COMET

COordination and iMplementation of a pan-European instrumenT for radioecology

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IUR workshop, Worldwide Harmonization of Radioecology Networks, June 19-20, 2014, Baume, France

Agenda

- General presentation of COMET
- Developing the SRA short-term roadmap and implementation plan

13 partners

COMET

Belgian Nuclear Research Centre (Belgium)

Institut de Radioprotection et de Surete Nucleaire (France)

Radiation and Nuclear Safety Authority (Finland)

Norwegian Radiation Protection Authority (Norway)

Natural Environment Research Council (UK)

Stockholms Universitet (Sweden)

Centro de Investigaciones Energeticas, Medioambientales y Tecnologicas-CIEMAT (Spain)

Bundesamt fuer Strahlenschutz (Germany)

NATIONAL UNIVERSITY OF LIFE AND ENVIRONMENTAL SCIENCES OF UKRAINE

Universitetetet for Miljo of Biovitenskap (Norway)

Chernobyl Center for Nuclear Safety Radioactive Waste and Radioecology (Ukraine)

Glowny Instytut Gornictwa (Poland)

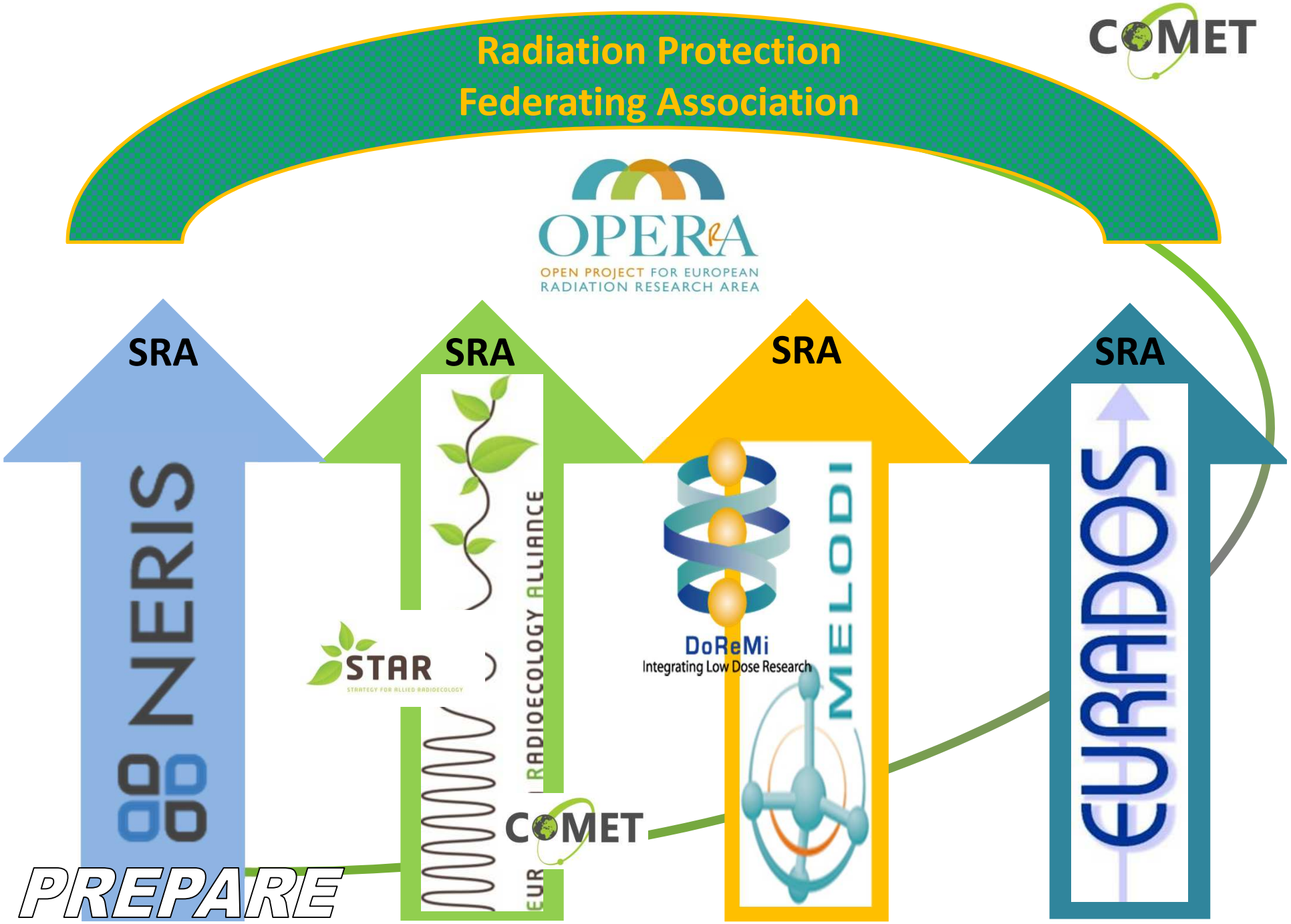
National University Cooperation Fukushima University (Japan)

COMET objectives

- **COMET overall objective**: strengthen the pan-European research initiative in radioecology by:
  - Developing innovative mechanisms for joint programming and implementation (JPI) for radioecological research in concert with the mechanisms for JPI developed by OPERRA for the *Horizon 2020* proposed Radiation Protection Federating Association.
  - Initiating innovative research on key needs jointly identified by the radioecology community (ALLIANCE) and the (post) emergency management (NERIS) and low-dose research communities (MELODI), and strongly engage with collaborators from countries where major nuclear accidents have occurred.
  - Under an enlarged consortium and facilitated by the flex funds further conduct priority research identified following the joint programming mechanisms developed under COMET.
  - Develop strong mechanisms for knowledge exchange and dissemination to enhance and maintain European capacity, competence and skills in radioecology.

COMET's broad relation to other organisational structures

- Will build upon, and compliment, the foundations laid by the European Radioecology Alliance (ALLIANCE) and the ongoing FP7 STAR Network of Excellence in radioecology
- Will collaborate with the European platforms on nuclear and radiological emergency response and recovery (NERIS) and low dose radiation risk (MELODI) and relevant training networks (e.g. EUTERP)
- Will collaborate with OPERRA (Open Project for the European Radiation Research Area)


Radiation Protection
Federating Association
COMET
OPERA
OPEN PROJECT FOR EUROPEAN
RADIATION RESEARCH AREA
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NERIS
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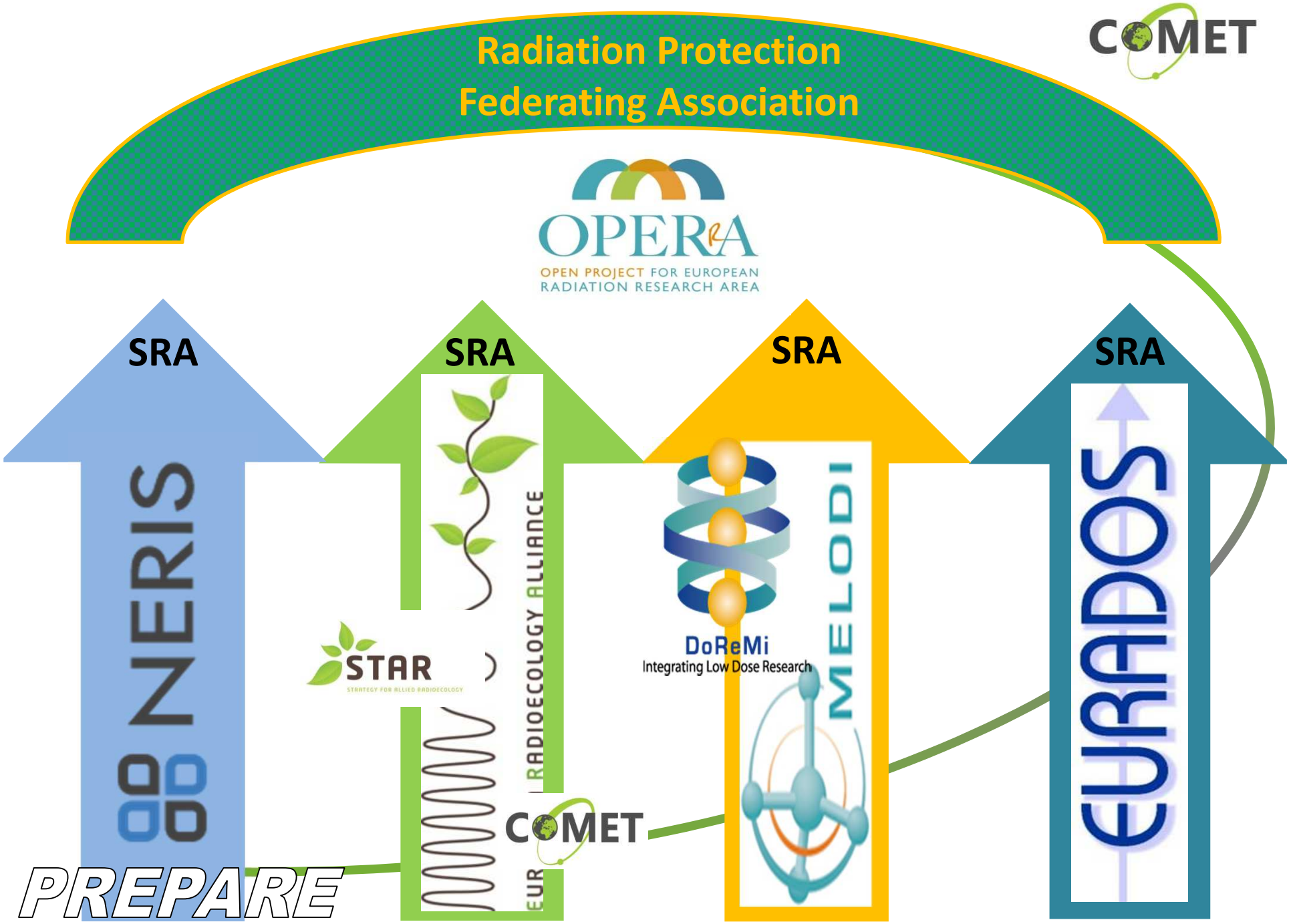
STRATEGY FOR ALLIED RADIOECOLOGY
EURADOS RADIOECOLOGY ALLIANCE
COMET
DoReMi
Integrating Low Dose Research
MELODI
EURADOS
PREPARE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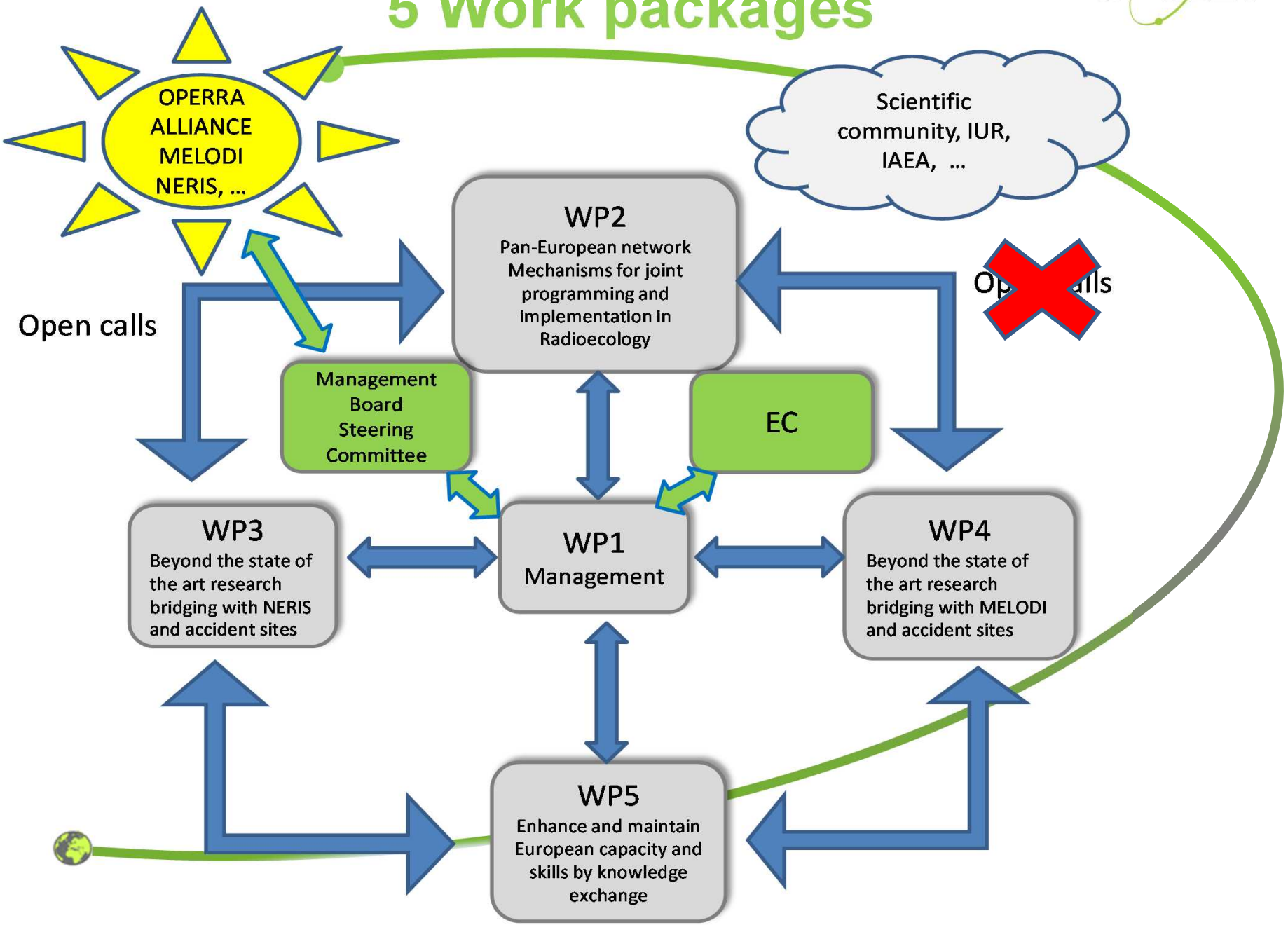
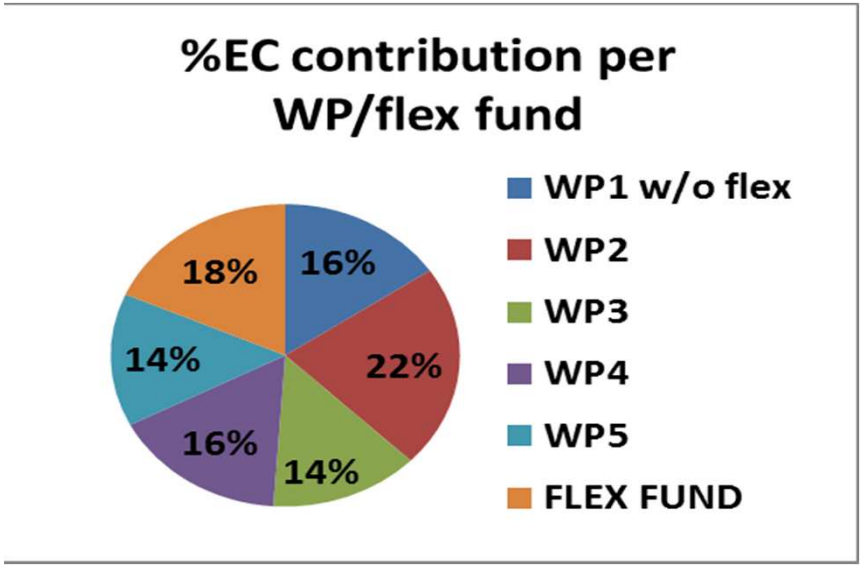
PREPARE

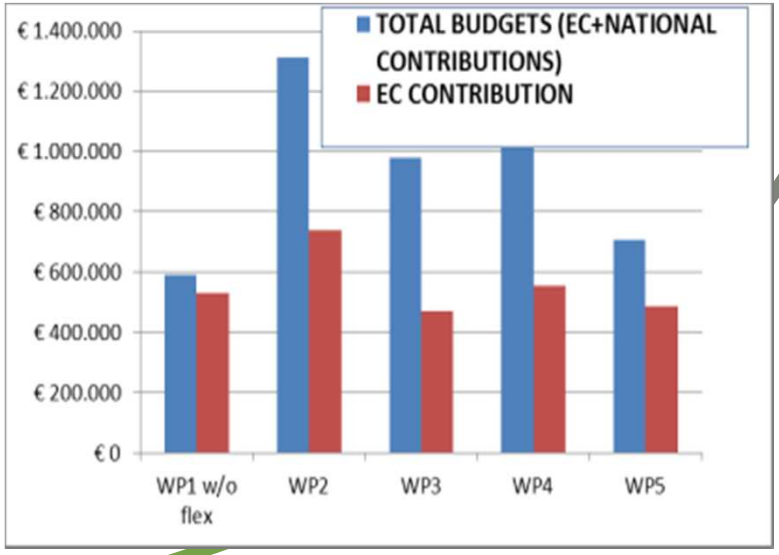
5 Work packages



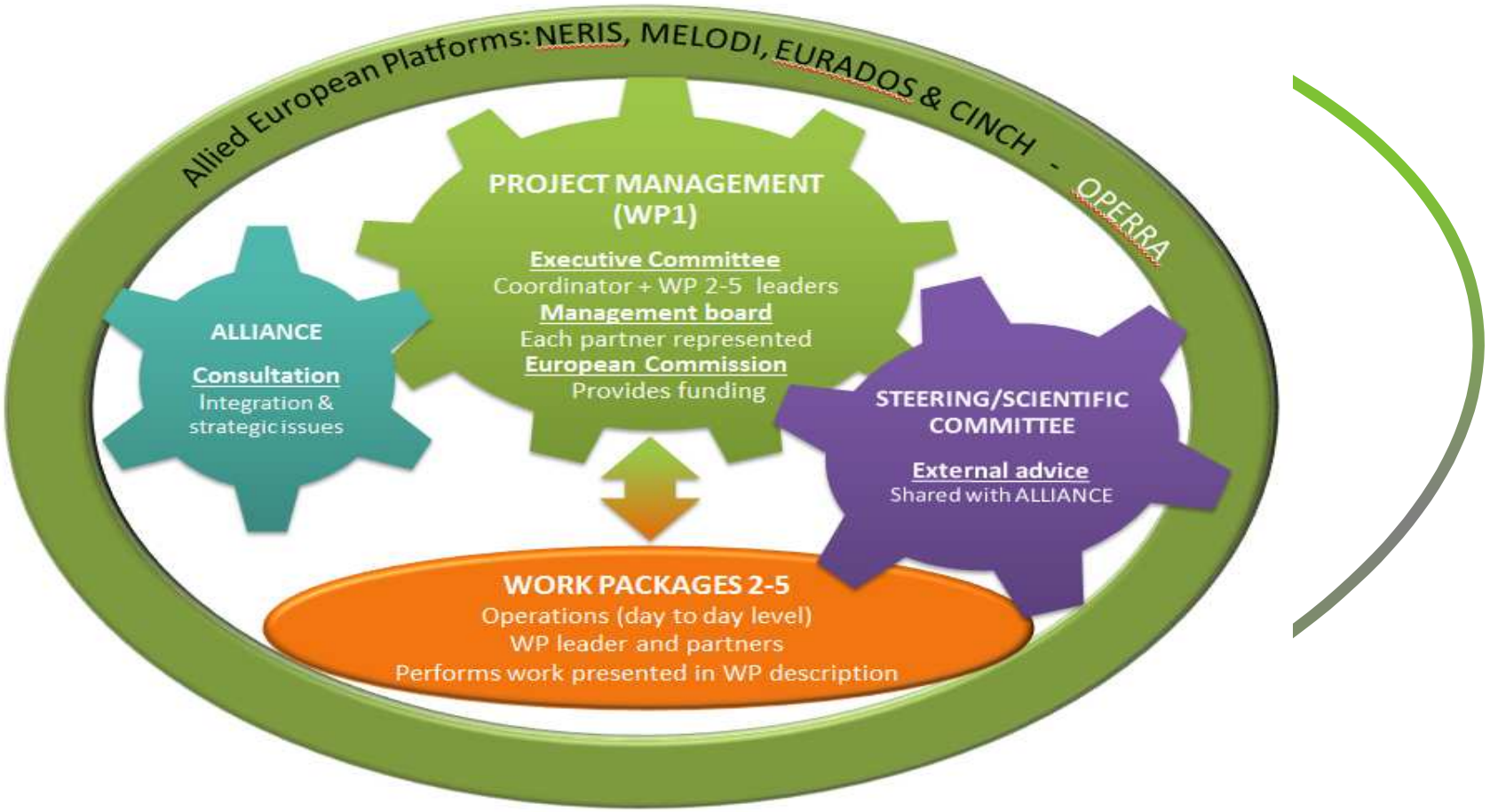
Repartitioning of budget

EC – contribution: **3410 kEUR**
Partners contribution: **1874 kEUR**



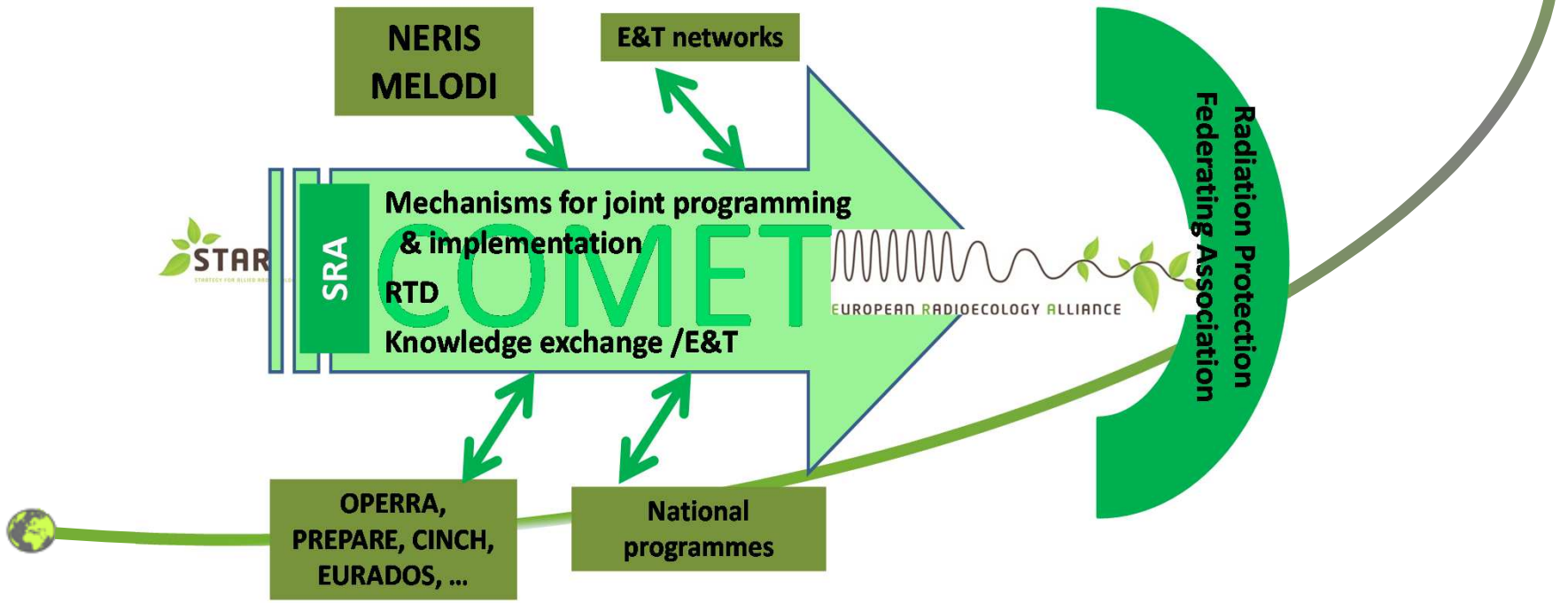


Management structure



VISION

- In collaboration with ALLIANCE, establish a pan-European Centre of Excellence for Radioecology, with programme of activities supported by the radioecological community
- Strong ties will be created with European stakeholders, the wider international radiological sciences and ecotoxicology communities.
- Through COMET, the ALLIANCE will be positioned as a strong component of the *Horizon 2020* Radiation Protection Federating Association.



WP3 - Improving and validating radioecological models

- Initial research activity: Improved parameterisation of key transfer processes, with a specific focus on dynamic modelling approaches
- D3.1 Detailed plan for the IRA → duration 2 years

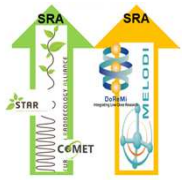
Task 3.1 Initial Research Activity (IRA)

- **1. Marine modelling** – improving predictions of concentrations in and exposures of marine biota and humans through sophisticated modelling, e.g. trophic transfer modelling and by combining transfer modelling with sediment modelling.
- **2. Forest modelling** - reducing the uncertainties in assessments of short and long term impacts of radioactive contamination in forested areas through model development and parameterization of key processes controlling the transfer of radionuclides.
- **3. Human food chain modelling** - improving human food chain modelling through regional customization of parameter values, using Bayesian methods and studying the long-term dynamics of soil-to-plant transfers for specific soil types and for long-lived radionuclides.
- **4. NORM modelling** - acquiring data necessary for the parameterization of key processes, and improving existing models or developing parametric models linking observed accumulation, mobility, and transfer with environmental parameters and processes.
- **5. Particle behaviour** - improving our ability to describe the processes of hot particle transformation in the environment and radionuclide leaching in various media.
- **6. ICRP reference sites** - providing the data to derive a taxonomically based model of radionuclide transfer for wildlife independent of site-specific factors.

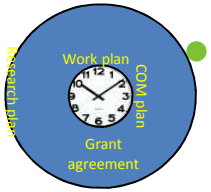
WP4 - Shared challenges in chronic low dose effects and risk assessment

- WP 4.1: IRA focused on a specific topic of common interest to radioecology and radiobiology: epigenetic changes and their possible effect on adaptation and transgenerational effects
  - There are strong links between epigenetic processes and exposure to environmental stress, transgenerational effects and adaptation in exposed populations/species
  - IRA will be developed for a 4 year-period through laboratory studies and field studies (Chernobyl/Fukushima), using complementary biological models representative of ecosystems (vertebrates, invertebrates, plants)

WP4 General approach (2/2)



- WP 4.2: Prioritization of low-dose effect research through a further detailed examination of the SRAs from the ALLIANCE and MELODI and announcement of a Competitive Call for the selected topics.



- WP 4.3: Implementation of the research activities selected during the competitive call. In link with WP1

- WP 4.4: Integration of RTD results and feedback on the joint programming mechanisms implemented in WP3 and WP4, and go further on the preparation of Horizon 2020. Linked with WP5

WP5 - Knowledge management

Help COMET to ensure ‘take-up’ & focus to needs:

- Establishing an interactive website ..... providing informed and regular updates of developments
- Facilitate discussion of topical radioecological issues between researchers and users to support radiation protection
- Develop training packages to maintain & enhance professional competence