

European Medical ALARA Network (EMAN)

The EMAN Secretariat is managed by the European Society of Radiology (ESR).
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Building a Bridge Between Researchers, Health Professionals and Policymakers

Background

Medical diagnostic procedures constitute by far the greatest man-made source of ionising radiation exposure to the general population. Although the benefit for the patients exposed normally outweighs the risk associated with the radiation, there is concern that patients may undergo radiological examinations that will not have any positive impact on their health, or that unnecessarily high doses of radiation could be delivered with regard to the diagnostic outcome. Moreover, the increasing use of ionising radiation in the medical sector also has an impact on occupational radiation exposure. In order to strengthen radiological protection in the field of medicine a variety of stakeholders have to be addressed and involved, pinpointing the specific roles of the different experts, as well as training, organisational and ethical aspects. To support the task regarding optimisation of procedures, the European Commission funded the EMAN Tender Project that formally ended in October 2012.

EMAN EC Tender Project

The EC-funded EMAN Tender Project was carried out by a consortium, which was composed of seven organisations, the Swedish Radiation Safety Authority (SSM, project coordinator), the Federal Office for Radiation Protection in Germany (BfS), the Nuclear Protection Evaluation Centre, France (CEPN), the European Federation of Organisations for Medical Physics (EFOMP), the European Federation of Radiographer Societies (EFRS), the European Radiation Dosimetry Group (EURADOS), and the European Society of Radiology (ESR).

Objectives:

The main objective of the EMAN Tender Project was to establish a sustainable network where different stakeholders within the medical sector had the opportunity to discuss and to exchange information relating to the implementation of the 'As Low As Reasonably Achievable' (ALARA) principle in the field of medicine. Another overarching objective of the Tender Project was to give specific advice and suggestions to the European Commission.

Work Packages:

The EMAN Tender Project was divided into seven Work Packages, each of which covered specific tasks, which contributed to the establishment of the European Medical ALARA Network.

The main tasks were to develop radiation protection **optimisation strategies** in three areas of diagnostic and interventional radiology: **computed tomography, interventional radiology and cardiology and radiological practices performed outside the radiology department.**

Three working groups with representatives of the professionals involved, medical radiologists and cardiologists, radiographers, medical physicists and regulators, worked spent two years identifying the needs and priorities for the implementation of elements to increase the level of radiation protection, both for patients and, when relevant, involved staff.

The results achieved by the three multidisciplinary groups provide the methodology to apply in other fields of diagnosis and therapy. It is recommended that the same methodology be applied at the hospital level, establishing **multidisciplinary "core teams"** to implement exposure optimisation in the different areas.

The role of the core team is to develop optimised procedure protocols, train staff and supervise practice. The knowledge, competence and skills of the members of the core team have to be defined together with training initiatives, supported by EMAN and scientific societies.

Each working group developed synthesis documents and recommendations addressed towards the European Commission, standardisation and regulatory bodies, manufacturers, and users that are available on the EMAN website (www.eman-network.eu) for consultation and dissemination.

Sustainable European Medical ALARA Network

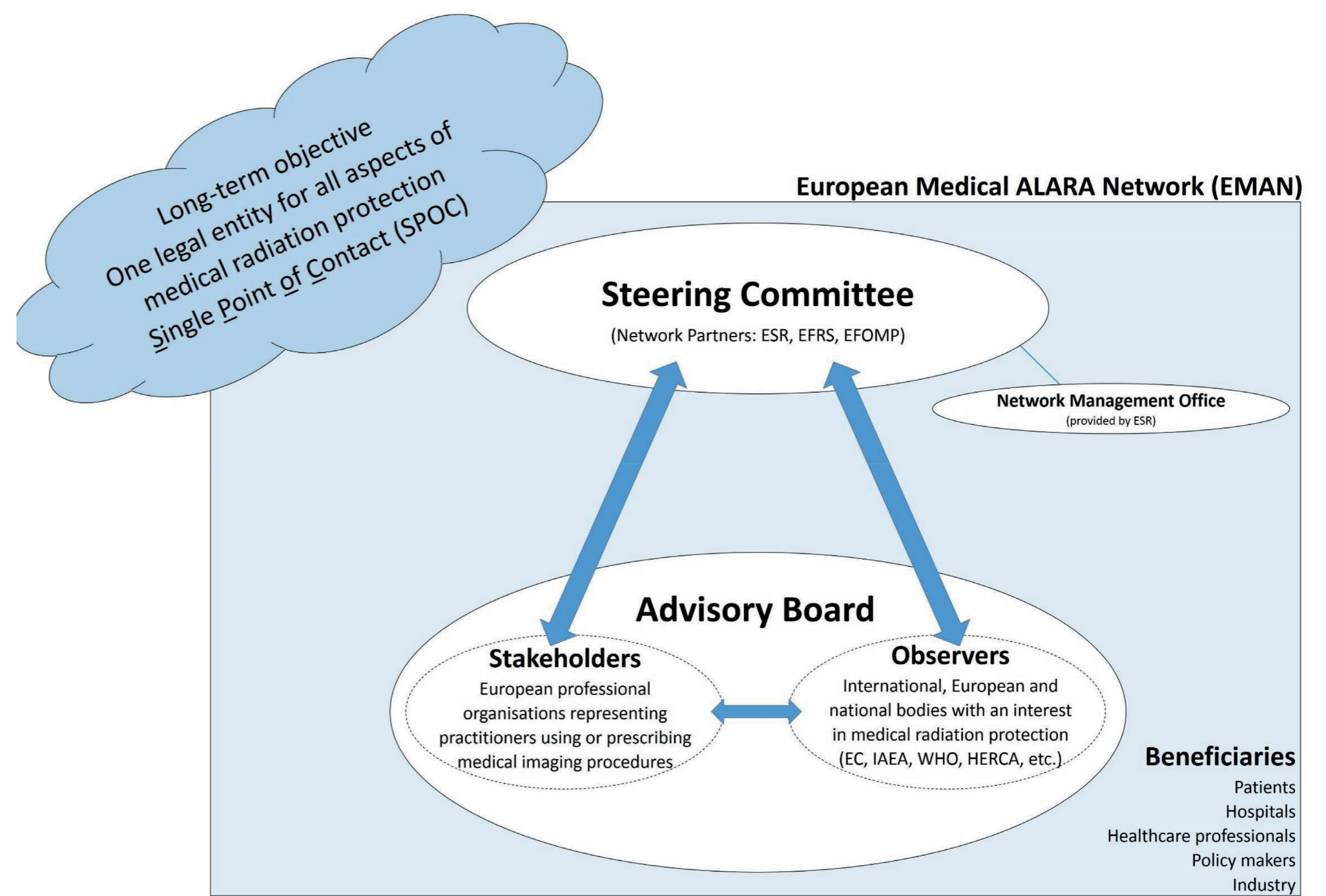
After the successful conclusion of the EC-funded Tender Project, the three professional organisations involved - The ESR, EFRS and EFOMP - decided to ensure sustainability of the Network and signed a letter of intent in September 2012, forming the new EMAN Steering Committee. This paved the way for the post-project activities of the Network and further outreach to other relevant stakeholders.



The EMAN Network structure includes a Steering Committee (ESR, EFRS, and EFOMP), a Management Office (ESR), Stakeholders, and Observers. To date the following organisations have joined EMAN:

- » **Stakeholder:** CEPN
- » **Observers:** EURADOS, BfS, SSM and the European Commission (EC).

The Steering Committee has reached out to a number of additional professional medical organisations, international organisations and regulatory bodies inviting them to join the Network, and it hopes to further enlarge the Network in the near future.



Objectives:

- » To collaborate among professional partners in medical radiation protection in order to improve optimisation and to expand the network established under the EC Tender project
- » To specifically update and expand optimisation in CT, interventional procedures and the use of x-rays outside the departments of radiology
- » To increase the visibility of EMAN among all groups of stakeholders in order to bring awareness, knowledge, skills and competences to the individual member of the medical workforce
- » To disseminate up-to-date information about literature, studies, research and good practices relating to the ALARA principle in the medical sector
- » To provide a platform for multi-stakeholder exchange and discussion in the fields of medical radiation protection
- » To identify and communicate challenges faced by hospitals with regard to radiological protection and to provide tools for the assessment of optimisation of radiological protection
- » To potentially expand the scope to other clinical areas of optimisation

The long-term vision of the EMAN Network is to contribute to optimising radiation protection for healthcare workers and patients throughout Europe and to further contribute to an effective safety culture in the medical sector.

Ongoing activities:

The first annual EMAN meeting to review activities, discuss the way forward and disseminate achievements was held during ECR 2013 in March. Moreover, EMAN already published three newsletter editions in February, June and October 2013, which focused on the activities, achievements and recommendations of the working groups.

The ongoing activities of the new network include stakeholder outreach, encouraging active participation, revising and updating of the project website, and disseminating documents developed during the EC Tender Project to ensure uptake and implementation of the suggested optimisation measures. Collaboration focuses on the scope of activities of the EC-funded project. To that end, the three working groups are encouraged to resume their activities, update their documents and build upon the achievements of the project.

The focus of the EMAN Steering Committee is to develop a strategic plan for future activities, which lays down the priorities and realistic goals in alignment with the leadership of the ESR, EFRS, EFOMP and the European Commission, and will serve as a basis for further outreach to stakeholder organisations and renewing the invitation to join the Network.

EMAN is looking forward to exploring avenues of collaboration with the EuroSafe Imaging Campaign launched by the ESR, which will add visibility to its Network and open up potential new communication channels.

