

Service assurance trends in the AI era

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December 2025

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 partnered with RADCOM for this report.

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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RADCOM

RADCOM (Nasdaq: RDCM) is a leading provider of advanced, intelligent assurance solutions with integrated AI Operations (AIOps) capabilities. Its flagship platform, RADCOM ACE, harnesses AI-driven analytics and generative AI (GenAI) to improve customer experiences. Designed to be open, vendor-neutral, and cloud-agnostic, RADCOM's solutions drive next-generation network automation, optimization, and efficiency. Offering a complete, real-time view of mobile and fixed networks, RADCOM's advanced 5G portfolio delivers end-to-end network observability, from the radio access network (RAN) to the core. Through powerful, data-driven analytics, RADCOM empowers telecom operators to ensure exceptional service quality, enhance user experiences, and build customer-centric networks. For more information, visit <https://radcom.com/>

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Shape of the market

- 1 Mobile operators are heavily invested in service assurance – but not end to end.** The current focus is on customer experience. Operators depend on assurance solutions to give them greater insight into customer usage and spending patterns, with a view to shoring up overall customer experience and driving Net Promoter Score (NPS).
- 2 Automation of service assurance processes is seeing momentum, but many operators have some way to go.** More than 75% of operators surveyed have indicated they are automating their service assurance processes. Some 36% of those indicate that over 75% of their processes are already automated. Several operators have a long way to go, however. There is no correlation between size of operator and investments in automation.
- 3 The network's impact on customer experience is increasingly important.** There is growing recognition of the correlation between network performance and customer experience. Not every piece of data collected from across the network affects the OSS/BSS managing the network, but greater correlation between the two domains is necessary for greater insight.
- 4 AI will be critical for customer-related analytics.** AI will increasingly come into play, with anomaly detection becoming a core use case. Some 87% of operators claim AI-enabled analytics will be very or extremely important. Around 80% of operators are already applying AI to generate insights from network and customer-related analytics.
- 5 Operators are keen to deploy agentic AI.** Operators are moving beyond genAI applications towards agentic AI, with 65% considering it transformational or high value. Current use cases include fraud detection, security, customer service and network optimisation. This is set to expand to areas including automated complaint and fault resolution, and network health prediction.

Numbers to note

41%

End-to-end data architecture

Only 41% of operators surveyed have an end-to-end (E2E) data architecture deployed that connects data from across all domains and departments.

45%

Majority of service complaints relate to mobile data

Depending on the specific operator, country, coverage area and so on, data coverage and capacity can vary significantly and generate the highest level of complaints (45%), particularly for streaming and gaming.

82%

RAN to core correlation

82% of operators already have a solution that can help them correlate the RAN with their core network. However, given only 41% claim adoption of E2E data architectures, gaps likely remain in collecting data across domains.

65%

Automating network operations

65% of operators are looking for assurance solutions to extend to the network domain but also stretch end-to-end. Besides automation of network operations, real-time visibility is a key priority too.

53%

Marketing and upsell

53% of operators surveyed indicated that the primary use case for the network data collected was insights on customer and usage trends so they could upsell and market more services.

87%

AI-driven analytics

87% of operators surveyed said that AI-enabled analytics are very or extremely important for greater insight into customer behaviour and requirements.

How the landscape is set to evolve

Current operator priorities	Expectations
Breaking down data silos is work in progress Only 41% of operators have already built out an E2E data architecture. A smaller percentage have a more hybrid architecture.	Use cases for assurance to expand to customer experience Customer experience and retention currently drive assurance for operators to drive Net Promoter Score. Going forward, network monitoring end-to-end and real-time visibility will be critical.
Investments in unified assurance platforms The majority of operators claim to have already deployed unified platforms that provide real-time visibility across their network, from the RAN to the core.	Demand for AI in the platform to grow strongly AI will increasingly come into play, with anomaly detection becoming a core use case.
Rising degree of automation Just over 75% of operators claim that 50–100% of their service assurance processes are already automated.	Operators plan to deploy agentic AI A third of all operators are looking at deploying agentic AI, with over 70% planning timelines for deployment in 2026. This reflects the fact that 65% of operators consider genAI and agentic AI as transformational or high value.
Reducing service complaints for data packages and services 45% of all service complaints relate to data packages and services – in particular, gaming, streaming and voice. That said, most operators (71%) claim to be handling these complaints well using existing systems.	Agentic AI use cases to expand The current focus areas of agentic AI are fraud detection, security, customer service and network optimisation. These will expand to automated complaint and fault resolution, predicting network health and more.

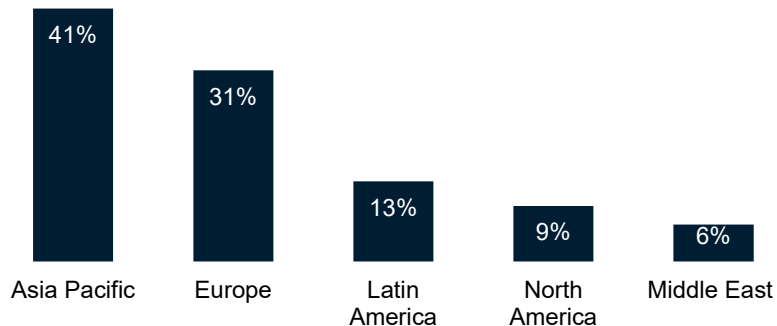
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Survey sample demographics

In June/July 2025, GSMA Intelligence surveyed 100 network strategy and procurement decision-makers from mobile and converged operators around the world to understand their views on network infrastructure transformation strategies and priorities. The goal was to better understand (and benchmark) how operators are evolving their mobile networks, where they are in the adoption of new technologies and how they are prioritising those technologies.

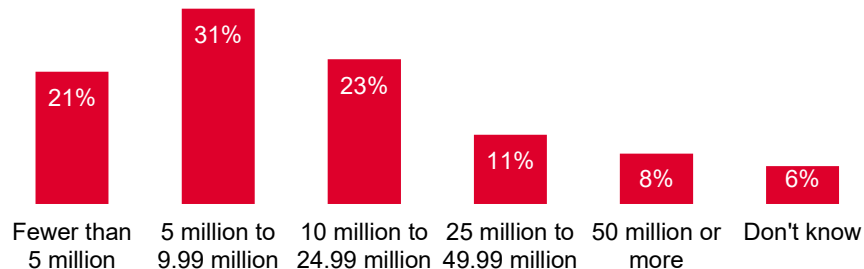
Regional distribution of respondents



N=100

Source: GSMA Intelligence Operators in Focus
Service Assurance Operator Survey 2025

Distribution of operators by size (number of mobile connections)



N=100

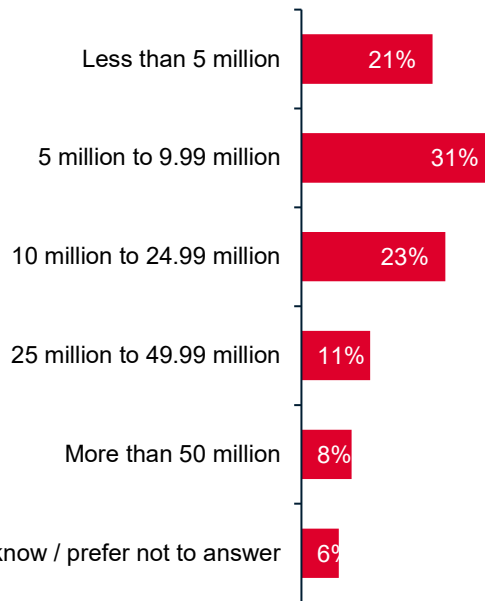
Source: GSMA Intelligence Operators in Focus
Service Assurance Operator Survey 2025

Operator size

The survey covered mobile operators across several regions and countries, as well as operators of varying sizes. Most operators surveyed claim 5–25 million subscribers. This reflects the fact that most of the operators surveyed were from Asia Pacific and Europe, where there are many more countries per region, and many operators are in smaller countries.

Current number of mobile subscribers

How many mobile subscribers (i.e. mobile connections on your mobile network excluding cellular IoT) does your company serve?



N=100

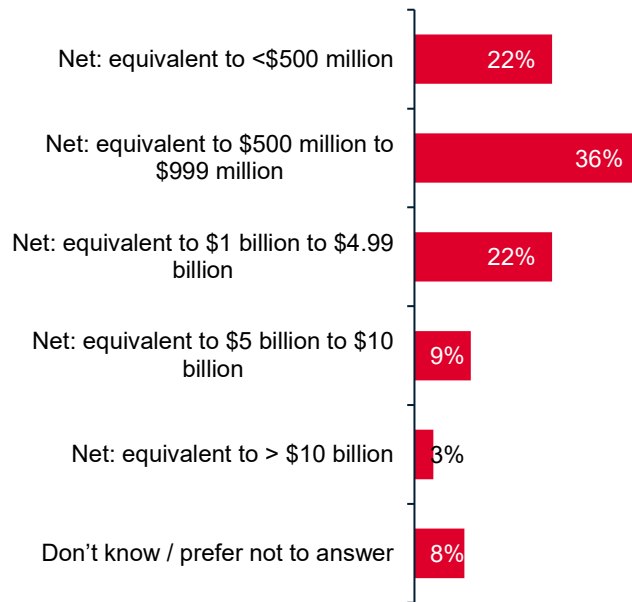
Source: GSMA Intelligence Operators in Focus
Service Assurance Operator Survey 2025

Operator revenues

With most of the operators surveyed serving 5–25 million subscribers across the regions surveyed, it is no surprise that the revenue numbers reflect this. There are only a few very large operators with annual revenues surpassing \$10 billion, including the large North American operators and a few in major markets such as Japan and India.

Total annual telecoms services revenue in 2024

Thinking about your company's primary country of operations, what was the approximate total of your annual telecoms services revenues last year?



N=100

Source: GSMA Intelligence Operators in Focus
Service Assurance Operator Survey 2025

Survey topics

Current business operations	Service complaints	Future business needs	Current and future AI adoption
• Current number of mobile subscribers • Total annual telecoms services revenue last year • Current data management process • Current real-time visibility for 5G • Top three current uses of network data • Use of unified platform to provide RAN • Current extent of service assurance automation	• Service with highest levels of complaints • Effectiveness of analysing service complaints through existing products	• Future service assurance priorities • Interest in deploying a unified platform • Capabilities most valued in a next-generation service assurance and user analytics platform • Importance of real-time data for automating network operations • Network preparation to handle future workloads	• Importance of AI-driven analytics • Current use of AI for insights • Current percentage of analytics process that is AI-based • Current use of AI to enhance service assurance/network • Started planning for agentic AI implementation • Processes where agentic AI implementation is being planned • Plans to implement agentic AI • Timeline to implement agentic AI • Potential value of genAI and agentic AI on operations • Areas/use cases where agentic AI would be most valuable

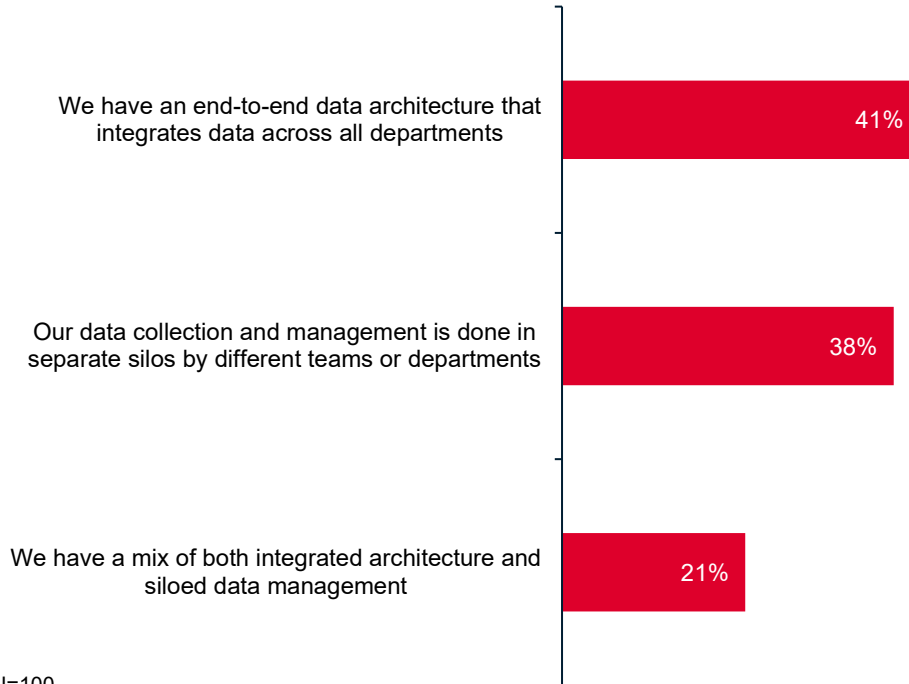
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A mix of data management approaches persists among operators

Current data management process

How is your company's data currently managed?



N=100

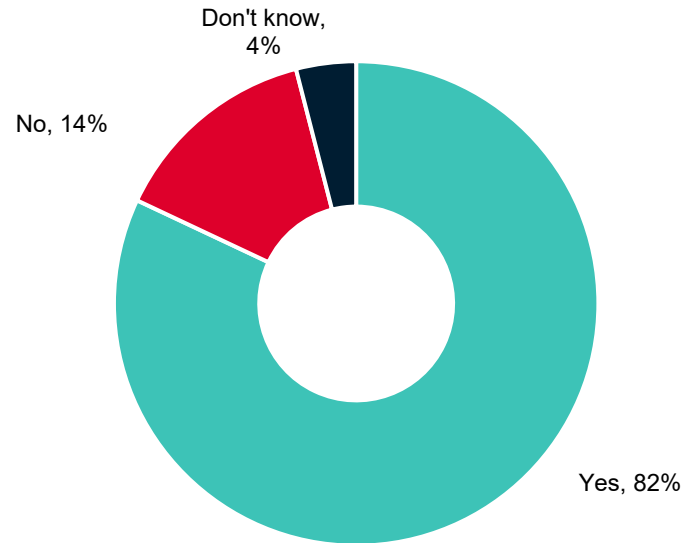
Source: GSMA Intelligence Operators in Focus
Service Assurance Operator Survey 2025

A third of operators lack full visibility – despite a majority with unified RAN-to-core platforms

Despite adoption of unified platforms, full visibility remains elusive. Some 82% of operators have a solution that can help them correlate the RAN to their core network. However, given that only 41% claim adoption of E2E data architectures, gaps likely persist in data collection across domains.

Correlation between RAN and core network

Do you currently use a unified platform to provide RAN-to-core network correlation?



N=100

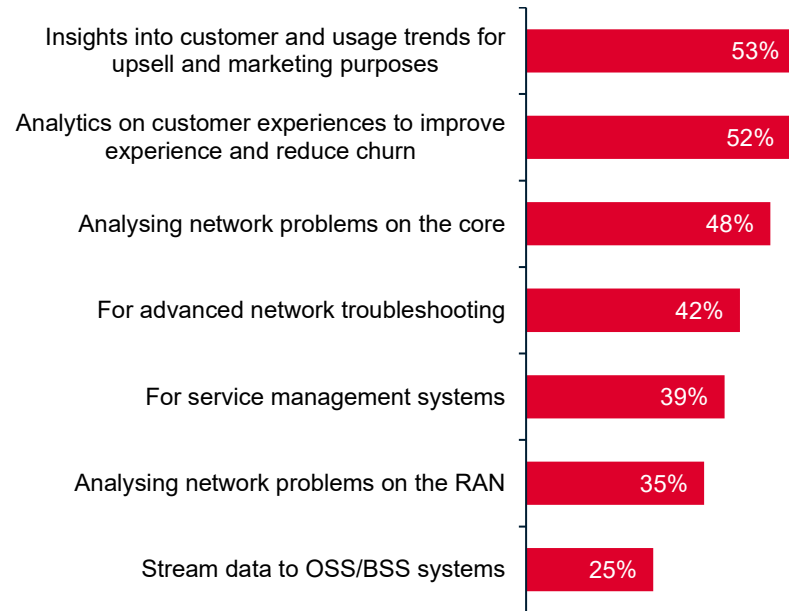
Source: GSMA Intelligence Operators in Focus
Service Assurance Operator Survey 2025

Operators are taking a customer-first approach to assurance

- **Customer focus drives assurance.** Operators depend on assurance solutions to give them greater insight into customer usage and spending patterns, with a view to shoring up the overall customer experience and driving NPS.
- **Network use cases lag behind.** Almost half of operators use assurance for core-related network issues. While customer experience is a key focus for operators, problems in the core network are an increasing focus.
- **Disconnect between assurance and OSS/BSS.** The survey points to a disconnect in that the multiple streams of data available to operators from analysis of their customers and parts of the network are not necessarily integrated with and streamed to existing OSS/BSS. While this may be work in progress, it could suggest a gap or opportunity for existing assurance platforms to fully integrate with these systems.

Top three current usages of network data

How are you currently using the data collected from the network?



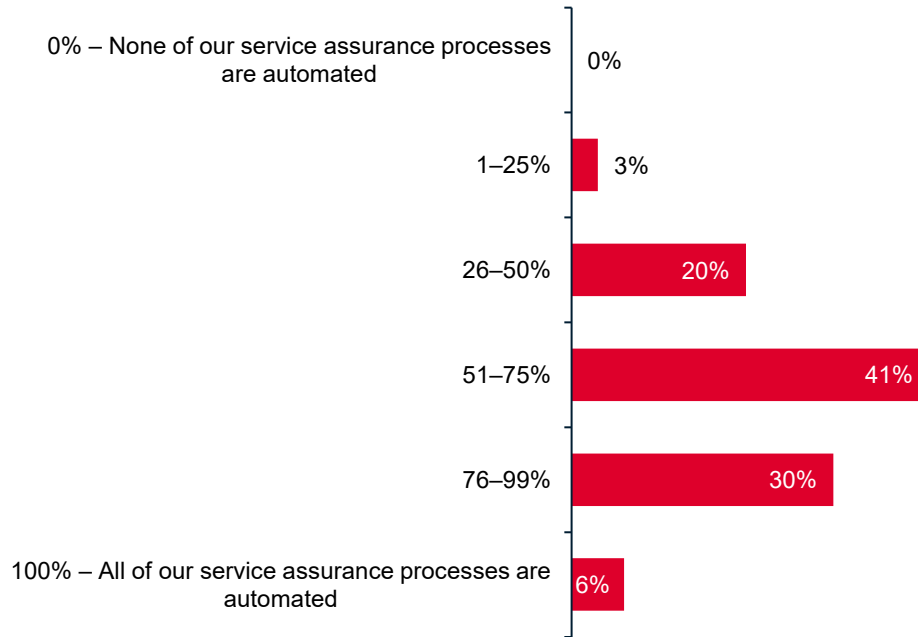
N=100

Source: GSMA Intelligence Operators in Focus
Service Assurance Operator Survey 2025

Automation of service assurance is just getting started; many operators have not made sufficient progress

Current extent of service assurance automation

What percentage of your service assurance processes are currently automated?



N=100

Source: GSMA Intelligence Operators in Focus
Service Assurance Operator Survey 2025

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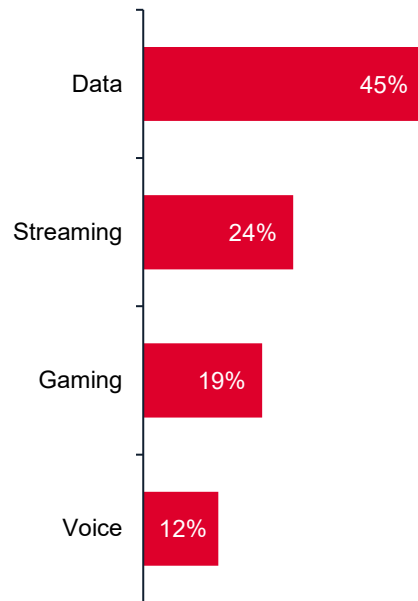
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Data services generate the highest level of complaints

- **Data generates the highest level of complaints.** The low level of complaints relating to voice is not surprising; it is a stable product segment and highly optimised on the network. Data is not, however. Depending on the specific operator, country, coverage areas and so on, data coverage and capacity can vary significantly, generating the highest level of complaints.
- **Streaming and gaming generate a significant level of complaints.** Streaming video and gaming are two of the biggest reasons for complaints, which would suggest usage is growing – as are expectations for service reliability. In line with mobile data challenges, patchy coverage and issues such as poor latency will cause lower levels of customer satisfaction.

Service with highest levels of complaints

What service generates the highest levels of complaints?



N=100

Source: GSMA Intelligence Operators in Focus
Service Assurance Operator Survey 2025

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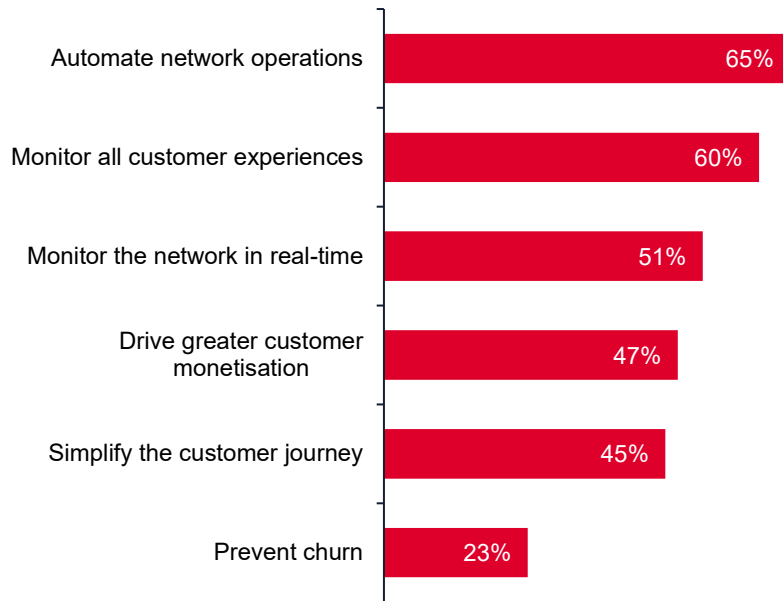
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Operators look to service assurance to address priorities

- **The network is a high priority.** Network automation remains a high priority for operators. This aligns with the finding that less than 10% of operators have full automation across their network.
- **Customer experience is a top priority.** Many operators still do not have a true 360-degree view of their customers; this remains a priority. Operators are also looking at ways to increase monetisation by leveraging deeper insights into their customers. A big part of increasing monetisation comes from simplifying the customer journey, which reduces churn and drives greater satisfaction.
- **Network monitoring is important.** Monitoring the network in real time is a priority for half of respondents, reflecting a gap in solutions capability to deliver real-time visualisation of the network.

Future service assurance priorities

What are your top three service assurance priorities over the next 12–18 months?



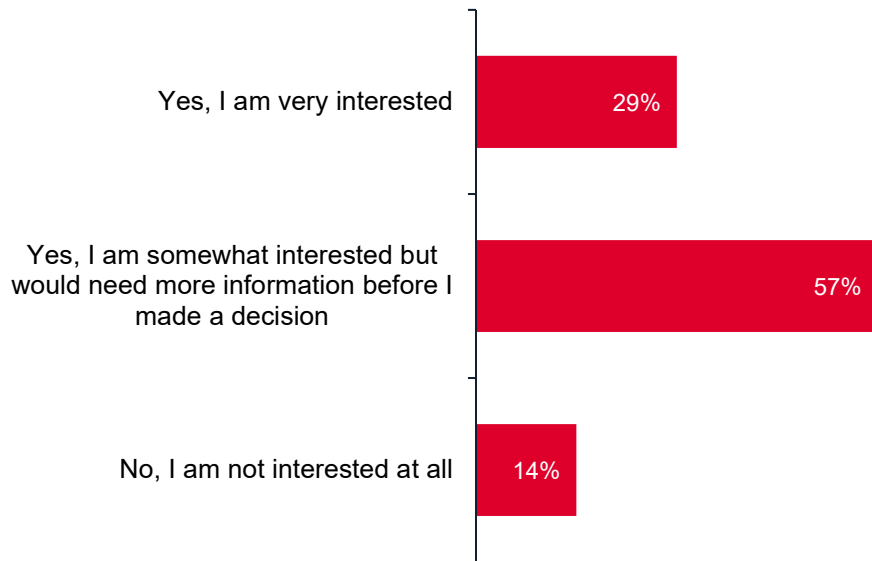
N=100

Source: GSMA Intelligence Operators in Focus
Service Assurance Operator Survey 2025

Significant interest exists in deploying unified platforms

Interest in deploying a unified platform

How interested are you in deploying a unified platform?



N=14

Note – small base size (those who do not currently use a unified platform to provide RAN-to-core network correlation)

Source: GSMA Intelligence Operators in Focus

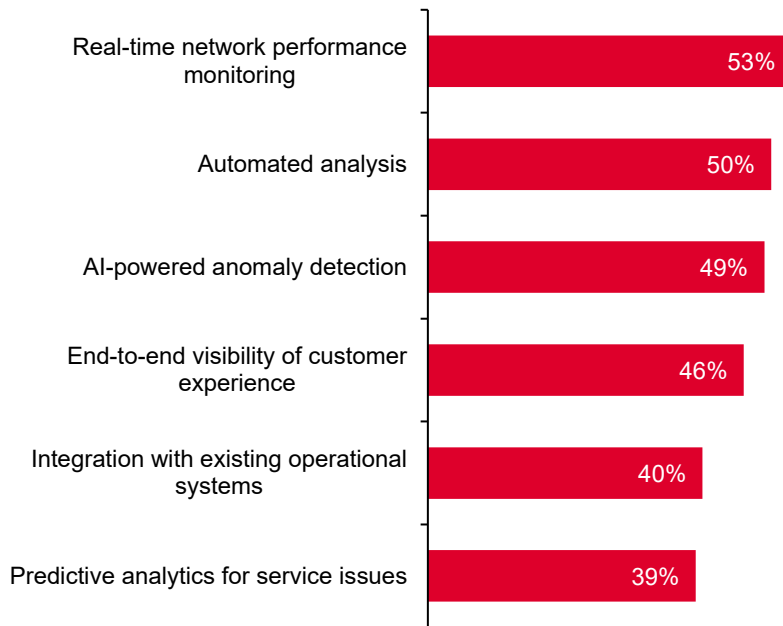
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Real-time network monitoring remains a key capability

Real-time monitoring and automation of network performance remain strong areas of interest for future assurance solutions, with anomaly detection and E2E customer experience visibility close behind.

Capabilities most valued in a next-generation service assurance and user analytics platform

Which capabilities would you most value in a next-generation service assurance and user analytics platform?



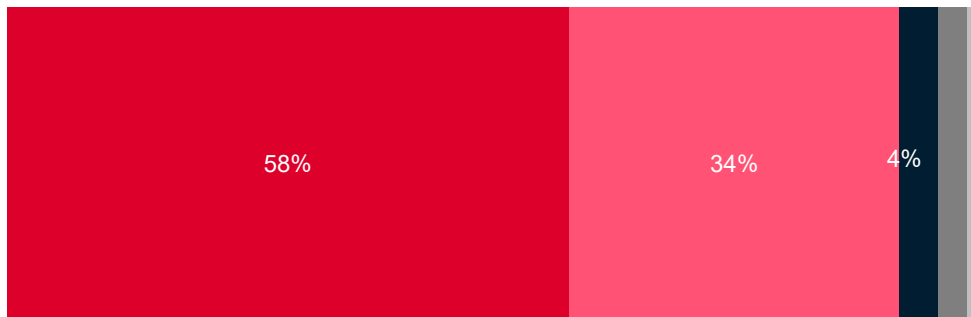
N=100

Source: GSMA Intelligence Operators in Focus
Service Assurance Operator Survey 2025

Operators need real-time data to automate network operations

Importance of real-time data for automating network operations

How important is it to access real-time data for automating network operations?



- Extremely important
- Somewhat important
- Neither important nor unimportant
- Somewhat unimportant
- Not at all important

N=100

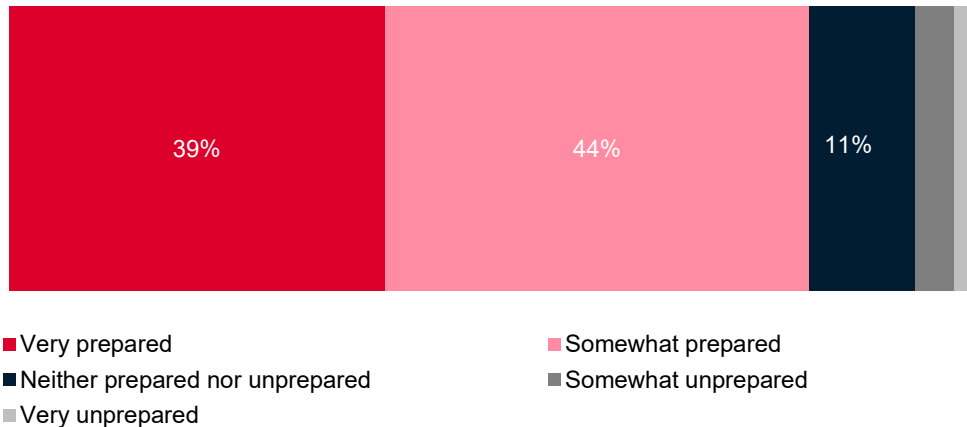
Source: GSMA Intelligence Operators in Focus
Service Assurance Operator Survey 2025

More than half of operators are somewhat prepared or unprepared to handle future workloads

Just over a third of operators surveyed claimed their networks were prepared to handle future workloads, with the majority only somewhat prepared or under prepared.

Network preparation to handle future workloads

How prepared is your network to handle future workloads – for example, those driven by industrial IoT, private 5G, generative and agentic AI or ultra-low-latency services?



N=100

Source: GSMA Intelligence Operators in Focus
Service Assurance Operator Survey 2025

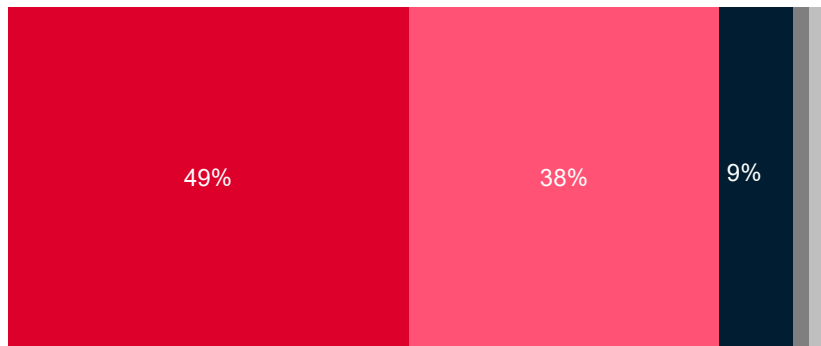
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AI will be critical for analytics across domains

Importance of AI-driven analytics

How important are AI-driven analytics?



■ Extremely important

■ Somewhat important

■ Neither important nor unimportant

■ Somewhat unimportant

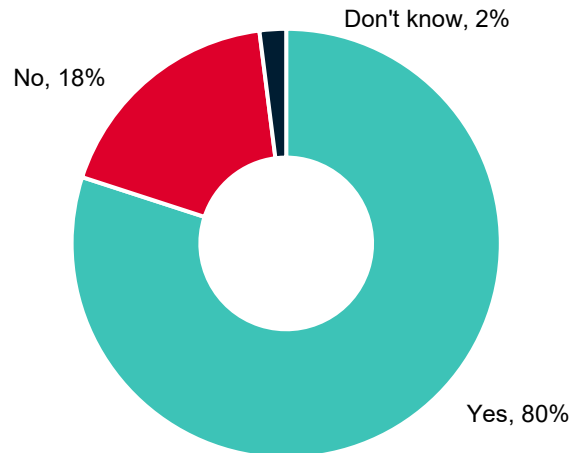
■ Not at all important

N=100

Source: GSMA Intelligence Operators in Focus
Service Assurance Operator Survey 2025

Current use of AI for insights

Are you currently using AI to generate network and customer related insights?



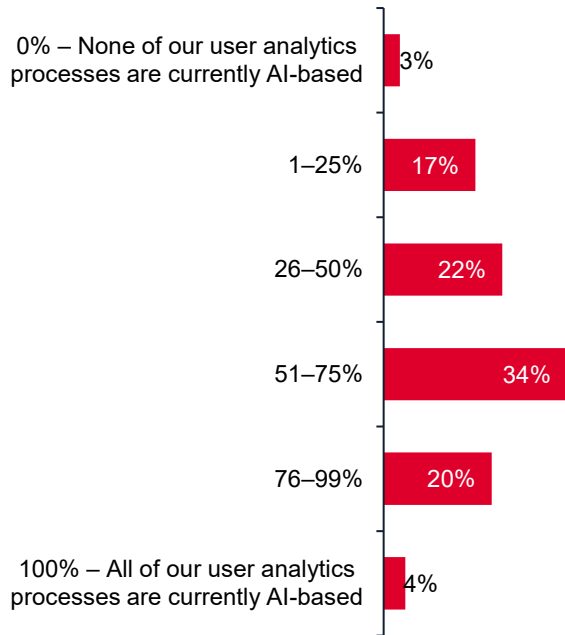
N=100

Source: GSMA Intelligence Operators in Focus
Service Assurance Operator Survey 2025

Most operators already use AI, with customer analytics, predictive analysis and automation among the key use cases

Current share of analytics processes that are AI-based

What percentage of your user analytics processes are currently AI-based?

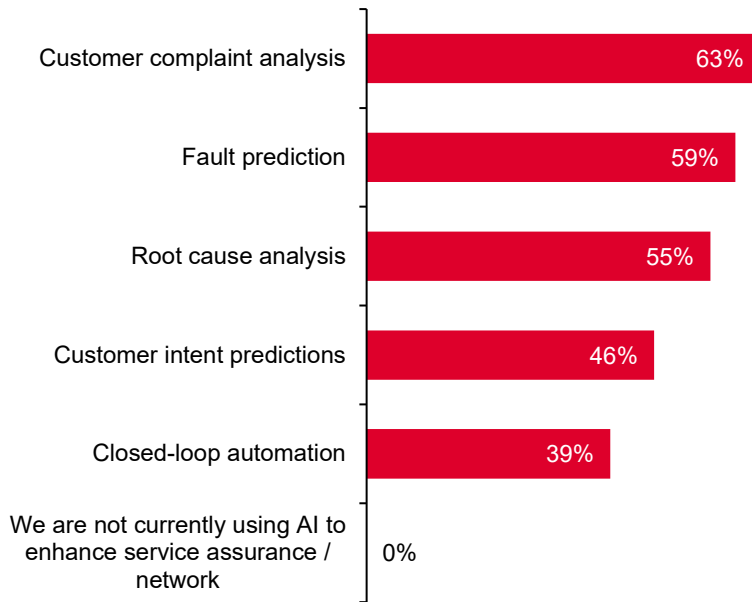


N=100

Source: GSMA Intelligence Operators in Focus Service Assurance Operator Survey 2025

Current use of AI to enhance service assurance/network

In what ways are you currently using AI to enhance service assurance / network?



N=100

Source: GSMA Intelligence Operators in Focus Service Assurance Operator Survey 2025

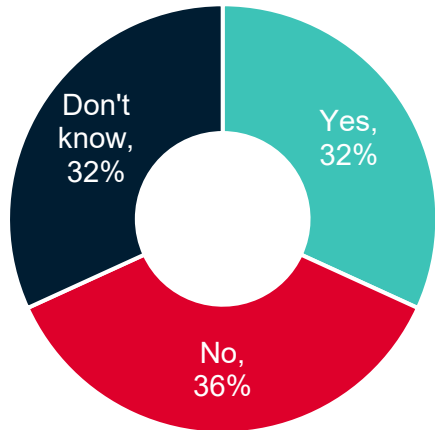
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A third of operators are planning for agentic AI, with many looking at deployments in 2026

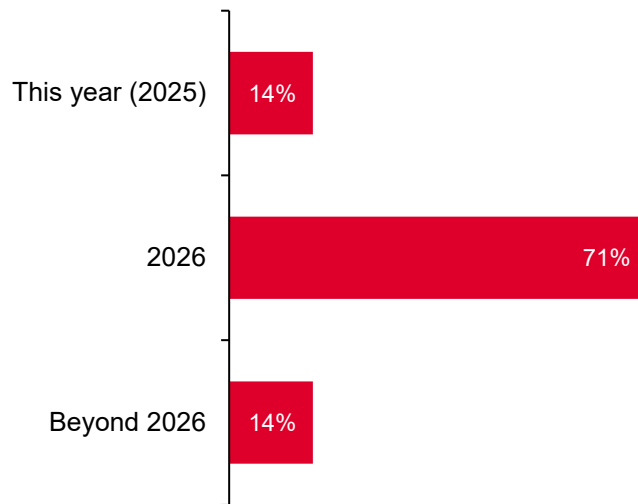
Plans to implement agentic AI

Do you have plans to implement agentic AI?



Timeline to implement agentic AI

When do you plan to implement agentic AI?



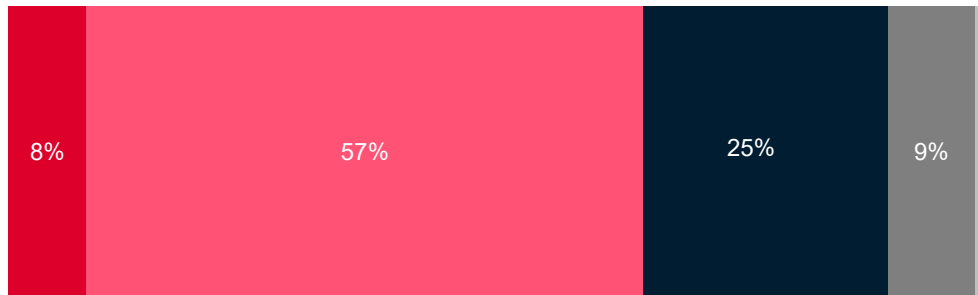
N=22. Note – small base size (those who have not started to plan implementation of agentic AI).
Source: GSMA Intelligence Operators in Focus
Service Assurance Operator Survey 2025

N=22. Note – small base size (those who have not started to plan implementation of agentic AI).
Source: GSMA Intelligence Operators in Focus
Service Assurance Operator Survey 2025

Operators are positive on the value of genAI and agentic AI to drive more efficient operations

Potential value of genAI and agentic AI on operations

What level of value do you believe genAI and agentic AI could bring to your operations?



■ Transformational value ■ High value ■ Moderate value ■ Limited value ■ No value at all

N=100

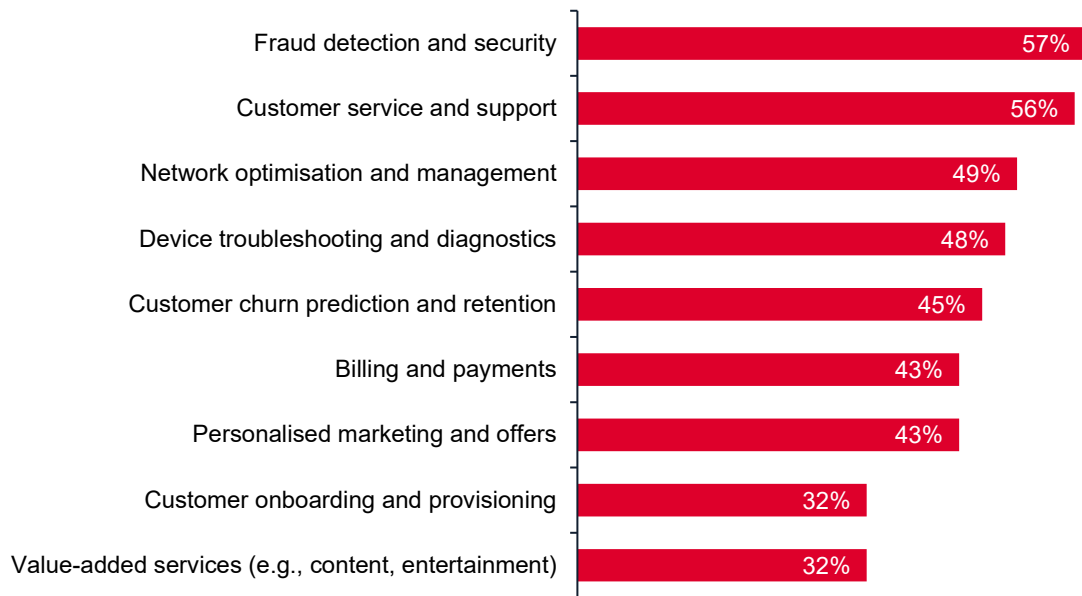
Source: GSMA Intelligence Operators in Focus
Service Assurance Operator Survey 2025

Customer service is among the top areas for agentic AI implementations

Almost half of operators surveyed have agentic AI plans for network automation and troubleshooting, while customer services and security remain top use cases.

Processes where agentic AI implementation is being planned

In which processes have you started to plan implementation of agentic AI?



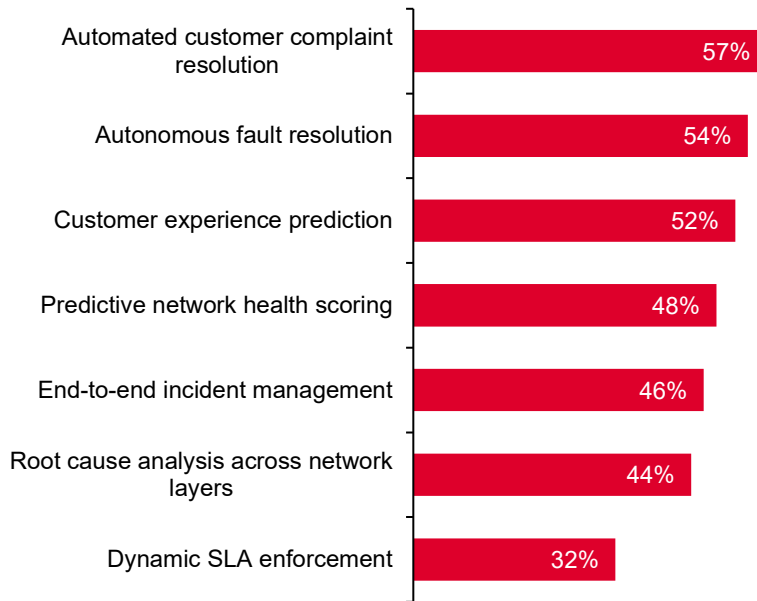
N=77 (those who have started to plan implementation of agentic AI).
Source: GSMA Intelligence Operators in Focus
Service Assurance Operator Survey 2025

Agentic AI is being evaluated for several use cases

While agentic AI adoption is currently focused on security and customer-service support, customer complaint resolution would be most valuable to operators, followed by autonomous fault resolution. Almost half claim predictive health scoring is a valued use case for agentic AI.

Areas where agentic AI would be most valuable

In which areas/use cases would agentic AI be the most valuable to your operations?



N=99 (those who believe agentic AI could bring value to operations).
Source: GSMA Intelligence Operators in Focus
Service Assurance Operator Survey 2025

