penetration of 172%, with competition among four mobile operators focused on 5G services, which account for around 15% of total connections. In this context, eSIM acts as a catalyst for advancing the digitalization of the market.

Competition in the Colombian ecosystem is shaped by four mobile operators with different approaches to eSIM adoption. Claro Colombia is the market leader with a broad mass-market offering, although it remains relatively conservative in its eSIM strategy. Tigo Colombia and Movistar Colombia are currently in the process of integrating their operations; the merger would transform them into the market leader, and both operators are pursuing a digitalized offering centered on user self-management. Finally, WOM Colombia, the market's fourth player, focuses on a price-driven strategy and maintains a limited eSIM offering. The mobile market is regulated by the Comisión de Regulación de Comunicaciones (CRC) and the Superintendencia de Industria y Comercio (SIC).

Country Profile

MARKET
MATURE

ACTIVATION
INTERMEDIATE

ADOPTION
MATURE

REGULATION
IMMATURE

Resolution CRC 5050 guarantees users the right to choose their access technology and requires mobile operators not to discriminate between prepaid and postpaid users when offering eSIM. Additionally, the regulator mandates robust identity verification for line activation, either in person through fingerprint biometrics or document checks, or remotely via facial biometrics using liveness detection. Authorities are also considering stricter identification procedures to prevent identity fraud. There are also structural barriers within the market. The device gap is significant, as most smartphones are low-end models with slow replacement cycles. Fraud cases have led operators such as Claro and WOM to adopt a cautious approach, often requiring users to complete activation in physical stores. Furthermore, many informally imported devices face compatibility issues with local frequency bands or network provisioning systems.

One of the key opportunities lies in the IoT sector. Industrial eSIM offerings are a core part of mobile operators' strategies, particularly for applications such as fleet management and automated energy metering, which are expected to drive adoption. Global eSIM platforms such as Airalo, Holafly, and Saily have also emerged as disruptive players, capturing a share of the roaming market among Colombian users thanks to their ease of activation.

In this context, it is estimated that around 30% of smartphones in Colombia are eSIM-capable. Future growth will depend largely on whether regulators avoid tightening activation requirements excessively, as well as on the continued reduction in the cost of eSIM-compatible devices.

|#38| Nicaragua

AMERICAS

64.5

Nicaragua ranks 38th in the eSIM ranking. The mobile services ecosystem has a penetration of over 109%. With competition between two mobile operators, the arrival of eSIM in late 2022 marked the beginning of a new competitive dynamic between Claro (América Móvil) and Tigo (Millicom), within a context of strict regulation and a regulator often questioned in terms of transparency.

The eSIM offering in the market has been shaped by competition between the two leading mobile operators, Claro and Tigo, which together account for virtually all mobile lines and have driven the adoption of the technology. Tigo focused on digital activation through a self-management process, while Claro has centered its strategy on security and ecosystem integration. Its strength lies in the robustness of its network for corporate IoT services and in the integration of its digital wallet, Claro Pay, for billing services. The regulatory environment in Nicaragua is overseen by Telcor, a regulator with limited public transparency. A key development is the General Telecommunications Convergence Law (Law 1223), approved at the end of 2025.

Country Profile

MARKET
MATURE

ACTIVATION
VERY MATURE

ADOPTION
IMMATURE

REGULATION
INTERMEDIATE

This legislation underpins the security framework of the eSIM market. Among its key provisions are the prohibition of anonymous lines, while still allowing remote biometric verification. It also requires mobile operators to collect and safeguard user data, and mandates device homologation for operation within the country. Beyond regulatory barriers, the market faces structural challenges. The most significant is the cost of eSIM-compatible devices: the most widely used smartphones in Nicaragua are mid- and low-range models that lack this capability, while high-end devices remain inaccessible for most of the population. There is also resistance among users due to limited awareness of the technology. Another limitation is the lack of support for wearables in the market.

At the same time, the market has seen growth in travel eSIM services, led by providers such as Airalo, Holafly, and Saily. These players exert competitive pressure on mobile operators by offering simpler activation processes.

In this context, only around 18% of smartphones in Nicaragua have eSIM enabled. Apple and Samsung are the two leading brands offering this capability in the market. The adoption gap reflects cultural and operational barriers that continue to slow the development of the technology. Overcoming these challenges will require stronger digital literacy efforts, wider availability of low-cost compatible devices, and a more flexible regulatory framework.

|#43| Mexico

AMERICAS

58.2

Mexico ranks 43rd in the eSIM ranking. The market has a mobile service penetration of 110%. eSIM has moved beyond being a novelty to become a core connectivity strategy. This shift is driven by the maturation of 5G networks and the expansion of IoT, although within a strict digital identity regulatory framework.

The mobile market features competition among three operators, with Telcel maintaining a dominant position. Its eSIM strategy is focused on strengthening loyalty within its postpaid customer base and enabling wearable connectivity. Meanwhile, AT&T México seeks to simplify eSIM acquisition for prepaid users, emphasizing activation speed as a key differentiator. Movistar México, for its part, has positioned itself within the tourist segment.

Country Profile

MARKET
VERY MATURE

ACTIVATION
IMMATURE

ADOPTION
INTERMEDIATE

REGULATION
IMMATURE

From a regulatory perspective, the implementation of the Guidelines for the Identification of Mobile Telephone Lines, issued by the Telecommunications Regulatory Commission (CRT), marked the end of anonymous mobile lines in Mexico. This requires operators to validate user documents, perform biometric liveness checks, and register each line with the Unique Population Registry Code (CURP) before activating an eSIM. This measure is a double-edged sword: while it reduces SIM swapping fraud, it introduces friction in the onboarding process, forcing operators to invest heavily in self-service platforms.

In recent years, the market has evolved toward greater versatility, moving from smartphones to a broader ecosystem. This evolution is reflected in multi-device eSIM use cases and the growing role of the technology in industrial IoT. However, the market still faces barriers, particularly the smartphone gap, with more than 70% of the installed base lacking access to eSIM technology, and compatible devices still considered premium. Regulation also acts as a barrier, as identity verification processes hinder instant activation.

Meanwhile, the travel eSIM segment has found growth opportunities driven by tourism, with providers such as Airalo, Holafly, and Nomad expanding their presence. These services allow millions of visitors to avoid high roaming costs by activating local data plans remotely, bypassing the strict onboarding requirements of local operators.

It is estimated that around 22% of smartphones in Mexico currently support eSIM, with projections reaching 50% by the end of the decade. Recent regulation has acted both as an organizing force and a barrier. To achieve these targets, operators must resolve the paradox of requiring physical presence, while device manufacturers need to further democratize eSIM-compatible hardware.

|#46| Bolivia

AMERICAS

55.5

Bolivia ranks 46th in the eSIM ranking. The market has mobile penetration close to 105% and is undergoing an evolutionary process toward greater digitalization and service sophistication. In this context, eSIM emerges as a key element, although it still requires further development in its offering.

Competition in the market is shaped by three mobile operators: the state-owned ENTEL, the market leader with the broadest mass-market presence; Tigo Bolivia, focused on innovation and digital services; and Viva as the third player. eSIM adoption is being driven primarily by the private operators, which are seeking to capture the market's higher-value segments through more streamlined activation processes.

Country Profile

MARKET	MATURE
ACTIVATION	INTERMEDIATE
ADOPTION	INTERMEDIATE
REGULATION	IMMATURE

However, the maturation of eSIM services remains highly dependent on device availability, which continues to lag in Bolivia. The user base is largely concentrated among high-income customers with access to high-end devices. Another consumption pattern is the use of dual numbers, where users maintain a local number for personal services while adding an international number for professional use.

The regulatory framework is overseen by the Autoridad de Regulación y Fiscalización de Telecomunicaciones y Transportes (ATT), which enforces strict user registration rules (Law No. 16), slowing down adoption. While Viva and Tigo have explored digital onboarding alternatives through SEGIP registration, ENTEL continues to require customers to visit physical stores.

Additional barriers are linked to the smartphone market, where most sales are concentrated in low- and mid-range devices that do not support eSIM. There are also issues with unofficially imported devices that face homologation challenges. A cultural barrier is also present, as part of the population remains unfamiliar with digitalization and distrusts the concept of an "invisible SIM," often associating it with identity theft.

Under these conditions, the market still has several steps to take before eSIM becomes fully established. Despite efforts by private operators, adoption remains limited to a minority of users, and the high cost of compatible smartphones complicates mass adoption. It is estimated that only around 10% of smartphones support eSIM. Increasing this figure will require a reduction in the cost of compatible devices.

Europe

Europe

Pos.	Country	Score	Level	% eSIM Dev.	Key Note
#2	Estonia	83.6	Advanced	65%	European leader; most agile prepay onboarding
#3	United Kingdom	82.8	Advanced	55%	All MNOs active; European travel eSIM hub
#6	Switzerland	81.9	Advanced	60%	Swisscom #5 global; push provisioning
#7	Finland	81.7	Advanced	60%	BankID; competitive market with three operators
#8	Germany	81.6	Advanced	50%	Largest EU market; 40-month renewal cycle
#14	Netherlands	79.5	Advanced	55%	KPN pioneer; compact and digitalized market
#15	Poland	78.9	Advanced	48%	Play leader; aggressive growth post-2022
#16	Denmark	78.7	Advanced	55%	MitID integrated; four operators
#17	Spain	78.5	Maturing	45%	4 MNOs active; 40% de travelers buy eSIM before flying
#18	Sweden	78.4	Maturing	50%	BankID barrier for tourists; Volvo leader in eSIM
#22	Belgium	78.1	Advanced	40%	Proximus leader; EU institutions hub
#26	France	75.6	Maturing	35%	Orange #15 global; strict identity regulation
#27	Italy	74.3	Maturing	35%	MVNOs outperform MNOs; Vodafone-Fastweb merger
#31	Russia	70.9	Emerging	25%	Gosuslugi mandatory; 24h international eSIM block

|#2| Estonia

EUROPE

83.6

Estonia ranks 2nd in the eSIM ranking. It is an advanced digital ecosystem with a mobile penetration rate of 174% and competition among three established mobile operators. eSIM is a standard of local connectivity, supported by digital services that enable most government procedures. The market is contested by Elisa, Telia, and Tele2, all of which have adapted their strategies to serve highly connected users. Elisa, the market leader, focuses on the mass adoption of its services by emphasizing user self-management. Telia follows a strategy centered on network coverage and deep service integration, with a particularly strong presence in the wearable segment. Tele2, the third-largest player, maintains an aggressive approach to pricing and simplicity, using eSIM as a tool to reduce operational costs.

Country Profile

MARKET
VERY MATURE

ACTIVATION
VERY MATURE

ADOPTION
VERY MATURE

REGULATION
INTERMEDIATE

The regulatory framework is governed by the Electronic Communications Act, which establishes users' rights to request eSIM services. In addition, the country's Mobile-ID system is regulated by the Identity Documents Act, which imposes strict validation processes that led operators to develop Smart-ID, a solution that uses remote biometrics and operates independently of SIM hardware. Furthermore, these digital identity solutions govern services such as banking and e-government; for prepaid mobile acquisition, Estonia operates one of the most permissive onboarding regimes remaining in the European Union, which is critical for tourism and privacy.

One of the main limitations in the market is the inability, or extreme difficulty, of using Mobile-ID on an eSIM from Elisa or Tele2. Since mobile connectivity is integrated into identity verification and banking access for Estonian users, if eSIM does not support Mobile-ID natively and seamlessly, users are forced to maintain a physical SIM or rely on Smart-ID. The market also shows strong competition in travel eSIM, with players such as Airalo, Holafly, Nomad, Saily, Sim Local, and Yesim. However, unlike other markets, these services are typically much more expensive than those provided by local mobile operators. At the same time, the lack of physical information points in airports guiding users toward low-friction local eSIM options benefits international aggregators. It is estimated that 65% of active smartphones in Estonia are eSIM-capable.

This is largely driven by the strong presence of Apple and Samsung, which dominate market share. In addition, the country has a device replacement cycle of 2.8 years, one of the fastest in the region, ensuring that older hardware without eSIM is rapidly phased out of the active base. Estonia also has above-average LTE smartwatch penetration, which further drives eSIM adoption.

|#3| Untited Kingdom

EUROPE

82.8

The United Kingdom ranks 3rd in the eSIM ranking. The market is characterized by competition among three mobile operators, resulting in a mobile penetration rate of 131%. These operators offer 5G services and position eSIM as a model for the relationship between consumer, operator, and the State.

The market is composed of Vodafone UK, EE, and Virgin Media O2, all of which compete through aggressive digitalization strategies, resulting in each holding market shares of roughly one-third of the market. Vodafone UK has sought to position itself through fully digital eSIM commercialization. Meanwhile, EE follows a convergent eSIM strategy spanning both home and mobile services, while Virgin Media O2 remains focused on ease of activation through its self-management app.

Country Profile

MARKET
VERY MATURE

ACTIVATION
VERY MATURE

ADOPTION
VERY MATURE

REGULATION
INTERMEDIATE

The UK regulatory framework aims to ensure competition while maintaining national security. The Telecoms Security Act 2021 requires mobile operators to implement robust security measures for eSIM activation, including biometric validation or the use of official operator apps secured with Face ID or Touch ID. In addition, the Online Safety Act promotes the use of eSIM as a tool for age verification, aimed at protecting minors.

There are also other barriers, such as a generational gap, with around 20% of the population—primarily older adults—showing reluctance toward virtualized products. Furthermore, device lock-in associated with financed smartphones continues to limit user mobility. At the same time, regulatory pressure to eliminate anonymity in prepaid services slows down activation in this segment.

This barrier, combined with strong user demand, has driven the growth of travel eSIM services. Companies such as Airalo, Holafly, Jetpac, Saily, and Ubigi have found room to grow both among UK users and visiting tourists. These offerings have also helped educate consumers by demonstrating how easy it is to install a secondary data line for international use, reducing fear of technical setup.

It is estimated that at least 55% of active smartphones in the country are eSIM-capable. This trend is driven by the dominance of Apple and Samsung, which account for more than 80% of the local market. The convergence of 5G Standalone, D2D satellite connectivity promoted by Ofcom, and a user base highly familiar with technology positions the UK at the forefront of this offering in Europe.

|#6| Switzerland

EUROPE

81.9

Switzerland ranks 6th in the eSIM ranking. The market has a mobile penetration rate of 110%, driven by competition among three mobile operators, and is consolidated as one of the most advanced in the world, with ongoing digital expansion. In this context, eSIM is one of the main mobile connectivity tools, supported by a 5G infrastructure that already covers more than 98% of the inhabited territory. The adoption of eSIM has been a coordinated strategy between mobile operators and a strict yet progressive federal regulatory framework.

Competition in the Swiss market is shaped by three mobile network operators, alongside a complementary ecosystem of MVNOs that target specific market niches. Swisscom, the incumbent and market leader, follows a "zero-touch connectivity" approach, using its app to simplify users' migration to eSIM. Sunrise maintains a strong presence among younger and innovation-driven segments, having pioneered biometric activation capabilities. Meanwhile, Salt, the market's third-largest player, maintains a rigorous security policy.

Country Profile

MARKET	VERY MATURE
ACTIVATION	VERY MATURE
ADOPTION	VERY MATURE
REGULATION	INTERMEDIATE

The market is governed by the Federal Act on the Surveillance of Postal and Telecommunications Traffic (SPTA), which prohibits anonymous mobile lines, representing a significant constraint. However, the introduction of the official Swiss Confederation digital identity has partially eased this limitation, allowing mobile operators to directly query the e-ID.

Even so, some challenges to eSIM mass adoption remain. One of them is SIM swapping, as the ease of activation and profile download has led mobile operators to implement more rigorous verification processes. Switzerland is also a major destination for high-value tourism, with a mature travel eSIM offering. This segment is led by Airalo, Holafly, Jetpac, and Saily, along with local players such as Digital Republic. The presence of these providers has pushed Swiss mobile operators to include European roaming in most standard plans, often eliminating the need for additional eSIMs for residents traveling abroad.

The market shows that 60% of active smartphones in Switzerland are equipped with eUICC technology. This is driven by the strong market share of Apple, whose devices have supported eSIM since 2018, as well as other high-end devices that have removed the physical SIM slot. In addition, high purchasing power enables shorter device replacement cycles, making it highly likely that this percentage will continue to grow.

|#7| Finland

EUROPE

81.7

Finland ranks 7th in the eSIM ranking. The country has historically maintained a leading position in digitalization and mobile services, reaching a mobile penetration rate of 162%. In this environment, eSIM is a standard offering among the three mobile operators in a highly digitalized market.

Competition in the market is no longer centered on 5G coverage or the deployment of 5G Standalone (SA) services, but rather on user experience and multi-device orchestration. Elisa, the market leader, adopted a native eSIM approach for its 5G services, leveraging user self-management capabilities. Telia, as the second-largest operator, focused its strategy on multi-SIM offerings integrating smartphones, tablets, and smartwatches. Meanwhile, DNA has relied on its self-management app to make the transition to eSIM more automated and cost-efficient. In parallel, eSIM technology is also enabling mobile operators to implement network slicing in a more dynamic way.

Country Profile

MARKET	ACTIVATION	ADOPTION	REGULATION
VERY MATURE	VERY MATURE	VERY MATURE	INTERMEDIATE

Finland's regulatory framework is governed by the Act on Electronic Communications Services (917/2014) and Traficom guidelines. Identity verification is the main barrier to eSIM adoption in the market. Traficom Order 28 L/2025 imposes strict requirements on sender traceability. Mobile operators must ensure that each eSIM profile is linked to a verified identity to combat fraud and spam, leading to the implementation of biometric verification systems for all new users, including tourists. Many of these systems rely on bank accounts as a form of identity validation.

Among the obstacles facing eSIM development is the identity gap for foreigners. In particular, those who do not yet have a Finnish bank account often encounter a "bureaucratic wall." Without a digital identity, remote activation of postpaid contracts remains complex.

This difficulty in activation for foreigners has created additional space for travel eSIM services. Players such as Airalo, Holafly, Nomad, and Saily have found opportunities beyond the traditional tourism segment.

Around 60% of active smartphones in Finland are compatible with eSIM. The strong presence of brands such as Apple and Samsung, along with the growth of manufacturers like Google Pixel and Nothing, is expected to further drive adoption, alongside the migration of services toward wearables and the ease of digital self-management.

|#8| Germany

EUROPE

81.6

Germany ranks 8th in the eSIM ranking. Mobile penetration reaches 254%, driven by competition among four mobile network operators, where the technology acts as a catalyst for the country's digital growth. Despite a strict regulatory framework, operators have found ways to accelerate eSIM adoption.

Competition in the market is shaped by four mobile network operators: Vodafone Germany, Deutsche Telekom, O2 Telefónica Germany, and 1&1 Mobilfunk — with the first three competing for market leadership and 1&1 Mobilfunk operating as the newest entrant. These operators adapted their infrastructure to support eSIM development, particularly by digitalizing customer acquisition processes, which significantly reduced the time required for users to activate the technology. At the same time, competition in the wearable segment is particularly intense through "One Number" offerings.

Country Profile

MARKET	ACTIVATION	ADOPTION	REGULATION
VERY MATURE	VERY MATURE	VERY MATURE	INTERMEDIATE

Beyond the consumer market, the corporate sector also represents a strong area of adoption through IoT applications, where eSIM enables higher standards of security and control. The rollout of eSIM is shaped by article 172 of the Telecommunications Act (TKG), which prohibits anonymity in mobile communications. Every eSIM activated by a local operator must be linked to a verified identity document. This bureaucratic process act as a barrier for users. However, operators have started to introduce digital identity authentication to streamline verification and reduce activation time. Nevertheless, structural challenges continue to slow down mass adoption.

One key factor is the extended smartphone replacement cycle, which has reached around 40 months. This means that nearly half of the population still relies on devices that depend on physical SIM cards. Additional friction comes from operators when transferring eSIM profiles between devices, often requiring a new QR code or, in some cases, a small replacement fee.

At the same time, a competitive ecosystem of travel eSIM providers has emerged alongside traditional operators. Companies such as Airalo, Holafly, Nomad, and Revolut eSIM have gained traction in Germany, largely due to their ease of activation. Today, Germany leads eSIM adoption within the European Union, with an installed base where around 50% of active smartphones already support eUICC (eSIM). To further accelerate this growth, regulatory efforts will need to focus on simplifying digital identity validation and ensuring that app-based activation processes are sufficient to deploy eSIM seamlessly.

|#14| Netherlands

EUROPE

79.5

The Netherlands ranks 14th in the eSIM ranking. The market, composed of three mobile operators, has a mobile penetration rate of 138%. Service offerings are shaped by 5G Standalone (SA), where eSIM plays a fundamental role in a new phase of digitalization.

Competition in the market is driven by three mobile operators. VodafoneZiggo positions itself around multi-device ecosystems. KPN bases its offering on fixed-mobile convergence and 5G services. Odido positions itself as a leader in data volume and digital agility. Alongside these players, an extensive ecosystem of MVNOs captures a significant share of the market.

Country Profile

MARKET
MATURE

ACTIVATION
VERY MATURE

ADOPTION
VERY MATURE

REGULATION
INTERMEDIATE

The eSIM offering stands out for its focus on self-management, where users control their subscriptions and activations through operator apps. These allow users to activate eSIM and transfer profiles between devices, removing the fear of losing their line when switching devices. At the same time, competition in wearables has expanded through multi-SIM services. Meanwhile, the IoT sector also drives growth, particularly through eSIM activation in the country's main smart cities.

From a regulatory perspective, a key feature is the requirement for unequivocal user identification to prevent identity fraud and terrorism. To streamline this process, mobile operators have deployed remote biometric identification systems using the NFC chip in passports or national IDs, even for prepaid lines.
Among the market's barriers is the digital divide affecting lower-income segments, whether due to the cost of devices or delays in implementation by operators, who do not prioritize these users. In addition, part of the population, particularly those over 65, still perceives the physical SIM as a tangible security element and remains skeptical of eSIM.

On the other hand, high roaming costs have driven the rise of travel eSIM. Companies such as Airalo, Holafly, Jetpac, Revolut eSIM, and Saily compete directly with traditional operators, capturing a portion of the international data market.

It is estimated that 55% of smartphones in use in the Netherlands are eSIM-capable. This is driven by the strong presence of Apple and Samsung, as well as a preference for high-end devices among a significant portion of the population. This scenario is reinforced by a combination of highly digitalized users, pro-competition regulation, and robust network infrastructure

|#15| Poland

EUROPE

78.9

Poland ranks 15th in the eSIM ranking. The market has a mobile penetration rate of 142%, driven by competition among four mobile operators. Polish telecommunications are characterized by structural maturity, where eSIM has become a strategic tool for retention and operational efficiency.

The Polish market is composed of four operators: Play (P4), Orange Polska, T-Mobile Polska, and Plus (Polkomtel). Play has adopted a multi-channel eSIM activation strategy, with digitalization serving as a key differentiator. Orange Polska bases its eSIM strategy on user self-management and multi-SIM offerings. T-Mobile Polska remains focused on corporate and premium users through the consolidation of its 5G network. Meanwhile, Plus has concentrated on the prepaid segment, where eSIM adoption has progressed more slowly.

Country Profile

MARKET
VERY MATURE

ACTIVATION
MATURE

ADOPTION
VERY MATURE

REGULATION
INTERMEDIATE

Like much of the European Union, Poland has a strict regulatory framework that seeks, through digitalization, to reduce the barriers created by its own rules. Anti-terrorism legislation initially acted as a barrier to eSIM adoption by prohibiting anonymous lines; however, digital identity regulations have enabled mobile operators to implement remote biometric registration validation.

There are also market-specific barriers related to user demographics, as older generations do not consider eSIM reliable. These same users often prefer in-store activation, which carries an administrative cost, unlike free digital activation. Travel eSIM services have experienced recent growth, particularly with providers such as Airalo, Holafly, Nomad, Saily, and Yesim.

These services have found a niche among tourists and expatriates seeking to avoid local registration requirements, as well as prepaid users who prefer fewer controls. At the same time, local mobile operators have responded with offerings such as Orange Travel, featuring simplified registration processes for foreigners.

The market has around 48% of active smartphones in Poland that are compatible with eSIM. This trend is driven by the natural replacement cycle of devices and the gradual disappearance of physical SIM in high-end segments. In the near future, eSIM is expected to shift from being an option to becoming the de facto standard, alongside the maturation of 5G Standalone offerings.

|#16| Denmark

EUROPE

78.7

Denmark ranks 16th in the eSIM ranking. Established as one of the most digitalized markets globally, it has a mobile penetration rate of 148%. Competition among four mobile operators offering eSIM services has turned the technology into a cornerstone of mobile services, IoT, and citizens' digital identity.

The market is composed of four mobile network operators: TDC, Norlys, Telenor Denmark, and 3 Denmark. This competitive structure has created an intense battle for market leadership, which has in turn accelerated eSIM adoption. Operators are increasingly positioning the technology as a tool for sustainability and operational efficiency. At the same time, instant digital activation is the norm, minimizing service setup times. For wearables, "One Number" services have become a standard feature of the offering. In the corporate segment, IoT adoption has expanded into industries such as wind energy and maritime logistics, where eSIM is used for fleet management and smart sensors.

Country Profile

MARKET
MATURE

ACTIVATION
VERY MATURE

ADOPTION
VERY MATURE

REGULATION
INTERMEDIATE

As in the rest of Europe, Denmark's regulatory framework is strict regarding identity verification and the elimination of anonymous lines. However, the market has a key differentiator in the integration of telecom services with MitID, the national digital identity system, enabling automatic validation. This synergy between the regulator and mobile operators ensures that Denmark has one of the lowest identity fraud rates in Europe.

Nevertheless, the market still faces barriers that limit further expansion. One of them is device ecosystem lock-in, which creates challenges for more complex systems such as wearables. At the same time, the transition to 5G Standalone (SA) in 2026 requires eSIMs to support more advanced security protocols, demanding high CAPEX investments from operators, costs that are difficult to pass on to users.

Additionally, regulation has eroded the concept of anonymous prepaid services, making it highly bureaucratic for tourists or travelers to obtain a local eSIM. This situation has created an opportunity for travel eSIM providers such as Airalo, Holafly, Jetpac, Revolut eSIM, and Ubigi, which operate in a regulatory gray area by offering data-only services through international roaming, avoiding local registration requirements, albeit at a higher cost for users. Despite these challenges, around 55% of active smartphones in Denmark support eSIM. This is largely explained by the dominance of Apple and Samsung in the local market, brands that have standardized dual eSIM in their mid- and high-end devices since 2023. In this context, eSIM also functions as the digital representation of the citizen within the mobile network.

|#17| Spain

EUROPE

78.5

Spain ranks 17th in the eSIM Index. The market has a mobile penetration rate of 155% and is currently undergoing a process of consolidation following the merger between Orange Spain and MásMóvil, which resulted in the creation of MasOrange as the market leader. Competing alongside the new entity are Movistar and Vodafone Spain as major established operators, while Digi has emerged as the fastest-growing entrant. All of these players offer active eSIM services, although adoption remains uneven and continues to expand progressively depending on technical capabilities, actual consumer usage, and the growth of IoT services.

In terms of market competition, the three major mobile operators (Orange, Movistar, and Vodafone) are using eSIM as a customer retention tool. Movistar has adopted a digital home strategy, where eSIM is part of a broader ecosystem for managing household devices. Vodafone has focused on its OneNumber services, enabling multiple devices to be linked under a single subscription, while Orange has pursued a strategy centered on simplifying activation processes for users.

Country Profile

MARKET
VERY MATURE

ACTIVATION
VERY MATURE

ADOPTION
MATURE

REGULATION
INTERMEDIATE

As in most European Union countries, eSIM offerings are subject to regulations that prevent anonymity. Law 25/2007 requires the identification of every mobile line subscriber: operators must verify a national ID, foreign resident ID, or passport, which has driven investment in biometric validation technologies. As a result, most activations in the country are carried out remotely through video-based verification processes.

One of the barriers in the market is both commercial and cultural. Some operators still charge for eSIM duplication, a process with minimal marginal cost once the platform is deployed, which discourages users. Customers continue to perceive the physical SIM as something tangible, while eSIM is seen as an invisible service. Travel eSIM services have emerged as a segment that capitalizes on activation frictions, offering solutions particularly for tourists and travelers. Around 40% of Spaniards traveling outside Europe purchase a data eSIM before departure. In this segment, companies such as Airalo, Holafly, Nomad, Saily, and SimLocal compete.

It is estimated that around 45% of the total base of active smartphones in Spain is eSIM-capable. This share is driven by the adoption of high-end devices from Apple and Samsung. This figure is expected to continue growing, especially considering that around 85% of smartphones sold through operators such as Movistar, Vodafone, and Orange are already compatible with eSIM. Efforts to simplify strict activation processes could act as a catalyst for mass adoption.

|#18| Sweden

EUROPE

78.4

Sweden ranks 18th in the eSIM ranking. Competition among four mobile operators has driven mobile penetration to 139%. The country also features high levels of digitalization and a 5G infrastructure that covers 95% of populated areas. In this context, eSIM shows widespread adoption as a result of strategic alignment between operators, manufacturers, and regulation.

All mobile operators in the market offer eSIM as a connectivity priority, alongside an active MVNO ecosystem that captures portions of the market within specific segments. Telia, the market leader, provides extensive 5G service coverage and seeks to differentiate itself through its IoT and wearable offerings. Meanwhile, Tele2 maintains a strategy focused on full user self-management throughout the eSIM activation process. Telenor adopts a more security-centered approach, resulting in stricter activation procedures. 3, for its part, targets younger users and early adopters, positioning eSIM as a sustainability tool aimed at eliminating plastic SIM cards.

Country Profile

MARKET
VERY MATURE

ACTIVATION
VERY MATURE

ADOPTION
VERY MATURE

REGULATION
IMMATURE

These operators aim to encourage user self-management through mobile applications, as well as enabling immediate transfer of eSIM profiles. There is also a growing trend toward multi-SIM profiles in the market. The Swedish regulatory framework includes strict rules that explicitly prohibit the activation of any mobile service without prior official identification. Mobile operators are required to register both contract and prepaid lines, which must be linked to a verified identity. The solution for remote verification processes is BankID, a digital identity tool regulated under the European eIDAS standard, which allows eSIM activation to be legally binding. This approach creates a seamless experience for residents but makes remote activation more difficult for foreigners.

There are additional barriers affecting eSIM adoption in Sweden, such as the highly active secondary smartphone market driven by sustainability concerns. Many low-cost devices still in circulation do not support the technology, forcing mobile operators to maintain dual infrastructure with physical SIM cards.

The difficulties faced by tourists and temporary workers in adopting local eSIM services have driven the use of global providers such as Airalo, Holafly, Jetpac, Nomad, and Saily, which operate in an international roaming "limbo." The automotive sector plays a key role in Sweden, with companies such as Volvo and Scania positioning the country as a leader in automotive eSIM. Vehicles are no longer manufactured with SIM card slots; connectivity is embedded, enabling over-the-air (OTA) updates.

|#18| Sweden

EUROPE

78.4

Current estimates indicate that 50% of active mobile devices in Sweden are technically capable of supporting eSIM. In other words, around 28% of total connections already operate exclusively through digital profiles. The integration of BankID has enabled unprecedented efficiency for residents, supporting market development, although with limitations for tourists and foreign users.

|#22| Belgium

EUROPE

78.1

Belgium ranks 22nd in the eSIM ranking. The telecommunications market is shaped by dynamic competition among four mobile operators, reaching a penetration rate of 107%. Competition is driven by technological maturity, the convergence of 5G Standalone (SA), and the mass adoption of eSIM. The latter has become a fundamental element in customer acquisition strategies in the digital era.

Proximus is the incumbent and market leader, with a convergence-focused strategy in which eSIM serves as a tool to enable IoT and wearable connectivity. Orange Belgium, the second-largest operator, relies on the technology to simplify portability for new convergent-service customers through digital activation processes. Meanwhile, Telenet focuses on higher-value segments, leveraging the network infrastructure of BASE.

Country Profile

MARKET	ACTIVATION	ADOPTION	REGULATION
VERY MATURE	VERY MATURE	MATURE	INTERMEDIATE

Digi Belgium entered the market aggressively in 2025, prompting operators to strengthen their convergent offerings and accelerate eSIM adoption as a differentiation factor. Like many European countries, Belgium has a strict regulatory framework regarding user identification. The rules aim to ensure national security and prohibit anonymous lines, requiring mobile operators to perform reliable identity verification. Operators rely on itsme, the local digital identity system, which provides the simplest method for eSIM activation, enabling a secure process. There are also market-specific barriers related to user behavior. One of them is demographic: older populations tend to prefer physical SIM cards, as the intangible nature of eSIM generates distrust.

Another constraint is typical of mobile networks: Brussels has historically imposed strict radiation limits, which have slowed the deployment of small cells. This impacts densely populated areas, where signal quality can hinder the “profile download” process required for eSIM activation, which depends on a stable data connection at the time of setup. As the seat of European Union institutions, Belgium is a major travel hub, making it a highly competitive market for travel eSIM providers such as Airalo, Holafly, Jetpac, Maya Mobile, and Saily. These are complemented by similar offerings from local operators, particularly Orange. As a result, around 40% of smartphones in Belgium are already eSIM-capable.

However, strict activation processes, combined with cultural barriers, continue to slow broader adoption. Reducing these frictions, along with efforts by mobile operators to simplify activation, would enable further expansion of the technology.

|#26| France

EUROPE

75.6

France ranks 26th in the eSIM ranking. Competition among four mobile operators has enabled the market to reach a mobile penetration rate of 124%. These players have advanced in digitalization, with eSIM becoming one of their key enablers.

The market is composed of four mobile network operators: Orange France as the incumbent and market leader, followed by Free Mobile, SFR, and Bouygues Telecom. Orange France and SFR focus on multi-device ecosystems, encouraging the use of wearables and tablets under a single mobile line. Meanwhile, Bouygues Telecom emphasizes biometric integration within its app to enable fully remote transitions to eSIM. Free Mobile, for its part, was a pioneer in multi-device offerings by including eSIM support across most of its plans.

Country Profile

MARKET
VERY MATURE

ACTIVATION
VERY MATURE

ADOPTION
INTERMEDIATE

REGULATION
INTERMEDIATE

Like most European Union countries, France enforces strict regulations against anonymous mobile lines, creating tension between the speed of eSIM activation and identity verification bureaucracy. The prohibition of anonymity is governed by the Postal and Electronic Communications Code (CPCE), requiring mobile operators to verify a national ID or passport before a line becomes fully active. To overcome this barrier, operators have begun integrating France Identité, the official digital identity system, enabling eSIM validation within seconds through NFC or facial biometrics. This eliminates the need to upload identity documents and reduces identity fraud.

The market also faces barriers that limit eSIM growth. The main one is the transfer cost that users must pay to move their eSIM profile to a new smartphone across major operators. In addition, part of the population still distrusts intangible and fully digital products.

These constraints, combined with a strong tourism sector, have enabled the development of travel eSIM services in France. Companies such as Airalo, Bouygues, Holafly, and Orange Holiday are active in the market, competing with mobile operators through ease of activation for foreign users.

Nevertheless, France is a key market for the development of 5G Standalone (5G SA), where eSIM plays a fundamental role by enabling network slicing. IoT services also represent an opportunity for further growth of the technology. It is estimated that around 35% of smartphones in the market are eSIM-capable.

|#27| Italy

EUROPE

74.3

Italy ranks 27th in the eSIM ranking. The market is undergoing a consolidation process between two of its four mobile operators and has a mobile penetration rate of 186%. The rollout of 5G services is accompanied by the growth of eSIM, which has increasingly become a key tool for customer acquisition and retention among mobile operators.

The Italian mobile market is undergoing a process of consolidation between Vodafone Italy and Fastweb, whose merger created the market leader in terms of subscriber lines. TIM, the historic incumbent operator, holds second place, followed by WINDTRE. The market is completed by Iliad Italia, the most recent entrant. However, it has been the MVNO ecosystem that has truly driven growth in eSIM adoption across the market.

Country Profile

MARKET	ACTIVATION	ADOPTION	REGULATION
VERY MATURE	VERY MATURE	INTERMEDIATE	INTERMEDIATE

TIM and Vodafone focus on multi-SIM services (Apple Watch, tablets), using advanced entitlement servers to synchronize subscriptions. It is worth noting that TIM's offering is difficult to access from outside the country. Meanwhile, WINDTRE has focused its eSIM strategy on stability and broad coverage, while Iliad has emphasized digitalization and targeting younger users.

Italy's regulatory environment plays a dual role as both an enabler and a barrier, largely due to the presence of multiple regulatory measures. In particular, the Pisanu Decree (Law 155/2005) aims to combat terrorism by requiring mandatory identification of every mobile subscriber, eliminating anonymity.

This regulatory framework also includes AGCOM Resolution 86/21/CIR, which requires mobile operators to digitalize their identity verification processes to prevent SIM swapping. This has driven the widespread integration of SPID (Public Digital Identity System) and CIE (Electronic Identity Card).

Italy's strong tourism positioning has led to a significant presence of travel eSIM services. Airalo and Holafly are the two main players in this segment, competing with local operator offerings such as TIM Tourist and Vodafone Dolce Vita. However, the former have a competitive advantage due to their ease of activation.

It is estimated that around 35% of active smartphones in the market are eSIM-capable. The strong presence of Apple, Google, and Samsung explains the development of the technology in Italy. This share is expected to grow as 5G Standalone (SA) architecture matures and digital identity systems continue to reduce some of the existing regulatory barriers.

|#31| Russia

EUROPE

70.9

Russia ranks 31st in the eSIM ranking. The mobile services market has a penetration rate of 157%, driven by competition among four active mobile operators. It is a highly digitalized ecosystem with advanced prepaid services, but with a very strict regulatory environment. Nevertheless, eSIM is an active offering across all mobile operators. The Russian market has shown notable technological resilience despite international sanctions and the exit of Western infrastructure providers such as Nokia and Ericsson.

The market is led by MTS, which offers an integrated ecosystem where eSIM enables access to banking and streaming services. Meanwhile, MegaFon focuses on "pre-5G" services linked to eSIM capabilities. Beeline bases its positioning on the ease of self-management through its eSIM application. T2, for its part, was the first operator to launch eSIM services in Russia in 2019 and has remained an active player in the market despite its smaller scale.

Country Profile

MARKET
VERY MATURE

ACTIVATION
MATURE

ADOPTION
MATURE

REGULATION
IMMATURE

The critical regulatory factor is the implementation of Federal Law No. 303-FZ, which has turned eSIM into a state registration tool. In Russia, it is nearly impossible to activate a local eSIM remotely without a verified account on Gosuslugi, the government services portal. This system acts as an identity validator by cross-checking data with the Ministry of Internal Affairs. In addition, there is a limit of 20 SIM or eSIM lines for Russian citizens and a maximum of 10 for foreigners. The regulation also requires mobile operators to register the International Mobile Equipment Identity (IMEI) of devices.

These barriers are compounded by additional market-specific challenges, such as the collection of biometric data by mobile operators, which creates user distrust among those who prioritize privacy and pushes them toward the black market for pre-registered physical SIM cards. For foreigners, international eSIMs often face data blocking of up to 24 hours after arrival, while the local network audits the profile.

These constraints have enabled the development of travel eSIM services in the market. Companies such as Airalo, Holafly, Jetpac, Nomad, and Saily are active in the country, taking advantage of the difficulties involved in activating lines with local mobile operators.

With eSIM-capable smartphones representing around 25% of the active installed base, Russia shows some lag compared to other European markets. This is largely due to regulatory requirements aimed at maintaining strict control over the digital identity of each connected user. Additionally, there is public resistance to mandatory biometric validation. These conditions limit the potential for further eSIM development.

MEA

Africa & Middle East

Pos.	Country	Score	Level	% eSIM Dev.	Key Note
#10	Saudi Arabia	79.7	Advanced	50%	STC #7 globally; fingerprint at airport kiosk
#12	Israel	79.6	Advanced	50%	Government mandate; 5 MNOs; 2G/3G shutdown in 2026
#25	Qatar	75.8	Maturing	50%	Ooredoo-Vodafone duopoly; Lusail smart city
#32	Tunisia	70.1	Maturing	30%	Zero-Roaming destination; Airalo & Holafly active
#35	Morocco	67.1	Emerging	15%	ANRT; device cost is the barrier
#37	South Africa	64.5	Emerging	20%	100% digital registration; power cuts affect provisioning
#39	Iran	62.1	Nascent	10%	Sanctions; no Apple/Google; manual configuration
#40	Nigeria	60.4	Emerging	30%	NIN + in-person biometrics; IoT is the greatest potential
#41	EAU	59.0	Maturing	65%	e& #3 global BUT travel eSIM blocked; KS −20
#42	Egypt	58.7	Emerging	15%	Telephony app; 90-day IMEI limit for foreigners
#44	Kenya	56.1	Emerging	10%	Innovative with M-Pesa; manda-tory in-store activation
#45	Turkey	56.0	Emerging	30%	Perfect activation BUT BTK bloc-ked 30+; KS −20
#47	Oman	55.3	Maturing	35%	Omantel #28 global BUT blocked Dec 2025; KS −20
#48	Liberia	48.5	Emerging	8%	Post-conflict; 90-day LTA limit for foreigners
#50	Sudan	38.3	Nascent	15%	Active conflict; eSIM as survival tool

|#10| Saudi Arabia

MEA

79.7

Saudi Arabia ranks 10th in the eSIM ranking. Since 2020, the market has undergone a digitalization process driven by authorities, aimed at strengthening digital sovereignty. In this context, eSIM services have become a key enabler of development, despite the presence of strict identity verification regulations.

The Saudi mobile market is dominated by three operators seeking to position themselves as digital-first companies. stc, the market leader, leverages extensive 5G coverage and focuses its strategy on reliability and an integrated ecosystem of services — including fintech, entertainment, and cloud — with an eSIM proposition centered on ease of user connectivity. Mobily, the second-largest operator and a close competitor to the leader, differentiates itself through an innovation-driven strategy focused on younger users and digital nomads, combined with aggressive digitalization efforts. Zain KSA, the market's third player, emphasizes massive data packages and positions its eSIM offering around eliminating the need for physical interaction for a large segment of the country's young population.

Country Profile

MARKET	VERY MATURE
ACTIVATION	VERY MATURE
ADOPTION	MATURE
REGULATION	INTERMEDIATE

In general terms, eSIM is part of a broader transformation that prioritizes digitalization. One of its main features is multi-SIM capability, with support for wearables. It also plays a fundamental role in IoT services, particularly in traffic sensors and water and energy management, where reliance on physical SIM replacement is not viable.

The Saudi regulatory framework is governed by the Communications, Space and Technology Commission (CST). The regulation prohibits anonymity, meaning every eSIM must be linked to a verified identity. Residents can activate services through remote biometrics, using authentication codes via both government and operator portals.

In addition, the CST requires subscription management platforms (SM-DP+) to operate under GSMA SAS-SM security standards and, preferably, that Saudi user data be managed within national cloud infrastructure. This has led stc to develop its own national eSIM platform. The development of eSIM faces additional challenges, such as a gap in consumer awareness. Many users still prefer visiting physical stores due to fear of losing their profile or number during the digital process. Another challenge is the cost of eSIM replacement, which in some cases remains higher than that of physical SIM cards. Another constraint affects tourists arriving without a visa that allows prior digital registration.

|#10| Saudi Arabia

MEA

79.7

The need to physically visit a service point for fingerprint capture remains a logistical bottleneck at airports during peak seasons. Under these conditions, travel eSIM services from providers such as Airalo, Holafly, Nomad, and Saily have a significant growth opportunity.

Around 50% of smartphones in use are compatible with eSIM. In cities such as Riyadh, this figure rises to 65%, driven by high purchasing power and a preference for iPhone devices and Samsung premium series. This positions the country as a regional leader, particularly in the development of 5G services. As a result, the market is moving toward an “eSIM-first” model before the end of the decade.

|#12| Israel

MEA

79.6

Israel ranks 12th in the eSIM ranking. The mobile telecommunications market reaches a penetration rate of 128%, driven by competition among five mobile operators, making it one of the most dynamic and competitive markets in the region. It is an agile, highly connected sector that has placed eSIM at the core of its infrastructure strategy. As such, eSIM adoption was not organic, but accelerated through a combination of consumer demand and government mandates.

Competition in the market is shaped by five mobile network operators: Cellcom as the market leader; Partner Communications and Pelephone competing for second place; HOT Mobile in an intermediate position; and Wecom as the most recent entrant. During 2026, the country is set to complete the shutdown of its 2G and 3G networks, a transition that is acting as a catalyst for eSIM adoption through the expansion and strengthening of 5G Standalone (SA) services.

Country Profile

MARKET	ACTIVATION	ADOPTION	REGULATION
MATURE	VERY MATURE	VERY MATURE	INTERMEDIATE

The eSIM offering across operators is based on three pillars: high-capacity data plans (up to 1 TB in prepaid) with instant activation via QR; number synchronization services for wearables; and the growth of LTE-M and NB-IoT, where eSIM plays a key role in smart metering and fleet management.

The development of eSIM has been driven by proactive intervention from the Ministry of Communications (MoC), which issued a directive requiring operators to enable eSIM services. This measure was not only economic but also rooted in national security, as the technology allows citizens to switch networks instantly in the event of a cell tower failure.

At the same time, regulation seeks to balance security with ease of activation. Local rules require official user identification to prevent anonymous network usage, but allow remote biometric validation. Operators rely on artificial intelligence to match real-time selfies with identity documents.

There are also structural barriers within the market. One of them is limited interoperability, which makes activation more complex for users. Additionally, bureaucratic friction persists, particularly in processes related to payments and service validation. This friction pushes foreigners and tourists toward the travel eSIM segment, which offers easier onboarding. Platforms such as Airalo, Holafly, Jetpac, and Saily are active in the market.

|#12| Israel

MEA

79.6

Nevertheless, thanks to a strong market share of Apple and Samsung, Israel has a high base of eSIM-ready devices. It is estimated that around 50% of smartphones in use are already compatible with the technology. This is complemented by the smartwatch segment, where adoption is nearly universal, driven by NumberShare services. The challenge in the coming years will be to further standardize device transfer processes and simplify access for users without local credentials.

|#25| Qatar

MEA

75.8

Qatar ranks 25th in the eSIM ranking. The market is a duopoly with a mobile penetration rate of 152% and aims to drive digitalization to deliver advanced connectivity services. In this context, eSIM is part of the state's strategy to increase digitalization.

The Qatari market is composed of Ooredoo Qatar and Vodafone Qatar in a tightly contested duopoly. Rivalry between the two operators has accelerated both the deployment of 5G-Advanced and the early adoption of eSIM technology. Ooredoo Qatar has focused on the industrial and corporate sectors, launching large-scale IoT eSIM solutions for smart cities such as Lusail. Meanwhile, Vodafone Qatar has concentrated on user experience through the implementation of facial biometrics and artificial intelligence for instant eSIM activations, forcing its rival to match the same pace of digital agility.

Country Profile

MARKET
VERY MATURE

ACTIVATION
MATURE

ADOPTION
MATURE

REGULATION
INTERMEDIATE

Among the key features of eSIM offerings is the ability to activate services through multiple channels. The market also shows one of the highest smartwatch adoption rates, with both operators offering "one number" services. The regulatory framework is governed by the Communications Regulatory Authority (CRA), which seeks to balance business enablement with national security. Qatar maintains a strict mandate whereby every line must be linked to a verified identity.

To improve user experience, the regulator has authorized e-KYC (Electronic Know Your Customer), allowing mobile operators to perform remote biometric verification. The market also faces structural challenges that limit eSIM growth. One of them is competition focused on customer profitability, which reduces incentives for mobile operators to acquire new users or actively promote eSIM. In addition, the high proportion of foreign population, combined with workforce turnover, creates an unstable subscriber base.

Furthermore, regulatory constraints make it difficult for foreigners to activate eSIM with local mobile operators. Given the large number of temporary workers in the country, this creates an opportunity for providers such as Airalo, Holafly, MobiMatter, and Saily in the travel eSIM segment.

In this context, it is estimated that 50% of smartphones in the market are equipped with eSIM. The adoption of this technology in Qatar has followed a faster growth curve than the global average. Although identity verification requirements remain strict, the regulator has developed mechanisms that allow mobile operators to activate eSIM remotely.

|#32| Tunisia

MEA

70.1

Tunisia ranks 32nd in the eSIM ranking. The market reached a mobile penetration of 123%, making it one of the most connected hubs in North Africa. The service infrastructure is mature, and competition among mobile operators has shifted toward digital services. eSIM offerings are available across all three mobile operators, with options for prepaid, postpaid, IoT, and wearables.

The market's competitive landscape is relatively balanced, with three mobile operators competing across fairly even market shares. Tunisie Telecom, the incumbent and market leader, leverages its fiber-optic infrastructure to strengthen its position in the corporate segment and in 5G services. Ooredoo Tunisie maintains a focus on younger users, prepaid services, and financial offerings. Meanwhile, Orange Tunisie positions itself as an innovation-driven operator with a strong portfolio of digital services.

Country Profile

MARKET
VERY MATURE

ACTIVATION
MATURE

ADOPTION
MATURE

REGULATION
INTERMEDIATE

The eSIM market has grown through self-service systems deployed by mobile operators. These apps enable biometric user validation for activation, as well as the delivery of QR codes for scanning. There is also flexibility in plan structures, not only in payment models but also for wearables with single-number configurations.

The market is regulated by the Instance Nationale des Télécommunications (INT) and the Ministry of Communication Technologies. Although regulations have become stricter, they have also been modernized toward a more digital approach. A key example is biometric validation: while each line must be linked to an identity document, this association can now be completed remotely using different verification methods.

Another measure with indirect impact on the market is the Finance Law, which mandates electronic invoicing for all services, including telecommunications. This forced mobile operators to digitize their billing processes, indirectly making eSIM sales more transparent and traceable.

Among the main barriers is one common across the region: limited access to smartphones that support eSIM. Most Tunisians use low- and lower-mid-range devices, which are more affordable but lack this capability. Another constraint is the activation fee for eSIM, which does not exist for physical SIM cards, driven by macroeconomic conditions that increase the cost of eSIM management software licenses.

|#32| Tunisia

MEA

70.1

The travel eSIM market in Tunisia has positioned the country as a “zero-roaming” destination thanks to international providers such as Airalo, Holafly, and Saily. These services operate under agreements with Ooredoo and Orange, allowing users to connect before entering the country and at competitive pricing compared to local mobile operator offers.

In this context, it is estimated that around 30% of smartphones in Tunisia are eSIM-capable. The market shows regulatory efforts aimed at streamlining bureaucratic processes toward greater digitalization, using eSIM to improve the user activation experience. However, widespread adoption will depend on the availability of more affordable compatible devices.

|#35| Morocco

MEA

67.1

Morocco ranks 35th in the eSIM ranking. By the end of 2025, mobile penetration had reached 148%, driven by mature competition among mobile operators, with three players holding similar shares of around 30% each. In recent years, growth in the number of lines has been fueled by the "multi-SIM" phenomenon (users with more than one line), creating ideal conditions for the introduction of eSIM technology.

Competition in the market is driven by bundled service offerings, digitalization, and the inclusion of 5G technology. Market leadership is contested among Orange Maroc, Inwi, and the state-owned Maroc Telecom (IAM), all holding relatively balanced market shares. The intense competition among offers has led operators to pursue more advanced services, with eSIM standing out as a key differentiator. It is worth noting that, among the three players, publicly available information regarding Inwi remains relatively limited. In this competitive context, eSIM has evolved from a niche for early adopters into a standard for premium and travel segments. It has also recently expanded into the mass smartphone market and the wearables and IoT segment.

Country Profile

MARKET
MATURE

ACTIVATION
INTERMEDIATE

ADOPTION
MATURE

REGULATION
INTERMEDIATE

Orange offers an attractive proposition for wearables, providing strong support for smartwatches, including multi-SIM capabilities and the ability to share a data plan with a smartphone. Maroc Telecom, in turn, is focusing on digital differentiation through its iNJOY brand, promoting eSIM adoption. Although Inwi aims to position itself through digitalization, access to detailed information about its offerings remains difficult from outside the country.

IoT is also a driver of eSIM adoption, particularly within the corporate segment. Morocco is expected to see significant growth in the automation of various sectors of the economy, including industry, logistics, fleet management, and smart cities. The Agence Nationale de Réglementation des Télécommunications (ANRT) enforces strict user identification policies to ensure national security. Local regulations require each eSIM to be linked to an identity document (CIN or passport). However, the regulator allows remote activation through Electronic Know Your Customer (eKYC), provided that operators store user data. Another requirement is that all eSIM-enabled devices, especially wearables, must transparently display their SAR (specific absorption rate) values.

User purchasing power remains one of the main barriers to market growth. In Morocco, an eSIM-compatible smartphone is still considered a luxury item for most of the population. The second-hand market, which remains active, is saturated with older models that only support physical SIM cards. Additionally, as a predominantly prepaid market, the concept of eSIM is still unfamiliar to the mass user base, making digital literacy and financial inclusion key for further adoption. Travel eSIM services have found a growth niche in tourism, driven by the bureaucratic hurdles associated with local eSIM activation. Active providers in the market include Airalo, Holafly, Saily, Maya Mobile, and Nomad.

In this context, while Morocco aims to position itself as a technological hub in North Africa, further progress is needed in digitalization and the mass deployment of 5G services. Both objectives are part of its roadmap ahead of the 2030 FIFA World Cup, which it will co-host. eSIM adoption, currently estimated at 15% of local smartphones, will largely depend on improving digital literacy, increasing device affordability, and reducing existing regulatory barriers.

|#37| South Africa

MEA

64.5

South Africa ranks 37th in the global eSIM ranking. With penetration close to 140%, the market is among the most advanced on the continent, supported by a mature 5G offering and greater regulatory flexibility from the Independent Communications Authority of South Africa (ICASA). In this context, eSIM services have moved beyond being perceived as a luxury and have begun to expand across broader segments of the population.

The market has a mobile penetration rate exceeding 170%, with more than 108 million connections, as mobile operators seek growth through service diversification. Market leadership is contested between Vodacom and MTN as the two dominant operators. In a second tier is Telkom, which has been experiencing strong growth, while Cell C and Rain maintain smaller positions within the MNO segment. Of these operators, four currently offer eSIM services, although Vodacom presents accessibility limitations from outside the country. The market also features a strong presence of MVNOs, which are exerting pressure through innovation and fintech-oriented services.

Country Profile

MARKET
VERY MATURE

ACTIVATION
IMMATURE

ADOPTION
MATURE

REGULATION
IMMATURE

One of the key characteristics that differentiates South Africa from the rest of the region in terms of eSIM is its fully digital and autonomous registration process. Mobile operators have integrated remote biometric validation with liveness detection into their applications. This advancement enables activation without the need for users to visit a physical store.

In the wearables segment, South Africa also shows an aggressive push from Vodacom and MTN through "One Number" services, allowing synchronization between smartwatch eSIM profiles and smartphones.

From a regulatory perspective, the market is one of the most flexible in the region. The Regulation of Interception of Communications and Provision of Communication-Related Information Act (RICA) requires user identity verification. However, in 2026 the regulator formalized guidelines for remote activation, requiring the presentation of a public service record to validate identity. This process introduces friction but enables remote activation. Another key regulation is the Protection of Personal Information Act (POPIA), which obliges mobile operators to ensure that users' facial data is not used beyond RICA validation purposes.

Among the market barriers, the affordability gap between devices with physical SIM and those supporting eSIM stands out. As a result, most devices in use do not support the technology. Another barrier relates to energy instability: eSIM requires the operator's provisioning server (SM-DP+) to be continuously available.

|#37| South Africa

MEA

64.5

Power outages disrupt data centers, delaying activations and generating poor user experiences. Tourism is a mature industry in South Africa, and connectivity for this segment is increasingly driven by eSIM due to its ease of acquisition compared to local mobile operators. Available services include Holafly, Airalo, Nomad, Ubigi, Saily, Roamless, SimOptions, and Eskimo.

Under these conditions, around 20% of smartphones in the market support eSIM technology. However, following recent regulatory improvements, activations are expected to increase significantly during 2026. This growth will be driven by smartphones, wearables, and the corporate sector through IoT, particularly in mining and automotive industries. Achieving this will require further reduction of the remaining regulatory frictions in the market.

|#39| Iran

MEA

62.1

Iran ranks 39th in the eSIM ranking. The market presents a contradiction: it faces partial technological isolation, resulting from prolonged economic sanctions, while at the same time having an early-adopter population. As a result, mobile service penetration reaches 166%, although the launch of eSIM is recent and still shows signs of immaturity.

The market is dominated by three mobile operators pursuing different strategies. MCI, the incumbent and market leader, relies on its extensive network coverage; its eSIM offering is primarily focused on the postpaid segment, where it is positioned as a premium security service. MTN Irancell, the second-largest operator and a close competitor to the leader, presents itself as a pioneer in innovation, with a strategy centered on full digitalization and strong promotion of its digital wallet, Aval. Meanwhile, RighTel, the market's third player, has found a niche among travelers and digital nomads, benefiting from its more advanced digital onboarding processes.

Country Profile

MARKET
MATURE

ACTIVATION
MATURE

ADOPTION
INTERMEDIATE

REGULATION
INTERMEDIATE

Among the characteristics of the eSIM market is the early growth of smartwatches. In addition, the technology enables better network selection in high-end 4G/LTE devices, improving perceived latency for users.

The deployment of eSIM in Iran is anchored in a legal framework heavily focused on surveillance and identity control. The Shahkar regulation requires that every time a user requests an activation QR code, the operator must consult this centralized system. Shahkar validates the Melli Code (Iranian national ID) and ensures that the limit of 10 active SIMs per person is not exceeded. Additionally, facial biometrics is mandatory through a liveness detection process.

Furthermore, regulation requires device control through HAMTA, the system responsible for the "30-day rule." This rule establishes that any eSIM-capable smartphone entering the country must be registered and pay a customs fee; otherwise, after that period, the IMEI or EID is blocked on national networks.

There are also significant structural barriers. The absence of Apple and Google in the market limits official operator support from device manufacturers. As a result, users must configure eSIMs manually or through generic QR codes, and services such as iMessage linked to phone numbers often fail due to restrictions on international servers.

|#39| Iran

MEA

62.1

The smartphone base also acts as a constraint. Although brands like Xiaomi and Samsung have begun integrating eSIM into more affordable models, most low-cost devices in Iran remain incompatible with the technology. This positions eSIM as a service aimed at middle- and high-income segments, widening the digital divide.

In this context, eSIM adoption remains limited. It is estimated that only around 10% of smartphones in the market support this technology. Strong state controls, combined with international technological restrictions, create a complex environment that hinders its development.

|#40| Nigeria

MEA

60.4

Nigeria ranks 40th in the eSIM ranking. With mobile service penetration at 78.11%, the market—home to more than 230 million people—aims to establish itself as a digital leader in Sub-Saharan Africa. The country is implementing a range of policies to drive societal digitalization, with eSIM positioned as a key component in digital identity and security.

The mobile market is composed of four operators regulated by the Nigerian Communications Commission (NCC). MTN Nigeria, the dominant market player, leverages an extensive 5G network and a reputation as an innovation-driven operator. Airtel Nigeria, the second-largest operator, follows a strategy based on digital inclusion, offering simplified migration to eSIM for its prepaid customers. Globacom (Glo) reshaped its strategy during 2025 through a major infrastructure upgrade that enabled the rollout of 5G and eSIM services, with a strong focus on younger users and an aggressive push into IoT and wearable services. The market is rounded out by T2mobile, which maintains a digital and niche-oriented focus on IoT services.

Country Profile

MARKET
MATURE

ACTIVATION
IMMATURE

ADOPTION
MATURE

REGULATION
IMMATURE

From a regulatory perspective, as in many African markets, Nigeria prioritizes national security over ease of activation. The NCC's policy is based on the National Identification Number (NIN). No eSIM can be activated without being linked to this identity number. As a result, the regulator requires biometric verification before initiating the activation process, typically carried out in person.

In addition, the Nigeria Data Protection Act (NDPA) has required mobile operators to make significant investments to ensure that eSIM profiles are transmitted over encrypted channels, which has slowed the transition toward fully digital activation processes.

Both regulations hinder the evolution of eSIM, particularly due to the requirement to visit physical stores for identity verification, creating bureaucratic and time-related barriers for users, especially in large cities. As a result, the robust services deployed by mobile operators contrast with a restrictive regulatory framework.

Travel eSIM services offer greater ease of acquisition compared to local mobile operators, particularly in the tourism segment. Competition in this space includes Airalo, Holafly, Nomad, eSIM Go, and Saily. It is estimated that around 30% of smartphones in the market are equipped with eSIM. Under current conditions, this figure is expected to grow at a moderate pace, with the service remaining concentrated among premium users and IoT applications in the corporate sector.

|#40| Nigeria

MEA

60.4

Nigeria's device base is dominated by low-cost smartphones, most of which do not support eSIM. In addition, the market includes a large number of second-hand devices imported from Europe and the United States, which often contain pre-existing eSIM profiles that can cause technical issues when adapting to local services. In this context, the growth of eSIM in Nigeria will be closely tied to IoT, particularly through the development of smart cities, such as the Lagos and Abuja projects, and the expansion of the logistics industry.

|#41| UAE

MEA

59.0

The United Arab Emirates ranks 41st in the eSIM ranking. The market features a highly competitive duopoly and a penetration rate of 238%, driven not only by smartphone adoption but also by the development of digital services. It also benefits from active 5G infrastructure covering the entire inhabited territory.

Competition between e& and du has evolved from a battle over network coverage into a contest centered on digital experiences. e&, the incumbent and market leader, follows a user-personalization strategy in which eSIM serves as a gateway to financial and entertainment services. Meanwhile, du focuses on younger users and the expatriate community, using its self-management app as the core mechanism for eSIM activation. The operator also maintains an aggressive position in the tourism sector, with initiatives such as free travel eSIM offerings for transit passengers.

Country Profile

MARKET	ACTIVATION	ADOPTION	REGULATION
VERY MATURE	VERY MATURE	MATURE	CRITICAL

The market regulator is the Telecommunications and Digital Government Regulatory Authority (TDRA). Among its key measures is the integration of eSIM with UAE PASS to validate user identity, linking connectivity to legal identity and effectively turning the technology into a digital document. Through the "My Number, My Identity" policy, each eSIM profile must be associated with a valid Emirates ID. This approach has significantly reduced identity fraud, although it has required substantial investment from mobile operators.

Despite these advancements, the market presents significant challenges, such as lock-in between local operators, which makes it difficult for users to switch providers. eSIM is so deeply integrated into banking, government, and transport services that number portability, although legally permitted, is perceived as a risk of disrupting essential services.

Additionally, a significant portion of the smartphone base comes from markets such as China and India, with band configurations or software that are not always fully compatible with local eSIM profiles, leading to technical issues in user experience. The market focus is increasingly shifting toward IoT and the automotive sector. Many vehicles sold in the country, such as Tesla, BMW, and Mercedes-Benz, come with eSIM integrated at the factory, connecting directly to e& or du networks for emergency, navigation, and entertainment services. Likewise, the deployment of sensors in smart cities relies on eSIM to manage electricity, water, and traffic networks remotely.

International travel eSIM providers face a challenging regulatory environment. The TDRA considers the sale of data services within the country a regulated activity, resulting in many users being unable to activate eSIMs

|#41| UAE

MEA

59.0

purchased abroad, as download servers are often blocked by local networks. The smartphone market in the UAE is predominantly high-end. It is estimated that 65% of active devices support eSIM, driven by the strong presence of Apple and Samsung. Profile activation has grown significantly thanks to simplified processes. The expansion of IoT will create new opportunities for the technology, although it will be crucial for regulators to allow greater competitive space for travel eSIM services.

|#42| Egypt

MEA

58.7

Egypt ranks 42nd in the eSIM ranking. It is the largest telecommunications market in the Arab world in terms of subscriber volume, surpassing 120 million lines by the end of 2025, with penetration exceeding 102%. The four mobile operators—Vodafone, Orange, e& (Etisalat), and WE (Telecom Egypt)—offer active eSIM services. The development of eSIM services is not driven by competition, but by regulatory constraints imposed by the National Telecommunications Regulatory Authority (NTRA).

In broad terms, the competitive landscape of the Egyptian market positions Vodafone Egypt as the market leader, with an eSIM strategy aimed at strengthening its digital positioning among younger users; however, access to its offerings often presents delays and usability issues. Orange Egypt, the second-largest operator, maintains a more aggressive approach to service digitalization, offering greater ease of activation through digital channels. Meanwhile, e& Egypt linked its eSIM strategy to the rollout of its 5G network. The state-owned WE completes the market with an offering centered on fixed-mobile bundling, where eSIM functions as a value-added feature; like Vodafone Egypt, its digital access capabilities remain relatively limited.

Country Profile

MARKET
INTERMEDIATE

ACTIVATION
INTERMEDIATE

ADOPTION
INTERMEDIATE

REGULATION
IMMATURE

In general, Egypt's eSIM offering includes both prepaid and postpaid options, with single-number solutions that allow wearables to be integrated under one eSIM. Meanwhile, offerings related to Internet of Things (IoT) are primarily focused on large enterprise segments. These services are available across operators, with varying levels of sophistication.

Activation methods are the main differentiator among mobile operators. While e& and Orange promote fully digital remote adoption, Vodafone follows a hybrid model, and WE prioritizes assisted onboarding in retail stores. The latter two operators present the greatest challenges in accessing their services online.

From a regulatory standpoint, the NTRA balances digitalization with national security priorities. The latter requires mobile operators to mandate in-person presence for eSIM activation to new customers, as well as activation within Egyptian territory, creating a barrier for fully digital offerings. Additionally, in 2025 the regulator launched the Telephony application, a device import control system. This grants tourists a 90-day grace period to use a foreign phone with a local eSIM; after that period, users must register the device and pay a tax, or the International Mobile Equipment Identity (IMEI) will be blocked from local networks.

Similarly, regulation limits profile usage: QR codes issued by Egyptian mobile operators are single-use. If a user resets their phone or changes devices, they must repeat the activation process, unlike international practices that allow eSIM migration within the same technological ecosystem.

These constraints have encouraged the development of travel eSIM solutions among tourists, creating a competitive and robust market, primarily because they can be activated digitally and do not require NTRA intervention.

In this context, it is estimated that around 15% of the Egyptian market had access to eSIM by the end of 2025. Although smartphone penetration is high, most devices are mid- and low-range models that lack this technology, meaning growth will largely depend on device replacement within the installed base.

|#44| Kenya

MEA

56.1

Kenya ranks 44th in the eSIM ranking. The market has a mobile service penetration of 149%, positioning it among the most digitally innovative markets in Sub-Saharan Africa. The eSIM offering is a cornerstone of the country's digital inclusion strategy, as its security features enable the development of the Maisha Namba initiative (a unified digital ID). However, regulatory conditions are moderating the pace of digital growth in the country.

All four mobile operators have deployed 5G networks and maintain active eSIM offerings. The market is dominated by Safaricom, the leading operator, whose digital ecosystem integrates health, education, and financial services. Its main competitor, Airtel Kenya, maintains a positioning centered on data services and the digitalization of customer access, including eSIM capabilities. The market is completed by Faiba (JTL), which focuses on a niche strategy aimed at digital nomads, and Telkom Kenya, a smaller operator that continues to face limitations in access to its digital offerings. eSIM services are relatively mature, including availability for postpaid, prepaid, wearables, and IoT across all verified operators.

Country Profile

MARKET	ACTIVATION	ADOPTION	REGULATION
VERY MATURE	CRITICAL	INTERMEDIATE	INTERMEDIATE

eSIM adoption surged with the introduction of dual eSIM, allowing many users to combine the best offers from different mobile operators. In addition, the rollout of 5G, with coverage reaching approximately 15% of the population, has further boosted eSIM adoption.

From a regulatory perspective, the Communications Authority of Kenya (CA) has tightened rules related to eSIM. The main barrier in the market is the requirement for in-store identity verification to acquire the service, although renewals for local residents can be fully digital. In addition, the Data Protection Act imposes strict audits on mobile operators to verify how eSIM digital profiles are stored.

This regulatory requirement to visit a physical store to scan the activation QR code runs counter to the nature of eSIM, undermining both instant activation and service digitalization. As a result, mobile operators rely heavily on their retail footprint to compete in what should be a fully digital offering. Consumer purchasing power is another bottleneck. Entry-level smartphones dominate the mass market but do not support eSIM services, while compatible devices tend to remain within higher-income segments.

These regulatory constraints create an opportunity for travel eSIM services in Kenya, as they remove the need for physical registration and enable immediate connectivity without delays. The market includes active offerings from Holafly, Airalo, Nomad, and Ubigi.

|#44| Kenya

MEA

56.1

eSIM-compatible device penetration in Kenya is estimated at around 10% of the installed smartphone base. Although this appears modest, it represents the segment with the highest ARPU (average revenue per user). The key challenge for the market is to ease strict bureaucratic constraints while overcoming the economic barrier posed by the cost of eSIM-compatible smartphones.

|#45| Turkey

MEA

56.0

Turkey ranks 45th in the eSIM ranking. Regulatory rigor, based on the principle of national security, dominates a market of three mobile operators with a penetration rate of 115%. In this context, eSIM has evolved as a transition shaped by the pursuit of data sovereignty, fiscal control, and national security.

This analysis outlines how the eSIM architecture in Turkey is defined by three forces in tension: the agility of local mobile operators (Turkcell, Vodafone, and Türk Telekom), the regulatory weight of the Information and Communication Technologies Authority (BTK), and the resilience of travel eSIM services in an increasingly closed environment.

Country Profile

MARKET	ACTIVATION	ADOPTION	REGULATION
VERY MATURE	VERY MATURE	INTERMEDIATE	CRITICAL

The mobile services ecosystem is composed of three operators, with Turkcell as the market leader, pursuing a convergent strategy that integrates eSIM across smartphones and IoT services. Türk Telekom, in a position very close to the leader, has positioned eSIM as a bridge to premium services by including it within its higher-value packages. Meanwhile, Vodafone Turkey maintains a digital and free-access commercialization strategy for its eSIM offering. More broadly, the development of eSIM in the market has been driven by the search for operational efficiency and the objective of eliminating the logistics associated with physical SIM cards.

The regulatory framework represents the main constraint in the market. The Information and Communication Technologies Authority (BTK), through resolutions No. E-98966759-450.08-36681 and 37512, ordered the blocking of access to more than 30 travel eSIM providers, including Airalo, Holafly, and Nomad. The regulation requires these companies to host their eSIM profile generation servers within Turkish territory. Additionally, the provisions mandate that mobile data traffic must be interceptable under local judicial orders. International roaming eSIMs encrypt traffic to foreign servers, creating a “blind spot” for national security.

Another constraint stems from the Central Equipment Identity Register (MCKS). The regulation stipulates that any foreign smartphone connecting to a Turkish network is subject to a 120-day timer; once this period expires, the International Mobile Equipment Identity (IMEI) is blocked.

Furthermore, the regulation has eliminated anonymity in telecommunications services, requiring eSIM activations to undergo NFC-based validation, including scanning the chip of a national ID or residence permit, facial recognition to prevent fraud using static images, and integration with the government portal.

|#45| Turkey

MEA

56.0

Despite these constraints, eSIM capability in the installed base of smartphones in Turkey reaches 30%. This is largely driven by the strong presence of Apple in the market, along with competition from Samsung and Xiaomi, which have expanded the base of compatible devices. The evolution of the market will largely depend on whether regulatory flexibility can keep pace with the rate of smartphone adoption among the population.

|#47| Oman

MEA

55.3

Oman ranks 47th in the eSIM ranking. The market is among the most advanced within the Gulf Cooperation Council (GCC), with a penetration rate of 123%, driven by competition among three mobile operators. The country is advancing its digital development through its Oman Vision 2040 strategy, an ecosystem that highlights the importance of eSIM and a 5G network covering 91% of the population.

Competition in the mobile market is shaped by three operators. Omantel, the incumbent operator, maintains a strong presence in physical infrastructure and 5G coverage; its eSIM strategy is focused on corporate and premium customers through its Baqa offering, integrating the technology into a convergent ecosystem that includes fiber-optic and cloud services.

Country Profile

MARKET
VERY MATURE

ACTIVATION
VERY MATURE

ADOPTION
MATURE

REGULATION
CRITICAL

Ooredoo Oman, in a position very close to the market leader, centers its strategy on reliability and speed through its self-management application. Meanwhile, Vodafone Oman, the newest entrant since 2022, operates with an app-based offering where eSIM serves as the default activation standard; much of its growth has been driven by this digital-first approach. The remainder of the market is characterized by a strong presence of MVNOs.

Oman's Telecommunications Regulatory Authority (TRA) has taken a proactive stance on eSIM regulation, treating it as part of national security. Decision No. 109/2022 prohibits the activation of anonymous lines, requiring each to be linked to the user's Civil Number. Operator systems are connected in real time with the Royal Oman Police (ROP) database, which verifies that identification documents (Resident ID or Omani ID) are valid and authentic.

Additionally, the TRA requires applications to perform liveness checks (blinking, head movement) to ensure the user is physically present and not a static image.

There are also challenges related to cultural factors. In certain segments, particularly in rural areas or among migrant workers, physical SIM cards are perceived as more secure or easier to transfer between basic devices. Another barrier is the cost and complexity of transferring an eSIM from an older device to a new one. At the same time, the travel eSIM segment is highly competitive. With the recovery of the tourism sector, local operators have launched offerings such as Ooredoo's Tourist Pack or Vodafone's digital prepaid plans, competing aggressively with global providers like Airalo, Holafly, and Saily.

|#47| Oman

MEA 55.3

Approximately 35% of active smartphones in Oman are eSIM-capable. This reflects a strong presence of high-end devices, particularly from Apple and Samsung. Additionally, the shutdown of 3G networks in 2025 forced a large-scale device upgrade cycle toward 4G and 5G terminals, most of which already support eSIM. Despite regulatory constraints, there is still room for growth, especially as the smartphone increasingly becomes the digital passport and wallet of Oman's population.

|#48| Liberia

MEA

48.5

Liberia ranks 48th in the eSIM ranking. With penetration close to 90%, the market experienced rapid development following the end of internal armed conflicts, advancing infrastructure growth toward a more digitalized environment. This expansion enabled mobile access for most of the population, and in this context, eSIM services developed amid economic constraints and strict regulation.

In competitive terms, the market is composed of three operators, two of which currently offer deployed eSIM services. Market leadership is contested between Orange Liberia, which maintains a digital and innovation-driven positioning, and Lonestar Cell MTN, whose strategy is strongly focused on the Mobile Money segment. The state-owned LTC Mobile completes the market with a smaller position and a focus on government and corporate customers. The two operators competing for market leadership both maintain developed eSIM offerings.

Country Profile

MARKET
MATURE

ACTIVATION
CRITICAL

ADOPTION
IMMATURE

REGULATION
CRITICAL

The service offering is active in Orange and Cell MTN for both postpaid and prepaid users. Orange also offers services for wearables. Both mobile operators have also developed eSIM offerings for IoT. Despite this, the technology remains associated with premium services tied to high-end smartphones and tourism.

eSIM is primarily used to maintain an international line while using a physical SIM from a local operator to access services from Liberia's mobile operators. The use of wearables linked to the smartphone's eSIM is positioned as a premium service, mainly developed by Lonestar MTN, while at Orange it is only available upon specific user request.

In addition to economic barriers limiting widespread access to eSIM-compatible smartphones, the market faces regulatory challenges. In particular, under regulation LTA-REG-008 (Amended SIM Card Registration Regulations), the Liberia Telecommunications Authority, in coordination with the National Identification Registry (NIR), imposed a mandatory biometric and in-person registration regime. This means that no mobile operator can activate an eSIM profile remotely for new users.

The rigidity of this measure undermines one of the key advantages of eSIM services: the ability to activate service remotely. The regulation is justified by the LTA on national security grounds, aiming to prevent financial fraud and international gray traffic. The same regulation allows eSIM activation for foreigners, but these are automatically deactivated after 90 days of use.

|#48| Liberia

MEA

48.5

There is also a digital knowledge gap in the market that hinders adoption. Most users are unaware of the advantages of eSIM compared to physical SIM cards, leading to resistance to change and a preference for traditional solutions.

Although access infrastructure has improved in recent years, some issues persist. From the user perspective, unstable connectivity can prevent proper downloading of eSIM profiles, causing frustration and requiring technical assistance. These negative experiences further slow the evolution of the service.

These regulatory constraints create an opportunity for travel eSIM services. Although often more expensive, the tourism segment benefits from simpler onboarding and faster activation. Providers active in the market include Airalo, Holafly, ByteSIM (specific to Orange), and Saily.

It is estimated that only around 8% of smartphones in Liberia are compatible with eSIM. The number of devices available through mobile operators is moderate, mainly consisting of iPhones (series 11 and above) and Samsung Galaxy S devices, many of which are sourced from the refurbished market in the United States.

|#50| Sudan

MEA

38.3

Sudan ranks 50th in the eSIM ranking. Ongoing armed conflict and internal instability explain the country's challenges in infrastructure development and digitalization. Mobile service penetration reaches only around 38%. The transition toward eSIM is driven by its role as a tool to provide connectivity to displaced populations and to support a virtual economy that relies heavily on mobile services.

Competition in the market was shaped by three players: Zain Sudan, MTN Sudan, and Sudani. Zain Sudan, the market leader, maintains a strong presence in 4G services and positions itself around its digital wallet platform, Bede. MTN Sudan, the second-largest operator, focuses on mobile broadband and satellite services, although the civil war has severely affected its operations. Sudani, the mobile brand of the national operator, maintains a competitive position supported by its fiber backhaul infrastructure. All three operators offer eSIM services for prepaid, postpaid, wearables, and IoT use cases, although access to these offerings remains limited.

Country Profile

MARKET	IMMATURE
ACTIVATION	CRITICAL
ADOPTION	IMMATURE
REGULATION	CRITICAL

Sudan's social conditions have turned eSIM into a practical solution to the shortage of physical SIM cards. Armed conflict disrupts the logistical networks of mobile operators, creating an opportunity for eSIM to serve as an alternative connectivity option for part of the population. In addition, the technology allows users to operate two networks simultaneously, helping them maintain connectivity during operator outages.

The regulatory framework, overseen by the Telecommunications and Post Regulatory Authority (TPRA), has been partially relaxed to adapt to the country's conditions. While SIM registration laws originally required physical presence, the TPRA introduced temporary remote registration measures, allowing users to submit photographic identification or national ID documents. Number portability has also been suspended to preserve user stability. Despite this flexibility, the TPRA maintains strict control over data traffic to prevent insurgent use of networks, including intermittent restrictions on services such as WhatsApp or Telegram and continuous monitoring of private satellite stations.

The country's situation also presents major barriers to eSIM development, particularly in infrastructure. In regions such as Darfur, significant portions of network infrastructure have been destroyed or vandalized, often due to the theft of copper and solar panels. International connectivity depends heavily on submarine cables through Port Sudan, making the country vulnerable to outages.

|#50| Sudan

MEA

38.3

Economic conditions further constrain adoption. The ongoing conflict has reduced purchasing power for much of the population, limiting access to mobile services. Most users cannot afford smartphones compatible with eSIM, resulting in a device base largely composed of basic handsets.

Providers such as Airalo, Saily, and Holafly are active in the country. In general, they are used by international NGO personnel and journalists, as they offer the advantage of automatic connectivity without the need for immediate local registration.

In this context, only around 15% of the population has access to eSIM services. For this situation to improve, greater social stability and peace in the country are required. Maintaining the number of eSIM lines in the market will depend on mobile operators being able to keep their services operational, as the development of 5G remains a distant prospect.

APAC

APAC

Pos.	Country	Score	Level	% eSIM Dev.	Key Note
#4	Thailand	82.7	Advanced	50%	True Corp #1 global; competitive duopoly
#9	Malaysia	80.1	Advanced	40%	CelcomDigi merger; 5 MNOs competing
#11	Australia	79.7	Advanced	50%	3G shutdown as catalyst; Digital Identity Act
#13	Japan	79.6	Advanced	50%	Rakuten pioneer; rigorous eKYC
#19	New Zealand	78.4	Advanced	55%	Spark leader; ongoing 3G shutdown; smart farming
#20	Singapore	78.3	Maturing	60%	Singpass integrated; small and saturated market
#21	Kazakhstan	78.1	Maturing	35%	Kcell and Kar-Tel; expanding market
#23	South Korea	78.1	Maturing	60%	Regulator set eSIM price below physical SIM
#29	Philippines	71.2	Emerging	25%	Globe leader; prepay dominance
#36	China	66.3	Emerging	9%	MIIT opened in Oct 2025; locals only
#49	India	45.6	Emerging	24%	DoT blocked travel eSIM; KS −20

|#4| Thailand

APAC 82.7

Thailand ranks 4th in the eSIM ranking. With two dominant mobile operators, the market has a mobile penetration rate of 166%, and competition between these players has driven the growth of telecommunications in the country. In this context, eSIM acts as a key enabler of population-wide digitalization, supported by the expansion of smartphone manufacturers.

The Thai mobile market is concentrated around True Corporation and AIS, the two dominant operators that control most of the market in a tightly contested rivalry. The third mobile operator, NT, holds a marginal position. Competition between the two leading players is centered on multi-device offerings, using eSIM technology across smartphones and wearables. Another key segment is the corporate market through IoT services, where eSIM plays a critical role in enabling connected devices without manual intervention.

Country Profile

MARKET
VERY MATURE

ACTIVATION
VERY MATURE

ADOPTION
VERY MATURE

REGULATION
INTERMEDIATE

The regulatory framework, governed by the National Broadcasting and Telecommunications Commission (NBTC), combines security and digitalization requirements. Mobile operators are mandated to include biometric “liveness” verification in eSIM activations, and these data must be stored transparently. Additionally, there is a regulatory limit of five eSIM profiles per user.

These strict regulations are accompanied by structural barriers. One of the main challenges is a cultural gap within the prepaid segment, where many users still prefer physical SIM cards due to distrust of digital solutions. Furthermore, a significant portion of smartphones in the market are low-end devices or imports from China, many of which lack eSIM compatibility.

Thailand’s eSIM market has recovered its pre-pandemic growth, also driving the expansion of travel eSIM services. Local operators such as AIS compete with simplified biometric validation processes, while global providers like Airalo, Holafly, Nomad, Maya Mobile, and Saily maintain constant competitive pressure.

It is estimated that around 50% of smartphones in the market have eSIM capability. With strong progress in 5G infrastructure and services, combined with a regulatory environment focused on national security, there is significant room for expansion if mobile operators can simplify identity verification processes and reduce barriers to accessing compatible devices.

|#9| Malaysia

APAC 80.1

Malaysia ranks 9th in the eSIM ranking. With a mobile penetration rate of 145%, the country holds an advanced position in digital service offerings. Competition among five mobile operators has strengthened the development of eSIM services, which are currently in a critical phase toward mass adoption. The Malaysian market is undergoing a transition from a Single Wholesale Network (SWN) model to a Dual Network model, intensifying competition among operators. In this context, eSIM has become a strategic tool for customer acquisition.

Competition in the market is led by CelcomDigi, followed by Maxis as the second-largest operator. Both companies focus their strategies on convergence and "multi-device" service ecosystems that allow users to share the same data plan across smartphones, smartwatches, and laptops through linked profiles. U Mobile completes the market's top three, with a focus on basic eSIM services. Meanwhile, Yes 5G maintains a strategy centered on its app to deliver a fully digital user experience.

Country Profile

MARKET	ACTIVATION	ADOPTION	REGULATION
VERY MATURE	VERY MATURE	VERY MATURE	INTERMEDIATE

The regulatory framework is overseen by the Malaysian Communications and Multimedia Commission (MCMC), which introduced the Mandatory Standards for the Registration of End-Users to address security gaps. As a result, all eSIM activations must go through bank-grade eKYC processes. Citizens can authenticate their identity using MyDigital ID, while foreign users are limited to two prepaid lines per operator.

The main barrier in the market stems from the operators themselves, who remain cautious about eSIM due to the increased risk of churn associated with easier switching. Additionally, the implementation of services such as 5G Standalone (SA) via eSIM has faced compatibility issues in older smartphone models or less common brands. Cultural factors also play a role, particularly in the prepaid segment, where some users still distrust virtual SIM technology.

While MyDigital ID simplifies digital onboarding for local users, activation is less straightforward for tourists. This creates an opportunity for travel eSIM providers, with companies such as Airalo, Holafly, Nomad, Ubigi, and Saily actively operating in Malaysia. In this context, approximately 40% of smartphones in Malaysia are eSIM-capable. The recent digitalization of activation processes represents an opportunity to accelerate adoption, provided it is accompanied by broader availability of compatible devices.

|#11| Australia

APAC

79.7

Australia ranks 11th in the eSIM ranking. With competition among three mobile operators, the market has a penetration rate of 110%. eSIM has evolved from a technology aimed at advanced users into a strategic offering for the three main players.

Telstra is the market leader in mobile services and is pursuing an activation model based on self-management applications for its customers. Optus, the second-largest operator, follows a similar strategy, focusing on flexibility and rapid remote activation. Meanwhile, Vodafone Australia, the market's third player, has adopted a strategy in which its local eSIM can be used internationally without the need to acquire additional profiles. Alongside these operators, the market also features a significant MVNO ecosystem that expands competition across specific segments.

Country Profile

MARKET
VERY MATURE

ACTIVATION
VERY MATURE

ADOPTION
VERY MATURE

REGULATION
INTERMEDIATE

Within the regulatory framework, the Digital Identity Act stands out, as it has influenced eSIM activation by allowing mobile operators to verify identity through Digital ID and enabling "one-click" activations. This approach provides greater flexibility in activation while maintaining high security standards.

The market also presents some inherent constraints, such as the weight of the secondary market, with strong sales of second-hand smartphones. Many devices still in circulation do not support eSIM, forcing mobile operators to maintain costly dual infrastructures, both physical and digital.

Beyond mobile operators' offerings, travel eSIM providers such as Airalo, Holafly, Jetpac, Saily, and Simify have captured a significant share of the data market for tourists and residents traveling abroad. These also compete with traditional MVNOs offering eSIM services.

As a result, the penetration rate of eSIM-capable smartphones reaches 50%. This level is driven by the strong presence of Apple and Samsung, manufacturers that have standardized eSIM, as well as the gradual inclusion of this technology in mid-range and low-end devices. In this way, the Australian eSIM market stands out as a success case of digitalization driven by both regulation and consumer demand.

|#13| Japan

APAC

79.6

Japan ranks 13th in the eSIM ranking and stands among the leading markets globally. With a penetration rate of 175% and strong competition among four mobile operators with active offerings, the market has transitioned from a historically closed model —characterized by locked devices and rigid contracts— into one of the most advanced environments for eSIM adoption.

The Japanese mobile market is characterized by intense competition among NTT Docomo, the market leader, KDDI, and SoftBank. These operators leveraged the broader digitalization of their services to strengthen their eSIM offerings. Rakuten Mobile, the most recent entrant with a smaller market share, was the first to fully digitalize its offering, adopting an approach in which eSIM was enabled by default. The rest of the operators were subsequently forced to follow the pace of digitalization set by Rakuten Mobile, leading them to refine and improve their push provisioning capabilities. Wearables and IoT are also key drivers of eSIM growth. In addition, the development of smart mobility stands out, as Japanese automotive manufacturers have integrated eSIM into vehicles for telematics services and over-the-air (OTA) updates.

Country Profile

MARKET
MATURE

ACTIVATION
VERY MATURE

ADOPTION
VERY MATURE

REGULATION
INTERMEDIATE

The main constraint in the market lies in the eKYC system, which is subject to strict regulatory requirements. Biometric validation is mandatory, requiring not only a photo of an identity document but also a live facial scan. Another barrier is related to spectrum compatibility, as Japan uses frequency bands that are not commonly deployed in other markets. As a result, many foreign smartphones with eSIM support do not fully operate on these bands, leading to suboptimal user experiences despite having an active eSIM. The travel eSIM segment offers certain advantages, as it does not require identity verification and provides cost-effective data access. Providers such as Airalo, Holafly, Mobal, Sakura, and Ubigi are active in the market.

However, since these services do not provide local phone numbers, they face regulatory limitations that prevent tourists from accessing essential services requiring a Japanese number, such as certain booking platforms or government services. Looking ahead to 2026, Japan's eSIM market is expected to experience steady growth, surpassing the current installed base of compatible smartphones, which is around 50% of active devices. However, the future success of eSIM will depend on operators' ability to shift from a "pull" model —where users manually download profiles— to a "push" model, where connectivity is instant from the moment the device is powered on.

|#19| New Zealand

APAC

78.4

New Zealand ranks 19th in the eSIM ranking. The market has a mobile penetration rate of 127% and is undergoing a transformation from a copper- and analog-based infrastructure toward an ecosystem dominated by fiber optics and 5G networks. eSIM has become part of standard competitive offerings within a regulatory environment that prioritizes efficiency and security.

The mobile market is dominated by three mobile network operators: Spark as the market leader, followed by One NZ and 2degrees. These operators have completed the deployment of their 5G networks across the country's main urban centers and have begun shutting down their 3G networks, driving a large-scale device replacement cycle toward eSIM-compatible terminals. Alongside these operators, the market also features an ecosystem of MVNOs that complements the overall service offering.

Country Profile

MARKET
VERY MATURE

ACTIVATION
VERY MATURE

ADOPTION
VERY MATURE

REGULATION
IMMATURE

Competition around the technology has positioned Spark as the leader in convergence, unifying the user ecosystem from smartphones to Apple Watch and industrial IoT devices. One NZ has maintained Vodafone's legacy strategy focused on travel and flexibility, while 2degrees uses eSIM as an aggressive customer acquisition tool.

eSIM services for residents in New Zealand are designed for long-term stability, focusing on features such as dual SIM (with separate personal and professional lines), integration with wearables, and self-management through operator apps. The regulatory framework is focused on balancing consumer freedom with national security. Among the main regulations is the Anti-Money Laundering and Countering Financing of Terrorism Act (AML/CFT), which governs eSIM activation and requires robust identity verification, both remotely and in-store.

Among the market's constraints, the smartphone gap stands out. There is a strong secondary market for low-end devices in rural areas and among lower-income segments that still rely on physical SIM, forcing mobile operators to maintain costly dual infrastructure. Another challenge is interoperability with gray-market devices, as many residents purchase smartphones abroad that are not optimized for local frequency bands, leading to failures in eSIM activation. Around 55% of smartphones in the market have active eSIM, largely driven by the strong presence of Apple and Samsung. It is also possible that the volume of IoT devices using eSIM in New Zealand exceeds that of smartphones. Sectors such as smart agriculture are using eSIM to connect sensors in remote farms, where the ability to switch operators remotely based on coverage is critical.

|#20| Singapore APAC 78.3

Singapore ranks 20th in the eSIM ranking. The market has a highly advanced digital profile, with mobile penetration exceeding 161% and a dense, high-quality network infrastructure. In this environment, eSIM is becoming a standard for connectivity. The deployment of 5G Standalone (5G SA) has been a key catalyst, integrating eSIM modules into the core of the network architecture.

The mobile market is composed of four operators: Singtel as the market leader, followed by StarHub, M1, and SIMBA Telecom. The first three compete through comprehensive ecosystem offerings that include NumberShare services for wearables and support for industrial IoT. Meanwhile, SIMBA Telecom, the most recent entrant, competes through an aggressive pricing strategy, offering instant-activation eSIM services without additional charges.

Country Profile

MARKET
MATURE

ACTIVATION
VERY MATURE

ADOPTION
VERY MATURE

REGULATION
INTERMEDIATE

The regulatory framework is governed by the Infocomm Media Development Authority (IMDA), which has implemented policies aimed at balancing ease of use with cybersecurity concerns. The most critical requirement is mandatory eKYC, which prevents anonymous activation of local eSIM services. To streamline this process, operators rely on Singpass, which integrates their applications with national identity databases for remote user verification.

Singapore's strong tourism sector has also driven intense competition in the travel eSIM segment. In addition to local operators such as Singtel and StarHub—who offer competitive pricing—global providers like Airalo, Holafly, and Maya Mobile have established a strong presence in the market.

Despite its maturity, the sector still faces certain challenges. These include compatibility issues with some wearables across the main operators, as well as difficulties in transferring eSIM profiles on older smartphone models. Additionally, cultural factors play a role, as the corporate segment has been slower to fully adopt eSIM for IoT services.

Even so, Singapore shows a high level of eSIM adoption, with approximately 60% of active smartphones supporting the technology. This is driven by the strong presence of Apple, Samsung, and Google devices, along with a government policy framework that actively promotes digitalization.

|#21| Kazakhstan

APAC

78.1

Kazakhstan ranks 21st in the eSIM ranking. With a mobile penetration rate of 131%, it has moved beyond being perceived as an emerging market to become a reference point for mobile telecommunications in Central Asia, driven by state-led initiatives. The development of eSIM has supported the country's digitalization process and contributed to increased connectivity.

The Kazakh mobile market is composed of three operators, with Kcell as the market leader. The operator dominates the premium segment through a convergence-focused strategy and a strong presence in the wearable market. Kar-Tel, the second-largest operator, maintains a digital positioning through its Janymda app, where eSIM serves as a user acquisition tool. Meanwhile, Tele2 Kazakhstan, the market's third player, has found a niche among younger users and tourists.

Country Profile

MARKET	VERY MATURE
ACTIVATION	VERY MATURE
ADOPTION	MATURE
REGULATION	INTERMEDIATE

The eSIM market in Kazakhstan also displays advanced characteristics, including multi-SIM offerings, where smartwatches function as independent communication devices. Additionally, the deployment of IoT in the mining and oil sectors has made eSIM a critical component for industrial connectivity.

The regulatory framework is governed by Law 6914, which enforces stricter and more digitalized device control. The 2026 Digital Code mandates biometric identification for all telecommunications services, effectively eliminating anonymity. Every physical SIM or eSIM must be linked to the Individual Identification Number of the citizen or resident.

The market also faces structural challenges, particularly the rural infrastructure gap, with significant disparities in access between major cities and remote areas. This is compounded by the smartphone gap, as economic constraints prevent part of the population from accessing devices that support eSIM. Additionally, there are frictions in eSIM activation for tourists and foreign users, mainly due to the inability to complete remote activation without local documentation.

This last barrier creates an opportunity for travel eSIM providers. Companies such as Airalo, Holafly, Nomad, Roamless, and Saily have established a presence in the market, offering simpler alternatives that do not require contracts or complex identity verification processes. Kazakhstan's market in 2026 illustrates how political will and private investment can accelerate technological adoption. It is estimated that around 35% of smartphones in the market have eSIM activated. This figure could increase further if key challenges—such as the smartphone gap and rural infrastructure limitations—are effectively addressed.

|#23| South Korea

APAC 78.1

South Korea ranks 23rd in the eSIM ranking, driven by its leading position in connectivity. With a penetration rate of 110%, the market shows high adoption of 5G services and a highly tech-savvy user base, the result of coordinated efforts between local manufacturers, mobile operators, and a strong public digitalization policy. The development of eSIM has been actively supported by the state, which acted as a key enabler.

The mobile market is led by SK Telecom, followed by KT Corporation and LG Uplus. Despite being a market with a high level of adoption of new technologies, the country was relatively slow to achieve widespread eSIM adoption, largely because mobile operators had initially limited embedded SIM support mainly to smartwatches and IoT devices.

Country Profile

MARKET
MATURE

ACTIVATION
VERY MATURE

ADOPTION
VERY MATURE

REGULATION
INTERMEDIATE

In September 2022, the Ministry of Science and ICT (MSIT) mandated the implementation of eSIM support for smartphones, which became a major catalyst for the market. The regulatory framework for eSIM is an extension of the Personal Information Protection Act and real-name verification requirements. Each eSIM activation requires operators to register not only the phone number, but also the EID (embedded identity document) and IMEI 2. This strict process is designed to enhance security and prevent fraud.

Another key intervention by the MSIT was the regulation of eSIM pricing, setting it at KRW 2,750 (approximately USD 1.80), compared to physical SIM cards priced between KRW 7,700 and 8,800 (USD 5 to USD 5.80). This regulatory adjustment played a critical role in accelerating eSIM adoption.

A defining feature of eSIM services in South Korea is wearable synchronization, allowing devices to share the identity of the smartphone's eSIM. It also enables integrated digital identity, as the technology serves as a key authentication layer for mobile banking, delivery apps such as Coupang and Baemin, and access to government services.

However, the market still faces certain challenges. Foreign residents, in particular, encounter difficulties, as activation processes require strict data matching with immigration records. Additionally, devices purchased abroad are often not included in the Korea Association for ICT Promotion (KAIT) database, which can hinder activation.

|#23| South Korea

APAC 78.1

Despite these barriers, local mobile operators offer active solutions for tourists, positioning themselves as competitors to travel eSIM providers. Companies such as Airalo, Holafly, and Nomad are also present, with their simpler activation processes representing a key advantage over local operators.

It is estimated that around 60% of the installed base of smartphones is compatible with eSIM. Notably, South Korea is leading the transition toward eSIM 2.0 (SGP.32), which will further simplify operator switching without manual intervention. Despite strict identity controls imposed by public authorities, the market demonstrates strong adoption of the technology, supported by MSIT policies that promote both economic incentives and digitalization.

|#29| Philippines

APAC

71.2

The Philippines ranks 29th in the eSIM ranking. The market has experienced steady progress in connectivity and digitalization over recent decades, reaching a mobile penetration rate of 114%. The development of eSIM services has contributed to this digital transformation, supporting both connectivity expansion and the growth of e-commerce and financial services.

The mobile market features competition among three operators: Smart Communications and Globe Telecom in a closely contested battle for market leadership, alongside DITO Telecommunity as the newest entrant. All three operators maintain diversified eSIM offerings across smartphones, wearables, and IoT, seeking to cover all sales channels. The two market leaders have focused on refining digital delivery processes, accelerating the rollout and adoption of the technology. They have also emphasized "One Number" offerings for wearables. Meanwhile, IoT services are primarily targeted at the industrial and automotive sectors.

Country Profile

MARKET
VERY MATURE

ACTIVATION
INTERMEDIATE

ADOPTION
MATURE

REGULATION
INTERMEDIATE

From a regulatory standpoint, the National Telecommunications Commission (NTC) acts as the governing authority. It enforces Republic Act No. 11934, also known as the SIM Registration Act, which aims to combat cybercrime and spam. This regulation applies to both physical SIM cards and eSIM, requiring mandatory registration prior to activation, which creates a barrier to faster adoption.
The market also faces structural challenges, particularly the smartphone affordability gap, as devices supporting eSIM remain out of reach for a large portion of the population. In addition, SIM registration requirements have created friction for users, often requiring in-person visits to retail stores and slowing down activation processes.

Regulation also mandates that SIM cards for tourists automatically expire after 30 days, creating limitations for digital nomads and long-term visitors. This opens opportunities for travel eSIM providers such as Airalo, Holafly, Maya Mobile, Saily, and Jetpac, which operate in the market without being subject to these restrictions. In this context, the Philippine market demonstrates how eSIM is becoming a key tool for digitalization. The expansion and mass adoption of the technology, currently present in around 25% of smartphones, will depend on the ability of mobile operators to democratize access to compatible devices and on the NTC's willingness to evolve SIM registration rules toward more robust yet less intrusive validation methods.

|#36| China

APAC 66.3

China ranks 36th in the eSIM ranking. Although the market maintained a highly cautious stance toward the technology for a long time, in October 2025 the Ministry of Industry and Information Technology (MIIT) authorized its use among the country's three main mobile operators. This marked a transition from a restricted model —where eSIM was limited to Internet of Things (IoT) services— to a broader rollout, albeit under strict regulatory controls and conditions.

The Chinese mobile market has a mobile line penetration rate of 120% and is dominated by three nationwide operators: China Mobile as the market leader, followed by China Unicom and China Telecom. These operators provide users with mobile numbers under the +86 country code, enabling registration on essential everyday applications such as WeChat and Alipay.

Country Profile

MARKET	MATURE
ACTIVATION	MATURE
ADOPTION	INTERMEDIATE
REGULATION	IMMATURE

China Unicom offers the most open and flexible eSIM proposition in the market. China Mobile, by contrast, focuses on convergence, integrating eSIM into a broader "digital life" ecosystem that includes cloud services and advanced 5G. China Telecom takes a more price-driven approach, with an emphasis on One Number services.

The main catalyst for the market was the launch of the iPhone Air, a device with native eSIM support tailored for China. Following this, the regulator introduced protocols to certify user identity. Local manufacturers such as Huawei and Xiaomi also joined this wave, accelerating adoption.

The primary constraint in the market lies in its regulatory framework, centered on real-name registration and fraud prevention. For eSIM activation, the MIIT requires biometric identification via facial scanning through the operator's app, cross-checked against national identity databases, along with validation of the EID (digital identity card). In some cases, in-person verification may also be required. Another limitation is that regulations prohibit transferring eSIM profiles between devices, forcing users to request a new voucher or QR code when switching smartphones, which triggers a full revalidation process.

The market also presents structural barriers, including the exclusion of foreigners from local eSIM services, as domestic applications are optimized only for Chinese identification documents. Replacement costs are another issue, as unlike traditional SIM cards, eSIM reprovisioning is not free. Additionally, interoperability across manufacturers remains limited.

|#36| China

APAC

66.3

Meanwhile, travel eSIM services provide a viable alternative for foreign visitors, with providers such as Holafly, Airalo, and Nomad operating in the market. These services bypass the Great Firewall, allowing access to platforms like Google and WhatsApp by routing data traffic through servers located outside China.

Given the recent rollout of the technology, only around 9% of smartphones in the market currently have eSIM activated. Despite being a highly advanced technological ecosystem operating under strict surveillance, eSIM is perceived as both a hardware evolution and a network management tool that reshapes the relationship between the citizen, their device, and the state.

|#49| India

MEA

45.6

India ranked 49th in the eSIM ranking. The market is established as the second largest globally in terms of smartphone volume, with penetration exceeding 83% and active competition among four mobile operators. In this context, the transition toward eSIM is already underway, partly driven by the development of 5G services. However, this growth remains constrained by regulatory conditions.

In competitive terms, the market consisted of three private mobile operators that had deployed eSIM services, alongside the state-owned BSNL, which maintained only a marginal market presence. Reliance Jio, the market leader, follows a strategy based on multiple sales channels, free eSIM provisioning, and convergence with wearable devices. Meanwhile, Bharti Airtel, the second-largest operator, maintains a strategy centered on user self-management and a strong focus on tourists. Vi (Vodafone Idea), the market's third player, offers an eSIM proposition broadly comparable to those of its competitors.

Country Profile

MARKET
VERY MATURE

ACTIVATION
INTERMEDIATE

ADOPTION
INTERMEDIATE

REGULATION
CRITICAL

The expansion of eSIM services was initially driven by the launch of smartphones that support only this technology, promoted by Apple and Samsung. Another catalyst has been the rollout of 5G Standalone, as the technology enables network slicing and the management of multiple profiles, enhancing the value proposition of eSIM for users.

However, the regulatory framework stands out as one of the strictest among the markets analyzed. The sector is overseen by the Department of Telecommunications (DoT) and the Telecom Regulatory Authority of India (TRAI), both enforcing the Telecommunications Act of 2023. Regulation requires each eSIM to be unequivocally linked to a verified identity.

For residents, biometric data must be matched against centralized databases, while foreign users are prohibited from remote pre-arrival activation of local lines.

Additionally, to prevent SIM swapping, any activation or migration to eSIM triggers a complete suspension of incoming and outgoing SMS services for 24 hours, creating a significant inconvenience for users. Among the structural challenges, the smartphone gap is particularly relevant, as most active devices in the market do not support eSIM. Furthermore, a large share of these devices originates from the Chinese market, where eSIM adoption has only recently begun.

|#49| India

MEA

45.6

On the other hand, activation challenges among local mobile operators have limited the development of the travel eSIM segment. Although providers such as Airalo, Holafly, Nomad, and Saily are present, their lack of local phone numbers prevents tourists from accessing essential services such as UPI, Ola, Uber, or Zomato, which require a verified Indian number.

These conditions suggest a moderate growth trajectory for eSIM adoption in the coming years. It is estimated that around 24% of smartphones in India currently have active eSIM capability. Future growth will depend on regulatory flexibility and a reduction in the cost of eSIM-compatible devices.

About the Holafly Global eSIM Index 2026 methodology

The Holafly Global eSIM Index 2026 is the first composite measure of eSIM commercial readiness across 50 markets and 171 mobile operators. It synthesizes structured fieldwork on telecom regulation, operator behavior, device penetration, and consumer-facing infrastructure into a single 0–100 score per market, with an independent operator-level ranking reported separately. The Index is designed to capture the gap between technological availability and effective adoption — between what operators offer and what users can actually access without friction. By combining quantitative indicators with qualitative expert assessment, it provides a comparable, evidence-based view of where eSIM works today and where structural barriers continue to limit deployment.

This chapter outlines the components of the Index, the weighting structure, and the data sources used. It also explains how individual block scores aggregate into a final country score, helping readers interpret the rankings that follow.

The 2026 edition covers 50 markets selected to provide a representative picture of the global eSIM landscape rather than exhaustive coverage. The sample combines criteria of regional balance (Americas, Europe, Middle East and Africa, Asia-Pacific, and Oceania), market scale (the largest mobile markets within each region), regulatory diversity (open, restrictive, and transitional regimes), and structural representativeness (mature, maturing, emerging, and nascent ecosystems). Together, these 50 markets account for the majority of global mobile connections and capture the full spectrum of conditions that shape eSIM adoption worldwide. Markets not included in this edition — such as Portugal, Vietnam, Pakistan, or Ecuador — typically follow patterns already represented by neighboring countries within the sample, and may be incorporated in future editions as the index expands its scope.

The Index is built on five thematic blocks, each weighted to reflect its relative importance for eSIM commercial readiness:

- **Market Readiness (25%)**
  Measures the breadth and quality of operator-level eSIM offerings

- **Activation & Support (25%)**
  Assesses the friction users face when activating eSIM

- **Adoption & Competition (17%)**
  Captures device penetration and the depth of the eSIM operator ecosystem

- **Regulatory Environment (18%)**
  Evaluates how local regulation enables or restricts eSIM activation

- **Expert Assessment (15%)**
  Incorporates qualitative scoring on travel risk, regulatory pressure, digitalization, and information access

A separate penalty applies to markets that actively block international travel eSIM providers, reflecting the fact that operator readiness alone does not guarantee a functional eSIM environment for all users.

Final scores range from 0 to 100. The leading markets achieve scores above 80, indicating mature ecosystems with multiple active operators, low activation friction, and supportive regulatory frameworks. Mid-range markets (60–80) typically display partial maturity: strong operator deployment combined with some regulatory or device-availability constraints. Markets scoring below 50 face structural barriers — often a combination of identity-control regulation, low device penetration, and limited operator competition — that delay mass adoption regardless of underlying technological capability.

Market Readiness

The Market Readiness block measures the depth and quality of eSIM offerings across the operator base of each country. It captures whether eSIM is broadly available, whether it serves multiple consumer segments (postpaid, prepaid, wearables, IoT), and how mature the operator ecosystem is in terms of deployment experience and customer-facing applications.

This block aggregates operator-level data weighted by market share, so that the activity of dominant operators carries more weight than that of smaller players. Coverage of the market by operators that effectively offer eSIM is treated as a separate, mechanical indicator within this block.

Activation & Support

The Activation & Support block measures the friction users face when activating an eSIM line. It evaluates whether activation is fully remote or requires in-person steps, the speed of the activation process, the cost charged to end users, and the availability of digital channels such as QR codes and operator apps.

This block is also operator-weighted by market share. A country where the dominant operator provides instant remote activation will score significantly higher than one where the leading operator still requires customers to visit a physical store.

Adoption & Competition

The Adoption & Competition block captures the demand-side and structural conditions that enable eSIM uptake at scale. It includes the penetration of eSIM-compatible devices in the active installed base, mobile service density per population, the number of operators effectively offering eSIM, and the presence of international travel eSIM providers serving the market.

Unlike the previous two blocks, this one draws entirely from country-level data and does not require operator-by-operator aggregation.

Regulatory Environment

The Regulatory Environment block measures the degree to which local regulation enables or constrains eSIM activation. It evaluates four dimensions: whether national identity verification is required, whether biometric data is mandatory, whether in-person registration is enforced, and whether additional structural restrictions exist (such as profile portability limits, single-use QR codes, or import controls on devices).

Each dimension is scored against the operator base of each country and aggregated by market share. Markets where dominant operators require strict identity controls — even when technically capable of remote activation — score lower in this block.

Expert Assessment

The Expert Assessment block introduces qualitative scoring by sector specialists on four country-level dimensions: travel risk, regulatory pressure on connectivity, the country's overall digitalization level, and the accessibility of public information about telecom services and operators.

This block complements the four quantitative blocks by capturing dimensions that are difficult to measure mechanically but materially affect the eSIM experience for both residents and visitors. It is weighted at 15% to recognize its importance without allowing subjective judgment to dominate the final score.

Kill Switch

A separate penalty applies to markets that actively block international travel eSIM providers through technical or regulatory measures. This penalty is independent of the five thematic blocks and reflects the fact that, however strong an operator ecosystem may be, a market that prevents users from accessing alternative eSIM providers is structurally less open than one that does not. In the 2026 edition, four markets trigger this penalty: Turkey, India, the United Arab Emirates, and Oman.

Tiebreaker rule

When two or more markets achieve identical final scores, the Index ranks them by their Market Readiness score (Block 1), with the higher score taking precedence. This rule reflects the principle that, all else being equal, the country with the stronger operator-level commercial offering is the more advanced eSIM market. The same rule applies at the operator level, where ties are resolved by Breadth of offering. In the 2026 edition, all ties were resolved through this rule; alphabetical ordering, used as a secondary fallback, was not required.

Update cycle

The Index is updated annually. Year-on-year comparisons should account for methodological refinements documented in the internal codebook. Component-level scores and underlying data are available on request to qualified researchers, partner organizations, and accredited media.

For inquiries about methodology, data, or licensing, contact info@telesemana.com

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