

Scientists and doctors warn of potential serious health effects of 5G

September 13, 2017

We the undersigned, more than 180 scientists and doctors from 36 countries, recommend a moratorium on the roll-out of the fifth generation, 5G, for telecommunication until potential hazards for human health and the environment have been fully investigated by scientists independent from industry. 5G will substantially increase exposure to radiofrequency electromagnetic fields (RF-EMF) on top of the 2G, 3G, 4G, Wi-Fi, etc. for telecommunications already in place. RF-EMF has been proven to be harmful for humans and the environment.

(Note: [Blue links](#) below are references.)

5G leads to massive increase of mandatory exposure to wireless radiation

5G technology is effective only over short distance. It is poorly transmitted through solid material. Many new antennas will be required and full-scale implementation will result in antennas every 10 to 12 houses in urban areas, **thus massively increasing mandatory exposure.**

With "[the ever more extensive use of wireless technologies](#)," nobody can avoid to be exposed. Because on top of the increased number of 5G-transmitters (even within housing, shops and in hospitals) according to estimates, "[10 to 20 billion connections](#)" (to refrigerators, washing machines, surveillance cameras, self-driving cars and buses, etc.) will be parts of the Internet of Things. All these together can cause a substantial increase in the total, long term RF-EMF exposure to all EU citizens.

Harmful effects of RF-EMF exposure are already proven

Over [230 scientists from more than 40 countries](#) have expressed their "serious concerns" regarding the ubiquitous and increasing exposure to

Gli scienziati e medici avvertono dei potenziali gravi effetti del 5G sulla salute umana

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Noi sottoscritti, più di 180 scienziati e medici provenienti da 37 paesi, proponiamo una moratoria per il roll-out della quinta generazione - la 5G - della telecomunicazione, fino a quando i potenziali pericoli per la salute umana e l'ambiente saranno stati completamente studiati da scienziati indipendenti dall'industria. La tecnologia 5G aumenterà notevolmente l'esposizione ai campi elettromagnetici a radiofrequenza (RF-EMF) rispetto alla 2G, 3G, 4G, Wi-Fi, ecc. già esistenti. RF-EMF sono state dimostrate dannose per l'uomo e per l'ambiente.

La 5G porta ad un massiccio aumento dell'esposizione alle radiazioni wireless

La tecnologia 5G è efficace solo a breve distanza. E' scarsamente trasmessa attraverso materiale solido. Molte nuove antenne saranno necessarie e l'implementazione su larga scala comporterà antenne ogni 10-12 case nelle aree urbane, aumentando così massicciamente l'esposizione obbligatoria.

Con "[l'uso sempre più ampio delle tecnologie wireless](#)", nessuno può evitare di essere esposto. Perché oltre il numero aumentato di trasmettitori a 5G (anche all'interno di abitazioni, negozi e negli ospedali) secondo le stime, "[da 10 a 20 miliardi di connessioni](#)" (frigoriferi, lavatrici, telecamere di sorveglianza, autovetture e autobus, ecc.) saranno parti del cosiddetto "Internet of Things". Tutto ciò sicuramente porta ad un notevole aumento dell'esposizione complessiva a lungo termine di RF-EMF a tutti i cittadini dell'UE.

Gli effetti nocivi dell'esposizione RF-EMF sono già stati dimostrati

[Oltre 230 scienziati provenienti da più di 40](#) paesi hanno espresso le loro "serie preoccupazioni" per quanto riguarda l'onnipresente e crescente esposizione a EMF generata da dispositivi elettrici e wireless già prima dell'ulteriore 5G roll-out. Si

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EMF generated by electric and wireless devices already before the additional 5G roll-out. They refer to the fact that "numerous recent scientific publications have shown that *EMF affects living organisms at levels well below most international and national guidelines*". Effects include increased cancer risk, cellular stress, increase in harmful free radicals, genetic damages, structural and functional changes of the reproductive system, learning and memory deficits, neurological disorders, and negative impacts on general well-being in humans. Damage goes well beyond the human race, as there is growing [evidence of harmful effects](#) to both [plants](#) and [animals](#).

After the scientists' appeal was written in 2015 additional research has convincingly confirmed serious health risks from RF-EMF fields from wireless technology. The world's largest study (25 million US dollar) [National Toxicology Program \(NTP\)](#), shows statistically significant increase in the incidence of *brain and heart cancer* in animals exposed to EMF below the ICNIRP (International Commission on Non-Ionizing Radiation Protection) guidelines followed by most countries. These results support results in human epidemiological studies on RF radiation and brain tumour risk. [A large number of peer-reviewed scientific reports](#) demonstrate harm to human health from EMFs.

The International Agency for Research on Cancer (IARC), the cancer agency of the World Health Organization (WHO), in 2011 concluded that EMFs of frequencies 30 KHz – 300 GHz are possibly [carcinogenic to humans \(Group 2B\)](#). However, new studies like the NTP study mentioned above and several epidemiological investigations including the latest studies on mobile phone use and brain cancer risks [confirm that RF-EMF radiation is carcinogenic to humans](#).

The [EUROPA EM-EMF Guideline 2016](#) states that "there is strong evidence that *long-term exposure to certain EMFs is a risk factor for diseases* such as certain cancers, Alzheimer's disease, and male infertility...Common EHS

riferiscono al fatto che "numerose pubblicazioni scientifiche recenti hanno dimostrato che l'EMF colpisce gli organismi viventi a livelli ben al di sotto della maggioranza degli linee guida internazionali e nazionali". Gli effetti includono l'aumento del rischio di cancro, lo stress cellulare, l'aumento dei radicali liberi dannosi, i danni genetici, i cambiamenti strutturali e funzionali del sistema riproduttivo, i deficit di apprendimento e di memoria, i disturbi neurologici e gli impatti negativi sul benessere generale degli esseri umani. I danni vanno ben oltre la razza umana, poiché vi è [una crescente evidenza di effetti nocivi](#) sia per le [piante](#) che per gli [animali](#).

Dopo che l'appello degli scienziati che è stato scritto nel 2015, ulteriori ricerche hanno confermato con convinzione i gravi rischi per la salute dei campi RF-EMF provenienti dalla tecnologia wireless. Lo studio più grande del mondo (25 milioni di dollari USA) [del National Toxicology Program \(NTP\)](#) mostra un aumento statisticamente significativo dell'incidenza del cancro del cervello e del cuore negli *animali* esposti a EMF, al di sotto dei valori di esposizione della linea-guida ICNIRP (Commissione Internazionale per la Protezione dalle Radiazioni Non Ionizzanti) seguite dalla maggior parte dei paesi. Questi risultati supportano risultati di studi epidemiologici umani su radiazioni RF e rischio tumorale cerebrale. [Un gran numero di rapporti scientifici riesaminati a livello scientifico](#) dimostrano danni alla salute umana da EMF.

L'Agenzia internazionale per la ricerca sul cancro (IARC), struttura di ricerca sul cancro dell'Organizzazione mondiale della sanità (WHO), nel 2011 ha concluso che EMF di frequenze da 30 KHz a 300 GHz [sono possibili cancerogene per l'uomo \(Gruppo 2B\)](#). Tuttavia, nuovi studi come lo studio NTP di cui sopra e diverse indagini epidemiologiche tra cui gli ultimi studi sull'utilizzo di telefoni cellulari e sui rischi di cancro al cervello [confermano che la radiazione RF-EMF è cancerogena per l'uomo](#).

La [LINEA GUIDA EUROPA EM-EMF 2016](#) afferma che "esiste una forte evidenza che l'esposizione a lungo termine a determinati livelli di EMF rappresenta un fattore di rischio per malattie quali alcuni tumori, malattia di Alzheimer e infertilità maschile ... I sintomi comuni di EHS (ipersensibilità

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(electromagnetic hypersensitivity) symptoms include headaches, concentration difficulties, sleep problems, depression, lack of energy, fatigue, and flu-like symptoms.”

An increasing part of the European population is affected by ill health symptoms that have for many years been linked to exposure to EMF and wireless radiation in the scientific literature. The International [Scientific Declaration on EHS & multiple chemical sensitivity \(MCS\)](#), Brussels 2015, declares that: "In view of our present scientific knowledge, we thereby stress all national and international bodies and institutions...to recognize EHS and MCS as true medical conditions which acting as sentinel diseases may create a *major public health concern in years to come worldwide* i.e. in all the countries implementing unrestricted use of electromagnetic field-based wireless technologies and marketed chemical substances... ***Inaction is a cost to society*** and is not an option anymore... we unanimously acknowledge this serious hazard to public health...that major primary *prevention measures are adopted and prioritized, to face this worldwide pan-epidemic in perspective.*"

Precautions

The [Precautionary Principle](#) (UNESCO) was [adopted by EU 2005](#): "When human activities may lead to morally unacceptable harm that is scientifically plausible but uncertain, actions shall be taken to avoid or diminish that harm."

[Resolution 1815](#) (Council of Europe, 2011): "Take all reasonable measures to reduce exposure to electromagnetic fields, especially to radio frequencies from mobile phones, and particularly the exposure to children and young people who seem to be most at risk from head tumours...Assembly strongly recommends that the ALARA (as low as reasonably achievable) principle is applied, covering both the so-called thermal effects and the athermic [non-thermal] or biological effects of electromagnetic emissions or radiation" and to "improve risk-assessment standards and quality".

elettromagnetica) includono mal di testa, difficoltà di concentrazione, problemi di sonno, depressione, mancanza di energia, stanchezza e sintomi di influenza ".

Una parte crescente della popolazione europea è colpita da sintomi di malattia legati dall'esposizione per molti anni a EMF e alle radiazioni wireless come riportato dalla letteratura scientifica. [La dichiarazione scientifica internazionale sulla EHS e la sensibilità chimica multipla \(MCS\)](#), Bruxelles 2015, dichiara che: "Tenendo conto delle nostre conoscenze scientifiche, invitiamo tutti gli enti e le istituzioni nazionali e internazionali ... a riconoscere EHS e MCS come vere patologie che agiscono come malattie sentinelle e che potrebbero creare una maggiore preoccupazione per la salute pubblica negli anni a venire in tutto il mondo, cioè in tutti i paesi che utilizzano liberamente le tecnologie wireless basate sul campo elettromagnetico e le sostanze chimiche commercializzate ... L'inazione è un costo per la società e non è più un'opzione ... riconosciamo all'unanimità questo grave pericolo per la sanità pubblica ... che le principali misure di prevenzione primarie sono adottate e privilegiate per affrontare questa prospettiva globale di pan-epidemia ".

Precauzioni

Il [principio di precauzione](#) (UNESCO) è stato [adottato dall'UE nel 2005](#): "Quando le attività umane possono portare a un danno moralmente inaccettabile, che è scientificamente plausibile ma incerto, si dovranno intraprendere azioni per evitare o diminuire tale danno".

[Risoluzione 1815](#) (Consiglio d'Europa, 2011): "Prendere tutte le misure ragionevoli per ridurre l'esposizione ai campi elettromagnetici, in particolare alle radio frequenze dei telefoni cellulari e in particolare all'esposizione ai bambini e ai giovani che sembrano essere maggiormente a rischio per i tumori della testa ... L'Assemblea raccomanda vivamente di applicare il principio ALARA (così basso come ragionevolmente raggiungibile) che copre sia i cosiddetti effetti termici, sia gli effetti atermici [non termici] o biologici delle emissioni elettromagnetiche o delle radiazioni "e" migliorare gli standard di valutazione dei rischi e qualità ".

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The [Nuremberg code](#) (1949) applies to all experiments on humans, thus including the roll-out of 5G with new, higher RF-EMF exposure. All such experiments: "should be based on previous knowledge (e.g., an expectation derived from animal experiments) that justifies the experiment. No experiment should be conducted, *where there is an a priori reason to believe that death or disabling injury will occur*; except, perhaps, in those experiments where the experimental physicians also serve as subjects." (Nuremberg code pts 3-5). Already published scientific studies show that there is "a priori reason to believe" in real health hazards.

The [European Environment Agency](#) (EEA) is warning for "Radiation risk from everyday devices" in spite of the radiation being [below the WHO/ICNIRP standards](#). EEA also concludes: "There are many examples of the failure to use the precautionary principle in the past, which have resulted in serious and often irreversible damage to health and environments...harmful exposures can be widespread before there is both 'convincing' evidence of harm from long-term exposures, and biological understanding [\[mechanism\]](#) of how that harm is caused."

"Safety guidelines" protect industry — not health

The current ICNIRP "safety guidelines" are obsolete. All proofs of harm mentioned above arise although the radiation is [below the ICNIRP "safety guidelines"](#). Therefore new safety standards are necessary. The reason for the misleading guidelines is that "[conflict of interest of ICNIRP members](#) due to their *relationships with telecommunications or electric companies* undermine the impartiality that should govern the regulation of Public Exposure Standards for non-ionizing radiation...To evaluate cancer risks it is necessary to include scientists with competence in medicine, especially oncology."

The current ICNIRP/WHO guidelines for EMF are based on the obsolete hypothesis that "The critical effect of RF-EMF exposure relevant to human health and safety is [heating of exposed tissue](#)." However, scientists have proven that many different kinds of *illnesses and harms are [caused](#)*

Il [codice di Norimberga \(1949\)](#) si applica a tutti gli esperimenti sugli esseri umani, incluso il roll-out di 5G con una nuova esposizione RF-EMF più alta. Tutti questi esperimenti: "dovrebbero basarsi su conoscenze precedenti (ad esempio grazie ad esperimenti su animali) che giustifichino l'esperimento. Nessun esperimento dovrebbe essere condotto, *se esiste un motivo a priori per ritenere che si verificheranno lesioni di morte o disabilità*; tranne forse in quegli esperimenti in cui i medici sperimentali servono anche come soggetti" (codice di Norimberga p. 3-5). Gli studi scientifici già pubblicati dimostrano che c'è già "un motivo a priori per credere" nei rischi per la salute.

L'[Agenzia europea dell'ambiente \(EEA\)](#) ha lanciato un 'warning' per "il rischio di radiazioni da dispositivi di uso quotidiano" anche quando la radiazione [sia sotto gli standard WHO / ICNIRP](#). EEA conclude: "Esistono molti esempi di non utilizzo del principio precauzionale, che hanno provocato danni gravi e spesso irreversibili alla salute e agli ambienti... le esposizioni dannose possono essere diffuse prima che ci siano prove "convincenti" di danno da esposizioni a lungo termine e [comprensione biologica](#) di come tale danno sia causato".

"Linee guida sulla sicurezza" proteggono l'industria ... non la salute

Le attuali linee guida sulla sicurezza di ICNIRP sono obsolete. Tutte le prove di danno sopra menzionate si manifestano anche se la radiazione è [inferiore alle "linee guida di sicurezza" di ICNIRP](#). Pertanto, sono necessari nuovi standard di sicurezza. La ragione per avere delle linee guida fuorvianti è "il [conflitto di interessi](#)" [dei membri ICNIRP](#) a causa delle loro relazioni con le società di telecomunicazioni o elettriche che pregiudicherebbero l'imparzialità che dovrebbe governare la regolamentazione degli standard di esposizione pubblica per le radiazioni non ionizzanti... Per valutare i rischi del cancro è necessario coinvolgere scienziati con competenza in medicina, in particolare oncologia, indipendenti".

Le linee guida attuali di ICNIRP / WHO per EMF si basano sull'ipotesi obsoleta che "l'effetto critico dell'esposizione RF-EMF per la salute umana e la sicurezza è il [riscaldamento del tessuto esposto](#)".

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[without heating](#) ("non-thermal effect") at radiation levels well below ICNIRP guidelines.

We urge EU:

1) To take all reasonable measures to halt the 5G RF-EMF expansion until independent scientists can assure that 5G and the total radiation levels caused by RF-EMF (5G together with 2G, 3G, 4G, and WiFi) will not be harmful for EU-citizens, especially infants, children and pregnant women, as well as the environment.

2) To recommend that all EU countries, especially their radiation safety agencies, follow Resolution 1815 and inform citizens, including, teachers and physicians, about health risks from RF-EMF radiation, how and why to avoid wireless communication, particularly in/near e.g., daycare centers, schools, homes, workplaces, hospitals and elderly care.

3) To appoint immediately, without industry influence, an EU task force of independent, truly impartial EMF-and-health scientists with no conflicts of interest¹ to re-evaluate the health risks and:

a) To decide about new, safe "maximum total exposure standards" for all wireless communication within EU.

b) To study the total and cumulative exposure affecting EU-citizens.

c) To create rules that will be prescribed/enforced within the EU about how to avoid exposure exceeding new EU "maximum total exposure standards" concerning all kinds of EMFs in order to protect citizens, especially infants, children and pregnant women.

4) To prevent the wireless/telecom industry through its lobbying organizations from persuading EU-officials to make decisions about further propagation of RF radiation including 5G in Europe.

Tuttavia, gli scienziati hanno dimostrato che diversi tipi di malattie e [danni sono causati senza riscaldamento \("effetto non termico"\)](#) a livelli di radiazione ben al di sotto delle linee guida di ICNIRP.

Invitiamo l'UE:

1) a prendere tutte le misure ragionevoli per fermare l'espansione delle RF-EMF da 5G finché gli scienziati indipendenti non possono garantire che 5G e il livello totale di radiazioni causati da RF-EMF (5G insieme a 2G, 3G, 4G e WiFi) non siano dannosi ai cittadini dell'UE, in particolare a neonati, bambini e le donne in gravidanza, nonché all'ambiente.

2) a raccomandare a tutti i paesi dell'UE, in particolare alle loro agenzie di sicurezza per le radiazioni, che seguano la risoluzione 1815 e informino i cittadini, tra cui insegnanti e medici, sui rischi per la salute delle radiazioni RF-EMF, come e perché evitare la comunicazione wireless, ma anche i centri di cura, scuole, case, luoghi di lavoro, ospedali e strutture per anziani.

3) di nominare immediatamente, senza influenze dall'industria, una task force dell'UE di scienziati indipendenti e veramente imparziali, quindi senza conflitti di interesse per riesaminare i rischi per la salute e:

a) Decidere su nuovi standard di esposizione massima "sicuri" per tutta la comunicazione senza fili all'interno dell'UE.

b) studiare l'esposizione totale e cumulativa che colpisce i cittadini dell'UE.

c) creare regole che saranno prescritte / impostive all'interno dell'Unione europea su come evitare l'esposizione superando i nuovi "standard massimi di esposizione totale" dell'UE su tutti i tipi di EMF per proteggere i cittadini, in particolare i neonati, i bambini e le donne in gravidanza.

4) Prevenire che l'industria del wireless / telecomunicazioni attraverso le sue organizzazioni di lobbying persuadino i funzionari dell'UE a

¹ Avoid similar mistakes as when the [Commission \(2008/721/EC\)](#) appointed [industry supportive members for SCENIHR](#), who submitted to EU [a misleading SCENIHR report](#) on health risks, [giving telecom industry a clean bill to irradiate](#) EU-citizens. The report is now quoted by radiation safety agencies in EU.

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<p>5) To favor and implement wired digital telecommunication instead of wireless.</p> <p><i>We expect an answer from you no later than October 31, 2017 to the two first mentioned signatories about what measures you will take to protect the EU-inhabitants against RF-EMF and especially 5G radiation. This appeal and your response will be publicly available.</i></p> <p>Respectfully submitted,</p>	<p>prendere decisioni su un'ulteriore propagazione delle radiazioni RF tra cui 5G in Europa.</p> <p>5) Per favorire e implementare la telecomunicazione digitale cablata invece di wireless.</p> <p>Ci aspettiamo una risposta da parte vostra, entro e non oltre il 31 ottobre 2017, alle due raccolte di firme su quali misure si intende adottare per proteggere gli abitanti dell'Unione europea contro l'RF-EMF e in particolare la radiazione 5G. Questo appello e la tua risposta saranno pubblicamente disponibili.</p> <p>Con rispetto,</p>
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Note: The endorsements are personal and not necessarily supported by the affiliated universities or organizations.

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