

Position paper

BITKOM Submission to the European Commission's Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR)

Date: 3. November 2006

Page 1

The German Association for Information Technology, Telecommunications and New Media (BITKOM) represents a total of more than 1,000 companies. Its 800 regular members employ some 700,000 people and generate revenues of 120 billion Euro. They include manufacturers of ICT equipment and providers of software, IT services, telecommunication services and content. BITKOM is working, in particular, to improve the regulatory framework in Germany, for modernization of the education system and for an economic policy which encourages innovation.

Introduction

BITKOM welcomes the opportunity to provide an input into the SCENIHR's process of adopting an updated scientific opinion on possible effects of electromagnetic fields (EMF) and human health.

BITKOM is largely supportive of the preliminary opinion of the SCENIHR. Where we differ in opinion is with respect to the characterisation of the extent of the overall scientific database as being limited especially for long-term low-level exposure. We believe that in this respect that SCENIHR has focussed too narrowly on the available scientific literature and that the proper view is to consider the broader radio frequency (RF) scientific database. Such an approach would only strengthen the overall conclusion of the SCENIHR that no health effect has been consistently demonstrated at exposure levels below the ICNIRP-limits, but at the same time, would make obsolete the characterization of the data base as limited.

BITKOM would also suggest that the SCENIHR give consideration to the inclusion of more tables in the report that provide an overview of what has been published, but also what is ongoing and what has been presented at scientific conferences but not yet published. The inclusion of such tables – as included in our submission – would help to provide a clear picture of the overall state of scientific endeavor in this field and would perhaps address two common problems – the often stated criticism that there is not enough research currently underway, and secondly, the unnecessary duplication of research efforts in some areas which could be better redirected.

BITKOM has long supported the adoption of exposure limits consistent with the recommendations of the International Commission on Non-Ionizing Radiation Protection (ICNIRP). BITKOM believes that ICNIRP recommendations offer the most scientifically robust approach to regulating RF exposure, as evidenced by their widespread adoption around the world and by the fact that the WHO recommends the establishment of national regulations based on ICNIRP guidelines.

German Association for
Information Technology,
Telecommunications and
New Media e.V.

Albrechtstrasse 10
10117 Berlin
+49. 30. 27576-0
Fax +49. 30. 27576-400
bitkom@bitkom.org
www.bitkom.org

Contact

André Malitte
Head of Department
Technical Regulation &
Market Access
+49. 30. 27576-270
Fax +49. 30. 27576-409
a.malitte@bitkom.org

President

Willi Berchtold

Director General

Dr. Bernhard Rohleder

Position paper

BITKOM Submission to the European Commission's SCENIHR

Page 2

BITKOM concurs with submissions made to SCENIHR by the Mobile Manufacturers Forum (MMF), the GSM Association (GSMA). BITKOM would like to offer its comments in support and in addition to the submissions made by the organizations referred to.

Radiofrequency (RF) Databases

The WHO database on biological and health effects of RF energy is extensive and global. It comprises more than 2300 scientific publications from countries around the world, and lists over 300 ongoing projects as well. Table 1 shows the number of published citations in the database for each of the following types of scientific studies on RF fields: epidemiological, human, animal (including bioassays), and cellular studies. A large number of ongoing and reported-but-not-published projects indicate that ~ 400 additional published papers may be expected in the near future. The WHO database is unique in that it includes listings and summaries of ongoing and reported-but-not-published work as well as published peer-reviewed papers.

Although all peer-reviewed studies in the RF database (Table 1) are considered relevant to the mobile phone issue, it is of interest to note the large number of studies in this database using radiofrequencies specific to mobile telephony as shown in Table 2. There are almost 1200 projects listed in the database using mobile telephony-specific signals, and about 800 of these have been completed.

More than 10 000 publications covering the ELF and RF frequency range are listed in the EMF database of the Research Center for Bio-Electromagnetic Interaction in Aachen, Germany (www.emf-portal.org).

Position paper

BITKOM Submission to the European Commission's SCENIHR

Page 3

TABLE 1: Peer-Reviewed Papers Describing Biological and Health Effects of RF Fields

- Studies are listed on the WHO web site under "citation listings": <http://www.who.int/peh-emf/research/database/en/>
 - A study represents a single paper published in a peer reviewed journal
- (All studies are listed on the WHO web site: <http://www.who.int/peh-emf/research/database/en/>)

Category	Ongoing ¹	Reported but not published ¹	Published ²
Epidemiology	45	9	234
Human/provocation	66	17	170
In vivo	49	30	723
In vitro	64	31	404
Engineering & physics	80	14	392
Other	12	15	27
Grand total	312	115	1930

¹ From project listings

² From citation listings

TABLE 2: Mobile Telephony Relevant Projects in the WHO Database

- Projects are listed on the WHO web site under "project listings": <http://www.who.int/peh-emf/research/database/en/>
- A project may include one or more published papers and/or ongoing follow-on work

Research Study Type	Ongoing	Reported but not Published	Published
Epidemiology	39	7	79
Human/Provocation	62	16	107
In-vivo	43	20	182
In-vitro	54	26	117
Engineering & Physics	69	12	295
Other Studies	6	10	4
Grand Totals	273	91	784

The studies in the RF database use a wide range of frequencies and include many modulations characteristic of mobile telephony signals. The results suggest that there

Position paper

BITKOM Submission to the European Commission's SCENIHR

Page 4

is no frequency-dependent or modulation-dependent response suggestive of adverse health effects, and this point may be something to be further considered for inclusion in the SCENIR opinion.

A proper review therefore of the available scientific database - both on RF in general as well as on mobile telephony specifically - suggests that the available databases are actually quite extensive, and are likely to expand significantly in the near future. BITKOM believes that the SCENIR should reflect this in their opinion.

Expert Reviews

Many national and international expert panels have evaluated the evidence on the potential health and biological effects of RF fields, and have been consistent in their conclusions that RF exposures common to mobile phones or mobile phone base station sites pose no known health risks.

The SCENIR preliminary opinion does not include a complete summary of all of the expert reports and reviews that have been undertaken, and BITKOM would suggest that both an updated list is included but also a summary of their principle conclusions are included, in order to provide a useful and complete picture of where we are today.

The Mobile Manufacturers Forum provided a compilation of the conclusions of expert panels over the past 13 years. BITKOM would like to bring the following to SCENIHR's attention:

At its annual symposium on Cell Phones and Cancer, the European Cancer Prevention Organization developed a consensus statement including the conclusion that "The European Cancer Prevention Organization states that, in 2005 there is insufficient contemporary proof with regard to increased cancer risk to change mobile phoning habits." [European Cancer Prevention Organization (ECPO), Cell Phones and Cancer, ECP Consensus EMF 2005. <http://www.ecpo.org/>]

The current website of the World Health Organization has the following statements:

"Despite extensive research, to date there is no evidence to conclude that exposure to low level electromagnetic fields is harmful to human health."

"To date, all expert reviews on the health effects of exposure to RF fields have reached the same conclusion: There have been no adverse health consequences established from exposure to RF fields at levels below the international guidelines on exposure limits published by the International Commission on Non-Ionizing Radiation Protection (ICNIRP, 1998)." [World Health Organization. Conclusions from Scientific Research. <http://www.who.int/peh-emf/about/WhatisEMF/en/index1.html>; World Health Organization, Children and Mobile Phones: Clarification Statement. 2005. http://www.who.int/peh-emf/meetings/ottawa_june05/en/index4.html]

Position paper

BITKOM Submission to the European Commission's SCENIHR

Page 5

IARC cancer risk assessment and WHO health risk assessment of RF fields

According to the latest information, IARC will finalize the cancer risk assessment of RF fields during year 2008 when all the Interfone research data is available and has been published. A parallel process is WHO health risk assessment of electromagnetic fields (0-300 GHz) including thereby even RF fields and IARC review. This process has already been started and the first draft of the Environmental Health Criteria document will be reviewed by a WHO expert group by the end of 2007. However, for various reasons the final document will be published during 2009.

These coming reviews are possible because the RF health data base is already extensive. We therefore believe it is premature to conclude that the RF health database is limited.

Mechanisms

In addition to the above points, BITKOM would also like to concur with the comments made by the Mobile Manufacturers Forum and the GSM Association.

BITKOM notes that the conclusion "The technical development is very fast and sources of RF exposure become increasingly common. Yet, there is a profound lack of mechanistic understanding of effects below the guidelines and of information on individual RF exposure and the relative contribution of different sources to the overall exposure." is not consistent with current scientific consensus. Reports of in vitro effects of RF exposure below the guidelines are not supported by replication/confirmation studies. Furthermore, the overwhelming weight of evidence from studies of animals exposed long-term to RF fields supports the finding of no adverse health effect. There is no consistent body of evidence, therefore, that provides for the development of a mechanistic theory of low-level interaction with biological systems. Finally, extensive analysis of the physics of interaction and proposed mechanisms of interaction of RF with biological system provides no testable hypothesis to guide experimentalist.

References

Adair R. K., Biophysical Limits on Athermal Effects of RF and Microwave Radiation, Bioelectromagnetics, Vol. 24, Pg. 39 - 48, 2003

Challis L. J., Mechanisms for Interaction Between RF Fields and Biological Tissue, Bioelectromagnetics, Supplement 7, Pg S98 – S106, 2005

Foster K. R., Repacholi M. H., Biological Effects of Radiofrequency Fields: Does Modulation Matter?, Radiation Research, Vol. 162, Pg. 219 - 225, 2004

Prohofsky E., RF Absorption Involving Biological Macromolecules, Bioelectromagnetics 25:441-51, Vol. 25, Pg. 441 - 451, 2004