



Technology and Innovation

What are the Benefits of 5G?

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Biography

It all began with Andrew, and his brother Philip, creating the game 'Movie Producer' for the Dragon 32 computer in 1983. From there they started a mail order games business and then progressed to custom building PCs for their customers. Following a meeting with a local car leasing company, Andrew and Philip couldn't understand why there wasn't anyone using this concept for computers. After testing interest with an advert placed in Computer Shopper, they were inundated with enquiries from businesses who wanted to lease their computer equipment – and so HardSoft Computers (<https://www.hardsoftcomputers.co.uk/>) was born.

Around ten years ago, Andrew and Philip saw a shift towards Mac and became one of around 50 Apple Authorized Resellers in the UK. HardSoft now has a mix of Mac and PC customers and recently re-launched their custom built PCs.

Keywords Fifth generation wireless technology (5G), mobile workforce, Internet of Things (IoT), Smart technology
Paper type Opinion

Abstract

As data and mobility become more critical to business operations, IT teams across the globe are getting ready to embrace the next-gen network. In this article the author discusses the benefits that fifth generation wireless technology (5G) can bring to businesses. Connected cars, smart stadiums and advanced gaming all rely on 5G networks, while for businesses looking to get involved in the Internet of Things (IoT) marketplace, the lower latency offered by 5G can significantly improve the functionality – and in some cases, safety – of IoT devices.

Introduction

With the advent and increased adoption of 5G, it's useful for businesses to truly understand the significance of this technology and how it can shift and assist the way employees work. Emerging 5G provide higher speed, lower latency and greater capacity than 4G LTE networks. This means quicker downloads, much lower lag and gives access to more information faster than ever before.

In some ways, 5G has been a long time in the pipeline thanks to the changes in fundamental infrastructure that must take place. Now that those advancements are progressing, 5G is opening new doors for businesses. Network carriers have been stepping up their rollout of 5G throughout 2020 and have been widening this further in 2021. There are already more smartphones, laptops, and tablets coming to the market with 5G capabilities by default, and more mobile network companies are rolling out 5G for their customers.



What is 5G?

It is the fifth generation of mobile network. We all remember 4G and 3G, well this is the new global wireless standard. It will create a powerful network that we can all eventually use for better connectivity and for applications beyond smartphones.

5G runs off radio frequencies just like all smartphones but it is fascinating for many users and industries because it helps more and more devices beyond smartphones connect to 5G. This opens a lot of possibilities for technological advancements and new innovative ways of working.

In particular, 5G will enhance global connectivity and is known for its:

- Higher multi-Gbps peak data speeds
- High reliability compared to 4G
- Larger network capacity
- Increased availability

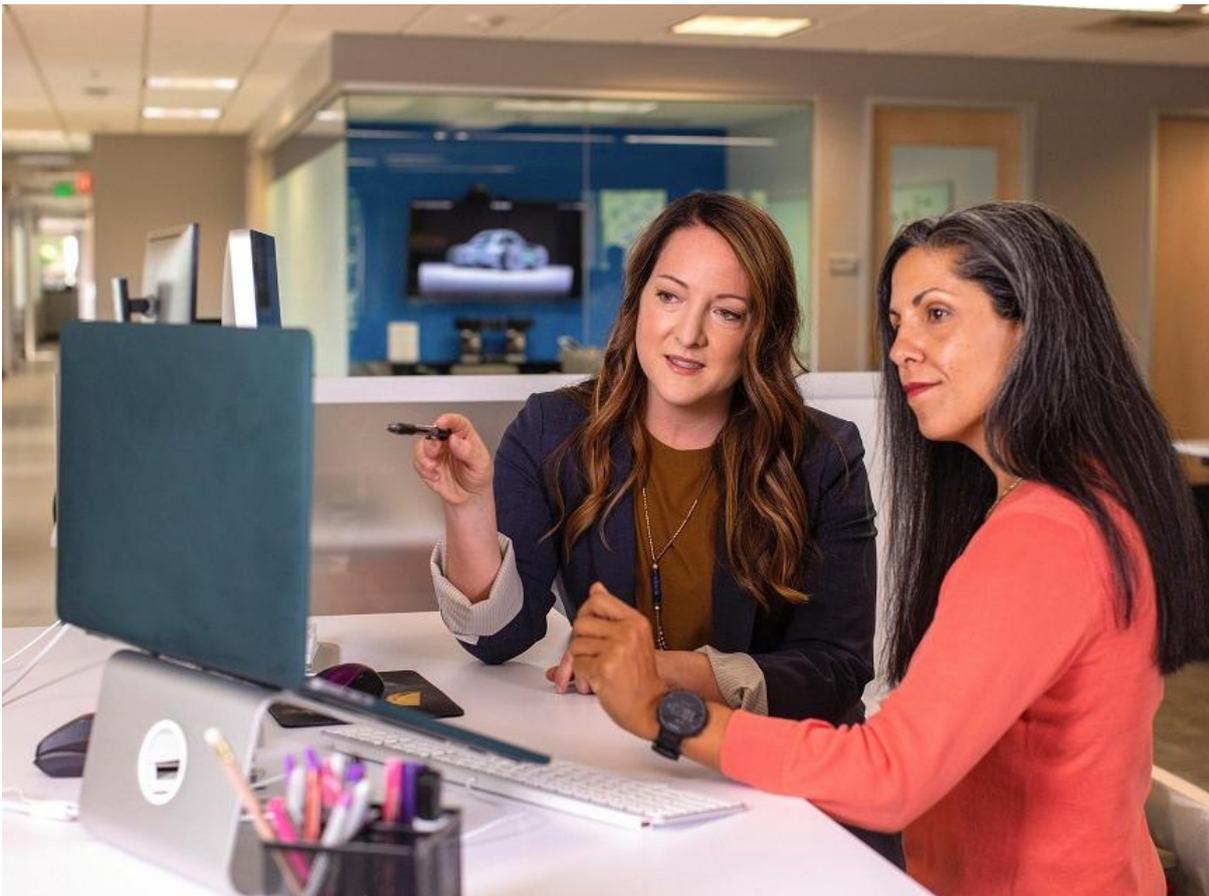
It is basically a big increase in the quality and consistency of connectivity for companies' workers.



Business benefits of 5G

There are a number of business benefits of using 5G technology including:

1. **Faster Speeds** – 5G can deliver speeds of up to 20Gbps. This is, naturally, a boost to efficiency. Previously, 4G was good but couldn't really compare to the speeds of our home Wi-Fi. With 5G, that is not the case anymore. 5G could be up to 100 times faster than 4G, so you could download films in seconds rather than minutes.



The possibilities for online gaming and video streaming are huge. Staff could save massive amounts of time by using 5G. It saves users almost one whole day per month that they would have previously lost waiting for downloads. This makes 5G a strong alternative to home broadband connections.

2. **Low Latency** – This is the time between action and response for instance, from when you click to when an action happens in response. For certain industries, like automotive and manufacturing, among others, this will be the most interesting benefit. It can enhance and spearhead the IOT (Internet of Things), so technology like smart-homes, smart-devices, self-driving cars etc can blossom with connectivity.



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- Increased Capacity** – 5G could potentially have up to 1000x more capacity than 4G. This would mean that it can connect more devices and high demand applications at once. For remote workers, and those out in the field, they should no longer notice that drop in performance when out working with 5G vs Wi-Fi or ethernet in the office. Most of the time, that drop in performance would have been immediately noticeable and tangible with most tasks on 4G, especially in certain locations. Theoretically, even in urban areas there should be enough capacity with 5G.



- More Bandwidth** – This should vastly reduce the case of fighting for data when multiple people are using data connected devices in an area. For businesses, this can enable staff to work in more locations, allow for more field workers, more productivity, and no quality drop between 5G and Wi-Fi staff.





However, businesses should remember that the rollout of 5G still needs to advance a long way and there is still a limit in global coverage, plus a decreased broadcast distance. More 5G towers are required to bypass this, but we are seeing huge investment in the infrastructure, which is now being put in place across the UK.

Thanks to the IOT and the way 5G can bring more reliable connectivity to a greater number of devices, there are some amazing technologies that can evolve faster and benefit from 5G. This includes the science of robotics. The actual technology and knowledge already exist but the everyday applications of robotics have been limited due to limited connectivity.

Some industries should see a wave of new opportunities with 5G. Automotive, warehouses and manufacturing can see a significant improvement in automation if robotics takes a leap forward thanks to 5G. It is also a big factor in the rollout of reliable self-driving cars. For most businesses, mobile PCs are going to revolutionize the remote worker experience and truly set people free to work from anywhere.

For more information about 5G equipment and a full version of Andrew's blog see <https://www.hardsoftcomputers.co.uk/blog/networks/what-are-the-benefits-of-5g/>