



WHITEPAPER

5G DEMYSTIFIED: BUSTING 5G MYTHS AND LEADING THE WAY TOWARDS ENTERPRISE DEPLOYMENT

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By: Raj Radjassamy, 5G/wireless segment leader, OmniOn Power

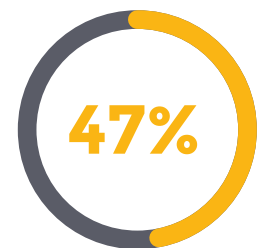
5G has become a technology buzzword in many industries. Yet, despite its prevalence in enterprise discourse, 5G's use cases remain misunderstood by many — and this confusion is preventing widespread enterprise adoption

In [our new study](#) of CIOs and CTOs in the Global Fortune 1000¹, **47% of respondents cited not fully understanding 5G's potential uses and benefits** as the biggest barrier to deployment. The complexity of 5G technology for deployment was a close second selection at 45%. Meanwhile, only 32% cited front-end investment or infrastructure upgrades (CapEx) as their biggest barrier to entry².

The perceived complexity of understanding 5G, vague or overly visionary use cases and potential benefits for businesses, and inaccessibility due to CapEx are all fueling misconceptions of 5G. With plenty of hype surrounding the fifth generation — for instance, claimed [latency times](#) of less than 1 millisecond (ms), when latency was about 5-20 ms in July 2021 — it can be challenging for business leaders to discern fact from fiction, especially as myths and hype aren't entirely unfounded. Fortunately, enterprises only need to understand a few clear-cut aspects of 5G to begin to reap its benefits.

MYTH #1: THE COMPLEXITY OF 5G MAKES IT TOO DIFFICULT TO DEPLOY

It's not necessary for enterprise leaders to understand the science behind 5G or the technologies it will make possible. But the key item to remember is that "true" 5G will operate at a much higher frequency spectrum than previous generations, and that will enable much higher bandwidth and network speeds.



of respondents cited not fully understanding 5G's potential uses and benefits

¹ The survey conducted for the report included respondents in the U.S., the U.K., France, Germany, and Italy.

² Respondents were able to select up to three potential barriers when responding.

In addition, enterprises must understand that 5G is expected to be deployed in three phases (consumer phase, enterprise phase, and “true” 5G phase), with each phase bringing new use cases along with it. This multi-phase deployment is one of the many factors that sets 5G apart from previous generations of mobile internet like 3G and 4G, which were mainly single-phase, consumer-focused deployments offering mobile services for smart phones. We are currently operating in the first phase of 5G deployment — the consumer phase (or mobility phase) — where existing 4G networks are upgraded to 5G infrastructure to offer better mobile services for smart phones with increased bandwidth and speed (200Mbps to 500Mbps). However, mobile 5G is just the tip of the iceberg for what 5G will allow people and businesses to do.

MYTH #2: 5G’S POTENTIAL USE CASES AND BUSINESS USE CASES ARE UNCLEAR

So, what exactly is next for 5G beyond smartphones?

As 5G transitions from the consumer phase to the enterprise phase, sometime around 2023, private 5G network deployments will gain momentum. This will better enable the industrial internet of things (IIoT) to power business-focused use cases like smart factories, smart cities, and even smart societies. It will cover the massive machine-type communications

(MMTC) use cases as enunciated by 3GPP, a global organization that develops protocols for mobile telecommunications.

MMTC is envisioned to support the communications between millions of low-powered devices such as sensors and meters. This will allow smart factories, smart agricultural systems, and other industrial environments to operate with little human interaction.

As we transition into the “true” 5G phase operating at millimeter-wave (mmWave) frequencies, the other two uses of 3GPP – namely ultra-reliable low-latency communications (URLLC) and enhanced mobile broadband (EMBB) are expected to fan out at a wider scale.

URLLC will benefit a wide range of applications that require high reliability, end-to-end security, and low latency. This will allow innovations like remote surgery and vehicle-to-everything communications, which can help prevent collisions and improve predictive and preventative maintenance. **EMBB** is “mobile broadband on steroids.” It will allow businesses to make use of virtual/augmented reality, ultra-HD, and the tactile internet.



When all three phases are complete, next-generation collaboration capabilities like augmented reality and holographic telepresence could help remote employees collaborate in ways that mirror in-person collaboration, while artificial intelligence technologies like autonomous vehicles and remote site operation could function within dense urban areas. However, the reality is that the final phase is still several years away.

MYTH #3: FRONT-END COSTS OF 5G MAKE IT INACCESSIBLE FOR EARLY ADOPTERS

With numerous potential use cases, it would be logical for businesses to ponder the price tag that comes with 5G deployment, especially as early adopters.

The consensus among global Fortune 1000 CIOs and CTOs surveyed in the report is that 5G's costs will total between \$250,000 and \$499,000, with nearly half (48%) of respondents allocating that amount towards front-end 5G transition and deployment.

5G requires a network of small cells to serve as its backbone infrastructure. If a business wanted to jump right into adopting a high-end use case for 5G (such as implementing a private network for its business), it would require an adequate number of small cells deployed within its area. If that infrastructure was not in place already, then they would need to allocate resources to build out that backbone infrastructure. In this way, 5G is similar to other industries in that early adoption can get costly as those businesses are literally laying the groundwork of completely new infrastructure.

But being an early adopter of 5G brings multiple benefits: being the first to market, gaining experience faster than competitors, and becoming a leader in the space. While the cost of entry will undoubtedly decrease as more vendors enter the market and small cell technology goes into mass production, getting ahead in the 5G arms race will become tougher to achieve as well.

Interestingly, cost was not a major concern among global Fortune 1000 CIOs and CTOs surveyed. Only 31% of respondents said that cost savings were a major reason for deploying 5G, making it the least prevalent³ deployment reason among respondents. Meanwhile, only 32% of respondents said that CapEx comprised a significant barrier to 5G transition.

GETTING STARTED WITH 5G

As new enterprise 5G technologies are developed and debuted, our reliance on them and their bandwidth demands will undoubtedly increase. Leveraging 5G's palette of capabilities on an ongoing basis will require robust, efficient, secure, and reliable power infrastructure to energize and bolster the network amid rising bandwidth demands.

With the greatest barriers to 5G implementation consisting of misperceptions about its uses and its complexity, working with a partner armed with extensive wireless and 5G expertise can be a major benefit to any business traveling the road to 5G adoption and deployment.

To learn more about how businesses are navigating the deployment of 5G, download our new [Destination 5G Report](#).

³ Among potential response options.