NEA Workshop

on

Digital Safety Case Integration
for
Radioactive Waste and Geological Disposal
PROVISIONAL PROGRAMME

23-24 April 2025

Boulogne-Billancourt

General information

Location

Nuclear Energy Agency (NEA)

46, quai Alphonse Le Gallo, 92100 Boulogne-Billancourt, France

Registration

Registration will open at NEA's web site.

Day 1 | 23 April 2025

Opening and Introduction of workshop

Chair: *Luca Abele Piciaccia, DSA*

9:00   **Opening remarks (10 min)**

Luca Abele Piciaccia, DSA, EGSSC Chair

9:10   **Workshop introduction: EGSSC works and the outcome from the 1st Digital SC Workshop in 2022 (20 min presentation + 10 min Q&A)**

NEA/EGSSC

Session 1: What does a holistic consideration of a digital safety case mean?

Chair: *Workshop Programme Committee*

09:40   **Creating a Digital Platform for Safety Case Development (20 min presentation + 10 min Q&A)**

Alexander Carter, NWS

10:10   **The digital general licence application (dRBG) Platform: A Centralized Digital Gateway to Nagra's Nuclear Waste Management (20 min presentation + 10 min Q&A)**

Mona Stockhecke, Nagra

10:40   Break (20 min)

Session 2: How can digital technologies help coordinate change management and configuration management for safety cases / licensing

Chair: *Workshop Programme Committee*

11:00	**Management of Knowledge Data for the Representative Preliminary Safety Assessment in the German Site Selection Procedure (20 min presentation + 10 min Q&A)**
	Simone Tillmann, *BGE*
11:30	TBC
12:00	**Joint Project on AI Platform for Nuclear Research and Education (20 min presentation + 10 min Q&A)**
	Oliver Buss, *OECD/NEA*
12:30	Lunch (90 min)

Session 3: Regulating safety in an increasingly digital world

Chair: *Workshop Programme Committee*

14:00	TBC
14:30	TBC

Session 4: The developing role of systems engineering and requirements management

Chair: *Workshop Programme Committee*

15:00	**Use of Discrete Event Simulation (DES) to Produce High-level Digital Twins of Nuclear Waste Disposal Programmes (20 min presentation + 10 min Q&A)**
	Andreas POLLER, *CSD Engineers*
15:30	Break (20 min)
15:50	**NEUChain: Next Generation Digital Twin for Nuclear Energy System and AI-Based Knowledge Management System (20 min presentation + 10 min Q&A)**

Tomohiro Okamura, Institute of Science Tokyo

16:20   **Nagra's digital environment to manage post-closure safety and engineering requirements (20 min presentation + 10 min Q&A)**

Michael Köbberich, *Nagra*

16:50   Break (10 min)

Session 5: Discussion session

Chair*: Workshop Programme Committee*

17:00   **Discussion**

18:00   **Key takeaways from discussion**

18:20   **End of day remarks**

Luca Abele Piciaccia, DSA, EGSSC Chair

18:30   **End of day 1**

Day 2 | 24 April 2025

Session 6: Relevant Developments in underlying domains (part 1)

Topics:
- Digital Inventory and waste package records
- Site characterisation
- Common data and modelling environments

Chair: *Workshop Programme Committee*

9:00	**NEUChain: An Blockchain & AI-Based Secured Knowledge Management System for Nuclear Energy System (20 min presentation + 10 min Q&A)** *Takahiro Nishihara*, Institute of Science Tokyo
9:30	**Exploratory Machine Learning Approaches for Physico-Chemical Characterization (20 min presentation + 10 min Q&A)** *Ilker Makine*, ONDRAF/NIRAS
10:00	**BGE's Repository Search Navigator – an interactive online platform for siting (20 min presentation + 10 min Q&A)** *Jonathan Kindlein*, *BGE*
10:30	Break (15 min)

Session 7: Relevant Developments in underlying domains (part 2)

Topics:
- Digital engineering and BIM
- Linking research to the safety case
- Use for internal and external communication

Chair: *Luca Abele Piciaccia, DSA*

10:45	**Integration of Advanced Digital Tools for the Realisation of an Optimised Repository in Switzerland (20 min presentation + 10 min Q&A)** *Alexandros Papafotiou*, Nagra

11:15   **Digital Twin of Cigéo to support operating phase: goals, needs and work in progress (20 min presentation + 10 min Q&A)**

Guillaume Pepin, *Andra*

11:45   **TBC (20 min presentation + 10 min Q&A)**

Benjamin Girard, *SPARTE*

12:15   **Virtual and augmented reality as a cutting-edge technology for modelling of nuclear waste repositories (20 min presentation + 10 min Q&A)**

Kemal Yildizdag, *BGE*

12:45   Lunch (90 min)

14:15   **Development of Digital Technology for Building Smart Disposal Facility (20 min presentation + 10 min Q&A)**

Junsung Son, *KORAD*

14:45   **Enhancing User Access to Large Technical Documentations with LLMs (20 min presentation + 10 min Q&A)**

Mona Stockhecke, *Nagra*

Session 8: Moving toward a digital safety case

Chair: *Workshop Programme Committee*

15:15   **Developing a Digital Safety Case Architecture for the Radioactive Waste Industry**

James Grover, *Capgemini*

15:45   Break (15 min)

Session 9: Discussion session and conclusions

Chair: *Workshop Programme Committee*

16:00	**Discussion**
17:00	**Key takeaways from discussion**
17:30	**Summary of workshop and closing remarks** *Luca Abele Piciaccia, DSA, EGSSC Chair*
18:00	**End of Workshop**