What is 5G?

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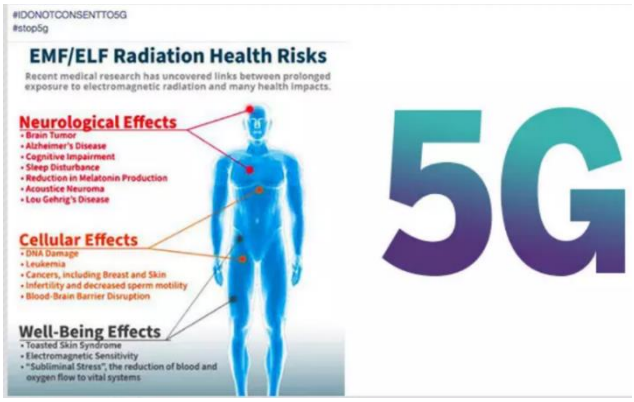
The term 5G refers to the fifth generation of wireless communications and is characterized by: ubiquitous connectivity in any device, (all the time, unlimitedly), an information transmission time (latency) of one to two milliseconds, and the transfer of data at a speed of ten gigabits per second. This is achieved with a high number of nanoantenes and technology to adapt millimeter band wireless communication systems to nanoscale with multiple massive inputs and outputs (MIMO)[1]. Nanotechnologies are the technical basis of 5G.

The pandemic meant a delay of up to three years in the deployment of this technology in Mexico, however, as Ernesto Piedras of CIU warned, everything indicates that there have already been some pilot tests of launch of this technology, and 5G is already present in some Mexican cities, although users still cannot connect to it due to the lack of infrastructure or not having the right devices[2]. It is worth mentioning that other Latin American countries, such as Brazil, Argentina, Chile and Uruguay, are already building part of the infrastructure necessary for the 5G implementation.



The administration of the radio spectrum is a state domain, so it is up to the state to tender and grant it[3]. Last August, Javier Juárez Mojica, commissioner of the IFT, announced the possibility of creating a committee between stakeholders and experts in the field to issue recommendations on the use of 5G and on the ways in which the spectrum should be tendered for its establishment; some telecommunications companies have requested the designation of 6425-7125 MHz segment for 5G services: the use of the 6 GHz band is essential to enhance its applications.[4]

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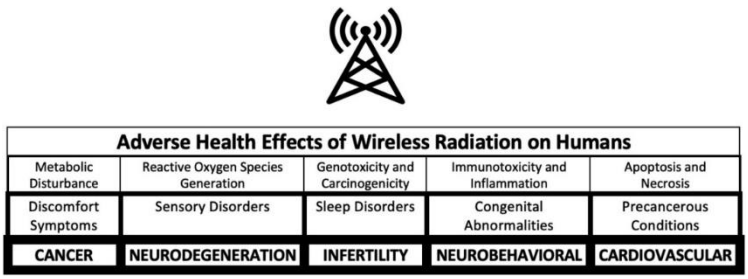
[1] Hao, H.et al. (2020). Material advancement in technological development for the 5G wireless communications. Nanotechnology Reviews, 9(1), 683-699. https://doi.org/10.1515/ntrev-2020-0054 | https://www.thalesgroup.com/es/countries/americas/latin-america/dis/movil/inspiracion/5g

[2] https://www.forbes.com.mx/pandemia-retrasara-hasta-3-anos-llegada-red-5g-mexico | https://www.forbes.com.mx/forbes-life/tecnologia-telcel-despliega-5g-mexico/

[3] LFTR. (2014). Federal Law on Telecommunications and Broadcasting. 104

[4] https://expansion.mx/tecnologia/2021/08/10/el-ift-impulsara-la-red-5g-para-las-industrias | https://www.forbes.com.mx/tecnologia-5g-mexico-realidad-retos/

The constant growth in the volume of devices and the information flow that navigates through them, would mean the need to adopt 5G technology to maintain and enhance the connection capacity. However, like all technology, it is not without associated risks: the deployment of a large number of antennas and towers necessary for data transmission, would cause users and non-users of the network to be constantly exposed to radio waves and electromagnetic fields whose effects are still debated, in the same way, the rise in the information flow derived from 5G, would also increase the possibility of cyberattacks and information theft[5]. For all the above, some bodies of the European Union and other countries, as well as NGOs and groups of scientists have called for moratoriums in order to do more studies on the health impacts of 5G and other associated risks[6].



[5] https://ehtrust.org/wp-content/uploads/Swiss-Re-SONAR-Publication-2019-excerpt-1.pdf

[6]https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/646172/EPRS_BRI%282020%29646172_EN.pdf; https://emfscientist.org/EMF_Scientist_Press_Release_22_July_2019.pdf; https://emfscientist.org/EMF_Scientist_Press_Release_22_July_2019.pdf