

JOPRAD Project Current status

Programme document workshop - 4th April, 2017

Jacques Delay, JOPRAD Coordinator



This project has received funding from the Euratom research and training programme 2014-2018 under grant agreement n° 653951



- For more than 40 years, considerable scientific and technical knowledge has been acquired in Europe in the field of radioactive waste management, and especially geological disposal:
 - ✓ has allowed countries to progress towards licensing (Finland, Sweden and France).
- RD&D efforts will continue to be necessary to:
 - ✓ Maintain and increase knowledge throughout the development, operation and closure of disposal facilities, which will be spread over many decades;
 - ✓ Ensure optimization of management routes and of disposal solutions;
 - ✓ Address evolving regulatory concerns;
 - ✓ Bridge the risk of shortage of the skilled, multidisciplinary human resources needed to develop, assess, license and operate disposal facilities;
 - ✓ Gain and maintain public and regulatory confidence.

CONTEXT (Cont.)

- European Commission (EC) has supported the acquisition of knowledge at European level by supporting collaborative RD&D projects through EURATOM programme.
- EC has also enhanced coordination and networking activities by supporting the establishment of IGD-TP platform and SITEX network.
- Today, EC promotes a leap forward in pan-European research cooperation between EU Member States' national programmes by encouraging the setting-up of **inclusive research and innovation joint programmes** in Europe, attracting and pooling a **critical mass of national resources on specific objectives and challenges**.
- The objective today for EC is therefore to promote and co-fund ambitious programmes rather than individual projects.

Objectives of the JOPRAD Project



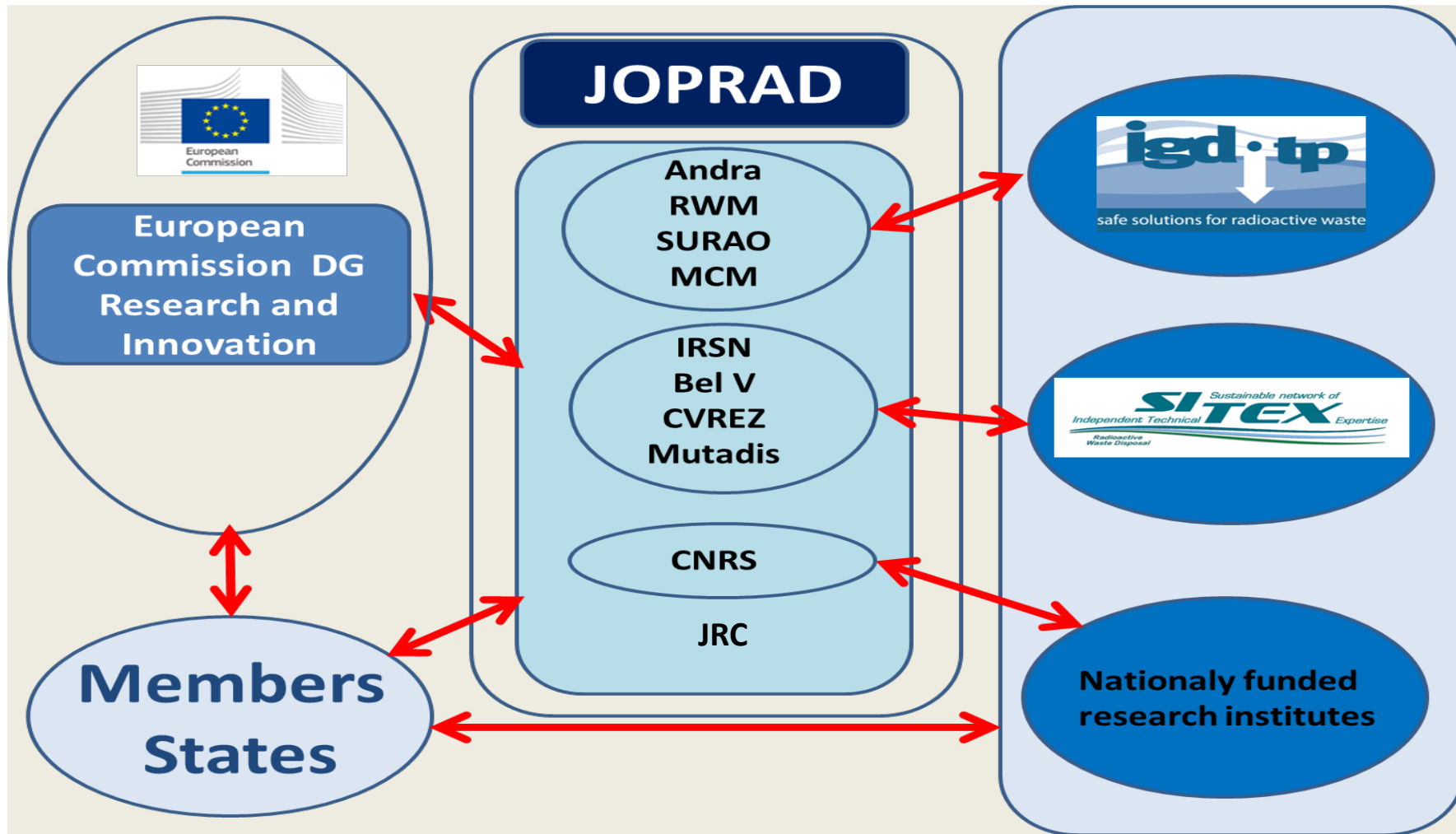
- In this context, the JOPRAD Project was launched in June 2015 to **study the feasibility of a proposal for the setting up of a Joint Programme on Radioactive Waste Management & Disposal:**
 - Such a Joint Programme would bring together at the European level, those aspects of R&D activities implemented within national research programmes where synergy from Joint Programming is identified;
 - The aspects of RD&D activities brought together concern geological disposal of spent fuel and other high activity long lived radioactive waste, including waste management aspects linked with their disposal and accompanying key activities (Education and Training, as well as Knowledge Management).
- Joint Programme could embrace all research-relevant issues taking into account Civil Society wishes and expectations.



Added-value of a Joint Programme

- A further integrated European community in RWMD field drawing together all of the actors, including interest groups;
- Continuously analysing the need for, developing and sharing the required knowledge, and make mature knowledge accessible into commonly agreed upon guidance/state-of-the-art;
- Foster scientific Excellence:
 - ✓ Taking benefit from the expertise of different teams in different scientific domains;
 - ✓ Sharing the knowledge developed by the different actors and contribute to improve/maintain skills/competencies.
- Share resources:
 - ✓ Sharing, developing and making effective use of human, technical and administrative competencies and resources.

Organisation of the project



Key events of the JOPRAD Project



JOPRAD

- “JOPRAD” standing for “Towards a European Joint Programming on Radioactive Waste Disposal”.
- The project started June 1, 2015. It will end November 30, 2017.

Key milestones of the project:

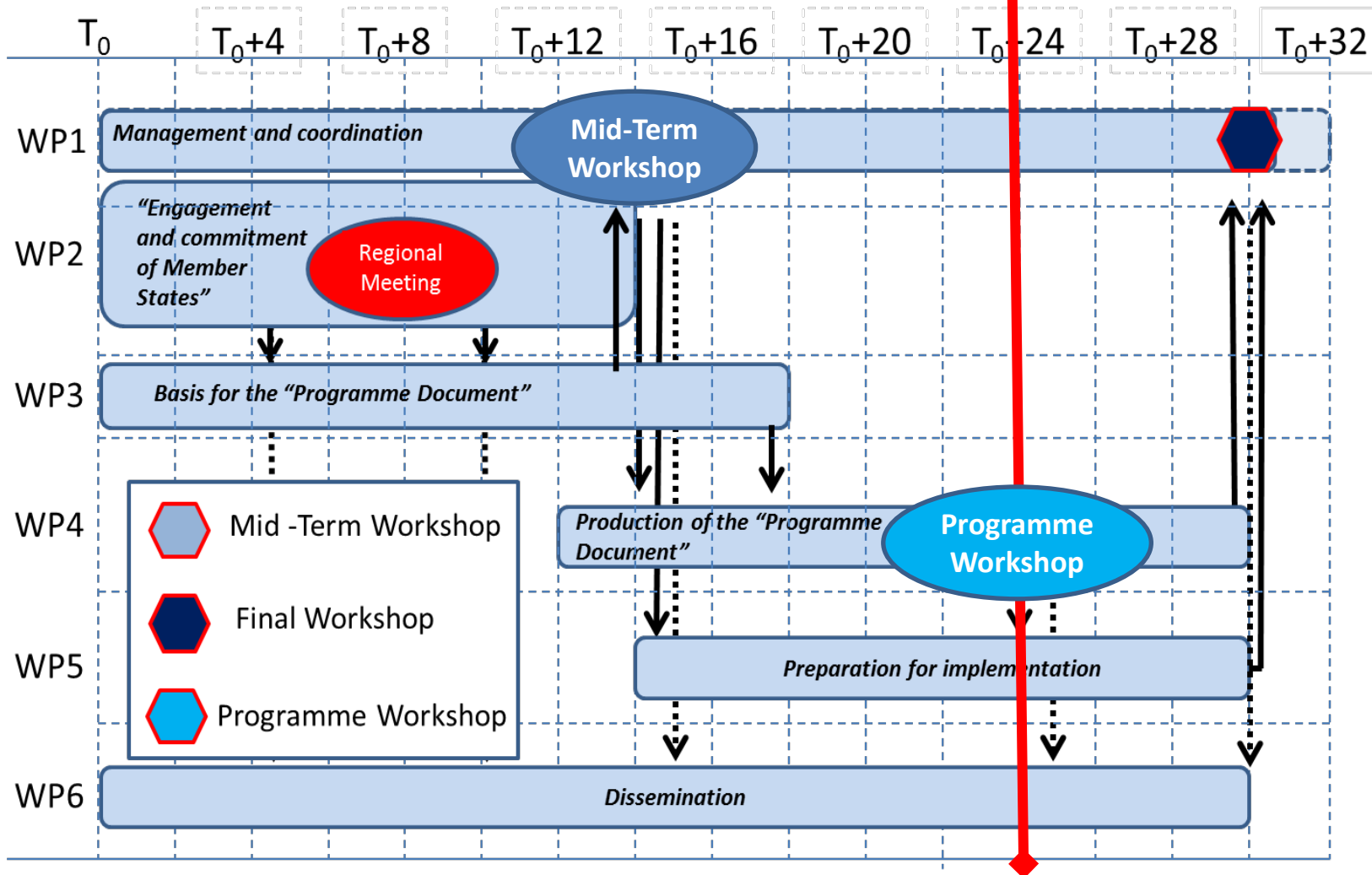
- **“Regional meeting”** to inform specifically less advanced programmes:
 - February 2016 in Bucharest.
- **“Mid-term workshop”** to decide if there is sufficient interest in the Joint Programming:
 - September 2016 in Prague.
- **“Programme workshop”** for the definition of the programme and activities:
 - April 2017 in London.
- **“Final workshop”** Outcomes of the project/ Next steps to move towards a Joint programming:
 - November 2017 in Prague.



The three steps of JOPRAD

- **Engaging Member States on Joint Programming:**
 - ✓ Considering the central role of the governmental body to implement the Council Directive (2011/70/Euratom) in their respective countries, and in collaboration with the EC, JOPRAD has sought to engage in discussion with Member States' representatives in order to develop an appropriate joint programming management structure.
- **Building on existing networks, programmes and initiatives to bring clear added value:**
 - ✓ Identifying existing (or developing) research programmes or research agendas that could contribute to the identification of common scientific objectives and activities, as well as specific aspects that the “mandated actors” wish to develop in the Joint Programme.
- **Agreeing a long-term common Vision, Strategic Research Agenda and Roadmap:**
 - ✓ Drafting of a “Programme Document” including a Strategic Research Agenda, providing the scientific and technical basis for the development of programmes focused on agreed priorities of common interest between WMOs, TSOs and Research Entities.

Where we stand



Interest in Joint Programming

- *Objective:* identify key research actors.
- *Target:* the Euratom Fission committee delegates and those actors already involved in EU projects.
- *Response:* obtained from 23 EU countries.
- *Key points:*
 - ❑ 13 countries have the technical, financial and organisational capabilities to participate in R&D programmes at the European Level in the scope covered by a potential Joint programme;
 - ❑ 8 additional countries could be interested in participating in a joint programme;
 - ❑ 8 countries do not have at this stage a strategy that may lead to the development of a geological disposal facility.

Contacts with “potential mandated actors”

➤ Waste Management Organisations (WMOs)

☐ 22 WMOs contacted by JOPRAD project (22 countries):

- ❖ 16 are potentially interested in participating in a Joint Programme;
- ❖ 3 declared to be uncertain to be mandated;
- ❖ 12 actively participated in the working group.

➤ Technical Support Organisations (TSOS)

☐ 16 TSOs contacted by JOPRAD project (16 countries):

- ❖ 10 are potentially interested in participating in a Joint Programme;
- ❖ 9 are performing R&D related to waste management activities;
- ❖ 10 actively participated in the working group.

➤ Research Entities (REs)

☐ 45 REs contacted by JOPRAD project (25 countries):

- ❖ 27 REs from 16 countries are potentially interested in participating in a Joint programme;
- ❖ 22 REs from 11 countries (+JRC) participated actively in the working group.

LAPs Engagement – JOPRAD Regional Meeting

The overall objective of the Regional meeting was to **inform, engage and involve New Member States with “Less Advanced Programmes” (MLAPs) in the process of Joint Programming (JP)** and its preparation within the JOPRAD project.

- The Bucharest meeting was attended by 67 representatives of 17 countries and the EC;
- The participants were informed about EC strategy;
- The participants were informed about JOPRAD activities and how to get involved in the working groups to develop the Programme and its technical and horizontal activities;
- Emphasis was put on the need for each organisation, as a potentially mandated actor, to get coordinated with their Ministry.

Building the programme : Joint Programme scope

The scope of the Joint Programme is to carry out **RD&D activities to support establishment of safe long-term and publically acceptable solutions** for the management and disposal of **spent fuel, high and intermediate level radioactive waste**:

- To perform **RD&D and coordination activities on other radioactive waste categories when management or disposal solutions do not exist** or when new, innovative or optimised solutions can be developed in common through coordination and joint implementation of R&D.
- To perform **knowledge management activities and studies on strategic issues** of pan European interest.
- To perform **long term science and development research** related to radioactive waste management in order to update and increase knowledge on fundamental process understanding, also enabling **competence maintenance and development** over the long operational times of repositories.

Establishing the programme : achievements

- Five working groups worked in parallel to prepare the Programme Document: WMO; TSO; RE; Horizontal activities; Civil society:
 - ✓ Preliminary stage to take into account the level of integration of each community;
 - ✓ Each of the five groups have produced a document presenting their views on the activities to be included in a potential common JP.
- Methodology:
 - ✓ Three approaches have been developed leading to research priorities deriving from SRAs: IGD-TP (2009), SITEX SRA (2016) and RE SRA (2016) working group;
 - ✓ Specific Approach for Horizontal activities;
 - ✓ Specific approach for involvement of CS.
- The five documents are finalized.
- The “Vision” was jointly developed and presented at the Mid Term Workshop:

A step change in European collaboration towards safe radioactive waste disposal through a credible and sustained science and technology programme fostering mutual understanding and trust.

Implementing a Joint programme

- Analyse the 2 EC funding tools for Joint Programme:
 - ✓ European Joint Programme (EJP);
 - ✓ European Research Area NETwork (ERA-NET).

- **EJP co-fund tool** was selected:
 - ✓ After a review of existing instruments;
 - ✓ From feedback from various experiences (inc. EuroFusion, CONCERT);
 - ✓ *EJP co-fund* is primarily intended for an internal implementation of a research programme by the members of a Consortium;
 - ✓ Well adapted to a research community that already collaborates well together and share a vision and a strategic research agenda;
 - ✓ Enables the funding of an ambitious programme with an EC contribution between 50-70%.

EJP as a reference for the JOPRAD project

- Within the JOPRAD project:
 - ✓ We will propose the legal scheme of an EJP (CA);
 - ✓ We will propose a governance scheme.
- The legal form of an EJP provides:
 - ✓ A unique and stable legal frame for all the Activities and for the duration of 5 (+1) year;
 - ✓ Possibility to implement large breadth of well defined activities in response to strategic needs for countries whatever the stage of development of their National programme;
 - ✓ Flexibility in the management of the activities (adjustments of scope and budget on an annual basis).

- JOPRAD Project succeeded in attracting R&D organisations from 22 countries (18 at Mid-Term Workshop):
 - ✓ 3 ministries attended the Mid-Term Workshop.
- 49 scientific organisations participated in the definition of the programme:
 - ✓ Strong link with existing groups (IGD-TP/Sitex).
- Strong support of EC through JRC and DG-RTD.
- Strong participation of Civil Society organisations (approx. 30 at CS WG meeting).