



PREDIS

PREDIS CASE STUDIES

Transferring knowledge of new LILW predisposal practices

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AND HUMAN RESOURCES DEVELOPMENT

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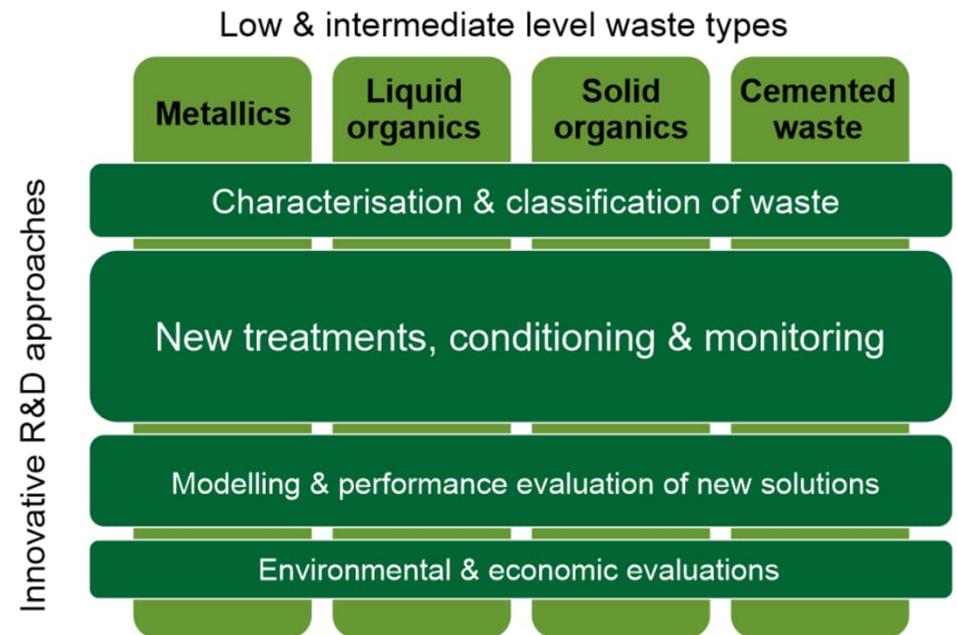
Content of presentation

1. PREDIS project overview
2. Drive for PREDIS Case Studies, within KM activities
3. Overall on PREDIS Case Studies
4. PREDIS Case Study Topics
5. Structure and example of PREDIS Case Studies
6. Summary



PREDIS-project Overview

- Collaborative project within EC's Euratom program
- Developing and implementing improved predisposal treatment of LILW streams
 - Characterisation, Treatment, Storage, WAC, LCA/LCC...
 - Metallic, liquid- and solid organic, cemented waste



PREDIS in nutshell – status from spring 2024

Contributions (- RP2)



1561+ person months
449 persons (37 % female,
63 % male)

Outcomes



48 milestones
- 8 to be produced
33 deliverables
- 33 to be produced

Website



> 4300 users
> 9600 sessions
> 24500 pageviews

Publications



30+ Scientific articles
100+ Conference presentations
1 Position paper
7 Newsletters
Newsletter #8 out in summer 2024

Webinars



19 organised
> 450 individual participants
41 countries
4 open workshops
Webinars/trainings to come

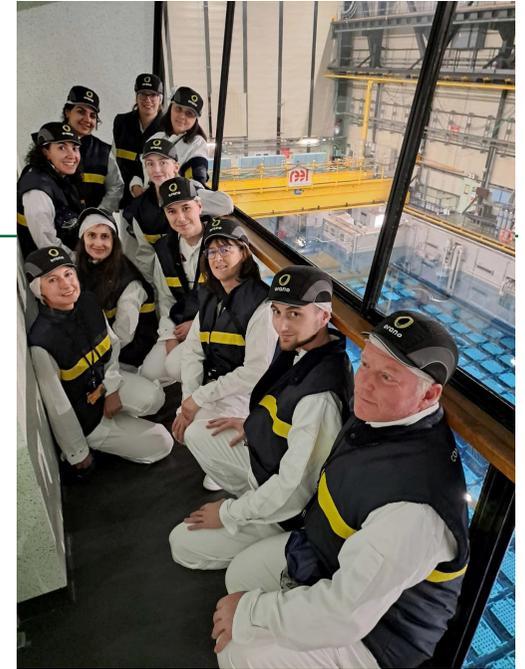
Collaboration



4 MoUs signed
1 Joint statement
Coop with
international bodies

Drive for PREDIS Case Studies

- Vital to communicate results and their impact to stakeholders and end-user group
 - Power plant operators, radioactive waste producers and legacy waste owners, waste management organisations
 - New operators and Member States, who seek guidance on best-practices
- IAEA developed case studies to share effective practices in nuclear waste management, as part of IAEA Wiki
 - Target is to append IAEA documentation with PREDIS Case Studies



Recent

- AutomatedOperationsConfiguratio
n
- ConnectNetworks
- Topics
- Icons
- Webinar Videos

Tasks

Calendar

Pages

IDN

IDN Wiki Introduction

The IAEA Nuclear Wiki is based on MediaWiki software, that is, it works like Wikipedia, and it is maintained by several of the IAEA's international Networks, including the [International Decommissioning Network \(IDN\)](#) on the [IAEA CONNECT platform](#). It has been established to enhance cooperation between those involved in decommissioning of nuclear facilities of all types around the world. Users comprise relevant stakeholders, inter alia:

- Site licence holders
- Waste management organizations
- Supervisory authorities (ministries, regulators, environmental authorities, etc.) and their technical support organizations
- Universities and research organizations
- Supply chain companies

How does the Wiki work?

Browsing the pages, you will soon become familiar with the Wiki structure; automated links bring you to connected pages and topics. A side table provides structured data related to the article being viewed. These may be technical parameters or structural elements.

CONNECT NUCLEAR WIKI Who - What - Where - When - How - Manage - Help - OneWiki project -

Main Page

Main Page

 Characterization	 Characterization (non-radiological)	 Characterization (radiological)	 Containment
 Cutting	 Decommissioning management	 Decontamination	 Demolition
 Dismantling	 Knowledge management	 Radiation protection	 Regulation
 Remediation	 Remote control	 Retrieval	 Safety management

CONNECT NUCLEAR WIKI Who - What - Where - When - How - Manage - Help - OneWiki project -

Case Study

Main Page > Case Study

WP3 Knowledge Management - Overall Summary



51 students in total
(KPI = 15)



1 theme overview
12 domain insights



19 webinars



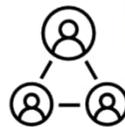
glossary (IAEA)



8 courses



2 games



65 mobility's
(KPI = 20)



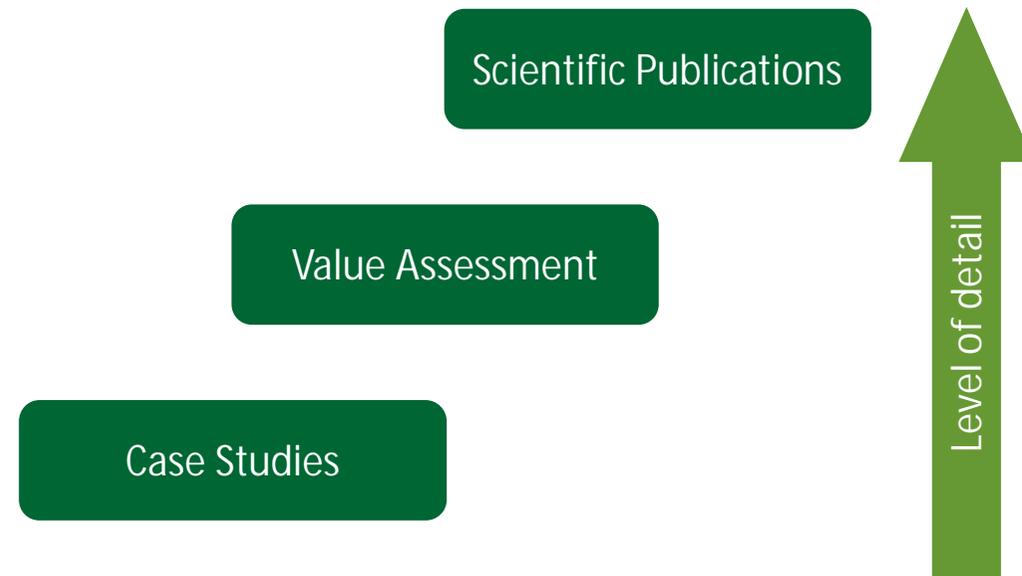
2 case studies
(to-date)
+ 5 blogs



11 conferences
11 oral presentations
3 posters
7 publications

Overall on PREDIS Case Studies

- Short texts with concise, non-technical language
- Part of a three-tier system:
 - **Case Studies** summarise technology goals and impact
 - **Value Assessments** provides more detail on impact
 - **Scientific Publications** contain technical details and descriptions



PREDIS Case Study Topics

- Each technical Work Package provided a list of topics
 - One topic selected as a Case Study for now, supplemented with blogs and webinars on additional topics

Work Package	Topic
<ul style="list-style-type: none">• Metallic material treatment and conditioning• Liquid organic waste treatment and conditioning• Solid organic waste treatment and conditioning• Cemented waste handling and pre-disposal storage	<ul style="list-style-type: none">• Conditioning of reactive metallic waste using magnesium phosphate cement• Radioactive liquid organic waste experiments• Geopolymer immobilisation• Monitoring packages with small affordable sensors

Structure and example of PREDIS Case Studies

Conditioning of reactive metallic waste using magnesium phosphate cement

- Challenge to solve:
 - Short description of a challenge in NWM
- Approach taken:
 - What technology was developed to solve the challenge
- Innovation:
 - What was new in comparison to current NWM practices
- Impact towards practice:
 - What does the industry benefit from the research

Aluminium and beryllium conditioning in Portland Cement generates hydrogen → no disposal route

Magnesium Phosphate Cement generates Alkaline Conditions. Performance of the material tested

Gained performance knowledge on a new material with most properties matching WAC

Waste Management Organisations could gain a disposal route for a previously problematic waste

Summary of PREDIS Case Studies

- Together with Value Assessment and Scientific Publications, Case studies create a system consisting of increasing levels of details
 - From easy to read to high technical level of detail
- Integration to IAEA Wiki to preserve knowledge gained



PREDIS Young Generation group, June 2024



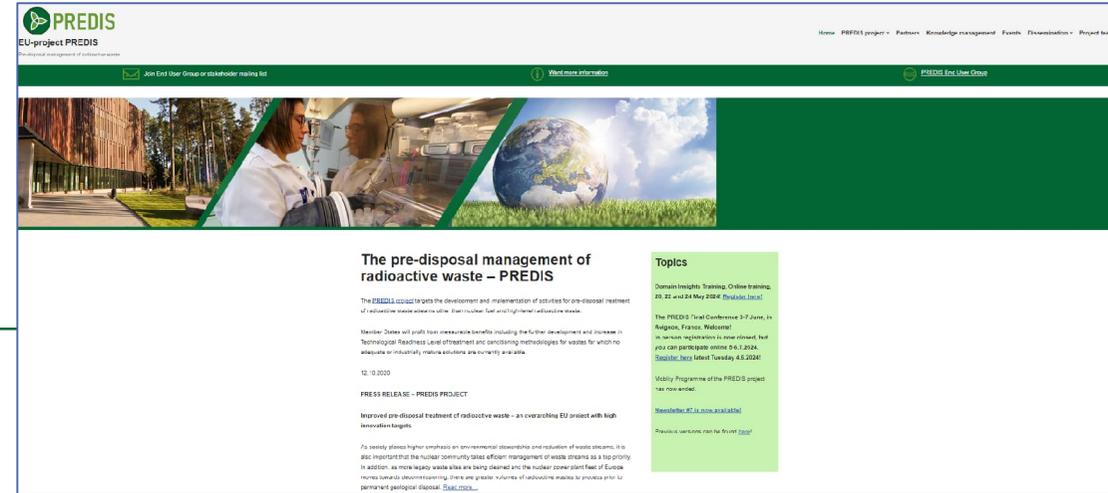
Thank you for the attention!

For further information on published Case Studies, follow PREDIS on LinkedIn and see our webpages!

LinkedIn:



Webpage:



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