

# 5G

# is here

Your questions answered

Healthcare



Agriculture



Manufacturing



Transport



Telecoms



# 5G Frequently Asked Questions

## 1. **Q What is 5G and how is it different from 3G and 4G?**

A - 5G is the latest mobile technology following on from 3G and 4G. It is a much better version of mobile broadband, but it has the potential to enable major changes in many aspects of life and business.

- 5G is on average 10 times faster than 4G. It operates at faster data speeds in the range 1Gbps to 10Gbps whereas 4G operates in the range 300 Mbps to 1Gbps
- 5G allows a very large number of devices to connect to the internet simultaneously without negatively impacting on performance
- 5G has much lower latency i.e. less time between clicking the device and seeing the response

## 2. **Q What are the benefits of 5G and why do we need it?**

A - 5G will provide speeds comparable to a fixed fibre network. It will give rise to advances in agriculture, education, healthcare, transport and gaming. It will accelerate the rollout of the Internet of Things i.e. devices being able to communicate with each other. The equipment used is more energy efficient leading to reduction in carbon emissions. 5G will have a major impact on manufacturing allowing for greater use of remote control of industrial machinery and will enable advanced digital manufacturing. It will allow innovation and provide a platform for the development of new services.

## 3. **Q Who is providing 5G? Will 5G be available in rural areas as well as urban?**

A - The availability of 5G around the country will be determined by the rollout plan of each individual operator. While initially rolled out in cities, it is expected that over time 5G will be rolled out in rural areas and will improve coverage.

## 4. **Q Does 5G create any health risks?**

A - There is no scientific evidence to suggest that there are any health risks associated with 5G. The operators in Ireland are currently using licenced frequency bands at 3.6GHz (called "sub-6 GHz" spectrum) and if any further licencing is allocated in Ireland, it will be at a maximum of 43GHz. Therefore, the frequencies used for 5G are in the low range of 0 to 300GHz. Frequencies in the range 0 to 300GHz give rise to non-ionising radiation which can be used safely. In everyday life, we encounter this type of radiation when we listen to the radio, watch television or turn on a light switch.



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All telecoms operators are obliged by ComReg licences to adhere to strict safety guidelines for the frequencies they use. The safety guidelines are set by an independent expert scientific body the International Commission on Non-Ionising Radiation Protection (ICNIRP) <https://www.icnirp.org/>. These guidelines are endorsed by the World Health Organisation (WHO) and the European Commission.

## 5. Q Is the safety of masts checked by a government body?

A - Yes, ComReg performs an annual audit of masts and base stations to ensure they adhere to the ICNIRP guidelines which are also a requirement for operators in their ComReg licences. The results can be viewed on <https://siteviewer.comreg.ie>

In May 2019, the Environmental Protection Agency (EPA) was given responsibility by the Government to provide advice to the public and monitor any scientific research or developments regarding frequencies from 0 to 300 GHz which covers the frequencies used for 5G. The EPA has recently published information at the following link <http://www.epa.ie/radiation/emf/whatisemf/rf/newrfttechnologies-5g/>. The EPA website also provides relevant material from a number of other independent agencies <http://www.epa.ie/radiation/emf/whatisemf/rf/newrfttechnologies-5g/5ghealth/>

## 6. Q What do scientists and the World Health Organisation (WHO) say about 5G?

A - The vast majority of leading scientists in the field have performed, and continue to perform, extensive research into these frequencies for over 70 years and have found no evidence to suggest any harmful health effects.

These studies and conclusions are endorsed by the WHO and the European Commission. Further information is available at <https://www.who.int/peh-emf/en/>



**7. Q What is a millimetre wave and will it be used for 5G?**

A - Millimetre wave (mmWave) frequencies are typically in the range from 24 to 43.5 GHz. They can be used for providing very fast links as part of network deployments in specific locations such as busy urban areas, sports stadia and airports. These frequencies are still covered by the ICNIRP safety guidelines. They are not intended for use in Ireland for several years as the lower frequency spectrum will be made available first by ComReg.

**8. Q Why are some people concerned about 5G?**

A - People often seek assurances on the introduction of any new technology. 5G is simply a further enhancement to current 3G and 4G services necessary to support the rapid development of smart phone and internet usage in everyday life and business. Based on scientific evidence available there is nothing to be concerned regarding 5G.

**9. Q Will trees be cut down to improve 5G coverage?**

A - There is no requirement to cut down trees to improve 5G coverage.

**10. Q Why has the city of Brussels local authority decided to pause 5G rollout?**

A - Approval of 5G by the local authority in Brussels is being delayed as an outcome of a campaign by an anti-mobile technology campaign there, which is based on misinformation and objects to the use of all mobile phones by children. It is not linked to any identified health risk, neither is it linked in any way to the European Commission, which has adopted the “5G Action Plan for Europe” with the objective of launching 5G services in all EU member states by end 2020.

**It is worth noting that The Irish Cancer Society in August**

**2019 stated that** *“The available data indicates that there is simply no evidence to support worrying about phones, masts etc. when talking about cancer risk. In addition, the changes to frequency used by technology such as 5G means that these signals cannot even penetrate the human body.”*

**In January 2020 Australia’s Chief Medical Officer Professor Brendan Murphy said**

*“I’d like to reassure the community that 5G technology is safe. There is no evidence telecommunication technologies, such as 5G, cause adverse health impacts. This position is supported by health authorities in Australia – such as the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) – and around the world, such as the World Health Organization (WHO).”*

<https://www.health.gov.au/news/safety-of-5g-technology>

