

5G in the U.S.: What will it cost to build?

Market Study
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A Market Study

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iGR

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Abstract

In this market study, *iGR* presents a forecast for the cost of building and deploying 5G networks in the U.S. beginning in 2017 and continuing through 2025. This forecast is only for build costs; it does **not** include operating costs.

Put simply, the first “5G” networks are likely to include some or all of the following:

- A virtualized mobile core over which a preponderance of traffic flows. Given the enormity of the task, this is several years out – 2018 or 2019. Note that virtualization is not a 5G prerequisite. However, most mobile operators are moving toward virtualizing network functions and 5G will rely heavily on the added flexibility, operating and capital cost reductions (among other benefits) introduced by virtualization.
- Some type of “evolved” IoT use case that goes beyond today’s examples of metering, connected cars and homes, and B2B applications that connect stoves and vending machines to their owners’ back-end systems – and many other examples.
- LTE-Advanced deployed along with new spectrum – e.g., the WCS spectrum that AT&T will likely roll out in 2016. This new spectrum might also include unlicensed 3.5 GHz, newly auctioned 600 MHz or some additional spectrum the FCC frees up for “shared use” in the next few years. The category of “new spectrum” is unlikely to include either centimeter wave or millimeter wave used for transmissions between user elements and network elements.

The sideshow with 5G, of course, is the marketing associated with the term itself. Will history repeat itself? Or will operators show some restraint and only market their improving networks as 5G when the ITU-R releases its IMT-2020 5G standard in the 2020 time frame?

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 are some of the goals and use cases for 5G?
- What is 5G? How is it defined and/or viewed right now?
- What is in 5G? When will 5G happen?
- What are mobile operators in the U.S. currently doing with their networks?
- How close are U.S. LTE networks to 5G now?

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- How will U.S. mobile operators get from their 4G LTE networks of today to tomorrow's 5G networks?
- How much will it cost to deploy 5G in the U.S.?

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.

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