GlobalData.

5G Mobile Core: Competitive Landscape Assessment

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Glen Hunt

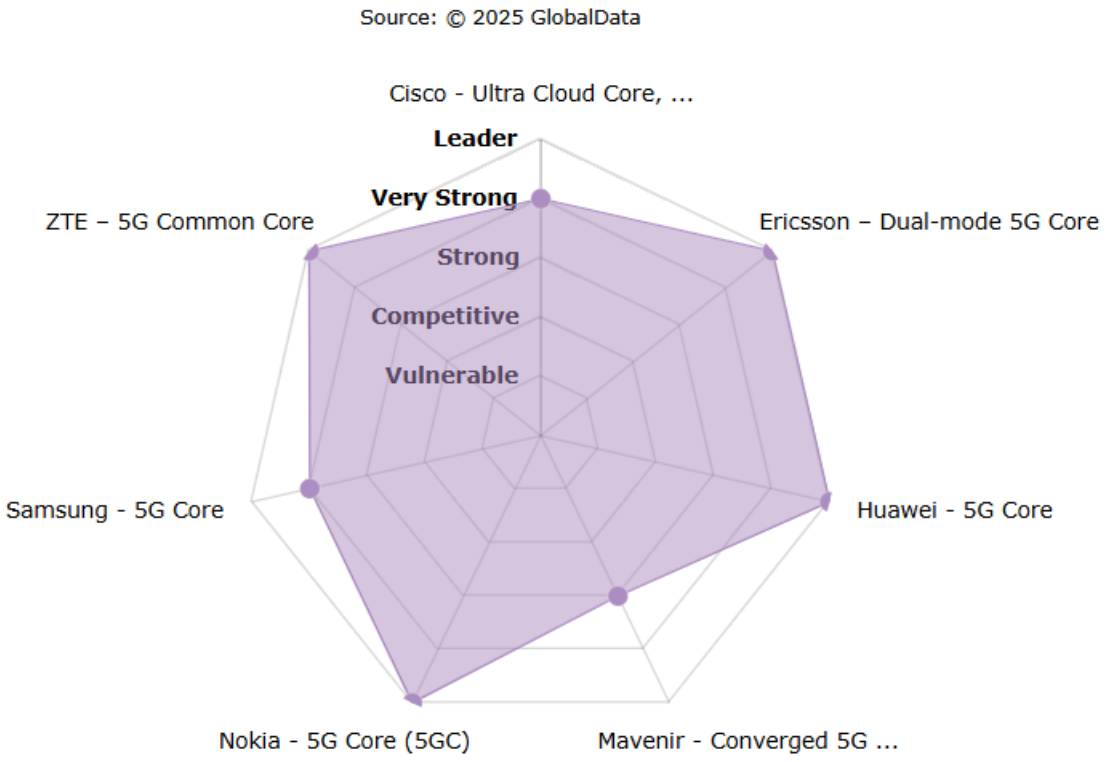
COMPETITIVE LANDSCAPE ASSESSMENT – 5G Mobile Core

REPORT SUMMARY:

5G standalone core networks emerge, after multi-year CapEX constraints, to advance multi-cloud deployment models and deliver new 5G-Advanced services - network monetization, security, and system resilience are critical "must haves" for all CSPs.

PRODUCT CLASS SCORECARD

GlobalData.



MARKET OVERVIEW

Product Class	5G Mobile Core (5GC)
Market Definition	The 5G mobile core competitive landscape report covers vendor solutions supporting 3GPP's 5G mobile core. Telco operators have transitioned their core networks to support 5G non-standalone, which leverages the 4G LTE core and 5G radios to support all generations of mobile traffic. 5G standalone (SA) networks are emerging to support multi-cloud deployment models, provide cloud economics, and address issues such as cost, footprint, performance, reliability, and security that meet demanding service criteria. The 5G SA network model supports incumbent operators as well as private network use cases and is an ideal solution for greenfield deployments. Current 5G networks support enhanced mobile broadband (eMBB); however, to realize the full potential of 5G, the market requires support for applications that require low latency, higher performance, and a user plane distributed closer to the end user, like multi-access edge computing (MEC). For ultra-reliable low-latency communications (URLLC) services to be successful, the operator's mobile network infrastructure must also include 5G transport capable of deterministic performance specified in IEEE 802.x Time Sensitive Networking (TSN) specifications. A broad ecosystem is developing to foster innovation and provide operators with new avenues to monetize 5G investments.
Rated Competitors	• Cisco - Ultra Cloud Core, Ultra Packet Core, Cloud Services Stack for Mobility • Ericsson – Dual-mode 5G Core • Huawei - 5G Core • Mavenir - Converged 5G Packet Core • Nokia - 5G Core (5GC) • Samsung - 5G Core • ZTE – 5G Common Core
Changes Since Last Update	• Removed Casa from the report. • Removed Microsoft Azure Operator 5G Core (AO5GC) from the report. • **Cisco**: Cisco expanded its Agile Services Networking to deliver real-time visibility for on-network and off-network connectivity and end-to-end assurance. This enables visibility from home- and mobile-connected users through to service provider core networks and off-net cloud-delivered services. Cisco and AT&T announced a digital buying experience that makes it faster and easier for businesses everywhere to take advantage of 5G fixed wireless access (FWA). Telus leveraged Cisco’s Mobility Services Platform with 5G for connected cars paving the path for carmakers to drive better experience and services over mobile networks. • **Ericsson**: Ericsson launched its Compact Packet Core to facilitate modernization of the CSP’s current Packet Core to cloud native for both 4G and 5G, with a footprint-optimized solution that reduces deployment complexity. Chunghwa Telecom and Ericsson have deployed a joint solution on a live 5G SA network enabling enterprises to activate on-demand network slicing services. Ericsson launched its Site Digital Twin (ESDT) and generative AI to predict congestion, enhance network capacity, and maintain smooth 5G downlink speeds.

Ericsson and Econet signed an agreement at MWC 2025 to introduce 5G core to support the deployment of 5G SA, expand core network capacity, and enable service exposure functionality.
Telkomsel and Ericsson strengthen strategic collaboration at MWC 2025: Enhancing 5G network performance with far edge core solutions and AI & 5G talent development.
Chunghwa Telecom and Ericsson partnered to accelerate 5G Advanced and pave the way to 6G, and Ericsson partnered with One New Zealand on multi-year core modernization to deliver future-ready connectivity and security.

- **Huawei**:

At MWC 2025, Huawei announced the launch of its AI Core Network, marking a transformative leap from AI-powered to AI-native infrastructure.
At MWC 2025, Huawei released six Huawei Cloud Stack-based scenario-specific solutions for carriers, as well as a Telco2Techco Cloud Leap Program for operational efficiency and new revenue generation.
At MWC 2025, Huawei's Global Technical Service unveiled ICT Services and Software CO modernization, intelligent operations for MBB cross-domain service keepalive, mobile network NPS improvement, differentiated service experience monetization and assurance, and enhanced mobile money.

- **Mavenir**:

Mavenir announced that Italian operator EOLO selected its 5G SA core for Europe's first 5G SA mmWave FWA network to deliver broadband services across Italy.
Mavenir and e& UAE announced a multi-year strategic technology partnership at MWC25 for collaboration in the converged 5G core.
Mavenir announced it was selected by ice Norway for network slicing applications for the Norwegian armed forces.
Mavenir announced its selection by OXIO to power the next generation of mobile virtual network operators (MVNOs).
Mavenir and Terrestar achieved industry first satellite voice over NB-IoT call in NTN Mode.
Tu Atea and Mavenir partnered to pioneer 5G SA private networks.
Mavenir's energy-efficient 5G UPF solution earned the Leading Lights Network Energy Efficiency Award.

- **Nokia**:

Nokia introduced intent-driven network automation, delivering cloud-native declarative intents, continuous reconciliation and composable, independent, closed-loop automation.
Nokia introduced GitOps-based life cycle management to provide a consistent view across all system functions by linking and exposing the status of all associated resources.
Bharti Airtel deployed Nokia's Packet Core appliance-based and FWA solutions for its growing 4G/5G customer base. The solution integrates 5G and 4G technologies into a single set of servers.
Bite Group and Telefonica Spain both selected Nokia's Packet Core appliance-based solution for advanced 5G services, network simplification, and enterprise use cases.
O2 Telefónica in Germany and Nokia announced the deployment of its 5G standalone core software on Amazon Web Services (AWS). The rollout provides ultra-low latency to deliver advanced 5G services, like extended reality and network slicing, which require instant availability and greater bandwidth capacity.
AT&T extended its voice core relationship with Nokia for new services, reduced deployment times, and improved operational efficiencies; deployment included the Nokia Cloud Platform, 5G IMS Voice Core, and Digital Operations software.
2degrees signed a six-year deal for Nokia's Cloud Native Communication Suite (CNCS) to streamline network activities, enhance automation, and minimize manual intervention.
Boost Mobile deployed Nokia's cloud-native 5G Voice Core for advanced services, network automation, and cloud utilization; deployment included the consolidation of IMS voice 3GPP functionalities using CNCS.

- **Samsung**:

Samsung did not provide updated information of this report update cycle, which is based on publicly available information.
Samsung and SK Telecom and trialed the next-generation 5G core network, which enables operators to install and deploy customized solutions and services.
Samsung KT Corporation (KT) announced its selection to deploy a private 5G network for the 'Smart Naval Port' project by the Republic of Korea (ROK) navy.
Samsung's Compact Core now integrates an Edge Enabler Server (EES) for mobile edge computing (MEC), application server, cloud platform, and Element Management System (EMS) to provide access to network services which are isolated, private, high-performing and secure.

- **ZTE**:

ZTE released its AI Core, which integrates AI capabilities from the network layer, business layer, and operation and maintenance layers.
ZTE launched its AIR Core solution, which has evolved from being cloud-native to AI-native, serving as a 5G and Edge AI all-in-one solution for the converged edge.
ZTE enhanced its OneVoiceCore solution with an AI plug-in engine, as well as UPF built-in large language model (LLM) for intelligent business recognition and key quality indicator (KQI) measurement.
ZTE completed a 5G multi-cast broadband solution (MBS) pilot test in the China Radio and Television Network, noting that it is ready for commercial deployment.
ZTE announced the launch of a prototype DeepSeek-based core network real-time communication agent; and in collaboration with China Mobile and Alibaba Cloud, ZTE has been awarded the GSMA GLOMO "Open Gateway Challenge" for its capability exposure solution.
ZTE and Red Hat have signed an MoU to establish a joint Innovation lab, to drive AI-powered automation and open-source innovation.

MARKET ASSESSMENT

The market for 5G services is projected to have a significant impact on the global economy - publicly available estimates suggest that there will be 1.2 billion connections by the end of 2025. Operators globally have invested heavily in technology to deliver on the promise of 5G. According to GSA, as of January 2025, over 154 operators, or 24.7% of the operators that are investing in 5G licenses, have launched 5G standalone services in public networks. Further, GSA notes 1,603 organizations are deploying private mobile networks based on LTE or 5G (11.5% are using 5G SA).

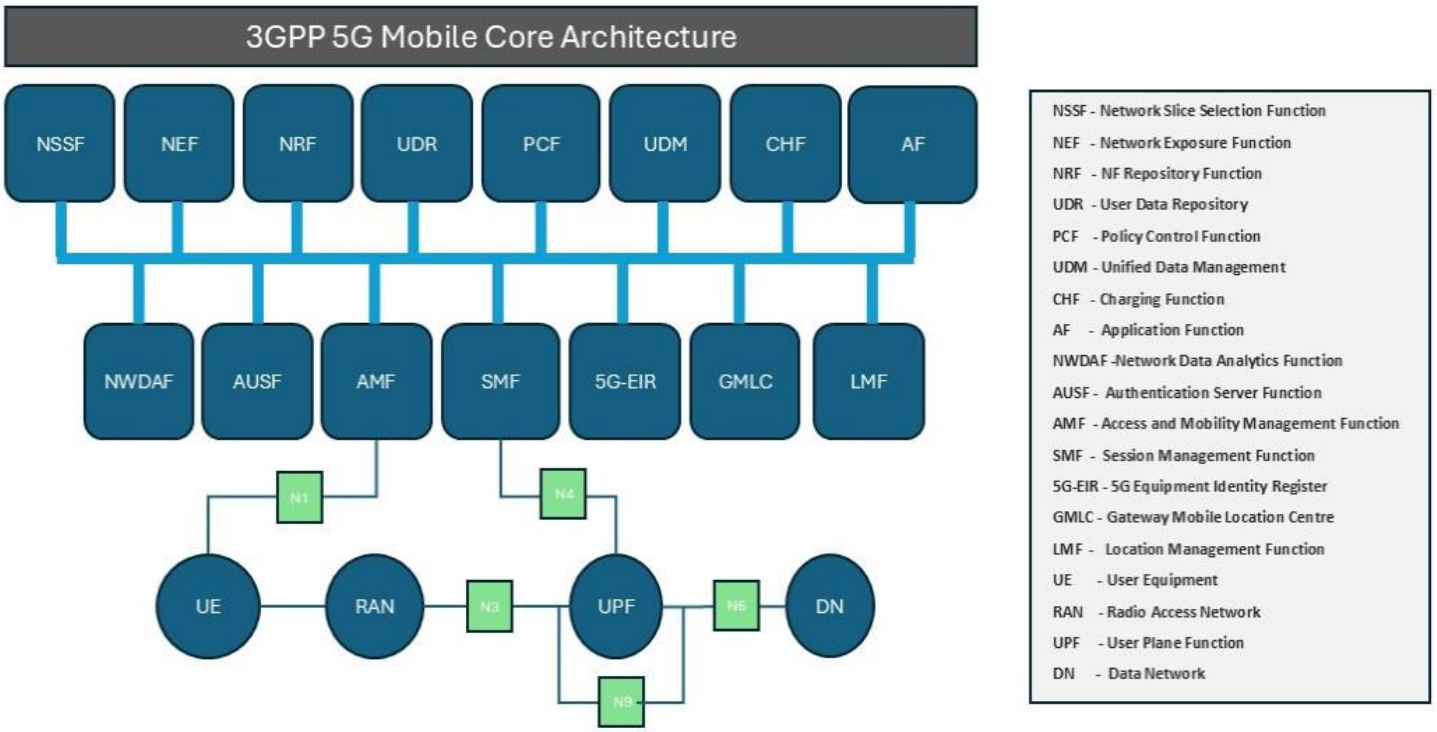
Non-standalone (NSA) deployments have become commonplace, and SA deployments are expected to accelerate in 2025 as operators expand their service offerings. 5G SA mobile core (5GC SA) solutions have reached a level of maturity that enables efficient and reliable network operations.. In addition, the rigorous stream of standards developed by organizations such as 3GPP and ETSI, and forums such as the Cloud Native Computing Foundation (CNCF), TM Forum, ONAP, and the O-RAN Alliance, has provided a solid implementation roadmap for vendors and operators. Technologies such as cloud-native, microservices, hybrid cloud services, common databases, and open-source software components, open APIs, and applications have also matured and provide an established foundation of the 5GC.

Autonomous networking, artificial intelligence/machine learning (AI/ML), and continuous innovation/continuous deployment (CI/CD) are rapidly becoming ingrained in operator networks. Vendors have introduced automation and visibility capabilities that are crucial to manage the complexities of designing and managing networks. Performance and reliability are also key to enabling operators to deliver on the promise of 5G while optimizing the return on investment and providing an always-on service.

Incumbent operators have followed a stepwise progression to balance revenue growth with investment, but greenfield opportunities have moved forward without the added burden of legacy service support. 5GC vendor solutions also support multiple generations of mobile traffic with a common software architecture

and provide flexible migration strategies that help operators preserve 4G (and to a limited degree 2G voice/3G data) revenues while transitioning to 5G.

The following diagram provides a high-level view of the 3GPP 5GC architecture.



Source: Derived from 3GPP 5G Core Standards

All mobile core solutions covered in this report meet basic 5G functionality requirements.

Basic 5G capabilities:

- Support network virtualization (a 5G NSA requirement), and 5G New Radio (5G NR) functionality.
- Support a cloud-native architecture (a 5G SA requirement) and offer, or identify as on the roadmap, the majority of 3GPP Release 17/18 functionalities.
- Provide migration tools and offer professional services to assist operators in the transition from legacy (4G LTE) to NSA, and NSA to SA.
- Support the rollout of 5G SA services such as private 5G and select Industry 4.0 use cases.
- Support all previous generations of mobile services - 4G, 3G, and 2G (voice), although 3G networks are nearing shut down, 2G voice remains crucial for developing markets (e.g., Africa, India, Eastern and Central Europe) but is succumbing to RedCap for IoT services.

Enhanced 5G Functionality (5G - Advanced)

Operators moving beyond basic eMBB require the following capabilities:

- Support key capabilities of 3GPP Release 18 and preparing for subsequent Release 19/20 leading to 6G.

- Enhancements include IMT-2020 alignment, V2X, IoT, automation, enhancements for URLLC, broadcast services, end-to-end-slicing, advance voice services, layered end-to-end security, private networks, FWA, cloud-based mobile core deployment, and edge-based services.

- Broad utilization of cloud resources (edge cloud and public cloud) to support new deployment models.

- Advancements in performance, security, and reliability (solution maturity) as networks scale to meet 5G service demands.

- Leveraging AI and autonomous networking to drive down OpEx and support complex mobile services. AI will permeate the network and become operationalized and improve time required to deploy new services (TTM).

5G SA Challenges

Operators are moving forward with their 5G SA plans but are ensuring that business cases are well-developed before further investment.

5G networks have become mainstream, and network outages that impact services have a detrimental impact. Operators have noted that additional testing will be necessary due to the complexity of 5G SA technology. Despite attention to reliability and resiliency, the market experienced multiple service-impacting outages during 2024. Network outages were a result of equipment misconfigurations, faulty software updates, and natural disasters.

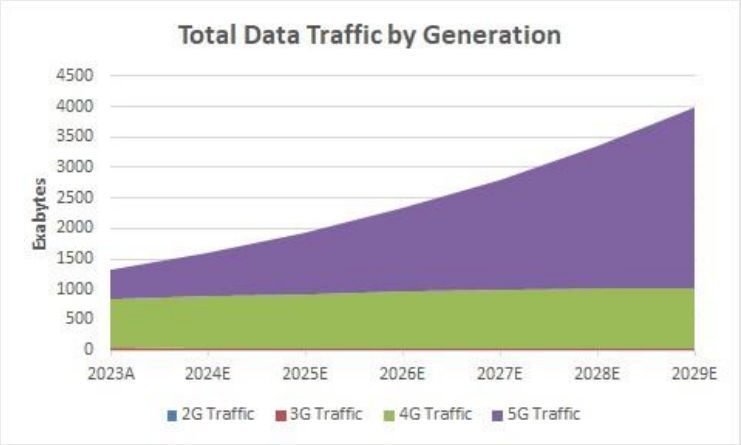
- AI will be deployed to improve service resiliency across all layers of the mobile core and extended to provide not only corrective actions for failures but defend against potential service-impacting events on a network wide level.

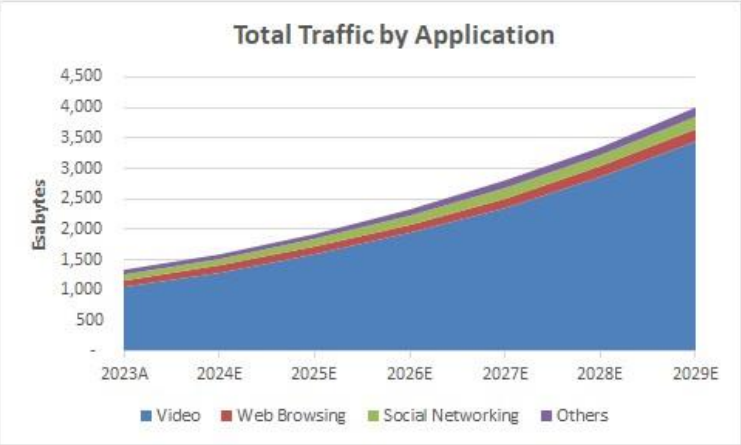
- Non-terrestrial networks (NTN) are gaining prominence and will place additional complexity on the network, by adding an additional access method. According to GSA, by March 2024, there were 77 publicly announced partnerships between operators and satellite vendors across 43 countries and territories. The principle use case is to provide rural coverage.

- CSP spending on 5G infrastructure experienced a slowdown in 2023-2024, especially in North America, which had an impact on most mobile core suppliers. The lag in 5G spending is expected to recede, driven by operators seeking to find incremental value-added services and private/industrial use cases.

MARKET DRIVERS

- **Traffic and Subscriber Growth:** GlobalData's Mobile Broadband Forecast identified 5G as the dominant mobile traffic type effective 2025. Significant portions of 5G projected growth are based on private cellular and edge-based services, which necessitate a 5G SA core. Effective ARPU from 5G Advanced services is expected to be significantly greater than that of 4G (2025-2029). The graphs below show the traffic projections by generation and traffic type through 2029.





Source: GlobalData Mobile Broadband Forecast, March 2025

- **5G NSA and SA Deployment Landscape:** The GSA reports (January 2025) 154 operators have invested in 5G SA, (24.7% of the operators investing in 5G technologies), while 67 have launched 5G SA services, with another 27 conducting trials, planned, or actual deployments. GSA had collated information about 1,603 organizations known to be deploying private LTE or 5G mobile networks, or known to have been granted a license suitable for the deployment of a private LTE or 5G network.
- **Monetizing 5G Services (B2B, B2B2C):** Operators seek to better monetize 5G investments. This includes offering private networks, FWA, and industry 4.0 solutions. Effective support for new services requires completing the transition to 5G SA. Many operators are moving slowly with their SA transitions, balancing investment cost, risk, and ROI. According to GSA's FWA operator survey, operators are turning to FWA as the key driver for monetizing 5G network investments.
- **Network Slicing:** Network slicing enables operators to address new use cases. 5G SA provides the foundation for enterprise slices with improved SLA and security. Solutions that provide end-to-end slicing are now being deployed with 5G SA, virtual RAN, and devices such as Android 12 iOS/13 iOS-based smartphones that can select a traffic profile.
- **Autonomous Networking:** End-to-end network automation is critical to address network complexity, reduce time to service, and constrain operational expenses (OpEx). AI/ML and CICD are needed to improve overall customer experience and lifecycle management. Automation of device configuration and discovery have been the initial focus; however, attention to intent-driven service automation and network insights have moved to the foreground. Slicing solutions that span device, RAN, and core, especially virtual and open RAN, take center stage.
- **Solution Maturity:** Network resilience is a major factor in 5G SA networks. The complexity of the technology is a key concern for operators, which are under stringent network availability requirements. This issue has come to the forefront with several notable network outages that have impacted services for extended periods of time (several hours) and have cost operators dearly in terms of regulatory fines and public scrutiny.

BUYING CRITERIA

- **Solution Architecture and Resiliency:** This metric evaluates the solution architecture and functions identified in the 3GPP architecture (graphic shown above), including support for SBA, CUPS, and MEC. The metric also evaluates support for network slicing, traffic management, and signaling models. Resiliency has risen as a top concern as operators scale to support growing traffic, expand 5G use cases, and transition from 5G NSA to SA.

- **Solution Maturity:** This metric evaluates commercial progress based on vendor-supplied metrics and evaluates the number of reported live NSA and SA deployments, network scale, and operator diversity including partnerships, traffic volume, subscriber profiles, and the range/types of supported 5G services.
- **Standards and Leadership:** This metric evaluates vendor participation in relevant standards organizations and industry forums that promote 5G adoption. Also, participation in open-source and cloud-native initiatives, API standardization, IoT, MEC, and network slicing, and new 5G voice capabilities are taken into account.
- **Solution Performance:** This metric evaluates overall hardware requirements and options such as SmartNICs, control plane scale, user plane maximum and sustained data rates, latency, and energy savings features through the use of AI/ML to achieve optimal power savings.
- **Migration Support:** This metric evaluates support for multiple migration paths to 5G while providing support for 4G/LTE and a level of legacy services. The metric evaluates support for NSA options (EPC with 5GC, 5G EPC with 5G NR) and the ability to migrate from NSA to SA. The metric also evaluates pre-integrated solutions (private 5G, Industry 4.0, and compact pre-integrated 5G core), OAM tools, training and consulting services provided directly or through strategic partners.
- **Autonomous Networking:** This metric evaluates automation methodology, operations, maintenance (OAM), lifecycle management, and the level of AI/ML intelligence. Operators prefer open source-based solutions, which requires vendors to package and augment these capabilities with portals, application suites including analytics and machine learning and programmability (APIs) and flexibility.
- **Multimedia Support:** This metric evaluates voice service support including converged voice core, VoLTE, VoNR, voice service migration/fallback schemes, new 5G voice services (5GNC, New Calling Services), and enhanced IMS (cloud-native, data channel, and roaming) capabilities.
- **Private - Public Cloud Support:** This metric evaluates the solution's ability to operate in various hybrid cloud deployment models and details the level of integration with key public cloud providers like AWS, Azure, Google Cloud, Alibaba, and others. The range of edge and cloud-based services are also considered. Deployments leveraging public cloud services are ramping up as operators offer and trial new service options and pursue vertical market opportunities.

VENDOR RECOMMENDATIONS

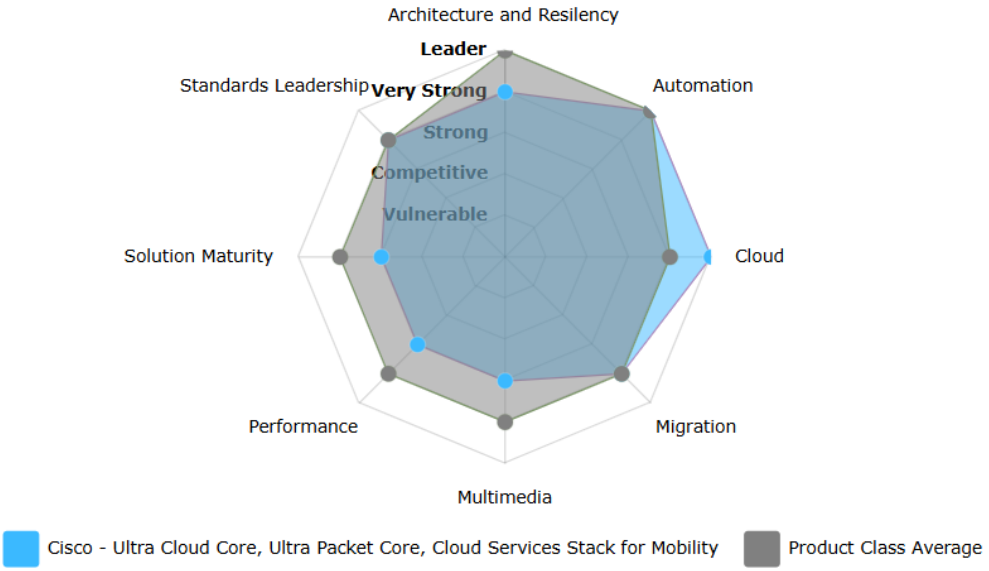
- **AI and ML are Top of Mind:** Operator focus for 2025-2026 is on monetization of their 5G network infrastructures to grow top line revenues as well as expand network services beyond eMBB. All vendors of mobile core and related solutions must demonstrate credible use cases that leverage AI/ML to deliver improved efficiency, high resiliency (zero service outages), and support for advanced 5G SA-based services.
- **Cloud and Automation - Now Baseline:** Vendors must advance their cloud deployment and network automation strategies to provide operators with multi-cloud options and the ability to reduce operational complexity through Level 3 and Level 4 automation, per the TMforum AN Journey Guide. Vendors need to collaborate with operators to define and implement best practices at the network level to ensure service resiliency and performance.
- **New Services a Must Have:** Vendors need to provide advanced migration tools and professional services to help operators deploy 5G SA as soon and seamlessly as possible. Vendors should highlight past migration experiences as proof points that the transition can be cost-effective and readily support new advanced services such as 5G calling, AR/VR, mobile VPN, FWA, private network, and platform-based industrial 4.0 solutions.

BUYER RECOMMENDATIONS

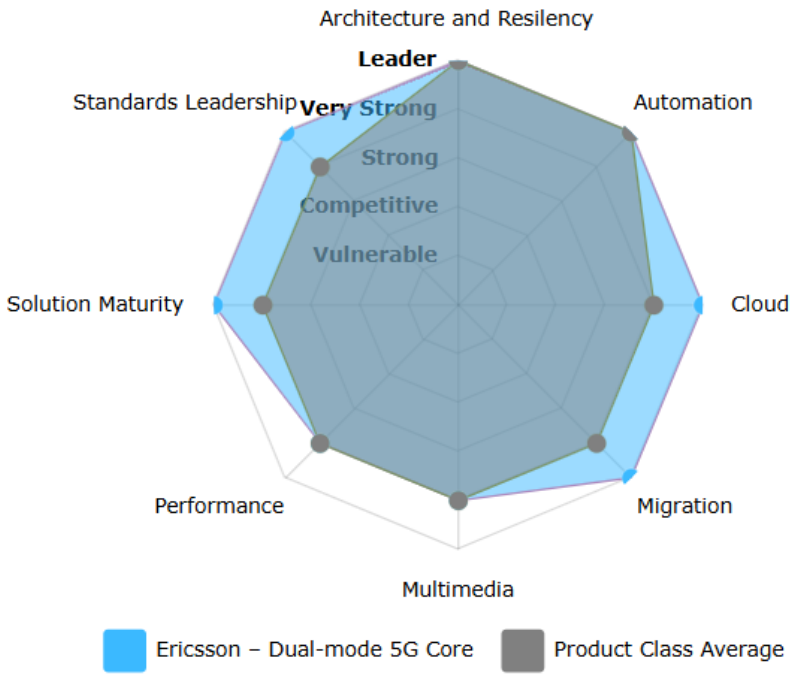
- **5G SA Core Architecture:** Consider a 5G SA converged core implementation to simplify and speed deployment. Consider the effectiveness of vendor messaging around AI/ML, and seek proof points regarding ROI. Look to solutions that offer a common operational model to minimize complexity (in 5GC and OSS/BSS) and evaluate architectural resiliency factors.
- **Consider Multi-cloud Services:** Operators should consider 5GC vendor solutions capable of deploying a range of services over multiple private and public clouds to reduce TTM. Operators should look for flexible cloud charging and performance models to ensure placing workloads in the cloud are both economical and meet quality of service expectations.
- **Evaluate Service Automation and Support:** Operators should look for solutions that provide robust lifecycle management and intent-based service automation that enable incremental features and services to be designed, tested, deployed, and supported (i.e., CI/CD, slicing). Tier 2/Tier 3 and private network operators should evaluate pre-integrated cloud-based solutions to accelerate 5G service deployment to buffer upfront technology challenges and staff expertise.

Rated Competitors

Product Name	Cisco - Ultra Cloud Core, Ultra Packet Core, Cloud Services Stack for Mobility
Current Perspective	Cisco's Ultra Cloud and Packet Core portfolio provides a common execution environment for all 5G services and earlier mobile core generations. Cisco's RAN-agnostic stance positions it to capture mobile core deployments in 4G/LTE multi-vendor environments in 5G. To that end, Cisco elevated its position in open RAN by forming the vRAN Ecosystem, where it focuses on providing policy and control functions to emerging open RAN vendors. Cisco continues to focus on WiFi access and VoWiFi services, a natural strategy given its presence and penetration into private 5G. Cisco leverages advanced analytics and infrastructure health checks to introduce new 5G services, support for automated configuration changes and upgrades, automated deployment, and testing as part of an operator's CI/CD workflow. To accelerate 5G deployments, Cisco offers its Cloud Services Stack for Mobility as a pre-integrated, pre-validated solution embedded with hardened security, automation, and assurance functions to reduce integration costs and overall networking complexity to help 4G/5G mobility services.
Buying Criteria Rating	**Architecture and Resiliency:** Very Strong **Automation:** Leader **Cloud:** Leader **Migration:** Very Strong **Multimedia:** Strong **Performance:** Strong **Solution Maturity:** Strong **Standards Leadership:** Very Strong

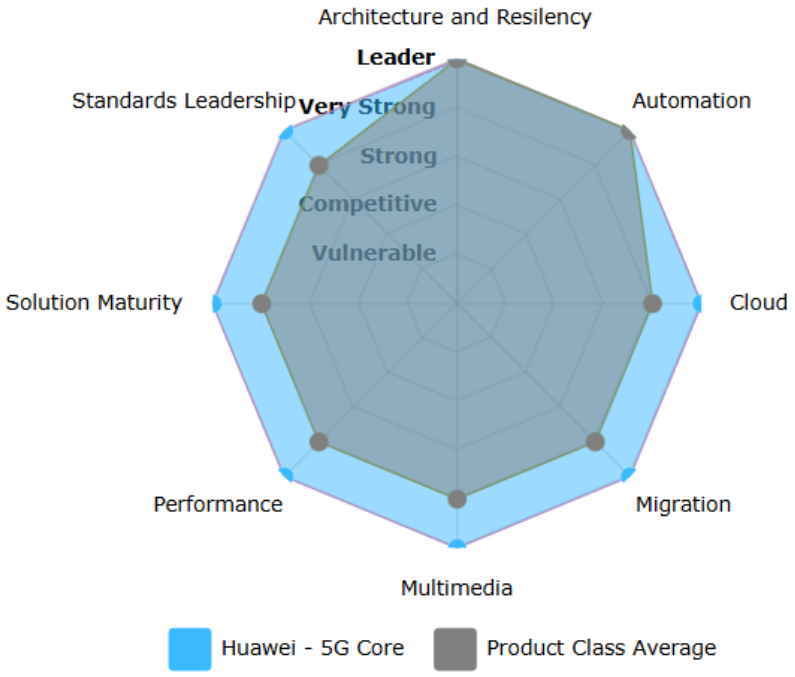
Product Scores	**Very Strong** 
Strengths	• Cisco's 5G core supports services hosted on most major public cloud-based infrastructures; including AWS, Google Cloud, and Microsoft Azure; and has been validated on VMware, OpenStack, and bare metal. • Cisco leverages its leading enterprise presence and is well positioned to create Networking-as-a-Service (NaaS) solutions for B2B services, a key CSP challenge. • Cisco's position in the enterprise data center positions it to deliver distributed edge-based mobile core services based on its MEC and IoT platforms. • Cisco's CI/CD, orchestration (NSO), analytics (via Crosswork), and Intelligent Service Mesh support low-risk service introduction, upgrades, and network changes. • Cisco's mobile core operates over its NFVI/VIM infrastructure or with major third-party MANO/NFVI offerings.
Limitations	• End-to-end incumbent mobile network suppliers have captured early 5G momentum, leaving Cisco to cultivate a longer-term multi-vendor RAN-agnostic proposition. • Cisco lacked deep participation in the massive 5G China market segment, which contains the highest 5G growth rates and is rapidly deploying B2B solutions in multiple markets. • Cisco is challenged to establish its 5G SA core momentum as the open RAN market matures, given moves by open RAN competitors and incumbents now endorsing the move.

Product Name	Ericsson – Dual-mode 5G Core
Current Perspective	Ericsson's dual-mode 5G core solution is widely adopted by global Tier 1 mobile operators and deployed alongside its RAN, mobile transport, OSS/BSS infrastructure products. It is complemented by Ericsson's Enterprise Wireless solutions and Cradlepoint Wireless WAN solutions to deliver end-to-end mobile network solutions for public and private networks. The solution combines 4G EPC and 5G core functionality to support 5G SA and NSA models for all generations of mobile, cloud, and edge-based services. 5G and EPC functions are cloud-native microservices that provide a common software platform for efficiency, performance, and inter-microservice signaling. AI, ML and Ericsson's Edge Exposure Server enhance cutting-edge services such as extended reality (XR), RedCap, FWA, energy efficiency, and end-to-end network visibility. Advanced edge and cloud solutions include public cloud, network slicing, hybrid cloud, and private network deployments. Ericsson leverages AI and a CI/CD pipeline to address lifecycle management for ease of deployment and management.

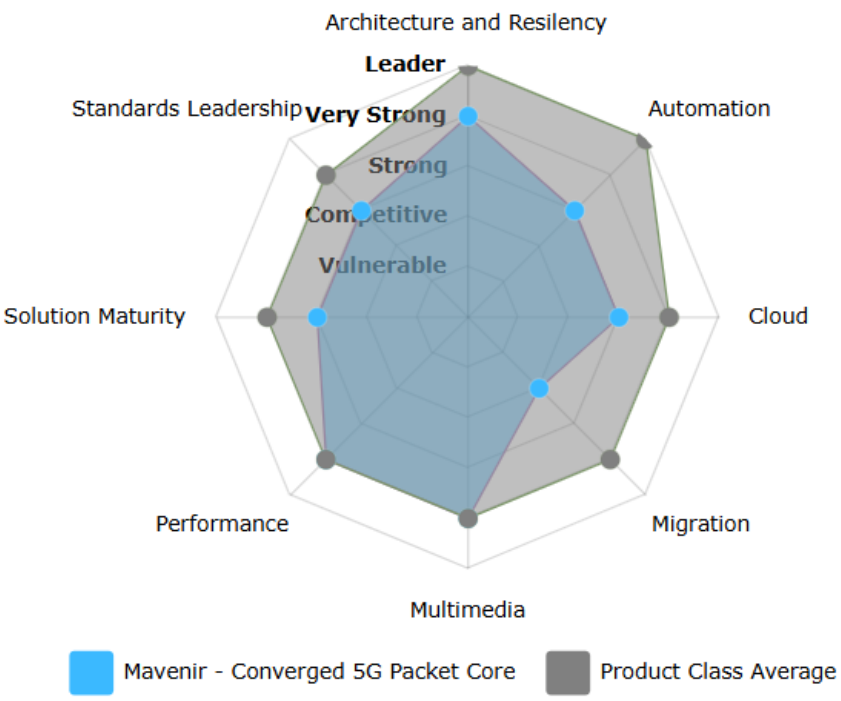
	Ericsson’s Compact Packet Core enables easy modernization of the CSP’s current Packet Core to cloud native for both 4G and 5G, with a footprint-optimized solution that reduces the complexity of deployment and upgrades with pre-defined configurations and automation, which enables the introduction of 5G Standalone and scalable capacity growth. The solution includes the cloud-native Packet Core Controller (PCC) and Packet Core Gateway (PCG) network functions on top of a compact, single-rack version of Ericsson's Cloud-Native Infrastructure Solution (CNIS). The product is positioned and designed to reduce barriers to entry and speed deployment of a 5G SA core solution.
Buying Criteria Rating	**Architecture and Resiliency:** Leader **Automation:** Leader **Cloud:** Leader **Migration:** Leader **Multimedia:** Very Strong **Performance:** Very Strong **Solution Maturity:** Leader **Standards Leadership:** Leader
Product Scores	**Leader** 
Strengths	• Ericsson has deep 5G NSA and SA experience with deployments in major Tier 1 operators globally, including 60+ SA commercial deployments (20+ live, plus eight soft-launched). • Agnostic support for private and public cloud deployments across cloud providers - AWS Outpost, GCP GDCE (cloud-edge), and Azure AODS position it well to service a multi-cloud strategy. • Ericsson has innovator partnerships in manufacturing, mining, power utilities, education, harbors, airports, and oil and gas to facilitate 5G adoption and monetization. • Ericsson supports 5G 3GPP-based interactive calling capability for real-time, remote interaction between people and things. • Programmability via Ericsson’s Service Exposure Enabler, in line with Camara and GSMA's Open Gateway project, acts as a key 5G enabler.

	• Ericsson’s compact packet core solution provides a pre-integrated 5G SA core for a simplified deployment solution for operators to transition to 5G SA with full lifecycle management.
Limitations	• Operator spend throughout 2025 shifts to 5G SA use cases, broader operator SA deployment is needed to sustain continued growth. • Open RAN integration and management will challenge Ericsson and other incumbent vendors, as operators disaggregate RAN infrastructures for flexibility and reduced cost.

Product Name	Huawei - 5G Core
Current Perspective	Huawei's 5G AI core delivers advanced cloud-based mobile services to serve a massive number of subscribers, with over 350 million subscribers accounting for approximately 55% of the global 5G capacity. These services are provided to major China-based operators, as well as select Tier 1 operators in Asia-Pacific, Middle East, Europe, Latin America, Africa, and other regions. Huawei reports zero operator service-level outages, given its resilient architecture and network intelligence capabilities based on AI/ML technology and operator best practices. Huawei also supports over 3,000 B2B use cases, with 20% already commercialized and the remaining 80% in trial stages. These use cases cater to various vertical market applications such as VR/AR, manufacturing, smart port, mining, and more. Support for WAN interconnection and end-to-end network slicing is also provided. Huawei’s Intelligent Personalized Experience (IPE) solution, based on its intelligent Packet Core, provides an NWDAF-centered intelligence plane for the core network. This enables real-time and dynamic guarantee of user experiences and helps operators reshape business models. This solution has been put into large-scale commercial use in multiple provinces in China, helping operators deliver premium experience packages. Huawei's Single Voice Core (SVC) supports all generations of voice services. It enables operators to develop and deploy 5G calling and 5G New Calling services, which are particularly important in China. Additionally, the SVC facilitates high-definition, low-latency video services and is deployed in over 20 use cases, serving more than 200 million voice subscribers. Huawei’s core network and ICNMaster solutions comply with the TM Forum’s AN framework and provide leading L4 (a state of high autonomy) use cases based on agentic AI and digital twin technologies, including alarm-handling experts, complaint-handling experts, and signaling storm prevention and control, to help operators improve O&M efficiency and reliability in lifecycle management. It has been successfully applied by leading operators in China, the Middle East, Asia-Pacific, etc. To facilitate adoption, Huawei offers pre-integrated and tested 5G core solutions, simplifying deployment and reducing the TTM for services. For instance, the smallest 5G core solution occupies only 2 rack units (RU), incorporating 5GC and IMS functions. This compact solution streamlines deployment, operations and maintenance.
Buying Criteria Rating	**Architecture and Resiliency:** Leader **Automation:** Leader **Cloud:** Leader **Migration:** Leader **Multimedia:** Leader **Performance:** Leader **Solution Maturity:** Leader **Standards Leadership:** Leader

Product Scores	**Leader** 
Strengths	• Huawei's 5G AI Core Network provides self-optimization and self-O&M, enabling the evolution from connecting everything intelligently to seamlessly interlinking AI-driven agents, terminals, and scenarios. • Huawei has demonstrated operational reliability at scale, noting zero reported 5G core service-level network outages due to its focus on end-to-end system-level resiliency and operator best practices. Huawei claims support for 50+% of the global 5G (NSA + SA) capacity and serves 200+ million users (per GSA 5G traffic reports). • Huawei's SVC delivers leading 5G voice services and converges multiple voice networks for overall simplicity. SVC supports 5G New Calling services using advanced bonded video and data channels to create new carrier voice-based services. • Huawei supports a broad range of B2B solutions including 5G VPN, private networks, 5G LAN, FWA, network slicing, and deployment of multiple industrial applications. Huawei's IPE solution, based on NWDAF, is in large-scale commercial use in China and piloted in other countries, signaling the beginning of experience monetization. • Huawei core network ADN (ICNMaster) provides technology-leading L4 use cases, which have been successfully applied in global operator networks, improving efficiency by more than 60%. • Huawei's Telco Intelligent Converged Cloud (TICC) and Intelligent Prediction Model delivers energy-saving technologies such as frequency modulation, hibernation, and defragmentation based on server loads, and it monitors NE traffic and service load instances to dynamically achieve up to 25-30% energy saving.
Limitations	• Huawei lacks access to certain western markets for its 5G core and other networking technologies (e.g., US, others).

Product Name	Mavenir - Converged 5G Packet Core
Current Perspective	Mavenir offers 5G core (5GC) applications that are decoupled and built platform-independent, allowing network functions (NFs) to run in any underlying "as-a-service" deployment model. In addition, Mavenir has decoupled the 5GC NF application services from the common management services to provide a disaggregated and scalable packet core solution. Mavenir's 5G core portfolio includes, in addition to the packet core, messaging (RCS), IMS, fraud and security products – all of which are cloud-native. Its 5GC NFs can run on Kubernetes, Mavenir-provided CaaS/PaaS, or customer-defined CaaS/PaaS. NFs have also been integrated with third-party solutions including Red Hat OpenShift, VMware Tanzu, and AWS EKS and provides simplified FCAPS integration (using open APIs) between NFs and northbound Observability Framework (OBF) and OSS/BSS systems. Mavenir introduced AI/ML to support network scaling, per network slicing SLAs, and can be deployed as an enterprise service, dedicated network slice, or non-public network (NPN) in a small footprint server configuration. Mavenir also supports a CI/CD DevOps-based software release and in-service upgrade cycles to reduce time to market, cost, and integration complexity. The solution provides converged support for all access technologies (2G, 3G, 4G, 5G NSA, and 5G SA), as well as convergence of non-3GPP access (WiFi and wireline). This enables operators to reduce overall CapEx and OpEx by supporting all access technologies and all use cases on a common Converged 5G Core. Mavenir is also active in vRAN and open RAN initiatives, where its evolved RAN architecture, designed with cloud-native virtualization techniques, enables the RAN to adapt based on usage and coverage. Mavenir was chosen to supply the 5G SA Core for a 1-Gbps FWA network using mmWave to deliver cost-effective ultrafast broadband internet access to areas not reached by fiber connectivity. FWA services are one of the fastest growing 5G services. Mavenir recently announced new customer wins and 5G Core deployment which span a Tier 1 CSP, MVNOs, FWA operators, IoT, satellite operators, and private networks. These moves provide proof that the Mavenir 5G Core can scale and meet customer use case requirements across all customer sizes, access technologies, and multiple verticals.
Buying Criteria Rating	**Architecture and Resiliency:** Very Strong **Automation:** Strong **Cloud:** Strong **Migration:** Competitive **Multimedia:** Very Strong **Performance:** Very Strong **Solution Maturity:** Strong **Standards Leadership:** Strong
Product Scores	**Very Strong**



Strengths	• Mavenir has strong ties and engagements with operators (e.g., Dish Networks, T-Mobile, Deutsche Telekom, and Vodafone) and can leverage its 5GC product adjacencies such as its cloud-native IMS, RAN hardware, and messaging to gain traction. • Mavenir is highly visible in the Open RAN Policy Coalition to bring open and interoperable solutions to the RAN, to further its 5G core portfolio for edge and far edge presence for RAN control. • Mavenir supports multi-cloud in order to provide operators their choice of deployment models, making its solution suitable for the operator's cloud of choice. • Mavenir has shown an uptick in publicly announced 5GC deployments including: Telekom, 1&1 Drillish, Quickline, Triangle, CableLabs, and 5G SA network slicing with both Deutsche Telekom and ICE Norway, Eolo Italy, e& UAE, TerreStar, Oxio, and Tu Atea.
Limitations	• Mavenir has not promoted its non-RAN products, which generate most of its profits on the software side (BSS suite, security portfolio, and AI and network automation). While the RAN market has a substantial upside potential, Mavenir could promote its modern software suite and establish a foothold in more CSPs. • Momentum for open RAN is building, giving Mavenir a foothold supporting operators (like Dish Networks, but it may take time to transition from trials to significant deployments within other operator networks.

Product Name	Nokia - 5G Core (5GC)
Current Perspective	Nokia positions 5GC for use by large and small CSPs, private networks, and cloud providers and notes a cloud-native software architecture heritage since 2019. Nokia notes 123 CSPs have deployed its 5G SA portfolio (65% include UPF, 35% are Control Plane, only. Nokia has deployed private wireless enterprise cores (5G NSA or 5G SA), giving it deep operational experience across small and ultra-high-scale networks. Dish Networks, for example, has gone live with deployment of Nokia's 5G SA core on a public cloud for its greenfield network. Nokia promotes private networks and "network as a service" deployment models to help operators monetize 5G investments or leverage services without the traditional CapEx investment. 5GC supports 3GPP Release 17 features including Service Communication Proxy (SCP) with full A-D signaling and converged NSA and SA core operation. Nokia's Cloud Native Communications Suite (IMS core) consolidates multiple 3GPP functions to support fixed, 4G, 5G, and WiFi voice services. The 5GC solution is complemented by Nokia's cloud platform solutions, RAN, IP and network management capabilities to provide an end-to-end 5G network solution.

Nokia supports FWA, Ethernet over FWA, WiFi, and CBRS (US) access methods and delivers device/service diversity, high throughput, stringent latency control, multi-access edge computing (MEC), and BNG integration. The solution simplifies deployment through automation and lifecycle management.

Nokia's recent initiatives include cloud-native intent-driven network automation to automate workflows and improve lifecycle management, network slice orchestration, core monitoring and troubleshooting with a unified operational portal, and Kubernetes Agents to automate network functions and capture domain-specific operational knowledge.

Buying Criteria Rating

Architecture and Resiliency: Leader

Automation: Leader

Cloud: Leader

Migration: Leader

Multimedia: Very Strong

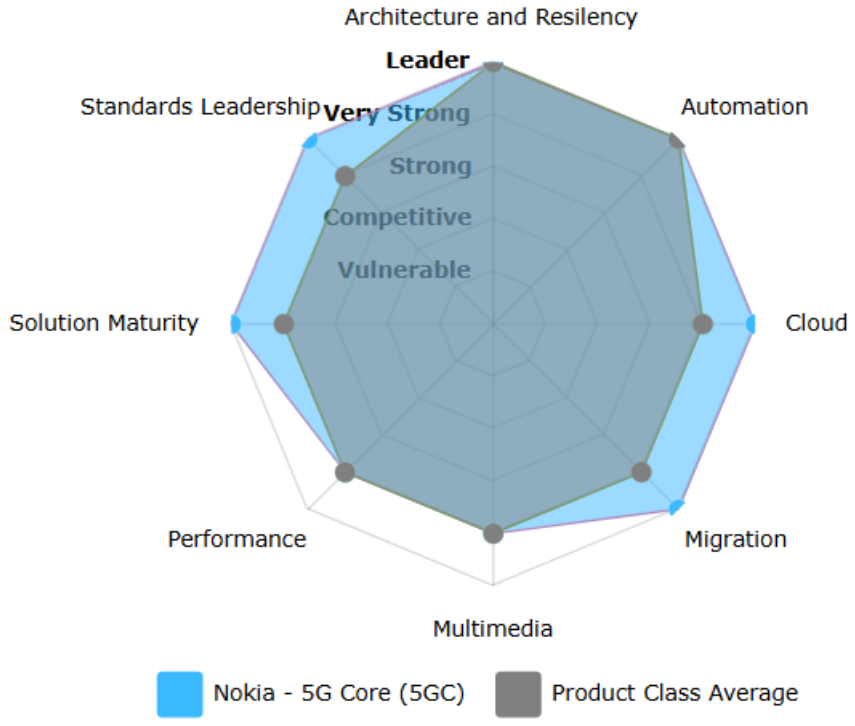
Performance: Very Strong

Solution Maturity: Leader

Standards Leadership: Leader

Product Scores

Leader

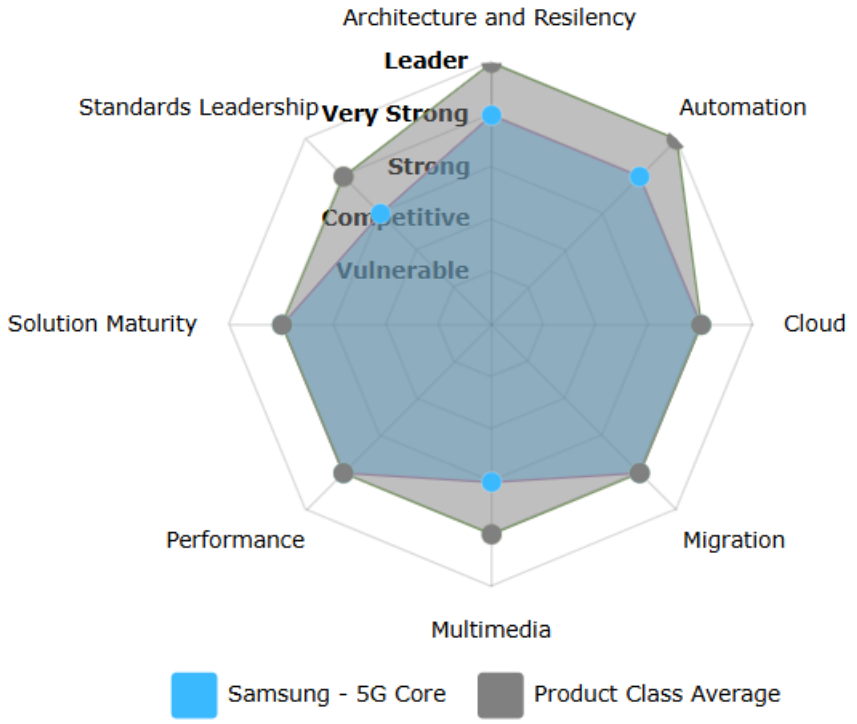


Strengths

- Nokia's 5G core has significant traction supporting live 5G SA networks in major Tier 1 operators in Europe, APAC, MEA, and the Americas (including DISH Networks' greenfield network and AT&T's converged voice network).
- Nokia expanded its lifecycle management capabilities with Kubernetes Agents (K8s Operators) using Kubernetes and standard APIs for resource management and closed-loop automation. Nokia's CI/CD, AI & Analytics, and Digital Operations Center support service orchestration and assurance for multi-vendor fixed access, RAN, transport, core, and cloud domains.
- Nokia's 5G core multi-cloud deployments including edge, regional, and centralized models leveraging top cloud hyperscale infrastructures (AWS, GCP, Azure) and Red Hat's container platform to provide integrated FWA, Ethernet over FWA, DPI, firewall, and NAT technologies.

	• Nokia's Cloud Native Communication Suite delivers advanced multimedia services including in-call content sharing and HTML content. • Nokia's Data Center Gateway extends a data center fabric across the WAN to support edge-based deployments..
Limitations	• Webscalers targeting telco cloud opportunities impact Nokia's end-to-end orchestration and CI/CD proposition. • Private network competition from emerging mobile core competitors challenges its private network strategic initiative. • Operator transitions to open RAN can impact the established incumbency status of Nokia and its peers.

Product Name	Samsung - 5G Core
Current Perspective	Samsung's 5GC is deployed at scale in South Korean and Japanese operators, where the vendor partners to create 5G core solutions, leverage its early 5G NSA experience and expand 5G ecosystems through participation in organizations such as the Cloud Native Computing Foundation (CNCF) and Open Network Automation Platform (ONAP). Samsung's 5G core uses a microservices architecture, dynamic orchestration and automation, CI/CD, open-source platform services, and telco-grade performance (session continuity and redundancy), which can scale from small to large capacity and enable operators to deploy 4G, 5G NSA, or 5G SA on a common architecture. Samsung's compact core solution ("All in One Box") enables deployment and efficient operation of private 4G and 5G networks for enterprises. Close collaboration with Intel helped optimize packet processing to deliver a high-performance user plane. Samsung 5G core solution uses container-based Kubernetes and Docker and provides multi-cloud platform support with Windriver, OpenShift, and VMWare, enabling developers to focus on 5G Core NF development, while operators can improve their network operational efficiency and create new revenue streams through new B2B and B2C services. Samsung’s solution supports operator and enterprise networks on-premises, public cloud, and edge cloud implementations for both NSA and SA. Samsung did not provide updated information of this report update cycle, which is based on publicly available information.
Buying Criteria Rating	**Architecture and Resiliency:** Very Strong **Automation:** Very Strong **Cloud:** Very Strong **Migration:** Very Strong **Multimedia:** Strong **Performance:** Very Strong **Solution Maturity:** Very Strong **Standards Leadership:** Strong
Product Scores	**Very Strong**



Strengths	• Samsung has demonstrated market momentum and operational experience - via Korean telco operators (e.g., KT, SKT, LGU+) and in Japan with KDDI, deploying 5G SA at scale. • Momentum and innovation with carrier-grade 5G vRAN, positions Samsung to promote 5G SA core. • Samsung's open-source PaaS plus the Samsung Cloud Orchestrator (SCO) provides an effective automation platform for 5G use cases. • Samsung offers multi-cloud support (AWS, Azure, IBM, and Google), giving operators a choice of major cloud providers. • Samsung provides a telco-grade UPF Capacity, session continuity & redundancy, local/geo-redundancy at the NF level, system load-balancing and overload controls to mitigate risks, and 3GPP-defined Network Data Analytics Function (NWDAF) to identify and optimize the use of network resources.
Limitations	• Samsung has relatively limited 5GC SA presence outside of Korean and Japan-based telco operators. • Momentum for ORAN is building, but it may take some time to transition from trials to significant deployments, and an expanded role in 5GC is not guaranteed

Product Name	ZTE – 5G Common Core
Current Perspective	ZTE's 5G Common Core is deployed through CSPs and lays claim to 140 live 5G core deployments (130 NSA and 13 live SA networks), supporting 550 million+ 5G SA subscribers. ZTE promotes its high resiliency architecture and energy efficiency. ZTE's converged 5GC supports 2G/3G/4G/5G/Fixed access services based on a 5G-oriented Service Based Architecture (SBA/SBA+) using cloud-native microservices technologies. It contributes to and complies with the latest 3GPP 17/18 standards, including time-sensitive networking (TSN), IoT-NTN, AI-UPF, and LLM as a service is integrated to the existing O&M tools and NF (NWDAF, AI-UPF). ZTE's 5G core supports 3GPP Rel.15 NSA&SA, Rel.16/17 features, and most R18 features, and is currently developing R19 features. Additionally, ZTE supports 5G-Advanced, XRM (pilot), NTN (IoT and NR), Time Promised Communication for high-precision and deterministic communication features. ZTE introduced network intelligence based on the 3GPP R17, incorporating key contents defined by the 3GPP Release 18, to establish a network intelligence with NWADF as the core. Furthermore, ZTE has successfully completed pilot tests with operators for Green UPF and external NWDAF for power saving, claiming a 25% reduction in UPF power consumption.

ZTE promotes its converged core model for LTE and 5G NR, plus a converged voice core supporting voice services (2G, 3G, 4G, and 5G), enabling operators to support legacy voice and innovative new 5G voice and video services, a key innovator for "5G Calling" and "5G Messaging" for ultra-HD quality and immersion experience.

ZTE reports operator traction for B2C and B2B markets and includes MEC and 5GC (pre-packaged and integrated cabinets for rapid deployment, which demonstrates the diversity for telco and non-telco use cases.

ZTE offers the iCube, a comprehensive service solution that covers the entire lifecycle from order to service. This includes a "factory pre-installation solution" delivery mode, which involves highly integrated cloud foundation resources, on-demand loading of vertical services, and thorough pre-planning, pre-installation, and pre-debugging before overall delivery. Additionally, the iCube ensures automatic deployment and intelligent operations.

Buying Criteria Rating

Architecture and Resiliency: Leader

Automation: Leader

Cloud: Very Strong

Migration: Very Strong

Multimedia: Leader

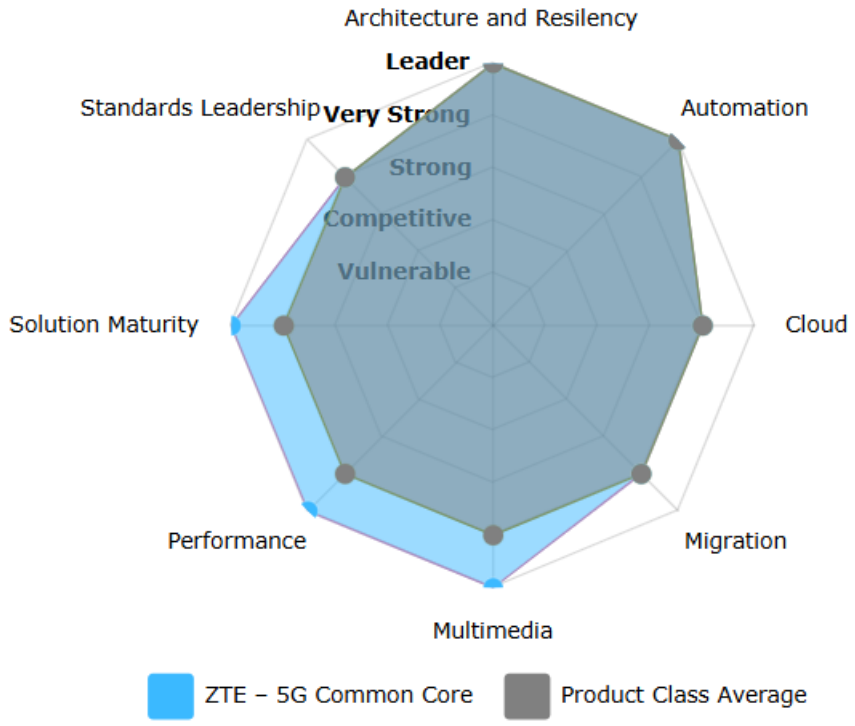
Performance: Leader

Solution Maturity: Leader

Standards Leadership: Very Strong

Product Scores

Leader



Strengths	• ZTE 5G Common Core is deployed in high-scale networks, in Tier 1 Chinese and select operators outside of its home market, and carries 450 million+ subscribers. • ZTE's 5GC operators have not experienced sustained service-level outages, due to its focus on end-to-end resilience and operator best practices. • ZTE's Automation Integration Center and big data platform for AI/ML training, and uSmartInsight includes LCM from design to deployment through a CI/CD based pipeline. • ZTE 5G Common Core supports multi-cloud deployments with open APIs (OpenStack, VMware, Kubernetes, and public cloud) and SaaS models. • ZTE's pre-packaged solutions (iCube) for small CSPs, private networks and industrial use cases furthers 5G adoption.
Limitations	• ZTE experiences geopolitical factors and security concerns associated with Chinese companies which pose barriers in multiple countries, potentially affecting ZTE's global expansion and market acceptance. • Operators have telegraphed a constrained CapEx cycle (2023 - 2025), which can impact ZTE's initiatives to expand its 5G mobile and fixed networking initiatives and place significant pressure on margins.