
GSMA Open Gateway: State of the Market, H2 2024

Now for monetisation

GSMA™

The GSMA is a global organisation unifying the mobile ecosystem to discover, develop and deliver innovation foundational to positive business environments and societal change. Our vision is to unlock the full power of connectivity so that people, industry, and society thrive. Representing mobile operators and organisations across the mobile ecosystem and adjacent industries, the GSMA delivers for its members across three broad pillars: Connectivity for Good, Industry Services and Solutions, and Outreach. This activity includes advancing policy, tackling today's biggest societal challenges, underpinning the technology and interoperability that make mobile work, and providing the world's largest platform to convene the mobile ecosystem at the MWC and M360 series of events.

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GSMA Intelligence

GSMA Intelligence is the definitive source of global mobile operator data, analysis and forecasts, and publisher of authoritative industry reports and research. Our data covers every operator group, network and MVNO in every country worldwide – from Afghanistan to Zimbabwe. It is the most accurate and complete set of industry metrics available, comprising tens of millions of individual data points, updated daily.

GSMA Intelligence is relied on by leading operators, vendors, regulators, financial institutions and third-party industry players, to support strategic decision-making and long-term investment planning. The data is used as an industry reference point and is frequently cited by the media and by the industry itself.

Our team of analysts and experts produce regular thought-leading research reports across a range of industry topics.

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01

Executive
summary

Why GSMA Open Gateway matters

GSMA Open Gateway is based on a simple idea: leverage the power of mobile networks globally by opening up access to network capabilities through common application programming interfaces (APIs).

When we established GSMA Open Gateway in 2023, we believed in this idea but could not have imagined the level of support to come – and how quickly it arrived. To date, operators that have signed up represent around 75% of global mobile market share, with 14 new operators joining since June. It is testament to that shared belief and the urgency to act on it.

Focus must now be on delivery. There are 23 APIs in the library covering use cases including anti-fraud, quality on-demand and edge compute. We want operators, the developer community and others to take full advantage of these capabilities. The case studies shown in this report give on-the-ground detail.

There is a window of opportunity, but this will not stay open forever. We want to encourage more operators to participate, and a deeper set of engagement with developers and other distribution partners, as that collaboration is needed for success. It also requires visible markers of progress, including the number of operators, API usage and the extent to which usage is monetised.

I'm excited about the opportunity ahead of us and the work required to deliver on the opportunity. I hope this State of the Market report helps provide the data and insights that assess progress and challenges.



Henry Calvert
Head of Networks
GSMA

State of the market

01

Operator-driven momentum

Operator interest in the GSMA Open Gateway initiative has continued in H2 2024. A further 14 operators have signed up since June 2024, with around 75% of global mobile market share now represented. The geographic spread of operators continues to tilt towards China and Asia (in total and relative to their mobile subscriber base), while operators in Africa have been slower to adopt. Supply-side activity is key to enabling the potential for scale through common APIs that developers and other channel partners can tap into. 2025 is set to be about monetisation and proof points from commercial deployments.

02

A security focus

Security protection and fraud mitigation have been the most popular applications of GSMA Open Gateway APIs so far deployed by mobile operators and their partners. There are a range of APIs in this domain, including SIM Swap, One Time Password and KYC Match. A further example, Scam Signal, was commercially launched in the UK in November 2024. The activity reflects an evolving threat landscape and range of attack vectors, with security the No.1 investment priority for around 85% of operators. Consent management for consumers is also being embedded into API design, particularly for security scenarios, to ensure personal data protection – a challenge and key benefit.

Commercial activity extends beyond security to API deployments for location-based services, edge, quality on demand (QoD) and billing. These are designed to leverage the 5G network assets sold into sectors such as manufacturing and energy.

03

Developer KYC

To help understand the developer segment (a key conduit to enterprise buyers), GSMA Intelligence ran a survey in mid-2024 of 1,000 developers. It included those active in 5G and those not. Developer awareness of network APIs is healthy in most regions, including those where 5G deployments are most prevalent – the US, Europe and the Middle East. Usage rates are more variable, from 60–70% of developers in India and Latin America, to 30% in the US and Europe. The differences may partly be explained by affinity in developing for certain industries that are region-specific (e.g. retail/e-commerce in India, gaming in Latin America and manufacturing in Europe). Developers want simplicity, security and a return on their time. Subscriptions are the preferred API pricing model, but there is recognition that flexibility is required. We are therefore likely to see the use of new approaches such as revenue share and pay-per-feature.

04

Channeling the zone

Channel partners are essential for API distribution to a sufficiently wide enterprise buyer segment. Building on the scale of Vonage/Ericsson, Nokia, Infobip and other global platforms, more partners have signed up in H2 2024, including Bridge Alliance and JT. Hyperscaler activity remains subdued despite the fanfare at MWC. While this may reflect a focus on other priorities (notably AI investments), the impact is a brake on Open Gateway API dissemination, given hyperscalers' vast scale and existing developer cadres. Momentum from hyperscalers over the next six months will be key to driving commercial volumes. Important here will be proof points where operators can cite revenues earned through APIs within the GSMA Open Gateway.

Numbers to note

75%

Global market share representation

As of December 2024, 67 mobile operators had committed to GSMA Open Gateway APIs. These account for approximately 75% of mobile market share by connections, up from just over 65% in June 2024.

26%

South and Southeast Asia share of the global API base

The last few months have seen growing momentum behind network APIs in South and Southeast Asia, with operators such as Smart, Globe and Celcard committing to the GSMA Open Gateway initiative. There has also been a growing number of API partnerships across operators in the region, paving the way for API commercialisation.

68%

Share of developers with a clear understanding of network APIs

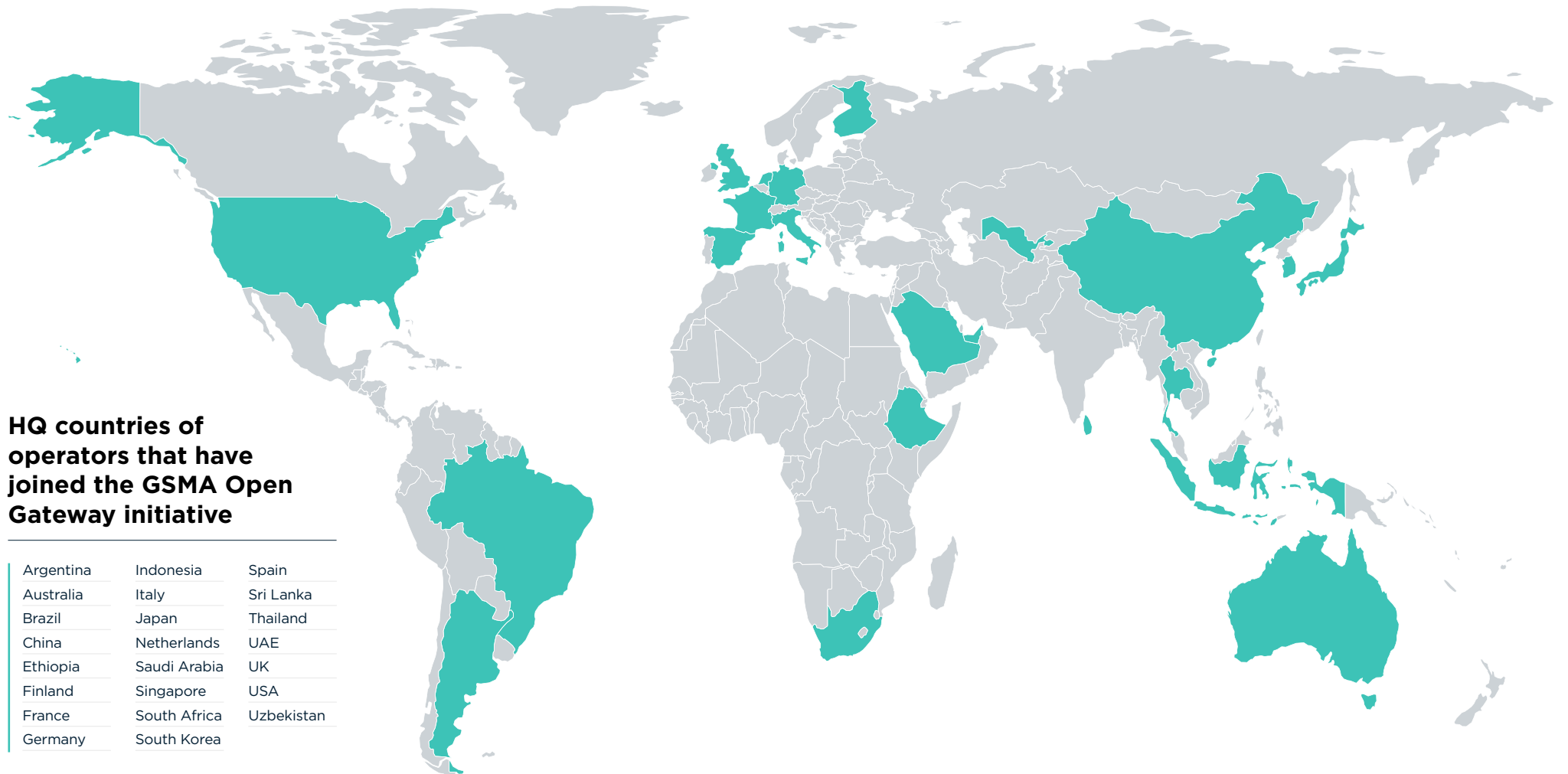
Developer knowledge of network APIs is healthy, surpassing 70% in most regions. However, when it comes to China, only around a third of developers claim a clear understanding of network APIs. This points to a continued need for market outreach from operators and their partners.

60%

Share of enterprise buyers that rate security and fraud as extremely important to their projects

Enterprise buyers ranked security and fraud as the most important to their digital transformation plans – above 5G, fibre, cloud and edge. Developers also identified security as their top priority, indicating alignment between the two groups.

Global coverage of the GSMA Open Gateway initiative



How GSMA Open Gateway works

A common framework

GSMA Open Gateway helps developers and cloud providers enhance and deploy services more quickly via single points of access to operator networks. This is achieved via common, northbound service APIs that expose mobile operator network capabilities within a consistent, interoperable and federated framework.

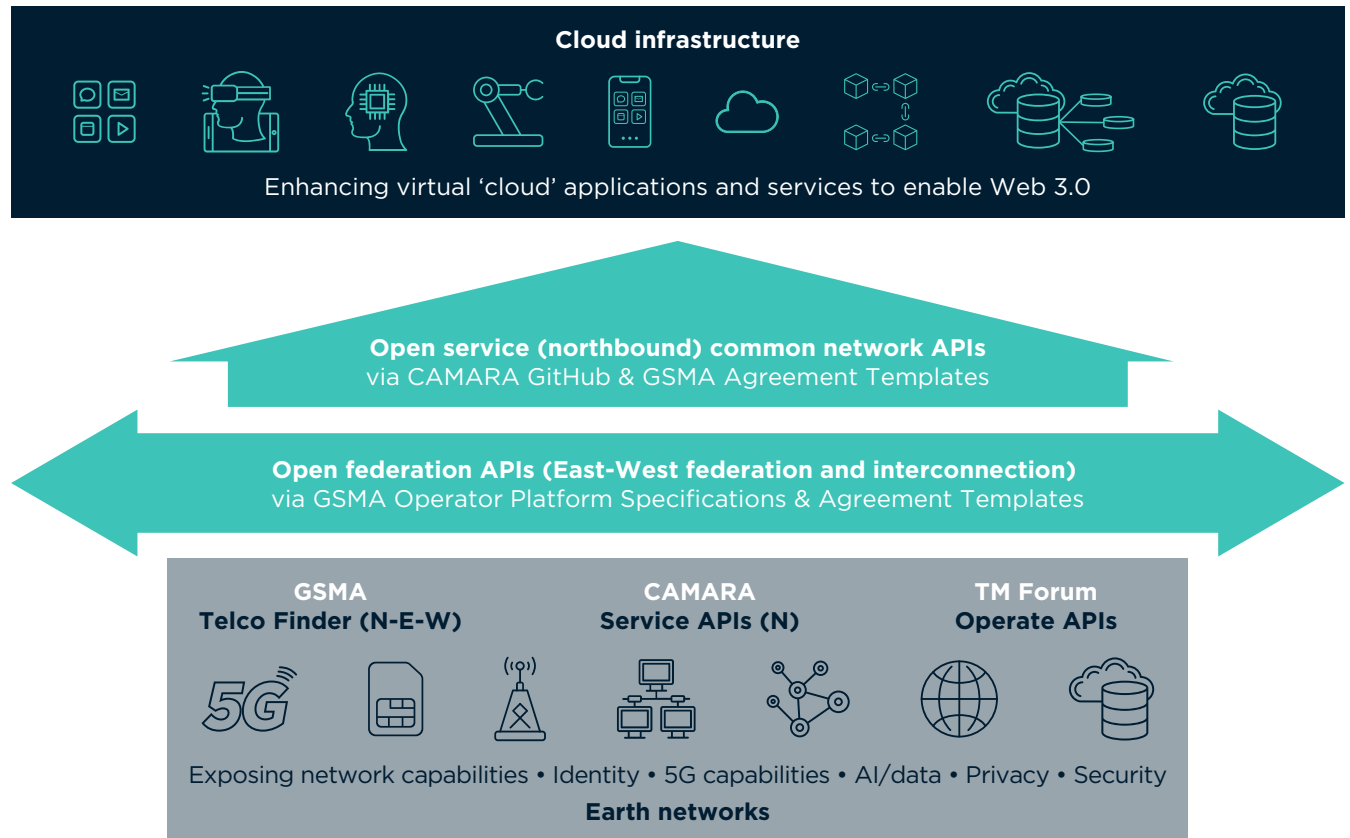
An open-source approach

GSMA Open Gateway APIs are defined, developed and published in CAMARA, the open-source project for developers to access enhanced network capabilities, driven by the Linux Foundation in collaboration with the GSMA.

New APIs and use cases

The GSMA Open Gateway initiative originally launched with eight network APIs, including SIM Swap, Device Status, Number Verification and Quality on Demand. The APIs have the potential to facilitate numerous use cases, including tackling digital fraud, simplifying user authentication and addressing quality-of-service issues.

GSMA Open Gateway facilitates direct access to network capabilities for developers via a common set of APIs, promising to unlock innovation at a global scale



Source: GSMA

Mapping the ecosystem: who is driving momentum?

<p>Mobile operators</p> <p>Exposing APIs (which connect into network functions) allows developers to directly tap into network capabilities. This removes the need for operators to connect directly with individual developers or applications, promising the scale that could unlock network innovation and deliver an important new revenue stream for mobile operators and their partners.</p>	<p>Network vendors</p> <p>Major network equipment vendors (e.g. Ericsson, Huawei, Nokia and ZTE) provide platforms that expose network APIs across various operators, irrespective of the underlying network vendor. These platforms offer developers a variety of tools to build new use cases and capabilities for their customers.</p>	<p>Hyperscalers</p> <p>Hyperscalers offer cloud infrastructure and services via APIs to developers and customers. Developers consume thousands of these APIs. With increasing collaboration between hyperscalers and operators, developers can now gain access to network APIs for building and hosting new applications on hyperscale infrastructure.</p>	<p>CPaaS companies</p> <p>Communication platform as-a-service (CPaaS) companies offer cloud-based platforms that provide developers with the tools and APIs needed to embed communication features (such as voice calling, video conferencing, SMS and chat) into their applications. The emergence of GSMA Open Gateway presents CPaaS companies with the chance to provide a wider array of capabilities via their platforms.</p>	<p>Systems integrators</p> <p>Systems integrators (SIs) play a crucial role in bridging the gap between various technologies, systems and processes within industrial settings. SI developers are expected to be among the primary users of network APIs, implementing them in use cases on behalf of their enterprise customers. Examples of SIs include Capgemini and Accenture, and specialised OT integrators such as Atos and Kyndryl.</p>	<p>Industry groups</p> <p>Collaboration between the GSMA, TM Forum and the CAMARA Project on the GSMA's Open Gateway API ecosystem is important for increasing interoperability. The GSMA focuses on how network capabilities support service APIs, while TM Forum leads the definition and development of operations, administration and management APIs, which provide programmable access to OSS/BSS capabilities.</p>
<p>Developers</p> <p>The GSMA Open Gateway initiative needs a community of developers to succeed. Mobile operators can work directly with external developer teams to build this community, or can work with network vendors, hyperscalers and other companies positioning themselves as API aggregators. Developers are employed across various types of organisation – from large corporations with dedicated software development teams to startups where developers fulfil various responsibilities. Understanding the developer landscape and focusing on the developers most likely to use network APIs will be key to driving momentum behind GSMA Open Gateway.</p>					

GSMA Open Gateway APIs

API family				
Anti-fraud	Mobile connectivity and value-added services	Fixed line	Cloud and edge	Payments
Call Forwarding Signal	Connectivity Insights	Home devices QoD	Simple Edge Discovery	Carrier Billing
Device Roaming Status	Device Location Verification		Traffic Influence	
Device Roaming Status Subscriptions	Device Geofencing Subscriptions			
Device Swap	Device Location Retrieval			
KYC Fill In	Population Density Data			
KYC Match	Quality on Demand			
Number Verification	Quality on Demand Provisioning			
One Time Password	SMS API			
SIM Swap				
SIM Swap Subscription Notification				
Scam Signal				

New APIs introduced in H2 2024

Full descriptions are available at [GSMA Open Gateway API Descriptions](#)

Source: GSMA

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02 Key recent developments

GSMA/partner launches and announcements

JUNE 2024	SEPTEMBER 2024	SEPTEMBER 2024	OCTOBER 2024	NOVEMBER 2024
<p><u>TM Forum progresses API Partner Program</u></p> <p>Building on a long history with open APIs, the TM Forum announced the results of its API Partner Program, including collaboration with the GSMA to deliver network monetisation APIs leveraging TM Forum and CAMARA APIs, and further work to harmonise MEF and TM Forum automation APIs.</p>	<p><u>CAMARA delivers first major release</u></p> <p>“Meta-Release Fall24” comprises 25 APIs across 13 sub-projects, providing a foundation for further development and production. Included in the release are stable APIs (previously implemented by operators), updated APIs and initial versions of new APIs (ready for implementation or notification).</p>	<p><u>GSMA Fusion launches to drive API demand</u></p> <p>Referenced at Deutsche Telekom’s Digital X event (but initiated in June), GSMA Fusion represents an Advanced Market Commitment scheme where Open Gateway API demand will be built. It will work directly with major enterprise API buyers to generate commitments to Open Gateway API usage.</p>	<p><u>GSMA and AECC drive connected vehicle services</u></p> <p>The Automotive Edge Computing Consortium (AECC) will work with GSMA Fusion to “accelerate conversations between automotive manufacturers, mobile operators and developers and create and trial new use cases”. This follows a previously signed agreement between the AECC and CAMARA.</p>	<p><u>GSMA and UK Finance deliver Scam Signal</u></p> <p>A collaboration between the UK’s mobile operators and NatWest (participating on behalf of the banking industry), Scam Signal enables banks to identify fraudulent bank transfers by analysing network data and identifying correlations between fraudulent bank transfers and phone calls, powered by network APIs.</p>

In addition to the new GSMA Open Gateway-related launches and initiatives, 14 operators have become signatories since June 2024:

- Reliance Jio
- SmarTone
- Taiwan Mobile
- 1&1
- Iliad
- Turkcell
- Nuevatel
- LG U-Plus
- Far EasTone
- Telia
- Colt
- Ooredoo
- Türk Telekom
- Bouygues Telecom

A full list of commercial API deployments can be found on the GSMA Open Gateway [website](#)

Operator/ecosystem launches and announcements

JUNE 2024	JUNE 2024	JULY 2024	JULY 2024	JULY 2024
<p><u>Nokia and Google collaborate on telco APIs</u></p> <p>Nokia will run its Network as Code platform on Google Cloud. It will leverage Google's AI tools to enrich the developer experience and promote Nokia's Telco API solution to the Google Cloud developer community.</p>	<p><u>Comviva intros CNPaaS for network API monetisation</u></p> <p>Prior to becoming an Open Gateway Channel Partner, Comviva added 20 CAMARA-compliant APIs to its NGAGE CPaaS solution, repositioning NGAGE as a Communication network platform-as-a-service offer.</p>	<p><u>DT selects LotusFlare for its API Exposure Program</u></p> <p>Deutsche Telekom will use LotusFlare DNO Cloud for developer onboarding, along with the API product publication, purchase, billing and metering in support of its Magenta API Capability Exposure (MACE) business.</p>	<p><u>JT joins Open Gateway Channel Partner roster</u></p> <p>JT (based in the Channel Islands) became an Open Gateway channel partner as part of continued investment in emerging technologies for fraud protection and identity management.</p>	<p><u>Bridge Alliance launches API Exchange with Singtel</u></p> <p>The Bridge Alliance API Exchange will leverage Singtel's Paragon network orchestration platform to aggregate network quality, network authentication and user verification APIs thanks to CAMARA specifications.</p>
JULY 2024	AUGUST 2024	AUGUST 2024	SEPTEMBER 2024	SEPTEMBER 2024
<p><u>Singtel, AIS, Maxis Partner to battle digital scams</u></p> <p>In separate MoUs, AIS and Maxis have signed up to leverage Singtel's SingVerify digital identity suite (Open Gateway API compliant) to enable network-based mobile subscriber authentication in Thailand and Malaysia.</p>	<p><u>Nokia, Bounteous x Accolite boost API use cases</u></p> <p>The digital transformation services consultancy signed up to use Nokia's Network as Code platform to develop telco network API use cases in areas including healthcare, gaming and utilities.</p>	<p><u>South Korean operators push unified open APIs</u></p> <p>After agreeing to create six standard network APIs via the Korea ICT Association, SKT, KT and LG U+ agreed to work on unified "Network Open API" standards. KT and LG U+ are GSMA Open Gateway signatories.</p>	<p><u>Vonage, SAP collaborate on comms and network APIs</u></p> <p>Vonage will provide SAP with access to network APIs (including Quality-on-Demand, Device Location and Number Verification) to deliver new functionality and innovative services to SAP customers.</p>	<p><u>Ericsson and global telcos launch new API venture</u></p> <p>Ericsson and a group of leading mobile operators will form a new company, to combine and sell network APIs to "developer platforms", with Vonage and Google cloud providing access to their developer ecosystems.</p>

Implications of recent developments

The volume of news during H2 2024 points to no slowing of industry interest and momentum. However, as always, it is important to ask what it all means and what can be learnt.

Technology enablers are in place

API specifications and frameworks – along with industry players enabling their use – are foundational to making GSMA Open Gateway function.

Code releases, solution building and new channel partners all point to continued progress on GSMA Open Gateway technology enablers, suggesting technology should not be a blocker to success.

Operators taking control of their destiny

GSMA Open Gateway may be about exposing operators' network capabilities, but that never implied operators would drive the market given the role for integrators, hyperscalers, CPaaS players and other channel partners.

Operators building out their own API businesses, partnering to drive new use cases and creating ventures (with industry partners) to drive into new segments suggest they do not plan to cede the opportunity.

Partnerships are key

The core GSMA Open Gateway value proposition is one of scale. By enabling developers to reach more operators via a consistent set of APIs, greater usage of APIs should result.

Partnering supports scale, bringing together the customers and capabilities of multiple companies. The understood value is reflected in diverse tie-ups across GSMA Open Gateway operators and ecosystem players.

Supply versus demand

Early GSMA Open Gateway activity has been focused on supply-side concerns, ensuring developers and partners can gain access to network APIs. Success on technology enablers points to clear progress.

The GSMA Fusion launch highlights a need to seed market demand alongside use case boosting efforts focused on connecting with integrators and targeting industry painpoints such as fraud.

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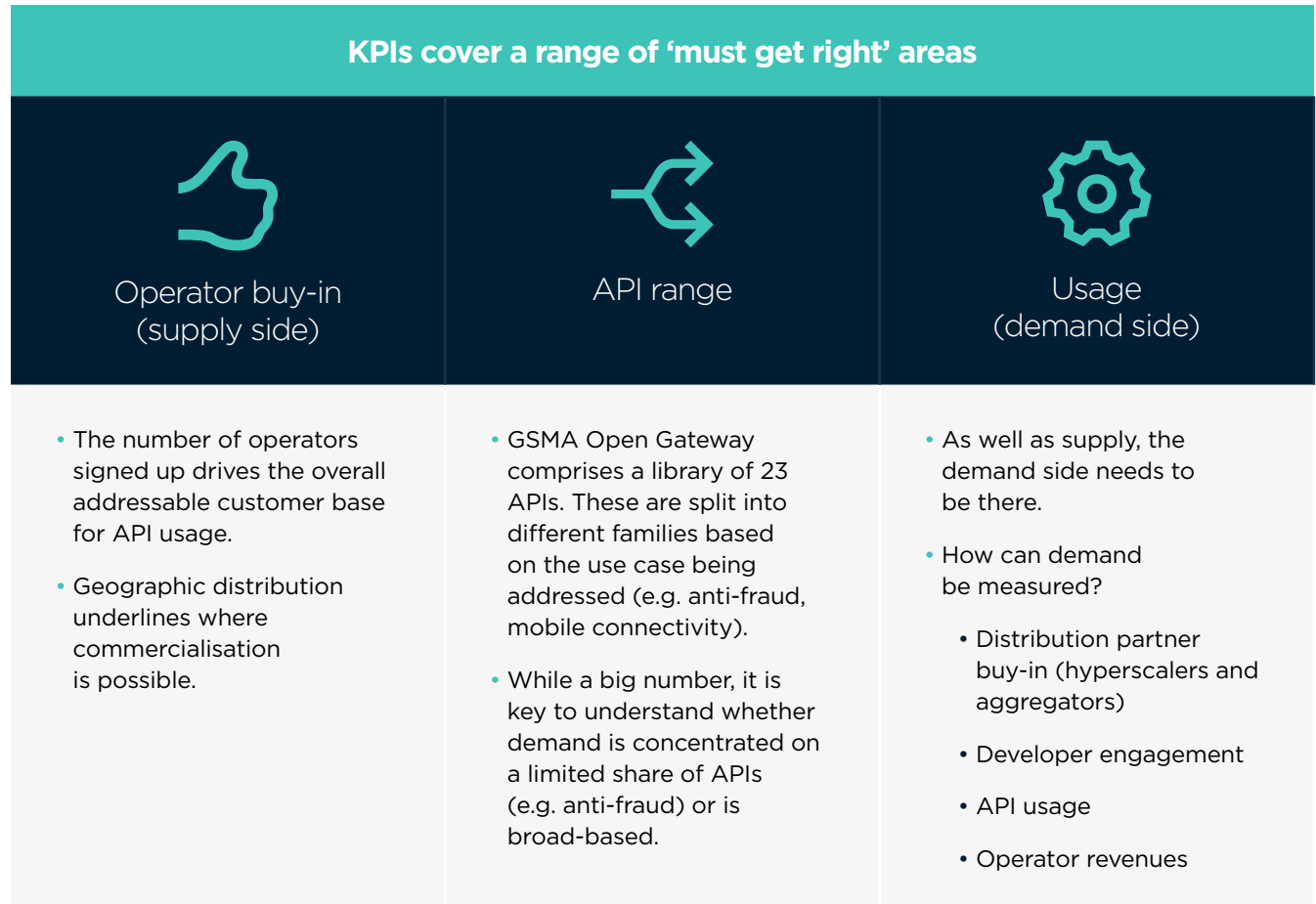
KPIs for APIs: how to judge success

Supply versus demand

Any marketplace requires buyers and sellers. The sell side is largely in place, with a large number of operators offering ready-made APIs to developers and other distributors. The demand side (developers, distributors and enterprises) is responding; activity has picked up in H2 2024.

What is success?

The main indicator of success will be the extent to which APIs drive incremental revenues. Developer engagement and usage is a prerequisite for this, which GSMA Intelligence will follow closely.



Source: GSMA Intelligence

H2 2024: status update

Around 75% representation, but distribution power still needed

Operator interest in GSMA Open Gateway has continued in H2 2024. A further 14 operators have signed up since June 2024, with around 75% of global mobile market share now represented. The API library has also expanded to grow the range of options for developers, vendors, hyperscalers and other aggregators. Channel partners continue to come onboard (e.g. Bridge Alliance, Comviva), providing support for distribution. However, there has been less activity from the big hyperscalers after much fanfare at MWC. These companies are key to unlocking the developer audience, presenting an important six months ahead.

Variation by geography

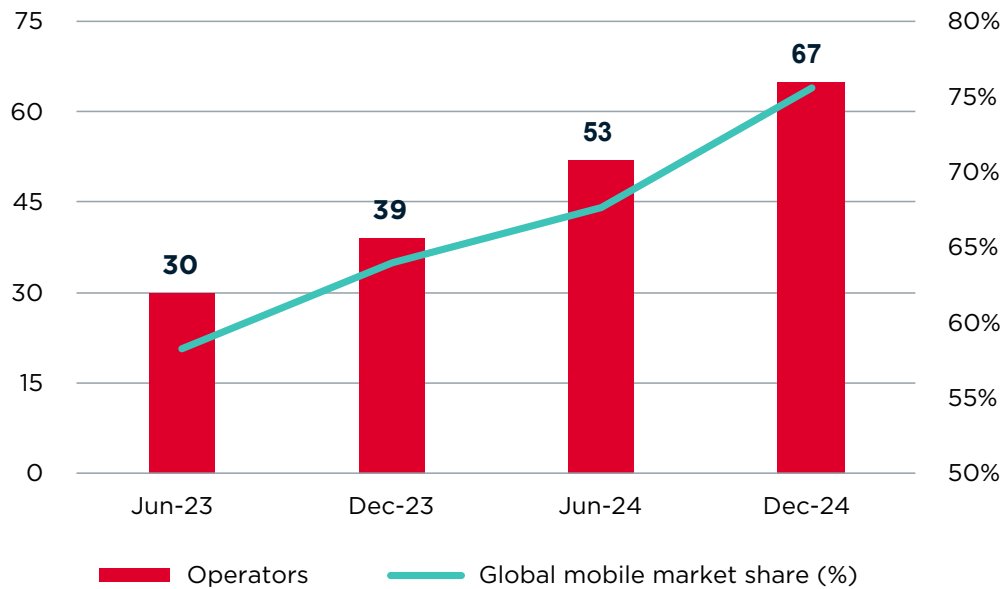
China and Asia account for the biggest concentration of operators that have signed up to GSMA Open Gateway. This has always been the case for China, as the three largest operators account for 20% of mobile subscribers worldwide. Momentum in Southeast Asia, through companies such as Smart, Globe and Cellcard, has seen a 'domino effect' and speaks to recognition that regional business success with APIs depends on developers having a larger platform to work from (i.e. network scale). In Africa, operator interest in APIs under-indexes relative to what would be expected based on subscriber footprint. Operators in Sub-Saharan Africa only make up 5% of the market share of operators signed up to the GSMA Open Gateway initiative.

Security is a bedrock

Mitigating fraud and other security threats has been the most prevalent use case of APIs deployed by mobile operators and their partners. There are a range of APIs in this domain, including SIM Swap, One Time Password and KYC Match. A further example, Scam Signal, was launched in the UK as a collaboration between operators and banks to help tackle authorised push payment (APP) fraud, which accounts for around a third of fraud losses (total fraud in the UK alone is now £1.2 billion). That said, the use of APIs for edge compute and other network-related functions is also growing, as is the payments area. Developers similarly rate these capabilities for their own apps, with around 40% citing edge and payments – the highest after security – as most attractive to their enterprise customers.

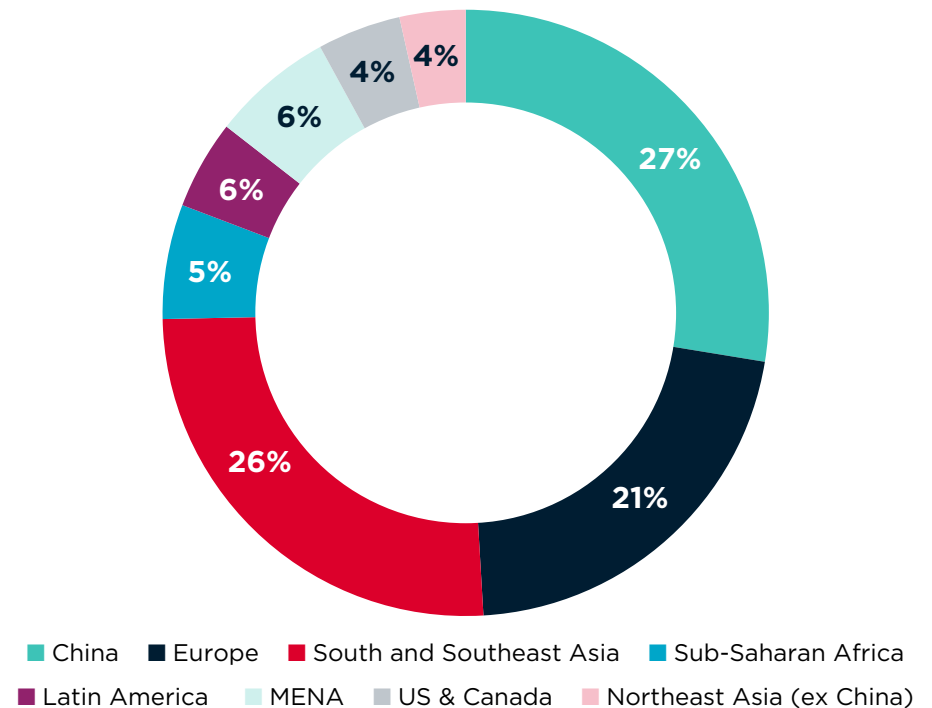
75% of the sector (and counting) has signed up

Number of mobile operators participating in GSMA Open Gateway



Data as of December 2024
Source: GSMA Intelligence

Regional breakdown of operator participation



Data as of December 2024
Source: GSMA Intelligence

Participating operators cover all regions, with Asia and Europe well represented

Northeast Asia	South and Southeast Asia	Europe	North America	Latin America	Sub-Saharan Africa	MENA	Oceania
China Mobile	AIS	1&1	AT&T	America Movil	Ethio Telecom	du	Telstra
China Telecom	Axiata	Altice Portugal	Rogers	Entel Chile	MTN	e&	
China Unicom	Bharti Airtel	BT	Verizon	Nuevatel		Omantel	
Chungwa Telecom	Cellcard	Bouygues Telecom		Telecom Argentina		Ooredoo	
CITIC Telecom	Celcom Digi	CK Hutchison		TIM		STC	
Far EasTone	Globe Telecom	Deutsche Telekom				Turkcell	
KDDI	Jio	Iliad				Turk Telecom	
KT	M1	KPN				Zain	
LG U-Plus	Maxis	Liberty Global					
NTT Docomo	Singtel	MasMovil					
SmarTone	Smart	Orange					
SoftBank	Starhub	Swisscom					
Taiwan Mobile	Telekom Malaysia	Telefonica					
	Telkomsel	Telenor					
	True/DTAC	Telia					
	U Mobile	Veon					
	Viettel Networks	Vodafone					
	YTL Communications						

Accurate as of December 2024
Source: GSMA

Launches: security first but branching out

APIs launched so far concentrate on anti-fraud and device location services

	Anti-Fraud								Fixed Connectivity	Mobile Connectivity & VAS			Cloud & Edge	Payments
	Subscriber Identity								Network Quality & Optimisation	Location		Network Quality & Optimisation	MEC	Payments & Charging
	Device Roaming Status	Device Status	Sim Swap	One Time Password	Number Verification	KYC Fill-in	KYC Match	Number Verification	Home Devices Quality on Demand	Device Location Verification	Device Location Geofencing	Device Location Retrieval	Quality on Demand	Simple Edge Discovery
North America														
Latin America														
Europe														
MENA														
SSA														
NE Asia														
SE Asia														
South Asia														
Asia-Pacific														
Oceania														
Total														

The darker the shading, the greater the number of APIs that have been commercially launched.
Note: Data shown for a selection of APIs

Source: GSMA Intelligence

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04 GSMA Open Gateway in action

GSMA Open Gateway APIs in action: Elisa and Nokia

Demonstrating the Quality on Demand API in the automotive sector

Background

Elisa and Nokia have teamed up with Elmo Cars, a pioneer in remote driving technology, to create a proof of concept (PoC). They remotely drove a car through Espoo's public streets at Nokia's headquarters and during the Imagine Metaverse expo in Tampere, Finland.

Challenge

Navigating crowded areas is difficult due to network issues and congestion, which can degrade video quality and make it hard for remote drivers to clearly see the road, surroundings and traffic signals. This can lead to delayed reactions and an increased risk of accidents. The compromised network performance can also hinder real-time communication between the vehicle and control centre, further exacerbating the challenges of remote driving in congested environments.

Solution

Elmo Cars leveraged the GSMA Open Gateway Quality on Demand (QoD) API from Nokia's Network as Code platform, enabling dynamic network adjustments to ensure consistent connectivity. Even during periods of high traffic, Elmo Cars could receive the high-quality video feeds necessary for safe operation.

Impact

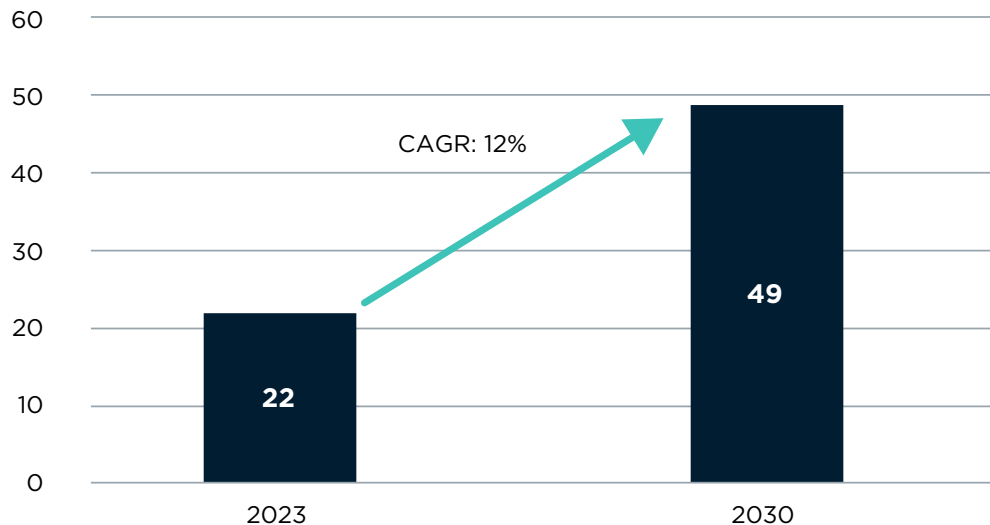
The PoC showed real-time integration and instant video quality upgrades during network congestion. Through Nokia's Network as Code platform, it also provided Elmo with essential device status and network insights, revealing key details about connectivity and potential issues. The use of standardised APIs makes it easier to scale the solution across multiple operators and countries, bringing remote driving technology to more locations.

GSMA Open Gateway APIs in action: Elisa and Nokia

Key data points

The automotive industry is a key growth opportunity for operators

Automotive: global addressable revenue opportunity for operators in B2B technology services beyond core telecoms (\$ billion)

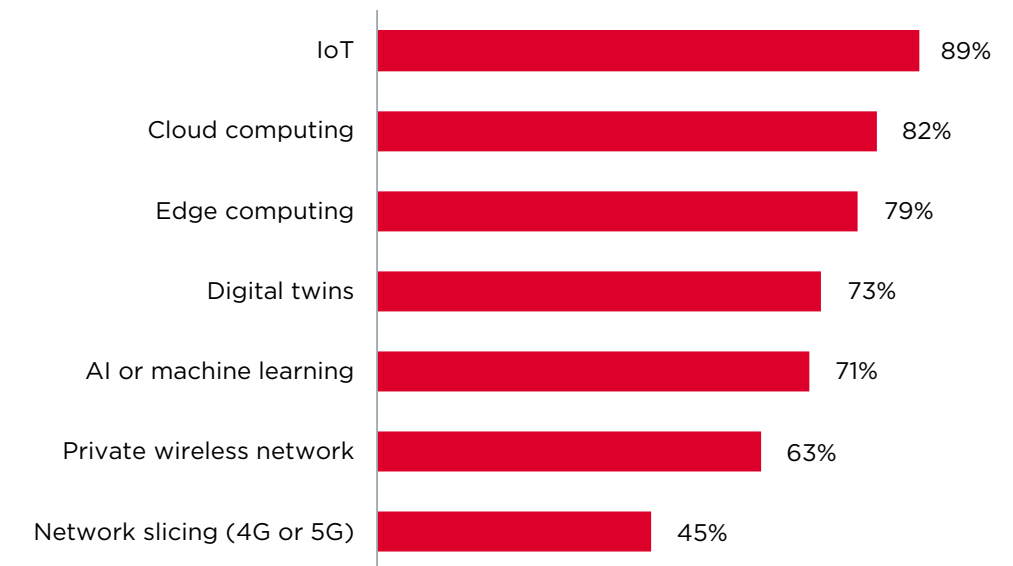


Source: GSMA Intelligence

Operators can leverage interest in IoT to upsell tailored connectivity offerings such as private wireless, network slicing and APIs

How important do you view each of the following areas for your enterprise's B2B sales success?

Percentage of car manufacturers identifying a specific technology as a critical enabler of B2B sales success



Source: GSMA Intelligence AECC survey 2023

GSMA Open Gateway APIs in action: Orange

Building new use cases for Device Location and Geofencing APIs

Background

Laude is an IT consulting firm that aims to be a leading provider of digital solutions and services over the next decade. In collaboration with Orange, it launched an internal development challenge using CAMARA APIs to build innovative use cases for law enforcement, smart tourism and industrial facilities maintenance. This case study focuses on the use of Device Location and Geofencing APIs for law enforcement.

Challenge

In some instances, restraining orders are issued without the use of electronic or telematic bracelets. These orders can impose various restrictions, such as proximity limitations and exclusion from a shared residence. In such situations, the enforcement of the restraining order relies on monitoring and surveillance by authorities, as well as reports from the victim if restrictions are breached by the aggressor. The success of orders depends significantly on collaboration and communication between the different parties.

Solution

Laude has created ViRe (Violence Restriction), an application that leverages the Device Location and Geofencing CAMARA APIs to oversee restraining orders. ViRe uses network operator capabilities made available through the APIs to ensure aggressors keep away from victims. If an aggressor breaches a restraining order, an alert text is immediately sent to both the authorities and the victim. Additionally, authorities have continuous access to the monitoring system for real-time tracking of the locations of the aggressor and the victim.

Impact

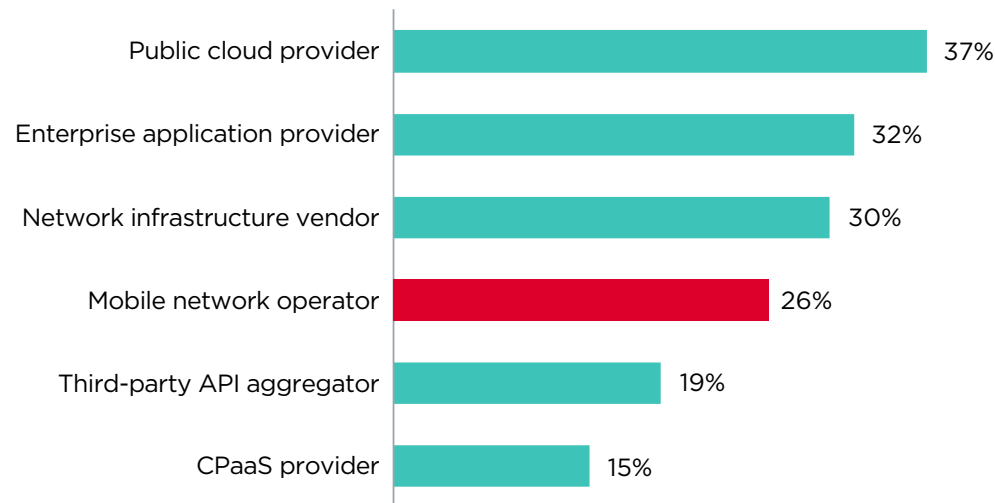
ViRe is not intended to replace electronic bracelets; rather, it adds an extra layer of security. Using 5G capabilities, ViRe functions in indoor and outdoor environments. Since the application is built on the CAMARA standard, it does not require specialised devices and works across different smartphones, operators and countries. Future versions of ViRe will incorporate AI to analyse aggressor behaviour patterns and mitigate potential risks.

GSMA Open Gateway APIs in action: Orange

Key data points

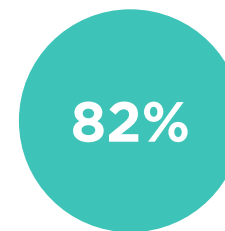
Initiatives such as the Orange Developer portal are crucial for operators to improve consideration among developers

Which types of network API providers would you prefer to work with?
Percentage of developers choosing provider (could choose multiple)



Source: GSMA Intelligence Network API Developer Survey 2024

Network APIs can spur enthusiasm among developers, with opportunities across sectors



Percentage of developers claiming mobile connectivity/VAS APIs will be important to applications they could develop in the future.

This highlights the growing interest among developers in the Device Location and Geofencing APIs, which Laude used as part of its internal development challenge.



Percentage of developers ranking the public sector among the top three industries with the highest demand for network APIs.

While developers show greater interest in industries such as software and financial services, the public sector also offers applications for network APIs, as illustrated by Laude.

Source: GSMA Intelligence Network API Developer Survey 2024

GSMA Open Gateway APIs in action: Telkomsel

Improving digital authentication through network APIs

Background

Amid growing cybersecurity risks, smartphones are increasingly expected to replace traditional authentication methods such as passwords. This is being driven by the enhanced convenience and security features that smartphones offer, as well as new digital authentication solutions.

Challenge

As the security threat landscape evolves, growing levels of consumer engagement with digital services – particularly via smartphones – present greater exposure to identity fraud. Banking and financial transactions are particularly at risk. In Indonesia, digital banking transactions reached nearly \$4 billion in 2023. In parallel, there were around 360 million cyberattacks, of which 42% were malware-based, 35% via trojans and 9% using information leaks. There is a clear risk of financial loss for consumers, businesses and financial institutions.

Solution

Telkomsel has developed an identity solution called Telco Verify. This works via a network API and is designed to add an additional layer of security to the authentication process. The solution can be added to existing mechanisms such as two-factor-authentication (2FA) and one-time passwords. The incremental value is the explicit link of a mobile number to a person. If a person has a new mobile, for example, Telco Verify can be used to authenticate that individual when registering their mobile banking account on the new device.

Impact

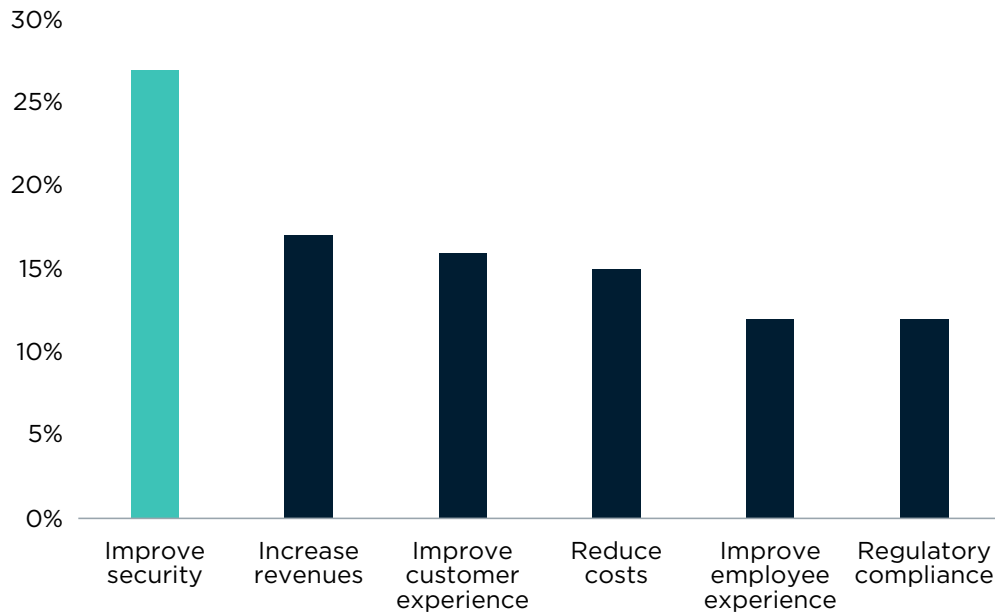
Telco Verify looks to blunt the risk of identity fraud through websites, digital banking and other interfaces requiring personal credentials – anything from a government login to the purchase a concert ticket. Indonesia has a high-growth economy and a youthful, digital-native population. Digital banking values reached IDR58 trillion (\$3.7 billion) in 2023. The country has also introduced a QR-based payment system (QRIS) now used by around 15% of the population. Given that most digital payments are via mobile, Telco Verify can help materially reduce the risk of fraud.

GSMA Open Gateway APIs in action: Telkomsel

Key data points

API benefits start with security

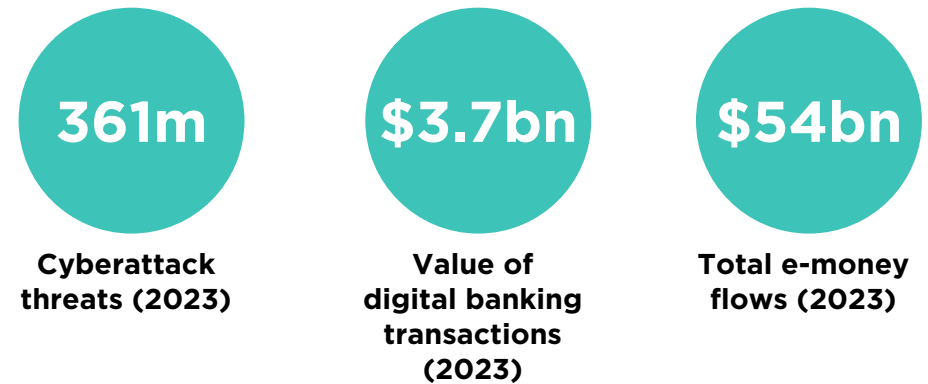
Percentage of developers rating feature as top benefit for network APIs



Source: GSMA Intelligence Network Security Strategy Survey 2024

Financial exposure rates

Key indicators for digital banking in Indonesia



Source: Telkomsel

Key learnings from GSMA Open Gateway APIs in action

1

Target quick wins

Telkomsel's introduction of Telco Verify aligns with anti-fraud solutions launched in other markets, such as Singtel's SingVerify and Scam Signal from UK operators. These offer operators and developers quick wins by addressing the growing threat of digital fraud.

2

Look beyond fraud and identity

In addition to anti-fraud APIs such as SIM Swap and Number Verification, the examples from Elisa and Orange highlight that other parts of the GSMA Open Gateway API library are being implemented, though more selectively. The key for operators and their partners will be moving from PoCs to commercial deployments over the next 12 months.

3

Turbocharge automotive support

The partnership between Elisa, Nokia and Elmo Cars highlights increasing collaboration between the telecoms and automotive industries. To bridge these sectors, it was recently announced that the Automotive Edge Computing Consortium (AECC) will work with GSMA Fusion, a buyer-led initiative for enterprises enabled by GSMA Open Gateway, to help the automotive sector communicate its connectivity requirements.

4

Dial up developer engagement

Orange's work with Laude illustrates the importance of operators being proactive in engaging enterprises and developers. The operator offers the Number Verification and SIM Swap APIs in France and Spain. It also has beta versions of several APIs, including Device Location and Geofencing. Developers can access these APIs and collaborate with Orange through the Orange Developer portal to build new solutions.

5

Align API roadmaps

To gain traction with developers, operators can coordinate their timelines for releasing specific APIs in certain geographies. In Indonesia, for example, Telkomsel, Indosat Ooredoo Hutchison, XL Axiata and Smartfren harmonised the launch of the GSMA Open Gateway Device Location, Number Verification and SIM Swap APIs, providing developers with the scalability they value.

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Deep Dive: Developer KYC

Developers and APIs: surveying the market

The developer audience is a key partner segment for operators in supporting the channel reach of APIs. To help understand this segment, GSMA Intelligence undertook a global developer survey in mid-2024. The survey reached 1,000 developers and was split between those who work with/use 5G in their operations and those who do not. The results indicate developer sentiment on how valuable network APIs are, where they are best used, the industries most likely to use them, and remuneration models

About the GSMA Intelligence Network API Developer Survey



Who

1,000+
developers

Global with
regional quotas

5G and non-5G involvement



What

Network
API perspective

Knowledge

Preferences

Engagement models



When

Fieldwork:
July/August 2024

Plan to
repeat in 2025

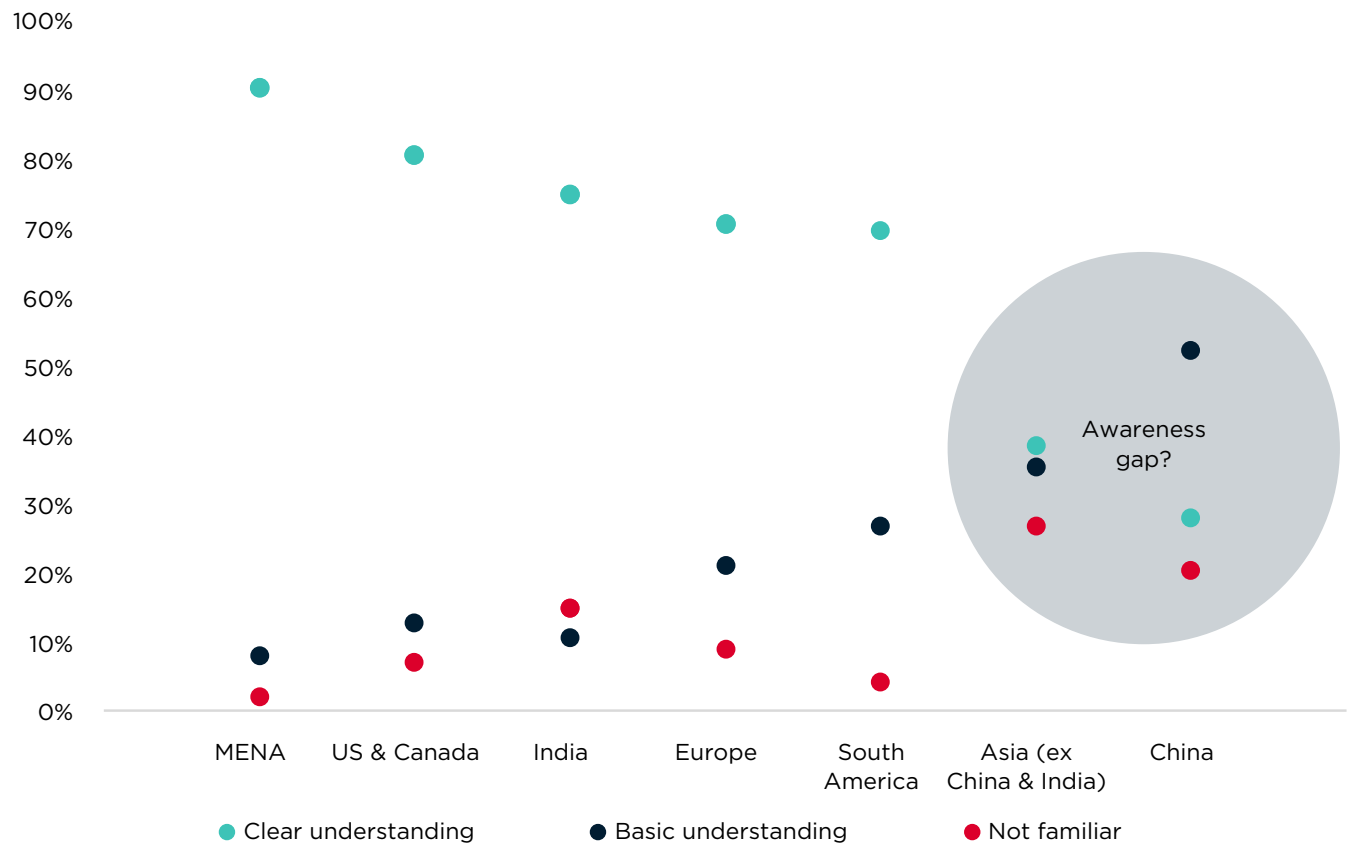
Network APIs: understood, though far less so in Asia

You can have the best product or set of APIs in the world, but it has little value if people do not know about it.

Developer knowledge of network APIs (mostly mobile) is healthy in most regions, including those where 5G deployments are most prevalent - the US, Europe and Middle East.

However, in China, only around a third of developers claim a clear understanding of network APIs. This is somewhat counterintuitive considering China's advanced position in 5G, and 5G sales to B2B segments specifically. It points to a continued need for market outreach from operators to tap a sizeable B2B space for APIs in China and other parts of Asia.

How well do developers understand the concept and benefits of network APIs?



Source: GSMA Intelligence Network API Developer Survey 2024

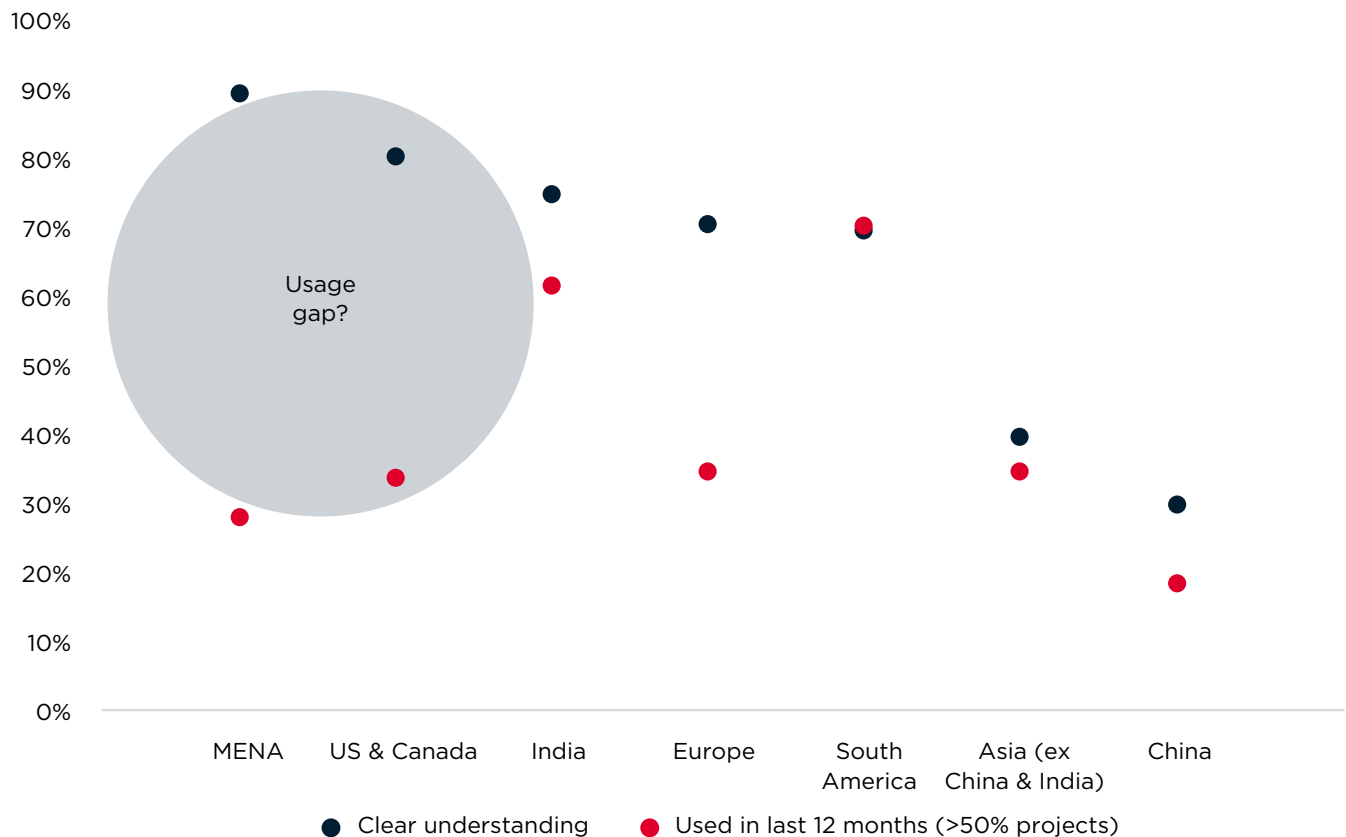
Awareness does not always equate to usage

There is a distinctly more variable rate of network API usage among developers in different parts of the world. Usage rates vary from 60-70% at the top end, to 20-30% at the bottom end.

Developers in India and South America show the highest take-up rates for network APIs so far. This reflects three main factors: a mobile-first internet population, fast-growing digital payment economies, and established sector use cases.

Less prevalent developer use of network APIs in other regions does not reflect disinterest. Even 30% of developers is a lot of resource on the ground. The key is the need to show – and feel – value from APIs by making apps and services better or more scalable than they otherwise would be.

Where are the power users (developers) for network APIs?



Source: GSMA Intelligence Network API Developer Survey 2024

Verticals: identifying the low-hanging fruit

Software and SaaS on top

Developers broadly see software and SaaS applications as the most natural place to leverage network APIs in most regions. This is a broad group, ranging from enhancing security in software to embedding 5G quality on demand.

Regional variation

There are notable regional differences in the industries that developers rate as having significant potential for network APIs in their operations. After software, manufacturing is next highest in Europe; retail scores highly in India and the Middle East; and consumer electronics is strong in China.

Which industries do you believe have the highest demand for network APIs?

	Global	US & Canada	Europe	South America	MENA	Asia (ex China & India)	China	India
1	Software + SaaS	Software + SaaS	Software + SaaS	Software + SaaS	Software + SaaS	Software + SaaS	Software + SaaS	Retail
2	Consumer electronics	Consumer electronics	Manufacturing	Consumer electronics	Retail	Logistics	Consumer electronics	Software + SaaS
3	Financial services	Financial services	Financial services	Financial services/gaming/media	Consumer electronics	Financial services	Financial services	Consumer electronics/financial services/media

Source: GSMA Intelligence Network API Developer Survey 2024

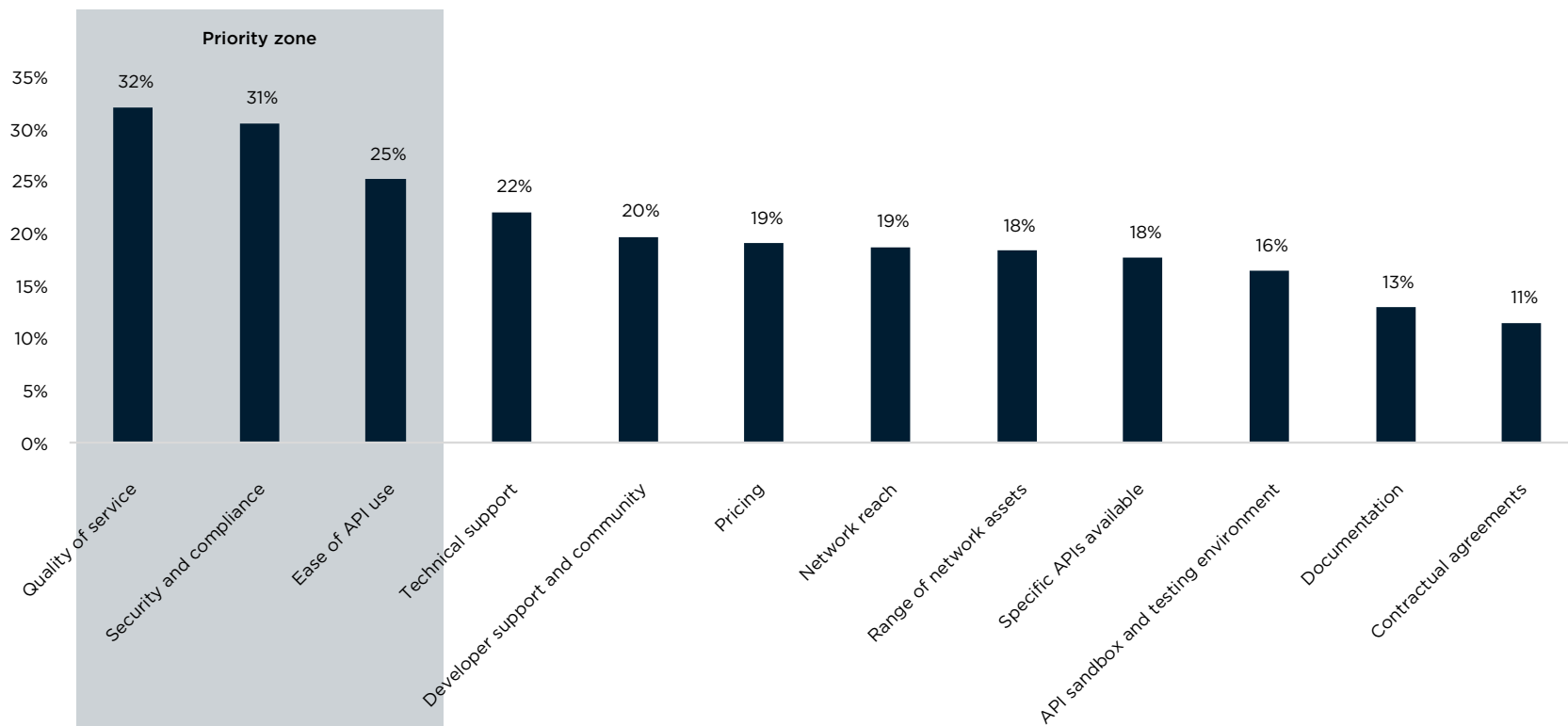
Developers prioritise the basics

A common pitfall in selling the value of new or improved technology is to focus too much on headline-grabbing, potential use cases for the future.

While this can generate excitement, it can ignore what often matters most - getting the basics right.

Developers are no different. Around 30% prioritise network quality of service, security and making things easy. Reach, sandboxes and the menu of APIs to choose from all matter, but far less so if the fundamentals are not done correctly.

What developers want from a partner



Source: GSMA Intelligence Network API Developer Survey 2024

API pricing models: subscriptions on top

A steady income means certainty

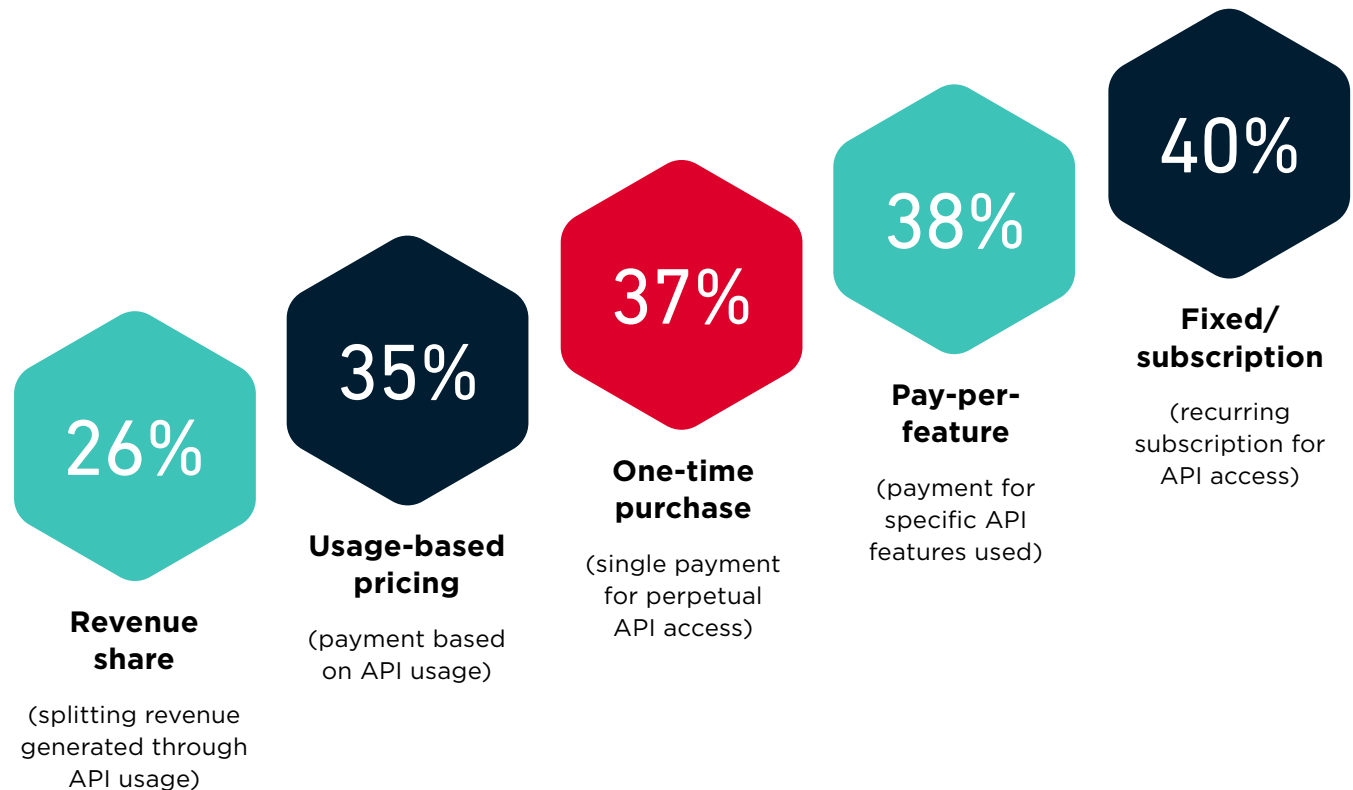
API pricing follows a range of remuneration models. The most desirable for developers is the subscription model. A fixed subscription is most likely to generate a dependable and recurring stream of income. This matters for most developers, but even more so for small shops or one-person operations with less fallback space.

A range of models required

Subscriptions need a steady demand stream, which can take time to materialise. Network APIs are therefore likely to be commercialised through several payment models, including revenue share, usage-based models and more tactical forms such as pay-per-feature.

How developers want network APIs to be priced

Percentage of developers choosing type of payment structure to work with



Source: GSMA Intelligence Network API Developer Survey 2024

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Deep Dive:
Mapping
enterprise
demand for
APIs

APIs can help tap into the enterprise opportunity

Operators currently make 25–35% of their revenues from B2B customers. That share is growing each year by around 1–2 pp. While positive for revenue diversification, it has yet to play out at scale, as executives hoped when 5G was first launched in the late 2010s.

A \$400 billion opportunity

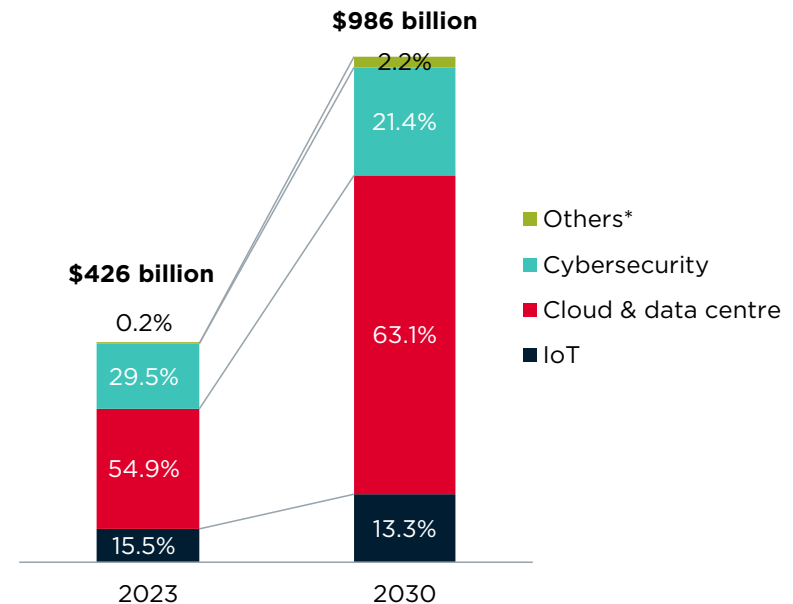
Digital transformation spend from companies across the economy means the sell-in base for digital technology is still robust. GSMA Intelligence estimates the portion addressable by operators is around \$400 billion, doubling by 2030. Cloud-related business accounts for the biggest share, followed by security and IoT services.

APIs are a means of channeling network functionality into services that enterprises buy. While company spend on APIs is unlikely to top any technology priority lists, the value is implicit if APIs help improve the value of other products such as private wireless and IoT.

Leveraging network USPs

The key is differentiation and pushing mobile network features that are unique selling points (USPs). Security, latency, QoD and billing all relevant here and can be applied horizontally to multiple enterprise product lines.

The addressable revenue opportunity in B2B for operators is anchored in cloud, security and IoT



* Others includes data analytics, AI-related services and network APIs.
Source: GSMA Intelligence

Balancing supply with demand

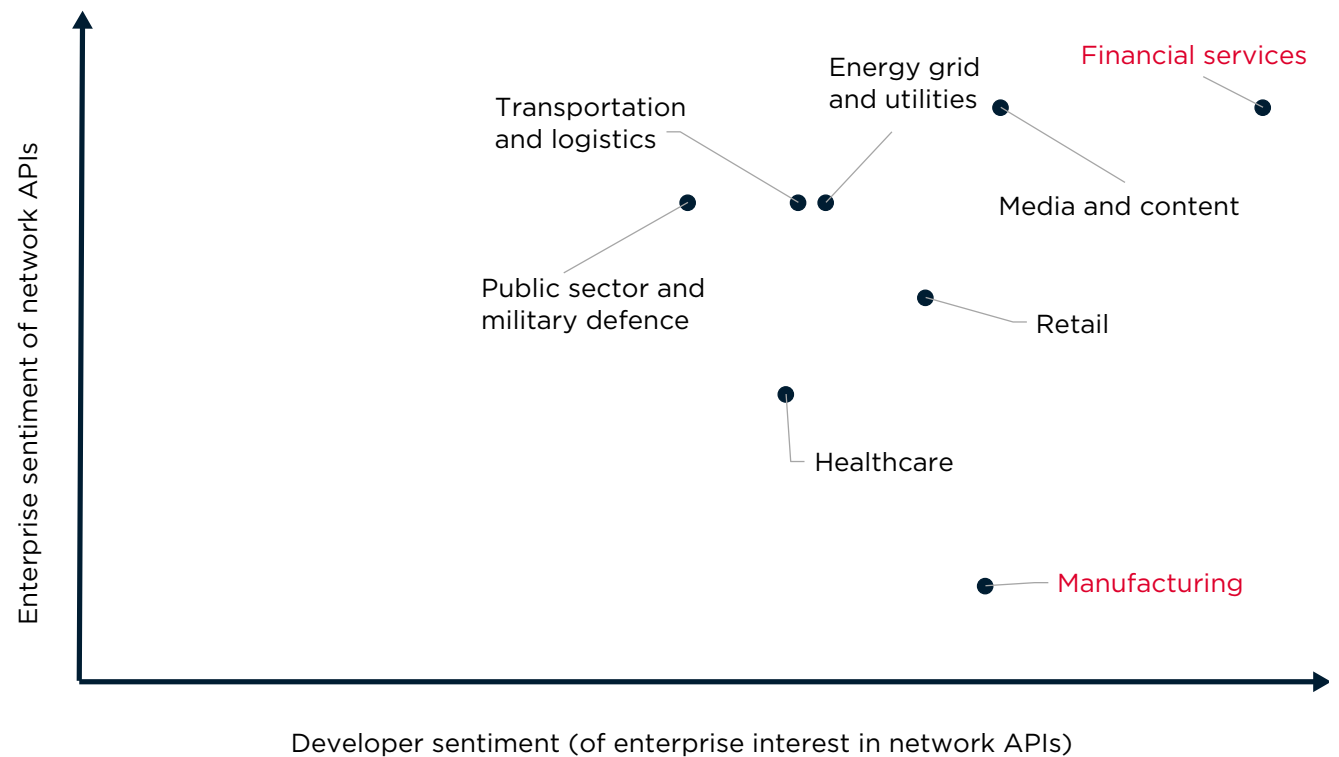
The enterprise view of network APIs

Do developer perceptions of which industries value network APIs match the sentiments of respondents in those industries from the GSMA Intelligence enterprise survey? There is clear alignment when talking about companies in the transportation, energy, media and retail industries.

Manufacturing and financial services are outliers

Manufacturing is a particular outlier. There is work to do from developers and operators in communicating the value proposition of network APIs in enhancing other product areas to this sector, given that it represents \$60 billion (or 15%) of the B2B addressable revenue base for operators.

Supply (developers) versus demand (enterprises) for network APIs



Source: GSMA Intelligence Network API Developer Survey 2024

Where APIs should slot into projects

Another approach to the question of how APIs can be monetised in the enterprise is to look at which technology categories are most in demand. In an operator context, the categories are product lines such as 5G connectivity, fibre and leased lines, cloud, edge compute and security. The chart reveals the relative importance developers and enterprises place on each category in their digital transformation plans.

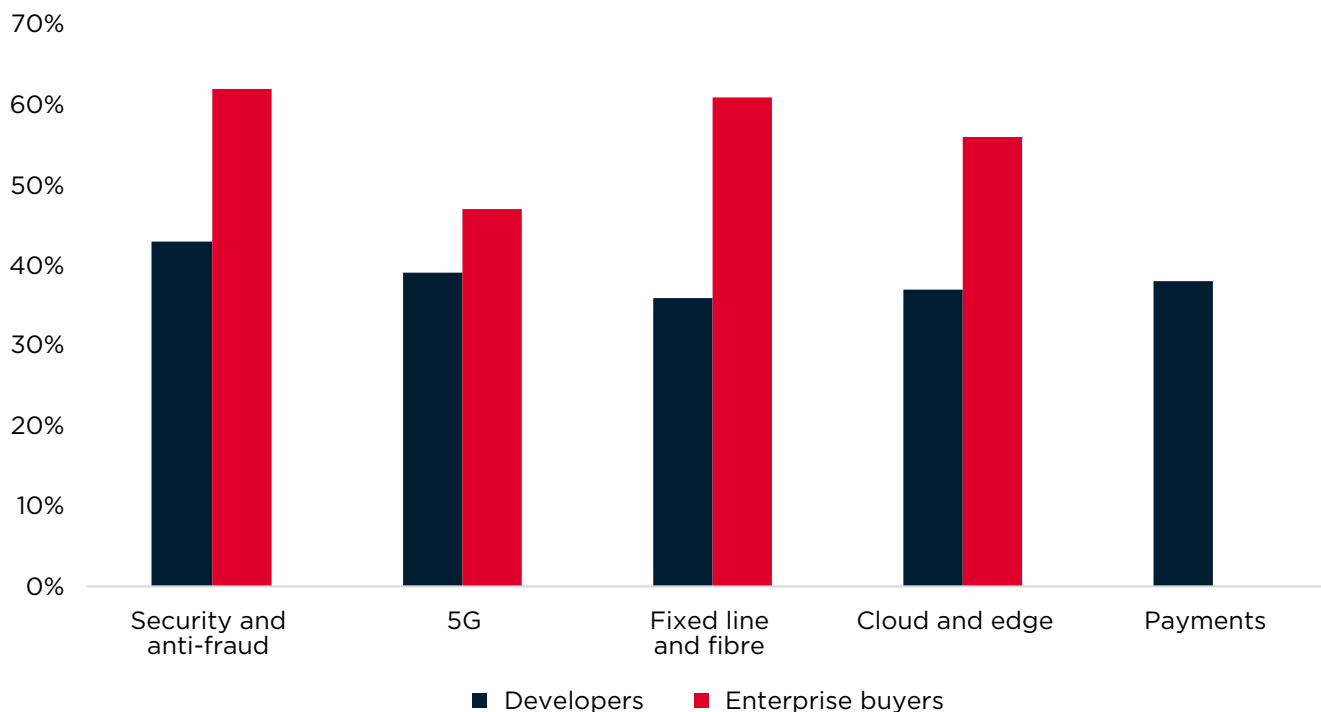
Security a priority, with 5G less certain

Security is a top priority for both groups. Everyone has to combat the risk of fraud.

A higher share of enterprises rate fibre, cloud and edge compute ahead of 5G as extremely important to their plans. This underlines the need to position 5G as a complement and gateway to a wider service offering, with APIs based on the mobile network able to tap into several of the categories.

Developer and enterprise views on the value of technology in digital transformation plans

Percentage of developers and enterprises rating a category as 'extremely important' to their projects



Note: Payments not included as a technology service category for enterprise buyers.
Source: GSMA Intelligence Network API Developer Survey and Enterprise Survey 2024

Sales strategy: understanding the big picture

Enterprises expect to spend 10-15% of their revenues on digital transformation between 2024 and 2027. While that translates to a big number in absolute terms, more important from a competitive perspective is how it is split between the different product categories.

5G on top

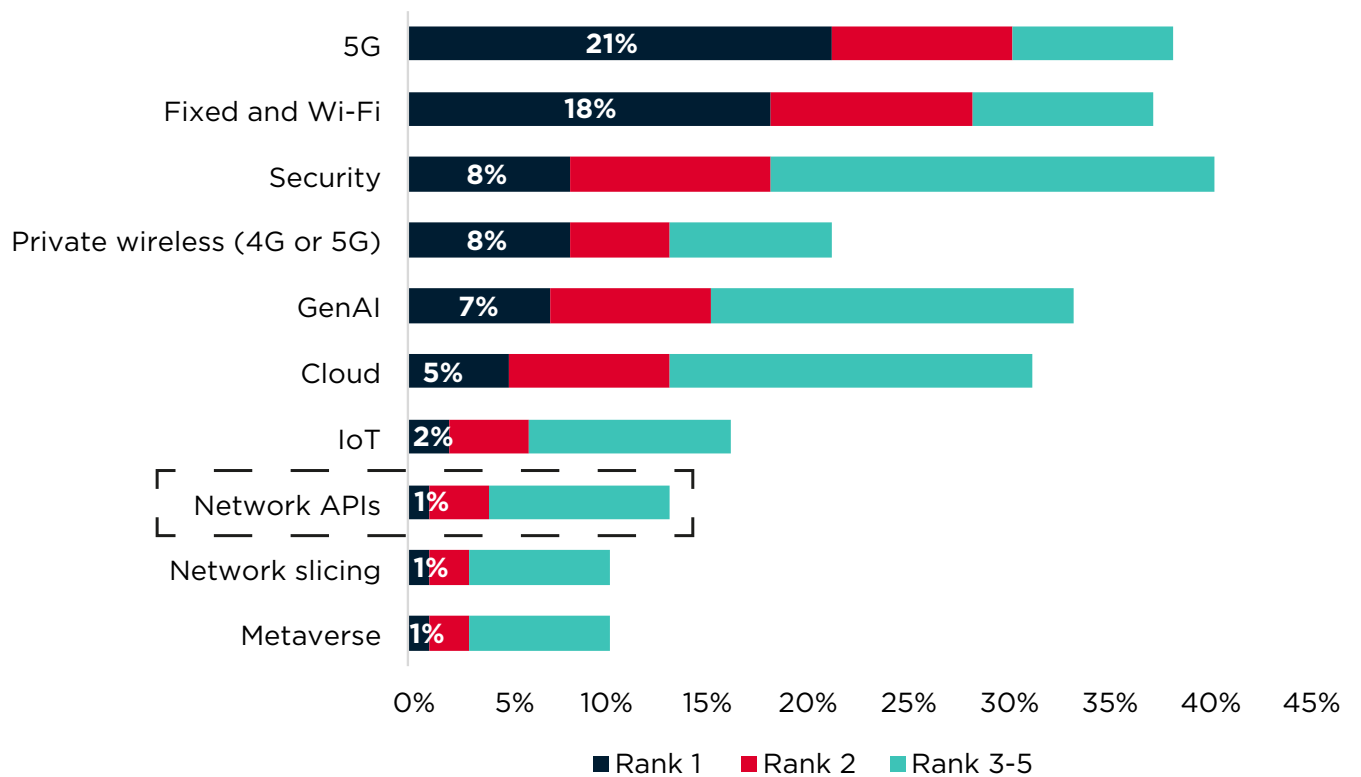
While not as prevalent as fibre requirements (see the previous page), more enterprises rate 5G as their No.1 investment priority (21%) than any other category. Fixed and Wi-Fi is second, at 18%. Network APIs garner a far lower share; around 15% of enterprises put it in the top five. This is similar to categories such as slicing and the metaverse.

It's not just about direct spend

The above paints a somewhat dispiriting picture, but the reality is different. API revenue is not, on its own, going to top any technology spend list. The value is indirect by improving ability to sell other product lines. For operators, this means 5G, security, private wireless, cloud and IoT - all of which have higher investment expectations.

Investment expectations for digital technology among enterprise buyers

Investment priorities ranked 1-5



Source: GSMA Intelligence Enterprise Survey 2024

The logo features the word "GSMA" in red and "Intelligence" in white, set against a dark teal background with a network of glowing nodes and lines.

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