5G READINESS SURVEY 2017

An assessment of operators’ progress on the road to 5G
5G next-generation mobile technology has quickly become the most promising opportunity—and vital challenge—being addressed by the Information and Communications Technology industry.

We say “quickly” because since Ericsson conducted the first 5G Readiness Assessment a year ago, telcos have moved forward on 5G with increased urgency.

- Exactly how have preparations for 5G evolved over the past year?
- Where do telcos stand now in their 5G activities and developments?
- What actions are service providers taking now in anticipation of 5G?
- What priorities drive their initiative?
- How ready are they to take leadership positions in the 5G future?

These questions were top-of-mind last year and continue to be so. To understand how and how far industry perceptions and preparations have evolved, Ericsson completed a second global survey of leaders from operators who have publicly announced that they are working on 5G.

This article summarizes the findings of the 2017 5G Readiness Survey. The report shares the data about operators’ expectations and activities related to 5G; offers some conclusions about the results; and suggests steps operators can take to identify their opportunities and accelerate their move to 5G.

The survey’s objective was to obtain a snapshot of the state of the industry in relation to next-generation mobile technology. Last year, we struggled to find 50 executives globally who were far enough along in 5G to answer the survey questions. This year, we easily identified 50 executives, both business and technical leaders, from 37 operators around the world. As leaders of their organizations’ 5G efforts, they are at the center of the 5G evolution. That increase clearly signifies the growing recognition among industry leaders of 5G’s importance.

Respondents were executives in either technical or strategic/business areas from a broad, global, cross-section of the telecom industry. Representatives came from companies large and small, and markets ranging from the U.S., China, Russia and Europe to Bahrain and Sri Lanka. Nearly half serve as heads of network engineering or network architecture while the rest are CTOs and leaders of marketing, network strategy, sales, customer services or customer care at their companies (Figure 1).
Operators are much further along than they were last year in addressing the technical side of the 5G challenge. When asked to characterize where they are now, 78 percent of the respondents—more than double last year’s—indicated that they were in trials (Figure 2).

With so many organizations already investing in trials, it’s not surprising that fewer were involved in earlier stages such as initial planning (14 percent as opposed to 22 percent in 2016) and development (2 percent vs 2016’s 34 percent).

Deploy as soon as possible
Interestingly, operators’ projections for commercial deployment haven’t changed dramatically, although the number deploying in 2018 has jumped from 18 percent in 2017 to 28 percent. Reasons given for the timeline were primarily “as soon as we can”—either to meet customer demand or gain first mover advantage, although for practical reasons, 68 percent say that they will wait for the development of 5G standards. Roughly one-third of respondents (34 percent) admitted to cautiously waiting to see how implementation plays out for other operators.

As asked what features are essential to 5G, a large majority (82 percent) of technical respondents chose multi-user massive MIMO, which dynamically transmits data as highly-focused beams to simultaneously send and receive multiple data signals over the same radio channel, enabling multiple users to utilize the same time and frequency resources. This is key to many of the performance gains expected in 5G because it increases spectral efficiency for higher capacity and throughput from the same amount of spectrum (Figure 3).

Operators also believe that device-to-device connection (71 percent), network security (68 percent), virtualized network functions (68 percent) and network slicing (68 percent) are essential to 5G.
Operators have made steady progress developing their strategies for 5G in addressing the needs of enterprises, industries and consumers. The number of respondents with a clear strategy in place for 5G for industries has doubled since last year, and the number with business models in place for industrial use cases has increased by more than two-thirds (21 percent to 36 percent) (Figure 4).

In our 2016 report, we predicted that even operators who initially focused their 5G efforts on consumers would later add a focus towards enterprise and industrial use, and that appears to be the case. Now, operators are looking beyond the consumer, foreseeing opportunities in the industrial and enterprise markets. In 2016, 90 percent pointed to consumers as the central segment in their planning and only 34 percent focused on specialized industries. This year, operators are seeing that the consumer market is saturated, so planning for 5G is more evenly split across specialized industry segments (58 percent), business users (56 percent) and consumers (52 percent) (Figure 5).

Operators with clear strategy in place for industries have doubled since last year; for business models, they increased 75%.
Base: Respondents with strategy job titles 2017 (22) 2016 (28)

Multiple choice question, choose one answer

While more than half of 2017 respondents remain focused on consumer needs, there is a shift to business users and specialized industry segments.
Base: Total Respondents 2017 (50) | Total Respondents 2016 (50)

Multiple choice question, choose as many as apply
Once we identified operators’ strategies, we asked about the elephant in the room: How do telcos expect to monetize 5G connectivity?

Only 14 percent think they can find subscribers (consumers) who are new to the business. These respondents come from areas where the market is not saturated.

In saturated markets, such as North America, operators envisage monetizing 5G connectivity by taking market share from competitors with new features and performance (23 percent) or better pricing (18 percent); by migrating current 4G subscribers to 5G and charging more for 5G features (23 percent); and by expanding to new enterprise/industry markets (18 percent) (Figure 7).

High-quality streaming to mobile devices stood out as the single most important use case in the Media and Entertainment sector. Among the other industries, the top-ranked use cases are:

- Automotive: Autonomous vehicle control
- Public Transport: Smart GPS
- Healthcare: Remote robotic surgery
- Energy & Utilities: Control of edge-of-grid generation

5G WILL BE POWERFUL. BUT WILL IT BE PROFITABLE?

High-quality streaming to mobile devices stood out as the single most important use case in the Media and Entertainment sector. Among the other industries, the top-ranked use cases are:

- Automotive: Autonomous vehicle control
- Public Transport: Smart GPS
- Healthcare: Remote robotic surgery
- Energy & Utilities: Control of edge-of-grid generation

Once we identified operators’ strategies, we asked about the elephant in the room: How do telcos expect to monetize 5G connectivity?

Only 14 percent think they can find subscribers (consumers) who are new to the business. These respondents come from areas where the market is not saturated.

In saturated markets, such as North America, operators envisage monetizing 5G connectivity by taking market share from competitors with new features and performance (23 percent) or better pricing (18 percent); by migrating current 4G subscribers to 5G and charging more for 5G features (23 percent); and by expanding to new enterprise/industry markets (18 percent) (Figure 7).

High-quality streaming to mobile devices stood out as the single most important use case in the Media and Entertainment sector. Among the other industries, the top-ranked use cases are:

- Automotive: Autonomous vehicle control
- Public Transport: Smart GPS
- Healthcare: Remote robotic surgery
- Energy & Utilities: Control of edge-of-grid generation

5G WILL BE POWERFUL. BUT WILL IT BE PROFITABLE?

High-quality streaming to mobile devices stood out as the single most important use case in the Media and Entertainment sector. Among the other industries, the top-ranked use cases are:

- Automotive: Autonomous vehicle control
- Public Transport: Smart GPS
- Healthcare: Remote robotic surgery
- Energy & Utilities: Control of edge-of-grid generation

Once we identified operators’ strategies, we asked about the elephant in the room: How do telcos expect to monetize 5G connectivity?

Only 14 percent think they can find subscribers (consumers) who are new to the business. These respondents come from areas where the market is not saturated.

In saturated markets, such as North America, operators envisage monetizing 5G connectivity by taking market share from competitors with new features and performance (23 percent) or better pricing (18 percent); by migrating current 4G subscribers to 5G and charging more for 5G features (23 percent); and by expanding to new enterprise/industry markets (18 percent) (Figure 7).
Of all the potential revenue options, operators viewed raising rates for 5G for consumers with the least enthusiasm. More than 3 out of 5 (64 percent) agree that consumers are simply tapped out.

So where can revenue growth be found? A clear majority of respondents say that IoT will play a major role (83 percent) and that third-party collaboration will be an essential element (77 percent). Providing industry-specific services (68 percent) and finding new revenue-sharing models (68 percent) remain strong contenders as revenue engines for service providers (Figure 8).

Operators, then, must look beyond their traditional customer base and broaden their focus to pursue the emerging opportunities of the marketplace.

To reap the full rewards, they must address new markets and customers with dramatically different business models. This business strategy transition may be demanding and disruptive. Operators can take steps, however, to ensure a smooth transition to 5G.
**FINDING THE RIGHT PARTNER FOR THE 5G JOURNEY**

While our respondents have different positions on 5G readiness, they all recognize that there is much work to be done, technically and strategically.

5G may sound far in the future, but it’s really just a blink away. Operators should look to a transformation partner who can help them plan right now to take advantage of new revenue streams based on 5G business models and use cases, for consumer-, industry- and enterprise-oriented opportunities.

As a global innovator in telecommunications, Ericsson is driving 5G standards and supporting customers’ successful trials of 5G. Ericsson is currently running pilots with a range of industry partners in order to identify their needs and construct sustainable digital solutions for whole industry segments.

We introduced the industry’s first 5G NR-capable radio and the first full 5G radio portfolio. We demonstrated the world’s first intercontinental 5G trial network featuring the creation and roaming extension of network slices, also known as federated network slicing.

We’re engaged in:

- 5G Fixed Wireless Access trials to enable robust services rivaling that of fiber across the last mile to customers’ doorsteps
- Collaborations with partners to develop new 5G-enabled use cases from cloud robots to remote surgery
- Advanced field trials with leading operators across the world

**CONCLUSION**

Ready or not, as this study indicates, 5G is coming, and work has started to understand the disruptive change it will bring across industries and societies. Operators have begun to respond to the challenge with creativity by forging new strategies, investing in development and trials, and evaluating and adopting new use cases and business models.

The survey highlights the need for a partner who can help operators identify and develop consumer, industry and enterprise use cases and expand service opportunities to grow revenue. And by working with a partner with a strong ecosystem and extensive experience in highly advanced and multi-access technology rollouts and large, intricate deployments, operators will ease and accelerate the transformation process.

A determined and well-conceived strategy for 5G is not an option today; it’s an imperative…and an opportunity. If there is one take-away from the 5G Readiness Survey, it is that in the past year, leading operators around the world have stepped up their efforts to get ready for 5G—incorporating technology, strategy, and business considerations.
About Ericsson

Ericsson is a world leader in communications technology and services with headquarters in Stockholm, Sweden.

Our organization consists of more than 111,000 experts who provide customers in 180 countries with innovative solutions and services. Together we are building a more connected future where anyone and any industry is empowered to reach their full potential. Net sales in 2016 were SEK 222.6 billion (USD 24.5 billion). The Ericsson stock is listed on Nasdaq Stockholm and on NASDAQ in New York.

Read more on www.ericsson.com