

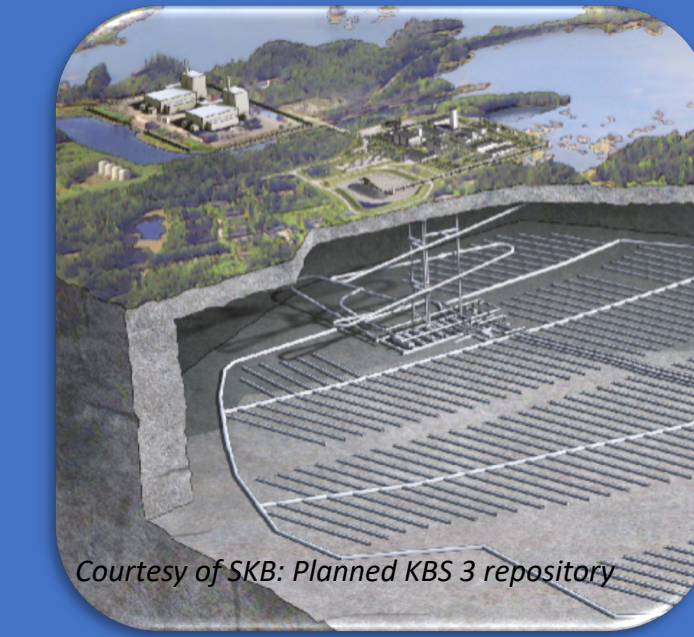
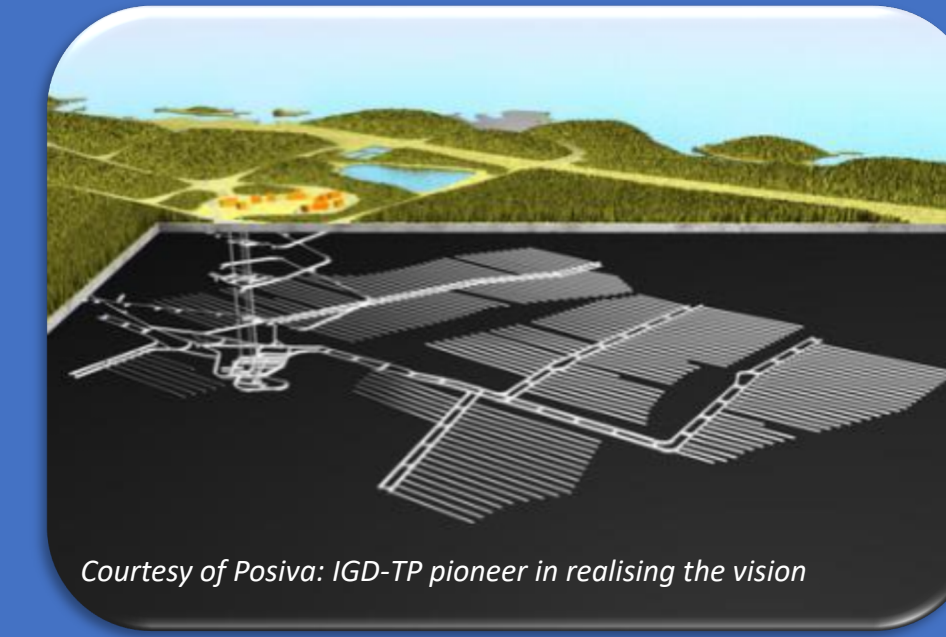
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Our Vision: By 2025, the first geological disposal facilities for spent fuel, high-level waste and other long-lived radioactive waste will be operating safely in Europe

Our commitment is to:

- build confidence in the safety of geological disposal solutions among European citizens and decision-makers;
- encourage the establishment of waste management programmes that integrate geological disposal as the accepted option for the safe long-term management of long-lived and/or high-level waste;
- facilitate access to expertise and technology and maintain competences in the field of geological disposal for the benefit of European Member States.



10 years ago...

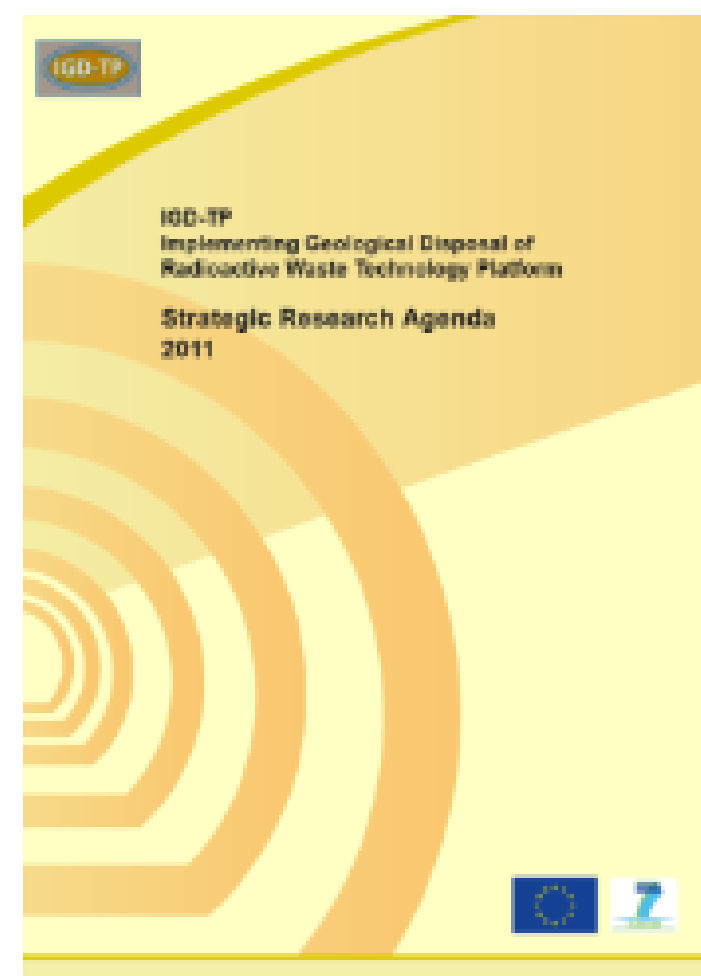
- A group of European WMOs established the Implementing Geological Disposal of Radioactive Waste Technology Platform (IGD-TP) to initiate and perform joint activities in Europe to facilitate the stepwise implementation of safe, deep geological disposal of spent fuel, high-level waste and other long-lived radioactive waste.
- The major aim of the IGD-TP is to coordinate RD&D work to help ensure the realisation of our vision to have the first geological disposal facilities (GDF) for spent fuel, high-level waste and other long-lived radioactive waste in operation by 2025.



The IGD-TP intends:

- to enhance confidence in the solutions and implementation of geological disposal,
- to reduce overlapping work, to produce savings in the total cost of RD&D,
- and to make better use of existing competences and research infrastructures.

Strategic Research Agenda (SRA 2011) to identifying the main RD&D issues that need a co-ordinated effort



Research areas and cross-cutting activities identified:

- Key Topic 1: Post-closure Safety Case
- Key Topic 2: Understanding the Wastes
- Key Topic 3: Technical Feasibility and Long-Term Performance
- Key Topic 4: Implementation and optimization
- Key Topic 5: Construction and Operational Safety
- Key Topic 6: Monitoring
- Cross-cutting Topic: Education and Training
- Cross-cutting Topic: Knowledge Management

Major achievements

How it developed since 2009

- Initially established with the financial support of the European Commission, the IGD-TP is now funded by the 11 European WMOs and organisations responsible for implementation-related RD&D programmes that form the Executive Group (EG).
- Re-visit the vision of the IGD-TP in 2019...
- Posiva plans to submit its operation licence in 2020, operation expected to follow in the years after;
- SKB submitted its construction licence in 2011;
- Andra to follow in 2020

Focus, Structure and Activities

- Technical/scientific focus on deep geological disposal (and radwaste management), structured in joint research activities
- There are currently about 120 different member organisations and over 600 individual members involved in joint activities.
- Exchange Forums, Newsletters, Knowledge sharing, EURATOM research involvement

WMO's directly established common research needs and ensure safety case needs alignment in the frame of the EURATOM* programs

- ☐ Spent fuel
- ☐ Waste form
- ☐ Buffers, backfill, host rock
- ☐ RN's, colloids microbes
- ☐ Large scale demonstration
- ☐ Monitoring
- ☐ Modelling tools
- ☐ Networking studies

☐ FP7 (2009-2013): 9 projects, (~61M€/28M€ EC funding)

- PEBS (Clay based EBS),
- MODERN (GDF monitoring),
- FIRST-Nuclides (SF instant release)
- REDUPP (PA for SF dissolution)
- DOPAS (Plug and Seal demo)
- LUCOEX (in-situ disposal concept demo)
- BELBaR (Clay colloids)
- Sec IGD-TP (Secretariat project)
- CAST (Carbon 14 source term)

☐ H2020 (2014-2015): 4 further projects, (~21M€/15M€ EC funding)

- MODERN 2020 (GDF monitoring, phase 2)
- CEBAMA (Cement evolution)
- MIND (Influence of microbes)
- JOPRAD (Towards joint programming)

☐ H2020 (2016-2017): 4 more projects (~16M€ EC funding):

- THERAMIN (Thermal treatment of waste)
- BEACON (Bentonite evolution)
- DISCO (Modern SF in container dissolution)
- CHANCE (Characterization of waste)

IGD-TP and its connections to EURATOM

- For 40+ yrs, EC has funded underpinning science supporting progress towards geological disposal licensing
- Calls in radwaste typically comprised ~30M€ EC funding (60M€ total project costs) over 2+2 yr periods and across ~8 projects. Typical total project cost ~5M€.

Reasons for IGD-TP involvement

- Speak with one implementers voice and address existing common research needs as documented in IGD-TP SRA
- Develop capability and excellence of WMOs and individuals involved
- Engage international supply chain and academics in topics of WMO interest

*EC funded research platform

The next decade

..to come

- Recently the European Commission (EC) called for a 'step change' in RD&D cooperation involving all parties. To achieve this, a European Joint Programme (EJP) on Radioactive Waste Management, founded on agreed common objectives, was proposed.
- The IGD-TP is fully supportive of the EURAD* Joint Programme. EURAD will address a range of important WMO needs, but not all of them. The IGD-TP EG will therefore co-ordinate and develop collaborative research activities and deliver them in parallel to EURAD involvement.
- The IGD-TP EG has offered to co-ordinate the views of mandated WMOs within the WMO College, so WMOs can speak with one unified implementer's voice.
- To achieve this the IGD-TP will adapt and evolve as we move into our second decade. We have been openly engaging on this issue for over a year and have now developed an appropriate role within and outside of the EURAD EJP.
- This process will result in an update of our vision, to be announced at our 10 year anniversary in November 2019 and the publication of the second version of the IGD-SRA soon after.

Overview of proposed EURAD governance structure (IGD-TP input highlighted in red)

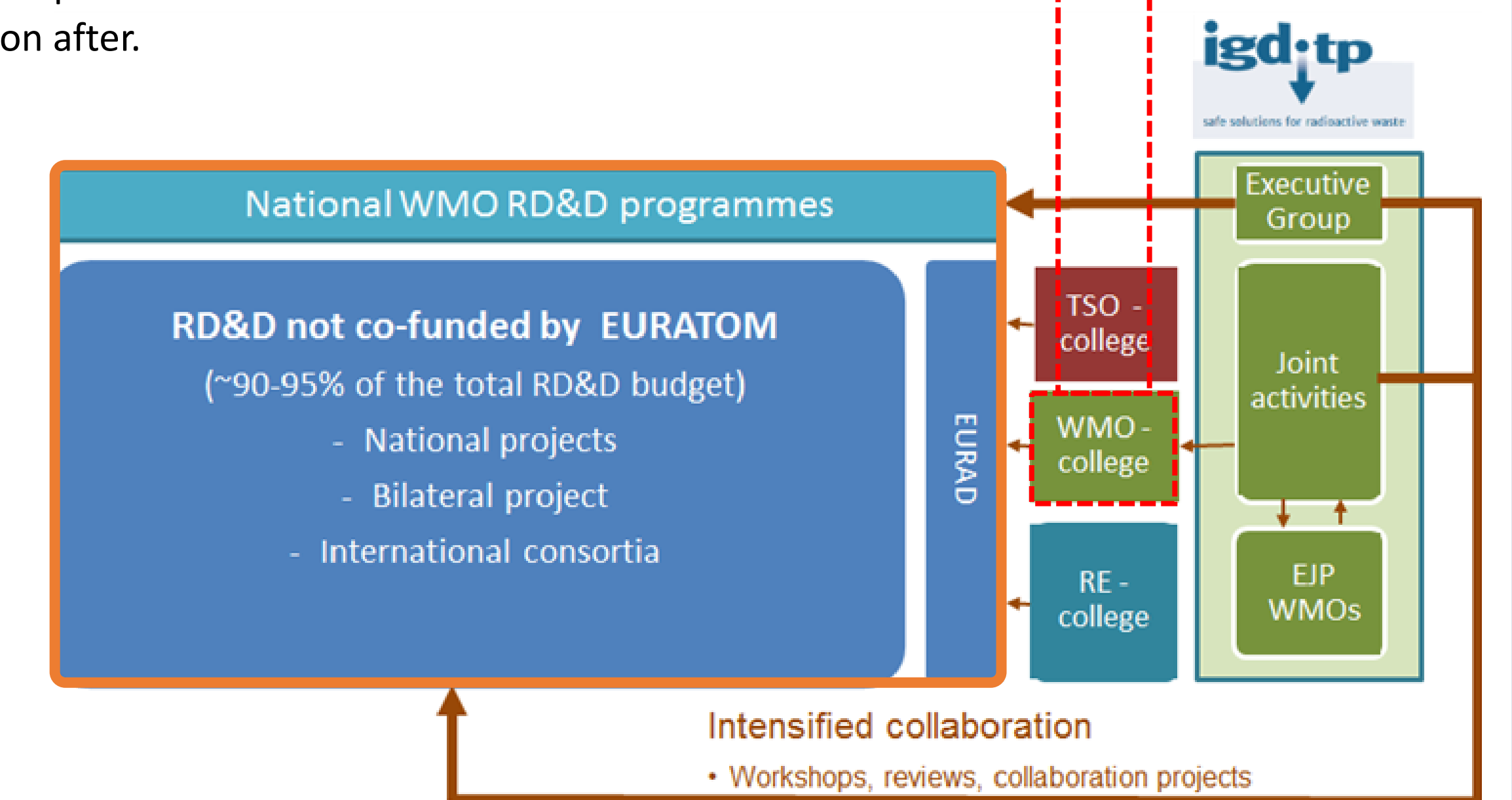
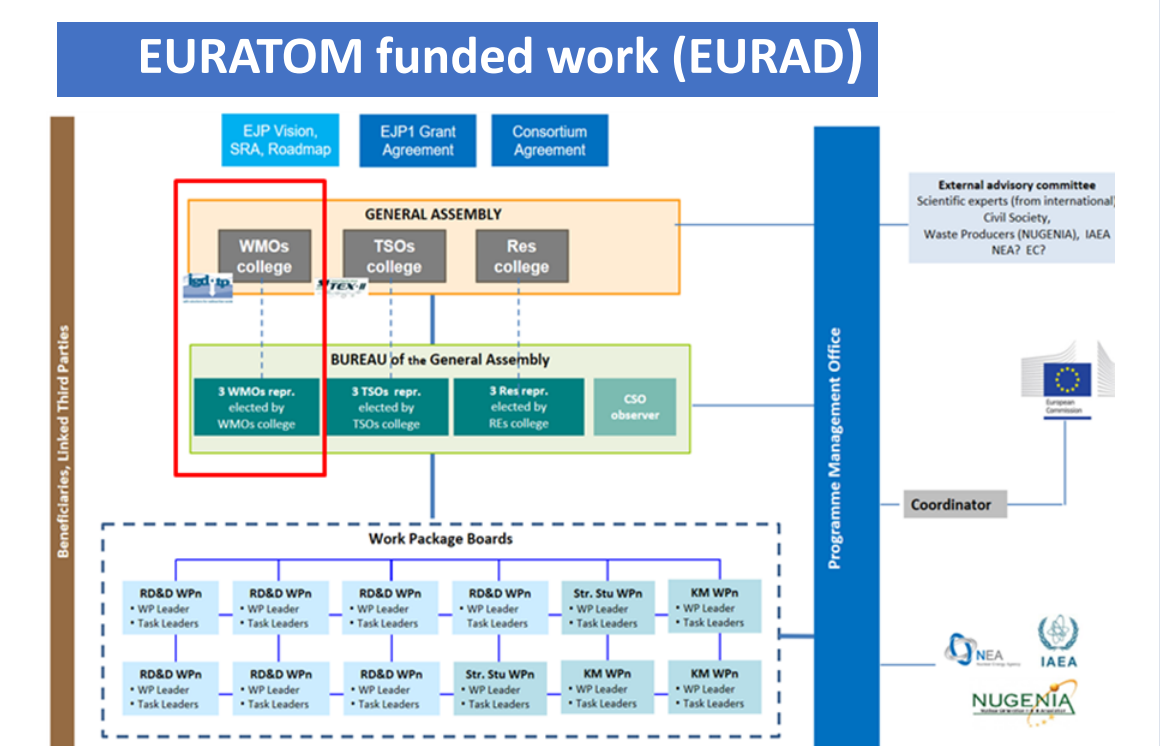


Illustration of how the IGD-TP inputs to European RD&D programmes (both EURATOM and non-EURATOM funded activities)

*European Joint Programme on Radioactive Waste Management



For further information on the activities of the IGD-TP and on how to join the IGD-TP, visit our new website: www.igdtp.eu or contact secretariat@igdtp.eu

