KOMPETENZINITIATIVE
zum Schutz von Mensch, Umwelt und Demokratie e.V.

Statement, 15. August 2021

The politics of 5G and wireless communication technologies

Stagnation in radiation protection — Euphoria in industry – Advances in research – Expectations in society

Observations and assessments regarding the situation in Germany

In our last statement at the onset of the corona crisis (April 2020), we argued to have courage and to change the course of policy-making regarding wireless communication technologies. We had hoped that we could use the crisis as a chance to newly reflect on the wireless issue. Now we realize that industry and government have kept pushing forward with the deployment of 5G networks. On the occasion of a new programmatic publication of the German Federal Office for Radiation Protection (May 2021), we share our observations and assessments regarding the current situation in Germany.

Radiation protection ideology

While reading the new "Strahlenschutzstandpunkt" (May 2021), an 8-page brochure published by the German Federal Office for Radiation Protection, it's like déjà vu all over again. The authors of the brochure self-confidently claim:

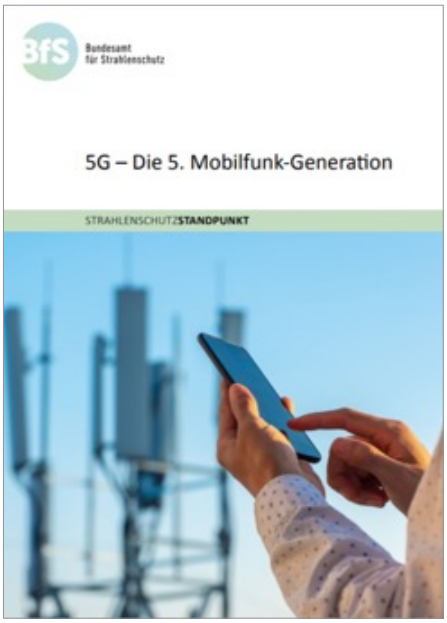
The public has been informed about possible health effects and RF radiation exposures in an objective and factual manner.[1]

In conclusion, the authors say in a similarly apodictic tone:

Health effects from wireless radiation have been well studied. The evidence is largely robust. So far the only scientifically proven health-related effect of radio-frequency electromagnetic fields is tissue heating well above current exposure limits. If exposure limits are met, no effects harmful to health are to be expected ... Based on comprehensive research data, there is no scientifically proven evidence of adverse health effects related to 5G below current exposure limits.[2]

To readers who have no or very little knowledge in this area, these statements may seem reliable, if not very reassuring.

To well-informed insiders of the wireless technology debate, which has already been ongoing for over half a century, these constantly repeated phrases with which authorities try to distract from the core of the open questions are only too well known.[3]



[1] See "In der globalen Corona-Krise: Mut zum mobilfunkpolitischen Kurswechsel / In the Global Corona Crisis: Courage for a Change in Policies regarding Wireless Communication Technologies" – https://kompetenzinitiative.com/stellungnahmen/corona-krise-mut-zum-mobilfunkpolitischen-kurswechsel-courage-for-a-change-in-policies/ – Accessed on 4 June 2021

[2] Available online: https://www.bfs.de/SharedDocs/Downloads/BfS/DE/broschueren/emf/standpunkt-5g.html – Accessed on 4 June 2021.

[3] Regarding the history of such patterns and their relevance to the current situation, see "Gegen Irrwege der Mobilfunkpolitik – für Fortschritte im Strahlenschutz. Kritische Bilanz nach einem Vierteljahrhundert des Mobilfunks" (2017) – https://kompetenzinitiative.com/broschueren/gegen-irrwege-der-mobilfunkpolitik-fuer-fortschritte-im-strahlenschutz-kritischebilanz-nach-einem-vierteljahrhundert-des-mobilfunks/ – Accessed on 4 June 2021.

The crucial phrases of their style of announcement include: "objective information" – "only thermal effects above current exposure limits are harmful to health" – "scientifically proven evidence" – "no health effects below current exposure limits" ... Electromagnetic hypersensitivity or effects on the environment, flora, and fauna are not even mentioned. At a later point, we will come back to these phrases and topics in more detail.

For now it should suffice to say: Statements like these, which have been automatically issued for decades, sound like fossils. In view of their ironclad rigidity, they now take on the form of a radiation protection ideology. Ideologies, as we know from history, have little regard for open debates and discussions. In the meantime, the authors of the brochure continue describing the current situation as follows: "The rollout of the fifth generation of wireless technologies is advancing."

Industry and economy are "advancing"

Economic forecasts sound almost euphoric:

Global 5G rollout. During ... the pandemic ... 113 wireless service providers in 48 countries have begun rolling out 5G networks. GSMA is forecasting that, over the next five years, providers will spend 80% of the investment costs in this sector (US$890B) on 5G networks ... In the global GSMA Intelligence Consumer Insights Survey for 2020, 37% of consumers indicated that they intend to upgrade to 5G compared to 30% in 2019.[4]

Over the last decades, the government-backed radiation protection ideology of harmlessness has contributed significantly to the rise of 5G and the wireless industry as an important global economic player.

Value chains in wireless markets that have been established for at least a quarter century and continue to be newly generated are gigantic: from development to implementation of technical infrastructures; from planning to construction through to the production of intermediate or mobile devices; from connected possible suppliers, providers, services through to applications; in addition, corresponding PR, advertising, and media budgets are huge. If we only add up the briefly mentioned items above, we can assume well-connected global industries of enormous size and scale. Last but not least, governments themselves are part of the added value through profitable auctions or sales of licenses.

In 2020, the wireless industry earned almost US$3 trillion worldwide. Wireless service providers alone contributed almost US$1.4 trillion. This makes it the largest and most important industry of all.[5]

It goes without saying that new technologies can provide important opportunities for new economic models, markets, and economic prosperity, not least through government funding and legal frameworks. In the wireless sector, however, government and industry are awfully close.

[4] From an article by the association of the wireless industry – https://www.informationszentrum-mobilfunk.de/artikel/trends-in-der-mobilfunkbranche-2021 – Accessed on 5 June 2021.

[5] See also Klaus Buchner / Monika Krout: 5G Wahn(sinn). Die Risiken des Mobilfunks. Das gefährliche Spiel mit den Grenzwerten. Die strahlungsarmen Alternativen (2021), esp. 138–141, here: 140.

Dubious lobbying as a driver of the wireless economy

Legitimate lobbying has come under fire in recent years, even though it is basically legitimate that industry and economy represent their economic interests at the political level. Lobbying has meanwhile gained in importance for many interest groups, for example, employers, unions, professional, leisure, or environmental associations, as well as many other organizations. However, based on new publications, in no other sector is lobbying pursued so systematically and with such dubious methods as in the wireless industry.

This development has been supported by a great wealth of perfectly intelligent new applications in the area of process security/reliability and their acceleration in industrial manufacturing as well as the enormous increase in leading-edge medical applications (from emergency medicine to home care, to name only a few). The effectiveness alone of the many, almost euphorically pursued developments leads to the suppression of associated risks; the focus is on positive effects only and the gain in partly brilliant opportunities.

A crucial key to understand the dilemma lies with the essential manner in which exposure limits are set to keep these technologies compatible with health and environmental targets. At the international and national level, the setting of exposure limits is frequently the result of a tight-knit community of representatives from economic and government institutions, as has been shown in recently published reports on this topic.[6] The International Commission for the Protection from Non-Ionising Radiation (ICNIRP), for example, takes a leading role worldwide and exerts significant influence over wireless policies with its expert statements.

The ICNIRP claims that its members are independent scientists who act free of any selfish interests by the telecommunications industry. With this report, we intend to show that this ICNIRP statement must be questioned and may be doubtful.[7]

Such reports analyze, summarize, and explain in detail that advisory bodies and decision-making commissions — both at the international and national level — have a massive problem with a lack of transparency and conflicts of interest that prevent a fair and professionally reliable risk assessment.

[6] On this range of topics, see a pioneering sociological perspective by Tom Butler: Wireless Technologies and the Risk of Adverse Health Effects in Society: A Retrospective Ethical Risk Analysis of Health and Safety Guidelines (2020) – https://ehtrust.org/wp-content/uploads/Wireless-Technologies-Ethical-Risk-Analysis-Working-Paper-2021.pdf – Accessed on 27 July 2021. Likewise, a pioneering European political perspective by Michèle Rivasi and Klaus Buchner: Die Internationale Kommission zum Schutz vor nicht-ionisierender Strahlung: Interessenkonflikte, ‚Corporate Capture' & der Vorstoß zum Ausbau des 5G-Netzes – https://kompetenzinitiative.com/wissenschaft/buchner-rivasi-report-zu-icnirp-fuer-mehr-transparenz-in-der-mobilfunkpolitik/ – Accessed on 5 Juni 2021.

[7] Buchner-Rivasi-Report, previous footnote, p. 7.

Industry advertising and media industry between silence and defamation

It is noticeable that in our everyday media landscape, especially on far-reaching platforms with many users, these topics are hardly ever presented or not at all. We are far from wanting to present a comprehensive analysis of the media here, which would be a research project on its own. However, based on our first observations, common reporting follows known patterns in which those who voice criticism against 5G and wireless technologies are wholly and reflexively dismissed as so-called "conspiracy theorists," "esoterics," political extremists of any variety and the like. As a result, we have polarizations in the media that rather hinder societal understanding.

The industry's own advertising works in a somewhat different way; its own set of rules, of course, doesn't include self-criticism. It is natural that they advertise their products and services because advertising is a sales economy. The current advertising for 5G, as far as we can tell, often operates with diverse, partly suggestive communication strategies that try staging something like a "culture war" between young people or those young at heart and old or die-hard people.[8] Key questions regarding our society's progress and its associated risks are presented as if they were a question of generations, style, attitude, or taste. Consumers may decide for themselves regarding such polarizations. Decision-making, however, is made difficult by the fact that the presented new developments and solutions are often so fascinating that any associated consequences and risks are preferably swept under the rug.

Rather, it is remarkable to see how so-called leading media keep silent or defame and thus become a mouthpiece of the official 5G and wireless communication technology policies. We will provide two examples here.

THE SO-CALLED "VIENNA SCANDAL"

At the end of last year, a sensational decision about the pioneering European REFLEX study (2000–2004) in which the German Hanseatic Higher Regional Court Bremen has issued a final ban on making allegations of fraud was kept out of view of the broader public due to the silence in the media.

The history of the controversy surrounding this study, which had been fueled by fraud allegations (the so-called "Vienna Scandal"), is a great example of the extremely harsh attacks independent researchers are exposed to when challenging dubious industry interests. We now have analyses that show how much journalists were not only caught in their one-sidedness or disinformation, but also got involved in campaigns of destruction that have fatal consequences for the targeted researchers.[9] Distinguished journalists themselves refer to this as a "hunt" or "mud slinging."[10]

According to the latest court decision from Bremen, this would have been an opportunity to provide clarification in public, at least for the reporting in leading media. This has not yet happened. In a new interview, Franz Adlkofer, the former coordinator of the study, provides analyses and evaluations regarding the significance of this court decision and the current research situation caught between the conflicting priorities of industry, politics, and jurisdiction.[11]

[8] On that point, Peter Ludwig: Inszenierter Kulturkampf. Ein paar Sätze in Prosa über 5G - Reklame – Poesie. In: Festschrift für Werner Thiede zum 65. Geburtstag (will be published in the near future).

[9] Regarding the new court decision and its back story: https://kompetenzinitiative.com/wissenschaft/urteil-fuer-die-forschung-a-verdict-in-support-of-scientific-research/ – Accessed on 6 June 2021.

[10] On that point, Peter Michael Lingens: Das Handy-Gesundheitsrisiko im österreichischen Nachrichtenmagazin Profil, 3 December 2015: http://www.profil.at/meinung/peter-michael-lingens- handy-gesundheitsrisiko-6121763

[11] Video interview with Klaus Scheidsteger available at: https://kompetenzinitiative.com/wissenschaft/forschung-im-spannungsfeld-von-industrie-politik-und-rechtsprechung/ – Accessed on 6 June 2021.

FRAMING OF THE WDR/QUARKS SHOW FROM 24 APRIL 2021:

5G — REVOLUTION OR RISK?

A second example for common and one-sided reporting is provided by the WDR/Quarks Show from 24 April 2021: 5G – Revolution or Risk? The dramatic title already suggests as if the issue had exactly two different, supposedly opposite sides even though there are other possibilities that are not a contradiction to the two offered.

We will refrain from any detailed criticism here and refer to the so-called Framing of the Show in which events and topics are embedded in a prefabricated pattern of interpretations.[12]

Framing runs through the entire show. Complex information on various issues has been selectively prepared in such a way that a certain definition of the problem, attribution of the cause, moral evaluation and/or recommendations for action are emphasized.

For those viewers who are less well informed or not at all, the show leaves the overall impression as if there were only one perspective that health risks and effects of electrical, magnetic, and electromagnetic fields are just perceived due to diffuse fears and do not actually exist in reality; the initially used term "imagination" says so unmistakably.

Later in the show, the question (20:05) "How is 5G supposed to cause damage?" is phrased in a rather limiting way. In this case, framing is used again as the question is narrowed exclusively to the term of damage. The entire issue of risk and precaution, which must be considered against the background of a broad range of different measures according to German hazard and safety law, is thereby glossed over. Especially the necessary assessments of the effects of the many health-related issues for which we do not yet have final scientific proof in the strictest academic sense (long-term effects, inclusion of vulnerable groups, lack of understanding of cause-effect relationships, etc.) were simply edited out.

The statement is made "that the effects of wireless radiation and 5G are not harmful to our body. There is no danger." A broad range of effects is thus withheld for which there is evidence of risk: e.g. the effects on blood flow to the brain, impairment of sperm quality, destabilized genes, as well as effects on gene expression, programmed cell death, and oxidative cell stress.[13]

And the later statement (22:15) that "experts" see no point in carrying out a new 5G risk assessment is twisted insofar as it is not made clear which "experts" are meant here. This statement uses the exact same language as the wireless industry.[14]

That the discussion of effects refers only to so-called "confirmed" studies (22:23) is also to be understood as part of this framing. In the scientific context, "confirmed" usually means that a cause-effect relationship has been identified and explained. All gray areas of scientific knowledge that only show limiting evidence, but clear indications are swept under the rug.

We will shortly come back to the issues of research that were not reported about in this broadcast.

[12] Broadcast in ARD Mediathek: https://www.ardmediathek.de/video/quarks-im-ersten/5g-revolution-oder-gefahr/das-erste/Y3JpZDovL2Rhc2Vyc3RlLmRlL3F1YXJrcy1jYXNwZXJzLzlkZmUxNWYxLWI0NjItNGE4YS05ZGU0LTc3N2NjMDEzMTczNw/ – Accessed on 8 June 2021 – See also our detailed criticism in an Open Letter to the editorial staff – https://kompetenzinitiative.com/gesellschaft/offener-brief-wdr-sendung-quarks-vom-24-april-2021-in-der-kritik/ – Accessed on 16 June 2021.

[13] BAFU – Bundesamt für Umwelt, Schweizerische Eidgenossenschaft (2015): Mobilfunk: Weniger Strahlung trotz mehr Datenverkehr. https://www.bafu.admin.ch/bafu/de/home/themen/elektrosmog/dossiers/weniger-strahlung.html – Accessed on 4 November 2020.

[14] https://www.sunrise.ch/content/dam/sunrise/residential/spotlight/2019/20191216_FSM_Mobilfunk_Stand%20des%20Wissens.pdf

MEDIA COVERAGE OF 5G AND WIRELESS TECHNOLOGIES – IMPORTANT ISSUE

First, we would like to share a few short comments regarding these examples.

On the issue of 5G and wireless technologies, we currently see the media industry positioned between silence and defamation or polarization. The common coverage of this issue in the media, according to our assessment, is noticeably friendly towards industry and government policies.

We don't know why. Are there economic and political advantages or predicaments that cause such journalism? Or are there other motives behind this? Only the media makers and communication companies themselves can answer these questions.

According to our observations, leading media outlets make 5G and wireless technologies politics instead of providing neutral reporting on 5G and wireless technologies in all their facets and complexity. A balanced and more differentiated reporting about strategies required for an appropriate handling of the hazards and risks would be important for the necessary societal understanding. Otherwise, media too easily run the risk of being broadly labeled with the highly controversial term "fake news."

Advances in research

In addition to climate change, global social inequality, and other significant issues, we consider the issue of 5G and wireless technologies a crucial global challenge.

In our opinion, 5G and wireless technologies are high-risk technologies that require our utmost attention due to their ubiquitous presence and possible penetration/effectiveness like other uncertain advanced technologies. The constant and mostly unregulated bombardment of humans and the environment with wireless radiation — whereby an individual's private space and intimate body regions are often exposed — requires special research efforts, precaution, and societal understanding or regulation.

We justify this basic assessment with a view to trends in innovative, especially industry-independent research that has dealt with questions of wireless radiation and current 5G technologies for more than a quarter century.

This research shows that the evolution of life and biological diversity has occurred against the backdrop of natural electromagnetic fields. In the past, the natural electromagnetic spectrum had large swaths of "empty spaces." That was the only way, for example, how electromagnetic cell communication could evolve without external interference. Previously unused frequencies are now jam-packed with artificial electromagnetic fields that are much stronger by many magnitudes. A review of the scientific literature shows that, among other things, these fields affect the autonomic and central nervous system, hormones, chromosomes, as well as cells, which often is associated with oxidative cell stress.[15] Underlying plausible cause-effect mechanisms are known.[16,17,18,19]

EVIDENCE OF RISK FOR HEALTH AND THE ENVIRONMENT

The central point of any discussion about the extent to which scientific studies and findings regarding the effects of ELF and RF electromagnetic fields on humans and the environment are to be rated as serious depends on the term "risk assessment."

This is about a factual objective assessment of the available knowledge of effects and the reliability of each finding. The standard of such an assessment is based on the "sufficient probability" of judicial decisions with which a risk to humans and the environment can be expected. This risk of sufficient probability would then have to trigger a corresponding legislative policy.

The standard, however, does not agree with the term of "scientifically proven effects relevant to health," as initially quoted in the brochure by the German Federal Office for Radiation Protection, or the associated cause-effect relationship (causality). Sufficient probability does not require scientific certainty. Some effects (cancer) or long-term effects often cannot be explained causally and expose such demands as claims of protection so as not having to make any recommendations for relevant legislative measures.

On the other hand, this is also about clarifying how scientific findings are to be classified that provide strong evidence of effects and possible health effects below previously mentioned risk thresholds (possibly lower level of evidence). These insights are also important from a legal perspective because in a socio-political process one must evaluate to what extent these insights are not tolerable anymore and which possible measures should be implemented. According to established case law, the terms "suspected risk" or "potential concern" have become a benchmark for evaluation. In this context, we also speak of precaution as embodied in the EU / European Court of Justice as well as German law, and on the basis of which appropriate precautionary measures can be justified.

A complete and thus objective risk assessment has a broad scope and the responsible agencies are obviously overwhelmed by this task. In the Austrian study regarding the 5G technology assessment, this becomes clear in the example of widely divergent expert assessments on the health risks and hazards among the commissions and institutions at an international level.[20] This also illustrates that "scientific proof" as the sole standard for protective and precautionary measures sweeps all those numerous scientific findings "under the rug" that show more or less clear evidence, especially in the area of nonthermal effects.

It is a fact that three fourth of global research in this area finds effects in humans, animals, and the environment under exposure conditions well below thermal effects (Figure). The initially cited "objective information" by the federal agency hides such truths. Switzerland sets a good example in this regard. Based on the compilation and assessment of all the internationally available data, its expert group comes to the logical conclusion of precaution.[21]

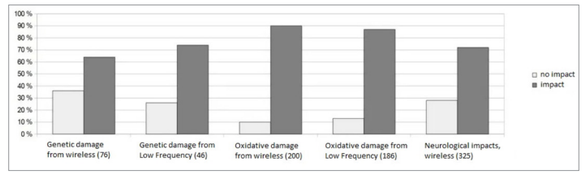


Figure: Number of studies on different health effects according to exposure levels well below thermal threshold effects (database Medline 1990–2017).[22]

It is high time now to listen to the findings of the international risk research community when dealing with such biological effects of radiation exposure. The International Public Symposium Mainz, 4–6 October 2019, provided an opportunity to engage with renowned representatives of the international risk research community.[23]

The current state of research shows that wireless technologies cause biological effects beyond dispute or doubt, ranging from impaired well-being to serious impairments and damage to life and health. Especially vulnerable populations, primarily children and youths as well as individuals with electromagnetic hypersensitivity, are severely affected by the rising exposure levels of wireless radiation.

[15] Schürmann, D.; Mevissen, M. (2021): Vom Menschen erzeugte elektromagnetische Felder und oxidativer Stress – Biologische Effekte und Folgen für die Gesundheit. In: Int. J. Mol. Sci. 2021, 22(7), 3772; https://doi.org/10.3390/ijms22073772

[16] Barnes, F.; Greenebaum, B. (2016): Some effects of weak magnetic fields on biological systems: RF fields can change radical concentrations and cancer cell growth rates, IEEE Power Electronics Magazine 3 (1): 60–68. [https://ieeexplore.ieee.org/document/7425396; 3/29/2019].

[17] Neitzke, H. P. (2012): Einfluss schwacher Magnetfelder auf Biologische Systeme: Biophysikalische und biochemische Wirkungsmechanismen, in: EMF Monitor 18 (4): 1–5.

[18] Warnke, U. (2009): Ein initialer Mechanismus zu Schädigungseffekten durch Magnetfelder bei gleichzeitig einwirkender Hochfrequenz des Mobil- und Kommunikationsfunks, in: umwelt medizin gesellschaft 22–2009: 210–232.

[19] Yakymenko, I. et al. (2016): Oxidative mechanisms of biological activity of low-intensity radiofrequency radiation. In: Electromagn Biol Med 35 (2): 186–202.

[20] ITA – Institut für Technikfolgen-Abschätzung (ITA) der Österreichischen Akademie der Wissenschaften (ÖAW) (ed.) (2020): 5G-Mobilfunk und Gesundheit – Die aktuelle Einschätzung des Evidenzstandes zu möglichen Gesundheitsrisiken von elektromagnetischen Feldern des Mobilfunks durch anerkannte wissenschaftliche Gremien. Vienna.

http://epub.oeaw.ac.at/ita/ita-projektberichte/ITA-AIT-11.pdf – Accessed on 20 January 2021.

[21] BAFU – Bundesamt für Umwelt, Schweizerische Eidgenossenschaft (2015): Mobilfunk: Weniger Strahlung trotz mehr Datenverkehr. https://www.bafu.admin.ch/bafu/de/home/themen/elektrosmog/dossiers/weniger-strahlung.html – Accessed on 4 November 2020.

[22] Flydal, E. (2020): Head of Swiss Radiation Protection Committee accused of 5G-swindle. Nordic countries deceived, too. Slightly adapted translation of a blogpost in Norwegian, published on 27 January 2020. http://einarflydal.com/

[23] 5G. Biologische Wirkungen des Mobilfunks / Biological effects of wireless technology. Mainz, 4–6 October 2019 - Information, reports, and videos of presentations / German–English: https://kompetenzinitiative.com/mainz-2019/ – Available on Youtube: https://www.youtube.com/playlist?list=PL13IhzGwJ-FYzXXnoOEL1wQVj1Womfpr9

THE RISK GROUP OF CHILDREN AND YOUTHS

The highest personal RF radiation exposure levels often occur when mobile devices are used close to the body. In the meantime, more and more products are developed for the use by small children.

For infants, there are already so-called “iToys” or rattles, pots, dolls, and stuffed animals with integrated smartphones or baby monitors, as well as electronic devices for the wireless surveillance of body functions. Numerous studies, however, show that the use of such devices at a young age is especially problematic because children are more vulnerable than adults.

As a general risk group in the population, children have so far not been the focus of research on the effects of RF radiation nor have children been considered as a group in their own right for the process of setting exposure limits. A finding of the German Telecommunications Research Program shows[24] that during a phone call especially certain tissues and brain areas in young children can be more exposed than in adults. That children, who are exposed to nonionizing radiation right from the start of their lives, require special protection has also been recognized by the European Parliament[25] and the Council of Europe.[26]

The special examination of this issue leads, for example, to the following demands:[27]

- We need to introduce a mandatory rule to the Directive on Toys Safety that provides the risk group of children with the necessary protection and risk prevention.
- Cell phones and tablets need to have a “children’s mode” that disables wireless connectivity.
- There needs to be a binding standard for baby monitor devices that only allows a minimum permissible radiation level (dynamic power management and activation only when needed).
- Research into the development of exposure models for wire less products needs to specifically consider effects on children.
- Advertising for cell phones targeting small children must not be allowed.[28]

[24] The Federal Office for Radiation Protection (2013): Ergebnisse des Deutschen Mobilfunk Forschungsprogramms zu weiteren möglichen biologischen und gesundheitlichen Wirkungen hochfrequenter elektromagnetischer Felder (http://www.bfs.de/de/elektro/hff/wirkungen/weitere_moegliche_wirkungen.html) [11 FEB 2014], in the meantime, the pages have been removed online

[25] European Parliament (2009): Resolution of 2 April 2009 on health concerns associated with electromagnetic fields (2008/2211(INI) (https://www.europarl.europa.eu/doceo/document/TA-6-2009-0216_EN.html – Accessed on 27 July 2021.

[26] Council of Europe (2011): The potential dangers of electromagnetic fields and their effect on the environment. Resolution 1815 (2011) – https://assembly.coe.int/nw/xml/XRef/Xref-XML2HTML-en.asp?fileid=17994 – Accessed on 13 Juni 2021.

[27] Kühling, W. & Cameron, P. (2008): Mobilfunk im Kinderzimmer – eine kritische Betrachtung. Berlin: BUND. [https://www.bund.net/service/publikationen/detail/publication/mobilfunk-im-kinderzimmer-eine-kritische-betrachtung/?wc=22498; 29 DEC 2020].

[28] Overview, information and recommendations regarding this topic also in the compact brochure “Medienkonsum und Mobilfunkstrahlung – Besondere Risiken für Kinder und Jugendliche – Empfehlungen für die gesunde Entwicklung Ihres Kindes” – https://kompetenzinitiative.com/broschueren/medienkonsum-und-mobilfunkstrahlung-besondere-risiken-fuer-kinder-und-jugendlicheempfehlungen-fuer-die-gesunde-entwicklung-ihres-kindes/

PLANNING AND PREVENTION: RESPONSIBILITIES OF CITIES AND MUNICIPALITIES

The increasing uncertainty in parts of the population and the launching of hundreds of initiatives in many places makes clear that, especially at the local level, environmental and health solutions must be found. For a long time, there has been a call for low-EMF or EMF-free areas for particularly sensitive people with electromagnetic hypersensitivity (EHS),[29] and in many places people fight over the placement of cell towers. Since the call for precautionary measures against RF exposures can hardly be met in some areas, it is the urgent task of municipalities and communities within the framework of their planning authority to provide targeted control of the wireless telecommunication infrastructure in order to limit its effects to the objects of protection or their facilities and land use applications.

Appropriate tools for control at their disposal include, among others, plans and programs of regional planning as well as urban land use planning and their environmental assessments. Within the meaning of an effective environmental protection for the sensitive use of a given space, these available assessments tools have been applied to other exposure factors (air pollutants, noise) for a long time, but so far not to “harmful environmental exposures” caused by nonionizing radiation. Since first exposure targets can be defined as design guideline values for the protection of public spaces, nothing stands in the way of using planning controls for protection and prevention. These planning solutions are supported by the Federal Administrative Court, which delegates the above-mentioned “potential concern” and attests municipalities the urban relevance of precautionary protection below current exposure limits.[30]

[29] Budzinski, B. I.; Kühling, W. (2018): „Weiße Zone Rhön“: Weniger Mobilfunk = weniger Krankheiten, Baumschäden und Insektensterben? In: Natur und Recht 40: 514–526.

[30] Regarding this topic in great detail: Wilfried Kühling: 5G/Mobilfunk durch Gesamträumliche Planung steuern (2021) – https://kompetenzinitiative.com/broschueren/5g-mobilfunk-durch-gesamtraeumliche-planung-steuern/ – Accessed on 8 June 2021.

Electromagnetic hypersensitivity (EHS) is real and a challenge for society

Inside the traditional radiation protection ideology, which doesn't want to know of health effects of radiation exposures, there is consequently no room for electromagnetic hypersensitivity (EHS). In the initially mentioned brochure from the German Federal Office for Radiation Protection, EHS has been completely overlooked.

EHS IS REAL AND RELATED TO ENVIRONMENTAL EXPOSURES

Dabei gibt es im Horizont innovativer Forschung inzwischen eine Mehrzahl neuerer Studien und Publikationen, die konventionellen Vorurteilen (‚Einbildung') und Diskriminierungen - bis hin zur Psychiatrisierung betroffener BürgerInnen - entgegentreten. [31]

The ***EMF Guideline 2016 by the European Academy for Environmental Medicine*** (EUROPAEM) is exemplary for a new medical understanding of EMF effects.

The guideline bases its understanding of EHS on the review of many years of medical and life science knowledge. Already in their review section, the authors present a wide range of diverse EMF-related health risks.[32] It is the merit of this medical report, which should not be underestimated, to take affected individuals seriously and to radically accept the reality of EHS and EMF-related injuries.

Studies, empirical observations, and patient reports clearly suggest interactions between EMF exposure and health problems,

one of the key statements of the document says. There is much to be said for the fact that these illnesses are associated with the introduction and spread of new wireless technologies and applications, which have a major impact on our everyday lives. Besides numerous well-researched physical and chemical environmental factors, which can act as causal disease factors, it is therefore "necessary now to take 'new exposures' like electromagnetic fields (EMF) into account."

Thus EHS and EMF-related illnesses are regarded as environmental diseases. Another key statement for the clinical and medical practice:

We recommend treating electromagnetic hypersensitivity (EHS) clinically as part of the group of chronic multisystem illnesses (CMI), but still recognizing that the underlying cause remains the environment.

In this context, it would
always also be important to consider an individual's constitution and resilience towards EMF effects because "individual susceptibility and environmental factors are frequently neglected."

[31] We provide a small selection of current information. Ursula Niggli: Land im Strahlenmeer. Über die gesundheitlichen Auswirkungen von Funkstrahlung bei Mensch und Tier – eine europäische Diskussion. Berlin 2017; Christine Aschermann (ed.) and Cornelia Waldmann-Selsam: Elektrosensibel – Strahlenflüchtlinge in einer funkvernetzten Gesellschaft. Aachen 2017; Elektrohypersensibilität – Risiko für Individuum und Gesellschaft (2018) – https://kompetenzinitiative.com/broschueren/elektrohypersensibilitaet-risiko-fuer-individuum-und- gesellschaft/ – Accessed on 6 June 2021 – Hanna Tlach et al.: Elektro(hyper)sensibilität: psychisch oder somatisch? Das ist nicht die Frage! Ein Plädoyer für vorsorgliche Strahlenminimierung zugunsten von Mensch und Natur (2021) - https://kompetenzinitiative.com/gesellschaft/elektrohypersensibilitaet-psychisch-oder-somatisch-das-ist-nicht-die-frage/ – Accessed on 6 June 2021 – New website from diagnose:funk - https://diagnose-ehs.org/

[32] EUROPAEM EMF Guideline 2016 for the Prevention, Diagnosis and Treatment of EMF-related Health Problems and Illnesses. At first in: Reviews on Environmental Health 2016-0011; https://doi.org/10.1515/reveh-2016-0011 – Accessed on 6 June 2021.

EHS AS A CHALLENGE FOR SOCIETY

EHS is not only an individual issue, but also related to ecological and social factors. To our knowledge, there is no official statistics on the number of affected citizens. However, the German Federal Office for Radiation Protection recently mentioned about "nearly two percent of the German population." This would translate into approximately 1.5 million citizens.[33] Likewise, the medical ***EMF Guideline 2016*** cannot provide concrete numbers with regard to EHS but emphasizes: "Chronic diseases and illnesses associated with nonspecific symptoms are on the rise."

The Guideline reminds us of the ***European statistics of the Environmental Burden of Disease Project*** according to which three to seven percent of the annual burden of disease in six European countries are caused by harmful environmental factors; we are also reminded of the increasing incidence of mental and/or psychosomatic disorders documented in international and national studies for which root cause analysis has not yet been completed, e.g. burnout, ADHD, allergic or asthmatic diseases and many other complex disease patterns.

If we try to extrapolate that to the total population at the international and national level, it can be assumed that with regard to EHS and EMF-related illnesses – whether affected people are aware of their injuries or not – hundreds of thousands, if not even millions are affected. Such numbers, of course, need to be understood with great caution.

We would like to add, based on many contacts with affected citizens that there are individual stories of pain behind these numbers. Suffering from EHS is quite often associated with loss of work, change of residence, massive restrictions in everyday life, and impacts from social decline or from exclusion. Furthermore, based on our experience, EHS does not occur in a specific class, but across all social classes.

The ***EMF Guideline*** concludes its statistical overview with the comprehensible recommendation of an earlier international study on EHS (Hedendahl / Carlberg / Hardell 2015):

It is time to consider ELF EMF and RF EMF as environmental pollutants that need to be controlled.

Another consequence of the latest discussion is that, in view of the increasing level of radiation exposure, EHS needs to be understood as a challenge for society as a whole. Organizations of those affected sometimes speak of EHS as a "harbinger" of what kind of disease patterns can be expected in the population in the future, a thought that makes precautionary measures for the public urgent.

This matches the recently observed rise in diseases that can hardly ever be causally attributed to individual toxins. The federal health reporting regarding some main diagnoses of patients discharged from hospital reveals a considerable, almost always increasing case number of dozens of diseases in a span of only ten years.[34]

[33] For the numbers, see the statement on the website of the German Federal Office for Radiation Protection: http://www.bfs.de/DE/themen/emf/netzausbau/wirkung/diskutiert/diskutiert.html – Accessed on 19 January 2017; in the meantime, the pages have been removed online.

[34] Kühling, W. & Cameron, P. (2020): Wissenschaft verkehrt, oder: Wie Gesetzgebung und Vollzug wissenschaftliche Erkenntnisse missbrauchen. Dargestellt am Beispiel elektromagnetischer Felder. In: umwelt medizin gesellschaft 33 1/2020: 11–18.

Expectations in society

It should have become clear by now: The issue of 5G and wireless technologies is not an academic question. It is also not an outsider issue any longer. We are dealing with a serious challenge for society as a whole and furthermore also a serious challenge for the entire globe.

In view of the industry- and government-supported offensive marketing strategies regarding this technology, it is quite amazing that, according to latest polls, about half of the German population is skeptical about the exposure to wireless radiation.[35] It is our recommendation to take the reservations and caution towards this technology seriously and to integrate them creatively into political and social solutions.

A NEW WAY OF THINKING AND ACTION REGARDING POLICIES ON 5G AND WIRELESS TECHNOLOGIES

Against this background, we recommend the following initial steps to change course or choose a new direction regarding policies on 5G and wireless technologies that appear reasonable and necessary for society as a whole:

- Impose a moratorium on the implementation of 5G/6G technologies until risks to humans and the environment have been ruled out by independent scientists.
- Staff international and national advisory and decision-making committees on wireless technologies with scientists who demonstrably have no conflict of interest.
- With regard to radio-frequency radiation, we need to introduce and apply a technically and legally reliable procedure for its risk and hazard assessment, such as was recommended by the risk commission.[36] It is essential that both independent scientists and community groups are included in the risk assessment process. Dissolve the dependency of the German Federal Office for Radiation Protection (BfS) from the International Committee on Non-Ionising Radiation Protection (ICNIRP).
- Establish a knowledgeable and diverse "EMF commission" (supported by a scientific advisory board). Within the framework of this commission, experts, institutions, and advisory bodies develop detailed procedures and criteria for the future responsible handling of wireless technologies. Implement the recommendations in a transparent process of political decision-making.
- Carry out a substantial review of current exposure limits to issue guidelines that replace the physics-based limits (which cannot protect living organisms) with guidelines that are based on biological and biophysical parameters of life.
- As has been requested for a long time with regard to toxins that expose humans and the environment, we need to introduce a reversal of the burden of proof and make it mandatory: only if safety has been studied and proven may the rollout/production begin. This means that industry and government must prove the health and safety of wireless radiation prior to deploying this technology.
- Introduce and stipulate principles such as ALATA („as low as scientifically and technically achievable") for the implementation of technologies. Whereby "scientifically achievable" also means that knowledge about effects and risks can also lead to suspending certain technical solutions.
- Clarify the impact of EMF on health and the environment; we need an authoritative EMF registry/database in which all EMF-related injuries, illnesses, symptoms, and manifestations (in humans, animals, plants) can be collected.
- Specify precautionary measures for RF EMF by introducing a minimizing requirement based on the ALATA principle („as low as technically achievable") to limit the power output of all licensed and unlicensed wireless transmitters according to the 26th German Federal Immission Control Ordinance (BImSchV) and other legislation. Commit to limiting the number of individual antennas through the option of local roaming. Establish exposure limits or guideline values that implement precaution to avoid indoor exposure inside buildings.
- Enforce automatic shutdown or transmit power control (TCP) for mobile communication devices when no power is required. Ensure that, at point of purchase, the default setting on mobile devices is configured for the lowest power level.
- Support research and promote alternative technologies to wireless communication technologies, e.g. light-based technologies. Expand a powerful fiber-optic network.
- Wi-Fi-free educational facilities, such as daycare centers and schools, using light- or hardwired solutions instead.
- Quickly stop discrimination against the increasing number of fellow citizens who are affected by electromagnetic hypersensitivity (EHS). Recognize associated disease patterns. Implement and support low-EMF or EMF-free protection zones or white zones.
- Provide targeted information to the public on how to minimize radiation exposures when using wireless devices, including technical and behavioral alternative solutions. Promote research on how to educate the public with innovative tools that are especially appealing to younger people.
- Develop pilot projects/examples that showcase a new way of dealing with wireless technologies, their applications, and risks.

[35] "Über UV-Strahlung durch Sonnenlicht ist die Hälfte der Befragten beunruhigt. Es folgen die Strahlung durch Mobilfunkmasten und die von Mobiltelefonen, Smartphones und Tablets (je 51 Prozent sehr oder eher beunruhigt) [Half of the respondents are worried about UV radiation from the sun followed by cell tower radiation and the radiation from cell phones, smartphones, and tablets (51 percent each are very or likely to be worried)]." See also Was denkt Deutschland über Strahlung? 2019 Poll – http://www.bfs.de/SharedDocs/Downloads/BfS/DE/berichte/handreichung-strahlenbewusstseinsstudie.pdf?__blob=publicationFile&v=4#:~:text=Ein%20F%C3%BCnftel%20aller%20Deutschen%20macht,einer%20Minderheit%20der%20Befragten%20durchgef%C3%BChrt – Accessed on 8 June 2021.

[36] Risik Commission – Ad hoc Commission "Neuordnung der Verfahren und Organisationsstrukturen zur Risikobewertung und Standardsetzung im gesundheitlichen Umweltschutz der Bundesrepublik Deutschland" (ed.) (2003): Final Report of the Risk Commission, Berlin. [http://www.apug.de/risiken/risikokommission/index.htm; 03 OCT 2020].

We repeat here the overall assessment of our last statement from 24 April 2020:

We think it is especially the duty of the government and its agencies to provide the platform for a precautionary framework that allows for progress to be compatible with human health and the health of the environment – including the courage for a change in policies regarding wireless technologies.

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