RADCOM

5G ASSURANCE OPERATOR SURVEY REPORT

JULY 2022

Survey conducted by
and report prepared by:

TECKNEXUS

SURVEY BACKGROUND

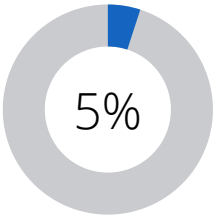
This report covers the results of the 5G assurance operator survey carried out by TecKNexus in June 2022 and sponsored by RADCOM. This is the second in a series of 5G assurance reports. The first was conducted a year ago.

The survey reflects responses from employees of communications service providers (CSPs) only. The report also includes a side-by-side comparison of this survey and the one conducted in 2021, when relevant.

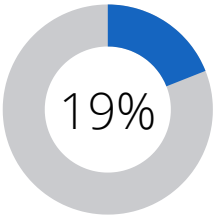
The questionnaire used in this online survey was written by RADCOM, sponsorer of the 2022 5G Assurance Operator Survey. The online survey was promoted by email to TeckNexus' service provider database and TeckNexus's 5G Magazine subscribers.

The survey includes 100 qualified responses from CSP employees who already have a live 5G mobile network in place or are currently deploying one. The respondents come from 34 different CSPs and are based across 25 countries.

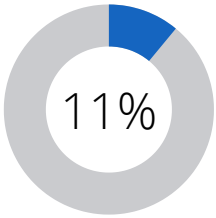
CSP respondents profile



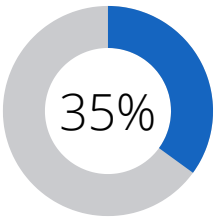
CXO



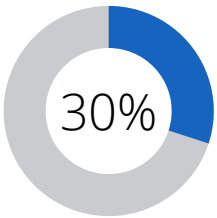
VP/AVP



Product Strategy/ Department Heads



Solution Architects & Solution Consultants



Network Engineers/ Technical Managers

SURVEY FINDINGS

1. The primary business driver for 5G Standalone deployments is network slicing, which necessitates assurance to ensure compliance with the service level agreement (SLA) of the 5G slices.

2. Automation for improving service and network operations, such as automating the assurance capabilities to enable closed-loop assurance, is the top business priority for network teams and has the highest impact on service quality.

3. Offering end-to-end (RAN to Core) network monitoring is the most important feature when selecting a service assurance vendor for 5G.

4. Monitoring end-to-end (RAN to Core) and utilizing Artificial Intelligence (AI) and Machine Learning (ML) service assurance methodologies will ensure a better customer experience in 5G.

5. End-to-end KPI/KQI monitoring troubleshooting capability provides the most value for 5G network assurance.

6. Handover between 4G and 5G is critical for service assurance monitoring.

7. The most important function of AI/ML to enhance service quality is detecting network anomalies automatically for service assurance and NWDAF.

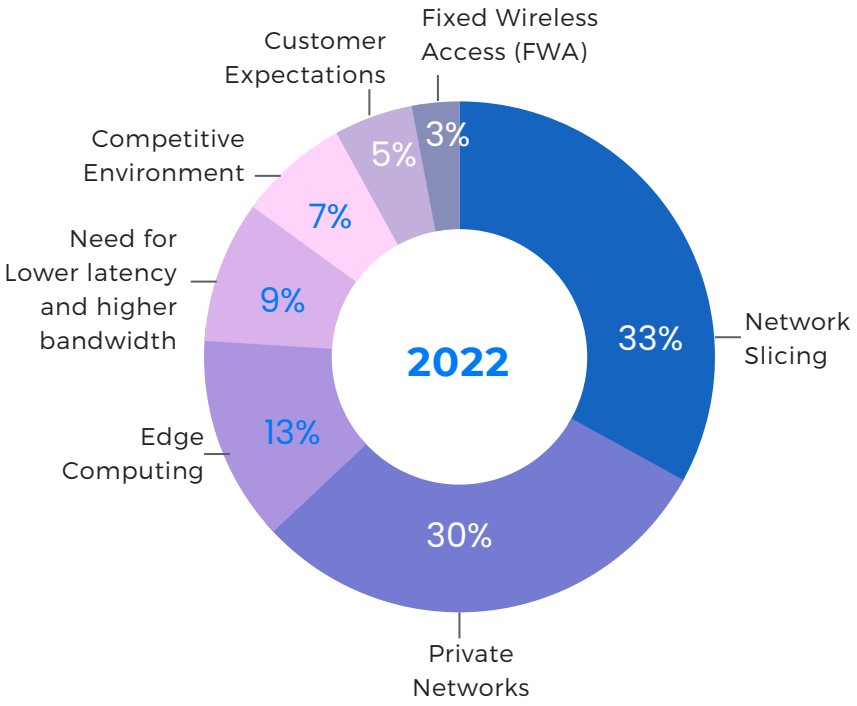
8. Feeds from fault and performance management systems, in addition to network data are critical for network teams to monitor to ensure customer satisfaction.

9. Network Data Analytics Function (NWDAF) will be implemented by around 70% of CSP respondents in the next 24 months, which is critical for enabling closed-loop network operations and automated assurance.

Which is the top business driver for 5G Standalone (SA) deployments?

01

The charts below show what is driving CSP respondents to 5G Standalone deployments in the recent 2022 survey and 2021 survey.



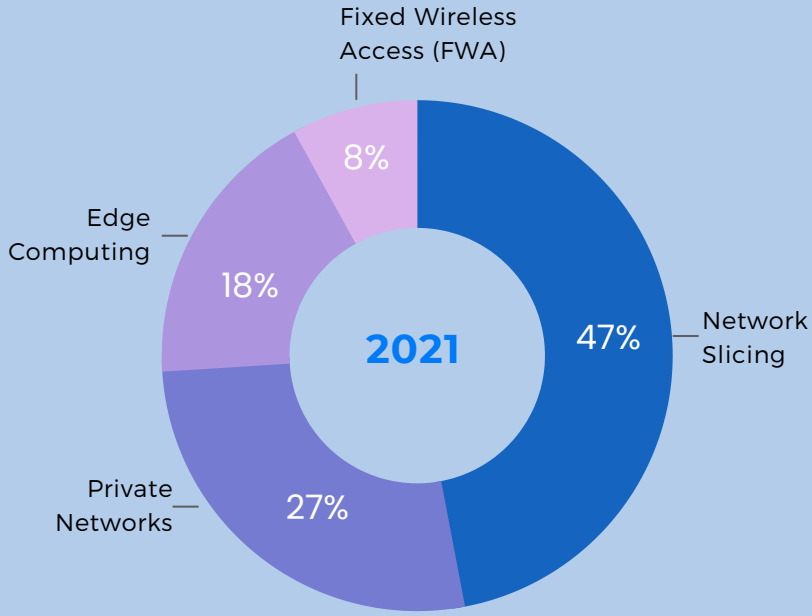
According to our survey, although network slicing continues to be the most significant driving force for 5G SA deployments, the proportion of respondents decreased by 14%.

Respondents who believe private networks are the top driver for 5G SA grew by 3%. The requirement for "lower latency and higher bandwidth" opted by 9% of the respondents is typically relevant for enterprise use cases in the private network deployments. Combining the two, the total adds up to 39%, exceeding those who advocate network slicing as the top 5G SA driver.

According to the 2022 and 2021 CSP surveys

NETWORK SLICING

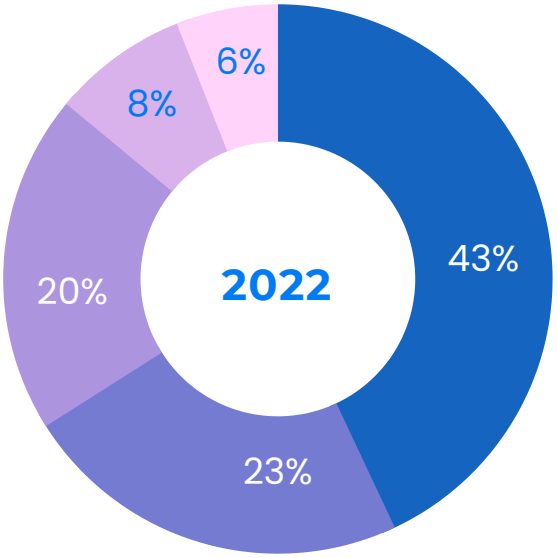
is the primary business driver for 5G SA deployments.



As you launch 5G, what is the top business priority for your network teams?

02

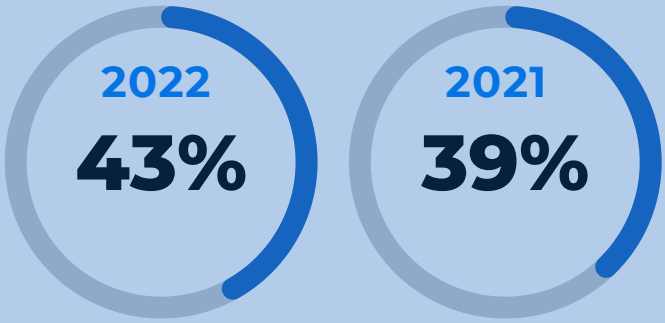
The charts below show CSP respondents' top business priorities for network teams in 2022 and how they compare with the related survey in 2021.



- Automate to improve network operations.
  This is a 4% increase from the 2021 survey response of 39%.
- Understand what degradations affect the customer experience, and by that reduce churn.
  This is a 4% decrease from the 2021 survey response of 27%.
- Leverage AI/ML to automatically detect network anomalies.
  This is a 4% increase from the 2021 survey response of 16%.
- Improve 5G subscriber onboarding.
  There is no change from the 2021 survey response of 8%.
- Monitor advanced 5G service quality.
  This is a 4% decrease from the 2021 survey response of 10%.

AUTOMATE TO IMPROVE NETWORK OPERATIONS

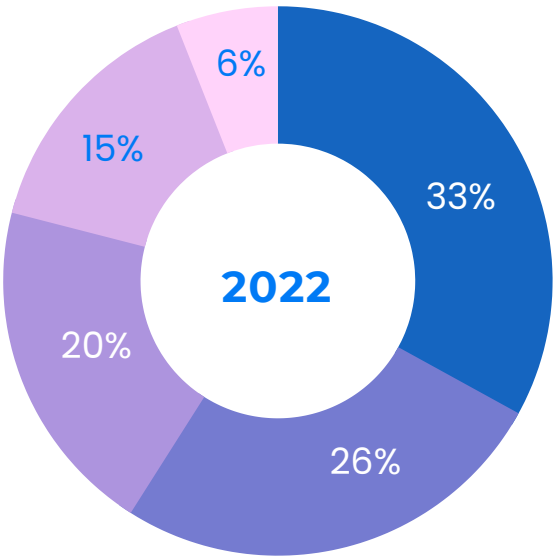
Is the top business priority for network teams, according to both 2022 and 2021 CSP surveys.



Which of the following has the highest impact on improving 5G service quality?

03

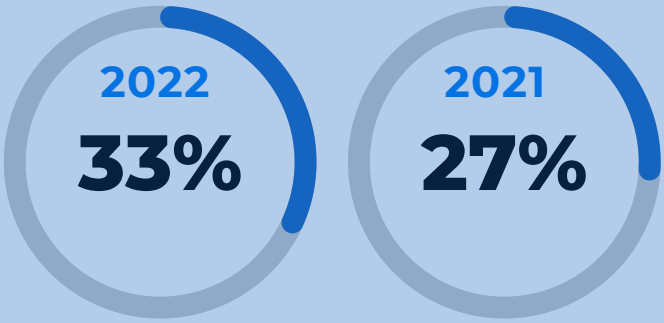
The charts below show what is CSP respondents' view on the feature that has highest impact on improving 5G service quality, according to the 2022 survey and how they compare with the related survey in 2021.



- Service and network automation.
  This is a 6% increase from the 2021 survey response of 27%.
- Predictive analytics.
  This is a 4% increase from the 2021 survey response of 22%.
- Monitoring KPIs/KQIs/QoS.
  This is a 3% increase from the 2021 survey response of 17%.
- Network troubleshooting.
  There is 4% decrease from the 2021 survey response of 19%.
- Monitoring customer experience indexes.
  This is a 10% decrease from the 2021 survey response of 16%.

SERVICE AND NETWORK AUTOMATION

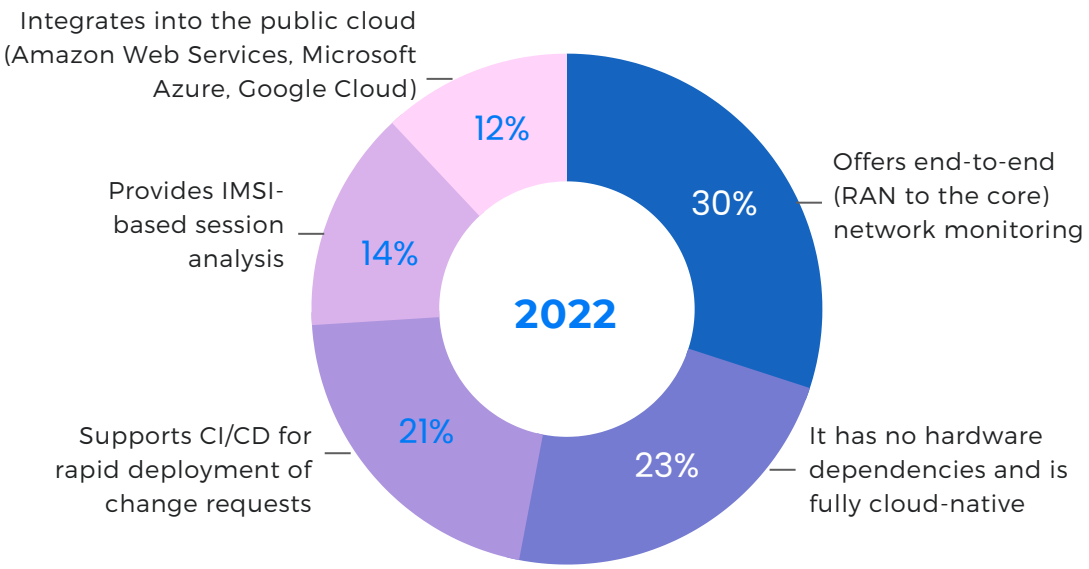
has the highest impact on improving 5G service quality, according to both 2022 and 2021 CSP surveys.



Which of the following features is the most important when selecting a service assurance vendor for 5G?

04

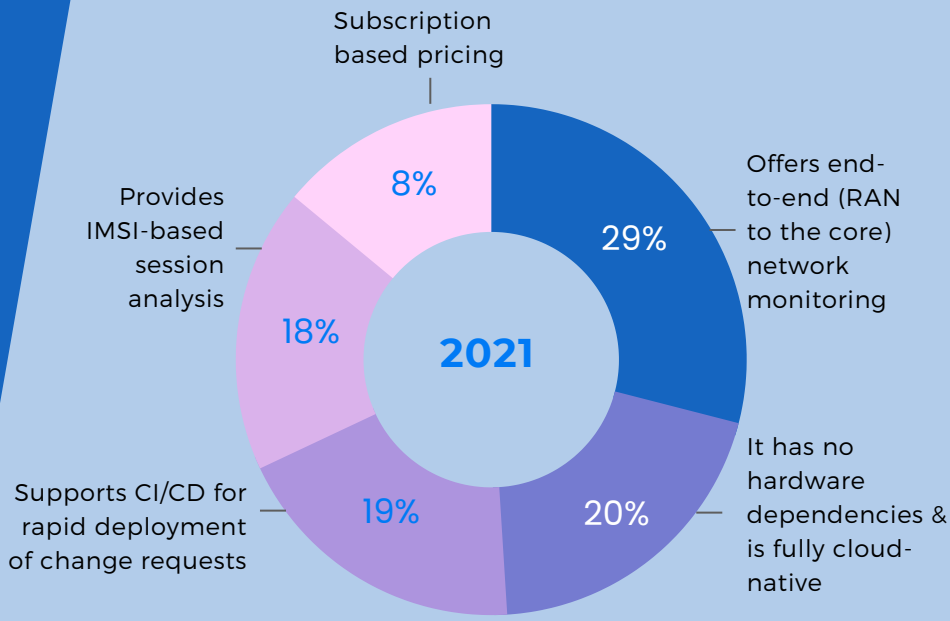
The charts below show what CSP respondents believe is the most important feature when selecting a service in the recent 2022 survey and 2021 survey.



According to the 2022 and 2021 CSP surveys

OFFERING E2E (RAN TO THE CORE) NETWORK MONITORING

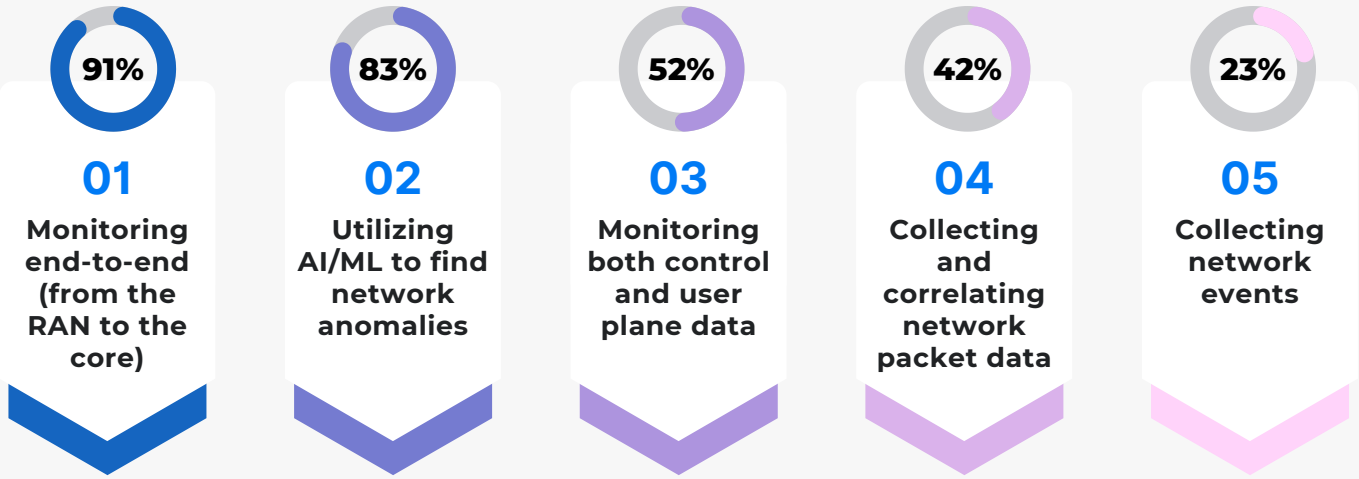
is the most important feature for selecting a service assurance vendor.



Choose the TOP THREE service assurance methodologies your organization will be using to ensure the customer experience in 5G?

05

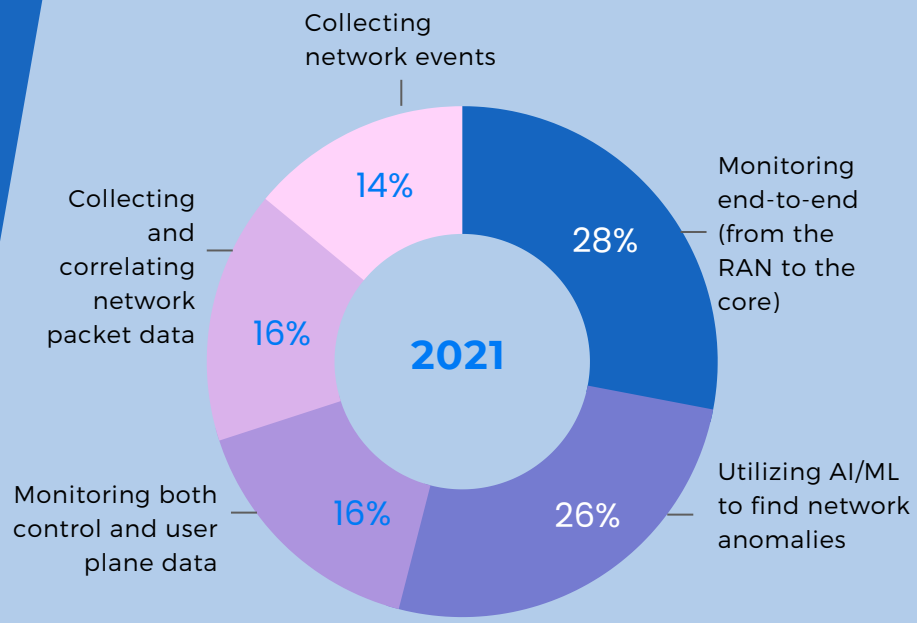
The charts below show what CSP respondents believe is the most important feature when selecting a service in the recent 2022 survey and 2021 survey.



According to the 2022 and 2021 CSP surveys

MONITORING END-TO-END (FROM THE RAN TO THE CORE)

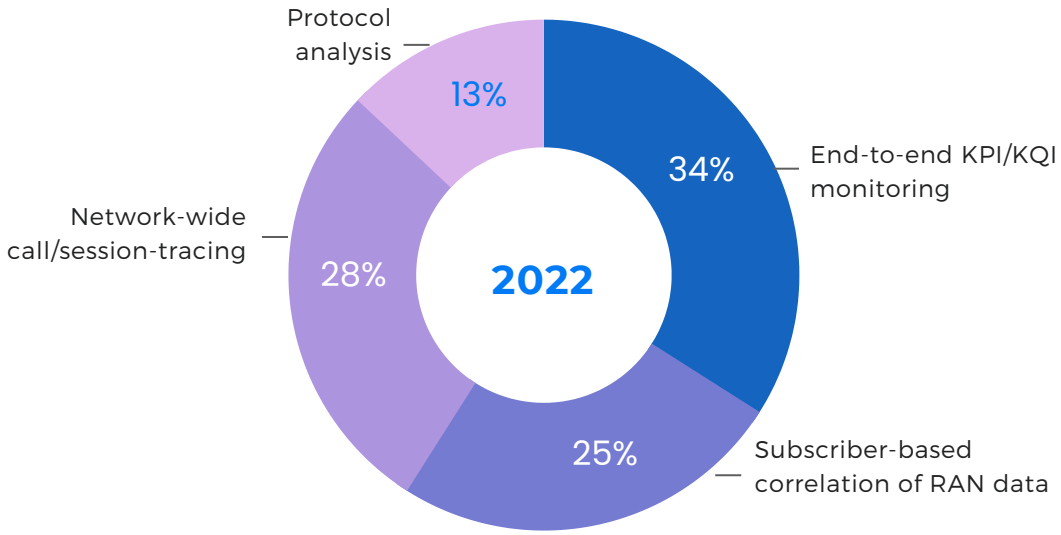
is the top service assurance methodology an organization will use for ensuring customer experience in 5G



Which of the following troubleshooting capabilities provides the most value for 5G network assurance?

06

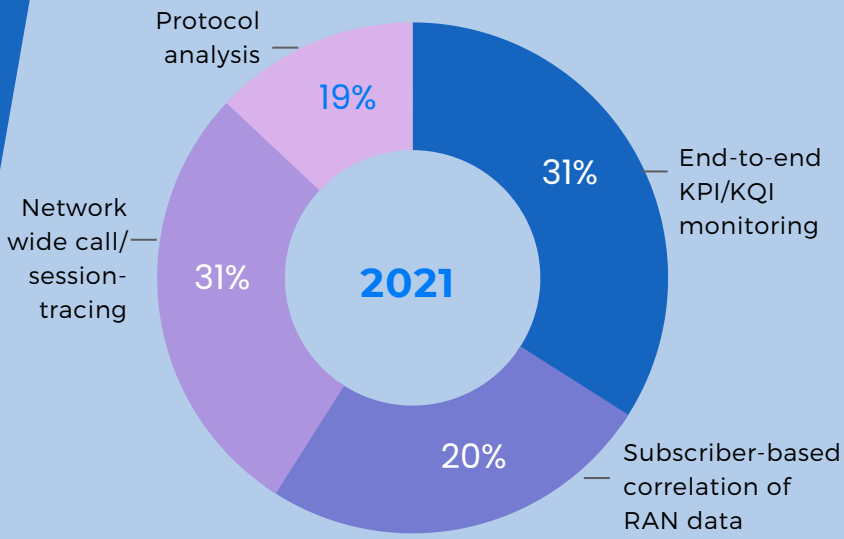
The charts below show which troubleshooting capabilities CSP respondents believe would provide the most value for 5G network assurance in the recent 2022 survey and 2021 survey.



According to the 2022 and 2021 CSP surveys

END-TO-END KPI/KQI MONITORING

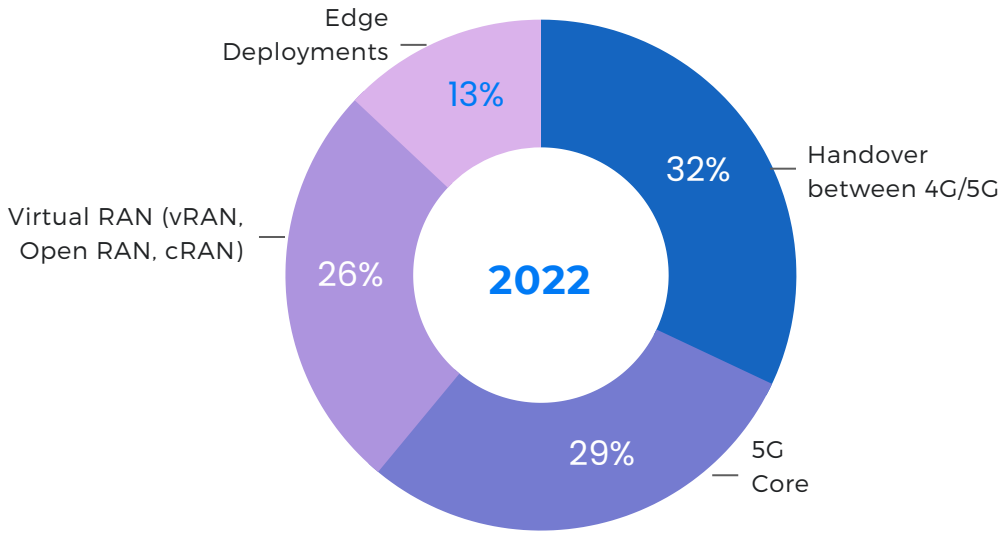
troubleshooting capability provides the most value for 5G network assurance



What aspect of the 5G network is the most important for service assurance to monitor?

07

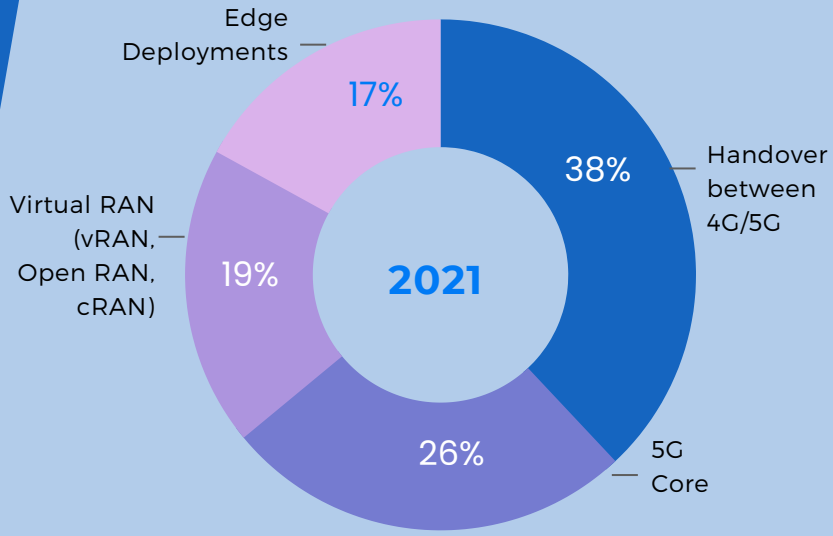
The charts below show which aspect of the 5G network is the most important from the CSP respondent's point of view for service assurance to monitor in the 2022 and 2021 surveys.



According to the 2022 and 2021 CSP surveys

HANDOVER BETWEEN 4G/5G

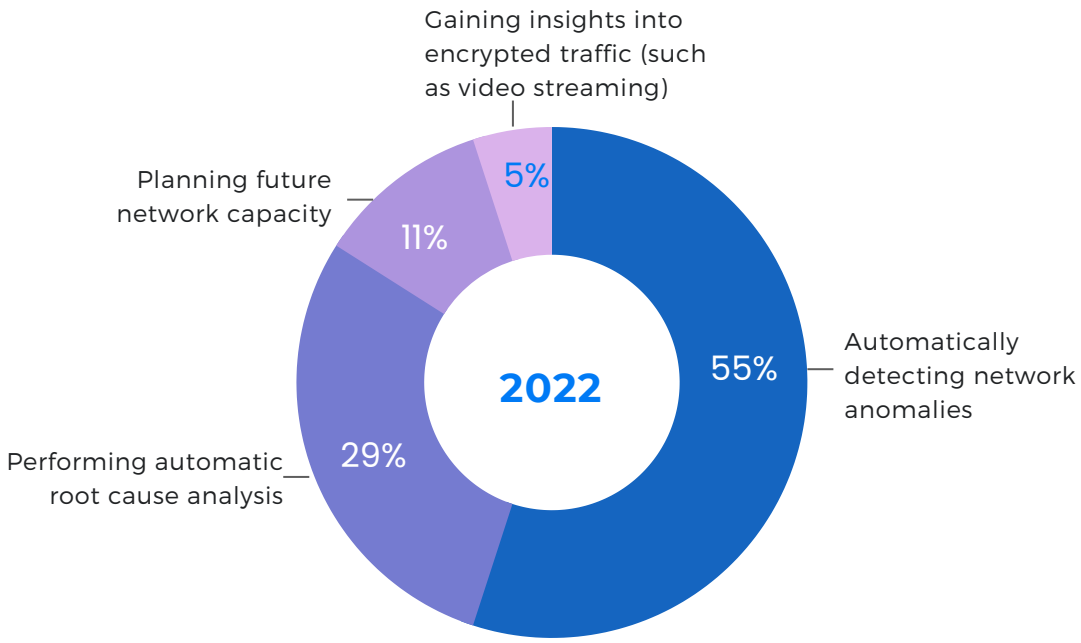
is the most important for service assurance to monitor.



What do you see as the most important use case for Artificial Intelligence (AI) and Machine Learning (ML) to improve service quality?

08

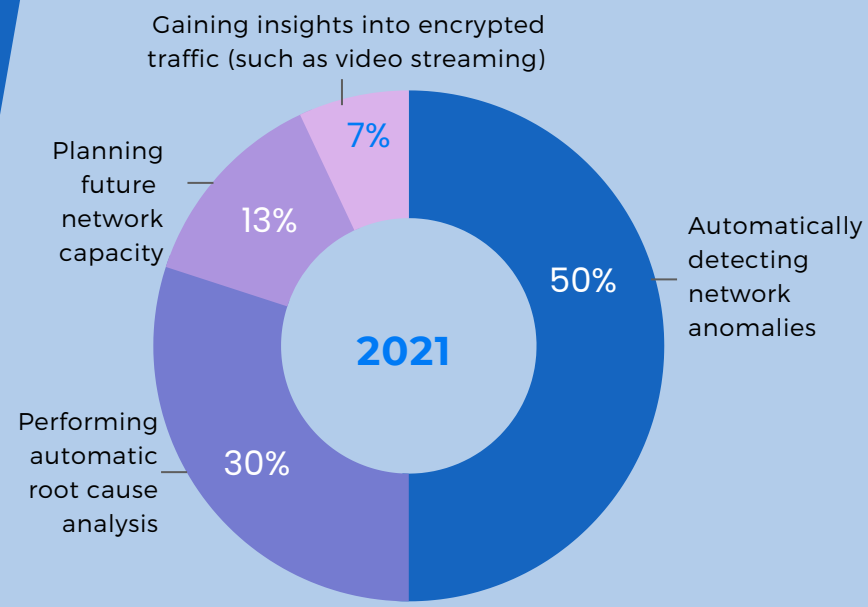
The charts below show CSP respondents' choice of use cases for AI/ML to improve service quality in the 2022 and 2021 surveys.



According to the 2022 and 2021 CSP surveys

AUTOMATICALLY DETECTING NETWORK ANOMALIES

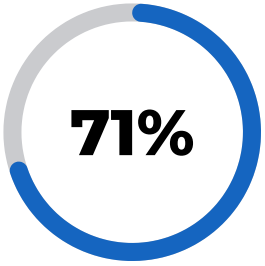
is the most important use case for AI/ML to improve service quality.

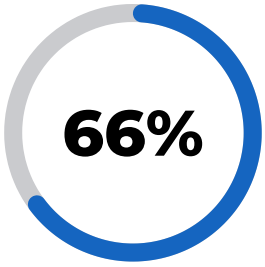


What are other data points (aside from network data) critical for network teams to monitor to ensure customer satisfaction?

09

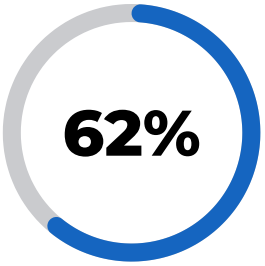
1 Feeds from fault and performance management systems

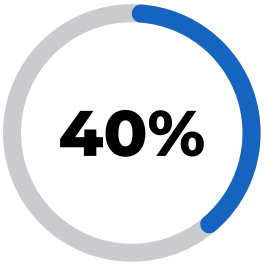




2 Data from customer experience management solutions

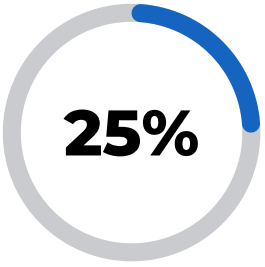
3 Complaints handled by customer support





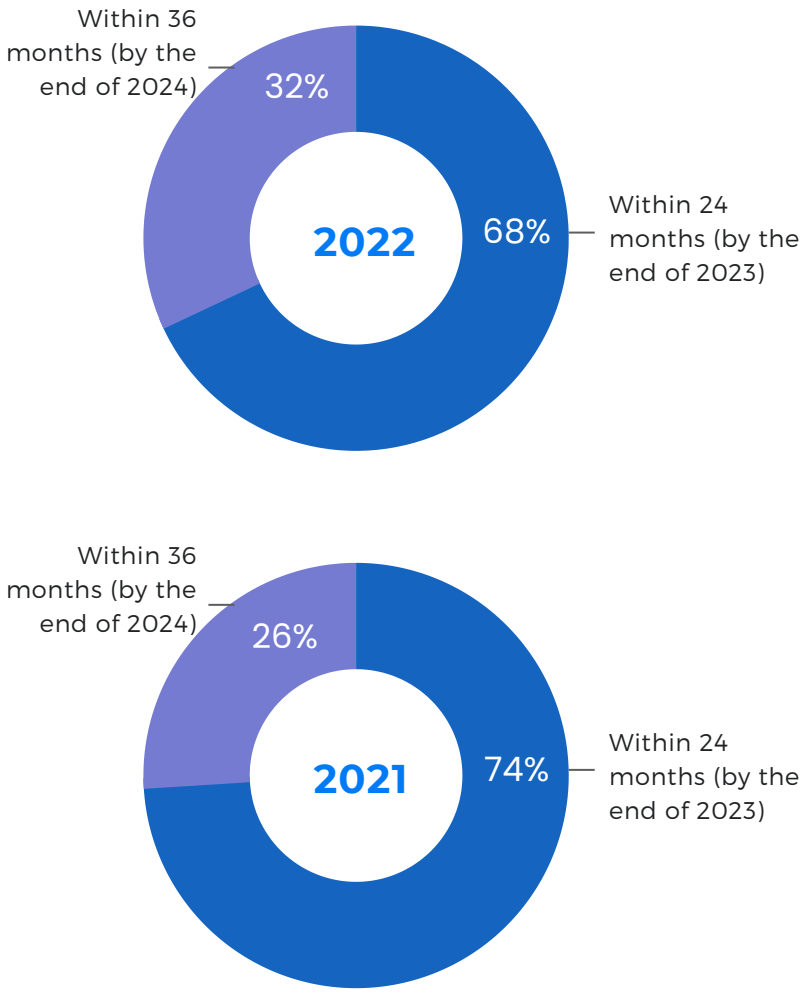
4 Over-the-top applications and services (WhatsApp, Netflix, etc.)

5 Social media feeds



When does your organization plan to implement the Network Data Analytics Function (NWDAF) in the 5G core?

10



NWDAF is a 3PPG standard function that streamlines the way data is produced and consumed in 5G to provide real-time insights and enable enhanced customer experience.

NWDAF addresses three primary standardization points:

- Data collection interface from network nodes
- Predefined analytics insights
- Data exposure interface for consumers

RADCOM Network Data Analytics Function (NWDAF) is a 3GPP standards solution for 5G to provide real-time, analytics from the RAN to the core. Get details on RADCOM NWDAF solution here.

68% **respondents plan to implement NWDAF within 24 months (by the end of 2023)**

32% **respondents plan to implement NWDAF within 36 months (by the end of 2024)**

1 Pre-Launch Stage

Optimize end-to-end network performance

- Evaluate new network equipment
- Optimize vRAN/oRAN deployments
- Pinpoint network degradations
- Troubleshoot network performance
- Monitor multi-cloud environments
- Perform packet analysis and session-tracing
- Rapidly resolve network issues

2 Launch Stage

Enhance the customer experience

- Smartly monitor E2E service quality
- Understand customer issues and reduce churn
- Gain visibility into 5G onboarding
- Analyze handset and device issues
- Utilize a CI/CD pipeline to assure the 5G network
- Leverage AI/ML to detect network anomalies
- Use ML to gain insights into encrypted traffic

3 On-Going 5G Rollout

Assurance: the key to unlocking 5G potential

- Smartly monitor eMBB services in real-time
- Monetize latency-sensitive services
- Assure SLAs of your virtual network slices
- Use NWDAF for closed-loop automation
- Proactively monitor IoT services
- Ensure edge networks with micro-probes
- Optimize mmWave deployments

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