

Next Generation Integrated Sensing and Analytical System for Monitoring and Assessing Radiofrequency Electromagnetic Field Exposure and Health

NextGEM project comes to an end



The NextGEM project held online its last Plenary Meeting on the 26 of April, with the objective of polishing the last details before it comes to an end this June.

The project has advanced at its intended pace at all moments; therefore, this meeting mainly reviewed the last part pending, the case studies NextGEM is undertaking.

[Click here to find out all about it](#)

NextGEM participates in the Erice School of Bioelectromagnetism

The Erice Summer School of Bioelectromagnetism “Alessandro Chiabrera” celebrated its 13th edition with significant NextGEM participation. This school, whose co-director is Dr Maria Rosaria Scarfi, from NextGEM partners IREA-CNR, is celebrated annually in Sicily, and this year’s edition has been co-organised with the BioeEM Society.

While the 2024 edition was 100% dedicated to the core subject of this project, this year’s edition was dedicated to “Bioelectromagnetic systems for innovative High Performance Sensing and Interaction strategies”, a subject that is also tackled by this NextGEM. Dr Marco Spirito (Technical University of Delft) was one of the speakers during the talk “Microwave wearable devices”, during which he demonstrated one of the devices he works with. Dr Maria Rosaria Scarfi made one of the introductory lessons, too.

[Click here to find out all about it](#)



New practical guidelines for communicating RF-EMF

NextGEM has worked on some new practical guidelines for communicating Radiofrequency Electromagnetic Fields (RF-EMF). They were first showcased during a webinar on March 19, and then finally published a time later.

NextGEM webinar: practical guidelines for communicating about RF-EMF

The Dutch National Institute for Public Health and the Environment (RIVM) and the Dutch Authority for Digital Infrastructure (RDI) held a webinar, in which they showcased NextGEM's guidelines for communicating about RF-EMF. It gathered 94 simultaneous participants in a successful event, aiming to close the gap between scientific knowledge and citizens' concerns about 5G.



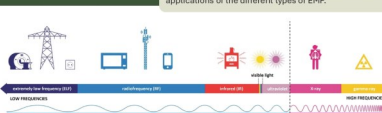
Check out the practical guidelines

Have you ever wondered "how should I communicate about RF-EMF?" Or even: "What are RF-EMF?" Do you want to know which stakeholders are involved in regulating our exposure to Electromagnetic Fields? NextGEM has now released three fact sheets answering these questions.

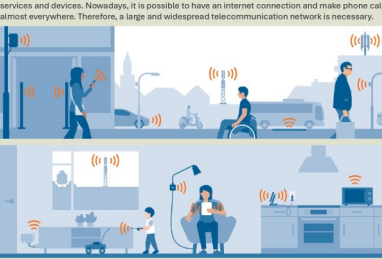


GENERAL INFORMATION ABOUT RF-EMFS

WHAT ARE EMFS?
Electromagnetic fields (EMF) result from sources that emit electric and/or magnetic energy. Electromagnetic energy moves from a source through space like waves. These moving waves are also called fields. These waves have different wavelengths and frequencies. Low frequency EMF have a long wavelength and high frequency EMF have a short wavelength. The different types of EMF together form the electromagnetic spectrum, which is shown in the figure below. The figure also shows common applications of the different types of EMF.



WHERE ARE THE RF-EMFS?
This document is about radiofrequency EMFs (RF-EMFs). These are used in many different everyday services and devices. Nowadays, it is possible to have an internet connection and make phone calls almost everywhere. Therefore, a large and widespread telecommunication network is necessary.





HOW TO COMMUNICATE ABOUT RF-EMF

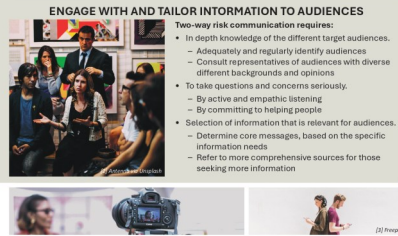
This factsheet provides a concise overview of recommendations for communicating about RF-EMF. A more comprehensive overview is provided in the document Practical tools for communicating about radiofrequency electromagnetic fields [1].

PROVIDE CLEAR, ACCURATE, AND RELIABLE INFORMATION
To effectively disseminate technical information, it is recommended to:

- Explain the following technical aspects:
 - What RF-EMF are and the ubiquitous presence
 - How RF-EMF differ from ionising radiation
 - Biological and potential health effects
 - Exposure levels and patterns
- Leave out technical details that impede understandability.
- Clarify how risks are assessed:
 - Research methods and evaluation of the evidence
 - Clarify how exposure limits are determined
 - Reflect on the current state of knowledge and acknowledge scientific uncertainty

ENGAGE WITH AND TAILOR INFORMATION TO AUDIENCES
Two-way risk communication requires:

- In depth knowledge of the different target audiences.
 - Adequately and regularly identify audiences
 - Consult representatives of audiences with diverse different backgrounds and opinions
- To take questions and concerns seriously:
 - By active and empathic listening
 - By committing to helping people
- Selection of information that is relevant for audiences.
 - Determine core messages, based on the specific information needs
 - Refer to more comprehensive sources for those seeking more information





RF-EMF stakeholders & interactions

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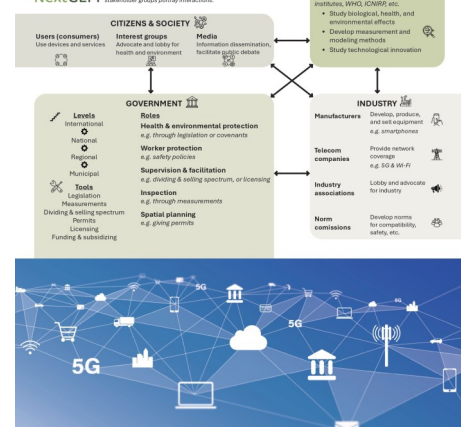


Figure sources
[1] Available here: <https://aiaa.nl/aiaa>

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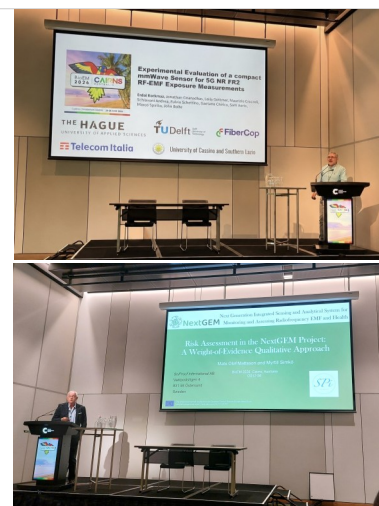
Our participation in the BioEM 2026

The **2026 Annual Conference of BioEM** took place on June 21-26 in Rennes, France. World-wide EMF experts gather annually in a conference organised by the BioEM society.

Two NextGEM partners participated during this event:

- **Erdal Korkmaz**, from The Hague University of Applied Sciences, presented a talk named "Experimental Evaluation Of A Compact mmWave Sensor for 5G NR FR2RF-EMF Exposure Measurements."
- **Mats-Olof Mattsson**, from Sciproof International, presented "Risk Assessment in the NextGEM Project: A Weight-of-Evidence Qualitative Approach."

This 2026 edition has been the fourth in a row with participation from NextGEM partners. As long as the project has lasted, the consortium has played important role in the world's most important conference in bioelectromagnetism.



Latest publications

Journal Publications

- Petroulakis, N., Kornilakis, A., Chatziadam, P., Theodorou, V., Louca, N., Fafalios, S., Zervoudakis, P., Laskaratos, D., Vlontzou, M. E., & Zarogianni, E. (2026). **NIKH-DS: A Network Provisioning Platform for Data Exchange in the Health Data Space**. *Network*, 6(3), 43. <https://doi.org/10.3390/network6030043>
- Allocca, M., Scarfi, M. R., Romeo, S., Sannino, A., Peluso, V., & Zeni, O. (2026). **Radiofrequency exposure to LTE signal does not alter cancer-related endpoints in human neuroblastoma cell model either alone, or co-exposed to menadi-one or Wi-Fi signal**. *Environmental Research*, 298, 124292. <https://doi.org/10.1016/j.envres.2026.124292>
- Ziegler, J. L., Lagorio, S., Mattsson, M., Zeni, O., Bolte, J., Ledent, M., Velghe, M., Stam, R., Rijs, K., Deltour, I., Dolatkhah, R., Wollschläger, D., Petroulakis, N., Ortolano, L. C., & Baaken, D. (2026). **Near-field and far-field exposures to radiofrequency electromagnetic fields and cancer risks in humans: a protocol for an umbrella review of epidemiological studies**. *Systematic Reviews*, 15(1). <https://doi.org/10.1186/s13643-026-03142-9>

Conference Publications

- Alberto Galati, John F. Bolte, Maurizio Crozzoli, Erdal Korkmaz, Nikolaos Petroulakis, Andrea Schiavoni, **5G NR Long Term Measurement of the Exposure Generated by MaMIMO Antennas**, *IEEE MNC 2026*, Italy, July 2026 .
- George Stamatakis, Grigorios Tsagkatakis and Nikolaos Petroulakis, **A Deep Reinforcement Learning Approach to Active Channel Sounding in 6G Networks**, *2026 EUCNC and 6G Summit*, Malaga, Spain, June 2026. <https://doi.org/10.1109/eucnc/6gsummit68295.2026.11577486>



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