

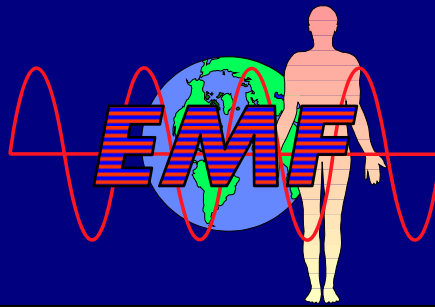
Base stations and wireless networks: Is there reason for concern?

Drs MH Repacholi and TE van Deventer
Radiation and Environmental Health
World Health Organization, Geneva, Switzerland



Workshop on Base Stations and Wireless Networks

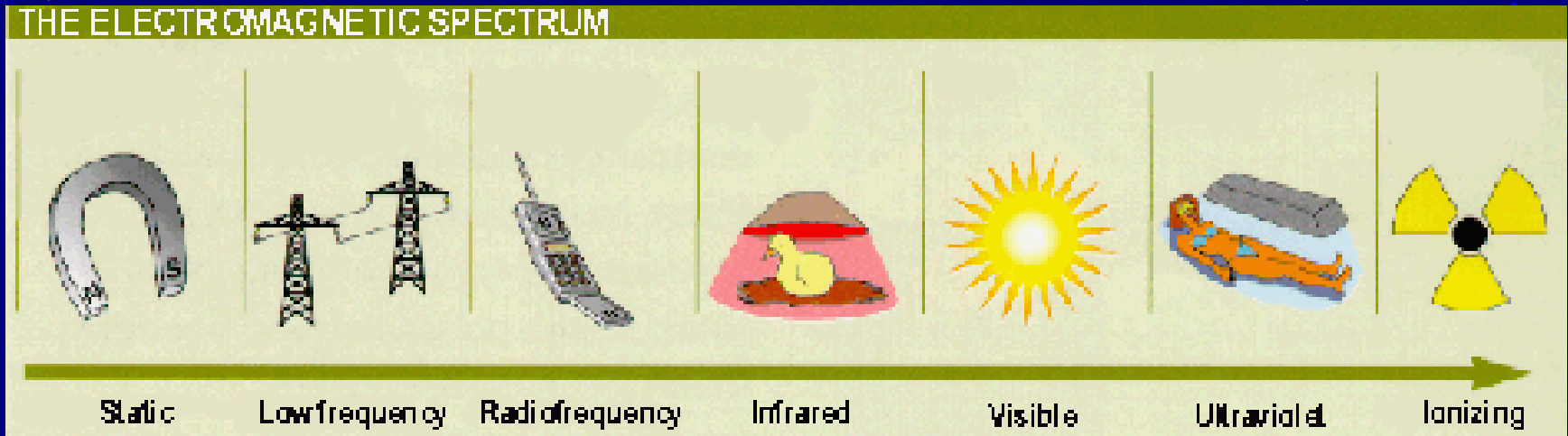
WHO/HQ, Geneva 13-15 June 2005



The International EMF Project

Established in 1996 to assess the health impact of EMF technologies in frequency range 0 to 300 GHz

Non-ionizing radiation



Static

Low frequency

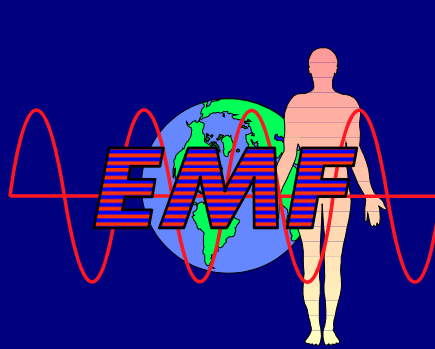
Radio frequency

Infrared

Visible

Ultraviolet

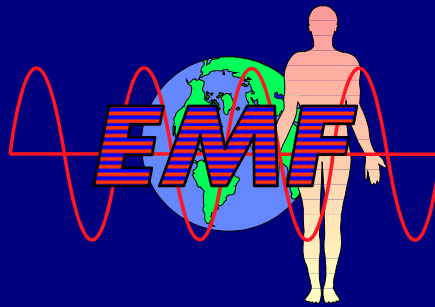
Ionizing



EMF Project objectives

- **Evaluate scientific evidence**
 - Report on current status of knowledge
 - Identify gaps in knowledge needing to be filled by focused research to make better health risk assessments
- **Promote and facilitate research**
- **Conduct health risk assessments and risk estimation, and develop policy options**
- **Provide information on standards and advice to national authorities**

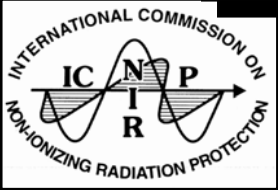




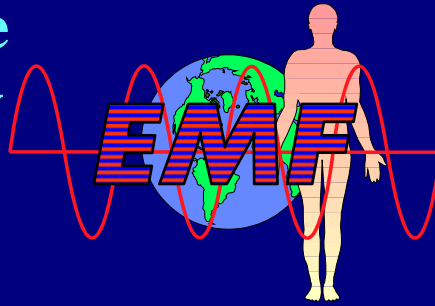
Collaboration

International partners (IARC, UNEP, ICNIRP, ILO, IEC, NATO, ITU & EC)

- National partners (> 60)
- WHO collaborating centres
- Independent scientific agencies



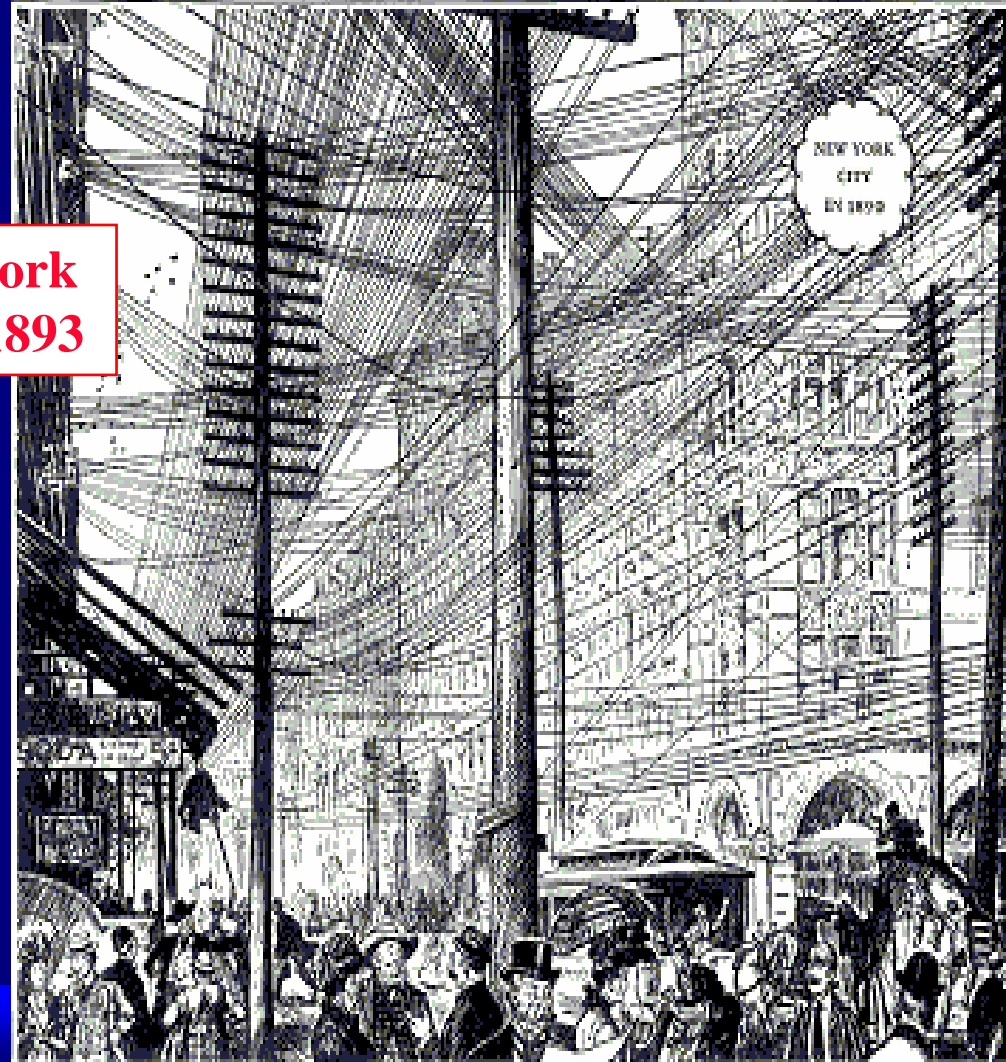
Over a century ago people were worried about newly introduced land-line telephones



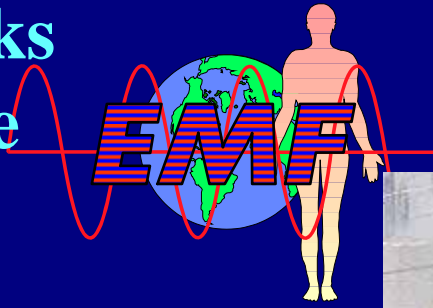
Was it the health effects they were worried about?



New York City ~1893



**Mobile phone networks
are replacing land line
systems in developing
countries: if there are
health effects WHO
wants them mitigated**

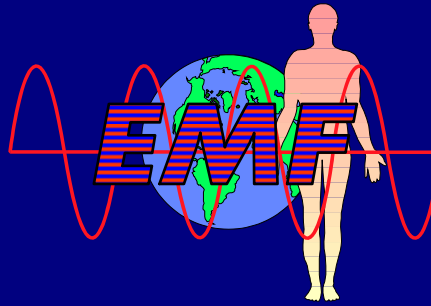


NEWS



New Swiss Army Phone
May Pose Health Risks

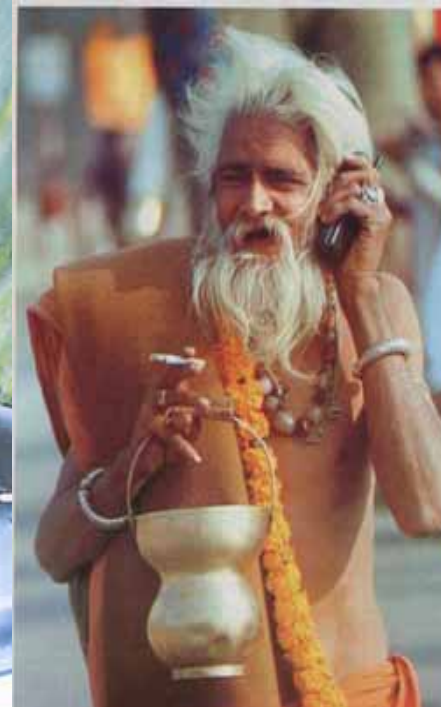
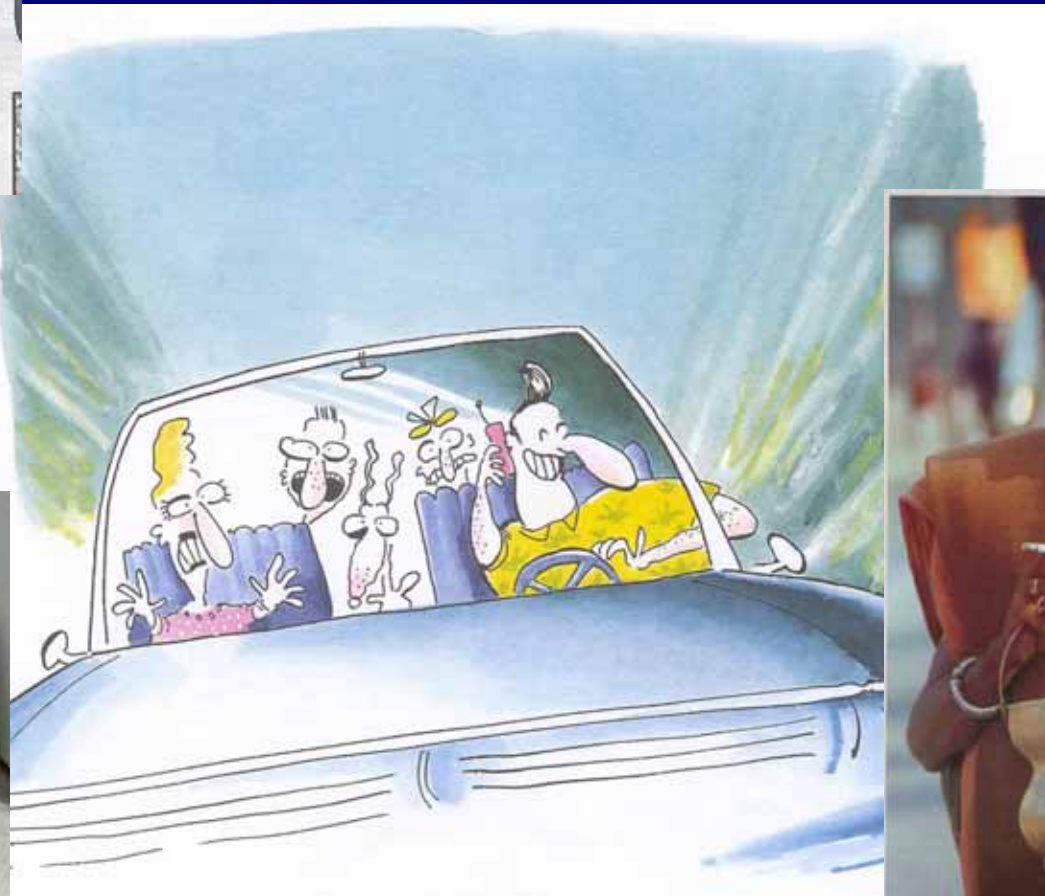
see PRODUCTWATCH page 4C

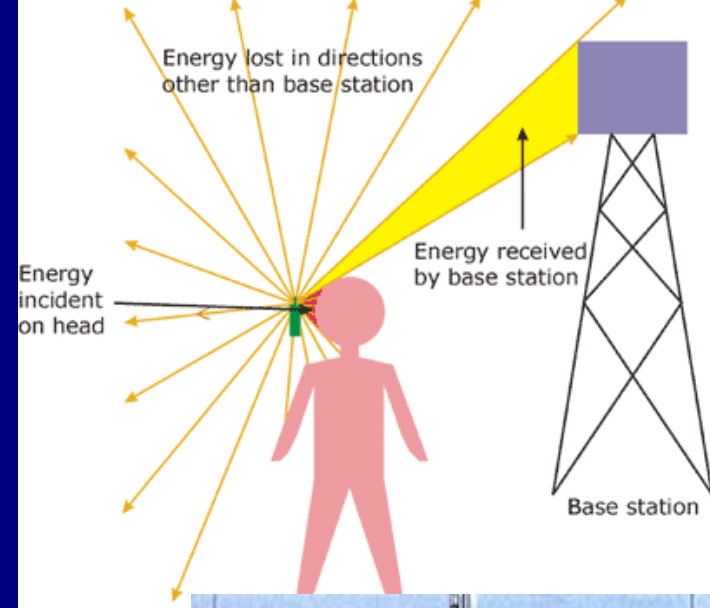
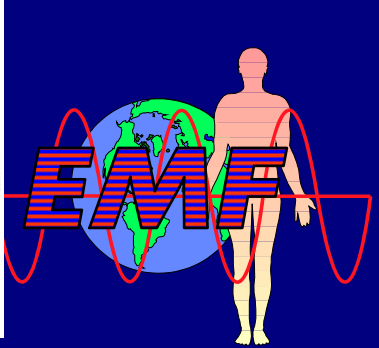


Mobile phones

Many hazards are known: WHO has promoted > \$200M research in 10 yrs

Children?





Evening Standard Friday, 28 January 2005 3

NEWS IN BRIEF

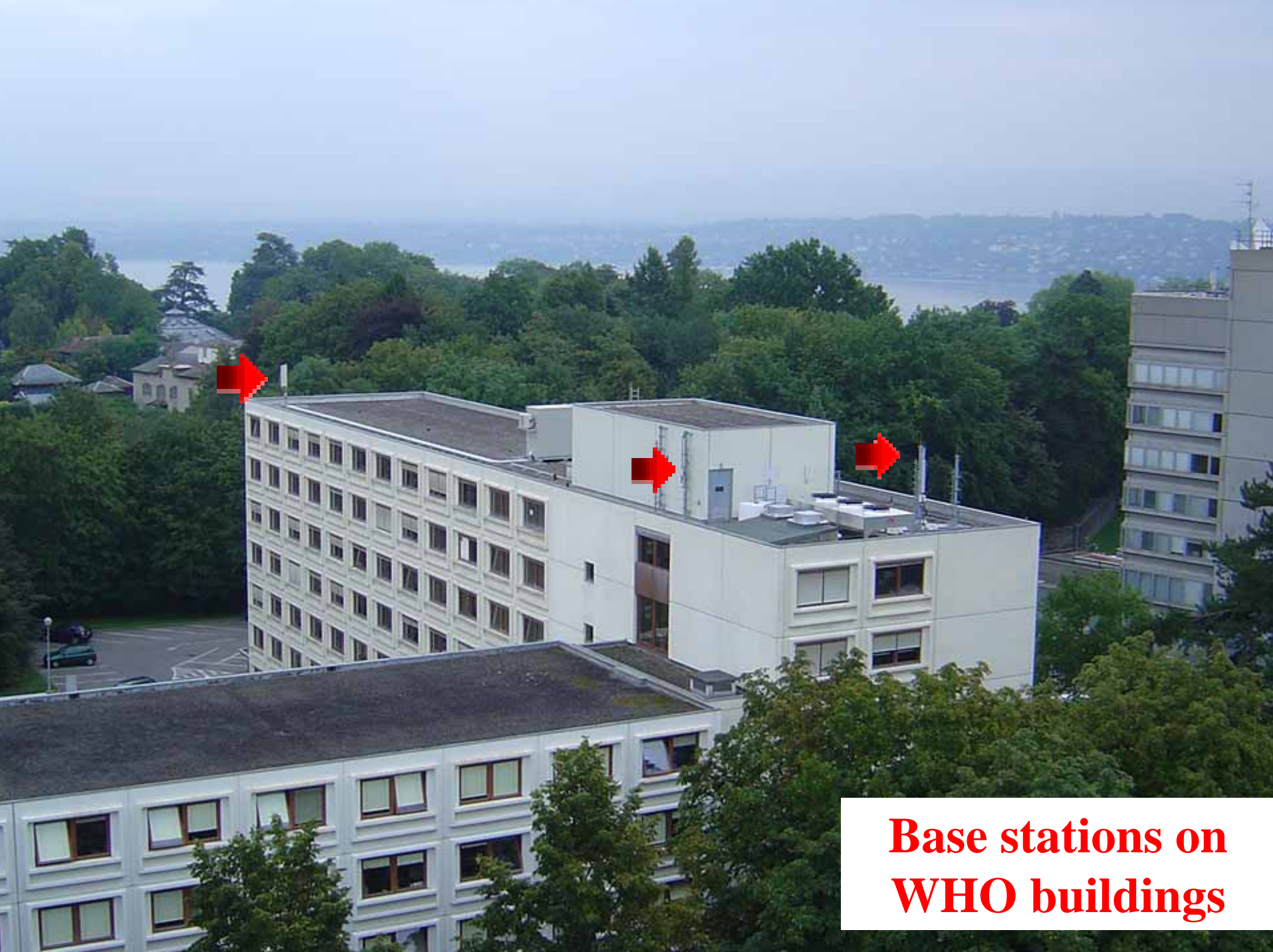
Mobile phone mast victory

CAMPAIGNERS have forced a church to back down in its bid to allow a mobile phone mast next to two nurseries. A protest petition drew the support of Notting Hill residents Ian Hislop, Richard Curtis and Christopher Hampton. The church council was accused of putting cash before safety when T-Mobile wanted to put up a roof mast on St John's in Lansdowne Crescent. Protesters collected 300 signatures.

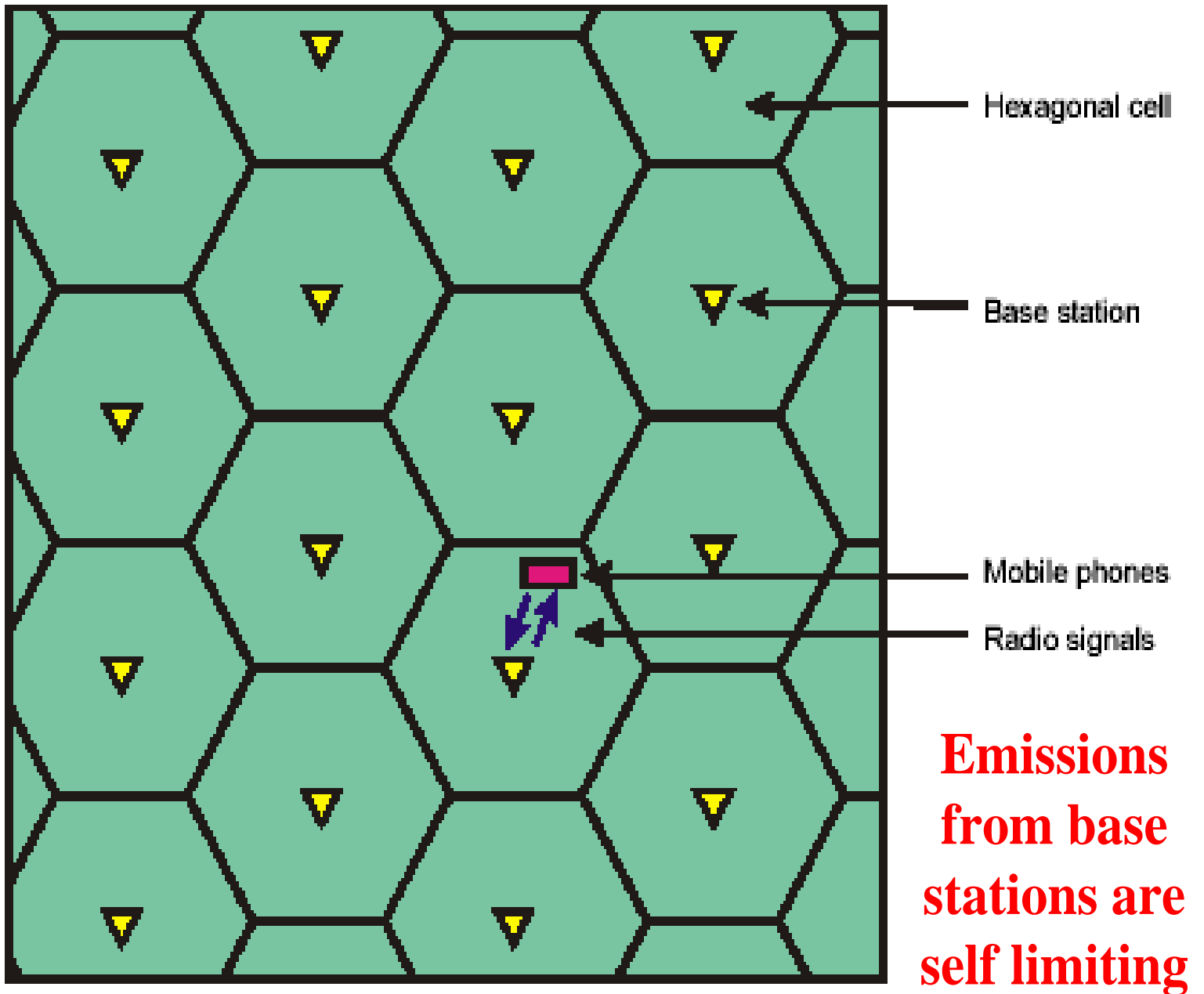
Base stations

Public concern about base stations, has continued for some years in many countries. Possible health consequences being the main reason.....

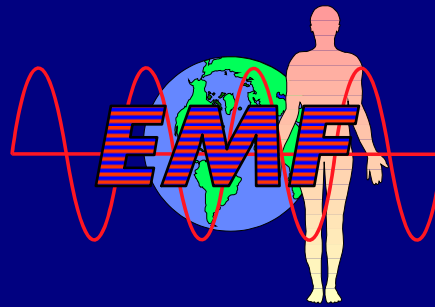




**Base stations on
WHO buildings**



Network of base stations at the centre of hexagonal cells



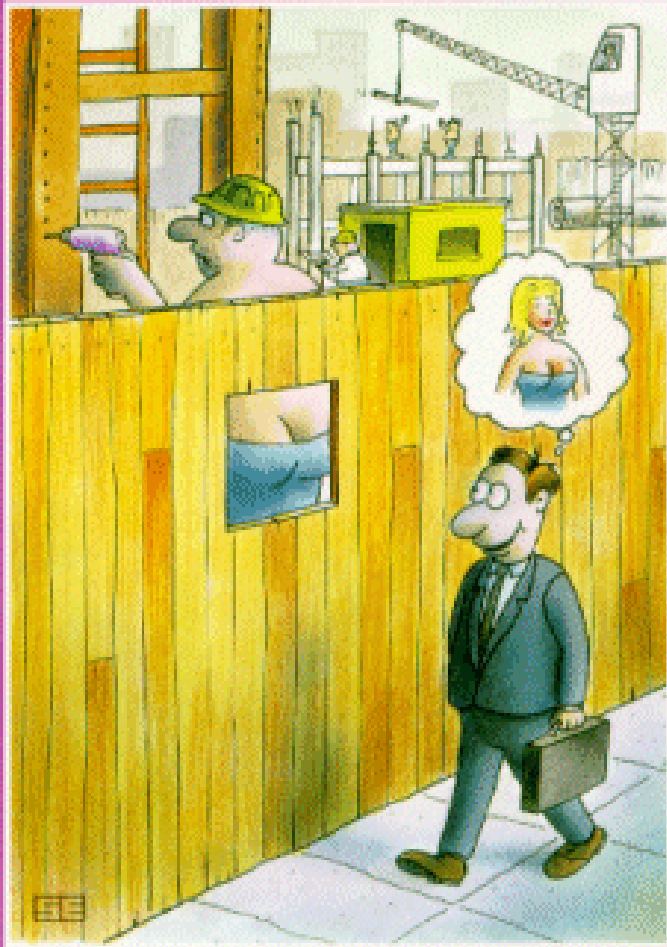
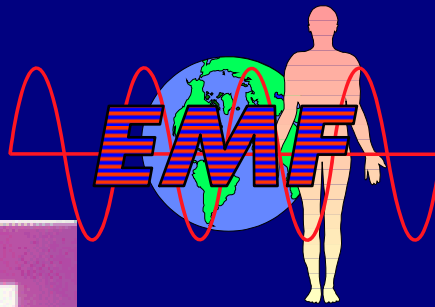
Microcells are also installed, both inside and outside buildings, in locations with high numbers of mobile phone calls



WHO cafeteria

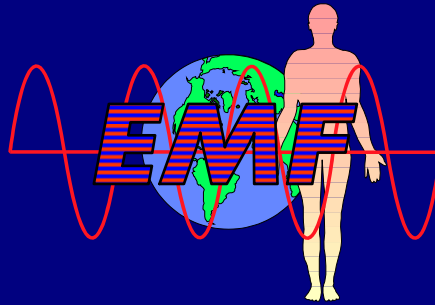


Wireless Local Area Networks (LANs) are now common in schools, airports, business centres and residential buildings



Our perceptions can be wrong. This is why we need good science to confirm the facts





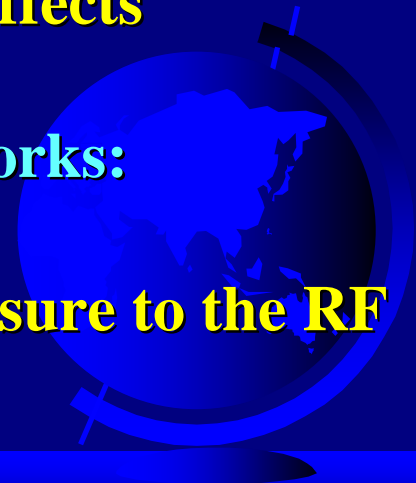
RF fields and health

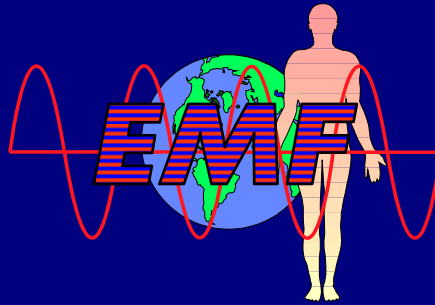
At high levels RF exposure causes heating ... affecting behaviour, endurance etc...

Forms basis of ICNIRP international guidelines and most national standards...established short-term acute effects

Major question for base stations and wireless networks:

Are there health effects of long-term low-level exposure to the RF fields emitted by these new technologies?

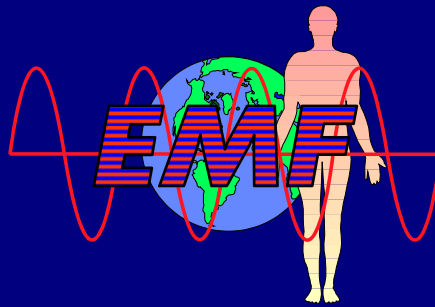




Workshop will review the evidence and address:

- **What are the current and future wireless technologies?**
- **What RF exposures do people receive from these technologies?**
- **Is there evidence of health effects from long-term, low-level RF exposures?**
- **What further research is needed, if any?**
- **What international standards exist or are being developed?**
- **What have national authorities done in response to this issue?**
- **How can we provide effective communication to all stakeholders on this issue?**
- **What policy options can be recommend for national authorities?**

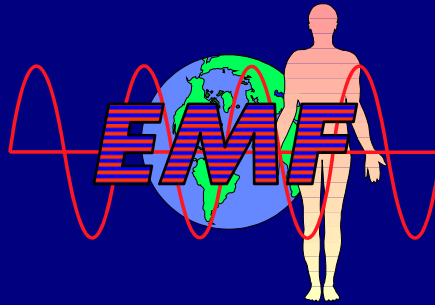




Outputs

- **Summary of presentations on our home page**
- **Rapporteur report summarizing conclusions and recommendations**
- **Proceedings of key papers**
- **Peer-reviewed journal publication**
- **Fact or information sheets for the general public**
- **Brochure for local authorities with practical advice related to mobile phone base stations and wireless networks**





Further information

Home page: www.who.int/emf/

