

In Favor of Resolution 67820

The telecommunications industry can describe very competently the technical "necessity" for 5G networks in terms of increased bandwidth and reduced latency.

This "necessity" is based on industry's dreams of filling our environment with wireless communication devices, essentially an unlimited expansion of their market.

But you could pause to consider what 5G is intended to support. Depending on the constituency, industry uses different arguments to justify its invasion of public and private spaces.

Three that were commonly quoted are driverless cars, distance medicine-surgery and IoT.

But driverless cars do not depend on a network, as their implementation will be tied to computer vision (fast image analysis) and infrared laser scanning. You *may* include networking in driverless cars, and it could be used as a sales feature, but it is by no means necessary, and may turn out to be a safety vulnerability.

Of course, remote surgery, when it happens, will benefit from low latency. But low latency is by no means an exclusive feature of 5G. Optical fiber has lower latency, and unless you want to perform remote surgery in a moving car, this is not enticing.

The true talent of 5G is to create a tight infrastructure to acquire data from future devices that will provide information about their use and actions. This extraction of information from private homes is something that many citizens find worrying. This type of activity will no doubt be framed by legislation over time to protect private life, but has the inconvenience that it will be impossible for individuals to escape ever increasing levels of radiation in the future. Essentially, the telecom industry aims to saturate the environment with their devices.

As the arguments above were scrutinized and became ineffective, others arguments were inserted following the Covid-19 episode: better support needed for students separated from teachers, patients from doctors, employees from work, and older adults to keep contact with family. And we need to reduce the "digital divide", the antidemocratic inequality between the poor and the rich.

But you should note that Covid-19 has not increased our need for wireless, but for fast wired connections to the home, where a computer allows students and teachers, patients and doctors, as well as employees and managers to Zoom and Skype together in a meaningful way. The "digital divide" will be more efficiently bridged by inexpensive wired connections than by an unregulated wireless, which always favors the most densely populated and lucrative markets.

The engineering community naturally aims to expand the use of wireless as much as it can, because it has been so successful in the recent past. But, in my opinion, cell phones have already reached their maturity in terms of usefulness. Providing more bandwidth is not important, unless the gain in performance is very large. Since the spectrum is limited, the dream of industry of connecting "everything" can only be realized by a densification that is objectionable from many points of view. So, my point is that technological evolution is much better served by optical networks to the home and business, because those have much higher data capacity, are more secure, and have no health impacts. If

optical fiber cannot be available immediately, existing phone lines can be updated in short order to Digital Subscriber Lines, bridging the “digital divide”.

In a sense, wireless and oil are very similar in that both are limited, and that both have major inconveniences (global warming and health impacts). In my opinion, the main motive for 5G deployment is expansion of a data lifestyle that ties us to expensive (unregulated) wireless contracts, and enhances cell phone sales.

I doubt that you have heard very much about the health impacts of EMR, because industry avoids the question as much as it can. It finds much more profitable to present to citizens and politicians glossy images of future progress, while reassuring them that there is no downside. But progress can be achieved in more than one way, and accepting whatever picture of progress is promoted by industry can be a mistake.

Electromagnetic Radiation will be labeled as a Class 1 carcinogen in the near future, because of the recent NTP and Ramazzini Institute experiments conducted on animals. It seems unwise to setup an infrastructure that increases citizen exposure to such an agent, when science is about to confirm the risks, and considering that the infrastructure you would deploy in the next months will set the table for decades to come. 5G will create a situation in which practically every citizen will be living very near to a cell phone tower.

Out of respect for your time, I will only attach one document here. It is from a study conducted in one of the largest cities in Brazil, with the cooperation of the local telecom companies, many local universities, and well as Brazilian public health. It shows that when a new cell phone tower is installed in a location, the probability of a person (that has already been diagnosed) with cancer dying from their disease increases by as much as 45%. The effect is strongest 2 years after cell tower installation.



Paul Héroux, PhD

paul.heroux@mcgill.ca

Professor of Toxicology and Health Effects of Electromagnetism
McGill University Medicine
Department of Surgery, McGill University Health Center
InVitroPlus Laboratory, Tel. (514) 398-6988
<http://www.invitroplus.mcgill.ca/>