



LESSONS LEARNED OF KNOWLEDGE MANAGEMENT ACTIVITIES IN EURAD AND PREDIS

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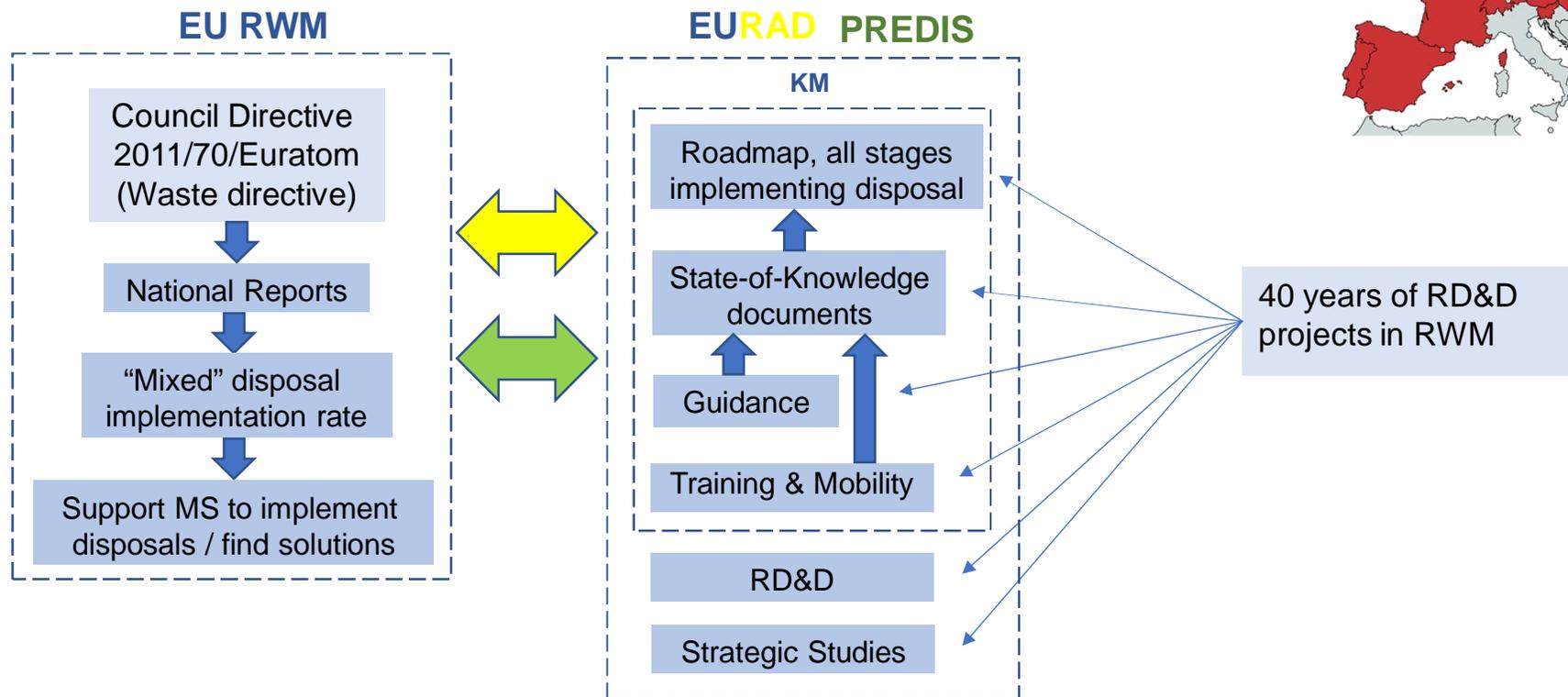
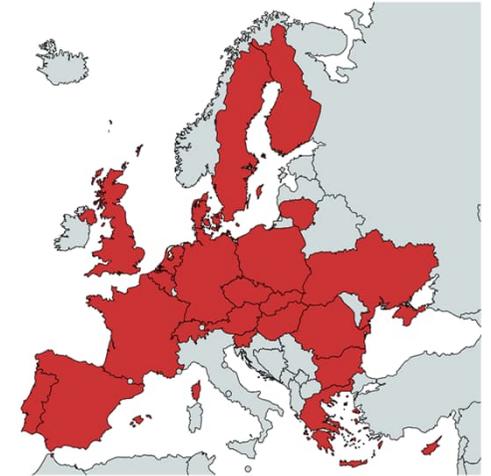
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CONTENT (ID395)

- EURAD/PREDIS and EU Radioactive Waste Management
- Conditions
- Knowledge Management (KM) objectives and structures
- Tools and processes
- Roadmap and State-of-Knowledge (SoK) documents
- Key achievements in EURAD and PREDIS
- Lessons learned from perspective of:
 - SoK production, training, mobility, guidance
 - as programme

EURAD/PREDIS and EU RWM



CONDITIONS

Boundaries

- First of a kind Joint European Programming in RWM and with a specific KM programme
- Contextualised by the EURAD Roadmap (to implement any type of RW disposal) and the Strategic Research Agenda
- Programmes are end-users driven and feedback looped
- 4-5 year programmes

Resources

- All RWM actors involved: Waste Management Organisations incl. waste generators, Technical Support Organisations repres. regulators, Research Entities, Civil Society
- Access to top-level of experts within the programmes or the associated organisations (EURAD 950 + PREDIS 250)
- Budget (60 + 23 M€), 7-8% on KM
- 140+ students

OBJECTIVES

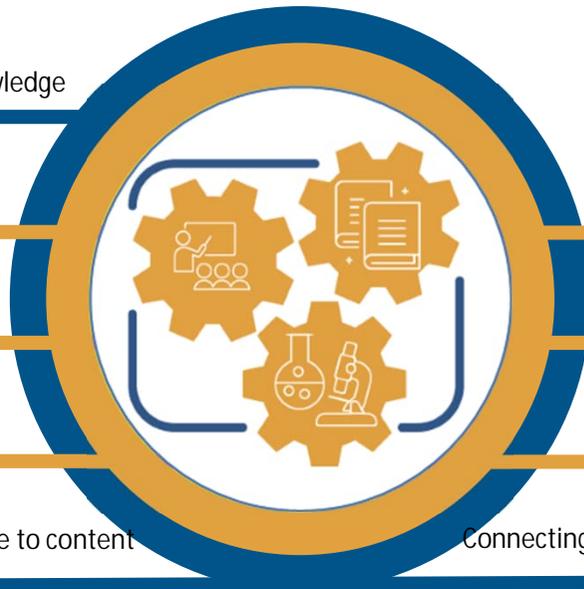
Enhance knowledge management and transfer between organisations, Member-States and generations:

- Preservation/capitalisation of generated knowledge – Make sure that the publicly financed knowledge generated over the past, ongoing and future RD&D activities is preserved and kept accessible
- Transfer of knowledge from advanced to early-stage RWM programmes – Make sure that Member-States with National Programmes at an early-stage of implementation can take advantage of existing knowledge and know-how from the Member-States with advanced National Programmes, to access state of the art, and to ease access to knowledge developed during previous EC supported RD&D projects
- Transfer of knowledge between generations – Ensure that the necessary expertise and skills are maintained through generations of experts in view of the long lead-times and operational time-spans (several decades) for RWM, including disposal, by providing training and mobility for researchers
- Dissemination of knowledge – Disseminate and demonstrate progress, results and added-value of the European Joint Programme to a wider audience

STRUCTURES

Knowledge management in EURAD

- Roadmap
A common framework to structure knowledge
- State of Knowledge
What we know and why its important
- Guidance
Best practice and lessons learned
- Training & Mobility
Nuclear experience and know-how
- Networking & Tools
Connecting people to people, and people to content



Knowledge management in PREDIS

- State of Knowledge
What we know and why its important
- Training
Nuclear experience and know-how
- Mobility
Nuclear experience and know-how
- Networking & Tools
Connecting people to people, and people to content

TOOLS AND PROCESSES

- Roadmap giving the context
- Knowledge Management and Networking Programme:
 - Centered around Roadmap and needed competences the individual cornerstones; contextual insight (as State-of-Knowledge documents), guidance, training and access to infrastructures (mobility) oriented to the needs of future users;
 - describes the dependence and interactions between EURAD RD&D, Strategic Studies and KM WPs;
 - interactions/feedback with RWM end-users to guide the knowledge production;
 - it outlines the importance of EURADs' collaboration and networking with national RWM communities, ongoing projects as well as with international organisations, such as IAEA and OECD/NEA;
 - addresses future challenges and risks, as well as defines the success criteria's, and
- Surveys (questionnaires, polls) and interviews to identify end-users (WMO, TSO, RE, students) needs and their capabilities (input to KM)
- Surveyed existing knowledge (trainings/courses, guidance, State-of-Knowledge documentations, research infrastructures) available in Europe (including EC programmes and IAEA or OECD/NEA)
- Gap analysis by comparing needs and available KM activities
- Prioritisation gave the most needed and cost effective KM activity
 - => base for a KM programme to execute

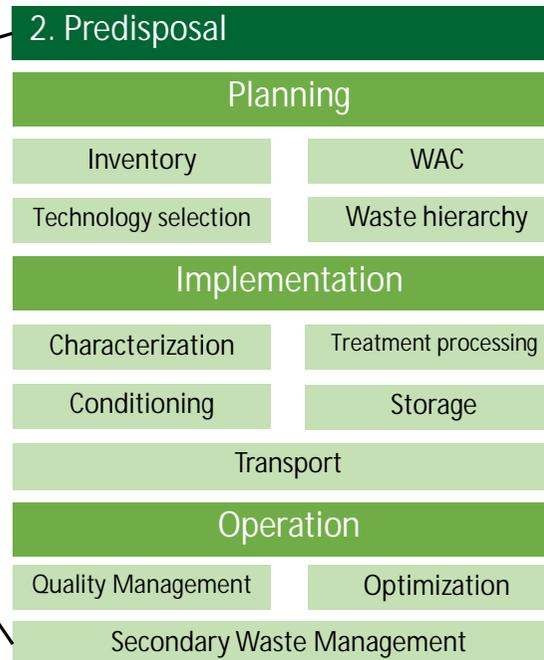
ROADMAP STRUCTURE

EURAD Themes

- 1. Programme Management
- 2. Pre-disposal
- 3. Engineered Barrier Systems
- 4. Geoscience
- 5. Design & Optimization
- 6. Siting & Licensing
- 7. Safety Case

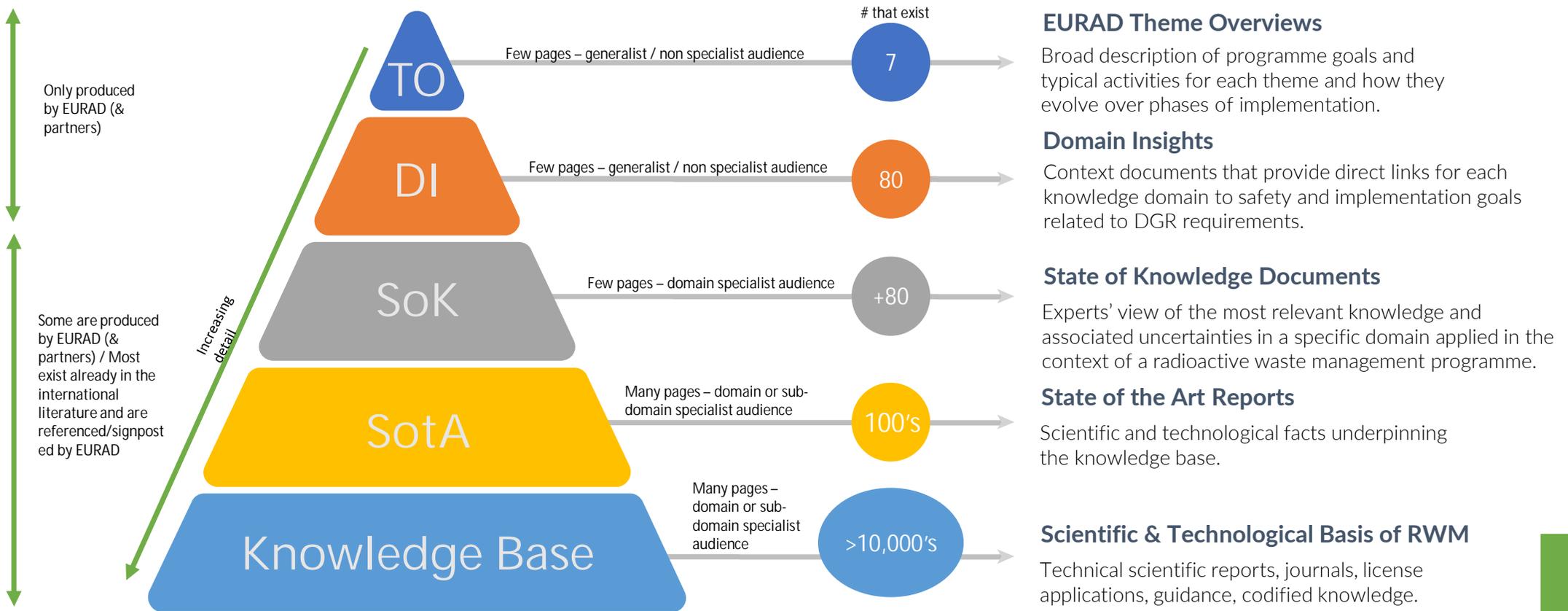
<https://www.ejp-eurad.eu/roadmap>

PREDIS Theme



<https://predis-h2020.eu/roadmap-and-e-learning-material/>

STATE-OF-KNOWLEDGE (SOK) DOCUMENTS (POPULATING ROADMAP)



KEY ACHIEVEMENTS IN EURAD AND PREDIS

ACTIVITIES	EURAD (KPI)	PREDIS (KPI)
Programme duration	5 year	4 year
Involvement of knowledge providers	IAEA, OECD/NEA	SNETP, IAEA, OECD/NEA
Generic Roadmap for implementation of RW disposal (goal break-down structure: themes and domains)	Themes 1, 3-7	Theme 2 on pre-disposal activities
Experts engagement for SoK document production	Internal/external to EURAD	Internal (PREDIS partners)
Number of Theme Overview documents	6(6)	1(1)
Number of Domain Insights documents	>40 (80)	12(12)
Number of State-of-Knowledge documents (level below Domain Insights documents)	2(2); Spent Nuclear Fuel and HLW and SF Containers	--
Number of SoKs downloaded (where measurable)	>500	
Number of webinars (e.g. Lunch & Learn)	31 (>500 views)	19 (>1000 views)
Number of PhD and MSc students	105	51 (>15)
No. of trainings	16	8 (>6)
No. of mobilities	98	65 (>20)
PhD students targeted events	5	5

LESSONS LEARNED FROM KM WPS

Roadmap and SoK:

- Experts with the requirements (have-made-it-self and recognised in the field) are difficult to identify and engage (busy)
- Takes time to produce a high-quality State-of-Knowledge document (4-12 months)

Training and mobility

- Need to survey end-users needs and make gap analysis.
- Mobility was very well used in both programmes, despite different strategies: in PREDIS students only, while EURAD made a step-wise opening of mobility, until anybody in the RWM community could apply
- Webinars are a necessity to widen the partners RWM view past the programme

Guidance

- National RWM programmes must to be surveyed to identify critical guidance needs
- Involvement of MSs organisations; (i) in the setup, (ii) presentations from an advanced programme (that has been directly involved in the subject), (iii) iterative learning process
- Dividing the participants in early, middle and advanced programmes forming interactive groups
- Based on the trainings/workshops/discussion produce jointly the guidance document

LESSONS LEARNED AS PROGRAMME

A successful KM programme needs:

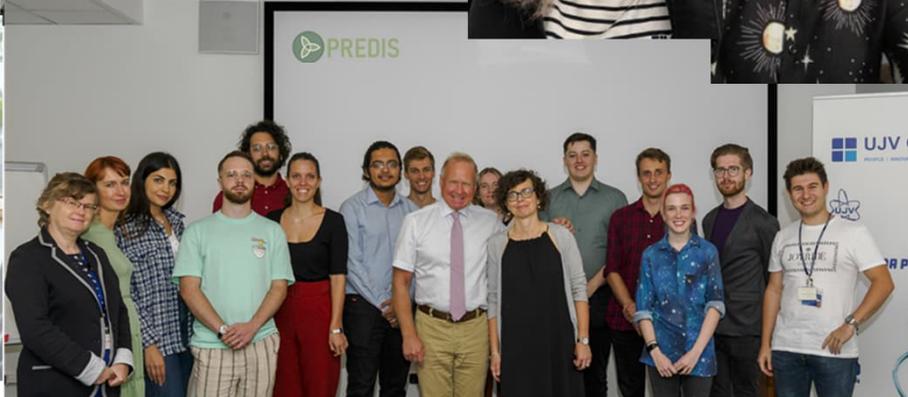
- KM strategy and a programme that is embraced by all programme participants;
- Full and sincere engagement on practically all levels (European Commission, Bureau, Programme Management Office, External Advisory Board, Work Package (WP) leaders and task leaders as well as support from end-users and stakeholders) to KM activities;
- Access to subject-matter expertise (both programme internal and external);
- Sufficient budget (not only for the KM WP, but also budget to engage top-level experts for State-of-Knowledge document production, guidance and training activities);
- Knowledgeable and flexible KM leaders that takes own initiatives and tests new methods/activities, thus developing and enlarging the KM activities;
- Coordination with other knowledge providers (IAEA and OECD/NEA);
- Student engagement in the KM programme and its development;
- Dissemination and socialising the R&D, Strategic Studies and KM outcomes/deliverables are not the end point of a joint programme, but rather the knowledge and networking /Community of Practices (CoP) formed during the programme and the joint/mutual increased knowledge base.

BEYOND EURAD AND PREDIS?

- EURAD and PREDIS will merge and become EURAD-2
- EURAD-2 starts 1 October 2024
- Information about EURAD-2:
 - [Publications | Eurad \(ejp-eurad.eu\)](http://ejp-eurad.eu)
 - [Publications and reports - EU-project PREDIS \(predis-h2020.eu\)](http://predis-h2020.eu)

It cannot be enough stressed that: a successful future programme and useful knowledge management for the coming generations depends on a strong end-user engagement and a long-term commitment!

THE YOUNG GENERATION!





QUESTIONS?

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