

ELECTROMAGNETIC FIELD EXPOSURE ASSESSMENT BY RADIOMETRIC AND DOSIMETRIC TECHNIQUES

Innovative aspects and related benefits | The increasing development and spread of technologies based on electromagnetic fields (EMFs) leads to some concerns on the impact on occupational and general public exposure to such fields. In this framework, occupational exposure assessment represents an interesting issue of strong industrial impact, as the employer is obliged to perform a risk assessment (D.Lgs 81/2008), taking into account the EMF exposure also. Occupational exposure limits were fixed in the Directive 2013/35/EU of the European Parliament and of the Council, which has to be transposed by 1 July 2016 by member states. Risk assessment should provide not only EMFs exposure assessment, but even the definition of correct usage procedures of devices to avoid a negative effect on professional applications of high technological impact. ENEA developed methodologies for the exposure assessment to EMFs in the frequency range 0 Hz – 8 GHz. To this aim, radiometric measurements techniques and, if needed, dosimetric evaluations by means experimental measurements and numerical tools can be employed.

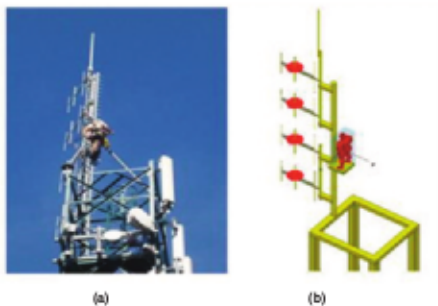
Use |

- Support to companies and public administration for the occupational and/or public exposure assessment to EMFs;
- Non-destructive measurements and testing;
- Quality control.

Activities undertaken and in progress | Set up of procedures for the occupational and/or environmental exposure assessment to EMFs.

Collaborations with Italian hospitals for the occupational exposure assessment in sanitary environments with a particular attention to magnetic resonance imaging.

Advice to public administrations.



(a) Example of a multiple frequency occupational exposure scenario
(b) simulation model



CUSTOM Thanks to its flexibility, the electromagnetic field exposure assessment service can be adjusted to different needs and contexts