

## WP7 Webinar Summary

Webinar Date	January 19, 2021
Webinar Time	13:00 to 16:00 CET
Chair	Ernst Niederleithinger
Prepared by	Ernst Niederleithinger (BAM), Christian Köpp (BAM) and Tim Schatz (VTT)

### Background

The PREDIS project recently hosted its first technical webinar (*Innovations in cemented waste package monitoring and storage*) on January 19, 2021. This webinar was focussed on the goals and objectives of work package 7 (WP7) and is scheduled to be the first in a series of five technical webinars to also include metallic material treatment and conditioning (WP4), solid organic waste treatment and conditioning (WP6), liquid organic waste treatment and conditioning (WP5) and waste acceptance criteria (WP2).

For their webinar, the WP7 leaders composed a program that consisted of two sessions of presentations by invited speakers and WP7 partners with each session followed by small group discussions to explore issues raised in the formal presentations (see Appendix 1 for agenda). More than 120 participants registered to attend the webinar from 20 countries including some from outside Europe. Representation was split evenly between end user group members + general stakeholders (49.6%) and consortium partners (50.4%). Attendees had the opportunity to listen to invited speakers and WP7 partners present end user perspectives on waste package and waste facility monitoring, the scope and objectives of PREDIS WP7, survey results on the state of the art in waste package and waste facility monitoring activities across Europe, views and information from IAEA and potential opportunities for cooperation in areas of waste immobilization and storage, recent cross-cutting R&D results from the MICADO and CHANCE projects and introductions to specific WP7 topics and themes. The presentations are available on the PREDIS website (<https://predis-h2020.eu/wp7-webinar-19-1-2021/>).

Collectively, the presentations were crucial in framing the engagement for the small group discussions. Attendees were randomly assigned to 1 of 4 moderated breakout rooms. The aim of the first 30-minute discussion sessions was to gather end user input on their future objectives in package/facility monitoring, the gaps standing in the way of meeting those objectives and any explicit wishes they might have from WP7. The aim of the second 30-minute discussion sessions was to gather end user input on their level of interest in the specific WP7 topics and themes, determine why they are not better implemented already and find out what is missing.

Over the course of the webinar live-polling was conducted. Poll questions were intended to gauge feedback and opinions on goals and objectives related to waste package monitoring and storage, the urgency for which these goals and objectives should be met and how PREDIS WP7 might assist in these efforts.

### Outcomes

Some key takeaways from the deliberations of the discussion sessions were as follows:

- ▣ Several participants acknowledged minimal to no use of monitoring technologies at present beyond visual inspections.
- ▣ Demonstration of implementation and added value (e.g., cost saving or risk reduction) will be needed for any new technology.

## WP7 Webinar Summary

- ▣ Development of resources, information, publications, good practices, training and knowledge transfer networks that can be used to improve organizational capabilities related to waste package monitoring and storage is of interest. Clarity on monitoring options that can be implemented today versus those that require ongoing R&D would be useful.
- ▣ Waste package storage periods will vary; some organizations plan to keep waste packages in storage for relatively short periods of time and such considerations will affect monitoring needs.
- ▣ Waste package degradation is of interest for monitoring.
- ▣ Waste acceptance criteria is another issue for which new monitoring and characterization techniques would be of assistance as well.
- ▣ Internal waste package pressure monitoring should be considered.
- ▣ There was definite interest/curiosity in Digital Twin Simulations. In particular participants wanted to know which chemical and physical parameters would be represented in the digital twins, whether radiological properties would be included, which processes can be accurately modelled at present, what reference waste package(s) would be used to develop the technology and how it could be applied to legacy wastes where compositions are more unknown.
- ▣ Difficulties may arise when trying to introduce new technologies into existing facilities; it may be more efficient to consider them in the design of new facilities.
- ▣ Cost analyses for implementing new technologies would be useful.

In short, live-polling indicated (see Appendix 2 for all live-polling results):

- ▶ The majority of respondents registered for the webinar to increase their general knowledge.
- ▶ The majority of respondents thought the PREDIS project should focus on technology demonstration.
- ▶ The majority of respondents agreed that there is a need for deploying the technologies being developed in WP7.

Overall, the level of interest and satisfaction with the WP7 webinar was favourable. Live polling showed that respondents were generally quite positive about the event in the moment and the webinar had a high retention rate (> 65%) to its close. Preliminary analyses of participant responses to an end-of-webinar survey also indicated a good level of satisfaction. Participants also reflected that it was important to encourage as much discussion as possible in the breakout rooms.

The WP7 webinar will be further summarized in PREDIS Newsletter #2 which is planned for publication in April 2021.

## WP7 Webinar Summary

### Appendix 1. WP7 Webinar Agenda

Innovations in cemented waste package monitoring and storage

#### Section 1: Overviews

13:00 Welcome (Erika Holt, VTT)

13:05 Package/Facility monitoring from the End User perspective (Angelo Paratore, SOGIN)

13:20 PREDIS WP7 Scope and Objectives (Ernst Niederleithinger, BAM)

13:30 Results of PREDIS WP7 questionnaire (Slimane Doudou, GSL)

13:40 IAEA Statement (Rebecca Robbins, IAEA)

13:45 Breakout Room Discussions (moderated)

- What are your objectives in future package/facility monitoring?
- Where are the gaps?
- What is on your wish list?

#### Section 2: Technical insights

14:20 What others do: MICADO (Iaroslav Meleshenkovskii, CEA)

14:35 What others do: CHANCE (Denise Ricard, Andra)

15:00 What PREDIS WP7 will do

- Muon imaging (INFN)
- RFID (BAM)
- Digital Twin (PSI)
- Data and decisions (VTT)

#### Section 3: Cooperation and Conclusions

15:20 Breakout Room Discussions (moderated)

- What has caught your interest?
- What is missing?

15:50 Summary and conclusions,

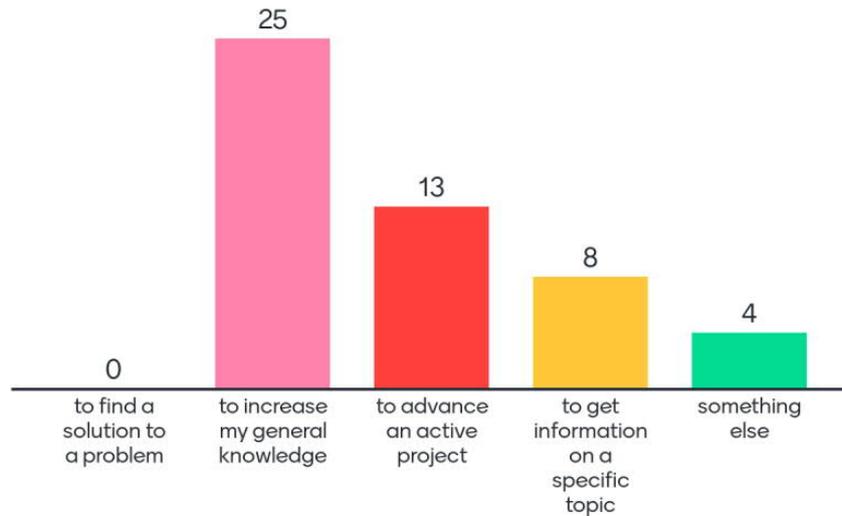
16:00 Adjourn

## WP7 Webinar Summary

### Appendix 2. Live-Polling Results

#### Why did you register for this webinar?

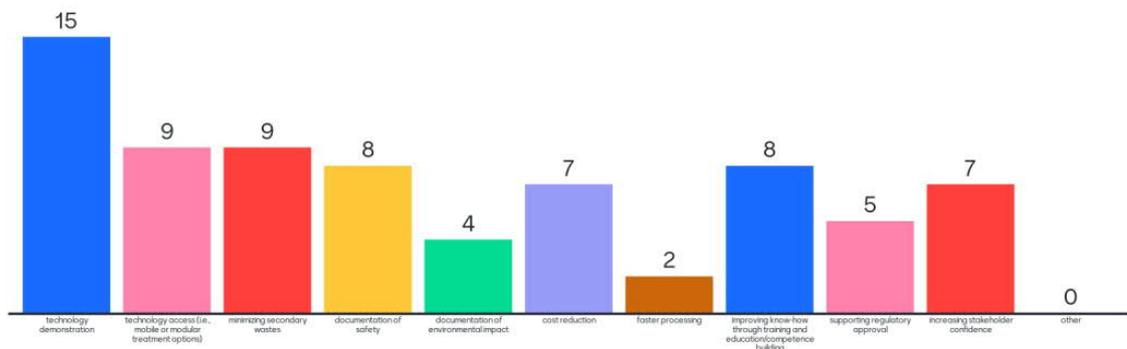
Mentimeter



50

#### What aspects of predisposal management of radioactive waste do you think the PREDIS project should primarily focus on (select all that apply)?

Mentimeter

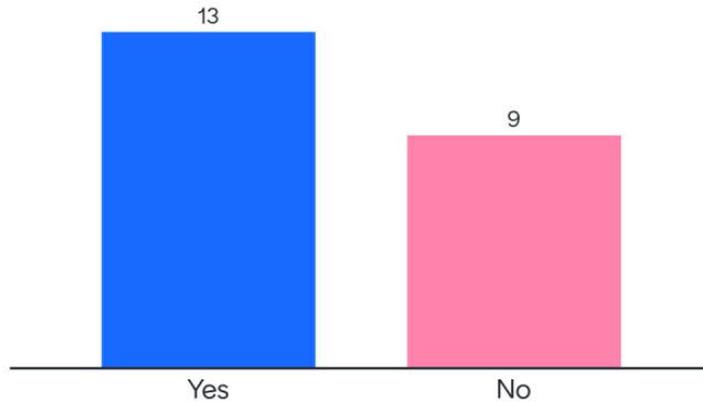


22

## WP7 Webinar Summary

Has your organisation specified any future goals or objectives regarding the monitoring and storage of cement-based wastefoms?

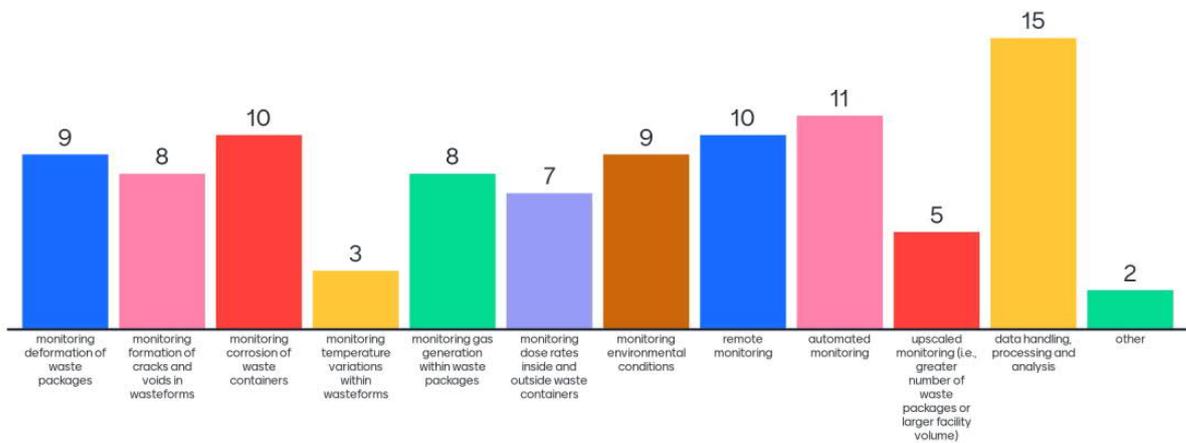
Mentimeter



22

Which topics are your organisation's goals or objectives related to (select all that apply)?

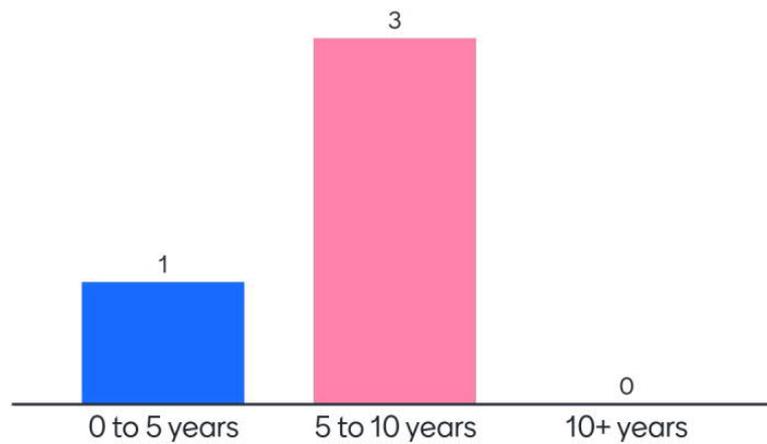
Mentimeter



21

When does your organisation need to meet its goals or objectives?

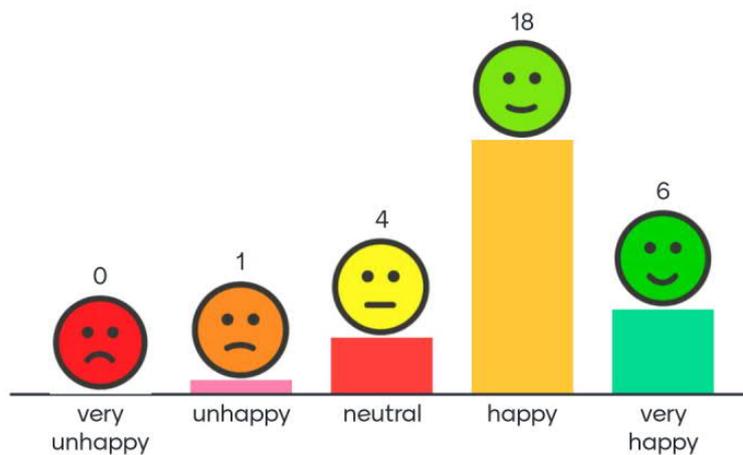
Mentimeter



4

How are you feeling about today's webinar so far?

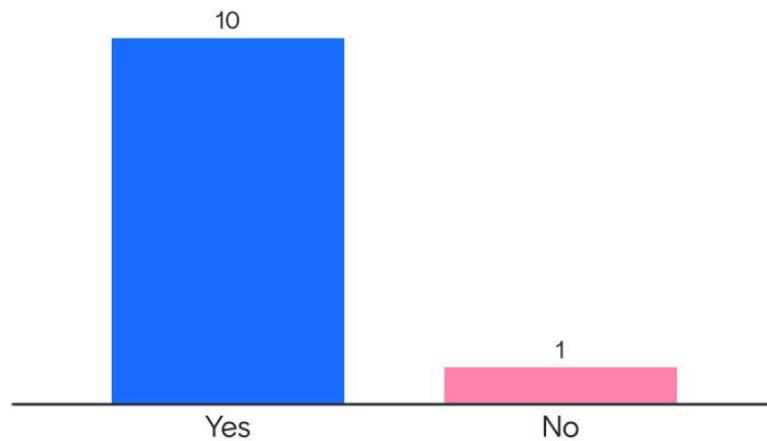
Mentimeter



29

Is there a need for deploying the technologies being developed in PREDIS WP7 ?

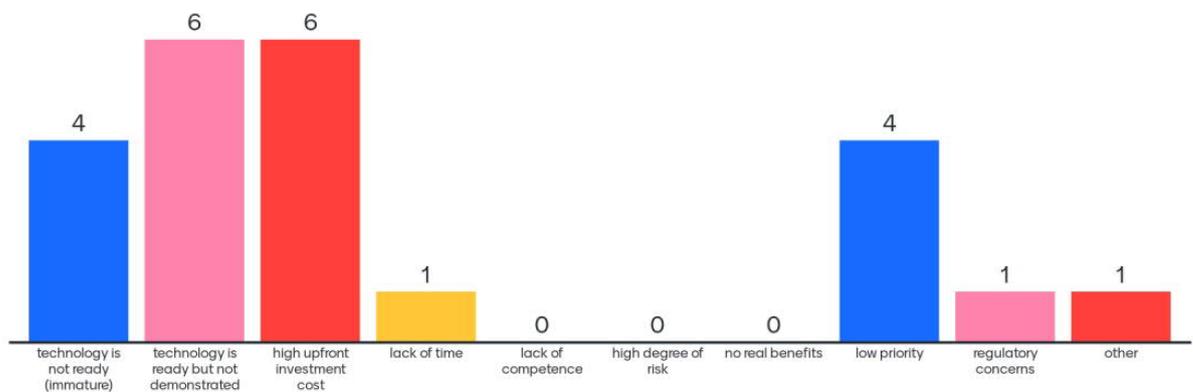
Mentimeter



11

Why are these technologies not better implemented already?

Mentimeter



11

Would your organisation be interested in working with the PREDIS project to develop these technologies?

Mentimeter

