



Market share report

Monetisation platforms: worldwide market shares 2023

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5G remains the major driver of spending on monetisation platforms, but new services are still yet to be proven in the market

5G readiness has been, and continues to be, a significant driver of change in the monetisation platforms market. New 3GPP standards and the need to support new 5G-based services requires many CSPs to upgrade incumbent systems or procure supplementary systems.

5G is the single most significant driver of new projects in the monetisation platforms market, particularly for charging and billing systems. This will remain true as the roll-out of 5G standalone (SA) continues and while CSPs prepare for more-complex services based on slicing and differentiated services.

Updates to the 5G core 3GPP standards is leading to changes for charging systems beyond simply supporting 5G non-standalone (NSA) services. For example, new converged charging functions in the charging function (CHF) are needed. Each 3GPP release defines new capabilities that are designed to support new services or commercial models that CSPs may need to adopt in order to support new service types. These range from core slicing capabilities to the exposure of network functions via APIs. CSPs' need to monetise their significant 5G investments continues to affect the 3GPP standards, which in turn enable vendors to develop solutions.

However, CSPs remain cautious about 5G SA because few new services (beyond fixed-wireless access (FWA)) are proving to be significant revenue generators.

Figure 1: New functionality enabled by 3GPP standards, by release

Release	Functionality added
R15 Concluded in June 2018	<ul style="list-style-type: none"> 5G convergent online and offline charging on service-based architecture (network charging function (Nchf) converged charging) API definition and corresponding definitions for the CHF, call data records (CDRs) and ASN. Session management function (SMF) charging, including home-routed roaming support
R16 Frozen in June 2020	<ul style="list-style-type: none"> Network exposure function (NEF) Access and mobility management function (AMF) CHF control quota management Network slice charging
R17 Frozen in August 2022	<ul style="list-style-type: none"> 5G LAN charging URLLC charging 5G IoT charging 5G prose charging Edge computing charging and enhanced network slice charging 5G IMS charging Local break-out roaming
R18 Frozen in June 2024	<ul style="list-style-type: none"> Nchf charging services (phase 2) 5G roaming charging for wholesale and retail scenarios Roaming charging (phase 2) Network slice charging (phase 2) Charging for the enhanced support of non-public networks Time-sensitive networking charging

Source: Analysys Mason

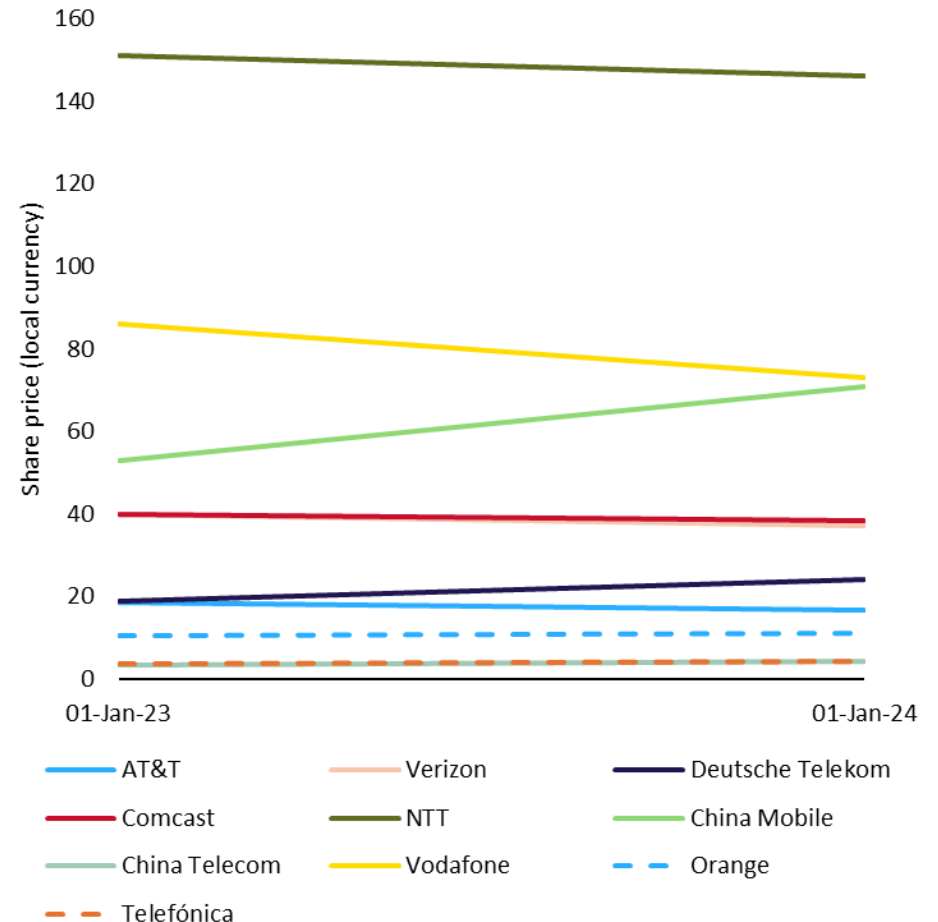
Cost reduction and systems rationalisation are the main reasons for new monetisation projects

Cost reduction remains a significant motivator for deploying new systems. New monetisation projects based on systems rationalisation following mergers have also been a major contributor to monetisation platforms revenue growth.

CSPs have made significant investments in 5G and fibre networks, but revenue growth has been limited. As a result, CSPs have reduced their spending on new projects, except when short- and mid-term operational savings are clearly demonstrated. These projects often involve migrating to fewer systems, for example, by implementing a single charging system across all service types.

In-country mergers and acquisitions present an opportunity to rationalise multiple IT stacks. The overall transaction value for mergers declined in 2023, but the volume of national mergers remained steady. The potential for systems rationalisation increases because entire IT systems and departments are consolidated. Short-term gains include savings on licence costs and ongoing maintenance, while mid- and long-term benefits encompass reductions in the number of operational staff and associated costs.

Figure 2: Share prices in local currency for the top ten CSPs, worldwide



Source: Analysys Mason

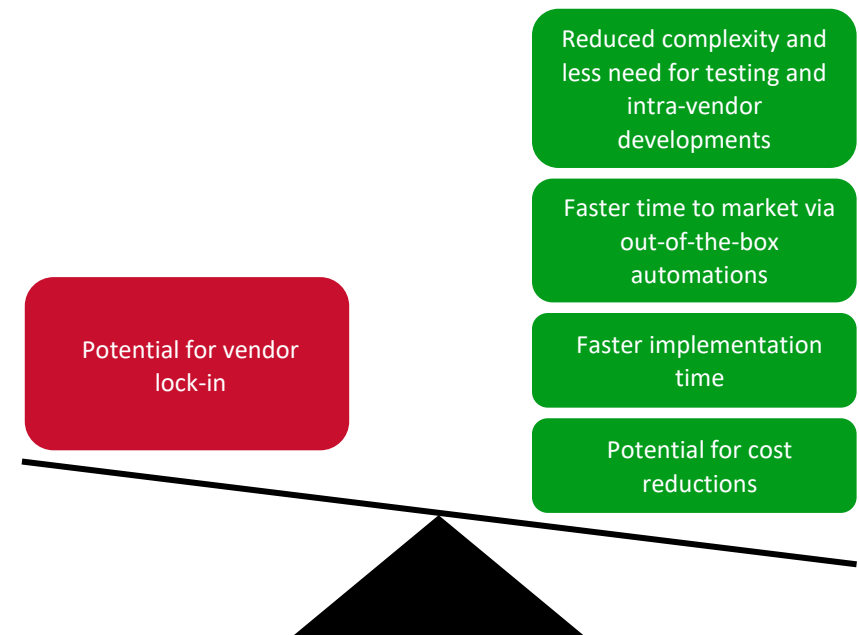
CSPs are slowly shifting to all-in-one and SaaS solutions where service margins are tight or when services are nascent

CSPs are reducing their number of suppliers and are building common interfaces to be used by multiple service offerings. They are also opting for solution that offer wider functional coverage to reduce inter-vendor integration costs.

Leading vendors now offer highly integrated software solutions that enable the deployment of all-in-one systems. However, some CSPs are opting to use solutions from the same vendor across large segments of their IT systems. This approach reduces integration costs, enables high-order automation and potentially shortens implementation and service launch times, thereby making it more appealing than multi-vendor solutions aimed at reducing the user's dependency upon a single supplier.

Software as a service (SaaS) is not as prevalent in the monetisation platforms market as it is in other sectors, but its use is growing, particularly for non-core consumer services. Examples are mainly in new service areas, such as API monetisation, or non-core areas, such as IoT and MVNO support. Additionally, solutions for roaming, interconnect and partner management are increasingly being delivered via SaaS-based models.

Figure 3: Pros and cons of reducing the number of vendors used



Source: Analysys Mason

Recommendations

1

Vendors must ensure that their propositions enable capex/opex reduction so that CSPs can justify their purchases.

Cost reductions are driven by increased levels of automation, potentially achieved using AI. Vendors should offer integrated solutions that address end-to-end business-based processes. They should provide worked examples and cases studies with clear details of the cost reductions achieved.

2

Vendors should provide all-in-one solutions that support integration with traditional applications and have common development studios.

Vendors should develop deeply integrated solutions that have common data sources, user interfaces and integrated development environments, as well as the ability to create powerful automations across what were once separate application areas. These integrated platforms have numerous benefits such as simplicity, reliability, reduced time-to-market for new services and reduced maintenance effort.

3

Vendors must efficiently support the creation and delivery of new services.

CSPs need to be able to efficiently create, introduce and support new services. Such services will increasingly require new partnerships to be formed, beyond those needed for traditional telecoms services. Vendors should play a strong role in sourcing and creating new service offerings that multiple CSPs can use and should provide systems that are able to manage potentially complex partnerships.

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Monetisation platforms revenue market share

Figure 4: Billing and offer creation total revenue by vendor, worldwide, 2023

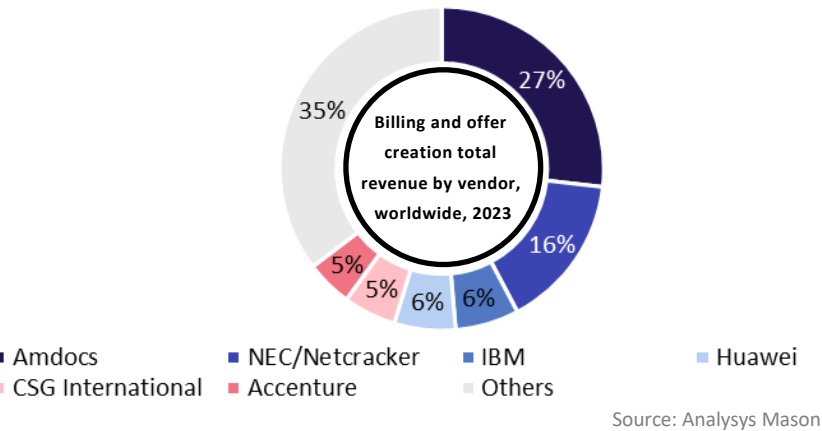


Figure 5: Charging, rating and policy management total revenue by vendor, worldwide, 2023

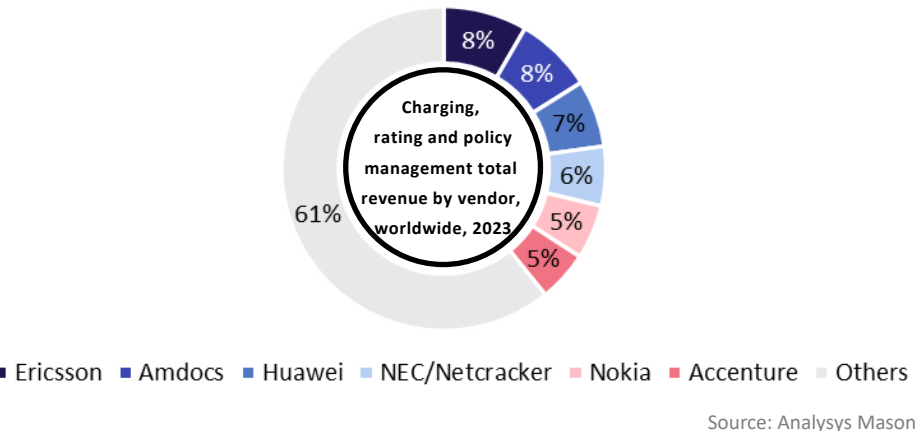
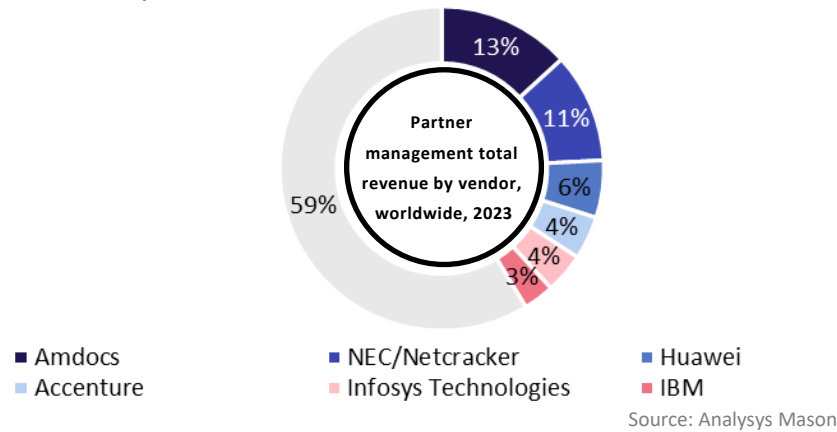


Figure 6: Partner management total revenue by vendor, worldwide, 2023



Amdocs is a major player in the telecom monetisation space, with monetisation contributing to more than half of its telecom-related revenue. The company offers a cloud-based suite of solutions designed to help service providers manage charging, billing, policy, and revenue across various sectors, including IoT, media, gaming, and enterprise. Amdocs aims to position its monetisation suite as a comprehensive solution for both large-scale and smaller communication service providers.

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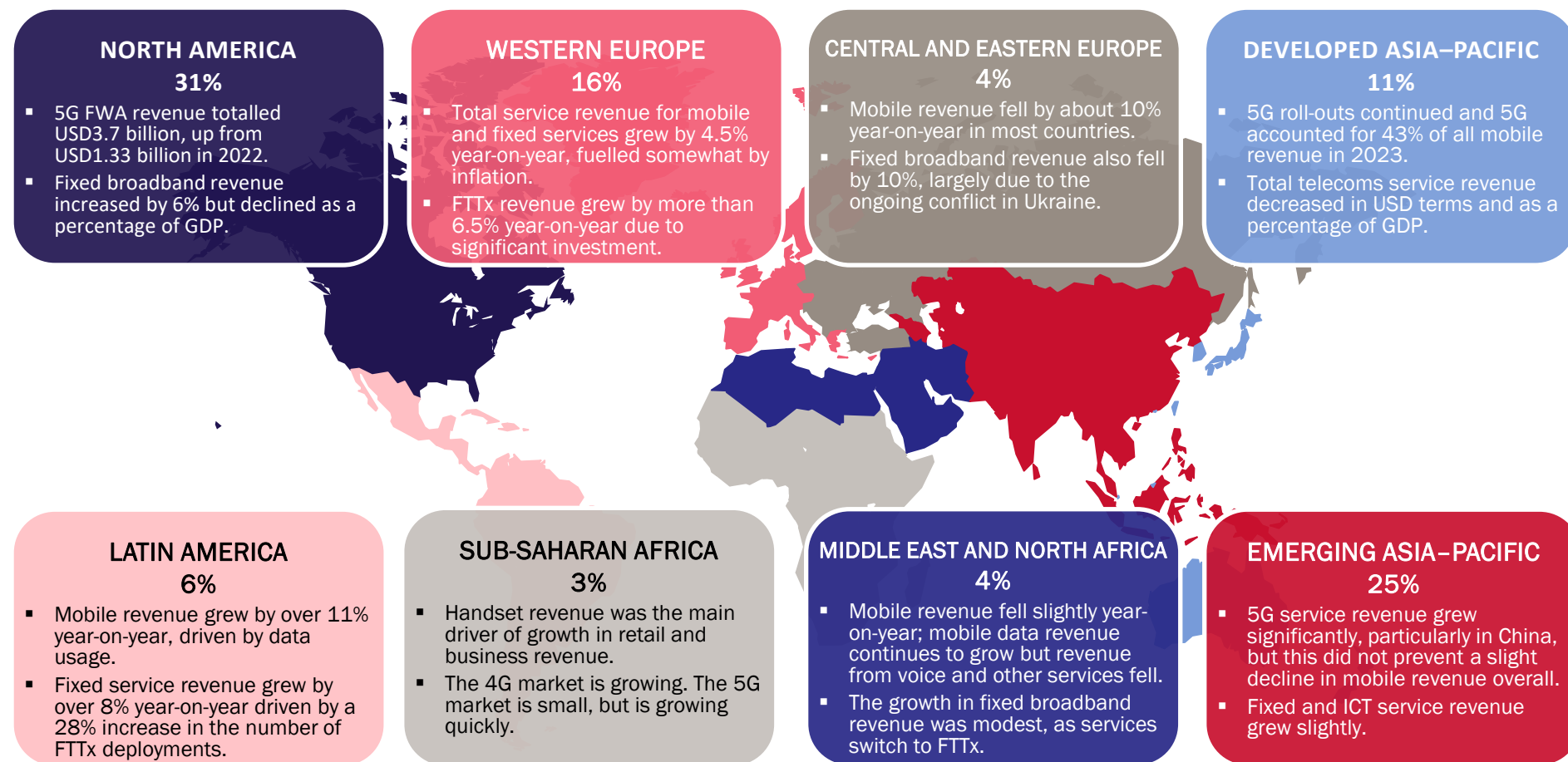
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Overall telecoms services: revenue split and trends for regional markets

Figure 7: Share of worldwide USD1.31 trillion telecoms service revenue and trends by region, 2023



Source: Analysys Mason

Overall telecoms services: regional service breakouts

Figure 8: Metrics for the eight regions modelled individually and worldwide, 2023

	Population (million) ¹	GDP (USD billion) ¹	GDP per capita (USD thousand) ¹	Telecoms revenue				Mobile SIM population penetration ²	Fixed broadband population penetration ³
				Mobile (USD billion)	IoT (USD billion)	Residential fixed (USD billion)	Business fixed (USD billion)		
North America (NA)	379	29 512	78	204	33	117	57	124%	95%
Latin America (LATAM)	668	6729	10	40	7	22	12	105%	56%
Western Europe (WE)	423	20 651	49	76	30	66	34	130%	84%
Central and Eastern Europe (CEE)	405	5927	14	26	9	10	7	130%	62%
Developed Asia–Pacific (DVAP)	246	9617	39	70	20	31	19	131%	85%
Emerging Asia–Pacific (EMAP)	4196	25 981	6	219	32	50	24	94%	60%
Middle East and North Africa (MENA)	503	4336	9	30	7	11	9	113%	43%
Sub-Saharan Africa (SSA)	1260	2068	2	29	3	2	2	90%	3%
Worldwide	8080	104 821	13	694	138	309	164	102%	60%

Macroeconomic and general regional factors (such as population) provide context for the telecoms revenue figures that we track in the Analysys Mason DataHub. The increasing take-up of FTTx and the migration of customers to plans with gigabit speeds in advanced regions drove fixed broadband revenue growth, though there were declines in CEE, DVAP and EMAP. Fixed business services revenue continues to fall as old, more expensive services are replaced with cheaper ones. Mobile revenue increased in NA and WE but fell all other regions; the largest declines were in CEE. Penetration rates for fixed broadband and mobile SIMs increased slightly worldwide.

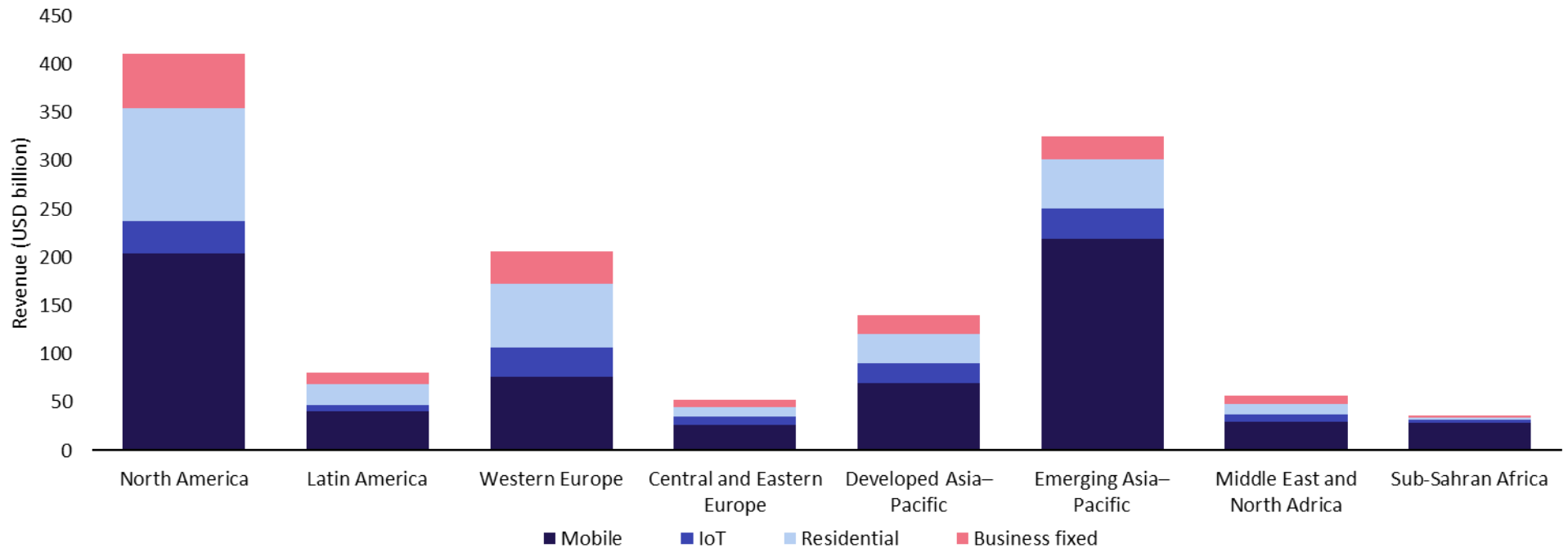
¹ Population data is from the *UN World Population Prospects*. GDP data is from the *IMF World Economic Outlook Database*.

² Includes IoT SIMs.

³ Total fixed broadband connections (Residential) expressed as a share of population.

Overall telecoms services: regional service comparison

Figure 9: Overall retail telecoms service revenue by region and service type, 2023¹



Source: Analysys Mason

North America was the largest market for telecoms services worldwide, but emerging Asia-Pacific became the largest market for mobile services. This reflects the revenue growth from mobile internet and other related services in China and India. Fixed-line services were a significant revenue stream in Western Europe, which reflects the ongoing roll-out of FTTP/B in many countries.

¹ Retail revenue based on historical data up to 2Q 2023 (publication date 21 June 2023). Total revenue for mobile/fixed services, excluding wholesale revenue (interconnection, hosting and roaming-in) and revenue from direct equipment sales. For more information, see Analysys Mason's [DataHub](#).

Overall telecoms services: industry drivers in 2023

Figure 10: Drivers of the telecoms software and services industry

Driver	Elements	Discussion
5G	<ul style="list-style-type: none"> Impact of 5G non-standalone (NSA) and 5G standalone (SA) on operational systems Support for Open RAN and associated cloud infrastructures Support for new 5G service capabilities 	Investment in 5G is the primary driver of the telecoms software and services industry. These investments boost software spending for the network, network orchestration and automation, and OSS and BSS enhancements. CSPs are preparing and launching 5G SA services. Open RAN is gaining more focus from major CSPs. Smarter operational systems are required to manage complex new services, disaggregated networks and virtualised infrastructure.
Hyper-automation and AI/generative AI (GenAI)	<ul style="list-style-type: none"> Transformation of operational systems and processes based on AI and GenAI capabilities Upgrade of applications to support new use cases Development of new automations and integration with the current operational fabric 	GenAI has reignited AI investments. CSPs that are aiming to transform operations are seeking AI-driven technological innovations for process automation. Investments in data manipulation frameworks, application development, insight generation and infrastructure for AI use cases are emerging. AI is being integrated into existing applications and licensed by CSPs.
Enterprise services and wholesale delayering	<ul style="list-style-type: none"> Support for the delayering of operators into entities such as TowerCos, ServCos, NetCos and TechCos. Development of APIs 	The division of CSPs into separate businesses is promoting the deployment of additional operational capabilities to support each unit. Additionally, revealing current operational capabilities and services requires support, which drives either system upgrades or new purchases.
Monetisation of next-generation and 5G services	<ul style="list-style-type: none"> Support for 5G SA services including slicing. Support for the monetisation of network capabilities using APIs Support for digital ecosystems of partners and digital marketplaces 	5G has not yet realised the anticipated revenue growth. CSPs could gain revenue from 5G slicing for enterprise services, but must enhance order management, charging and billing systems to improve the customer experiences. Moreover, CSPs seek developer community support to devise more attractive solutions via API exposure and inventive tariffs.
IT stack consolidations and transformation	<ul style="list-style-type: none"> IT transformations due to the shift to the cloud Simplification of applications into larger integrated platforms Shift to SaaS business models 	Transformations centred on fewer, larger application platforms with broader functional scope are creating opportunities. The maintenance costs and time spent on multiple vendor point solutions are driving CSPs to simplify their operational fabrics, thereby reducing operational costs and enhancing agility.

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Amdocs: strategy overview

Amdocs is a leading provider of software products and services in the telecoms, media and entertainment industries.

Amdocs has positioned itself as an established player for BSS/OSS, network and media function offerings. It develops, implements and manages proprietary and third-party software and professional services to support the entire customer lifecycle.

Amdocs’s offerings are designed to help customers to maximise their monetisation potential by making use of new technologies as they emerge. Amdocs’s monetisation portfolio encompasses a diverse range of offerings, including Amdocs Freestyle Billing, Amdocs Policy and Amdocs Charging Control, all integrated with Amdocs Catalog.

Amdocs launched a framework (amAlz) in June 2023 that was developed using generative AI (GenAI). amAlz enables high-order automations to be created. Amdocs has also launched its next generation of inventory systems in readiness for next-generation networks.

Amdocs’s ConnectX is a digital, cloud-native SaaS BSS with pre-built customer journeys for care, commerce, ordering, billing and charging for digital brands, low-tier CSPs and MVNOs. It provides TMF-compliant open APIs and supports single- and multi-play for all lines of business (B2C, B2B, wholesale, MVNx, convergent and non-telecoms) and services (5G mobile, fixed, broadband, TV and OTT).

Figure 11: Key data

Company details	<ul style="list-style-type: none">▪ Founded in Israel in 1982▪ Headquartered in Chesterfield, Missouri, USA▪ 29 000 employees in 30 countries▪ Operations in over 85 countries
Financial performance	<ul style="list-style-type: none">▪ Total revenue in 2023: USD4.95 billion (+6.2% year-on-year)▪ Total revenue by region: 67% from North America, 14% from Europe and 18% from the rest of the world▪ Total revenue by vertical: 58% from managed services and 42% from other services
Key customers	Over 350 communications and media providers including A1, AT&T, Altice, Bell Canada, Bharti Airtel, Comcast, DISH Network, Globe, Lumen, PLDT, Rogers, Singtel, T-Mobile, Telefónica, Telkomsel, TELUS, Verizon and Vodafone
Partnerships	AWS, Camunda, Commbox, Creatio, Google Cloud, KMS Lighthouse, Lightico, MCE and Microsoft
Professional services, products and solutions	Amdocs Catalog, Amdocs Charging, Amdocs Freestyle Billing, Amdocs Bill Experience, Partner Management, Amdocs Policy, Amdocs Real-Time Billing, Amdocs Subscription Billing, Amdocs Digital Identity Management, Content Cloud, Amdocs CES23 Suite, Amdocs Subscription Marketplace and Amdocs ConnectX (SaaS Telco-in-a-box)

Source: Analysys Mason

Amdocs: analysis

Amdocs’s monetisation suite enables CSPs to offer flexible billing and monetisation options to support customers’ needs and preferences.

Amdocs is a leader in the monetisation platforms segment, and monetisation accounts for well over 50% of its telecoms-related revenue. Its cloud-native monetisation suite includes solutions for service providers for charging, billing, policy and revenue management in various market segments such as IoT, media, gaming and enterprise.

Amdocs plans to position its monetisation suite as the extensive, all-inclusive option for leading-edge CSPs with large operations, as well as for smaller providers. Amdocs Freestyle Billing and Bill Experience are built to simplify telecoms billing while enabling CSPs of every size to deliver flexible monetisation models and bring new and innovative services to market with speed and agility. The ConnectX platform supports Tier-3–5 CSPs and MVNO/Es, especially in emerging markets. Amdocs has extended its billing capabilities to include real-time billing and flexible monetisation models in a single system.

Amdocs has over 300 CSP customers worldwide. The top ten customers account for 65% of Amdocs’s revenue, which highlights the vendor’s role in the Tier-1 CSP segment, especially in developed regions. Some Tier-1 CSPs in the USA use Amdocs Freestyle Billing to improve customer experience and efficiency.

Figure 12: key strengths and weaknesses

Strength	Description
Global footprint	Amdocs serves over 350 communications, pay-TV, entertainment and media industry service providers in 85 countries. It has a strong base in North America, where all major CSPs use its services.
Technological capabilities	Amdocs has evolved its portfolio to be a fully cloud-native, 5G-compliant (3GPP Rel17), open and modular microservices-based platform. It will continue to enhance its product and service offerings with low-/no-code tooling and AI/ML capabilities to support business-led agility.
Broad portfolio of services	Amdocs has a diverse customer base supported by a broad portfolio of product offerings and solid professional services.
Weakness	Description
Low market penetration for SaaS offering	CSPs may view new market entrants that have greater market penetration for their SaaS-based offerings as more transformational.
Perception of being expensive	Amdocs is well known for being involved with large, expensive transformation projects, which may mean that it is not invited to work on small projects.

Source: Analysys Mason

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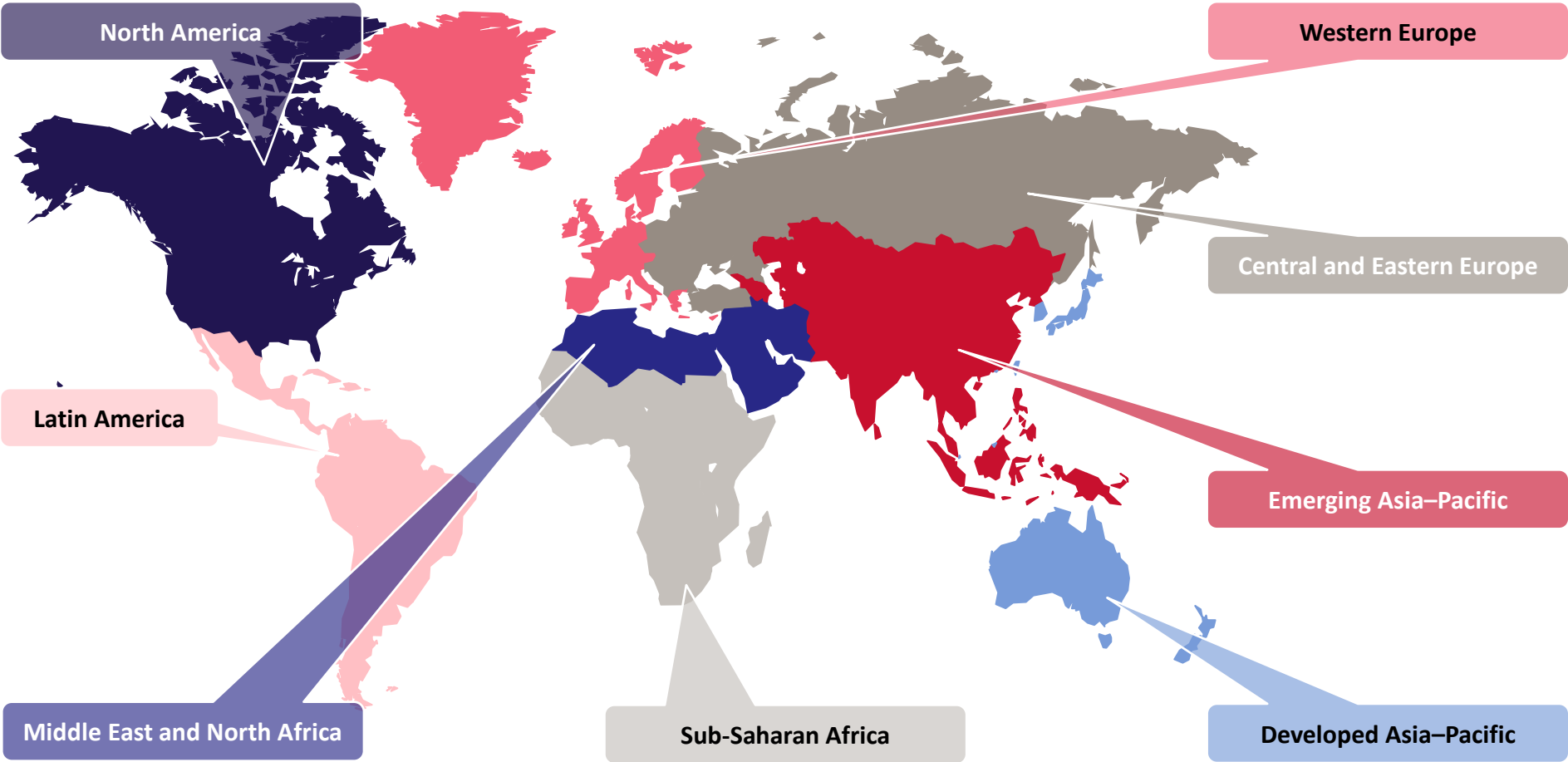
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Definition of geographical regions

Figure 13: Regional breakdown used in this report



Telecoms software and networks market segmentation

Monetisation platforms <ul style="list-style-type: none">Billing and offer creationCharging, rating and policy managementPartner management	Customer engagement <ul style="list-style-type: none">Customer experience managementSales and order managementCustomer value management	Applications data and strategies <ul style="list-style-type: none">Consolidated market share¹Consolidated forecast¹Strategy reports on the whole OSS/BSS market segment	
Automated assurance <ul style="list-style-type: none">Service, performance and fault managementWorkforce automationData acquisition, validation and analysis	Service design and orchestration <ul style="list-style-type: none">End-to-end orchestrationActivation systemsInventory management systemsEngineering systems	Network automation and orchestration <ul style="list-style-type: none">Domain control and orchestrationSD-WANNetwork and element management systemsNetwork automation platforms	
Cloud infrastructure strategies <ul style="list-style-type: none">Cloud infrastructureEdge computingContainers as a serviceVirtual infrastructure managersData-centre SDN	Data, AI and development platforms <ul style="list-style-type: none">Development platformsAI and analytics platformsData management platformsMediation platforms	Edge and media platforms <ul style="list-style-type: none">Video management and deliveryCDNsIdentity management	Multi-cloud networking <ul style="list-style-type: none">Multi-cloud NaaSMCN softwareIP cloud network software
Fibre infrastructure strategies <ul style="list-style-type: none">Wireless xhaul/FMCBroadband access technologiesWholesale models and regulation	Next-generation wireless networks <ul style="list-style-type: none">RadioCoreVNFs and subscriber data management	Operator investment strategies <ul style="list-style-type: none">OpexCapex	Telecoms market shares and forecasts
	Transport network strategies <ul style="list-style-type: none">OpticalIP	Wireless infrastructure strategies <ul style="list-style-type: none">SpectrumWireless traffic forecastWireless access infrastructure	

¹ Consolidation is at the programme-level.

Monetisation platforms definitions [1/2]

Figure 14a: Definitions of the monetisation platforms segment and its sub-segments

Segment	Definition
Monetisation platforms	Monetisation platforms include billing and charging systems, partner management and interconnect systems and policy management systems with mediation systems tracked. These systems enable CSPs to create, and track the use of, their services, aggregate their records, compute charges, produce bills and process payments. The integrity of these systems is fundamental to CSPs' ability to set, collect and manage revenue for services and products.
Charging and rating	<p>The charging and rating part of this sub-segment is formed of three different types of systems.</p> <p>Prepaid billing deployments are only used by retail subscribers that credit their account before using a service. The credit is debited in real time as the service is used, and service is denied if the balance falls to zero. Subscribers have various means of 'topping up' their balances. Prepaid service systems must be able to rate service usage in real time and maintain a real-time account balance. They must also be able to interact with the network to redirect subscribers to top-up servers if the account balance drops to zero. Note that convergent platforms used purely for prepaid use cases are considered to be prepaid.</p> <p>Postpaid billing deployments are used by retail subscribers that are billed each month for the service they have used. Traditionally, postpaid billing systems work offline, using a monthly billing cycle. Modern postpaid billing systems include the ability to monitor usage in real-time and have enhanced capabilities, such as advice of charges. Postpaid billing includes rating events and combining the rated events with other aspects of the bill, including recurring charges, taxes, fees and other items that are independent of rated usage. Note that convergent platforms being used purely for postpaid use cases are considered to be postpaid.</p> <p>Convergent billing deployments support both prepaid and postpaid subscribers. They may also support hybrid accounts in which, for example, a family has a single account and some members of the family use prepaid, while others use postpaid accounts.</p>
Policy management	Policy management is the practice of applying traffic management techniques using rules based on subscriber profiles. Profiles and rules are defined centrally and distributed to the policy enforcement points in the network to control a subscriber's traffic. In 3GPP standards, policy management is implemented by the policy and charging rules function (PCRF), and policy enforcement by the policy and charging enforcement function (PCEF). We exclude policy enforcement products from our definition of policy management, which focuses on the PCRF and its various proprietary enhancements.

Monetisation platforms definitions [2/2]

Figure 14b: Definitions of the monetisation platforms segment and its sub-segments

Segment	Definition
Partner management	<p>Partner management monetisation platforms are used for payments to and collections from service providers that co-operate with a CSP to provide services to its customers. This includes traditional voice termination (both fixed and mobile), roaming interconnection and interfaces (but not roaming service bureaux per se) and international route optimisation and settlements with traditional network operator partners and content providers.</p>
Billing and offer creation	<p>The billing and offer creation domain receives processed and rated call data record (CDR) files from the core network charging and rating functions. It includes functions that can provide billing and billing of other chargeable items (for example, handsets, security applications and handset insurance). Billing traditionally was only applicable to offline charging, whereas real-time or online charging was for prepaid solutions. Convergent billing is allowing for a combination of charging (convergent charging), and billing systems will need to support both.</p> <p>Telecoms billing is a process of collecting usage data, aggregating it, applying required usage and rental charges, and finally generating invoices for the customers. Telecoms billing processes also include receiving and recording payments from the customers. Billing systems work with charging and rating engines through the interfaces such as Bx in the 3GPP standards. Billing also includes bill presentment and collection and performs calculations for adding or removing any tax due.</p> <p>More recently, the billing information is being used with Generative AI to dynamically create new offers based on usage and other factors discovered in data- and revenue-related outcomes.</p>
Mediation	<p>Mediation systems collect data from the network, format it and store it for specific uses, generally for billing systems, but also for various types of service assurance. We include all mediation in this segment. The mediation sub-segment now includes active mediation, which previously was included in the real-time charging (RTC) sub-segment of our service delivery platforms segment.</p> <p>Mediation systems are not specifically covered in our market share data and reports.</p>

Definitions: product

Figure 15: Definition of product revenue

Revenue type	Definition
Product	<p>Product revenue includes that from licence software and maintenance, as well as a proportion of SaaS revenue that reflects the value of the software product used to provide the SaaS service. It also includes the proportion of the managed services revenue that reflects the value of the software product used to provide the managed services (see the 'Definitions: revenue distribution associated with delivery types' slide for more details).</p> <p>Product revenue also includes revenue from product-related services, such as installation, training and lifecycle management services related to a specific telecoms software deployment. This category also includes professional services related specifically to a supplier's own product. These are services that only the product supplier will be able to provide in nearly all cases. Services related to third-party products are part of the systems integration sub-category.</p>

Definitions: professional services [1/3]

Figure 16a: Definitions of professional services revenue and its sub-categories

Revenue type	Definition
Professional services	Professional services revenue includes all software-related service revenue that is not explicitly tied to software products. This includes revenue from hosted/cloud, outsourced operations and systems integration and other services. These definitions include all the professional services that we previously covered, but we have adjusted the definitions of particular areas to embrace cloud as a way to provide hosted IT services and to reduce the number of distinct sub-segments for professional services.
Hosted/cloud	Revenue from hosted/cloud delivery services includes that that is attributed to the vendor that hosts the product for the CSP. The product can be supplied by the vendor using its own or third-party infrastructure. The product can be delivered through a private traditional or cloud-based site, or on a public cloud.
Outsourced operations	This category accounts for revenue that is associated with managing systems for CSPs. It includes business process outsourcing (BPO). This category also includes revenue generated from outsourced operations that are professional or specialist services provided by external suppliers' human resources to operate and maintain a CSP's assets, which can include all related operational responsibilities. This involves the transfer of operations from a CSP to external suppliers. In this scenario, the assets (systems and software) are owned by the CSP and reside in the CSP's environment and the supplier manages the network from a CSP co-located site or other local or regional (for example, regional NOC) site. It includes responsibility for onsite operations and related activities in a particular country or region.
Systems integration and other professional services	This category covers all new development that is carried out uniquely for the CSP. This includes business consulting, design consulting, custom development and systems integration. Overall, systems integration accounts for the largest proportion of professional services, although any of the other areas may be the focus in any given deal.

Definitions: professional services [2/3]

Figure 16b: Definitions of professional services revenue and its sub-categories

Revenue type	Definition
Systems integration and other professional services	<p>Systems integration concerns the services required to manage and deliver major telecoms software projects in the OSS, BSS, NFV/SDN software and other applications areas to meet CSPs' specific requirements. These are services that go beyond the boundaries of a single product or suite (such items are covered in the product-related services segment), and involve other systems in the CSP environment in order to meet the project's requirements. This category includes, but is not limited to:</p> <ul style="list-style-type: none"> • integration with third-party (other vendor or proprietary) data sources, systems and interfaces, including VNF onboarding and data analytics/AI-driven automation applications • data loading and migration • customisation and configurations of software extensions and modules (without coding) to provide customised software features and capabilities, such as network equipment adapters, point-to-point interfaces and enterprise application integration (EAI) • detailed requirements, technical specifications and detailed designs • integration testing, not normal unit and functional system testing, such as for the integration of open multi-vendor components into a full stack solution (for example for open RAN implementations) • project management services. <p>Services related to third-party products (not owned by the supplier) are included in this systems integration sub-category.</p>
	<p>Business consulting describes advisory services in the areas of business process, workflows, organisation issues and strategic planning, such as how to enter a market or how to package a service. This includes, but is not limited to transformational strategy, business case development and ROI modelling, business process re-engineering and optimisation, organisation restructuring, optimisation and change management, assisting CSPs to develop new products and services to deliver to their subscribers (ranging from tariffs to value-added services), go-to-market strategies, regulatory compliance review and reporting requirements and marketing and campaign strategies.</p>

Definitions: professional services [3/3]

Figure 16c: Definitions of professional services revenue and its sub-categories

Revenue type	Definition	
Systems integration and other professional services	Design consulting	Design consulting describes the provision of advisory design services prior to the implementation of a telecoms network, software and/or system in such areas as OSS, BSS and virtualised network or cloud architecture, automation, network planning and optimisation and data or information models. These services typically contribute towards developing requirements for procuring the systems and software needed. This category includes, but is not limited to network planning and optimisation designs for both fixed and mobile networks and their transition to virtual/hybrid networks, OSS, BSS, cloud and data analytics platforms, and integrated architectural design, developing technical requirement for tender documents, high-level migration plans and roadmapping, analysis of established systems, data modelling, high-level interface definitions and designs.
	Custom development	Custom development refers to telecoms software that is written specifically for an individual CSP, typically as a result of its ownership of legacy and proprietary systems, software or interfaces. It includes any development that requires coding to meet an unusual requirement, such as the development of a customised application store on an SDP or Microsoft .NET platform, an API for interfacing with legacy or proprietary systems, data migration scripts and custom plug-ins for VNF or NFV/sdn-related functional integration. This is internal development that is typically performed by large CSPs. The spending in this category only includes CSP spending on paying other firms for custom development, not the spending required for their own staff to do custom development. This includes some applications development management (ADM).

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About the author



Justin van der Lande (Research Director) leads the Applications practice. He specialises in business intelligence and analytics tools, which are used in all telecoms business processes and systems. In addition, Justin provides technical expertise for Analysys Mason in consultancy and bespoke large-scale custom research projects. He has more than 20 years' experience in the communications industry in software development, marketing and research. He has held senior positions at NCR/AT&T, Micromuse (IBM), Granite Systems (Telcordia) and at the TM Forum. Justin holds a BSc in Management Science and Computer Studies from the University of Wales.

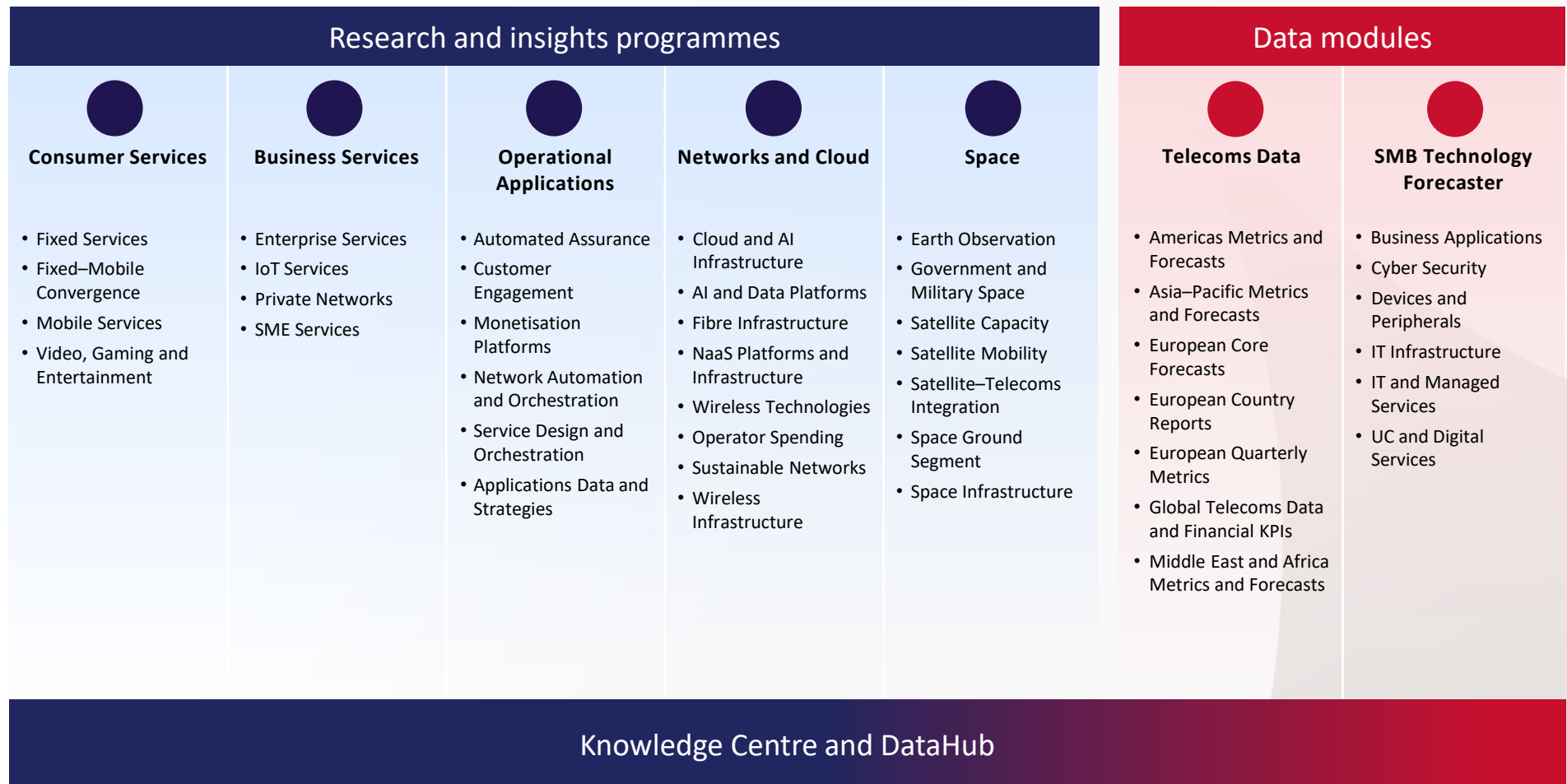
Analysys Mason is a global technology, media and telecoms management consulting firm

We help clients navigate complex transformation journeys and make and act on the decisions that steer their progress and connect our world.

We have been at the forefront of pivotal moments that have shaped the technology, media and telecoms industry for four decades, from guiding government agencies to forge the path for mass connectivity, to defining the strategies for companies exploring the opportunities of space and satellites.

Together we are **shaping the next**

Our research and insights put clients at the forefront of change



We support clients with decision-making and complex change journeys



Strategy

We assist clients in shaping and determining the decisive moments that steer their progress and chart the course for lasting change.

We deliver essential advice and insights that drive efficiencies, mitigate risk and accelerate growth and put our clients at the forefront of change.



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We provide qualitative and quantitative subscription research, bespoke research, and access to DataHub, our analyst-supported intelligence platform. These are essential assets for strategic planning and for our clients' investment and marketing decisions.



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We advise major government and industry stakeholders on regulation and policy and have shaped the pivotal moments that have defined technology, media and telecoms (TMT) and connect our world.



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We help investors with their investment and divestment decisions. We identify, evaluate and help implement investment decisions that deliver lasting results.

We provide robust and precise appraisals of investment opportunities related to capabilities, commercial, technical and ESG risks, their mitigants and investment upsides.



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We support clients to act on the decisions that create lasting value, advantage and change. We guide them through every phase of change on their complex transformation journeys and strategic change programmes.



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