U.S. Mobile Network Infrastructure Spending Forecast, 2017-2027: *Moving Rapidly from LTE to 5G*

Market Study
Third Quarter, 2017

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Abstract

LTE networks are now firmly established in the U.S. with the majority of mobile subscribers using LTE devices. To meet the increasing demand for mobile bandwidth, especially to support video, the larger mobile operators are in the process of upgrading their LTE networks with features from the latest 3GPP releases and densifying the cellular architecture. To support additional LTE capacity, mobile operators are also increasingly refarming 3G spectrum, as well as acquiring additional spectrum resources through auctions and private transactions. The next major iteration of mobile networks will be 5G, the first versions of which will be deployed in 2018.

The demand for mobile data bandwidth will continue to rise and mobile operators will strive to provide sufficient capacity to meet the growing needs of the subscriber base, while minimizing unnecessary network spending. As well as spending on new network builds, this includes minimizing network operating costs wherever possible.

This market study presents a model for the mobile network infrastructure investment and network operating costs, and presents a forecast for the cost of building, deploying and operating LTE and 5G networks in the U.S. beginning in 2017 and continuing through 2027. The build forecast is further detailed by mobile network component (RAN, front/backhaul, and core) and generation (LTE and 5G). In addition to the forecasts, the market study provides detailed information on evolving mobile network architectures, 5G networks, and how the U.S. mobile industry is progressing towards 5G.

Key questions addressed in this market study include:

- What are the various 3GPP standards leading up to 5G and what are they likely to contain?
- What is 5G? How is it defined and/or viewed right now? When will 5G be deployed?
- What are some of the goals and use cases for 5G?
- How will U.S. mobile operators get from their 4G LTE networks of today to tomorrow's 5G networks?
- What is Non-standalone New Radio (NSA-NR)?
- How will the amount of data traffic carried on LTE and 5G networks grow in the U.S. in the next ten years?

- How big is the LTE and 5G infrastructure opportunity in the U.S. in the next ten years?
- What is the share of infrastructure spending for the network components of RAN, fronthaul/backhaul, and core in the next ten years?
- What is the share of infrastructure spending for LTE and 5G in the next ten years?
- What are the expected mobile network operating costs in the next ten years?
- Who are some of the major vendors that will support LTE and 5G networks over the next ten years?

Who should read this report?

- Mobile operators
- Infrastructure OEMs
- Small cell product and solution vendors
- Backhaul service providers and equipment OEMs
- Financial analysts and investors.