Outcome of the European initiative for radiation protection research and future perspectives

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Paris, October 2017

Radiation protection research challenges

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RP framework is sophisticated and efficient,

but research is still indispensible to:

- Reduce uncertainties and radiobiology knowledge gaps,
- Improve the radiation protection « tool box »,
- Educate and train new generations of experts and researchers,
- Develop /maintain scientific infrastructures.

Remaining targets (individual sensitivity, multi-exposure factors, post-accident modelling,…) are very complex.

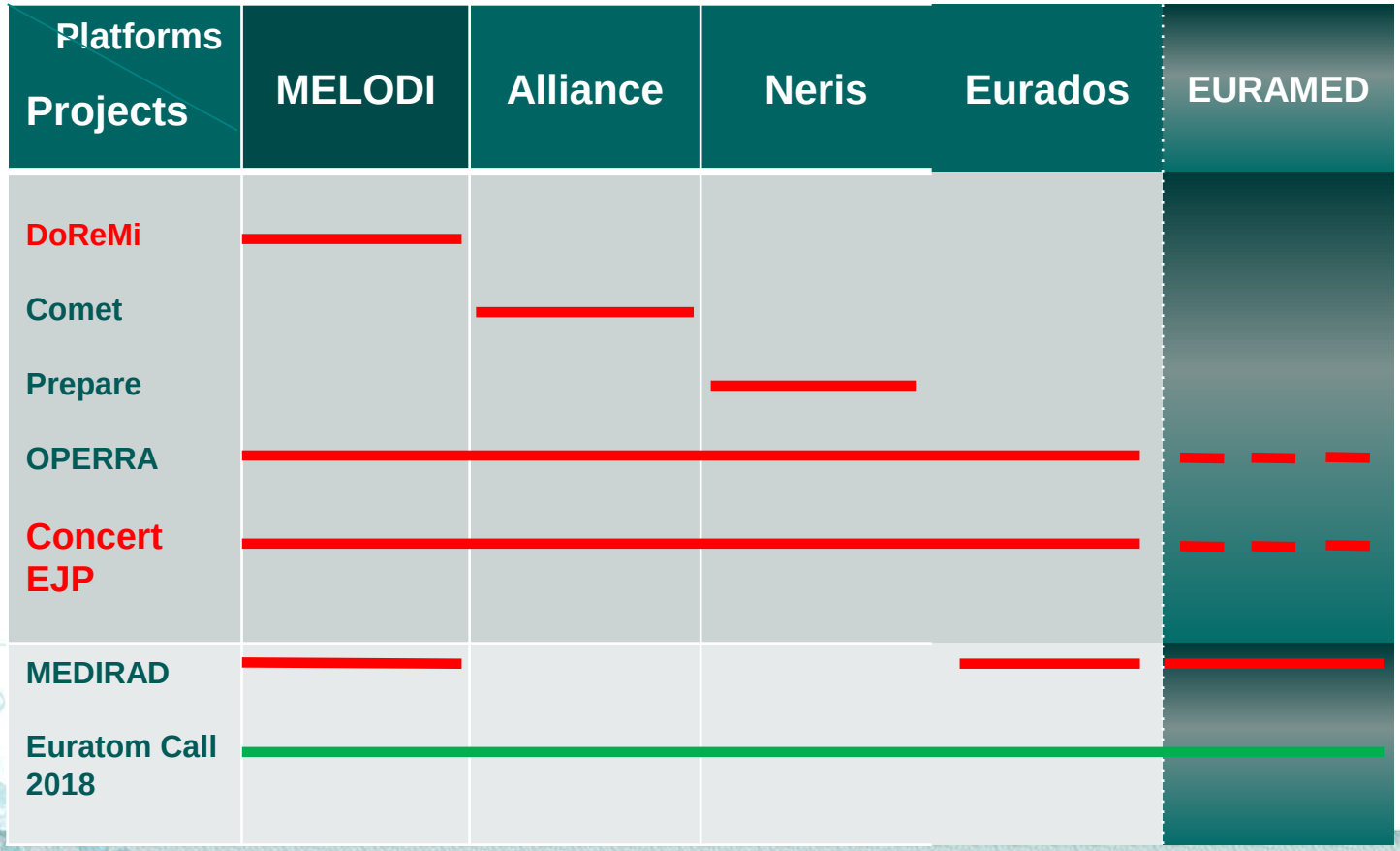
They require:

- *Pooling of resource* (scientific and financial), for a significant period of time
- *A shared scientific strategy*, and an *efficient budget allocation system*, to encourage multidisciplinarity, and avoid dispersion of effort or discontinuity in progress

The «acquis » of EURATOM integration policy

- The success of Platforms in gathering scientific communities across disciplines;
- Availability of Strategic Research Agendas;
- Combining cooperation with competition based on scientifc excellence;
- Development of policies and action plans for infrastructures and training & education;
- Several ambitious research projects have been launched;
- Soon, a « joint roadmap » for research;

The EURATOM integration concept : platforms + funding projects



The Joint Research Roadmap concept

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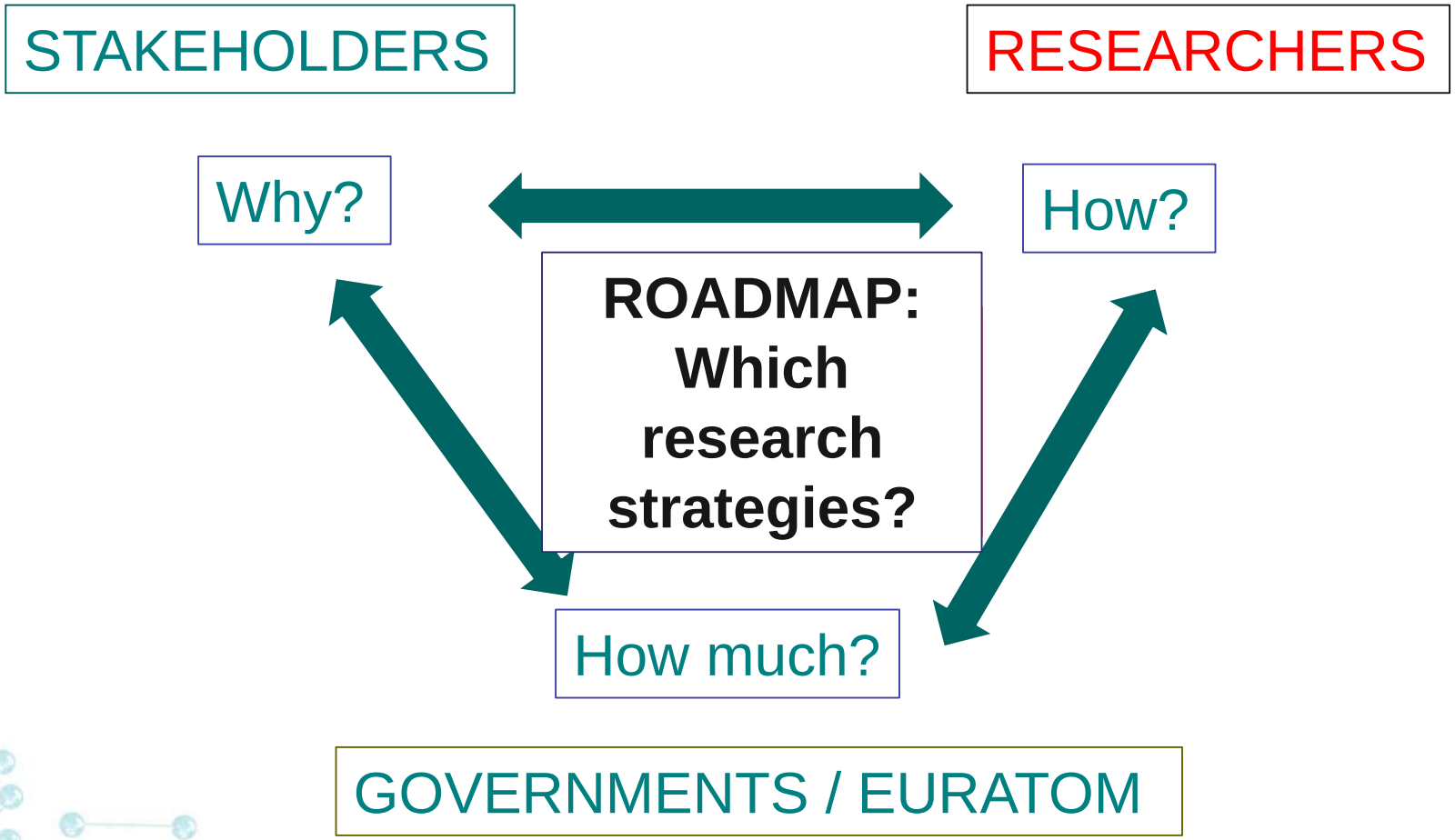
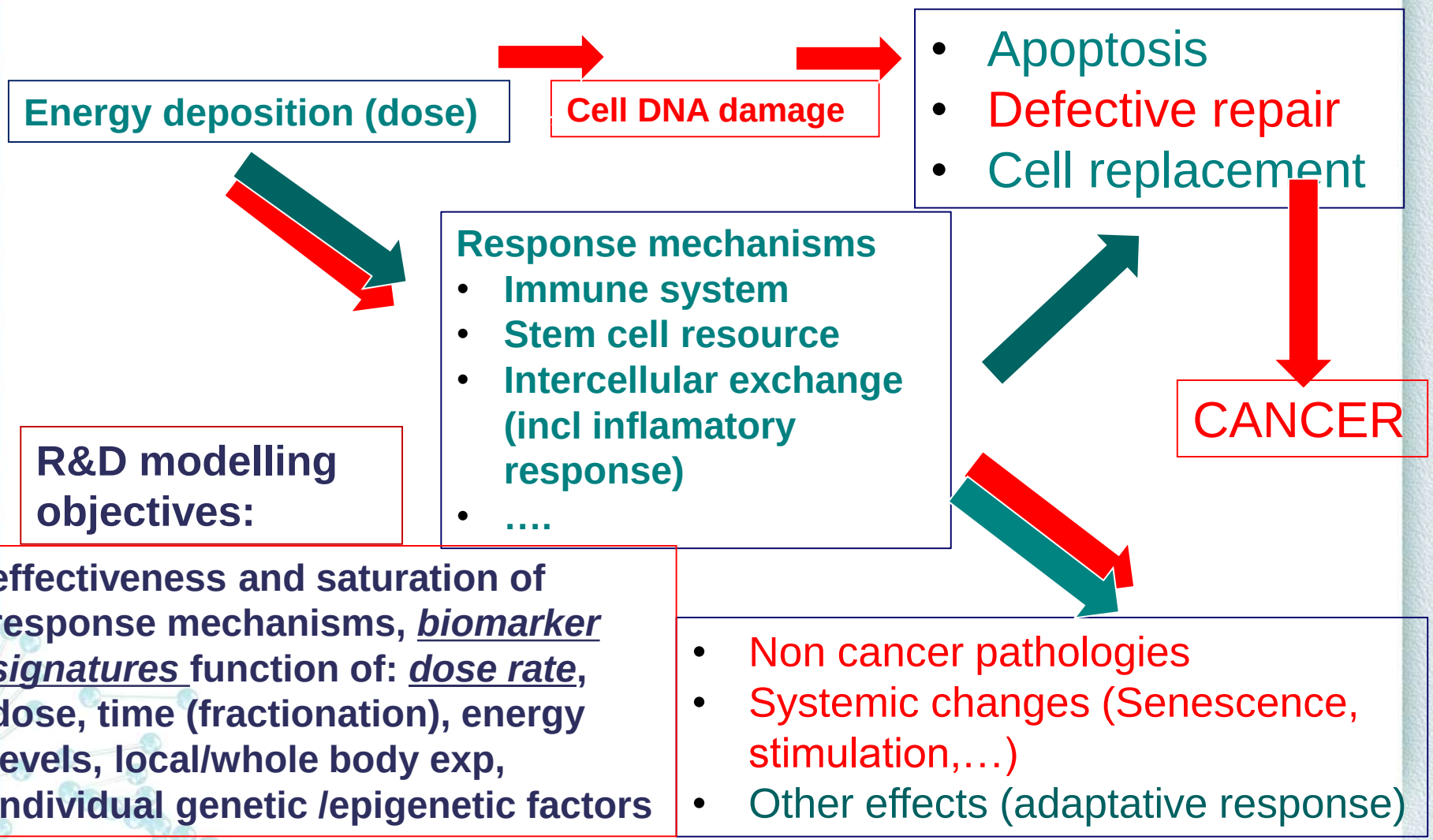


The Joint R&D roadmap will provide:

- An understandable link between societal concerns with ionising radiation exposure and science/research
- Medium term, consensus based, research strategy to credibly achieve the priorities set in SRA's
- Elements of justification for a stable medium term funding system for research

Radiobiology challenge: understanding RADIATION EFFECTS ON HOMEOSTASIS

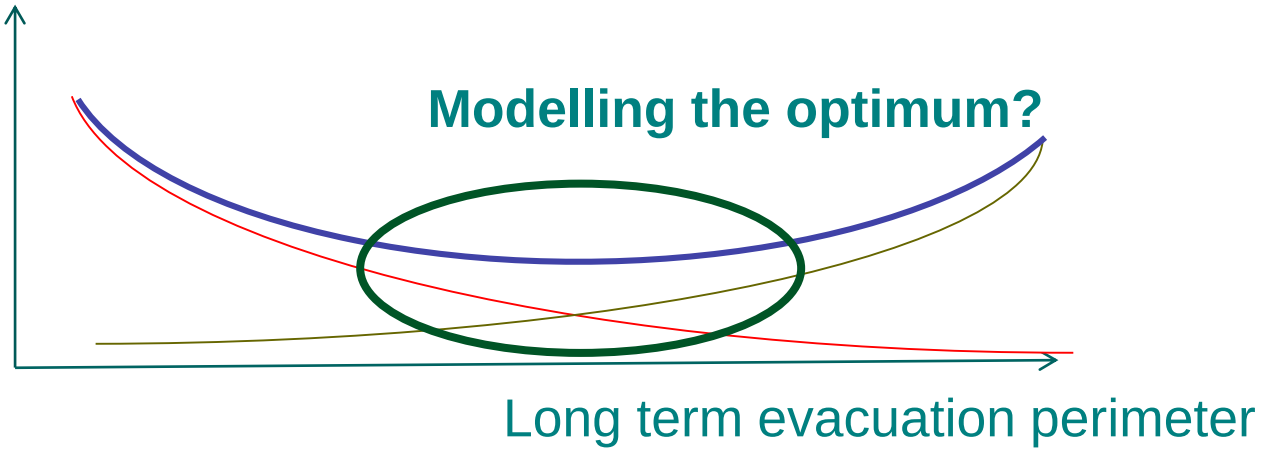


Radiation protection tool box developments

Post accident management: What is the optimal dose objective, in given circumstances ?

Health impact

Radiological, indirect, total



Radiobiology; Dosimetry; Social Sciences; Informatics,…

Next steps: preparing for the 9th EURATOM FP

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- Scientific targeted workshops and exploratory research projects, funded with the support of complementary projects (calls 2018/2019);
- Preparing for a Joint Platform Technical Secretariat;
- Towards a « EURATOM EJP + » for radiation protection research in the 9th FP;
- Towards improved international cooperation mechanisms (USA, Japan,…).

Joint Road map : individual radiation sensitivity

MELODI is organising and co-funding, in coopertaion with EURAMED and EURADOS, with support from CONCERT, a scientific seminar to address in detail the contents of a joint scientific strategy to address the issue of **individual radiation sensitivity**.

- 3 to 4 days of closed meeting, by invitation from Platforms (20 to 30 persons),
- Followed by preparation of a consensus based deliverable that will be published in a peer review journal, and contribute to the development of the Joint Roadmap.

Conclusion

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- RP system Ok for most planned exposures, and capable of good performance;
- Could still break down in public opinion on issues related to low dose rate risks affecting large populations /ecosystems;
- Use of radiation in the medical sphere could become even safer, as well as more effective;
- Progress requires sustained research efforts , policies that will give science maximum chance to resolve difficult and complex problems, in Europe and worldwide.

Thank you for your attention