



The 5G appeal

Scientists and doctors call for a moratorium on the roll-out of 5G. 5G will substantially increase exposure to radiofrequency electromagnetic fields RF-EMF, that has been proven to be harmful for

To the EU Commissioner of Health Stella Kyriakides and relevant cabinet members

Since we sent the 5G appeal to EU (www.5gappeal.eu) in September 2017 many new studies have been published on the health effects of non-ionising radiation. We summarise some of these new studies, of which some are made also by EU. The additions to the Appeal and >390 signatories strengthen the requests (p. 3.) and show that the increased radiation is a crime against EU laws.

(NOTE: Blue links go to sources.)

In December 2019 the new [5G for Europe Action Plan](#) stated: "Very high-capacity networks like 5G will be a key asset for Europe to compete in the Global market, with worldwide 5G revenues for mobile operators expected to reach [€225 billion annually by 2025](#)." The Action plan tells how Information and Communication Technology can support health care, but does not seem to touch upon health risks of radiation. The [Aarhus convention](#) demands (Art. 2, pt. 3b) radiation protection of the environment and information to the public: "description of the significant effects of the proposed activity on the environment." (Art. 6) This has not been done. According to Council of Europe [Resolution 1815](#) the standards for radiation have to be reconsidered.

EU laws hold right to life and health more important than economic considerations

The use of wireless communication has many advantages. However, the many [adverse health effects of wireless 5G](#) have not been considered by EU. The 5G appeal (www.5gappeal.eu) in 2017 warned for that, because the EU treaty and law states: All have the [fundamental right to life](#), health ([Art 2, 35](#)) and "the protection of **public health...must take precedence over economic considerations**" ([Curia #58](#)), "the overriding objective is a high level of **health protection based on the best available scientific evidence**." ([C180/96 R #23](#)). "Union policy...shall aim at a high level of protection...**based on the precautionary principle** ...damage should as a priority be rectified at source and...the polluter should pay" ([Article 191 #2](#)). Thus according to laws EU must protect health based on "best available scientific evidence". No research is done in this area by EU. It is delegated to two small groups: (1) ICNIRP, proven to be [misleading by scientists](#) ([Cherry, Favre, Hansson-Mild & Hardell, Pall](#)) and (2) SCENIHR which [asserted that no research shows harmful effects](#) below the guidelines. That is proven **totally wrong** by Pall ([ch. 5](#)) and [Sage, Carpenter & Hardell](#).

We warn EU for "The world's largest biological experiment ever" ([Leif G. Salford](#))

We refer to the history of how important warnings in the 5G appeal have for almost 3 years been neglected by the staff of the former EU commissioners, which is documented in a recent peer reviewed article by [Hardell & Nyberg](#). For example [John F. Ryan](#) EU in October 2017 replied: "Please be assured that the Commission will pursue scrutiny of the **independent scientific evidence available to ensure the highest health protection of our citizens**." However, the staff of the Commissioner **has not acted according to that promise**, nor in accordance with the laws above, and TFUE [L 321\(5\)](#), in spite of all proofs of harm that we reported in the appeal and six Cover letters. All [replies show](#) that EU staff have neglected the warnings, asserting that "**vast scientific oversights do not find any harmful effects below the guidelines**". However, the last reply from EU showed that the assertions were **based on only one single outdated review**, the [SCENIHR 2015 report](#), which ignores the existence of a significant amount of reports proving harm ([Sage](#) and [Pall ch. 5](#)).

In the [5G Appeal to EU](#) now >[390 scientists and physicians](#) (including 80+ professors) warn EU because [evidence of adverse health effects is massive](#) and the risk is obvious and well confirmed by the [National Toxicology Program](#), the [Ramazzini](#) Institute studies and the [BioInitiative Report](#). Recently disclosed [USSR research](#) (pp. 57-61), shows serious health harm on heart, brain and organs of rats exposed 15 min/day 60 days (total **15 hrs**) by 10 W/m² with 5G frequencies (37,5–60 GHz). Whole-body exposure of mice to low-intensity radiation 1.5 W/m², of 42 GHz [5G] of only 20 min/day during **only 5 days** (total **100 min.**) had a profound [effect on immunity](#). New studies confirm health harm from pulsed EMF:s on humans, animals and environment, a crime against several Articles in the EU [Fundamental Rights Charter](#): Art. 3: "*the following must be respected... the free and informed consent of the person concerned*", 37: *high level of environment*-

tal protection...of the environment must be integrated into the policies of EU" and the [Aarhus](#) convention: "the public concerned shall be informed of significant effects of the proposed activity...on the environment".

Apply the Precautionary Principle, enforce moratorium of 5G, require safety research

[DiCiaula](#) summarizes: "Preliminary observations showed that MMW [MilliMeter Waves]... alter gene expression, promote cellular proliferation and synthesis of proteins linked with oxidative stress, inflammatory and metabolic processes, could generate ocular damages, affect neuromuscular dynamics. Further studies are needed to better and independently explore the health effects of RF-EMF in general and of MMW in particular. However, available findings seem sufficient to demonstrate the existence of biomedical effects, to invoke the precautionary principle, to define exposed subjects as potentially vulnerable and to revise existing limits". [Russell](#) concludes: "Because this is the first generation to have cradle-to-grave lifespan exposure to this level of man-made microwave radiofrequencies, it will be years or decades before the true health consequences are known. Precaution in the roll out of this new technology is strongly indicated."

To avoid a health disaster within EU, it is now imperative to apply the [EU Precautionary Principle](#): "When human activities may lead to morally unacceptable harm that is scientifically plausible... actions should be taken to avoid or diminish that harm". A [new "In-depth analysis" from EU](#) concludes: "One aspect ... is the unpredictable propagation patterns that could result in unacceptable levels of human exposure to electromagnetic radiation" (p. 6). "Significant concern is emerging over the possible impact on health and safety arising from potentially much higher exposure to ... electromagnetic radiation arising from 5G. Increased exposure may result not only from the use of much higher frequencies in 5G but also from the potential for the aggregation of different signals, their dynamic nature, and the complex interference effects that may result." These short pulses can have [hundreds of thousands times higher density](#) than the mean values ([Puranen](#) p. 457-458) but **pulses are totally neglected and only mean values** are considered by ICNIRP..

A new [EU Briefing](#) by EPRS (European Parliamentary Research Service) concludes "Because it is more complex and requires a denser coverage of [base stations](#) to provide the expected capacity, 5G will [cost much more to deploy](#) than previous mobile technologies. According to [European Commission](#) estimates, to reach the target, including 5G coverage in all urban areas, this cost is estimated at around €500 billion by 2025....This raises the question as to whether there is a negative impact on human health and environment from higher frequencies and billions of additional connections, which, according to research, will mean constant exposure for the whole population, including children." According to the briefing, antennas for 5G can be placed with 20-150 meter distance and the number of these "[small cells](#)" could be up to 800 antennas per square kilometer in dense areas, also inside buildings.

[Matti Keskinen from Nokia Corporation](#) shows that 5G brings 10 000 times more data traffic and 1 million 5G units per square kilometer in dense areas. The total radiation will include WiFi, 2G, 3G, 4G and 5G from antennas on the ground, plus 5G from 50 000-100 000 satellites and from 250 000 balloons and sun driven drones in the sky according to weapons expert [Barrie Trower](#) (at 60 minutes in his talk) and the International [5G Space Appeal](#). When 5G and Internet of Things (IoT) add multiple sources and frequencies, they will massively increase harmful total radiation, aggregations and interferences. The effects on health and environment must be researched before all EU citizens, including the fetus, babies and children, are constantly irradiated. It is therefore **imperative to immediately apply a 5G moratorium** to allow time and money for health research. EU should **ban all 5G from ground and space** to wait for research [proving 5G to be safe](#). More than [300 cities, states and regions have already stopped 5G](#) waiting for such research ([Attachment 1](#)).

ICNIRP guidelines consider only heating and do not protect human or animal health

ICNIRP Guidelines are based only on thermal effects (heating). However, many non-thermal biological effects are proven harmful by scientists, but **not at all considered by ICNIRP**. That is why their guidelines do not protect human, animal and insect health nor the environment, which is well shown in the above mentioned research ([Cherry, Favre, Hansson-Mild & Hardell, Pall](#)). Thus [ICNIRP](#) is fraudulent and the suggested guidelines are based on [flawed assertions](#) that no research has shown harmful effects below the guidelines, although thousands of articles prove harmful effects of radiation. [Two courts in Turin](#) concluded: (a) "there is scientific evidence supporting the statement of a causal link between cell phones and cancer", (b) ICNIRP and/or SCENIHR "members received financing...from industry" and (c) "Scientists financed by the telephone industry, as well as ICNIRP members, are less reliable compared to independent scientists". That is supported by [Investigate Europe](#) and a [new report](#) by two EU Parliament members (Buchner & Rivasi). All these show that **ICNIRP is captured by the industry**. That may explain why their guidelines consider only acute effects of **heating** although **long term radiation causes eight health effects without any heating**.

According to the 2020 [EU Briefing](#) the Commission has not yet conducted any studies on the potential health risks of the 5G technology. In spite of that and in spite of six warnings since 2017 in the [5G Appeal](#) and the [5G Space Appeal](#), EU actively promotes 5G. However, according to the [Nuremberg code](#) and the EU [Charter of Fundamental rights](#) (Article 3, 2 a), EU must first get "*free and informed consent*" from every citizen for the huge biological experiment on every citizen. Several new EU reports also warn for health risks. The safety of 5G should first be proven by experiments in animal and cell studies. Because that [has not been done](#), a moratorium to allow research must immediately be enforced within the EU to avoid health disaster.

The 2018 [EU Directive](#) (#114) demands that: "*Restrictions to the principle of technology neutrality should be appropriate and justified by the need to avoid harmful interference, for example by imposing emission masks and power levels, to ensure the protection of public health by limiting public exposure to electromagnetic fields.*" EU and the Health Commission should also follow the EU treaty ([Article 191](#), 3): "*In preparing its policy on the environment, the Union shall take account of - available scientific and technical data ...the potential benefits and costs of action or lack of action*". Too high guidelines will bring huge costs because of harmful effects on [trees](#), [plants](#), [insects](#), [bees](#), [birds](#), [mammals](#) and [humans](#), especially [children](#).

Truly independent scientists should create guidelines considering all biological effects

The [EU Parliament Briefing](#) concludes that [WHO/IARC](#) has classified electromagnetic fields as a possible human carcinogen. New research indicates that it should already be classified **carcinogenic to humans** (Group 1) like tobacco ([Carlberg & Hardell](#) 2017; [Miller et al 2018](#)). The Briefing concludes "*research to date has not addressed the constant exposure that 5G would introduce*" and a "*further consideration is the need to bring together researchers from different disciplines, in particular medicine and physics or engineering, to conduct further research into the effects of 5G... fibre optics would be more secure, safe and offer higher speed than 5G. However, fibre optics are not wireless*", but "*Fiber is safer, faster, more reliable, and far more cyber secure and energy efficient than wireless.*" ([R. M. Powell](#)). See expert opinions ([T. Schoechle](#) and [P. Héroux](#).)

This massive increase in the data traffic and the number of antennas is enough to cause much higher levels of total radiation than before. Based on new scientific studies the 2G, 3G and 4G are causing dangerous total radiation already before 5G is added with all the new equipment within the Internet of Things (IoT). It will bring self-driving cars, buses, drones, surveillance cameras and other equipment. Additionally, the ICNIRP 2020 increased the reference levels for the general public averaged over 6 min for RF frequencies >2-6 GHz (to be used for 5G in this frequency range), from 10 W/m² to 40 W/m², which paves the way for even higher exposure levels to 5G than the already extremely high ones ([Hardell & Carlberg](#)). The [ICNIRP guideline of 2020](#), also allows **20 times higher** power density (200 W/m²) in small areas (1 cm² or 4 cm²) of the 5G [narrow steerable directional beams](#) (for 6-300 GHz) from base stations and mobile devices. These are even worse than current frequencies below 6 GHz. The risks are not only possible but they are [proven to be real](#) by [many new research reports](#). Thus it is not possible any more to deny that the total radiation from all these is a serious health risk. Exactly contrary to that [EU:s Arunas Vinciunas asserted](#) to us: "*The recourse to the EU's Precautionary Principle to stop the distribution of 5G products appears too drastic a measure*". Instead it is now **too drastic to continue and to add 5G which will multiply the total radiation**. Many scientists have proven harmful effects to humans, animals and insects from radiation far below the earlier, lower guidelines, which have caused harm before the addition of the higher 5G frequencies, which are more harmful. To start 5G would therefore be the "[largest unethical medical experiment in human history](#)", says [Kostoff](#) (2020).

Thus it is now time to immediately **apply the Precautionary Principle and impose moratorium** in roll-out of 5G like [300 regions, states and cities](#) have done to await proofs of safety. Council of Europe [Resolution 1815](#) suggests 100 microW/m² as guideline for exposure. In the [BioInitiative Report Conclusions](#) the suggestion is **3-6 microW/m²**. These levels should be compared with the ICNIRP guideline **10 000 000 microW/m²** (10 W/m²). See four similar low guideline proposals in [Attachment 2](#). The [EU Directive](#) (#110) states: "*The need to ensure that citizens are not exposed to electromagnetic fields at a level harmful to public health is imperative.*" When EU laws say you must rely on "[best available scientific evidence](#)" it is astonishing that EU confirms guidelines based on documents from the fraudulent ICNIRP and SCENIHR, which consider only 6 minutes, [only heating](#) (of liquid) but deny all other well proven biological harmful effects from weak long term radiation. Mandatory irradiation of babies, children and pregnant women is a crime against the EU [Charter of Fundamental Rights](#).

To protect health and the environment it is, as the (EPRS) [EU Briefing](#) puts it: "*necessary to establish new exposure limits that take account of the new characteristics of exposure. Such limits should be based on the biological effects of EMF radiation, rather than on the energy-based specific absorption rate*" (=heating).

As was mentioned above many researchers have shown that the members of ICNIRP and SCENIHR neglect 70% of all scientific facts on harm. **ICNIRP must be disbanded**. Health risks from radio frequency radiation **should be assessed by experts with no conflicts of interest**. Already 17 **prominent scientists** ([Attachment 3](#)) have promised to help Finland to create guidelines, based on honest research. Perhaps they could also suggest guidelines for EU, together with members from the groups of scientists mentioned in [Attachment 2](#).

EU can no more say it is "too drastic a measure to recourse to the Precautionary Principle." If you do not stop **5G now** you are breaking the [Nuremberg code](#), the [Aarhus convention](#) and the [TFEU Articles: 114: Commission, in its proposals... will take as a base a high level of protection, taking account in particular of any new development based on scientific facts.](#) **168:** "prevent... illness and diseases... obviate dangers", **169:** "protect health, safety", **196:** "preventing and protecting against...man-made disasters". These **laws were not followed in EU:s earlier replies to us**. Only misleading "evidence" from ICNIRP and SCENIHR was used as proof. However, safety can not rely on false claims saying "no proofs of harm". Why should EU trust ICNIRP with only 10 physicists, 1 MD and 2 biologists, when >[390 scientists and physicians](#) confirm in the 5G appeal that harm is caused far below ICNIRP guidelines and ask EU: "To appoint immediately...an EU task force of independent, truly impartial EMF-and-health scientists with [no conflicts of interest](#)." The proofs of [conflicts of interest in Attachment 5](#) and the **legal opinions** on 5G summarised in [Attachment 6](#) show that ICNIRP must be disbanded, and the Council [Recommendation 1999/519/EC](#) on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz) must be reconsidered.

Lack of immediate action can lead to massive costs because of illness caused by radiation. The correct action is to recourse to the [EU Precautionary Principle](#). That should have been done already in 2017, when EU received the first 5G appeal. Please, act immediately according to "**best available scientific evidence**"! According to the [March 2020 EU Briefing](#): "The European Environment Agency has long advocated precaution concerning EMF exposure, pointing out that there were cases of failure to use the precautionary principle in the past, which have resulted in often irreversible damage to human health and environments. Appropriate, precautionary and proportionate actions taken now to avoid plausible and potentially serious threats to health from EMF are likely to be seen as prudent and wise from future perspectives." Choose cables and [fibre optics connections](#) where possible. Reduce guidelines for all total wireless communication NOW!

On behalf of [more than 390 scientists and physicians \(>80 professors\)](#), who endorse our [5G Appeal](#), we ask you: Trust "best available scientific evidence" more than the captured groups ICNIRP and SCENIHR, where many members receive money from the industry making products that are harmful for EU citizens' health. Health will not be protected as long as ICNIRP and SCENIHR continue denying scientific facts about health harm of non-ionising radiation. "The safety of hundreds of millions of people, as we enter tomorrow's wireless age, depends upon the willingness of a handful of leaders in governments [EU], industry, and science to put politics and profit aside – and **do the right thing today**." ([George Carlo](#)).

We cordially ask the health Commissioner **Stella Kyriakides** to respond to our letter and also sign the reply. We asked the former Health Commissioner to reply. Five times **only his staff** replied. Astonishingly they did not accept that 5G and the far too high guidelines can cause a health disaster. They seem to trust the SCENIHR paradigm: "**No published research has documented any harmful effects below our guidelines**." That proves that [SCENIHR denies the existence](#) of thousands of peer-reviewed scientific studies showing detrimental effects on humans and the environment far below the so called "safety" guidelines. Please, study [the article](#) presenting the history of how [EU has replied](#) to the [EU 5G appeal](#) and the references # 21-24 and the [TFEU articles 114, 168 and 196](#). Let us know by email, which you yourself (not your subordinates) sign: (a) that you have received our letter and (b) what measures you will take to protect EU citizens' health.

Vasa, Finland and Örebro, Sweden, 7 August 2020
Respectfully submitted

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Attachments - click links:

- 1) [5G-stoppers](#), 2) [Safe Guidelines](#), 3) [Honest scientists](#) 4) [5G Appeal History](#) 5) [Report on ICNIRP](#), 6) [Legal opinions](#)
- The EU [5G Appeal](#), >[390 signatories](#), [Aarhus convention](#), this letter = [New5G-Research](#)