



Milestone 46: Annual event n°1 summary

Work Package 1

Restricted



Co-funded by the European Union under Grant Agreement n°101166718

Document information	
Project Acronym	EURAD-2
Project Title	European Partnership on Radioactive Waste Management-2
EC grant agreement No.	101166718
Work Package Title	Programme Management Office
Milestone No.	46
Milestone Title	Annual event n°1 summary
Lead Beneficiary	Andra
Contractual Delivery Date	September 2025
Actual Delivery Date	October 2025
Authors	Baksay Attila (TS ENERCON), Bruggeman Christophe (SCK CEN), Debayle Christophe (ASNR), Detilleux Valéry (Bel V), Dollinger Sabrina (NES), Foster Stella (Galson Science), Frederickx Lander (SCK CEN), Gaus Irina (NAGRA), Geisler-Roblin Alexis (NTW), Herold Philipp (BGE), Holt Erika (VTT), Jacops Elke (SCK CEN), Mokni Nadia (ASNR), Oesch Tyler (BASE), O'Neill Naïm (Amphos 21), Ormai Peter (PURAM), Solans Virginie (NAGRA), Tatomir Alexandru (BGE), Vercelli Maia (Amphos 21), Vuorio Marja (COVRA)
Reviewers	Théodon Louise (Andra), Lopez-Garcia Marta (Amphos 21), Ormai Peter (PURAM)

Disclaimer

All information in this document is provided "as is" and no guarantee or warranty is given that the information is fit for any particular purpose. The user, therefore, uses the information at its sole risk and liability. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Atomic Energy Community. Neither the European Union nor the granting authority or the individual Colleges of EURAD-2 can be held responsible for them.

Acknowledgement

This document is a milestone of the European Partnership on Radioactive Waste Management 2 (EURAD-2). EURAD-2 is co-funded by the European Union under Grant Agreement N° 101166718.

Executive Summary

The first annual event was held from 09 to 11 September 2025 in Bologna, Italy. More than 250 persons (EURAD-2 members, end-users and invited speakers) were physically present over the two and a half days.

The event provided a platform for interaction and networking opportunities. It also allowed sharing of first results from the different work packages and triggered new ideas for future work.

Entirely devoted to plenary sessions, the first day provided an opportunity to share strategic visions and national priorities from several Member States. It also highlighted knowledge management activities, with a particular focus on initiatives aimed at younger generations and concluded with a panel discussion on the challenges and opportunities faced by Italian stakeholders.

The second day focused on ideation sessions covering key themes: civil society, impact and dissemination, data management, and SIMS. In the afternoon, parallel sessions were held, allowing the various work packages to present their results and explore opportunities for collaboration.

The final day was dedicated to outlining the process for the second wave, presenting summaries of the second day's parallel sessions, and concluding with overarching insights from the Chief Scientific Officers.

Table of content

1.	Day 1 – Plenary sessions	5
1.1	Expectations by Member States representatives.....	5
1.2	Knowledge Management	6
1.3	Next generation capacity building	7
1.4	Italian end-users panel session.....	9
2.	Day 2 – Parallel sessions, breakout sessions	10
2.1	Session 1 – Civil Society.....	10
2.2	Session 2 – Data Management.....	12
2.3	Session 3 - Impact	13
2.4	Session 4 - SIMS	14
3.	Day 2 – Parallel sessions, technical results / projects.....	15
3.1	Topical 1 - Pre-disposal (ICARUS, STREAM and L'OPERA).....	15
3.2	Topical 2 - Predictive modelling of RN behaviour and thermodynamic databases (RAMPEC and DITUSC)	17
3.3	Topical 3 - Digital transformation (DITOCO2030 and HERMES)	18
3.4	Topical 4 - Near-surface disposal and climate change (CLIMATE and SUDOKU)	19
3.5	Topical 5 - Future-proofing nuclear waste management (ASTRA and FORSAFF).....	21
3.6	Topical 6 - Optimisation routes of deep geological repository (DGR) concepts for safety and robustness: base materials, engineered barriers and design methods (OPTI, ANCHORS and InCoManD)	22
3.7	Topical 7 - Ensuring safe final disposal (SAREC and CSFD).....	23
4.	Day 3 – Second wave and closing remarks	24
4.1	Second wave.....	24
4.2	Closing remarks	25

1. Day 1 – Plenary sessions

1.1 Expectations by Member States representatives

Rapporteur	Peter Ormai, PURAM, Hungary
Key speakers	Markéta Dohnáľková, SURAO, Czech Republic Brieuc Petit Cohas, DGEC, France Olivia Roth, SSM, Sweden Michalis Tzortzis, DLI, Cyprus Maarten Van Geet, ONDRAF/NIRAS, Belgium Oesch, Tyler, BASE, Germany
Objective	Present the status of some selected countries and try to link national priorities with EURAD-2 WPs and emphasis the needs that are not yet covered by EURAD-2.
Number of participants	ca. 250.

Without claiming completeness, some important points worth mentioning:

- The EURAD-2 collaborating project provides direct support to all MSs (including new MSs and MS with a small inventory) in key domains such as knowledge management, capacity and competence building, safety and optimisation.
- The strategic shift: more intensive and effective involvement of SIMS in EURAD-2 is welcomed;
- EURAD-2 would greatly assist the Member States KM's efforts;
- Praise EURAD-2 for many webinars, Lunch-and-Learn, State-of-the-art reports, effective end-user engagement on a WP-specific level;
- EURAD-2 should go on jointly setting priorities (WMO-TSO-RE) fosters mutual understanding;
- EURAD-2 should be ready to adopt a flexible approach in implementing its work programme, and should answer positively and pro-actively to new challenges;
- Knowledge transfer between national disposal programs related to methods, technology and research needs;
- Strong and consistent base for education and training of future experts;
- Collaborative development of approaches and guidance for new challenges (e.g. AI, optimisation and sustainability);
- R&D on waste management for small (SMRs) and advanced (AMRs) modular reactors and future fuels;
- Innovative processes and techniques for recycling and recovering radioactive materials and to optimise radioactive waste management (RWM);
- Alternative solutions to deep geological disposal;
- Further enhance confidence in safety case, increase modelling capability;
- Manage new waste streams;
- Collaborative research on remaining challenges of long-term storage and the transition from storage to disposal (including e.g. conditioning);
- Enhance regulator involvement in EURAD-2;
- More involvement of civil society representatives

1.2 Knowledge Management

Rapporteur	Alexandru Tatomir, BGE, Germany
Key speakers	Alexandru Tatomir, BGE, Germany Kateryna Fuzik, SSTC NRS, Ukraine Liz Harvey, Galson Science, UK Naïm O'Neill, Amphos 21, Spain Christophe Debayle, ASNR, France
Objective	Highlight the progress achieved across all six tasks of WP02 KM during the first year of implementation.
Number of participants	ca. 250.

The session presented how the KM programme builds a coherent and sustainable structure to ensure effective knowledge capture, transfer, and application across Member States, organisations, and generations.

Task 1 – Programme Management and Integration:

BGE, as WP02 leader, together with SSTC NRS, GSL, SCK CEN and ASNR, presented the coordination framework of the KM Programme and the established WP2 KM Board and Knowledge Ambassadors network. The Knowledge Ambassadors act as the link between the technical work packages (WPs) and the KM Board, ensuring the consistent implementation of knowledge management activities. Over the past year, twelve KM Board meetings and several task meetings were held, accompanied by newsletters and international representation (IAEA, NEA, WM Symposia, and FISA/EURADWASTE 2025). Additionally, the first EURAD-2 KM Workshop, titled “*Strengthening KM in Radioactive Waste Management: Reflections on Practices, Integration and Building Synergies*”, held on 12th September, during the Annual Event. It brought together EURAD-2 partners, end-users, and stakeholders, along with KM specialists and representatives from the IAEA and OECD/NEA to exchange practical experiences and identify synergies.

Task 2 – Knowledge Capture:

BGE and SSTC NRS reported significant progress in knowledge documentation, focusing on the production of State-of-the-Art (SotA) reports, Green and White Papers, and Domain Insight (DI) documents. Two calls for authorship were launched, resulting in 26 prioritised DI topics covering all themes of the EURAD Roadmap. Milestones were achieved for defining the methodology and prioritisation of KM documents. The process follows an agile, learning-by-doing approach to accelerate the availability of practical outputs, supported by systematic feedback mechanisms from authors, reviewers, and end-users.

Task 3 – Knowledge Application and Know-How Development:

GSL presented activities under Task 3, aimed at providing guidance and enhancing the use of European infrastructures in RWM. A comprehensive guidance survey, with 57 responses from 26 countries, helped identify 29 priority topics aligned with end-user and SRA needs. Work also progressed on updating the list of European research infrastructures supporting RWM, with 29 new or revised entries received. These will inform a gap analysis and a forthcoming report on the long-term maintenance of critical infrastructures at European level.

Task 4 – Competence Building:

The progress achieved through the School of Radioactive Waste Management was presented, focusing on training, mobility, and mentoring activities. During the first year, one face-to-face training course (WP ANCHORS) and five Lunch & Learn sessions were organised, with additional sessions planned for autumn 2025. The mobility programme received 31 eligible applications, of which 22 were accepted, enabling cross-organisational learning and exchange. The mentoring programme was formally

launched, with an online registration platform now open, aiming to connect junior and senior professionals and strengthen intergenerational knowledge transfer.

Task 5 – KM Tools and Methods:

ASNR presented developments related to KM tools and data management. The EURAD-2 Data Management Plan (DMP), published in May 2025, promotes the use of collaborative and transparent tools such as ProjectPlace, Zenodo, GitHub and EUSurvey, ensuring alignment with FAIR data principles. The KM platform specifications from EURAD-1 are under review, with efforts focusing on defining sustainable hosting solutions and integrating innovative methods and tools to enhance KM activities within EURAD-2.

Task 6 – Integration and Interaction:

BGE reported the progress made in Task 6, which ensures the connection of KM activities across all technical and strategic study WPs. Through regular interaction with the Knowledge Ambassadors network, the task promotes harmonised implementation of knowledge capture and transfer, supporting cross-WP collaboration and consistency in the production of KM deliverables such as SotA reports, Domain Insights, SoK and guidance documents, and training materials.

The session concluded with a collective agreement on the importance of strengthening collaboration between the KM WP and the technical WPs, continuing international cooperation with IAEA and NEA, and maintaining a strong focus on competence development to ensure a sustainable and knowledgeable workforce for the future of RWM in Europe.

1.3 Next generation capacity building

Rapporteur	Naïm O'Neill, Amphos 21, Spain
Key speakers	Eya Abed, SUBATECH, France Adrien Parpaillon, ASNR, France Filip Babčický, CTU, Czech Republic Ozgur Ileri, SUBATECH, France Álavro Romero Salido, CIEMAT, Spain Chloé Jonqua, PIMM/CNRS, France
Objective	Strengthen next-generation capacity building by showcasing EURAD-2's youth network and activities, introducing the new mentoring programme, highlighting student research, and fostering dialogue between senior and younger generations.
Number of participants	ca. 250.

The session on next generation capacity building was organised around four parts:

- The presentation of the young generation network and the overview of KM Task 4 activities
- The presentation of the new Mentoring programme and its added value expected within EURAD-2
- The presentation of some students involved in EURAD-2, regarding their profile and PhD work
- A brainstorm discussion within groups about how to engage both senior and younger generation for capacity building activities.

The activities carried out by the Task 4 team of the KM WP were first presented to the audience, highlighting the development of the young generation network from EURAD-1 and PREDIS onwards. The form to register in order to become part of this young generation network was shared with the meeting participants. The organisation of training courses and webinars, as well as the mobility programme, were also presented. The launch of mentoring programme was additionally shared with the

meeting attendees, and the added value for its participants, both mentees and mentors, was emphasised. In particular, the added value of taking part in such a programme for both profiles to develop both technical and soft skills, as well as to boost collaboration, cross-WP and networking opportunities, was shared. Examples of mentoring pairs and exchanges from past experiences (N. O'Neill & L. Théodon; E. Jacobs & T. Jalonen & E. Holt) were also used to highlight the planned implementation of such a programme now also within EURAD-2.

Six EURAD-2 students had the opportunity to present themselves and their PhD work, as well as their expectations as students within the partnership.

A brainstorm discussion was then held, during which the attendees were split in various groups and got to discuss two specific questions related to the session:

- What can be the opportunities and expectations for the integration of the young generation and newcomers in EURAD-2?
- How can senior researchers get involved to guide the next generation?

Here below are the outcomes shared from the group discussions:

- Plan a higher budget envelope for the development of young generation and activities;
- Develop a platform / network for students to ask live questions, in a more dynamic way, and for exchanges between mentors and mentees to be carried out in a more accessible form for the exchange of fast and specific information;
- Continue communicating and disseminating on the young generation network and opportunities available for students and newcomers in the field of RWM;
- Ask experts on specific topics to provide trainings for the EURAD-2 community when these experts can be identified, rather than “only” organising trainings from a voluntary approach;
- Prioritize cross-national programmes and cross-WP information exchange;
- Ensure the work of senior researchers is captured, transferred, used and maintained in the future (through KM activities and the mentoring programme for instance);
- Open the mentoring programme to retired experts and researchers of the field, as a strong interest was mentioned for these persons;
- Organise a young generation event focusing on the activities and opportunities of the partnership for students and newcomers in the field;
- Create and develop new tools to navigate through the knowledge captured and transferred;
- Integrate the students in EURAD-2 activities based on a tracking of these students (current of former students), to also keep track of the students' work and opportunities, and to contribute to developing a student community within EURAD-2;
- Develop a buddy-system / programme, not as formal as a mentoring programme, but rather more focused on different topics of choice to better integrate one within the EURAD-2 / European RWM community. This would also develop greater networking opportunities within the partnership;
- Make sure that the Young Generation network additionally includes newcomers to the RWM field in any age group, as this does not seem to be the case so far.

1.4 Italian end-users panel session

Rapporteurs	Erika Holt, VTT, Finland and Federica Pancotti, SOGIN, Italy
Key speakers	Valeria Anzellotti, Expert of Radioactive Waste Repositories Section, National Inspectorate for Nuclear Safety and Radiation Protection, ISIN. Alessandro Dodaro, Director of Nuclear Department, Italian National Agency for New Technologies, Energy and Sustainable Economic Development, ENEA. Stefania Uras, Deputy Director of National Repository and Technology Park, Società Gestione Impianti Nucleari, SOGIN. Erica Fanchini, Senior nuclear application scientist, R&D and project manager, CAEN s.p.a. Nicola Ippolito, Director of Nuclear Division, Directorate General for Energy Demand and Efficiency, Ministry of the Environment and Energy Security, MASE.
Objective	Hear how activities in EURAD-2 can be done in cooperation and then be directly used by the Italian waste management community, as an example of impact for the Members States.
Number of participants	ca. 250.

In addition to discussing the Italian priorities for EURAD-2 RD&D and KM activities, opportunities and challenges for implementation were also discussed. The panellists recognized the need for improved waste characterization for legacy and new waste forms, harmonisation of practices and guidelines, investments. They told of the importance of assessing emerging topics like digitalization, monitoring, AI and impacts of climate change to repositories. Panellists noted that their waste management facility siting programmes are ongoing, and thus stakeholder engagement is important. They noted the importance of now being involved in EURAD-2, along with encouraging and training the next generation of experts, so that R&D can close the gap and show the way forward with safe waste management and the Italian nuclear programme. Questions from the audience also inquired about the repository siting process in Italy, demonstration and upscaling of solutions. The group shared about the importance of public communication in constructive dialogue about possibilities for nuclear energy and supporting of improved waste management solutions. The chairpersons appreciated the diverse group of panellists and recognized that this was one of the first key events when such Italian players were around a common table for discussions and thus appreciate the EURAD-2 community of practice getting stronger and being in Italy for the annual workshop.

Some key messages from the panellists:

- "The (earlier) MICADO project could have been more concrete for end users if they have been more involved in the project. The end user groups should more drive the R&D" - Erica Fanchini, CAEN
- "We need to talk more about nuclear to the young generation. Nuclear is not evil. But in order to attract skilled staff, we must ensure that they have a good reason to study nuclear – sufficient money should be available to attract people." - Alessandro Dodaro, ENEA
- We need more harmonisation in Europe, which is a role for the regulators. Examples include pilot projects for shared solutions or setting up a waste classification system for the EU which stimulates cross border cooperation" - Valeria Anzellotti, ISIN
- "In order to update policy and regulations, a sound scientific basis is required. Hence, the government must keep track of progress in R&D to align technical progress to policy and regulations" Nicola Ippolito, MASE

2. Day 2 – Parallel sessions, breakout sessions

2.1 Session 1 – Civil Society

Rapporteur	Alexis Geisler-Roblin, NTW, France
Key speakers	Cythia Réaud, ASNR, France Alena Mastantuono, EESC, Julien Dewoghélaère, NTW, France
Objective	Generate creative ideas and potential solutions to address the question “How can Civil Society drive engagement, disseminate results and establish connections with R&D and broader networks”
Number of participants	ca. 50

The aim of this session was to open altogether the “black boxes” of what is meant by dissemination, civil society (CS), engagement and to identify what perspectives on these topics could be either fruitful or short-visioned. The ambition was also to build the next steps together in EURAD-2 by discussing what innovation can be brought to CS interactions, taking into account the existing actors and methods. The session also gave the opportunity to discuss how Work Packages could be better embedded with the perspective of interactions with CS.

The session was divided into two parts: a plenary introduction where three speakers presented current best practices and concrete examples on civil society contribution to radioactive waste management in different contexts and notably in the research field. The goal was to put everyone at the same level of information before the ideation part.

First, Cynthia Reaud from the French nuclear safety and radiation protection authority (ASNR) presented two processes engaging civil society in the long-term in France: the technical dialogue on radioactive waste management and mapping tools and serious game to prepare territories to post-accident management.

Then, Alena Mastantuono from the European Economic and Social Committee (EESC) gave elements on EESC consultation on radioactive waste management and presented main outcomes of this consultation that have been synthesized in an opinion paper: [“Radioactive Waste management: a civil society perspective”](#).

Finally, Julien Dewoghelaere from Nuclear Transparency Watch presented an overview of the activities aiming at implementing interactions between EURAD researchers and civil society members. He detailed the specific model, the types of activities and the methods and tools developed in this perspective.

For the ideation session, the participants were divided into small groups and invited to answer three questions using the World Café method. All the groups worked on the same question at the same time (20 minutes per question). For each question, the groups had to move to another table and the facilitator presented the work done by the previous group before starting to work on a new question. The main outcomes for the three questions were the following:

1 - What does it mean to disseminate results to publics?

- Create a dialogue (two ways interactions) to build trust
- Building trust by raising interest in technical knowledge used in safety assessment.
- « Win-win situation »: build and maintain public confidence and capture feedback on R&D results from publics.
- Mutual trust goes by answering all the questions
- Giving a chance to the public to provide feedback will benefit the whole society by fostering trust.

- To build confidence and trust in order to allow public to contribute to the decision-making process

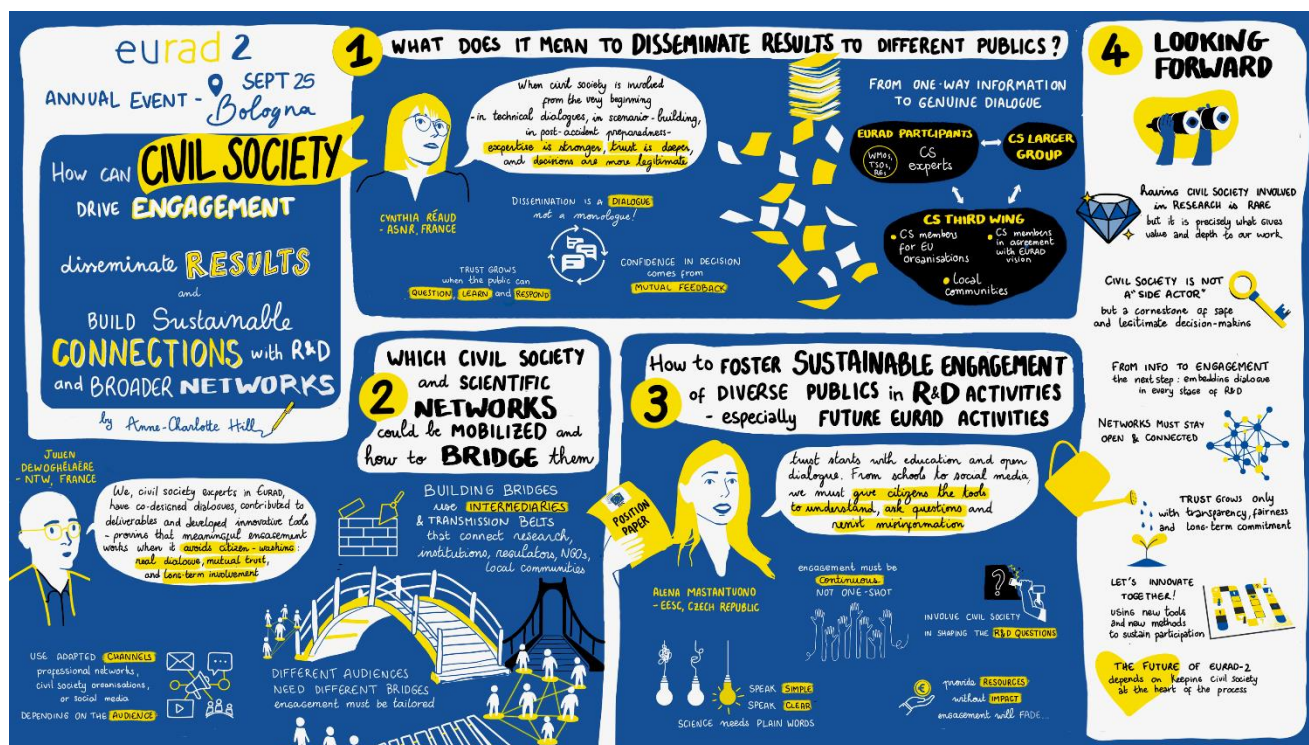
2 - What could be adequate networks in civil society and in scientific communities for fruitful interactions?
How to bridge these networks?

- All the interested parties if the capacity to question in depth is given.
- Everyone has to be considered either for information or dialogue (specific, adapted channels).
- Trusted intermediate to connect different opinions.
- Professional, societal networks but also external experts (non-institutional) and social media (wider publics): appropriate tools according to the targeted audience.
- We are all part of the public, but the public is heterogeneous (local vs national, scientist's vs non-scientists) and bridging these groups need different methods of engagement.

3 - How can we foster a sustainable engagement of the different kinds of publics in R&D activities and particularly for future EURAD activities?

- Broader communication is key.
- Through iterative events, R&D WPs should produce fruitful inputs for future events.
- Online and physically, innovative and simple, adapted to different generations.
- Simple understandable language throughout various methods.
- Create interests in R&D, notably by engaging CS in the definition of the R&D questions and in technical R&D projects.
- Provide the resources to make the engagement possible and sustainable (interactions will continue because they have an impact) by considering not only technical but also societal sciences.

Based on these fruitful outcomes, the Interactions with Civil Society team of EURAD-2 will update the current activities and propose recommendations for future ICS activities, notably for the third wing of the ICS model aiming at disseminating the results outside the EURAD network.



2.2 Session 2 – Data Management

Rapporteur	Christophe Debayle, ASNR, France
Key speakers	Pablo Sainz, CERN, Switzerland Yevheniia Kudriashova, SSTC NRS, Ukraine George-Dan Miron, PSI, Switzerland
Objective	Generate creative ideas and potential solutions to address the question "How should data be managed, shared and made accessible?"
Number of participants	ca. 80

The Data Management session focused on How does managing critical scientific data look like running a Michelin-star kitchen? The idea was to collectively help shape the future of our knowledge and data management strategy.

The "Kitchen of Knowledge" metaphor proves essential in building a shared mindset:

- Organisation / storage (pantry): just as well-stored ingredients ensure efficiency, our data must be classified and organized so it can be easily found and reused.
- Use / transformation (recipe): raw ingredients require a recipe. Similarly, our raw data must be processed and analysed to generate new knowledge.
- Quality / reliability: a chef guarantees the freshness of ingredients. In the same way, we must safeguard the quality, validity, and reliability of our data to preserve scientific integrity.
- Sharing / transmission: a cookbook allows recipes to be shared. Well-documented data allow researchers and stakeholders to understand, verify, and build upon our work.
- Archaeological dimension: an old recipe book or a very old good wine provides a window into the past. Similarly, well-preserved data archives allow future generations to track changes and provide essential context for new research.

A highlight of the session was the keynote delivered by Pablo Saiz (CERN, Switzerland), who gave an excellent overview of the best practices on the ZENODO platform and about data management outside of EURAD.

An interactive workshop based on the "Cease, Conserve, Create" methodology, provided actionable priorities that will guide our next steps.

The next critical question then emerges: how do we welcome new generations into our 'kitchen' to propose new 'recipes' and use their own tools? Answering this will be essential for our long-term success.

The way forward may lie in four key strategies:

- Open the kitchen door: lowering barriers to entry.
- Provide a modern, well-equipped kitchen: modernising our tools.
- Share the house recipes (but let them improve): strengthening mentorship and training while encouraging creativity.
- Let them create the "daily special": fostering a genuine culture of experimentation.

2.3 Session 3 - Impact

Rapporteurs	Elke Jacobs, SCK CEN, Belgium and Stella Foster, Galson Science, UK
Key speakers	Toon Verlinde, The Floor is Yours, Belgium
Objective	Generate creative ideas and potential solutions to address the question “How can EURAD-2 impact be maximised through improved dissemination and stronger links with external communities”
Number of participants	ca. 50

This breakout session focused on how to efficiently communicate scientific information to different audiences. It particularly emphasised the need to have clear and concise key messages tailored to the specific audience(s) one is trying to reach in order to be effective. A range of strategies were discussed with session participants, one of which was to provide just enough relevant information (JERI) to the audience one is trying to reach. These key messages would therefore need to be concise, striking, and relevant to the audience targeted, without being too detailed or profound.

The importance of designing a communication strategy around the underlying purpose of the communication was also discussed e.g. to secure budget, to address skills gaps etc., as was the concept of ‘news values’, factors which improve the noteworthiness of a communication.

The second part of the session was allocated to discussion in breakout groups on an ideation exercise. The goal was for each group to brainstorm a list of RWM-relevant audiences and stakeholders, and to consider effective strategies to communicate EURAD-2 themes and objectives, as well as its added value, for each audience group. Each breakout group compiled several ideas, which were then prioritised and further developed, using different steps, to eventually come down to only one to two main ideas per group. These ideas were then shared among the session participants and presented to all the annual event participants on Day 3 of the event.

The most relevant and agreed upon ideas which emerged from the session on impact, on how to efficiently communicate on EURAD-2's activities and added value, were the following:

- ‘Gamification’: creation of board games and of an escape room type game, for various age groups and audiences, in order for the games’ players (i.e. the different audiences) to learn and educate themselves on the field of RWM, and assess the components and challenges of this field, in an entertaining, non-formal and interactive way;
- Development of a strong communication strategy by the EURAD-2 PMO and Coordinator, in order to properly assess the audience(s) to reach (general public, regulators, national programmes, end-users, etc.) and to define how to efficiently reach them. This includes the development of a social media strategy, along with the production of explanatory videos to be shared on a dedicated website which also gathers other communication resources and EURAD-2 documents of interest;
- Hosting events to explain the role that EURAD-2 plays in the field of RWM, by promoting, for instance, virtual reality (VR) and augmented reality (AR) disposal facility environments (with safety and security measures accordingly).
- Interactive art exhibitions to enable audiences to explore the EURAD-2 work. Such exhibitions could be mobile and temporary and thus reach diverse audience groups in different locations.

2.4 Session 4 - SIMS

Rapporteur	Sabrina Dollinger, NES, Austria
Key speakers	Michalis Tzortzis, DLI, Cyprus Isabel Paiva, IST-ID, Portugal Sabrina Dollinger, NES, Austria
Objective	Generate creative ideas and potential solutions to address how to enhance collaboration between EURAD-2 and SIMS.
Number of participants	ca. 40

The breakout session focused on strengthening the collaboration between EURAD-2 and Small Inventory Member States (SIMS), with presentations from Cyprus, Portugal, and Austria. These highlighted the diverse situations of SIMS – ranging from very small to small – and underlined common challenges such as limited resources, personnel and funding. Participants agreed that SIMS would particularly benefit from capacity building measures.

In an interactive exercise, groups first considered a "fiasco scenario" (how SIMS could be excluded from EURAD-2) and then developed positive counter-strategies. The "fiasco scenario" was chosen as a starting point because negative scenarios tend to stick more strongly in people's minds, making them a powerful trigger for creative thinking. By first imagining how SIMS could be excluded, participants were able to more clearly identify risks and then transform them into constructive ideas for inclusion.

In the end, each group presented their ideas and each participant could choose two of their favourite ideas. Key ideas included:

- To provide incentives for (Low inventory Member States to support SIMS organizations.
- From paper to practice, learning is doing.
- Swapping experts/open invitations.
- Advertise SIMS needs and have a voice at EURAD and EC meetings.
- More presentation of SIMS at EURAD governance level, make their voice heard.
- Make sure EURAD scope is broad and inclusive.
- Show that consortium is committed to provide support, share knowledge.

Overall, discussions converged on two main themes:

- Strengthening SIMS influence and visibility within EURAD.
- Enhancing capacity building through training, mobility, and knowledge exchange.

All ideas are shared with the PMO, where they will be further discussed and considered in future decisions on how to better integrate and support SIMS within EURAD-2.

3. Day 2 – Parallel sessions, technical results / projects

3.1 Topical 1 - Pre-disposal (ICARUS, STREAM and L'OPERA)

Rapporteur	Lander Frederickx – SCK CEN, Belgium
Key speakers	Federica Pancotti, SOGIN, Italy Eros Mossini, Polimi, Italy Thierry Mennecart, SCK CEN, Belgium
Objective	Bringing together the pre-disposal related WPs (ICARUS, STREAM and L'OPERA) and to explore the common ground, i.e. to identify challenges common to some or all WPs and opportunities for collaboration.
Number of participants	ca. 60

Main themes / topics

- Initial presentation by Thierry Mennecart: introduction on where all work packages are situated in the pre-disposal process from a waste stream to a durable waste package. The broad interest of stakeholders in multiple work packages (instead of a single one) is indicated as proof for the high synergy between the work packages.
- Introduction to ICARUS by Eros Mossini: focus on (non-)destructive characterization (DT/NDT) of both the raw waste and the waste packages. (T3: NDT for industrial implementation; T4: DT for Difficult-to-Measure (DTM) radionuclides -> validation on real waste is the final goal; T5: optimization of Scaling Factor approach). Four use cases will be tested: (a) gamma-activity in large packages; (b) physicochemical properties and alpha-emitters inventory by NDT; (c) DTM by radiochemical methods; (d) lower uncertainties and improve accuracy and reliability of Scaling Factor methods to meet requirements by regulators for raw mixed waste.
- Introduction to STREAM by Federica Pancotti: Development and optimization of new or existing treatment and conditioning methodologies for waste streams with low Technology Readiness Level. T3: study of treatment and conditioning methods; T4: scale up of treatment and conditioning processes; T5: Life Cycle Costing (LCC) and Life Cycle Assessment (LCA) on most promising matrices + evaluation of waste acceptance criteria (WAC).
- Introduction to L'OPERA by Thierry Mennecart: testing long-term performance (LTP) of matrices and long-term behaviour under disposal conditions. LTP: increase TRL of processes developed within PREDIS and investigate final waste forms coming from these processes (in collaboration with STREAM). Expected outcomes: better understanding of long-term behaviour of waste forms in disposal conditions. Identifying degradation processes and their drives. Diffusion and leaching values of new matrices.
- First interactive session:
 - After completion of the SoTA reports each Work Package (WP) has identified key challenges to be solved with dedicated R&D activities. These challenges were listed and presented to the audience, who were asked whether they were key to each WP. The result was that multiple topics were identified to be an important challenge to multiple WPs, indicating the common ground they share. Topics which were key to all WPs were WAC, physico-chemical characterization, standardization and scaling-up. Topics which were important to two out of three WPs were sustainability and environmental impact, new conditioning matrices, Nochar

- & RLOW, Magnesium Potassium Phosphate Cement (MKPC) & metals, monitoring and modelling, and the immobilization of organic wastes in alkali-activated matrices.
- A discussion was started on how to improve collaboration between WPs. Some of the suggestions included exchanging samples between WP's, common training and knowledge management initiatives, defining common KPI's for waste forms, developing common protocols and characterization methods, ...
- The audience was asked to rate the priorities of a list of topics for their WP. The topics which were identified as the most important were physico-chemical characterization, waste form durability, standardization and optimized treatment methods.
- Second interactive session: The second session was dedicated to a specific case ('Addressing challenges for spent ion exchange resins (SIERs) in pre-disposal management') as a way to showcase how each WP contributes to a common topic. Each work package leader presented the way their WP can/will handle the waste.
 - ICARUS: handles physicochemical characterization of the SIERs to support the development and optimization of treatment and conditioning approaches. Moreover, it explores NDT and DT for a complete radiological characterization to assess long-term behaviour of the waste forms. Other activities include data management for fingerprinting measurement results, validating waste homogeneity, collecting experience on legacy drums, correlating sample results and NDT drum results. Scaling factor models can be used to capture the production mechanisms of isotopes in reactors from their origin in the coolant to their transfer into the waste streams (SIERs) and can help to optimize sampling efforts and minimize uncertainty and accuracy biases. Lastly, monitoring with sensor networks during treatment, transport and long-term storage can provide valuable information.
 - STREAM: development and optimization of a new treatment process aimed at improving performance, safety, waste minimization and cost reduction. Tests can be done on real radioactive SIERs from the TRIGA reactor. On the other hand, STREAM will optimize alkali-activated matrices for the conditioning of treated and untreated SIERs and will investigate physico-chemical interactions between low carbon binders and SIERs. STREAM will also study the scale-up of SIERs in collaboration with ICARUS and L'OPERA.
 - L'OPERA: testing the durability of the SIER containing waste streams. The investigated matrices include alkali-activated and magnesium potassium phosphate cement matrices, both after thermal treatment and direct immobilization.
 - A Q&A session after the WP presentation in which the audience could discuss together with the WP leaders the details of the work on SIERs.

Outcomes:

The place of each work package within the pre-disposal process was clearly demonstrated by the WP leaders to the audience, helping to place the work of the WPs in their practical context. Together, the WPs offer a cradle to grave approach starting from raw waste streams and ending up with durable waste form that pass acceptance criteria.

Also, the high degree of synergy between the WPs was highlighted. While the common ground was obvious in some areas before the start of the session (e.g. samples being made in STREAM to be tested in L'OPERA), the analysis of the SotA reports and the input from the audience emphasized other commonalities as well.

Follow-up actions

- Process the survey data and ensure that participants' understanding of the event and their expectations are aligned with the objectives of the WPs.
- Organise other joint events to provide updates to stakeholders and plan a joint workshop to strengthen synergies between the work packages and the partners on common topics.

3.2 Topical 2 - Predictive modelling of RN behaviour and thermodynamic databases (RAMPEC and DITUSC)

Rapporteur	Tyler Oesch, BASE, Germany
Key speakers	Stéphane Brassinnes, ONDRAF/NIRAS, Belgium Marcus Altmaier, KIT, Germany Norbert Maes, SCK-CEN, Belgium Tiziana Missana, CIEMAT, Spain Mavrik Zavarin, LLNL, USA Jean-Charles Robinet, Andra, France
Objective	Discuss the use of geochemical modelling and identify potential for improvements in thermodynamic databases
Number of participants	ca. 40

Main themes / topics

- Introduction by DITUSC and RAMPEC WP Leaders
- Presentation on FUTURE, highlighting the identified thermodynamic data gaps related to modelling
- Predictive modelling of radionuclide behaviour and thermodynamic databases (RAMPEC and DITUSC)
- US EURAD-2 collaboration: DITUSC and RAMPEC
- The need for thermodynamic data and modelling from the perspective of application-oriented activities ongoing in Task 5 in RAMPEC

Outcomes

There is a general consensus on the relevance of thermodynamic databases and that significant potential exists for their continued improvement.

- There is a clear need for improving thermodynamic databases in order to conduct accurate geochemical modelling.
- Conducting accurate geochemical simulations is essential for a number of modelling efforts in EURAD-2 and is a necessity for reliable safety assessment.
- There is a need for thermodynamic database development accounting for speciation schemes in order to derive correct sorption models.
- Previous projects clearly identified the need for thermodynamic data but there were no direct activities deriving new thermodynamic data for inclusion in the projects.
- In order to avoid a duplication of sorption databases, there needs to be an emphasis on international networking and knowledge exchange related to this issue.
- DITUSC is providing a state-of-the-art of the data gaps without prioritization at the moment. In the future, the aim of DITUSC is to prioritize the data gaps for future studies and for end users.
- The modelling work to be performed in RAMPEC helps to demonstrate the constraints that occur due to data gaps.

Follow-up actions

- Maintain and further enhance the international networking and knowledge exchange related to sorption databases.
- DITUSC workshop in Nantes in November 2025 with discussions on prioritization and particular emphasis on end user input.

3.3 Topical 3 - Digital transformation (DITOCO2030 and HERMES)

Rapporteur	Attila Baksay TS Enercon, Hungary
Key speakers	Réka Szőke, IFE, Norway Sergey Churakov, PSI, Switzerland Arto Laikari, VTT, Finland Pablo Cayon, Ingecid, Spain Olaf Kolditz, UFZ, Germany Nikolaos I. Prasianakis, PSI, Switzerland Magdalena Dymitrowska, ASNR, France
Objective	Discuss the state-of-the-art and current limitations in repository system simulations, with the aim to identify approaches for improving process couplings, scalability, and realism of the models.
Number of participants	ca. 30

Main themes / topics

WP-DITOCO2030 is a StSt, which has the goal to define how to integrate fragmented Digital Twins (DT) from different disciplines into common data environments and decision-making platforms for the entire lifecycle of radioactive waste management. The aim is to add significant value to EURAD-2 by leveraging digital tools / emerging technologies (including DT and Artificial Intelligence -AI), which hold high potential to support sustainable and safe RWM.

Vision: Establish requirements for DT contributions from each discipline, at the right time and level of detail, to support planning, construction, operation, maintenance, and stakeholder engagement.

WP-HERMES, an R&D WP: A research and development effort focused on creating high-fidelity numerical models for strongly coupled THMC (Thermal, Hydraulic, Mechanical, Chemical) processes in repository near-fields. It leverages physics-based models, high-performance computing (HPC), and AI/ML to optimize repository design and interpret experiments.(note: ML stands for Machine Learning).

Surrogate Models are developed to reduce computational costs while maintaining accuracy, flexibility, and applicability across engineering problems.

Applications include optimization, uncertainty quantification, sensitivity analysis, and real-time decision-making.

1. DITOCO WP

The first technical presentation (speakers Arto Laikari and Diederik Jacques) focused on presenting the findings of the Green Paper (jointly developed by Task 3 and Task 4). This presentation provided a comprehensive overview of the current state, key drivers, technology maturity, regulatory considerations and practical applications of DTs in the RWM domain, drawing on past and current developments in both the nuclear sector and other safety critical industries. The process leading to the White Paper, which will summarize the knowledge and approaches necessary for the application of DTs in a nuclear environment, was presented by Pablo Cayon (Task leader 5). With the input received during the meeting, the findings from the Green Paper the White Paper will be able to present the application of DTs in industrial innovation and summarizes the challenges related to nuclear waste, merging the input into a coherent base document in this topic that will inform (guide) future R&D efforts.

2. HERMES – Model Hub

The **Model Hub** is a three-level tool designed to support high-fidelity modeling in the field of radioactive waste disposal.

- The **Web Layer** provides a structured user interface organized by thematic areas such as materials, processes, and scales, leading to related projects.
- The **Info Layer** offers detailed information on these thematic areas, including literature references, lists of current benchmarks, and practical examples that are continuously expanded.
- The **JupyterLab Layer** enables interactive work through Jupyter Notebooks, giving users access to benchmarks, examples, and a coding environment for hands-on modeling.

Together, these layers create an integrated platform that connects structured knowledge, reference material, and interactive tools to advance modeling capabilities in RWM.

3. Application of AI in reactive transport modelling

Artificial Intelligence can significantly accelerate computational simulations, but it is essential to maintain the accuracy of the underlying physical models. A key solution is the use of **surrogate models**, which are simplified representations of complex, high-fidelity systems. By learning the relationship between inputs and outputs from a limited set of data, surrogate models can deliver reliable results much faster and at lower cost. In the context of RWM, they offer substantial acceleration for THMC simulation codes while preserving scientific credibility and decision-making confidence.

4. An example of application of ML in the field of waste disposal

An example was presented demonstrating the application of ML techniques to a gas transport calculation problem, where simulations are scaled from the pore level and reservoir level down to laboratory scale. To support this, the use of physics-informed neural networks (PINNs) is planned for calculating scale-up routes. PINNs are physics-based machine learning methods that integrate physical laws directly with data, enabling more accurate and reliable predictions across different simulation scales.

Outcomes

Both WPs aim to enhance the digital development of safety assessments, design optimization, cost forecasting, and stakeholder communication in waste management systems.

Extensive industry experience demonstrates the potential of DTs, but effective collaboration relies on strong dialogue with end-users. In the context of deep geological repositories, dynamic modelling is essential to capture the full lifecycle of a facility. AI and ML provide powerful tools to support this approach, enabling better data integration and predictive capabilities. At the same time, equal attention must be given to improving the accuracy of physical models and enhancing simulation speed to ensure reliable and efficient decision-making.

3.4 Topical 4 - Near-surface disposal and climate change (CLIMATE and SUDOKU)

Rapporteur	Maia Vercelli, Amphos 21, Spain
Key speakers	Crina Bucur, RATEN, Romania Jin Park, VTT, Finland Koen Beerten, SCK CEN, Belgium Frank Lemy, ONDRAF/NIRAF, Belgium
Objective	Identify information needs and gaps, related to climate changes, to be integrated into the recommendations for optimisation of near-surface facilities design.
Number of participants	ca. 60

Main themes / topics

Panel discussion on the following topics:

- Introduction to near-surface facilities design, including how climate change is addressed in safety assessments and current evaluation of climate impacts.
 - Potential optimisation for repositories includes considering climate change in the multi-layer cover, waste forms, disposal units, and long-term monitoring.
- Summary of results from screening climate impacts on construction and operation phases:
 - Expected effects include erosion/degradation of covers, slope instability, saltwater intrusion, concrete/steel degradation, increased wildfire frequency, and loss of cover system integrity.
 - Alternative and probabilistic scenarios are essential to estimate extreme precipitation impacts.
 - Maximum rainfall estimates should reflect future climate change evolutions.
- Summary of results from screening of climate impacts in the post-closure phase and conclusions on regulatory framework assessment across Member States:
 - European countries vary from “implicit mention” to “specific guidelines” in addressing climate change in nuclear and radioactive waste legislation → potential for harmonisation.
 - Methodology description with overview of climate scenarios by working groups (by climate and repository type).
 - Gaps include uncertainty in GHG modelling, varied downscaling techniques, limited climate models beyond 2100, and limited relevance of natural analogues.
 - Main impacts: potential seawater intrusion, river and pluvial flooding, and reduced efficiency or collapse of mechanical stability.
- Focus on the Belgian case

Participants were then divided into groups and asked to reflect on the following questions:

- Under evolving climate conditions, which failure scenarios do you consider most critical for engineered barriers in near-surface facilities?
- Which recommendations would you prioritise to guide optimisation of the facility design and research to strengthen the robustness of near-surface repositories in a changing climate?
- What approaches are most appropriate for addressing uncertainty in climate projections when evaluating engineered barrier performance?

Outcomes

Strengthening near-surface repository resilience requires integrating robust designs and materials with consistent climate scenarios, monitoring data, and stakeholder-informed safety cases.

For the most critical failure scenarios, groups highlighted extreme rainfall, rising groundwater levels, and sea levels, as well as erosion and slope instability, and the degradation of covers and concrete, as the primary risks to near-surface facilities.

For optimisation and research, the most frequent recommendations were to strengthen cover and drainage systems, improve concrete durability, develop new or self-healing materials, enhance monitoring, and foster knowledge exchange and cooperation.

To address uncertainty, participants agreed on combining probabilistic and deterministic analyses, applying conservative margins, utilising realistic climate scenarios with monitoring data, and engaging stakeholders through iterative safety cases.

3.5 Topical 5 - Future-proofing nuclear waste management (ASTRA and FORSAFF)

Rapporteur	Marja Vuorio, COVRA, The Netherlands
Key speakers	Marja Vuorio, COVRA, The Netherlands Timothy Schatz, VTT, Finland Virginie Wasselin, Andra, France Gabriele Magugliani, POLIMI, Italy Nadja Železnik, EIMV, Slovenia
Objective	Share first results of WPs
Number of participants	ca. 70

The session started with overviews of the ASTRA and FORSAFF WPs presented by Marja Vuorio (COVRA, The Netherlands) and Timothy Schatz (VTT, Finland), respectively.

Challenges identified by ASTRA regarding long-term storage, deep borehole disposal (DBD) and waste management alternatives for SIMS include:

- Degradation of barriers (long-term storage)
- Lack of data and historical records (long-term storage and disposal)
- Climate change impacts (long-term storage, interesting discussion point for DBD)
- Waste acceptance criteria (alternatives for SIMS)

Challenges identified by FORSAFF regarding SMR/AMR waste management include:

- limited operational data
- uncertainties in AMR waste streams
- low maturity of treatment technologies
- regulatory gaps and classification issues

The second part of the session involved a moderated panel discussion. The panel was moderated by Vaidas Matuzas (EC) and was composed of Virginie Wasselin (Andra, France), Gabriele Magugliani (POLIMI, Italy) and Nadja Železnik (EIMV, Slovenia).

The panel discussion themes and related topics were as follows:

1. Technical & Scientific
 - a. design stage integration of waste considerations
 - b. innovation in recycling and fuel cycles
2. Regulatory & Policy
 - a. licensing and disposal pathways
 - b. roles, responsibilities and liabilities
3. Strategic & Economic
 - a. standardization versus innovation
 - b. optimization of the waste management system
4. International & Collaborative
 - a. global cooperation on R&D and standards
 - b. supporting newcomer countries
5. Engagement: effective communication from the scientific and technical community

Key discussion points included:

- SMRs/AMRs offer recycling opportunities but won't eliminate waste.
- Early engagement across partners is essential.
- Iterative licensing approaches could be adapted for SMRs.

- Need for updated frameworks tailored to SMR-specific waste.
- Standardisation simplifies waste management but limits innovation.
- SMR deployment involves both geopolitical and economic considerations.
- Shared disposal options are politically sensitive.
- Collaboration and vendor participation in EURAD are to be encouraged.
- Civil society should be proactively involved.

3.6 Topical 6 - Optimisation routes of deep geological repository (DGR) concepts for safety and robustness: base materials, engineered barriers and design methods (OPTI, ANCHORS and InCoManD)

Rapporteur	Aurélien Debelle, Andra, France, Philipp Herold, BGE, Germany, Nadia Mokni, ASNR, France
Key speakers	Philipp Herold, BGE, Germany Nadia Mokni, ASNR, France Aurélien Debelle, Andra, France Valéry Detilleux, BelV, Belgium Jiří Svodova, CVUT, Czech Republic Janne Pakarinen, VTT, Finland
Objective	Brainstorm about the meaning of optimisation in the framework of the development and implementation of a DGR
Number of participants	ca. 70

During this topical session, the three WPLs, namely Philipp Herold (BGE, Germany), Nadia Mokni (ASNR, France) and Aurélien Debelle (Andra, France) presented a brief overview of the WPs, that a OPTI, ANCHORS and InCoManD, respectively. An illustration of the activities carried out within each WP was provided *via* a short presentation given by a fellow partner of each project: Valéry Detilleux (Bel V - OPTI), Jiří Svodova (CVUT - ANCHORS), Janne Pakarinen (VTT - InCoManD). Following these presentations, a sort of World Café has been organised. At each table, participants, guided by a facilitator, brainstormed about the very meaning of optimisation in the framework of the development and implementation of a DGR. 10 questions were hence addressed:

- What different goals could optimisation of a DGR pursue, and how might these goals be prioritised?
- Which factors can drive repository optimisation, and in what ways might their importance evolve over the different stages of a repository program?
- What approaches could be used to evaluate whether optimisation has been successful, and what criteria would be most meaningful?
- In which systems, structures or components (SSC) might optimisation have the most significant impacts, and why?
- In what ways might optimisation efforts in one area (SSC) influence or interact with others?
- In what ways might optimisation contribute to enhanced safety, and are there situations where it could raise new challenges or trade-offs?
- How might optimisation be meaningfully integrated into a safety case and its periodic reviews?
- If the HLW/SF container material were changed as part of an optimisation, how could this affect the overall DGR concept and its implementation?

- In which systems, structures or components might optimisation have the most significant impacts, and why?
- What is the relationship between optimisation and cost reduction and how should financial aspects be balanced with safety and technical considerations?

Many discussions took place. All answers to these questions have been gathered, and they will be scrutinized within the OPTI WP. They will also be considered by the two other WPs, as it has been pointed out that optimisation at the level of a component (namely, the container or the engineered barrier system (EBS)) may have significant impacts on the overall concept.

3.7 Topical 7 - Ensuring safe final disposal (SAREC and CSFD)

Rapporteur	Virginie Solans, Nagra, Switzerland
Key speakers	Lena Zetterström Evins, SKB, Sweden Madalina Wittel, Nagra, Switzerland Thierry Mennecart, SCK CEN, Belgium Anna Alvestav, SKB, Sweden
Objective	Highlight synergies between the two WPs
Number of participants	ca.50

The topical session provided the general context for the R&D work carried out by both WPs. The focus is on high-level waste (HLW), specifically, on spent nuclear fuel. The synergies between the two WPs were highlighted: for both WPs the key interest is the “source term”, but from opposite perspectives. Thus, WP8 focuses on the radionuclides released from the fuel during final disposal, while WP17, on the other hand, is interested in the isotopic composition that remains in the fuel long-term.

The overarching topic of the session, i.e. “ensuring safe final disposal”, led to a more general discussion regarding the various potential interpretations and implementations of safe final disposal. A key topic was how “safety” is defined and understood, depending on e.g. the socioeconomic and political context of the individual countries and the national programme strategies.

Safety is a requirement both in the operational and in the post-closure phase of a deep geological facility. For both WPs, the key focus is the post-closure phase. In this respect, the main challenge is dealing with the inherent uncertainties in the repository system evolution over long time-frames, e.g. up to 1 million years, after closure.

In this topical session, it was shown how the two WPs contribute to the various parts of the safety assessment. Furthermore, their connections to the EURAD-2 Strategic Research Agenda were highlighted. The end-users of the two WPs were addresses directly and their feedback was requested to help ensure that their questions would be answered during this session and that conversations could be established with them during and after the event.

Keynote presentations: Thierry Mennecart (SCK CEN) and Anna Alvestav (SKB)

Two keynote presentations were given, one on behalf of each WP, with a view to provide:

- An overview of the previous experimental work and results, relevant for the individual WPs, as well identified gaps, some of which are addressed in the on-going work (WP8).
- A summary and plan of on-going or planned experiments.
- Highlight the need for additional experimental work, with a main focus on criticality safety.

Panel discussion: Crina Bucur (RATEN), Mats Jonsson (KTH), Marjan Kromar (IJS), Thierry Mennecart (SCK CEN), Florian Voigts (BGE), Adrien Feuerle (ANDRA) and Maarten Van Geet

(ONDRAF/NIRAS)

A panel of international experts was invited to discuss topics such as:

- Ensuring safe radwaste management: Similarities and differences in different countries.
- Regulatory framework concerning final disposal. What do we mean by safe disposal? For example, for criticality.
- How is the work done during the WPs influencing the safe final disposal?

Outcomes:

- Both WPs are well advanced. They have produced their respective SOTAs.
- Good connections between the two WPs were established. Potential for collaboration on future experimental work acknowledged.

Follow-up actions:

- Proposal to fill the experimental gaps, especially with a focus on criticality safety, currently being developed.
- Discussions planned with the end-users.
- Bilateral collaboration between WP8 and WP17 to be further developed and pursued (e.g. in upcoming joint meetings).

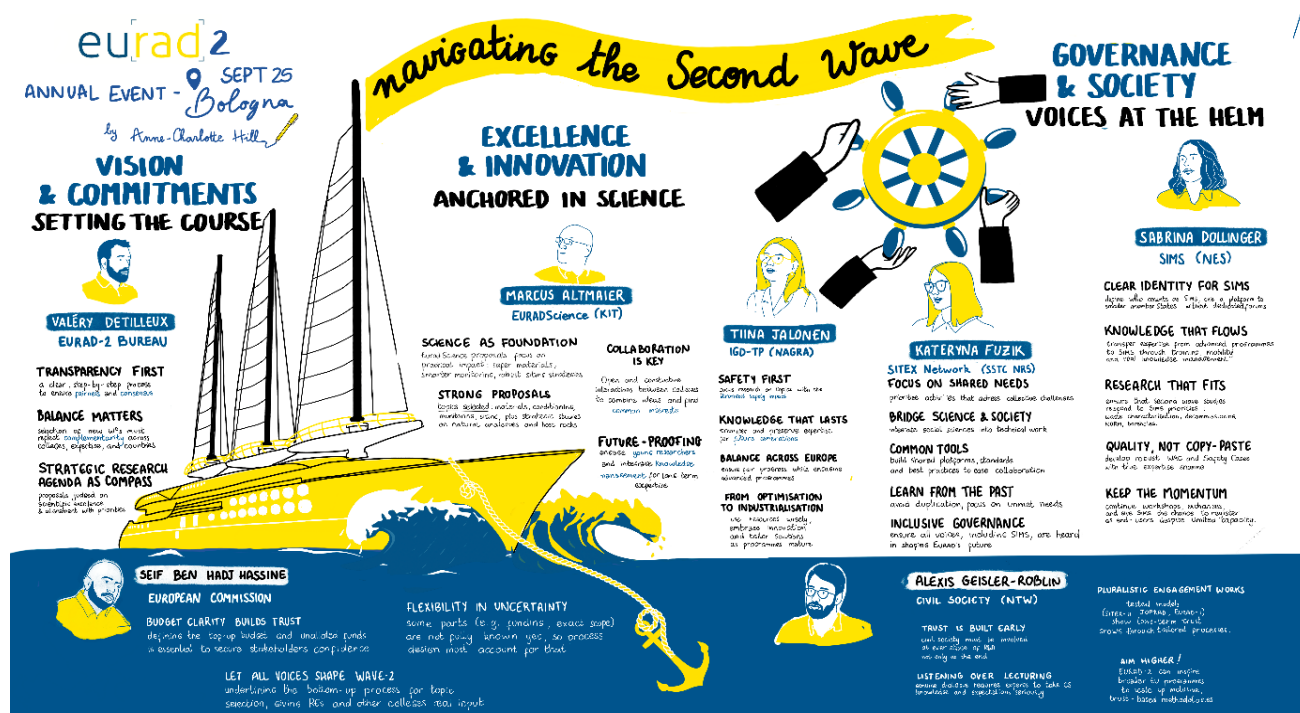
4. Day 3 – Second wave and closing remarks

4.1 Second wave

Rapporteur	Valéry Detilleux, Bel V, Belgium
Key speakers	Valéry Detilleux, Bel V, Belgium Marcus Altmaier, KIT, representing EuradScience Sabrina Dollinger, NES, representing SIMS Kateryna Fuzik, SSTC NRS, representing SITEX.Network Tiina Jalonen, NAGRA, representing IGD-TP Alexis-Geisler Roblin, NTW, representing Civil Society
Objective	Inform about the current status and the next steps of the selection process for the second wave activities.
Number of participants	ca. 250

Since the second General Assembly, the EURAD 2 Bureau has engaged in intense discussions to finalise the terms of reference for selecting the second wave of WPs. These terms were published on 3 June 2025 on the EURAD-2 website and ProjectPlace. They provide a detailed description of the selection process and the responsibilities of its stakeholders, as well as planning for all steps. On 30 June 2025, the Bureau organised a webinar to explain these terms of reference to all colleges. The first step in the process is the call for proposals from colleges for new topics for the second wave of WPs. This call was issued on 3 June 2025 and closed on 3 September 2025. Each college duly responded to this call and proposed four RD&D and two strategic study topics for new work packages using template #1. The evaluation of these proposals (including their eligibility and the potential merging of proposed topics) is ongoing. A consolidated list of potential work packages is expected by 10 October 2025. For each possible WP, a coordination team will be formed, comprising one representative from each college. These WP coordination teams will be invited to submit a WP proposal using template #2 by 10 December 2025. In parallel, the first wave of strategic study WPs will be invited to propose new R&D WPs using template #2 by 10 December 2025. Further selection steps are planned for the first semester

of 2026. Between September 2025 and mid-2026, the Colleges will therefore need to work closely together to reach a consensus on the selection and development of the second wave of WPs.



4.2 Closing remarks

The Annual Event was a real success in terms of participation and engagement from the community, with 250 live present and 150 on-line.

The Chief Scientific Officers (CSOs) emphasized that EURAD-2 must deliver scientific and technological results that effectively address the needs of Member States and end-users.

They welcomed the growth of the end-user group and the planned outreach to Member States for the second wave 2 prioritisation, highlighting the importance of proactively engaging key end-users, such as waste generators, as well as Member State representatives.

EURAD-2 should position itself as a “one-stop shop” for radioactive waste management, particularly in relation to new European initiatives such as the European Industrial Alliance on SMRs and the Important Projects of Common European Interest (IPCEI).

Position papers could enhance visibility and impact among policymakers and stakeholders who may not have the time or expertise to engage with detailed technical documents.

The CSOs reiterated the importance of maintaining the unique partnership structure of EURAD, which brings together three Colleges, and ensuring that the Strategic Research Agenda and work programme benefit all actors. They stressed adherence to EURAD's guiding principles, including positive participation, independence, transparency, scientific excellence, inclusiveness, balanced programming, and tangible results.

While welcoming the top-up budget that will allow continuation of ongoing work and development of new second wave work packages, the CSOs cautioned that budget availability should not automatically extend 1st wave RD&D projects. A formal hold point should be applied, with continuation decisions based on outcomes.

Finally, the second wave should be seen as an ambitious step forward, not merely a budget allocation exercise. The integration of Strategic Studies results, such as the White Papers due at Month 18, should

be made clear. Input from SIMS must be respected, including funding allocations for non-NPP waste, predisposal activities, and targeted knowledge management. The alignment of the second wave with EURAD2's strategic vision and the "one-stop-shop" ambition should be clearly presented at the next General Assembly.

