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## Nordic Appeal from 11 NGO's – calling for better protection against wireless technology

In recent years, human exposure to pulsed microwave radiation from wireless technology has increased exponentially. The increase is mainly a result of the expansion of 4G + and 5G as well as an increased amount of consumer products based on technology that emits microwave radiation. In addition to more base stations, millions of so-called smart electricity meters are being installed, which also contribute to the overall increase in microwave radiation in our outdoor and indoor environment.

In parallel with this exploding radiation exposure, regulations and so-called safety limits applicable to the permitted radiation are based on a severely outdated approach from the 1950s. These 'safety limits' (or guidelines) only protect people against harmful effects that occur as a result of acute heating. This means that humans are completely unprotected against a whole range of harmful effects, such as cancer, DNA damage, oxidative stress and neurological effects, which scientific research has repeatedly shown to occur at levels well below these safety limits. Current safety limits give no protection at all against harmful effects of radiation on biodiversity.

We represent organizations that have been involved in research and /or followed the research in this field for many years. We constantly receive new testimonies from people who have suffered from ill health after base stations for 4G, 5G or smart electricity meters have been installed in their immediate environment. We are deeply concerned about these developments and demand that the following measures be taken as soon as possible:

1. New safety limits must be established that protect against the evident health and environmental risks at levels that are far below current guidelines. This must be done by experts who are free from any ties to the industry concerned, and with participation by researchers within the research community, who consider the risks to be considerable even at levels well below the current guidelines.
2. Before further deployment, a risk assessment of 5G systems must be carried out, also in this instance by experts who are free from ties to the industry concerned, and with participation by researchers within the research community who point to evidence that the risks are considerable.
3. To prevent injuries, education about the risks must be carried out at all levels of society, for example in healthcare, schools, and the general public.
4. The best possible technology should be used to protect human health and the environment. Wired technology that minimizes harmful radiation must be a priority.

## Background

### Measurements show massively increased radiation

Measurements carried out in the spring of 2021 within an international collaborative project showed that radiation in cities has increased sharply with peak values (pulses) that can amount to between 200,000 and over 1 million microwatts per square meter.<sup>1</sup> These are levels that far exceed the levels that have been known already for 50 years to cause harmful effects on human health, which was initially called *the microwave syndrome*.<sup>2</sup> At the same time, there is a lack of research that shows that these levels do not cause ill health when exposed to the whole body and for a long time. Researchers, doctors and elected representatives have for several years called on governments to introduce regulations that allow only significantly lower exposure at a maximum level of 1-100 microwatts per square meter<sup>3</sup>, and to reconsider the current safety limits as these are severely insufficient and outdated to protect against health risks.

### Abundant evidence of harmful effects

The ongoing massive increase in human exposure to microwave radiation from wireless technology is expected to lead to serious consequences in the form of deteriorating public health and harmful effects on plants, insects, birds and other animals. Research shows increasing and clear evidence that this radiation is harmful both to humans and to other biological life at levels that are far below the levels approved by the responsible Nordic authorities.<sup>4</sup> The radiation is pulsed, which is especially serious with regard to negative biological effects.<sup>5</sup>

As early as 2011, the WHO's cancer research institute IARC classified microwave radiation/radio frequency radiation as "possibly carcinogenic", Group 2B, for humans, based on research that had repeatedly shown increased risk of tumours in the brain and auditory nerves among people with long-term use of cordless/cellular phones. This decision, which was based on the evaluation of all research in the field up until 2011, has had no effect in reducing public exposure. On the contrary, exposure to microwaves has increased sharply, which is the opposite of preventing ill health.

Since 2011, the evidence that this radiation causes and promotes cancer development has increased. Research on cells, animals and humans today clearly shows that radiation increases the risk of cancer in humans, not only brain tumours but also other types.<sup>6</sup>

A Swiss government expert group has found that the majority of research shows that radiation causes oxidative stress, which in turn can cause various diseases.<sup>7</sup> Consequently, a new evaluation at the IARC would most likely tighten the classification and lead to the radiation being judged to be "probably carcinogenic to humans", Group 2A, or "carcinogenic to humans" Group 1, if it is done by independent experts.

A research inquiry under the European Parliament has found that radiation from 5G and other wireless technologies can cause cancer, and that this radiation damages men's fertility and possibly also women's reproductive ability.<sup>8</sup> An investigation by The National Academies of Sciences in the USA concludes that pulsed microwaves have caused a large number of diplomats' ill health and corresponds to the symptoms that have been reported for 50 years as a result of exposure to microwave radiation.<sup>9</sup>

Research shows that microwave radiation can damage foetal development<sup>10</sup>, the thyroid gland<sup>11</sup> and other hormone-regulating organs<sup>12</sup>, the eye<sup>13</sup> and impairs mental and physical health in general.<sup>14</sup>

Statistics from the Nordic countries show that diseases linked to the observed ailments increase, in some cases very sharply, such as mental illness, sleep disturbances or insomnia, certain cancers, eye diseases and degenerative neurological diseases.<sup>15</sup>

## **Medical doctors, scientists and elected officials have appealed for better protection**

In 2017, the 5G Appeal was launched ([www.5Gappeal.eu](http://www.5Gappeal.eu)). The appeal, which is currently signed by more than 400 medical doctors and scientists from around the world, demand that decision-makers stop the 5G expansion *until potential hazards for human health and the environment have been fully investigated by scientists independent from industry*, due to the risk of serious consequences for human health.<sup>16</sup>

The EMF Scientist Appeal was launched in 2015 ([www.emfscientist.org](http://www.emfscientist.org)), and is today signed by 255 scientists, all of whom are active in the field. They demand that people must be better protected against risks from this form of radiation exposure by strengthening the current guidelines for permitted radiation and that the general public and the medical profession, particularly doctors, should be informed about the risks.

In 2011, the Parliamentary Assembly of the Council of Europe recommended that member states should strive to generally keep the microwave radiation levels in society as low as possible, as well as to lower the safety limits for permissible radiation to 100 microwatts per square meter. Children and others particularly vulnerable groups should be especially protected. Governments are also urged to ensure that the public is widely informed about the known risks.<sup>17</sup>

## **The authorities ignore the risks and the need for better protection**

The responsible authorities continue to ignore the increasingly clear evidence of risks, despite the research and the repeated appeals from the qualified research community, the medical profession as well as elected representatives. They even claim that the risks shown do not exist and that the current, severely outdated safety limits, are sufficient as protection. In support of their positions, the authorities rely on a small group of experts, who are not representative of the scientific community at large, and the majority of whom are shown to have ties to the telecommunications companies.<sup>18</sup>

### **Signed by:**

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Lennart Hardell, Chairman, Professor (ret), The Environment and Cancer Research Foundation, Sweden

Marianne Ketti, Chairman, ElectroSensitive Association, Sweden

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Solveig Glomsrød, Chairman, Association for Electro Hypersensitive, Norway

Pernille Schriver, Spokesperson, The Danish EHS Association, Denmark

Thomas Graversen, Spokesperson, The Council for Health-Safe Telecommunication, Denmark

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- <sup>1</sup> <https://www.stralskyddsstiftelsen.se/2021/05/11/matningar-av-mikrovagsstralning-fran-basstationer-i-fem-svenska-stader/>
- <sup>2</sup> <https://www.stralskyddsstiftelsen.se/2020/12/09/regeringsrapport-huvudvark-somnproblem-yrsel-tinnitus-orsakades-av-mikrovagsstralning/> samt <https://www.stralskyddsstiftelsen.se/2020/12/03/skadliga-effekter-kanda-1969-fornekas-an-i-dag/>
- <sup>3</sup> <https://www.stralskyddsstiftelsen.se/2014/01/13/euoroparadet-informera-brett-om-riskerna/> and <https://www.stralskyddsstiftelsen.se/2016/07/26/lakare-ger-riktlinjer-for-att-forebygga-och-behandla-sjukdomar-orsakade-av-stralning/>
- <sup>4</sup> <https://www.stralskyddsstiftelsen.se/2020/10/01/vaxande-bevis-mikrovagsstralning-orsakar-oxidativ-stress-dna-skador-och-skadliga-effekter-pa-hjarnan/> samt [http://www.eklipse-mechanism.eu/documents/15803/0/EMR-KnowledgeOverviewReport\\_FINAL\\_27042018.pdf/1326791c-f39f-453c-8115-0d1c9d0ec942](http://www.eklipse-mechanism.eu/documents/15803/0/EMR-KnowledgeOverviewReport_FINAL_27042018.pdf/1326791c-f39f-453c-8115-0d1c9d0ec942)
- <sup>5</sup> [https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/646172/EPRS\\_BRI\(2020\)646172\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/646172/EPRS_BRI(2020)646172_EN.pdf)
- <sup>6</sup> <https://pubmed.ncbi.nlm.nih.gov/31457001/>
- <sup>7</sup> <https://www.mdpi.com/1422-0067/22/7/3772/htm?fbclid=IwAR3ApmXw8562xOCQ5qjlktp2TSE2mWBe7wxsPO0fyYJEtasor3Drc51UonQ>
- <sup>8</sup> [https://www.europarl.europa.eu/RegData/etudes/STUD/2021/690012/EPRS\\_STU\(2021\)690012\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2021/690012/EPRS_STU(2021)690012_EN.pdf)
- <sup>9</sup> <https://embed.documentcloud.org/documents/20420409-nas-assessment-of-illness-of-us-government-employees-and-their-families-at-overseas-embassies/?embed=1&title=1>
- <sup>10</sup> <https://news.yale.edu/2012/03/15/cell-phone-use-pregnancy-may-cause-behavioral-disorders-offspring>
- <sup>11</sup> <https://pubmed.ncbi.nlm.nih.gov/34567874/>
- <sup>12</sup> <https://pubmed.ncbi.nlm.nih.gov/26578367/>
- <sup>13</sup> <https://www.emf-portal.org/en/article/23338>
- <sup>14</sup> <https://bioinitiative.org/conclusions/>
- <sup>15</sup> <https://www.stralskyddsstiftelsen.se/statistik/> and <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0185461> and <https://bmccancer.biomedcentral.com/articles/10.1186/s12885-016-2429-4>
- <sup>16</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7016513/?fbclid=IwAR2>
- <sup>17</sup> <https://www.stralskyddsstiftelsen.se/wp-content/uploads/2014/08/resolution-1815.pdf>
- <sup>18</sup> <https://www.fortunejournals.com/articles/aspects-on-the-international-commission-on-nonionizing-radiation-protection-icnirp-2020-guidelines-on-radiofrequency-radiation.pdf> and [Health Council of the Netherlands and evaluation of the fifth generation, 5G, for wireless communication and cancer risks \(nih.gov\)](#) and <https://www.stralskyddsstiftelsen.se/2021/06/02/icnirp-dominerar-expertutredningar/> and [https://www.stralskyddsstiftelsen.se/wp-content/uploads/2020/07/icnirp-report-june\\_2020\\_buchner\\_rivasi.pdf](https://www.stralskyddsstiftelsen.se/wp-content/uploads/2020/07/icnirp-report-june_2020_buchner_rivasi.pdf)