PREPARE Overview

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History

EC Project EURANOS (2004 – 2009)
Improvement of the coherence and effectiveness of nuclear and radiological emergency management including the rehabilitation of contaminated areas

NERIS-Platform
- Keep the momentum from EURANOS
- Improve the effectiveness of current European, national and local approaches
- Promoting more coherent approaches through the establishment of networking activities
- Maintaining and improving know-how and technical expertise among all interested stakeholders
- Identifying needs for further developments and addressing new and emerging challenges

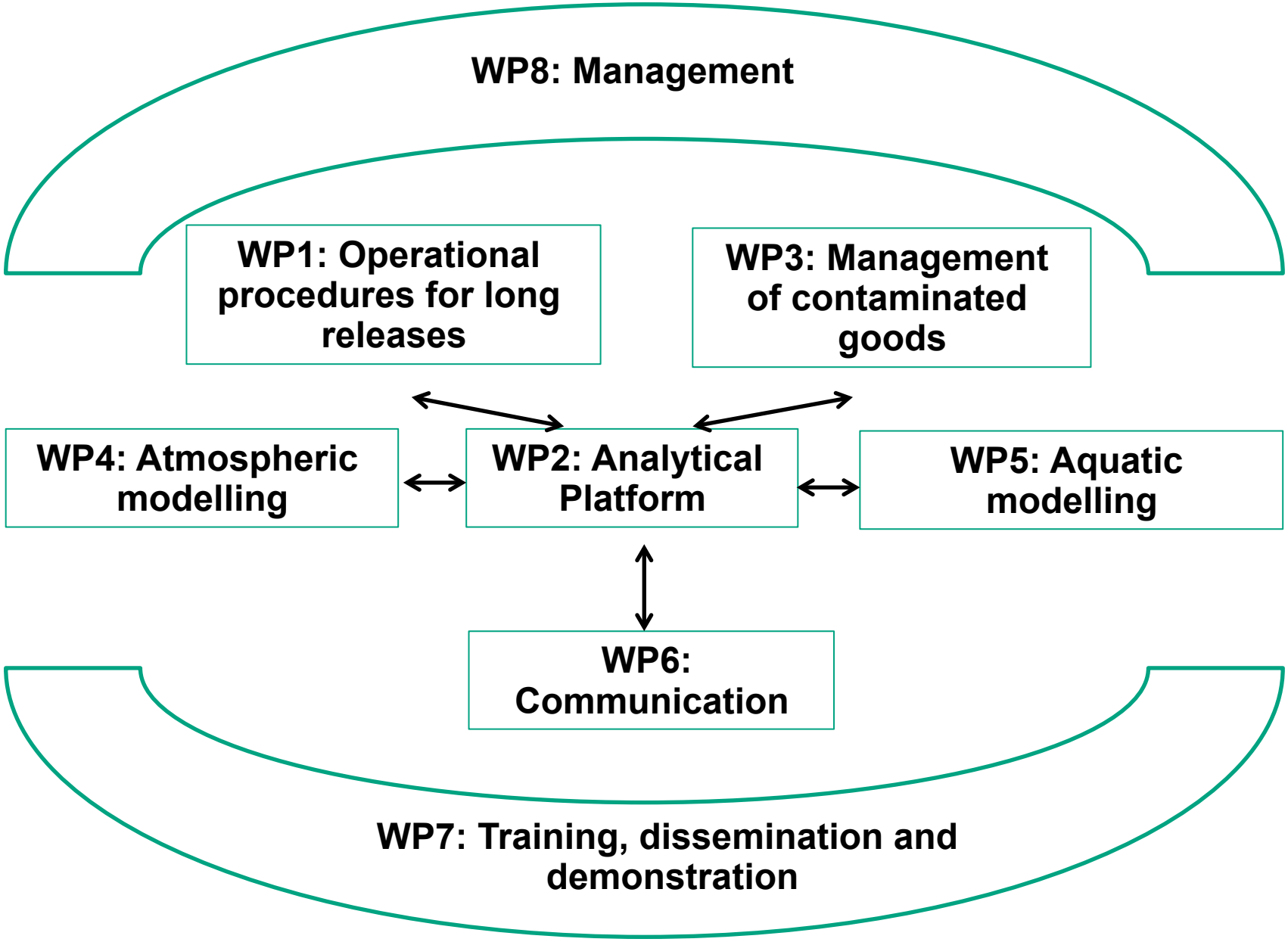
EC Project NERIS-TP (2011-2014)
- Close gaps from EURANOS
- Promote the NERIS Platform

EC Project PREPARE (2013-2016)
- Close gaps based on Fukushima experience

PREPARE General

- PREPARE: Innovative integrated tools and platforms for radiological emergency preparedness and post-accident response in Europe
- Research project under the European Commission's 7th Framework Programme, EURATOM for Nuclear Research and Training Activities (work programme 2012), Fission-2012-3.3.1, Grand Agreement Number 323287
- Start first of February 2013, will last 3 years
- 45 partners
- 6 research work packages
- 1 work package on training and dissemination
- 1 work package on management

PREPARE work packages



Objectives

PREPARE

- This project aims to close gaps that have been identified in nuclear and radiological preparedness following the first evaluation of the Fukushima disaster. Among others, the project will address the review of existing operational procedures for dealing with long lasting releases, cross border problems in monitoring and food safety and further develop missing functionalities in decision support systems ranging from improved source term estimation and dispersion modelling to the inclusion of hydrological pathways for European water bodies. In addition, as the management of the Fukushima event in Europe was far from optimal, a so called Analytical Platform will be developed exploring the scientific and operational means to improve information collection, information exchange and the evaluation of such types of disasters.

- **Operational procedures for long lasting releases**: Following the Fukushima Daiichi accident a review of existing procedures for long lasting releases and identification of possible needs for improvements by performing scenario calculations will be performed on a European level. (**WP1**)
- **Progress made so far**
  - **Source terms defined**
  - **Accident scenarios partly defined**
  - **Calculations to be done**
  - **Evaluation, emphasising on lessons learned, to be done**

- **Platform for information collection and exchange**: The objective of this activity is to develop scientific methods and tools that could be used by a European Platform (i.e. focal point) for the collection of and analysis of information from any nuclear or radiological event, particularly regarding the consequences and any further developments. The intention is to set up such a Platform on a scientific level and discuss within the three years of the project whether such a platform should be formalised either as part of the NERIS Platform or as a tool of the European Commission. (**WP2**)
- **Progress made so far**
  - **Design documents for the methods completed**
  - **Data base structure and template to fill in historic cases will be ready by end of January**
  - **Software framework under investigation**

- Following the Fukushima accident it became obvious, that the recommendations or requirements already existing worldwide on **contaminated goods** (IAEA, Codex Alimentarius) and in Europe (Euratom regulations) were apparently too simple (based only on criteria in activity concentration) and not so easy to implement. Improvements should be proposed at least on a European level (**WP3**)
- **Progress made so far**
  - **Methodology for the involvement of stakeholder in national panels completed**
  - **10 national panels established in Belgium, Finland, France + Swiss, Greece, Ireland, Netherlands, Norway, Portugal, Spain and United Kingdom**
  - **DG-TREN, NEA and IAEA showed interest and will follow via WG3 of the NERIS-Platform**

- **Improvement to terrestrial aspects of decision support systems**: Fukushima clearly demonstrated the importance of a source term estimation that is not only based on information from the plant operators. Lessons from Chernobyl showed deficits in the representation of the physico-chemical properties of radionuclides emitted in the atmospheric dispersion models of ARGOS and RODOS (**WP4)**
- **Progress made so far**
  - **Methodology and computational methods for simple estimate of source term using gamma dose rate measurements at the fence**
  - **Ideas about the complex methods for source term estimations are under discussion**
  - **Draft report on how to model particles in the ADM under preparation**

- **Improvement to aquatic aspects of decision support systems**: The aquatic models in decision support systems are far less developed than those for terrestrial ecosystems. This was apparent for the Fukushima accident (ocean). In this respect we intend to integrate state of the art aquatic models into the RODOS DSS and couple them with countermeasure simulation models. (**WP5**)
- **Progress made so far**
  - **Design Document for POSEIDON Model Integration**
  - **Design Document for THREETOX Model Integration**
  - **Design Document for MOIRA Model Integration**
  - **WP5 leader professor at Fukushima University and will explore test cases for the hydrological models**

- **Communication with the public**: The overall objective of the work package is to investigate the conditions and means for relevant, reliable and trustworthy information to be made available to the public at the appropriate time and according to its needs, both during the nuclear emergency as well as in the post-emergency phases. Information needs in this context refer to the understanding (by the members of the public) of the evolution of the accident, its management (and the related potential risks) and the capacity of the population and communities to prevent or mitigate individually and collectively harm arising from the threat. (**WP6**)
- **Progress made so far**
  - **Interview guidelines developed and nearly 20 interviews performed**
  - **Managing complexity in nuclear accidental situations – Experts interacting with experts and society, Lisbon 28-29 November 2013**
  - **Review on media reporting after Fukushima in progress**

WP7 - Training and exercises

PREPARE

- Basic training of key players in the field of nuclear and radiological emergency and post-accident management by the organization of two basic courses:
  - Training Course on Preparedness and Response for Nuclear and Radiological Emergencies (**issued for March 17-21, 2014**);
  - Training Course on Late Phase Nuclear Accident Preparedness and Management (**issued for September 16-18, 2014**).
- Training related to the use of specific tools developed or updated in this project – at the end of the project.
- Exercises
  - Emergency exercise to evaluate the response during an accident involving an international transport of radioactive material – **preparation in progress**;
  - Table-top exercise to evaluate the preparedness for monitoring the extent of a large scale cross-border radioactive contamination in the aftermath of a nuclear accident – **one exercise performed in Ljubljana, end of 2013**.

Summary

- Work in PREPARE is driven from the observations during and after the Fukushima incident
- PREPARE integrates 45 partners from universities, research organisations, operational emergency management centres, industry and NGOs
- Work comprises topics such as long lasting releases, source term estimation, model improvements, knowledge gathering and exchange of trustworthy information
- Work is part of the Strategic Research Agenda (SRA) of the NERIS Platform, but the SRA is much wider and contains more tasks
- PREPARE is a step forward in harmonisation of emergency management and rehabilitation preparedness in Europe
- Important to assure that the products are applied by end users and for new products (Analytical Platform) end users are identified

Thank you very much for your attention

Questions?