



The ultimate guide to 5G

All you need to know about the
fifth-generation mobile network

Let's talk about 5G

Choosing the right solution for your business can be a daunting task. At this time of rapid digital change, it's hard to know where to begin.

Add to that the complexity of getting to grips with a constant stream of new acronyms, mobile jargon, and business buzzwords. Exhausting.

Keeping up with the latest trends is a sure-fire way to offer optimum customer experience. Don't worry, we're not talking about TikTok – we're talking about 5G.

Our guide is here to help your business make an informed decision before investing in this game-changing technology.



We know things can get complicated really quickly, so keep an eye out for our **jargon buster throughout this guide.**

First of all, what is it?

5G is the fifth-generation technology for broadband mobile networks.

It has already been deployed in over 300 locations in the UK, and the rollout continues. It has been predicted that 5G will have more than 1.8 billion subscribers worldwide by 2025.¹

5G will be the catalyst for connecting humans and machines together on an unprecedented scale for new business and economic opportunities (more on that later!).

5G offers greater bandwidth capability, higher download speeds, lower latency and many more benefits than its predecessor – it's the perfect step-up from 4G.

Jargon Buster

Bandwidth

Bandwidth is the maximum amount of data transmitted over an internet connection in a given period of time.

Latency

Latency is a delay that takes place between action and response. High latency means a lagging service or even loss of connection in some instances.

Since we've mentioned 4G, what are the differences?

4G was trailblazing broadband cellular network technology. It drove the average download speed from 5.6 Megabits per second (Mbps) to a whopping 15.8Mbps. Latency also decreased from 86.4 milliseconds (ms) to 39.2ms. Pretty impressive and totally disruptive to the market... at the time.

Now, let's look at 5G.

5G has the potential to bring speeds of 1 Gigabit per second (Gbps). That's equal to 1000Mbps. With Three's recent Network update,² it is quite literally towering over 4G's offering.

Jargon buster

Capacity

Capacity, often also referred to as 'device density', is the amount of traffic the network can handle at any one time.

However, unlike the previous process of replacing 3G with 4G, 5G hasn't been brought in to outright replace 4G.

Instead, 5G is another layer to the existing network that provides more capacity in sections of the UK's busiest cities, which experience the highest amount of traffic.

5G and the Internet of Things revolution

If you've made it this far, you're likely interested in 5G's impressive capabilities when it comes to speed, capacity, and overall performance.

If not, we've wrapped up some of the more pertinent points for you in [our 5G infographic](#).

But how much do you know about the Internet of Things (IoT)? While we've already waxed lyrical about the stellar differences between 5G and its predecessor, 4G, where the fifth-generation network really shines is in the elevation of the IoT.

Jargon buster

The Internet of Things (IoT)

The IoT is a network of objects that are connected via the internet. These devices load and share data with each other to improve efficiency, productivity, and the service the device offers.

The good, the bad and the Internet of Things

Ah, yes, the Internet of Things. While it may sound like something out of a bad Sci-Fi movie, the IoT is far more impressive.

It encompasses almost everything that is hooked up to the internet. The IoT is a multitude of devices that, using embedded sensors, connect with each other and transfer data across your network – gathering information, analysing it, and creating actions from it.

It's like the film *The Matrix* but instead of chips in people, connecting everyone towards some terrifying cause, it's sensors in devices such as smartwatches, cars, street lamps, bathroom mirrors, mobile phones, traffic lights and even dog collars – connecting everyday items to make our lives more efficient and our day-to-day much more seamless. 5G is set to elevate this technology beyond what many thought possible.



Sounds futuristic, right? Actually, this technology is already becoming the norm. The number of businesses that use IoT technologies has increased from 13% in 2014 to about 25% today, with the number of IoT-connected devices projected to reach 43 billion by 2023.³

Enabling your teams to communicate effortlessly between multiple devices, and having those devices share data intuitively while on the move, is an aspect that is transforming the way in which we all work. The technology is already being used – the elevating factor is the introduction of 5G.

The speed, capacity, and ubiquitous coverage of this new network can support your smart devices, and their business-critical applications, remotely.

43 billion
worldwide IoT-connected devices
by 2023.³

It's designed to deliver the highest performance wherever it's being used.

In practice, if a customer's product were to experience a fault, this can be picked up by the IoT setup. A message will be automatically pinged to both the customer and your company's customer service or faults department, describing the issue and even offering a potential solution. That's before your customer has even picked up the phone or logged into your webchat to raise an issue.

Now that's smart.

5G and IoT is business-critical

These days, most business is done digitally. If we're not brainstorming in a virtual meeting on our laptops we're responding to customers via webchat on our phones or doing a spot of online shopping on our lunch break via tablet.

The IoT, bringing these devices together, is improving these processes behind the scenes by benefiting from 5G's low latency, super-fast network.

Businesses can harness its power to elevate the service being delivered to their customers. Response times are faster, apps are more seamless, and employees feel confident and in control knowing they have the best tools for the job.

Together, IoT and 5G are the gold medal-winning, tour de force team of innovation. Those who don't consider the benefits for their business won't even be in the race.



Empowering your teams

Did you know that over a third of UK home workers are switching from using their broadband to using mobile data?

36% of Brits working from home are relying on mobile data to stay online and 61% say it has improved their overall working experience.⁴

Why, you ask? A mobile network such as 5G can be significantly faster and more capable, with much lower latency levels. That means clearer calls, faster download speeds and effortless collaboration.

Wellbeing, efficiency and 5G are a trio made in heaven. In the near future, who's to say it won't supersede the use of fixed line services for business working



With 5G, mobile team members won't have to rely on dodgy train Wi-Fi. The network is already available in over 370 towns and cities (and counting).

Your workforce will be able to access critical customer data and pick up calls during notoriously poor Wi-Fi spots. It will also mean that, in-between contact, they can utilise that precious idle time. Maybe dip back into that quarterly presentation they've been trying to finish.

But don't just take our word for it - a recent survey of 265 key decision makers revealed 80% believe 5G will increase employee productivity, reduce costs, and enhance customer experience.⁵

But that's not all. Research also suggests that 5G could boost business revenues in the UK by between £8.3 billion and £15.7 billion.⁶

Clearly a no-brainer, if you ask us.

Jargon Buster

Frequency

Frequency is the speed at which data is transmitted and received between devices connected to your wireless network. High frequency has faster speeds, but covers shorter distances. Low frequency travels further, but at lower speeds.

Conclusion

5G is expected to reach more than 40 per cent global population coverage and 1.5 billion subscriptions for enhanced mobile broadband by the end of 2024.⁷

Promising superfast speeds, low latency and much better device capacity, 5G technology is expected to revolutionise mobile networking and create new economic opportunities.

While 4G is reaching the technical limits of how much data it can quickly transfer and how many devices it can support concurrently, 5G will remove any issues related to speed and capacity.

It's time to say goodbye to poor connectivity, and say hello to better efficiency.

Yet, as we've seen, 5G's biggest differentiator will be as a gateway for the Internet of Things – the connected world at scale.

One thing we can all be confident in is that, despite the level of jargon, 5G performance is unrivalled.

It will allow your business technology, and your people, to thrive like never before.

Discover the future of mobile technology.

5G mobile gifts your connected devices all the hidden gear, but a provider like Gamma can help you enhance those connections and strengthen your services.

Ready to embrace the future of mobile technology? Get in touch

References 1. <https://www.gsma.com/mobileeconomy/> 2. <https://www.capacitymedia.com/articles/3826733/three-investing-2bn-to-create-uks-fastest-5g-network> 3. <https://www.mckinsey.com/industries/private-equity-and-principal-investors/our-insights/growing-opportunities-in-the-internet-of-things> 4. <https://www.ispreview.co.uk/index.php/2021/02/over-a-third-of-uk-home-workers-are-switching-to-mobile-data.html> 5. <https://blogs.oracle.com/oracle-communications/post/survey-says-5g-smart-ecosystems-critical-to-going-digital> 6. <https://home.barclays/news/press-releases/2019/04/5g-technology-boost-to-uk-economy/> 7. <https://www.ericsson.com/en/press-releases/2018/11/5g-estimated-to-reach-1.5-billion-subscriptions-in-2024--ericsson-mobility-report>

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