



RESEARCH STRATEGY REPORT

BUILDING THE CASE FOR AI: THE REVOLUTION IS UNDERWAY AS EARLY-ADOPTER OPERATORS DEPLOY AI SOLUTIONS

JUSTIN VAN DER LANDE

Executive summary: AI is the key technology that will support next-generation digital service providers on their transformation journeys

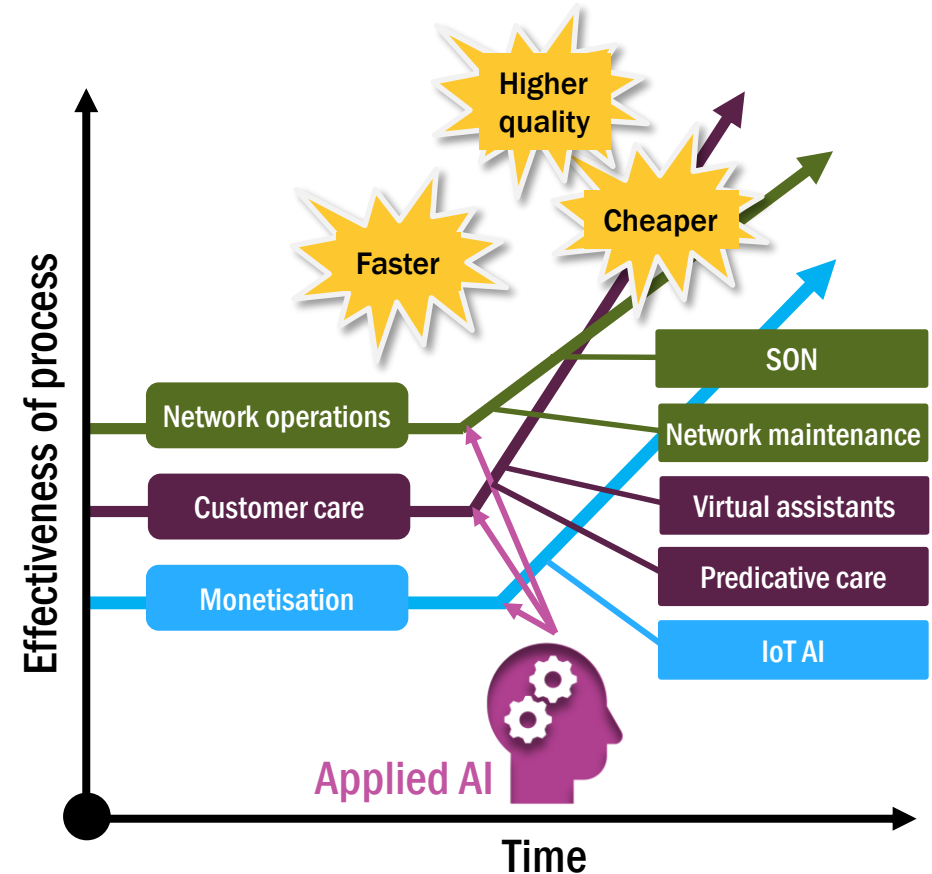
There is a great deal of hype about AI in the telecoms market, but it is not yet clear which of the technology's use cases will provide the most value to communications service providers (CSPs). CSPs must assess the level of maturity and effectiveness of these solutions before making decisions about how to invest in, and apply, AI within their infrastructure and operations.

AI is an important enabler of CSPs' digital transformation. This report offers insights into the different types of AI applications that can help CSPs to transform and improve their processes, reduce costs, and make their networks more efficient. We do so by examining the level of maturity of each use case, and by providing detailed examples of AI solutions that have reached a more-advanced stage of deployment in the market.

CSPs must consider how they can take advantage of AI: those with high-level ambitions may want to build their own AI solutions and ecosystems, whereas more risk-averse CSPs may only adopt embedded solutions within applications.

- CSPs should plan now to provide AI-powered virtual assistants and use AI within their wider customer care and marketing functions.
- CSPs should use AI as part of network operations for planning, maintaining and operating networks and for 5G in particular.
- CSPs in developed markets should consider monetising customer data, and developing services based on an AI data infrastructure, including IoT.

Figure 1: When applied to key CSP use cases, AI produces an inflection point that can lead to more-efficient and more-precise processes that can take advantage of more data



Source: Analysys Mason



Challenge: AI can be applied to any process, but CSPs – under management pressure – are unclear which use case to select first

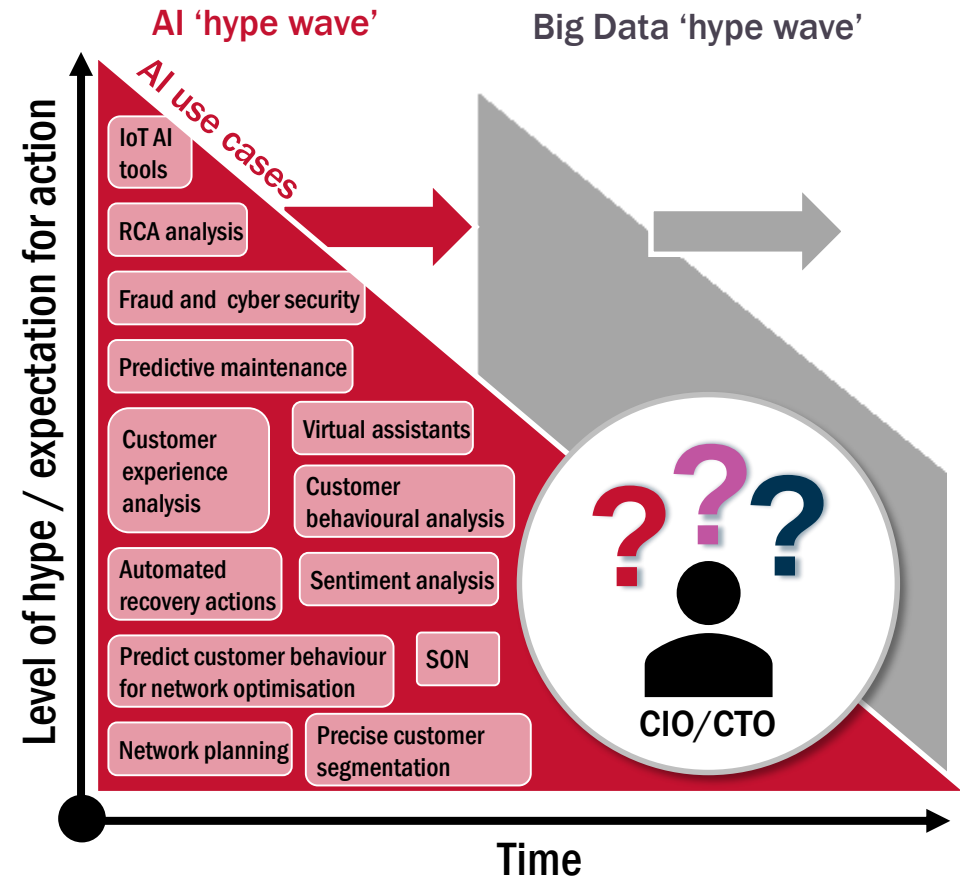
AI represents yet another ‘technology wave’ that both CSPs and vendors must assess in terms of the role that it will play in their businesses, both now and in the future. CSPs in particular must give AI urgent consideration to prevent rivals from taking advantage, but identifying priority use cases is challenging.

The application of AI provides CSPs with many opportunities to improve specific areas of their businesses. Each of these use cases brings with it its own rewards and potential risks. There are also technology factors that may constrain AI use cases, such as access to data, the availability of data infrastructure and skilled resources, and the inability to act on the insights generated by the technology.

The hype around AI is creating pressure for both CSPs and vendors to quickly adopt the technology and related tools. Although it is widely accepted that AI can offer CSPs huge potential benefits, there is little clarity about which use cases provide the most value.

All CSPs need to clarify and define their business strategies for AI adoption. A CSP can elect to be an innovator by adopting untested AI technology in the hope of gaining a significant advantage over its rivals. However, some CSPs that are considering new products or partnerships may conclude that this strategy is too risky. Those CSPs that are only willing to a low-risk approach will adopt AI in the late majority phase (when AI solutions have become more mainstream). However, these operators will be driven by increasing competitive pressures, rather than differentiation against their rivals.

Figure 2: AI use cases associated with the AI ‘hype wave’; CSPs must establish which of these areas to prioritise

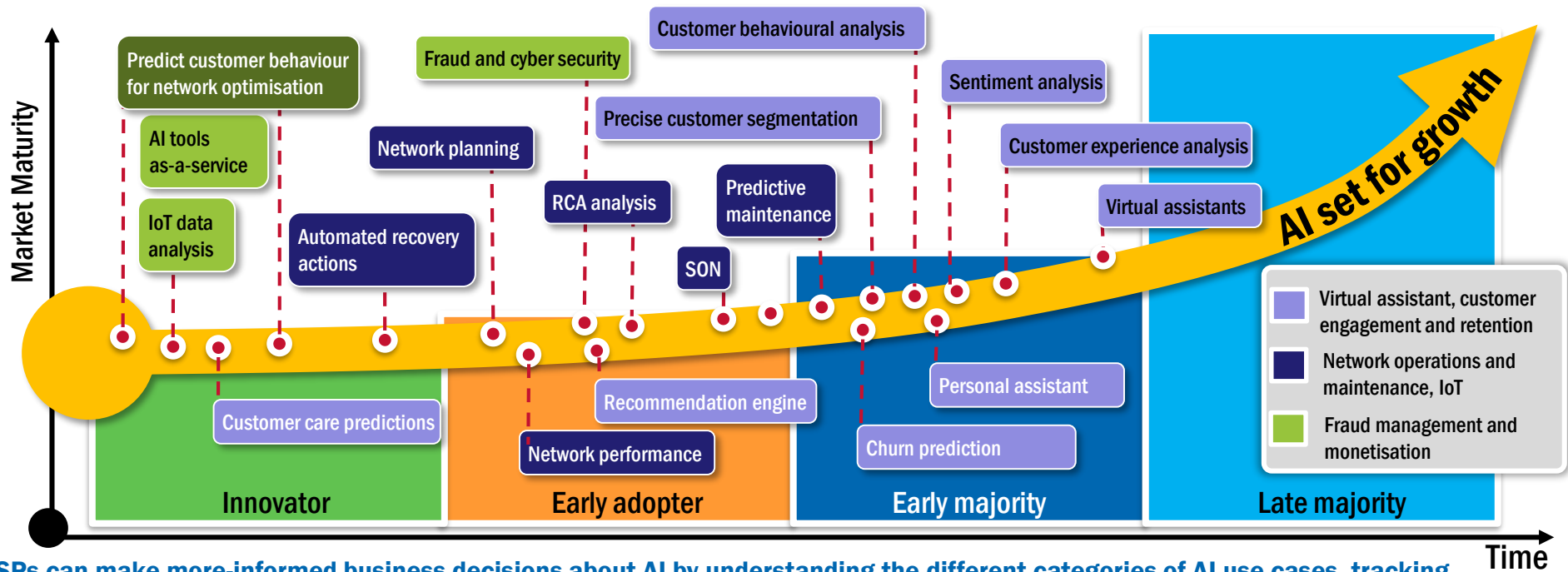


Source: Analysys Mason



Solution: CSPs can identify where to concentrate their resources by understanding AI use case categories and their related benefits

Figure 3: AI use case maturity and categorisation



CSPs can make more-informed business decisions about AI by understanding the different categories of AI use cases, tracking their deployments and clarifying the availability of these solutions.

This report examines the different categories of AI use cases (shown above), clustering functions with similar levels of market maturity. This includes the availability of solutions as products, though some use cases are only currently supported as a services-based approach.

The business implications for each AI use-case is dependent on three measures: Reduction of costs or resources; improvement to customer experiences ;and the creation of additional revenue. The level of solution maturity is measured by evidence of implementations at CSP. This includes in-house developments as well as vendor or systems integrator based solutions.

Recommendations

1

All CSPs should urgently consider the implementation of AI technology to support virtual assistants (VAs), precision marketing and for retention processes.

The most mature AI solutions are those used for the implementation of virtual assistants/SmartBots and precision marketing. CSPs in developed markets have already undertaken these types of low-risk implementations. CSPs with high customer services costs will benefit most from VAs, whereas CSPs with high advertising spend in developed markets will benefit most from precision marketing (this type of solution is also likely to have an impact in less-developed markets).

2

CSPs must put support in place for AI in the area of network operations when planning for 5G and SDN/NFV, as well as optimise current processes to reduce costs and enable better customer experience.

AI will support 5G, but with more than 1000 potential parameters to set up in a highly dynamic environment, CSPs need to build AI-based solutions to provide the automation needed to support complex configuration and operational processes. CSPs should also build up AI capabilities for currently deployed network solutions to develop AI solutions and to reduce current operational efforts.

3

Fraud management solutions should incorporate AI techniques to detect fraud and security issues and to help identify patterns of attack, which can help to then predict and prevent them.

Fraud management tools should include AI techniques to create algorithms that address known types of attack. These techniques can be learned from associated data using machine learning. In addition, a CSP's "usual" activities can be monitored and modelled using AI, which can help to isolate exceptions to expected behaviours and enable CSPs to investigate potential security risks and fraudulent activities.

CONTENTS

EXECUTIVE SUMMARY

VIRTUAL ASSISTANTS, CUSTOMER ENGAGEMENT AND
RETENTION

NETWORK OPERATIONS AND MAINTENANCE, IOT

FRAUD MANAGEMENT AND EXTERNAL MONETISATION

ABOUT THE AUTHOR AND ANALYSYS MASON

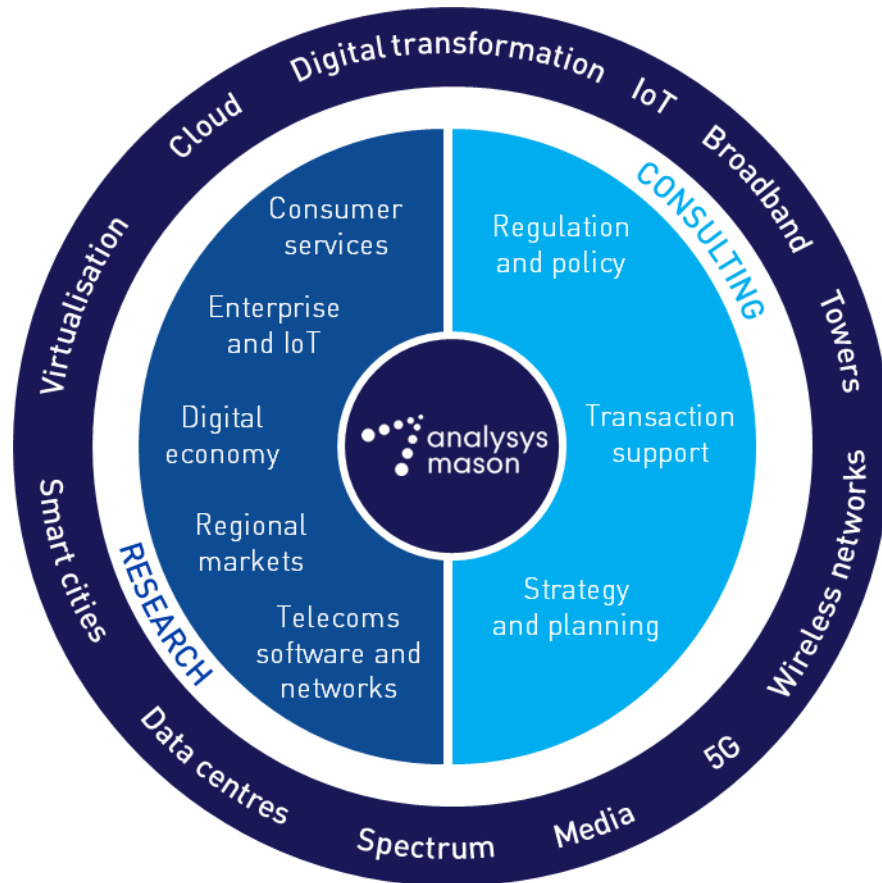
About the author



Justin van der Lande (Principal Analyst) leads the AI and *Analytics* research programme, which is part of Analysys Mason's Telecoms Software and Networks research stream. 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's consulting and research are uniquely positioned

Analysys Mason's consulting services and research portfolio



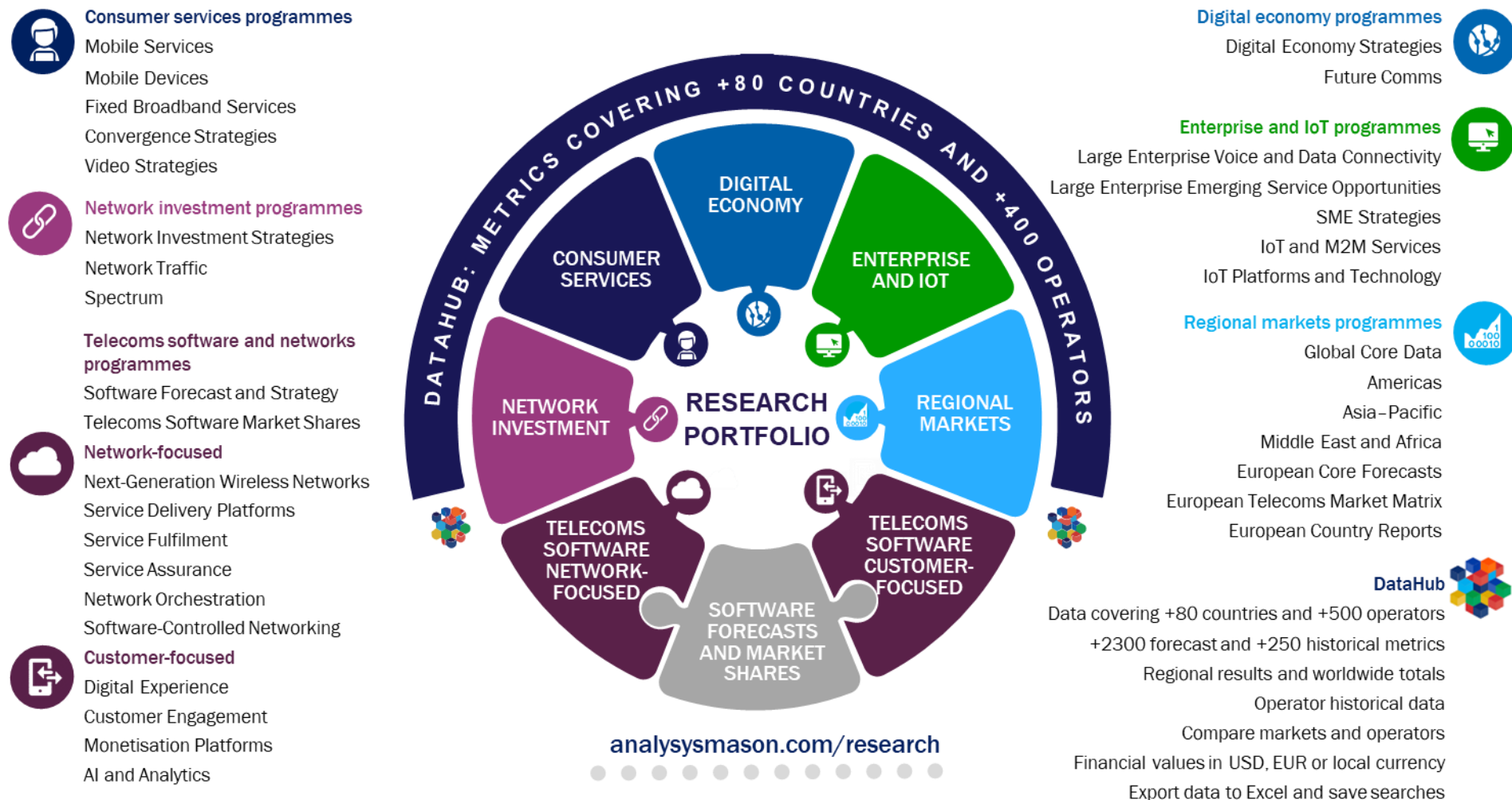
CONSULTING

- 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



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: universal service obligation (USO), liberalisation, costing, pricing and regulation



TRANSACTION SUPPORT

- Commercial due diligence
- Technical due diligence
- Mergers and acquisitions (M&As)
- Debt and initial public offerings (IPOs)
- Joint-venture (JV) structuring
- Mid-market financial sponsors

STRATEGY AND PLANNING

- Commercial expertise
- Technology optimisation
- New digital frontiers

analysysmason.com/consulting

PUBLISHED BY ANALYSYS MASON LIMITED IN APRIL 2018

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

© Analysys Mason Limited 2018. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means – electronic, mechanical, photocopying, recording or otherwise – without the prior written permission of the publisher.

Figures and projections contained in this report are based on publicly available information only and are produced by the Research Division of Analysys Mason Limited independently of any client-specific work within Analysys Mason Limited. The opinions expressed are those of the stated authors only.

Analysys Mason Limited recognises that many terms appearing in this report are proprietary; all such trademarks are acknowledged and every effort has been made to indicate them by the normal UK publishing practice of capitalisation. However, the presence of a term, in whatever form, does not affect its legal status as a trademark.

Analysys Mason Limited maintains that all reasonable care and skill have been used in the compilation of this publication. However, Analysys Mason Limited shall not be under any liability for loss or damage (including consequential loss) whatsoever or howsoever arising as a result of the use of this publication by the customer, his servants, agents or any third party.