



Telecoms capex: worldwide trends and forecasts 2018–2028



Michela Venturelli

About this report

This report provides forecasts for capex for established and new telecoms operators and infrastructure providers between 2018 and 2028. It provides a detailed breakdown of capex by region, network technology and category. It also analyses the spending patterns and priorities of 10 different operator profiles including converged, mobile-only, wholesale, B2B and hyperscale providers.

The report is based on several sources, including:

- a detailed model based on many public and private sources
- a survey¹ and interviews with telecoms operators worldwide
- regular tracking of operator financial KPIs.

KEY QUESTIONS ANSWERED IN THIS REPORT

- What do we expect the trends in telecoms capex to be between 2018 and 2028 and what are the drivers for investment?
- For which technologies or architecture will operator spending grow, and for which will spending decline?
- How will operators' different business models affect their approaches to investment, and will some shift budgets more heavily towards opex?
- How much capital spending will be made by non-traditional operators,² including wholesale providers, new entrant MNOs, hyperscalers and private and neutral host networks?



GEOGRAPHICAL COVERAGE

- Worldwide
- Central and Eastern Europe (CEE)
- Developed Asia–Pacific (DVAP)
- Emerging Asia–Pacific (EMAP)
- Latin America (LATAM)
- Middle East and North Africa (MENA)
- North America (NA)
- Sub-Saharan Africa (SSA)
- Western Europe (WE)



WHO SHOULD READ THIS REPORT

- Financial and strategy divisions within telecoms operators, wishing to understand how their capex patterns compare with those of other operators.
- Senior executives, product strategy and finance divisions within vendors, to understand changes in customer spending and procurement.
- Strategic decision makers in organisations that are adjacent to telecoms, or are considering investment, such as hyperscalers.
- Telecoms investors within investment banks or venture capital firms.

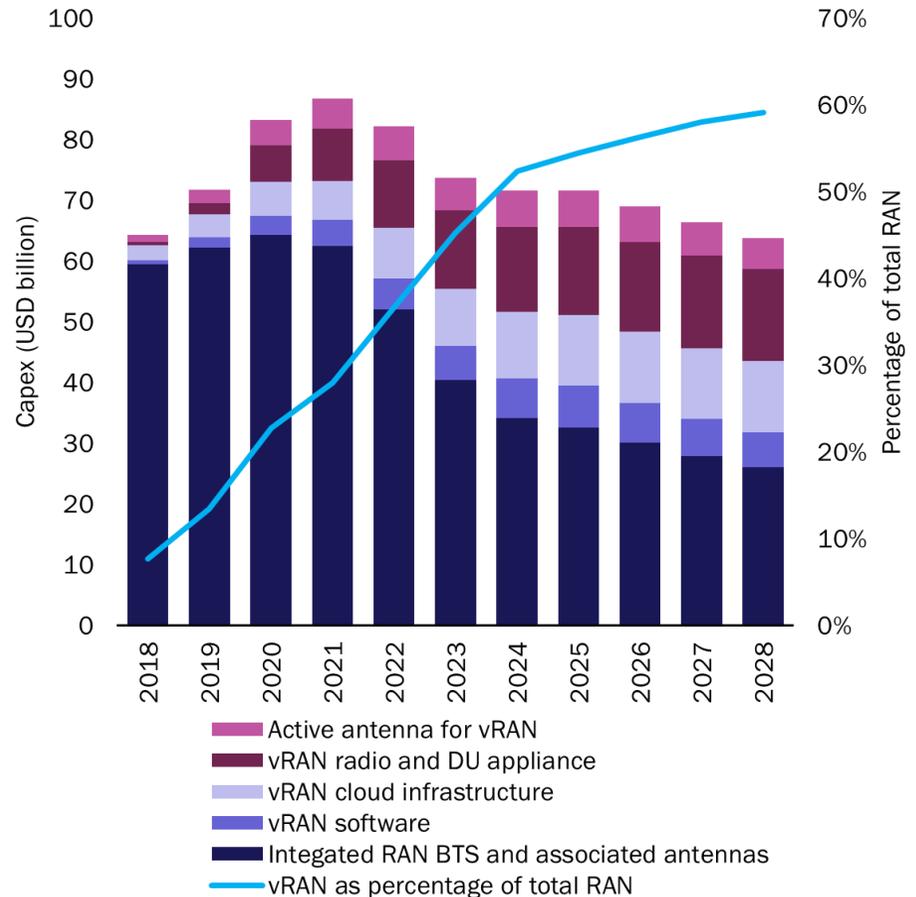
Virtualised RAN solutions are continuing to mature; although capex for this sub-category will be low to start with, it will account for 59% of new RAN capex in 2028

We forecast that capex allocated to RAN will decline at a CAGR of -0.1% during the forecast period to USD63.8 billion in 2028. The share of RAN traditional spending will decline at a CAGR of 7.9% , which will be offset by increased spending on vRAN solutions. We forecast that spending on vRAN solutions will grow at a CAGR of 22.5% during the forecast period to reach USD37.7 billion in 2028. This sub-category will therefore account for 59% of new RAN capex in 2028.

The main drivers of RAN spending will be 5G expansion and the migration to 5G standalone; adoption of massive MIMO antennas to increase spectral efficiency and network capacity; and the adoption of vRAN, including Open RAN.

Early vRAN solutions will be deployed to deliver additional coverage in economically challenging areas and to address relatively simple scenarios (such as suburban, enterprise or rural areas). We expect to see more macro 5G vRAN network deployments between 2023–2024, once challenges relating to interoperability and costs start to be addressed. For example, vRAN will require advanced cloud hardware, which is more expensive and power-hungry than integrated architectures, to deliver the same performance. It will be several years before Open RANs meet the needs of complex 5G networks, but if the standardisation standards and ecosystems mature as operators hope, some macro vRAN deployments will be able to support Open RAN platforms from 2025. This will mean that a broader and potentially more-competitive supply chain to the vRAN can be created.

Figure 6: Capex on RAN by sub-category, worldwide, 2018–2028



Source: Analysys Mason



Executive summary

Cloudification and disaggregation will change spending patterns

An increasing proportion of investment is coming from outside mainstream telecoms channels

Regional trends

About the author and Analysys Mason

About the author



Michela Venturelli (Senior Analyst) is a member of the *Networks* research team in London, and contributes to various research programmes, focusing on *Operator Investment Strategies* and *Wireless Infrastructure Strategies*. Michela holds a PhD and an MSc in Physics from University College London and Statale di Milano university, respectively.

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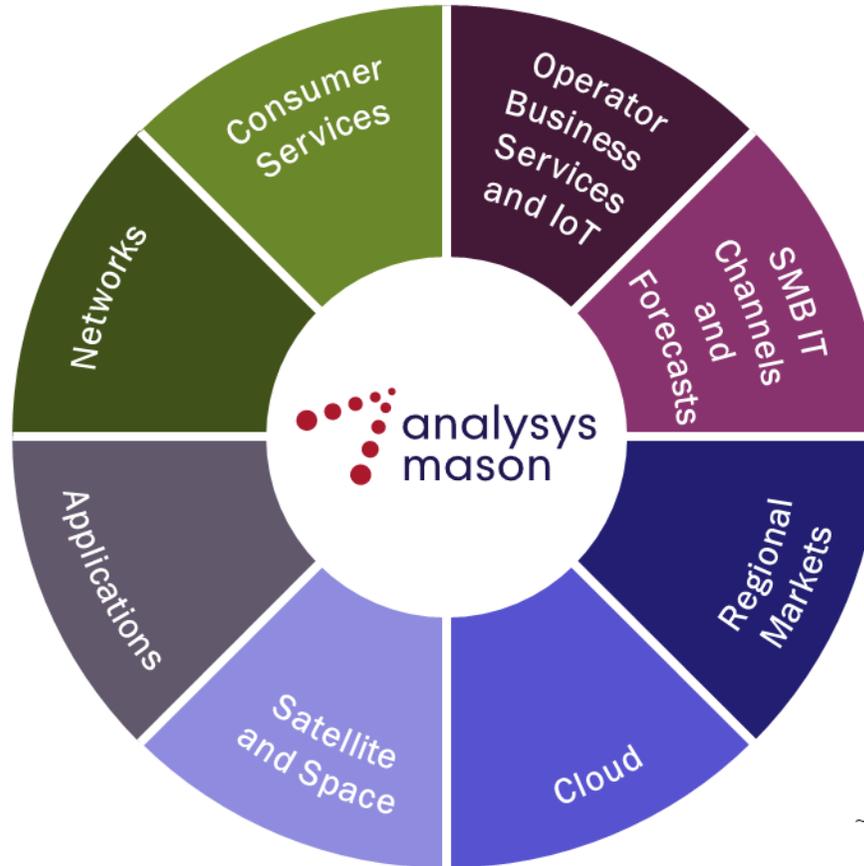
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- Operator Business Services and IoT**
 - Enterprise Services
 - SME Services
 - IoT Services
 - Private Networks
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SMB IT Channels and Forecasts
 - Cyber Security
 - SMB Technology Forecaster
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Regional Markets
 - Global Telecoms Data and Financial KPIs
 - Americas
 - Asia–Pacific
 - Middle East and Africa
 - European Core Forecasts
 - European Telecoms Market Matrix
 - European Country Reports
- 
Cloud
 - Cloud Infrastructure Strategies
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 - Edge and Media Platforms
 - Multi-Cloud Networking
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 - Regional results and worldwide totals
 - Operator historical data

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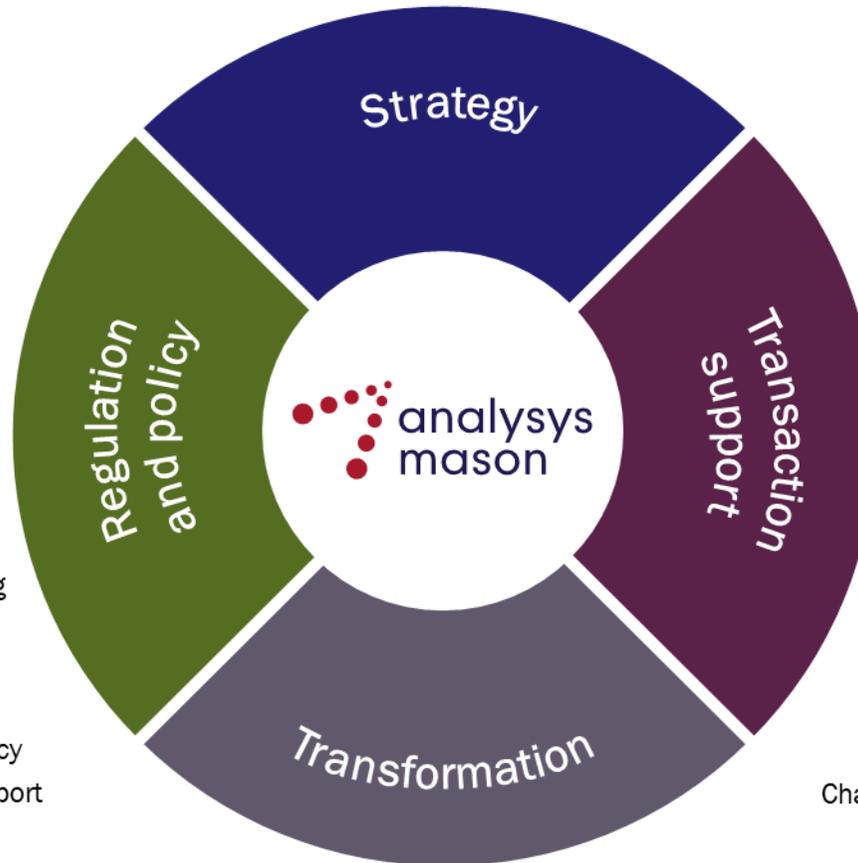
Strategy

- Corporate growth strategy
- Business unit strategy
- Infrastructure strategy



Regulation and policy

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- Public sector broadband intervention
- Accelerating digital transformation of society
- Price controls and cost modelling
- Regulatory accounting
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