



The rollout of 5G: an unprecedented global experiment that threatens humanity, biodiversity and the planet's equilibrium.

Collectif stop5G.be — www.stop5G.be — 2019, updated September 2025

In September 2016, the European Commission published a staggering action plan for 5G (5th generation mobile phone standards), a technology presented as an unprecedented advance for all, while investing hundreds of millions of public funds in it. It was said to be a decisive step forward and an unmissable economic opportunity (*An action plan for 5G in Europe*, digital-strategy.ec.europa.eu).

Since then, official discourse has sought to convince us that the only issue at stake is to be part of the dominant group in global economic competition thanks to this new telecommunications technology, which will ensure the ubiquitous interconnection of humans and all the objects and animals in their daily lives (IoT, Internet of Things).

The propaganda of the 5G PPP (5G-PPP.eu), the public-private partnership between the European Commission and the telecommunications industry, tells us that 5G will increase the capacity of the wireless telecommunications network by a factor of 1000, connecting more than 7 trillion objects serving more than 7 billion humans with a connection delay that will be perceived as zero. The icing on the cake is that all these services would be provided with a 90% energy saving.

We are therefore promised a brave new world: 5G represents a radical break from the world we know. But at what cost? Implementing 5G^I involves:

- Multiply the number of base stations (antennas or antenna groups) by 3 to 5 to achieve the Internet of Things and make all sectors of society that were not previously “smart” (cities, agriculture, healthcare, etc.) “smart”.
- New types of antennas capable of targeting smartphones and other connected objects (*beamforming*). In the high band, small antennas to be placed every 50 to 100 meters in urban areas, on public furniture and even inside buildings.
- Increase exposure limits in line with ICNIRP recommendations^{II}. For example, in Brussels, the limit has been increased twice, most recently in 2023 to 14.6 V/m (570,000 $\mu\text{W}/\text{m}^2$) at 900 MHz, which is 24 times higher than the limit that applied before 2014 (see

electrosmog.be/limites) and brings it very close to the ICNIRP limit of 41.25 V/m (4,500,000 $\mu\text{W}/\text{m}^2$).

- The ICNIRP limits are 1 million times higher than those recommended by independent experts such as those from the BioInitiative group and the European Academy of Environmental Medicine^{III} and represent approximately 1 billion billion times the natural level. Therefore, in order to protect living organisms, we should be doing exactly the opposite: significantly reducing these limits.
- 5G uses higher frequency waves than 4G, i.e. mid- and high-frequency bands (3.6 and 26 GHz in the EU) as well as millimeter waves (30 GHz and above), which have been little used until now. As the frequency increases, the waves are attenuated by obstacles, leaves, rain, etc., hence the need to increase the number of antennas and raise transmission power levels. *Beamforming* is also used to concentrate the power of the wave, which can lead to very brief and intense exposures to radiofrequency radiation. These are ignored by regulations, as the limits only respond to measurements averaged over several minutes.

Omnipresent and rapidly increasing electromagnetic pollution

The obvious consequence of the rollout of 5G will be significant electromagnetic pollution, adding to the pollution that has exploded over the last 25 years following the surge in wireless technologies and which is already a public health problem widely denied by health authorities. This is evidenced by the insistent demands of lobbyists (including IBPT^{IV}) to increase emission limits to those of the ICNIRP.

^VThe limit values adopted in all legislation based on ICNIRP recommendations only take into account tissue heating, which is called into question by thousands of international studies showing biological effects at levels well below the aforementioned limit values.

In the event of regular exposure, these biological effects are likely to have serious health consequences, particularly for children and fetuses, who are more sensitive.

Numerous health risks have been identified, including:

scientific advice, we cannot and must not rely on the ICNIRP” (Klaus Buchner and Michèle Rivasi, June 2020). See electrosmog.be/lobby

^{III} Plus or minus 1 $\mu\text{W}/\text{m}^2$, depending on the target audience.

^{IV} IBPT: *Belgian Institute for Postal Services and Telecommunications*, a public interest organization whose mission is to “look after the interests of users”; in reality, an echo chamber for the telecoms lobby.

^V See, for example, the 2012 BioInitiative Report and its updates, the work of 29 independent scientists from 10 countries. It provides an overview of the current state of knowledge on the effects of electromagnetic fields (EMFs) on humans and living organisms, based on several thousand scientific studies, in over 1,500 pages. Available at www.bioinitiative.org; the summary of the report in French: electrosmog.be/RBI (a translation by the Collectif stop5G.be).

^I Today, in 2025, 5G deployment in the EU is only partial: the infrastructure is still based on 4G and the high-band frequencies have not yet been allocated. For the record, the EU has determined the frequencies in the three usual 5G bands: around 700 MHz for the low band, 3.6 GHz for the mid band and 26 GHz for the high band. There is nothing to prevent operators from recycling 2G and 3G frequencies, which are destined for scrapping.

^{II} The WHO, the EU and most countries rely on the recommendations of the ICNIRP (International Commission on Non-ionizing Radiation Protection). The ICNIRP is a private institution under German law that operates as a closed club: its members alone decide who can join, and only those who defend the idea that if there are no thermal effects after a few minutes (heating of tissue according to the microwave oven principle), there can be no health consequences are admitted. Two MEPs have published a report on the ICNIRP, the main conclusion of which is: “For truly independent

- breaks in cellular DNA strands;
- oxidative cellular stress;
- altered gene expression;
- cancer;
- infertility and impaired sperm quality;
- sleep disturbance;
- heart problems;
- neurological disorders, including depression and autism;
- suppression of the immune system.

With 5G, we are entering an era in which this electromagnetic pollution will become more widespread and omnipresent. No living being will be safe.

An experiment without the subjects' consent

With 5G, we are all subjects of an experiment without consent, in violation of the Nuremberg Code. As of 1 August 2025, there were still only 50 biomedical studies on 5G exposure, but only eight of them involved actual 5G^{VI}, as emitted by antennas and phones. Among these eight, the most notable is the series of case studies conducted by two Swedish researchers, which show beyond doubt that the radiation emitted by 5G antennas is more toxic than that of 4G and can quickly cause microwave syndrome, a condition identified as early as the 1960s in the context of the growing use of radar. The symptoms are numerous and can be extremely debilitating: headaches, balance disorders, difficulty concentrating, confusion, fatigue, insomnia, arrhythmia, nosebleeds, joint and muscle pain, dyspnea, etc. See electrosmog.be/cas for a summary in English and French of these studies and their adaptation into a film (*5G – The Untold Story*).

The unknowns of millimetre waves

With the use of millimeter waves, we are venturing into the unknown. To date, very few studies have examined the biological effects of exposure to this type of radiation.

The fact that millimeter waves do not penetrate solid obstacles very well allows proponents of their use to overlook their potential for harm. Concluding that they are harmless because they are stopped by the skin is scientifically unfounded and irresponsible. On the one hand, the skin is an essential organ with multiple functions (immune system, thermal regulation, synthesis of vitamin D and other hormones, etc.).

The disrupted global environment

5G was designed to connect up to one million objects per km², 24 hours a day. To cover every cm² of the Earth, low-orbit satellite communications have been integrated into the 5G standard, unlike 4G, in addition to millions of terrestrial antennas. Private companies and governments have already planned to launch more than 100,000 satellites. In our night sky, they will appear brighter than 99% of the approximately 9,000 visible stars.

This massive deployment of telecommunications satellites, creating a permanent electromagnetic fog, is akin to a geoengineering technique. It will pollute the ionosphere with millions of pulsed signals and is likely to disrupt the Earth's natural electromagnetic environment in which living beings have evolved over millions of years and on which they depend.

Many scientists are warning governments and international institutions in vain.

Calls from scientists and doctors from all countries have been growing for more than 20 years. For example, an interna-

tional appeal launched in 2015, addressed to the UN and WHO, calls for stricter standards, special protection for children and pregnant women, full public information on the risks of EMFs (electromagnetic fields), the creation of white zones, etc. (See the appeal at emfscientist.org and electrosmog.be). By 2025, it had been signed by 268 specialists, all of whom had published research on the biological and health effects of non-ionizing EMFs.

Other questions

Beyond the fundamental public health issues that governments choose to ignore, there are many questions about the future that this headlong rush towards a "brave new world" will bring. The negative effects of digital proliferation on personal well-being – particularly the psychosocial risks to children – and collective well-being are now well documented^{VII}, alongside new possibilities for surveillance, policing, intrusion into privacy and hacking.

The energy and climate impact of 5G looks set to be disastrous. The energy required to power antennas and connected objects alone will increase electricity consumption in European countries by more than 2%. This is only the tip of the iceberg and pales in comparison to the energy that will be needed to manufacture and renew billions of connected objects, the infrastructure comprising tens of millions of antennas and the fiber-optic network connecting them, satellites and their launch into orbit, as well as the operation of data centers, whose processing capacities will have to increase significantly.

The energy consumption of new technologies such as 5G is only one aspect of their environmental impact. The number and quantity of metals used in electronic components continues to increase as they become more powerful. Our smartphones contain around 50 metals, including precious rare earths, compared to just 20 15 years ago. Furthermore, recycling electronic components is difficult, if not impossible, and has a negative environmental impact.

The extraction and refining of minerals pollutes water and soil. The consequences are not very visible to our Western societies because these activities have been outsourced.

In conclusion

The 5G technology sought by the telecommunications and digital industries and promoted by our governments is an unjustifiable threat to our health and that of all living beings. It runs counter to environmentally responsible policies and the objectives set by the European Union and the signatories of the 2015 COP21 agreement on reducing greenhouse gas emissions.

Call for donations

Without your financial support, we will not be able to carry out our activities: providing information, legal action, etc. For more information, see our website stop5G.be and related websites: stopcompteurs.be and electrosmog.be.

- Any contribution, even symbolic, is welcome.
- The Collective's activities are carried out by volunteers (including the maintenance of the website).
- The Collective's accounts are available to all donors.
- Collectif stop5G.be, **BE06 0689 3580 7022**.

^{VI} The others used waves at frequencies to be considered but without the complex modulation of 5G. However, most of these 50 studies report significant negative effects.

^{VII} See, for example, *La Fabrique du crétin digital – Les dangers des écrans pour nos enfants* ([Seuil](https://Seuil.com), 2019) by Michel Desmurget, Doctor of Neuroscience.