RESEARCH MARKET SHARES REPORT

TELECOMS SOFTWARE: WORLDWIDE MARKET SHARES 2016

LARRY GOLDMAN, DON ALUSHA, JUSTIN VAN DER LANDE, ATUL ARORA, ANIL RAO, DEAN RAMSAY, GORKEM YIGIT, JOHN ABRAHAM, DANA COOPERSON, CAROLINE CHAPPELL and DR MARK H. MORTENSEN

analysysmason.com

About this report

This report provides market share data for communications service provider (CSP) spending on telecoms-specific software systems and related services across different segments.

The report covers two areas of spending for 2016:

- product-related, which includes spending on both products and product-related services.
- professional services, which is independent of particular vendor products. The professional services market share was new in last year's report.

The market definition section provides detailed explanations of these terms.

GEOGRAPHICAL COVERAGE	SEGMENT COVERAGE
Central and Eastern Europe (CEE)	Analytics
Developed Asia–Pacific (DVAP)	Customer care
Emerging Asia–Pacific (EMAP)	Service assurance
Latin America (LATAM)	Service fulfilment
Middle East and North Africa (MENA)	Service delivery platforms
North America (NA)	Revenue management
Sub-Saharan Africa (SSA)	Network orchestration and management systems (NOMS)
Western Europe (WE)	

KEY QUESTIONS ANSWERED IN THIS REPORT

- What was the overall size of the market for the telecoms industry and what drove this spending among CSPs?
- How did the spending vary across different application areas and their sub-segments?
- Who are the major vendors and what is their share of revenue in the market?
- What are the different drivers and growth rates for CSPs' spending on products, product-related services and professional services?

WHO SHOULD READ THIS REPORT

- Vendor strategy teams that need to understand where growth is slowing and where it is increasing across different segments.
- Product management teams responsible for feature functionality and geographical focus, and product marketing teams responsible for market-share growth.
- Market intelligence teams at vendors that want to understand how their competitors compare to each other.
- CSPs that are planning transformation projects and want to ensure that their current vendors are staying up to date.

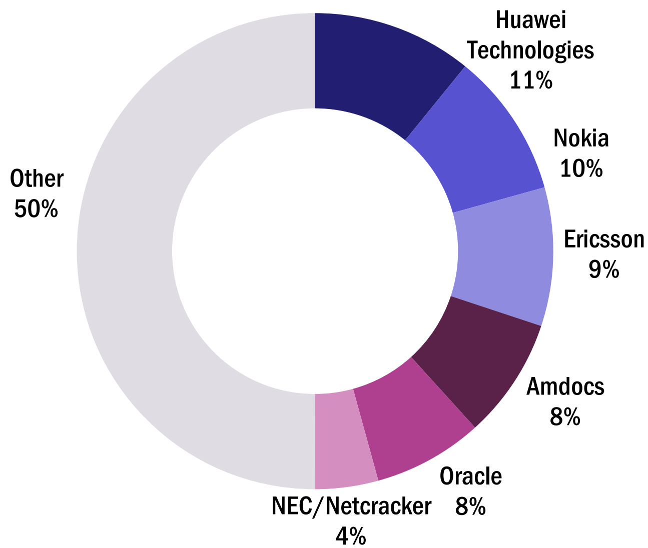
CONTENTS

Dashboard: Telecoms software product-related revenue market shares

KEY MARKET DEVELOPMENTS IN 2016

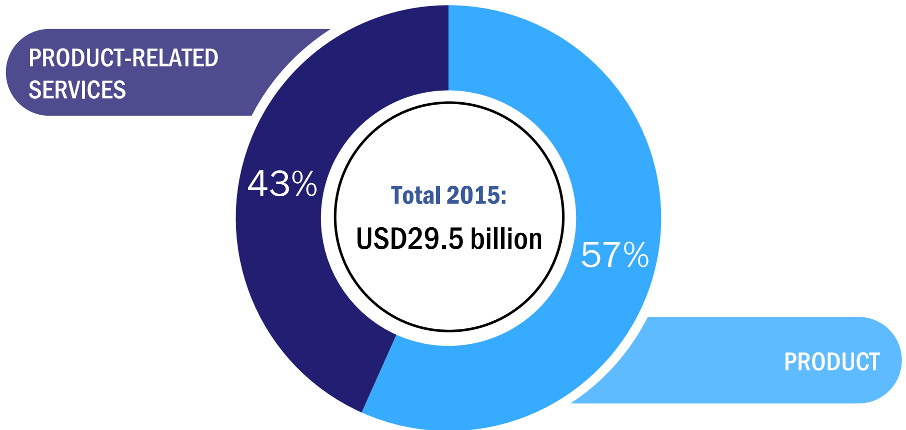
- Both CSPs' shift to the cloud and their search for cheaper commercial off-the-shelf (COTS) solutions have negatively impacted product-related sales.
- Digital transformation and virtualisation continue to drive growth, although not yet on a large scale. CSPs are also increasingly investing in strategies around video content and IoT.
- The service delivery platforms segment had the highest revenue growth in 2016 at 3.1%.

Figure 1: Telecoms software product-related revenue by vendor, worldwide, 2016



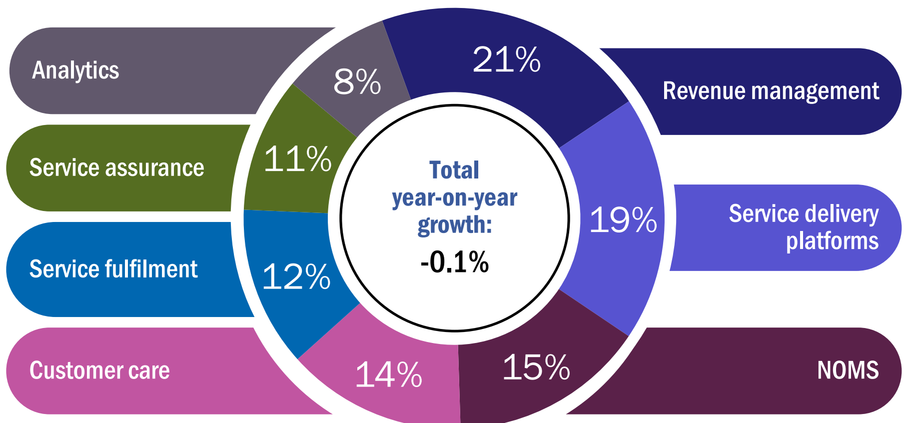
Source: Analysys Mason

Figure 2: Telecoms software product-related revenue by type, worldwide, 2016



Source: Analysys Mason

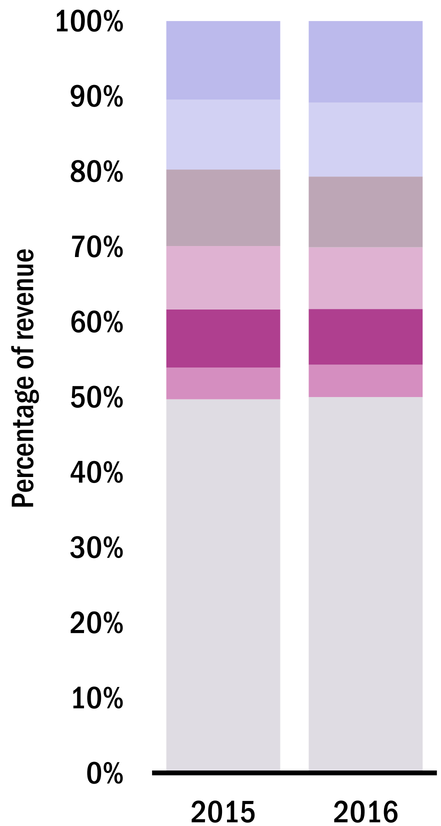
Figure 3: Telecoms software product-related revenue by segment, worldwide, 2016



Source: Analysys Mason

2015 versus 2016 product-related revenue: Huawei Technologies remains the largest telecoms software vendor by revenue in 2016

Figure 4: Telecoms software revenue by vendor, worldwide, 2015 and 2016



Vendor	2015	2016
Huawei Technologies	10.47%	10.85%
Nokia	9.28%	9.83%
Ericsson	10.14%	9.41%
Amdocs	8.45%	8.19%
Oracle	7.72%	7.44%
NEC/Netcracker	4.21%	4.29%
Other[1]	49.72%	49.99%

Source: Analysys Mason

Huawei Technologies has experienced tremendous success since its inception and has forged strong partnerships with a range of CSPs. Its broad portfolio of solutions has enabled it to drive continued growth, particularly in the mobile sector.

Nokia has consolidated its market position through its recent acquisition of Alcatel-Lucent. Nokia's strategy is guided by its vision of a programmable world, and several large acquisitions show that it is increasingly investing in accordance with this vision.

Ericsson experienced a slump in revenue and is currently implementing a cost-cutting plan to cope with a sluggish market. The company has already exited some markets and is reviewing its major contracts with a view to doubling its margins.

Amdocs' overall revenue increased slightly, but its product-related sales declined marginally, indicating its increased focus on professional services, which is a key area for the company.[2]

Oracle lost its position as the fourth-largest vendor by revenue in 2015, due to Nokia entering the top three. Oracle is focusing on SaaS and is increasingly moving into cloud-native software architectures.

NEC/Netcracker remains a strong player, with a mix of Netcracker's network equipment provider (NEP)-agnostic products and NEC's equipment-led business.

[1] Significant vendors in the 'Other' category include: AsiaInfo, BroadSoft, Cisco, CSG International, Hewlett Packard Enterprise (HPE), IBM, NetScout, SAP, SAS and TEOCO.

[2] For more details see Analysys Mason's Article [Amdocs' growing strength in vendor-agnostic telecoms professional services challenges system integrators](#).

CONTENTS

About the authors

Larry Goldman (Head of Telecoms Software Research) leads Analysys Mason's work in telecoms network and software research. His current focus is service provider digital transformation. He co-founded OSS Observer, now part of Analysys Mason. Larry has over 30 years' experience in telecoms networks and software. Before founding OSS Observer in 2003, he was OSS Program Director at research firm RHK. Prior to joining RHK, he was Director of the Network Solutions Group at Tellabs (now Coriant), managed OSS development at GTE (now Verizon), and spent 12 years at Hewlett-Packard, where he was a manager responsible for telecoms-related software development. Larry is a frequent speaker at industry conferences.

Don Alusha (Research Analyst) is part of the BSS practice in Analysys Mason's Telecoms Software Research team, contributing to the *Revenue Management*, *Customer Care*, *Service Fulfilment* and *Analytics* research programmes. His areas of interest include computer and network security, the digitalisation of communications service providers' (CSPs') systems, and the evolution of software architecture in cloud computing deployments. He holds an MSc with Distinction in Computing, IT Law and Management from King's College London, and a first-class honours BSc degree in Business Computing Systems from City, University of London.

Justin van der Lande (Principal Analyst) leads the *Analytics*, *Digital Experience* and *CSP IT Strategies* research programmes, which are part of Analysys Mason's Telecoms Software research stream. He specialises in business intelligence and analytics tools, the functionality of which cuts across all of the research programmes in this area. He also provides project management for large-scale projects within our Telecoms Software research. Justin 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.

About the authors

Atul Arora (Senior Analyst) is the lead analyst for the *Customer Care* programme and a contributor to the *Digital Experience*, *Software Forecast and Strategy* and *Telecoms Software Market Shares* programmes. His areas of interest include the digitalisation of CSPs' customer engagement systems, omni-channel commerce and care and CSPs' use of social media. Atul also works on custom projects for telecoms operators and vendors, which include providing strategic advisory and undertaking market assessment work. He holds an MSc in Neuroscience from University College London and a bachelor's degree from Jaypee University (India).

Anil Rao (Senior Analyst) is a member of Analysys Mason's Telecoms Software research team and is the lead analyst for the *Service Assurance* programme, focusing on producing market share, forecast and research collateral for the programme. He has published research on IP probes, real-time network analytics and the importance of service assurance in reducing churn and improving customer experience. He holds a BEng in Computer Science from the University of Mysore and an MBA from Lancaster University Management School, UK.

Dean Ramsay (Senior Analyst) is a member of Analysys Mason's Telecoms Software and Networks research team. He leads the *Service Fulfilment* research programme. He has 16 years of experience in the telecoms industry, working initially in network inventory management at MCI Worldcom and Verizon Business and, subsequently, as a service delivery manager with several Tier 2 carriers and interconnect providers. Dean joined Analysys Mason in 2011 following 2 years working as an analyst in the mobile sector. He holds a BA in English from Anglia Ruskin University.

About the authors

Gorkem Yigit (Senior Analyst) is the lead analyst for the *Service Delivery Platforms* programme and a contributor to the *Software-Controlled Networking* and *Network Orchestration* programmes, focusing on producing market share, forecast and research collateral. He started his career in the telecoms industry with a graduate role at a leading telecoms operator, before joining Analysys Mason in late 2013. He has published research on NFV/SDN services business cases, identity management in the digital economy, and has been a key part of major consulting projects including Telco Cloud Index and IPTV/OTT procurement. He holds a cum laude MSc degree in Economics and Management of Innovation and Technology from Bocconi University (Milan, Italy).

John Abraham (Senior Analyst) is a senior analyst within Analysys Mason's Telecoms Software and Networks Research team. He leads our *Revenue Management* programme and our research into digital experience for monetisation platforms, as part of the *Digital Experience* programme. John also contributes to our research into cloud-native architecture models, which is covered as part of the *Software-Controlled Networking* programme. John has been part of the telecoms industry since 2006, and joined Analysys Mason in early 2012. He has worked on a range of telco projects for operators in Africa, Europe, India and the Middle East. Before joining Analysys Mason, he worked for several years for a BSS vendor and before that for Dell Inc in India.

Dana Cooperson (Research Director) is the research director for Analysys Mason's network-focused software research programmes. Her area of expertise is intelligent fixed and mobile network infrastructure. Her goal is to help customers strengthen their link in the communications value chain while evolving their business operations to benefit from, rather than be threatened by, shifts in the market. The key network infrastructure trends Dana focuses on include the integration of communications and IT assets and the drive towards software-controlled, virtual networking.

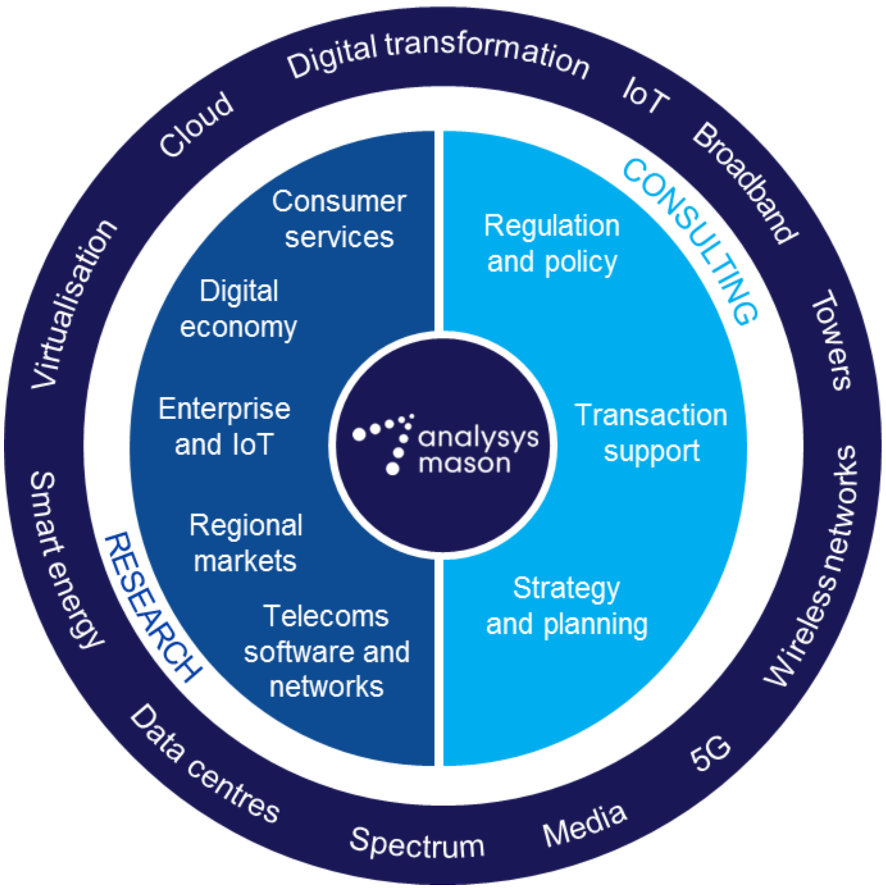
About the authors

Caroline Chappell (Principal Analyst) is the lead analyst for Analysys Mason's *Software-Controlled Networking* research programme. Her research focuses on service provider adoption of cloud and the application of cloud technologies to fixed and mobile networks. She is a leading exponent of SDN and NFV and the potential that these technologies have to enhance business agility and enable new revenue opportunities for service providers. Caroline investigates key cloud and network virtualisation challenges, and helps telecoms customers to devise strategies that mitigate the disruptive effects of cloud and support a smooth transition to the era of software-controlled networks. Caroline has over 25 years' experience as a telecoms analyst and consultant.

Mark H. Mortensen (Research Director) is the Research Director and Practice Head for customer-facing systems in Analysys Mason's *Telecoms Software and Networks* research stream. He is also the lead analyst for the *Digital Experience* research programme. His interest areas include the conversion of CSPs to modern DSP operations, the effect of network virtualisation on operations, and the evolution of software architectures in the cloud world.

Analysys Mason's consulting and research are uniquely positioned

Analysys Mason's consulting services and research portfolio



CONSULTING

- We deliver tangible benefits to clients across the telecoms industry:
  - communications and digital service providers, vendors, financial and strategic investors, private equity and infrastructure funds, governments, regulators, broadcasters, and service and content providers
- Our sector specialists understand the distinct local challenges facing clients, in addition to the wider effects of global forces.
- We are future-focused and help clients understand the challenges and opportunities that new technology brings.

RESEARCH

- Our dedicated team of analysts track and forecast the different services accessed by consumers and enterprises.
- We offer detailed insight into the software, infrastructure and technology delivering those services.
- Clients benefit from regular and timely intelligence, and direct access to analysts.

Research from Analysys Mason

Clients across the breadth of telecoms, media and technology sectors rely on our research and analysis to inform business-critical decisions.

Consumer services programmes
Mobile Services
Mobile Devices
Fixed Broadband Services
Convergence Strategies
Video Strategies

Network investment programmes
Network Investment Strategies
Network Traffic
Spectrum

Telecoms software and networks programmes
Software Forecast and Strategy
Telecoms Software Market Shares

Network-focused
Next-Generation Wireless Networks
Service Delivery Platforms
Service Fulfilment
Service Assurance
Network Orchestration
Software-Controlled Networking

Customer-focused
Digital Experience
Customer Care
Revenue Management
Analytics

analysysmason.com/research

Digital economy programmes
Digital Economy Strategies
Future Comms

Enterprise and IoT programmes
Large Enterprise Voice and Data Connectivity
Large Enterprise Emerging Service Opportunities
SME Strategies
IoT and M2M Services
IoT Platforms and Technology

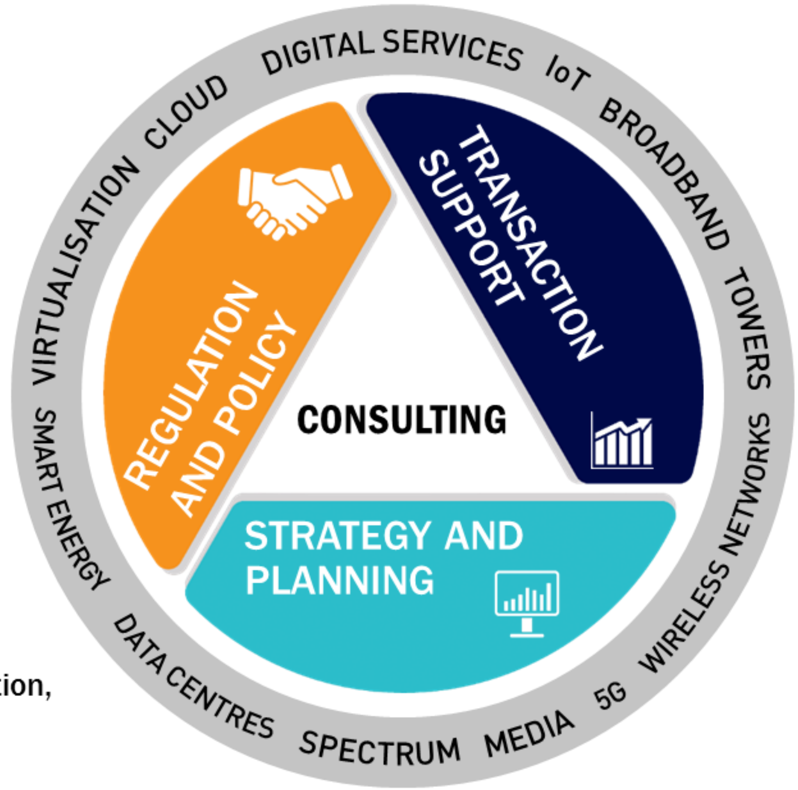
Regional markets programmes
Global Telecoms Forecasts
Asia–Pacific
Middle East and Africa
European Core Forecasts
European Telecoms Market Matrix
European Country Reports

DataHub
Data covering +80 countries and +400 operators
+1400 forecast and +250 historical metrics
Regional results and worldwide totals
Operator historical data
Compare markets and operators
Financial values in USD, EUR or local currency
Export data to Excel and save searches

Consulting from Analysys Mason

REGULATION AND POLICY

- Quality of service
- Market review
- Margin squeeze tests
- Analysing regulatory accounts
- Regulatory economic costing
- Policy development and response
- Media regulation
- Expert legal support
- Radio spectrum management
- Net cost of universal service
- Radio spectrum auction support
- Postal sector policy: USO, liberalisation, costing, pricing and regulation



TRANSACTION SUPPORT

- Commercial due diligence
- Technical due diligence
- Digital services
- Mid-market finance sponsors
- Data centres

STRATEGY AND PLANNING

- Commercial expertise
- Technology optimisation
- New digital frontiers

analysysmason.com/consulting

PUBLISHED BY **ANALYSYS MASON LIMITED** IN **AUGUST 2017**

Bush House • North West Wing • Aldwych • London • WC2B 4PJ • UK

Tel: +44 (0)20 7395 9000 • Email: research@analysysmason.com • www.analysysmason.com/research • Registered in England No. 5177472