RESEARCH

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Mobile capex: worldwide trends and forecasts 2017–2025

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About this report

This report provides detailed analysis and forecasts of mobile capex for mobile network operators (MNOs) between 2017 and 2025. It analyses the key technology and commercial trends that are driving the changes in capex patterns, and breaks down the forecasts by category and regions.

The report is based on several sources, including:

- Analysys Mason's research from the past year
- interviews with MNOs and vendors worldwide.

GEOGRAPHICAL COVERAGE

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

SUB-SEGMENT COVERAGE

- Mobile access networks
- Transport and backhaul
- Core networks
- IT and digital infrastructure
- Infrastructure and civil engineering
- Other capex (e.g. content)

KEY QUESTIONS ANSWERED IN THIS REPORT

- How quickly will 5G spending grow in different geographic regions and individual countries?
- Which elements of MNO capex will decline by 2025, and will there be new areas that are attracting increased investment?
- What will be the RAN revenue mix for vendors as MNOs plan and deploy new networks?
- Which markets represent the most-promising opportunities for vendors in terms of mobile technology coverage expansion?
- To what extent can capex grow in emerging markets worldwide?

WHO SHOULD READ THIS REPORT

- Vendor strategy teams that need to understand where growth is slowing and where it is increasing across different categories and regions.
- MNOs' CFOs, strategy executives and CxOs.
- MNOs that want to understand how their capex strategies align with those of the wider industry.
- The investment community.

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Mobile capex will grow at a slower pace than previously forecasted until 2021, but growth will then accelerate as 5G is deployed worldwide

We forecast that the global mobile capex will remain flat until 2021, at which point it will begin to grow at a faster pace than was previously expected from earlier forecasts.

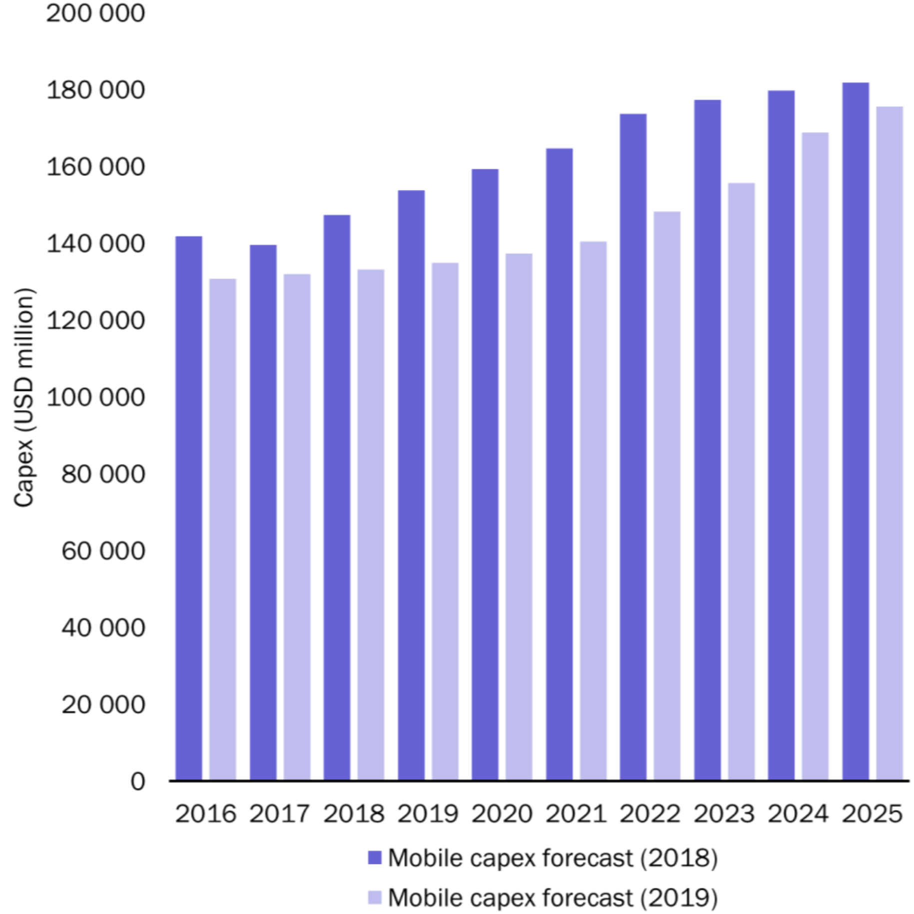
We have reduced the forecast for mobile capex compared to that from last year (Figure 1). This is because the results of our surveys indicate that many MNOs have decreased their previously anticipated investments.

MNOs in several countries launched their 5G services in 2018, albeit in many cases on a small scale, and larger nationwide deployments are expected from 2019 (in the USA, for example). We always expected 5G to be more capex efficient than 4G, but the reality is more extreme than previously anticipated. There was once an expectation that MNOs would invest large amounts of cash into new 5G networks, but pragmatism has taken hold.

A significant amount of the reduction in the capex forecast is due to a decrease in the expected RAN investment. There are several reasons for this; for example, some MNOs are considering network sharing strategies as a way to reduce 5G TCO. Many MNOs also blame decreasing ARPU and the current lack of data monetisation opportunities.

Many MNOs, especially in developed markets, have come to the end of their 4G investments and are cautious about making new investments while the 5G monetisation opportunities remain unclear and the new virtualised RAN solutions are immature.

Figure 1: Current and previous mobile capex forecast, worldwide, 2016–2025



Source: Analysys Mason

Mobile capex will continue to grow at a slow pace; investments in 5G RAN will only overtake those in 4G in 2023

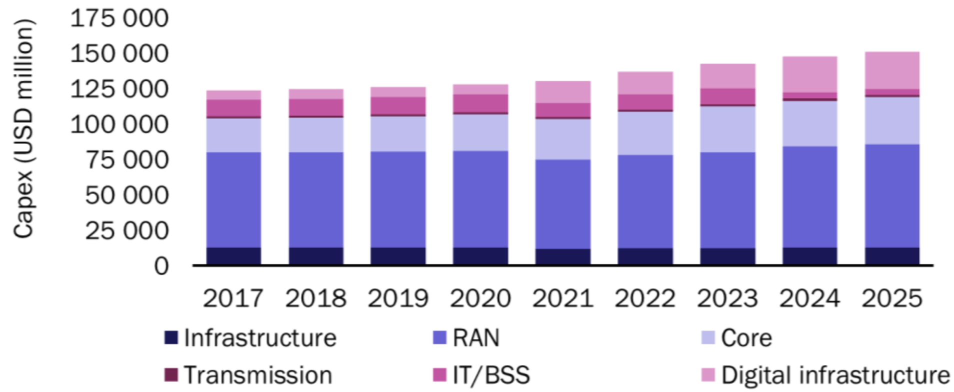
Many MNOs are starting to deploy 5G networks, but it is important to note that the forecasted total mobile capex will only increase at a CAGR of 3% between 2018 and 2025. This is partly because much of the radio hardware that has been deployed by MNOs over the last few years has software that can be upgraded to deliver 5G new radio (5GNR) technology.

Transmission capex for fronthaul and backhaul will grow at a CAGR of 6%, given the expected growth in mobile data traffic. Mobile sites will require high backhaul bandwidths in order to service 5G data rates. The introduction of cloud-RAN will require a significant increase in fronthaul bandwidths, even more so if massive MIMO antennas are deployed.

MNOs will continue to invest in data centres and edge computing as part of their digital infrastructure deployments, especially as edge computing matures in order to serve the functions of user plane separation and local breakouts. Digital infrastructure capex will grow at CAGR of 18% during the forecast period.

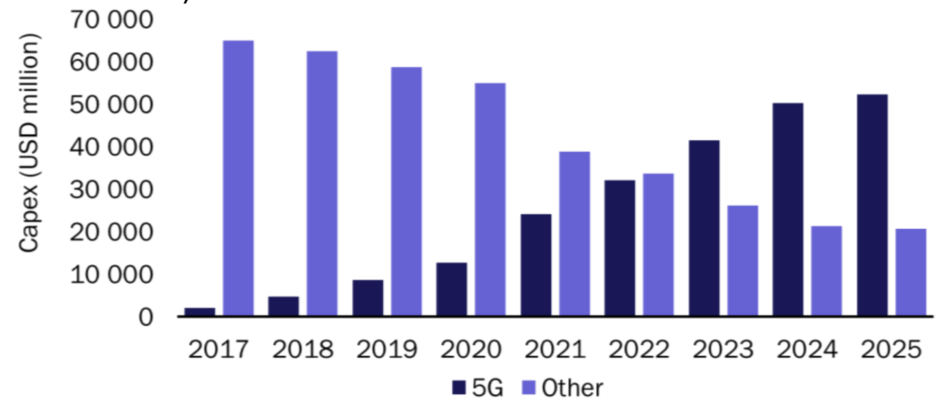
After 2023, most new 5G spending will be in the RAN and core. Investments in the 5G RAN will only overtake those in 4G in 2023, but RAN capex will have a CAGR of 50% during the forecast period. Core capex will have the highest growth rates, especially the 5G core network, because MNOs will migrate their core networks from a virtual-EPC to a cloud-native 5G core for standalone (SA) architecture.

Figure 2: Mobile capex, by network segment, worldwide, 2017–2025[1]



Source: Analysys Mason

Figure 3: RAN capex, split by 5G and other radio technologies, worldwide, 2017–2025



Source: Analysys Mason

[1] See Figure 30 for more information on the definition of each network segment.

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About the author

Roberto Kompany (Senior Analyst) is a member of Analysys Mason's Telecoms Software and Networks research team and is the lead analyst for the *Next-Generation Wireless Networks* research programme focusing on strategy and market research. He is also a Cambridge Wireless Special Interest Group (SIG) mobile broadband (MBB) champion and a regular speaker at industry events. Prior to joining Analysys Mason, Roberto worked for Dixons Carphone, where he analysed the effect on the business of shifts in the telecoms market – for example, in terms of mergers, operator KPIs and technology – in Europe and the UK. Previous positions included consultancy, where he helped a variety of clients worldwide with mobile-related projects, such as a capex reduction and developing a 5-year strategy for an incumbent's wireless infrastructure.

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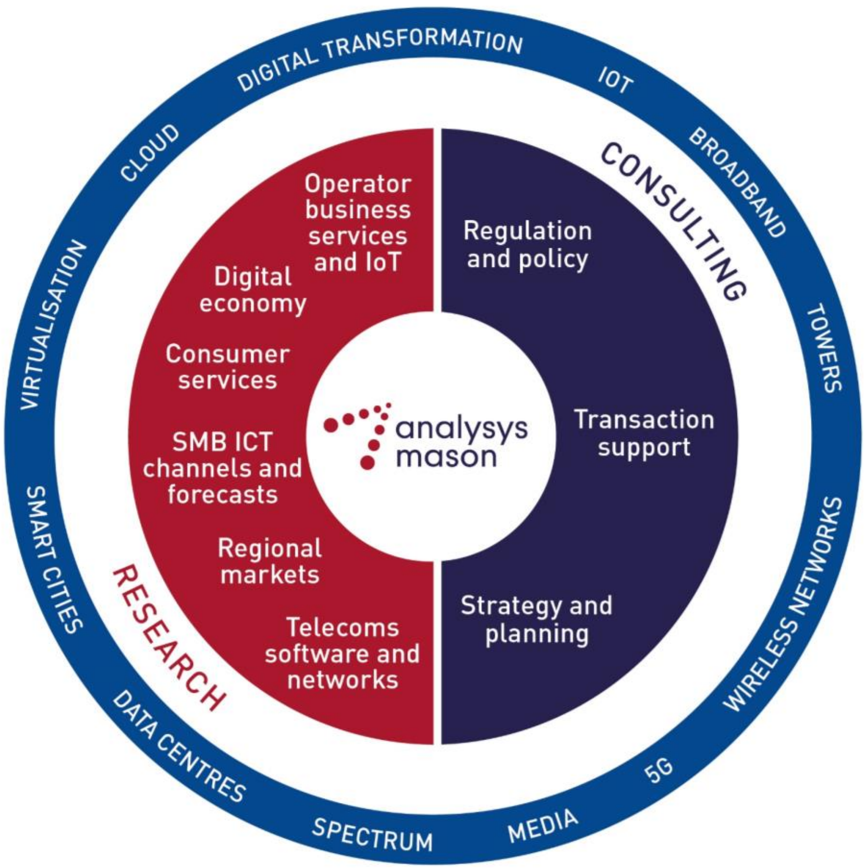

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