The EURAD-2 KM Programme

Position Paper

Introduction

The European nuclear industry, along with the global nuclear community, is facing the challenge of transferring knowledge across multiple generations due to the long implementation and licensing times associated with the back-end of the nuclear fuel cycle, particularly final geological disposal.

Therefore, Knowledge Management (KM) is crucial and it should address a broad spectrum of target groups with different needs and a vast number of experts in different, but related, disciplines. Consequently, the Knowledge Management needs span from capturing Knowledge and transferring it. The latter encompasses several levels, from providing basic information and training, up to providing Knowledge and competence building on specialist state-of-the-art topics.

Objectives

The purpose of this position paper is to inform the EURAD community on the main development of the EURAD and PREDIS KM programmes and future plans for establishing the EURAD-2 KM Programme. This position paper represents the view of the KM committee and has not been reviewed by the Colleges. The lessons learned from both projects have been summarised in a SWOT analysis (Annex I). The focus is on answering the three following questions related to the KM programme:

- What should stay the same from EURAD and PREDIS?

- What recommendations are there to change from EURAD and PREDIS?

- What are the priorities? (e.g., production of documents, sharing of facilities, trainings, mobility´s of researchers, guidance)

What should stay the same from EURAD-1 and PREDIS?

Based on the SWOT analysis, the following elements should remain in EURAD-2's KM programme:

- Flexibility of the technical/administrative management of knowledge and activities to move towards progressively sustainable solution.

- Continue to use and improve on developed methods for systematically gathering end-user feedback for all knowledge management activities.

- Continue and improve development and organising knowledge transfer activities of different levels for various target groups of end-users (for example, e-learning, training courses, mobility …).

- Better guidance of Knowledge Capture (in EURAD WP11 State-of-Knowledge) efforts by scientists involved in R&D and StSt WPs in order to have a consistent structure of the Domain Insights (DI), State-of-Knowledge´s (SoK), State-of-the-Art´s (SotA) and training materials developed from them.

- Continue to involve End-Users in the KM activities, expanding beyond guidance, to promote visibility, acceptance and use of the outcome. This includes engagement of End-Users in developing best practices for relevant real-world cases and continued engagement for programme reviews.

- Improve support to Communities of Practice and the Student Group.

- Foster transparency and improve accessibility by sharing knowledge with civil society remains crucial.

What recommendations are there to change from EURAD and PREDIS?

The overall recommendations with the classical elements of Knowledge Management remain. Within that frame, however, new activities are introduced.

New activities and working methods supported by the KMC representatives from the three Colleges are:

- Introduce Feasibility Studies to elaborate upon implementation of new and innovative ideas, thus having a responsive and dynamic KM programme. The need for feasibility studies builds on lessons learned in EURAD, not having a tool to properly assess the value and broad support for requested new KM activities. The feasibility study is a 1-6 month expert activity and addresses amongst others the cost-benefit, the implement ability, but also the complementary nature with other activities in EURAD-2 and national/international initiatives. These studies will be budgeted from the non-allocated KM WP expert budget and the work process developed in the KM WP.

- Broaden the set of target-groups/communities (for example knowledge transfer for regulatory bodies).

- Strategies for sustainability of the KM programme outcomes.

- Establish E-Learning tools from DI, SoK, SotA and Policy Documents, in addition to other training materials provided based on these documents and combine them with tools from national/international organisations as well as academia to produce courses adapted to support RWM organisations KM training.

- Better integration of the KM activities in order to use tools developed as part of the knowledge transfer activities (for example require passing e-learning modules before participating to face-to-face training).

- Stronger systematic linking between KM, R&D and Strategic Studies (StSt) WPs through "Knowledge Ambassadors/Task 2 leaders" and their participation in the executive body for the KM Programme.

- Introducing a Topic on Support to Database Management, where Databases with a relation to KM are targeted, i.e., in particular databases that are part of the Knowledge Capture under R&D and StSt WPs.

- Supporting a sustainable network at a European level of labs and technical installations that can be used by all Europeans partners in support of their programme needs, in synergy with existing initiatives.

- Assess and implement improved use of social media for better outreach based on end-users' feedback.

- Extending Student Group activities by Career Development tracks.

- Establish mentoring programme using existing capabilities in academia and industry.

What are the priorities?

The overall priorities in the EURAD-2 KM Programme are given to activities in EURAD/PREDIS that have given positive feedback and have fulfilled the end-users' needs. The KMC recommends establishing a KM programme along four main topics:

i. Knowledge capture (establishing and updating Domain Insights and State-of Knowledge documents; corresponding to EURAD WP11: State-of-Knowledge)

ii. Knowledge transfer (competence building and mobility actions; corresponding to EURAD WP13: Training and Mobility)

iii. Knowledge application & Know-How development (establishing Guidance; corresponding to EURAD WP12: Guidance)

iv. KM Programme administrative management (coordinating KM activities with international organisations, handling overarching internal EURAD-2 KM initiatives, supporting student's group activities, etc.)

These main topics will be sub-divided into activities and will be subject to prioritisation. Depending on feedback from colleges and participants a detailed structure and content will continue to evolve until the submission of EURAD-2 proposal. Furthermore, the KM Programme is structured for flexible response to experiences learned and proposals for new activities, also during the Programme implementation.

The KM Programme's priorities will be finalised in collaboration with the Colleges and the Core Group, taking into account the lessons learned from EURAD and PREDIS, the KMC vision, proposals received from the broader Community (following the public webinar, see below), and lessons learned during the implementation of the EURAD-2 KM Programme.

Involvement of the EURAD-2 Community

The key points in time for involvement of the EURAD-2 Community in the preparation of the KM Programme are:

    a. Information about the forthcoming KM Programme at public webinar, 11 July 2023, organised by the Core Group.

    b. Webinar on 31 August 2023, organized by the KMC (Knowledge Management Committee, see Annex II) and the Core Group, for assessment of the status of the KM Programme and discussion with the community.

    c. Following that webinar, the EURAD-2 community is invited to submit proposals for activities to the KMC through the respective College representatives, targeting, in particular:

        i) new important target groups, and

        ii) innovative ideas on how to implement KM activities more efficiently.

    d. Submission of KM Programme (to be integrated in EURAD-2 proposal), 31 October 2023.

Reflecting the flexible approach to experience and assessment feedback, the "final KM Programme" allocates part of the KM budget to specified activities and the resources need to run the programme but keeps part of the budget non-allocated. The non-allocated KM budget is not associated with the 1st and 2nd wave of EURAD-2. Instead, it is a KM internal budget (with the Coordinator) used to contract experts for producing State-of-Knowledge, guidance and training documents as well as for mobility actions, and innovative KM activities identified by the RWM community and assessed by feasibility studies.

For specific questions, feel free to contact members of the KMC (Annex II).

ANNEX I: Lessons Learned EURAD/PREDIS

The lessons learned are given in a SWOT form, i.e., as identified Strengths, Weaknesses, Opportunities and Weaknesses from assessments of the preceding EURAD and PREDIS KM programmes. The outcome may be summarized as follows:

Strengths	Weaknesses
• Progressive harmonization • Broad access + integration of wide set of experts • Needs and quality driven programme • Flexibility - non-allocated budget - learning-by-doing – rapid response to needs • Successful engagement and involvement of Users in the development of Guidance.	• Relation to the MSs National Programmes unclear. • Difficulties to estimate human resource requirements for different activities. • Need for better interaction between the R&D and StSt WPs, involved partners, and the KM Programme activities. • Administrative challenges in engaging required external experts
Opportunities	**Threats**
• Better / more efficient strategy for, and structure of surveys. • Develop a long-term vision for the KM Programme. • Adapt interaction / communication tools towards the young generation and other interested communities.	• Lack of driving force in Early-Stage programmes, being beyond the influence of the KM Programme • Lack of interaction with End-Users may result in outcomes not matching the End-Users needs and interests. • The sustainability of the outcome beyond the implementation of EURAD and its successors remains uncertain.

ANNEX II: The EURAD-2 KM Committee

EC	Paul Carbol (EC-JRC)	paul.carbol@ec.europa.eu
Waste Management Organisations, WMO college - via IGD-TP	Lead: Alexandru Tatomir (BGE) Support: Anders Sjöland (SKB)	Alexandru.Tatomir@bge.de anders.sjoland@skb.se
Technical Support Organisation, TSO college - via SITEX.Network; which also includes civil society and regulators views	Lead: Jitka Mikšová (SURO) Support: Christophe Debayle (IRSN) Kateryna Fuzik (SSTC NRS)	jitka.miksova@suro.cz christophe.debayle@irsn.fr kv_fuzik@sstc.ua
Research Entities, RE college - via EURADSCIENCE network; which also include supply chains and companies	Lead: Gunnar Buckau (KIT-PTKA) Support: Alba Valls (Amphos21) Niels Belmans (SCK-CEN)	gunnar@buckau.se alba.valls@amphos21.com niels.belmans@sckcen.be

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