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□ □ □ **5G-enabled industries have the potential to deliver \$8trn\* in value to the global economy by 2030 according to new research from Nokia and Nokia Bell Labs. The *5G Business Readiness Report* surveys\*\* 5G adoption among businesses around the world, providing a cross-sector view of the path to full 5G deployment.**

This landmark report from Nokia underlines the potential for 5G to drive sustainable economic growth and define the next decade of innovation. The COVID-19 pandemic is forecast to further increase the value creation potential of 5G in the medium and long-term by accelerating digitization, particularly among the least digitally advanced industries.

The report also highlights a clear correlation between 5G deployment and business performance. Companies at an advanced level of 5G adoption were the only group to experience a net increase in productivity (+10%) following COVID-19, and the only group able to maintain or increase customer engagement during the pandemic.

5G mature companies are also growing considerably faster than their peers: 49% of companies in the expansion phase and 37% in the implementation phase – representing the two most advanced stages of 5G maturity – achieved rapid growth last year, compared with 20% in the planning, 11% in discovery and 5% in passive phases. These findings show that the companies who are most 5G mature, and therefore likely also the most advanced in their overall digital transformation, are showing the highest impact in business performance.

Despite the economic challenges of COVID-19, a global boom in 5G investment will see 72% of large companies invest in 5G over the next 5 years. The report forecasts a rapid uptick in investment over the next three years as enterprises seek to expedite digitalization. A third of companies across all regions fear being outpaced by the competition should they not invest in 5G within the next 3 years.

Nokia's *5G Business Readiness Model* reveals that across 8 economies – Australia, Germany, Finland, Japan, Saudi Arabia, South Korea, the UK and the US – 50% of companies are at the midway level on 5G readiness, between initial planning, trials and deployment, compared to just 7% that are classed as 5G mature.

But significant geographic variations exist; while 13% of organizations in Saudi Arabia and 12% in the United States rated as 5G mature, fewer than one in 20 were classed as such in Germany (3%), Finland (2%) and the UK (4%).

While many organizations are at the Implementation stage, for most this still means trials, pilots or early stage deployments such as 5G mobile phones or limited 5G connectivity for fleet services or rural locations. Few have yet to realize the true breadth, depth and potential of 5G.

On average, whilst the importance of 5G adoption is well understood, a significant investment gap remains. 86% of decision makers said they have some kind of strategy for 5G, and over a third fear being outpaced by the competition should they not invest in 5G in the next 3 years. However, only 15% are currently investing in its implementation, and over a quarter (29%) of

businesses are not planning any 5G investment in the next 5 years.

**Gabriela Styf Sjöman, Chief Strategy Officer at Nokia, said:** “As organizations across the world move faster towards deployment of 5G enabled technologies, those who wish to be the first to leverage its potential cannot afford to lose more time. To capture the tremendous opportunities of 5G, organizations must start or intensify their planning now and accelerate business model innovation to remain competitive in a rapidly digitalizing global economy. Beyond investment in the technology itself, this will require digitalizing operations, processes and ways of working to capture the full potential of 5G.”

“5G adoption is categorically shown to fuel business success. Organizations that have integrated 5G stand to benefit from advantages that go way beyond faster, more efficient and reliable network services. As 5G enables businesses to transform, it will also accelerate wider technological and economic trends, with unimaginable possibilities for global economies and societies. The cities, hospitals and factories of the future depend on 5G and the unparalleled ability it offers to move, process and store vast volumes of data. Moreover, the biggest challenges we face as a society – from climate change to the pandemic – can be better tackled through at-scale use of the data and technologies that 5G will unleash.”

### ***Barriers to adoption***

The gap between enterprise awareness of 5G’s benefits and current levels of adoption suggests there are notable barriers to implementation. The research identified five principal barriers to 5G adoption for:

1. **Ecosystem availability:** Limited availability of key infrastructure outside urban centers was cited by 28% of decision-makers.
2. **Education and understanding:** 17% said a key barrier is that decision-makers within their business do not understand 5G, while 14% said they don’t know enough about it themselves.
3. **Awareness:** Over a fifth of technology buyers (22%) said that 5G implementation is not a current priority for their business.
4. **Cost and complexity:** 15% said they were not confident their company would be able to implement the necessary technologies.
5. **Security:** Over a third (34%) said that they are concerned about the security of 5G.

## ***A call to action***

The report identifies three key catalysts for change in order to bring about improved understanding, confidence and ultimately adoption of 5G. These are: **improved regulation, collaboration** and **willingness to innovate.**

1. A third of technology buyers said that **government investment in infrastructure or subsidies to drive down costs** would encourage them to invest more in 5G. Enterprises will not adopt 5G unless the supply from network operators is presented and priced appropriately, which in turn relies on governments and regulators making 5G spectrum in low, mid and high bands available and affordable.

2. The **lack of understanding** that exists within some businesses around 5G must be directly addressed. Companies and consumers alike need more information about the technology and how it can both improve operations and **solv** **e real world problems**, ranging from enterprise use cases to telehealth to green technology.

3. As companies better understand 5G, they must **boldly move to overhaul their operations** to accommodate it, for example, exploring how they could use 5G to streamline and more effectively monitor their mobile workforce, fleet or supply chain.

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## **Notes to Editors**

\* The significant and wide-ranging impact of 5G on business and society is predicted to lead to a potential \$8trn contribution to global GDP, **based on aggregated regional forecasts of how wage growth, profitability growth and government revenue growth will be impacted by growing technology spend.**

## \*\*Enterprise research methodology

The enterprise survey was conducted by [Sapio](#), on behalf of Nokia. Nokia surveyed 1,628 technology purchasing decision-makers in eight markets and across six industry sectors: Australia (203), Finland (200), Germany (203), Japan (203), Saudi Arabia (202), South Korea (200), UK (207 responses), US (210). The sectors were: energy and utilities (208 responses), mining (119), manufacturing (455), public sector (271), healthcare (445), transportation (130). Respondents from companies of fewer than 250 employees were only permitted for energy and utilities and mining companies.

### The five stages of 5G maturity are defined as:

- **Passive:** the business has not explored 5G implementation in any formal sense; 5G has not been raised at a senior level
- **Discovery:** the business is exploring the benefits of 5G and / or is gathering evidence to determine whether there is a business case for implementation
- **Planning:** at a senior level, the business has agreed to implement 5G or to lay the foundations for doing so in the future, and work is now underway to make this happen
- **Implementation:** the process of physically implementing 5G hardware and software has begun or is complete, and the business is either already using 5G, or will start doing so in the next six months
- **Expansion:** the business has successfully implemented 5G; it has measured its impact and based on positive results is looking to expand its use more widely into operations

## About Nokia

We create the technology to connect the world. Only Nokia offers a comprehensive portfolio of network equipment, software, services and licensing opportunities across the globe. With our commitment to innovation, driven by the award-winning Nokia Bell Labs, we are a leader in the development and deployment of 5G networks.

Our communications service provider customers support more than 6.4 billion subscriptions with our radio networks, and our enterprise customers have deployed over 1,300 industrial networks

worldwide. Adhering to the highest ethical standards, we transform how people live, work and communicate.

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