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How Radiation Protection Platforms Developed Strategic Research Agendas? An Overview

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The Radiation Protection Platforms

- Validity and improvement of the radiation protection system for low-dose & low-dose-rate exposures 
- Behaviour of radionuclides in the environment, effects to wildlife and impact/risk assessments of radiation to man and environment 
- Preparedness for nuclear and radiological emergency response and recovery 
- Radiation dosimetry 



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NERIS

EURADOS

The Radiation Protection Platforms

- Education and training in radiation protection



- Medical applications of ionising radiation

CARPE-M

- Social sciences and humanities (targeting radiation protection research or possibly widening its scope?)



Development of SRAs First Version

Platform	Nbr. of SRA WG Members	Nbr. of Organisations	First Version Released
MELODI	3 (Chair: D. Averbeck, FR)	3	11 October 2010
ALLIANCE	27 (Chair: T. Hinton, FR)	9	10 August 2012
NERIS	10 (plus members of R&D Committee) (Chair of MB : T. Schneider, FR) (Chair of R&D Committee: F. Hardeman, BE)	10	30 March 2012
EURADOS	17 (Chair: W. Rühm, DE)	14	2 June 2014
CARPE-M	27 (Chair: C. Hoeschen, DE)	5	14 April 2015 <i>(Draft not yet released)</i>



Current Status of SRAs

Platform	Nbr. of SRA WG Members	Nbr. of Organisations	Latest Update
MELODI	10 (plus 4 external experts/observers) (Chair: M. Kreuzer, DE)	10	1 February 2016 (6 th Version)
ALLIANCE	27 (Chair: T. Hinton, FR)	9	5 September 2013 (2 nd Version)
NERIS	20 (Chair of MB : T. Schneider, FR) (Chair of R&D Committee: J. Camps, BE)	14	8 April 2014 (2 nd Version)
EURADOS	17 (Chair: W. Rühm, DE)	14	2 June 2014 (1 st Version)
CARPE-M	27 (Chair: C. Hoeschen, DE)	5	24 August 2015 (2 nd Draft not yet Released)



Current Shape of SRAs

Platform	Backbone	First-level Division	Second-level Division
MELODI	Three Key Research Questions	Subsections (3 in total)	Research Priorities (38 in total)
ALLIANCE	Three Important Scientific Challenges	Associated Research Lines (15 in total)	
NERIS	Three Research Areas	Key Topics (7 in total)	Subtopics (38 in total)
EURADOS	Five Visions	Challenges (17 in total)	
CARPE-M	Five Main Topics	Key Research Questions (19 in total)	

The example of the MELODI SRA

Backbone	Question 1	Question 2	Question 3
Three Key Research Questions	Dose/dose-rate dependence of cancer risk?	Non-cancer effects?	Individual radiation sensitivity?
Subsections (for each research key question)	Basic Mechanisms Health risk evaluation Impact of radiation exposure characteristics		
Research Priorities (here the 5 short-term priorities identified in 2015 from a list of 38 priorities)	<ol style="list-style-type: none"> 1. To explore the shape of the dose-response relationship for radiation induced health effects at low doses/dose-rates based on key informative epidemiological studies (including where appropriate, molecular or other biomarkers) for internal and/or external emitters, incorporating detailed dosimetric assessment. 2. To explore and define the role of epigenetic modifications in radiation-induced health effects following exposure to low doses/low dose rates. 3. To identify, develop and validate biomarkers for exposure, early and late effects for cancer or/and non-cancer diseases in relation to low doses/low-dose rates and to integrate them in molecular epidemiological studies. 4. To explore the roles of specific target cells for low dose/dose-rate radiation-induced late developing health effects such as cancers, circulatory diseases and cataract. 5. To understand the potential impact of individual susceptibility on radiation risk using cohorts and/or systems models with variations in sensitivity to low doses of radiation, so that differences in the response pathways can be detected and biomarkers validated. 		



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Education & Training, Infrastructures

- MELODI (three priorities), EURADOS (two activities) and CARPE-M (two activities) SRAs include priorities/activities related to **E&T issues**, while this section is being developed in ALLIANCE
- MELODI (two priorities) and CARPE-M SRAs comprise a dedicated section on **infrastructures** (“for quality assurance” in CARPE-M), even though the NERIS SRA makes reference twice to research infrastructures along the document, and some EURADOS challenges are undoubtedly related to dosimetry infrastructures



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Some Specificities

- MELODI and NERIS identified **synergistic topics with other radiation protection platforms**
- MELODI (five) and NERIS (six) identified **short-term priorities or high-priority projects**, respectively
- ALLIANCE developed **a strategic vision** for the next twenty years following six research lines
- NERIS included a section on **cross-cutting issues** comprising two activities
- EURADOS added a section on **harmonisation and practice** including five activities



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Consultation Prior Final Publication

- The five platforms have submitted to **a wide range of scientific communities and stakeholders** *via* questionnaires, e-surveys or workshops
- Comments that were received have been **analysed and considered** when relevant (**feedback provided**)
- **A transparent and open consultation is essential** to ensure the SRA is **usefulness** for science and society, **shared** by stakeholders and researchers, and **realistic** from an operational and scientific perspective



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What about Communication and SSH?

- **NERIS is very committed in social sciences and humanities since several years:** for instance, a key topic within its SRA is about social media and networking technologies, and another key topic is about stakeholder engagement and dialogue
- ALLIANCE is being developed priorities related to **risk communication, social acceptance and risk perception** in connection to EAGLE and OPERRA projects
- **CONCERT Task 2.6** will draft a Strategic Research Agenda for Social Sciences and Humanities in Radiation Protection
- The implementation of a SSH platform **should not prevent the platforms from continuing their ongoing SSH-related activities**



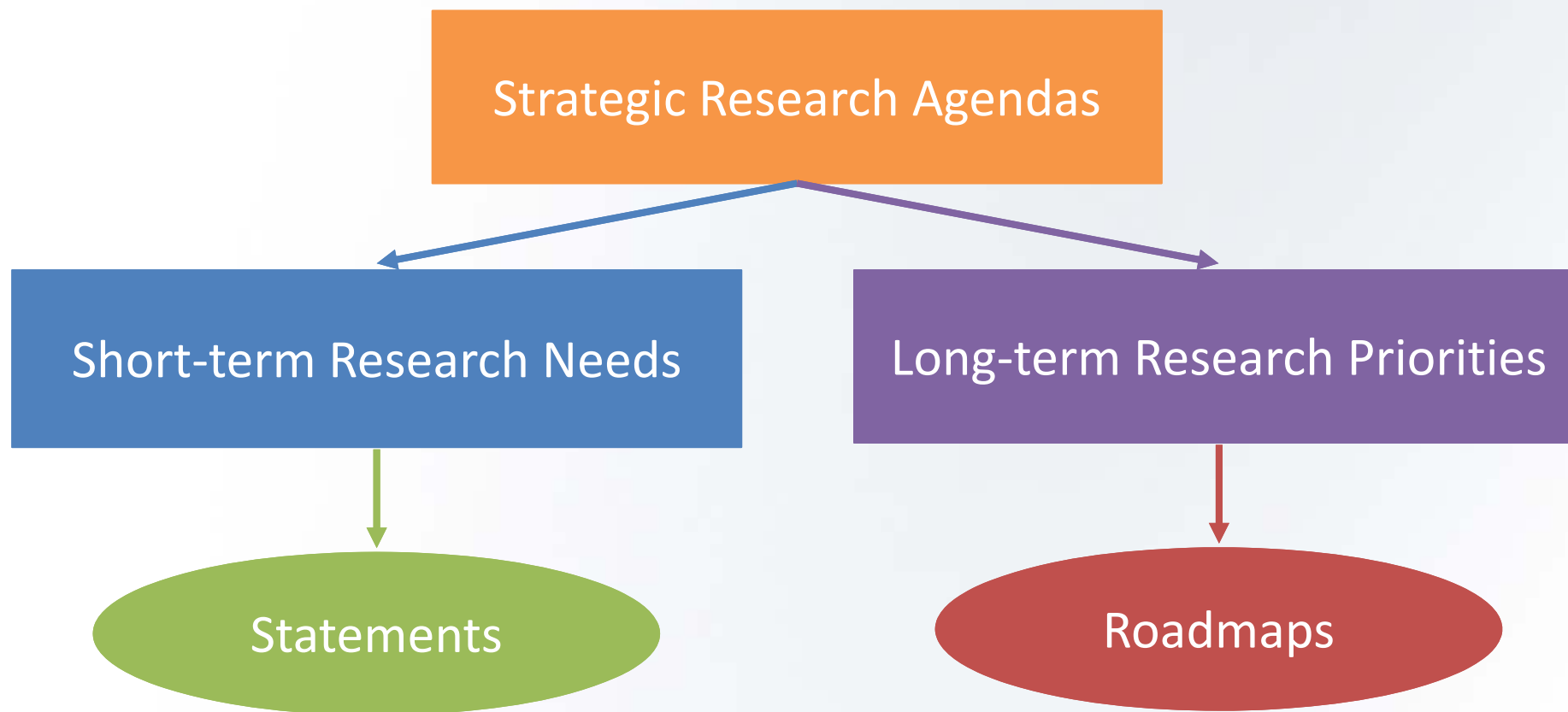
This slide has been adapted from a general presentation of ALLIANCE
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A Major Tool: the Strategic Research Agenda

- Within the objectives of a platform:
 - Develop a **long-term vision** on the needs and implementation of activities related to the scope of the platform (**decades**)
 - **Sustainable** after FP7 projects
- Appropriate **processes** for defining short-term priorities and long-term needs are vital
- An **adequate Strategic Research Agenda** is:
 - **NOT:** as **extensive** as possible
 - **BETTER:** as **relevant** as possible
 - **Usefulness** for science and society
 - **Shared** by stakeholders and researchers
 - **Realistic** from an operational and scientific point of view

The Way Forward





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