



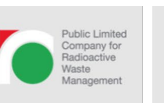
# EURADWASTE '19

9<sup>th</sup> European Commission Conference on EURATOM Research and Training in Radioactive Waste Management

4-7 June 2019  
Pitesti, Romania

## Implementing Geological Disposal of Radioactive Waste Technology Platform - IGD-TP Evolving into our second decade

R. Winsley, J. Martin, I. Blechschmidt and I. Gaus



## 10 years ago (2009)...

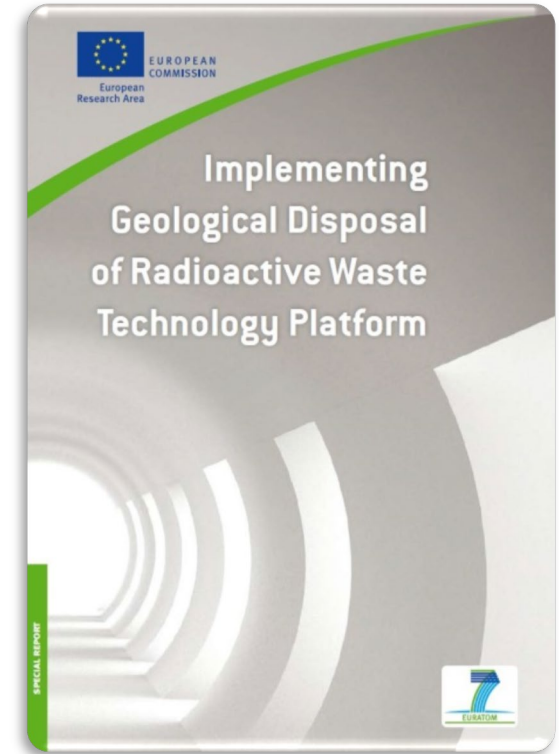
- a group of European WMOs established the IGD-TP to co-ordinate joint activities in Europe to facilitate stepwise implementation of safe, geological disposal of spent fuel, high-level waste and other long-lived radioactive waste
- one of the major IGD-TP aims is to coordinate RD&D work to help ensure 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’ (Vision 2025)***



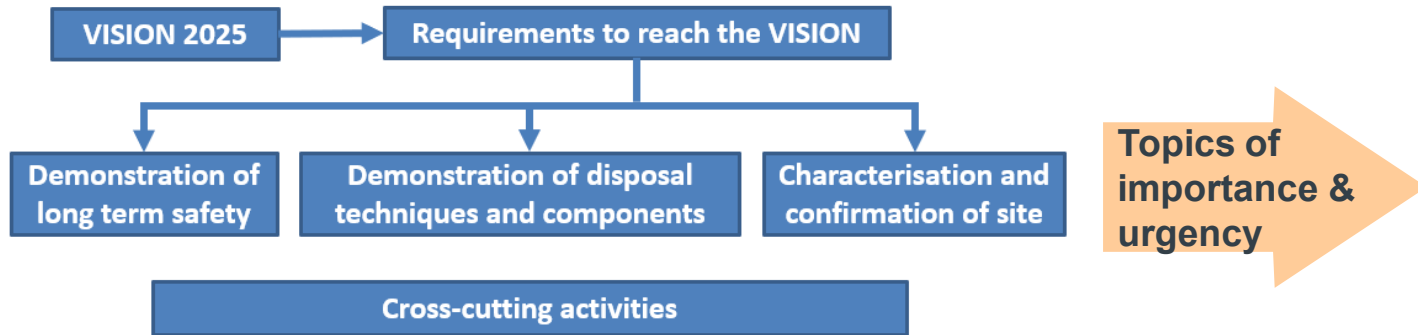
## IGD-TP WMO's committed to:

- building confidence in the safety of geological disposal solutions among European citizens and decision-makers
- encouraging the establishment of waste management programmes that integrate geological disposal as the internationally accepted solution for the safe long-term management of long-lived and/or high-level waste
- facilitating access to expertise and facilities, and maintain competences in the field of geological disposal



# SRA 2011 highlighted main WMO RD&D needs

- Identified main RD&D issues that needed a coordinated effort in order to realise our 'Vision 2025'
- Also provided valuable input to identifying topics for future EURATOM calls
- Comprised 7 key topics and various cross cutting activities



# IGD-TP/SRA helped to define and direct EURATOM Framework calls

- Spent fuel
- Wasteform
- Buffers, backfill, host rock
- RNs, colloids, microbes
- Large-scale demonstration
- Monitoring
- Modelling tools
- Networking studies

- *FP7 (2009-2013): 9 projects, (~61M€/28M€ EC)*
- *H2020 (2014-2015): 4 further projects (~21M€/15M€ EC)*
- *H2020 (2016-2017): 4 more projects (~16M€ EC)*

***17 projects, ~€100M***



# Progress towards implementation

- Initially established with the financial support from the EC. IGD-TP is now funded by 11 European WMOs and organisations responsible for implementation-related RD&D that form the **IGD-TP Executive Group (EG)**
- **Posiva** has a construction license and plans to submit its operation licence application in **2020**; **SKB** submitted its construction licence application in **2011**; Andra expects to follow in **2020**



Moving closer to realising our vision 2025!

# Evolution of the IGD-TP: 2009 to today

- Despite significant steps forward, sustained RD&D is still needed to ensure that all countries (at various stages of advancement) continue to progress towards implementation
- IGD-TP remains a technical/scientific group focused on deep geological disposal (but adding wider radioactive waste management interests to expand WMO coverage)
- 120+ member organisations / 600+ individual members
- Historically, primary focus has been steering EURATOM RD&D, but we want to broaden our remit to include both EURATOM and non EURATOM RD&D activities



The image shows the cover of the IGD-TP Newsletter, Issue #7, July 2018. The cover features a photograph of a large industrial facility, likely a radioactive waste disposal site, with the IGD-TP logo and the tagline 'safe solutions for radioactive waste'. Below the cover, a table of contents lists various sections and their page numbers:

Section	Page
Editorial	1
News & Activities	2
National update – Sweden	3
National update – Germany	3
Project news	3
JORPARD and the EIP	5
Exchange Forum 8	7
Ongoing Technical Projects	9
CEMRA	10
Molten2020	10
Meeting Announcements	12

Below the table of contents, there is a preview of the newsletter's content, including an editorial by the Chair of the IGD-TP, a table of contents, and a list of news and activities. The preview also includes a photograph of Jan Martin, the IGD-TP Chair, and a section titled 'Welcome to our geological disposal research website'.

## Recently...

- The EC called for a ‘step change’ in RD&D cooperation involving all parties. To achieve this, a European Joint Programme (EJP, called “EURAD”) on Radioactive Waste Management, founded on agreed common objectives, was proposed (more on this from M. Garcia later)
- The IGD-TP is fully supportive of EURAD. However, important to recognise that WMO RD&D programmes have a much wider scope of activities than the commonly-agreed EURAD strategic research agenda will address

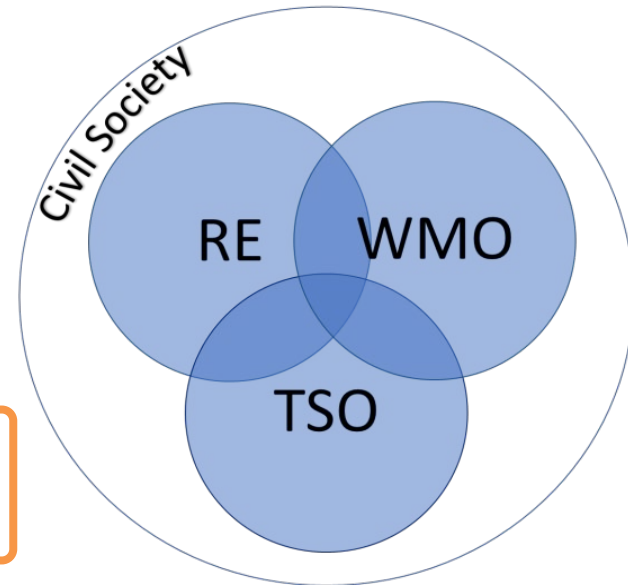


## IGD-TP activities outside of EURAD

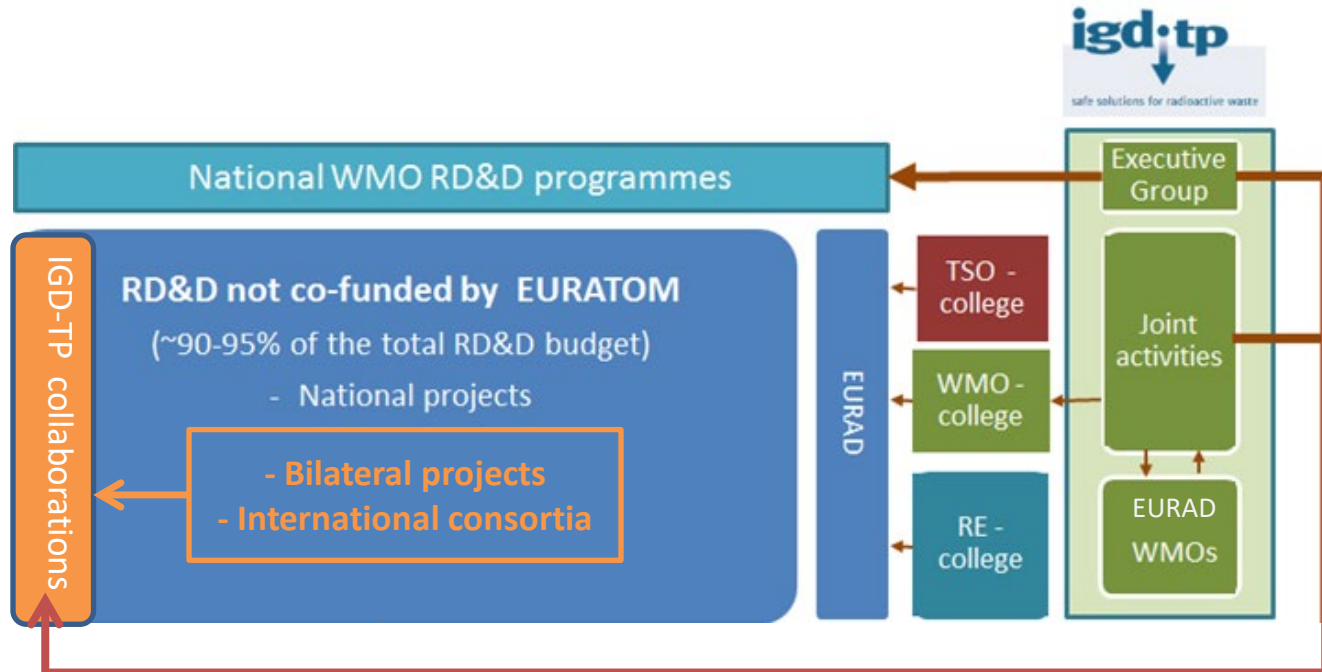
- Figure illustrates distribution of RD&D needs and highlights areas of common interest for Joint Programming. Also shows the significant RD&D areas that joint programming will not address. This could be because:
  - scope means it is inappropriate to collaborate with regulatory bodies
  - topic area and scope did not gain consensus with other EURAD actor groups
  - work is of WMO interest/significance, but not deemed to be sufficiently 'cutting edge science'

Two key IGD-TP focuses:

- 1) Collaborative work on WMO interests outside of EURAD
- 2) Co-ordinating WMO interests within EURAD

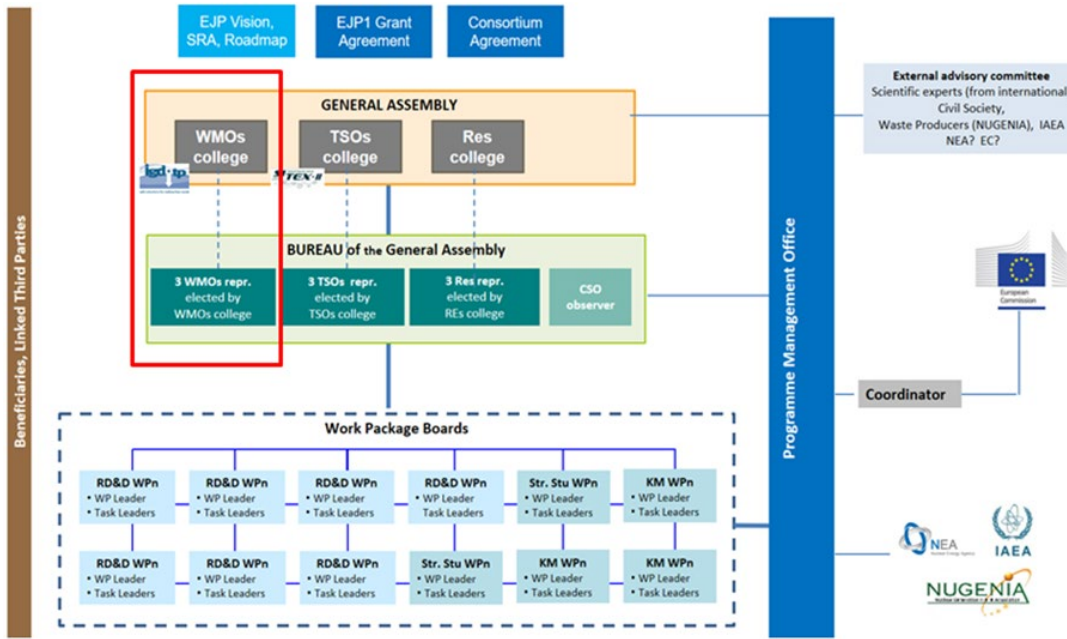


# Proposed new IGD-TP operating model:



Intensified WMO collaboration: workshops, reviews, collaboration projects

# IGD-TP input within EURAD



- Overview of EURAD governance structure
- IGD-TP involvement highlighted in red

IGD-TP Executive Group will represent the WMO College in EURAD and has evolved to be inclusive of all WMOs mandated within EURAD

# Conclusions

- The IGD-TP coordinates joint WMO RD&D interests both within and outside of EURAD
- Focus remains on geological disposal, but we have expand our remit to also accommodate more upstream interests and a wider inventory coverage (e.g. sealed sources and borehole disposal).
- We aim to enhance coordination of relevant scope in national WMO RD&D programmes
  - Identify and pursue WMO multilateral/bilateral projects /peer review and knowledge sharing within the WMO community outside of EURAD
- Continue to communicate the implementers RD&D requirements to society and our members
- Strong focus remains on the ultimate goal of the RD&D -> realising safe geological disposal in Europe (if one of us succeeds we all benefit)

## Look ahead

- Major progress has been made towards achieving our Vision 2025
- In order to meet the challenges of the next phase we are in the process of updating the groups vision
- The new vision needs to consider the next step towards **industrialisation** of radioactive waste disposal in Europe. The focus should lie on the **safe operation** of the first geological disposal facilities in Europe, the **required optimisation** and the development of **individual solutions** to meet the requirements of the diverse range of waste inventories
- An update of our vision will be announced at our 10 year anniversary in November 2019
- Our revised vision will be followed by the publication of the second version of the IGD-TP strategic research agenda in 2020



<https://igdtp.eu/>  
[Secretariat@igdtp.eu](mailto:Secretariat@igdtp.eu)

thank you for your attention



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9<sup>th</sup> European Commission Conference on EURATOM Research and Training in Safety of Reactor Systems  
Pitesti, Romania, 4-7 June 2019