

‘SUSTAINABLE MOBILE COMMUNICATION’ A NEW INSTITUTION FOR RESEARCH INTO RF-RISKS

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Abstract: The paper introduces into the aims, structure and funding conditions of a new Swiss research institution – the *Research Cooperation* ‘Sustainable Mobile Communication’. It supports high-quality risk-studies about cellular communication.

1. New Technology – New Conflicts

Mobile phone technology diffused in society at a pace that exceeded the diffusion of all other information technology innovations by far. This is due to the aggregate effect of rapid market liberalization, growing consumer demand, promising investment opportunities, and persisting advancements in technology. In recent years, however, expectations fell. An important factor for the adjustment is, among others, the steadily rising opposition towards base station antennas. Opponents of mobile phone technology increasingly perceive and blame operators and manufacturers as actors that irresponsibly put the health of people at risk.

The primary focus of their concerns relates to the considerable scientific uncertainty about non-thermal effects of GSM-radiation on human health [1]. Following the precautionary principle as outlined in international as well as national law (e.g. Principle 15 of the Rio Declaration; Article 174 of the EC Treaty; Article 15 of Swiss Environmental Law), uncertainty should materialize in strong regulation. According to the critiques of mobile phone technology, present legislation is far away from precautionary standards. These should be well below current limits, unless there is robust scientific evidence that people exposed to pulsed 900/1800 MHz electromagnetic fields do not experience negative health effects.

In Switzerland, public concerns about potential negative health impacts have accentuated in 1998 [2]. They were stimulated by the rapid growth of GSM networks, by extensive media coverage of antenna site conflicts, by partly incompatible legislation proposals, and by precautionary statements of the scientific community. As a result, the burden of proof is currently more with the proponents than with the opponents of the new technology.

In this environment, the Swiss mobile phone operator diAx launched the initiative “Responsibility for the Future”. Research into the risks of electromagnetic

fields emitted by GSM-applications was defined as a main part of the initiative. In October 1999, the *Research Cooperation* ‘Sustainable Mobile Communication’ was founded. It is operative since January 2000.

2. Profile of the *Research Cooperation*

2.1 Mission

The aim of the *Research Cooperation* ‘Sustainable Mobile Communication’ is to promote and support innovative scientific projects in the mobile phone sector in the broadest sense, as well as to collate and distribute the resulting research findings to scientists and the wider community.

The projects funded investigate important questions of public concern to do with chances and risks associated with mobile telephones.

The *Research Cooperation* is dedicated to scientific excellence. It is wholly independent of the sponsor in terms of its subject matter.

2.2 Structure

The *Research Cooperation* is organized as a network. It is steered by a committee composed of distinguished scientists and practitioners from Swiss universities and the Federal administration. A member from the board of the sponsor firm is also participating. President of the steering committee is Prof. Werner Bächtold from the Swiss Federal Institute of Technology (ETH).

The *Research Cooperation* is located in Zurich at the Laboratory for Electromagnetic Fields and Microwave Electronics of ETH. It is managed by the author of this contribution.

Structure and working of the *Research Cooperation* is approved in a contract between ETH and the sponsor firm.

2.3 Programme

The *Research Cooperation* funds projects that concern one or more of the following research areas (the list should not be considered final):

Health (measurements and dosimetry of exposure to EMF, EMF sensibility, somatic effects), Environment (effects of EMF on animals, Eco-Design and LCA of mobile telephones), Landscape and aesthetic criteria (design of mobile phone antennae, schemes for dismantling, optimizing net design), society (risk perception, risk communication, risk management, regulatory issues), technology (technological trends, limits of technological forecasts)

2.3 Funding Rules

In principle, only high quality scientific research that complies with the aims of the research programme will be supported. An exception may be the provision of seed money to start preliminary projects in pioneering fields.

All public and private research institutions in Switzerland may apply for funding. Pre-proposals can be submitted twice a year on 1st March and 1st September. The proposals are assessed by the steering committee according to the usual evaluation criteria for research projects. Successful applicants will then be asked to present their projects in a full proposal. If necessary, external experts are consulted. Applicants of accepted projects are requested to sign a contract.

The annual research budget amounts to roughly 700,000 Swiss francs.

The *Research Cooperation* generally covers the costs of personnel and special expenses for fieldwork. Standard equipment and conference trips are not financed. Salaries for doctoral students must be budgeted at the normal institutional rate.

2.4 Information

The results of the ongoing research projects will be published in scientific journals and presented at public seminars. The papers published in this volume (section 'Open Meeting C') give short descriptions of the projects funded by the *Research Cooperation*.

Current and planned activities of the *Research Cooperation* are announced on the web. The homepage address is: www.ifh.ee.ethz.ch/Microwave/reco.

For additional information please contact the author.

3. Outlook

At present, telecommunication is the most dynamic economic sector. This is especially true for the mobile phone segment – its industries, its markets, and its political and social environments.

However, the rapid diffusion of cellular technology and services has raised significant public concerns. Scientific controversy and uncertainty about EMF-induced health-risks propelled these worries and fears and fragmented risk-perception [3]. The introduction of the universal mobile telecommunications system will most likely add to this process due to the strong demand for new base stations required by the UMTS-technology.

It is evident that manufacturers and – especially – operators will have to increase their investments into professional risk-communication and dispute resolution activities in the near future. These measures can contribute to restore and/or raise a firm's public reputation. However, what is at stake is not primarily the business of a particular actor but the credibility of the industry at large. Local conflict resolution can't get back lost confidence in *technology*.

Confidence in and acceptance of technology is based on records of evidence delivered by industry, i.e. facts which convince people that suppliers and operators actively care about public health and consumer worries. In the long run, research is a key element of and an effective means for re-gaining public credibility, and, eventually, to create a cooperative and constructive environment for both regulation and business.

Against that background, it is currently discussed to embed the *Research Cooperation* in an expanded network consisting of operators, manufacturers, public administrations, and NGOs.

4. References

- [1] Independent Expert Group on Mobile Phones. *Mobile Phones and Health*. National Radiological Protection Board, Oxen, 2000.
- [2] Praktischer Umweltschutz Schweiz (PUSCH) Mobiltelefonie und Strahlung. *Thema Umwelt*, 2, 2000.
- [3] Renn, O. Implications of the hormesis hypothesis for risk perception and communication. *Human & Experimental Toxicology*, 17, 431-438, 1998.