

Implications of medical low dose radiation exposure

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Introduction

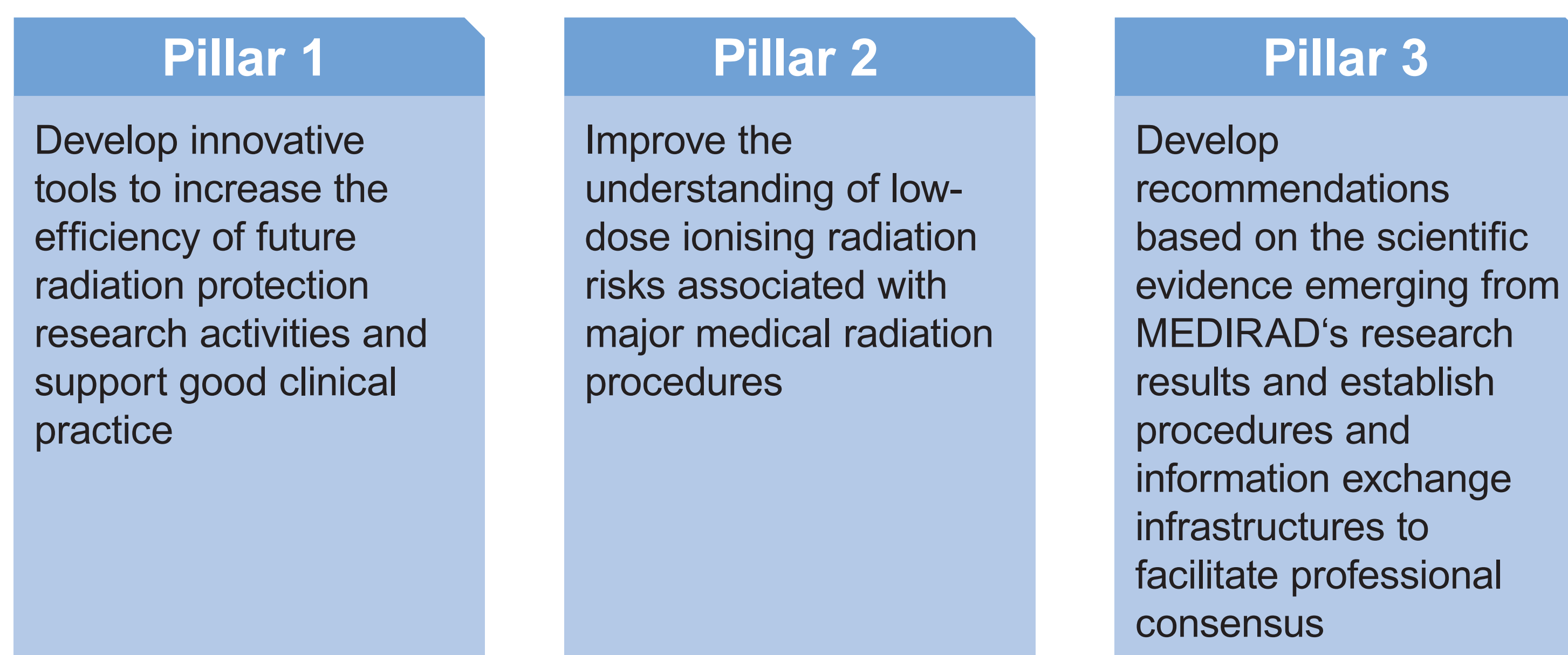
The evolution of medical science and the growing pace of innovation and deployment of medical technology have led to a situation where most of the artificial ionising radiation exposure of the European population is due to medical procedures. Though most exposures result in low to moderate doses in most tissues, there is a need to evaluate their health effects and optimise dose reduction practices and dose evaluation tools.

MEDIRAD aims to enhance the scientific bases and clinical practice of radiation protection in the medical field and thereby address the need to better understand and evaluate the health effects of low-dose ionising radiation exposure from diagnostic and therapeutic imaging and from off-target effects in radiotherapy (RT).

This 4-year project started on June 1, 2017 and brings together 33 partner institutions from 14 European countries. The multi-disciplinary consortium includes clinical experts, scientists and policy makers in the fields of medical, radiation protection and nuclear research from hospitals, universities and major research centres across Europe.

MEDIRAD Ambitions:

The overall MEDIRAD ambition is to bring together research and development teams of scientists and clinicians in a joint collaborative effort to conduct research and to achieve innovative results that contribute to enhanced protection of patients and medical professionals. The MEDIRAD key research objectives are summarised in the following three pillars:



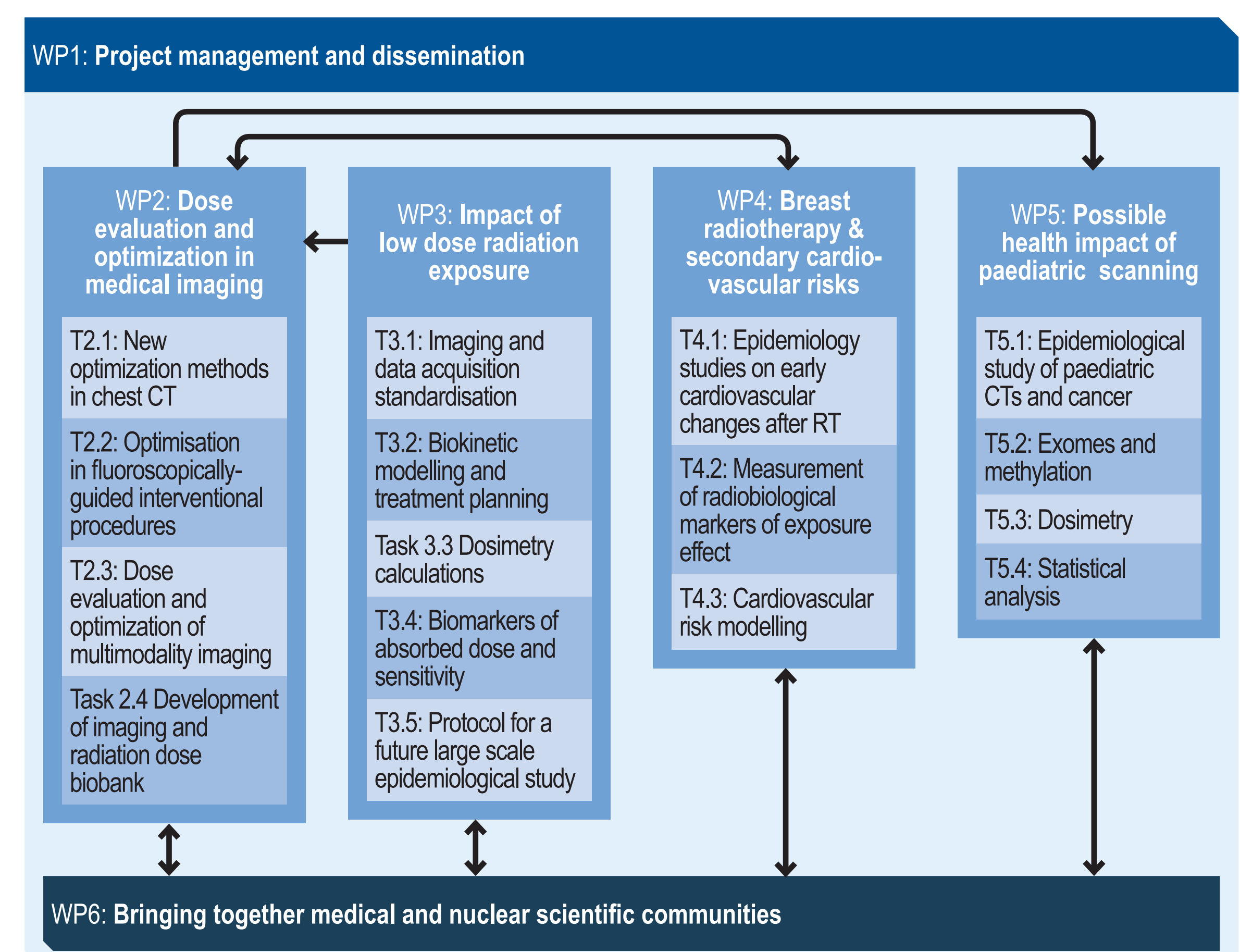
MEDIRAD Consortium

EIBIR Gemeinnützige GmbH zur Förderung der Erforschung der Biomedizinischen Bildung	AT
Studeicentrum voor Kernenergie/Centre d'étude de l'Energie Nucléaire	BE
Universiteit Gent	BE
Université de Genève	CH
Otto-Von-Guericke-Universität Magdeburg	DE
Universitätsmedizin der Johannes Gutenberg-Universität Mainz	DE
Helmholtz Zentrum München Deutsches Forschungszentrum für Gesundheit und Umwelt GmbH	DE
Universitätsklinikum Würzburg - Klinikum der Bayerischen Julius-Maximilians-Universität	DE
Philipps Universität Marburg	DE
Klinikum rechts der Isar der Technischen Universität München	DE
Fundación Privada Instituto de Salud Global Barcelona	ES
Universitat Politècnica de Catalunya	ES
Universitat Autònoma de Barcelona	ES
Institut Català d'Oncologia	ES
Université Paris Descartes	FR
Institut de Radioprotection et de Sûreté Nucléaire	FR
B-COM	FR
Institut National de la Santé et de la Recherche Médicale	FR
Institut Claudius Regaud	FR
Panepistimio Kritis	GR
University College Dublin, National University of Ireland, Dublin	IE
Università degli Studi di Roma La Sapienza	IT
Istituto Superiore di Sanità	IT
University Medical Center Groningen	NL
Vereniging voor Christelijk Hoger Onderwijs Wetenschappelijk Onderzoek en Patientenzorg	NL
Stichting het Nederlands Kanker Instituut-Antoni van Leeuwenhoek Ziekenhuis	NL
Instytut Medycyny Pracy Imienia Prof. Dra med. Jerzego Nofera w Lodzi	PL
Instituto Politécnico de Coimbra	PT
Associação para Investigação e Desenvolvimento da Faculdade de Medicina	PT
Vastra Gotalands Lans Landsting	SE
The Royal Marsden National Health Service Trust	UK
University of Bristol	UK
University of Newcastle upon Tyne	UK

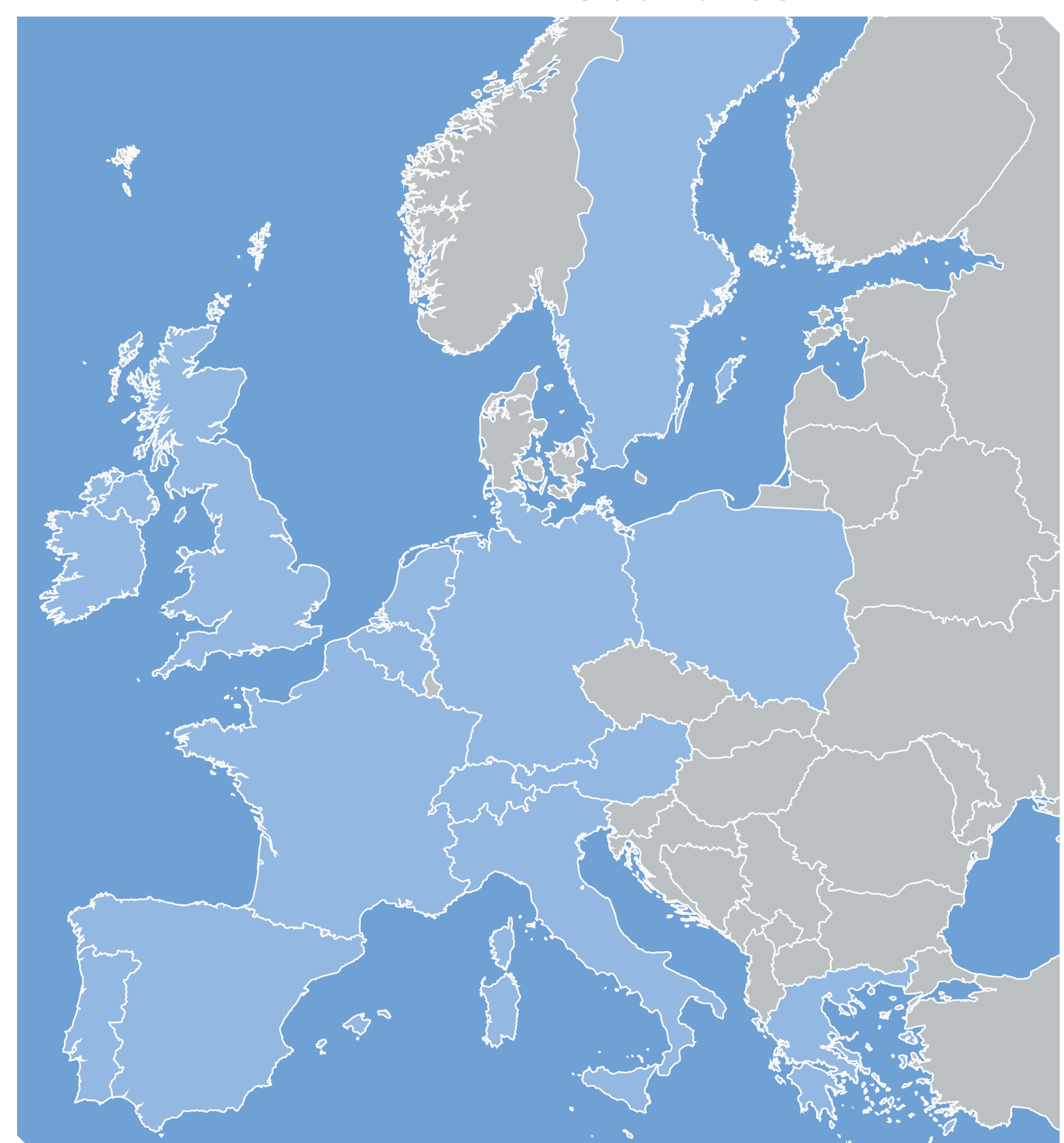
MEDIRAD work includes:

- » Developing a tool to determine image quality to maximise optimisation of RP in medical imaging;
- » Improving and developing new individual organ/anatomical structure dosimetry from chest CT, I131 administration, fluoroscopy guided procedures, hybrid imaging, and radiotherapy (RT) for breast cancer and interlinks with image quality measures;
- » Conducting epidemiological studies of the consequences of RT and CT scanning;
- » Identifying potential novel imaging and circulating biomarkers and mechanisms of radiation effects and radiation sensitivity;
- » Developing innovative risk models;
- » Developing and implementing a European repository of patient dose and imaging data for the first time;
- » Developing science-based recommendations building on the scientific results of MEDIRAD and other related national and international activities;

MEDIRAD Work Plan



MEDIRAD Countries



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