



# PREDIS

## Welcome to Digital Twins in Radwaste Webinar 16 February 2022

**THE WEBINAR WILL START AT 13:05 (CET)**

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- **PLEASE KEEP YOUR MICROPHONE MUTED AND TURN OFF YOUR CAMERA**
- **WELCOME TO GIVE COMMENTS AND QUESTIONS THROUGH CHAT**
- **WEBINAR MAIN PRESENTATIONS WILL BE RECORDED**



This project has received funding from the Euratom research and training programme 2019-2020 under grant agreement No 945098.

## General webinar guidance

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- Webinars objectives: dissemination, industry engagement, training, feedback to technical work
- We will use in-meeting polls on a variety of topics, to gain more feedback (links at [www.menti.com](http://www.menti.com) )
- You can give your response to the first poll now: <https://www.menti.com/cz6z5h2qj9>
  - Additional poll links will be provided in the chat throughout the sessions.
- We will use “break out rooms” for discussions in the 2<sup>nd</sup> half of the webinar. You will be guided to the rooms automatically in TEAMS.
- Moderator video appears as “1-minute remaining” to speakers

## AGENDA FOR TODAY

- 13:00–13:15 Welcome & Introduction (Erika Holt, VTT and Louise Theodon, ANDRA)
- 13:15–13:30 Examples and opportunities for digital twins in the nuclear back-end (István Szőke, IFE)
- 13:30–13:45 Digital twins in PREDIS (Dan Miron, PSI)
- 13:45–14:05 Digital twins in EURAD  
–DONUT on numerical modelling of coupled processes (Francis Claret, BRGM)  
–ACED on chemical evolution of disposal cells (Diederik Jacques, SCK CEN)  
–HITEC on influence of high temperature on clay behaviour (Markus Olin, VTT)  
–MODATS on repository monitoring (Johan Bertrand, ANDRA)  
–FUTURE on radionuclide retention (Sergey Churakov, PSI)
- 14:05–14:10 *break*
- 14:10–14:25 Digital twins in construction (Dag Fjeld Edvardsen, Catenda)
- 14:25–14:40 Using inventory twins to enable virtual planning of decommissioning (Katja Sipilä, Sweco)
- 14:40–14:55 Digital twins in support of dismantling projects (Arnaud Duchene, Tractebel)
- 14:55–15:10 From BIM towards a 4D digital twin of Cigeo repository in support of the operational phase: issues, needs and work in progress (Guillaume Pepin, ANDRA)

15:15 to 15:50 – Breakout room discussions

15:50 to 16:00 – Summary

### Other Notes:

- Webinars continue in thur 2022, follow PREDIS web page
- “Save the Date” for PREDIS public workshop – scheduled for 25-27 April 2022 in Berlin, Germany (BAM hosting)

# PRE-DISPOSAL MANAGEMENT OF RADIOACTIVE WASTE



47 partners  
17 countries  
25 End User Group members



Total budget 23.7 M€  
EC contribution of 14 M€



**Aim: Identify, develop and improve innovative technologies in pre-disposal radioactive waste management**



4 years  
Started Sept 2020



Endorsement and close interaction with SNETP-Nugenia, IGD-TP, IAEA, NEA, EURAD

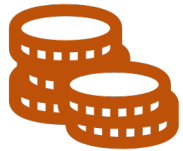


Detailed info:  
<https://predis-h2020.eu/>

# European Joint Programme on Radioactive Waste Management (EURAD)



5 years  
2019-2024



59,9 M€  
50 %EC contribution



116  
organisations



17  
work packages

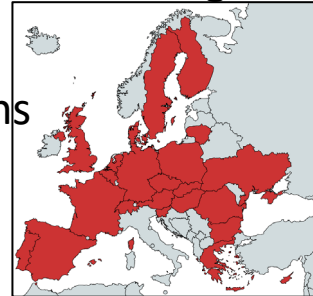
*“A step change in European collaboration towards safe radioactive waste management, including disposal, through the development of a robust and sustained science, technology and knowledge management programme that supports timely implementation of RWM activities and serves to foster mutual understanding and trust between Joint Programme participants.”*

## Objectives :

- Implement a robust and sustained state-of-the-art **Science and Technology Programme**
- Identify and elaborate upon complex issues by bringing together interested actors to jointly conduct **Strategic Studies**
- Consolidate efforts across Member-States, organisations and generations on **Knowledge Management**
- Foster **mutual understanding** and **trust** between participants (incl. from Civil Society) and other stakeholders

Ministries from 23 European countries recognising their role of directing RD&D at the national level, provided mandates to **51 organisations** acting as Beneficiary within EURAD:

- Waste Management Organisations
- Technical Support Organisations
- Research Entities
- ... with **62 linked third parties** & **3 international partners** also participating



Coordination : Andra

Website : <https://www.ejp-eurad.eu/>



European Joint Programme on  
Radioactive Waste Management



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eurad

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## **Coffee / Stretch Break Resume at 14.10 CET**



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## Breakout Rooms for Discussion

## General guidance for discussion - Moderated

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- Please keep your camera ON
- Keep your microphone muted when not talking
- Welcome to give comments and Questions through chat
- Be active - it is important to us to hear industry/stakeholder comments, suggestions, ideas, needs
- Openly give your comments and answer questions posed in the chat. You can react to the chat comments by 'thumbs up'/'smileys'
- Raise your virtual "hand" to speak/share
- Try to limit comments to max 30-60 seconds, so that as many people as possible have time to comment and we can cover several questions
- You will be automatically moved back to the main "room" after ~ 30 minutes



# **BREAKOUT ROOMS DISCUSSION POINTS**

**(random distribution of participants)**

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- What are the opportunities for digital twin technologies in the radioactive waste domain?
- What are the challenges for adoption of digital twin technologies?
- How can EURAD/PREDIS best assist successful deployment of digital twin technologies?

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**Coffee / Stretch Break**  
**Resume at 15.20 CET**  
*(you will be moved automatically to  
break-out room discussions)*



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# Breakout Room Summaries by Moderators



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## Concluding Remarks

Please provide feedback <https://www.lyyti.fi/questions/5d07b2b49d>