Draft Programme – Day 1

TUESDAY-1st April 2025

Deadline: 28 February 2025

Limited Capacity: 200 Participants

Registration fees:

- Full price: 175€
- Young professionals (must have graduated within the last 3 years): €100.

The registration fee includes attendance to all technical sessions, site visits (limited capacity) as well as lunch and refreshments throughout the workshop. The workshop, co-hosted with Sellafield Ltd, will take place at the Energus conference centre in Workington, United Kingdom (Blackwood Road, Lillyhall, Workington, Cumbria, CA14 4JW).

Opening session		
8:00		**Registration**
9:00	**1.1**	**Welcome remarks** OECD Nuclear Energy Agency (NEA) and Sellafield Ltd
9:20	**1.2**	**Innovative technologies for back-end challenges** Thomas Braunroth, GRS, Germany and Ladislav Vargovcik, Technical University of Kosice (TUK), Slovak Republic, Workshop Co-Chairs
9:50	**1.3**	**Keynote speaker from Sellafield Ltd** Robin Ibbotson, Sellafield Ltd, UK
10:05	**1.4**	**Robotics and Artificial Intelligence Collaboration (RAICo)** Kirsty Hewitson, RAICo, UK
10:20		**Coffee break**

Leveraging international experience 2

Session Chair - Peter Berben, Engie, Belgium

10:50	2.1	**Robotic and innovation to accelerate decommissioning** Patrick Aikens, Canadian Nuclear Laboratories, Canada
11:10	2.2	**Intelligent Safety Equipment for Decommissioning at the China Institute of Atomic Energy (CIAE)** Liu Yang, CIAE, China
11:30	2.3	**Robot Applications at the Korea Atomic Energy Research Institute (KAERI) for Nuclear Safety and Decommissioning** Ryu Dongseok, KAERI, Korea
11:50	2.4	**Overview of robotics work at Department of Energy office of Environmental Management (DOE EM)** Rodrigo Rimando, DOE, USA
12:10	2.5	**Further Q&A and session wrap-up Session Chair(s)**
12:20		Lunch

Implementation challenges 3

13:50	3.1	**Drafting a good implementation roadmap to anticipate overcome deployment challenges** Rich Brooks, Atkins and Will Newsom, Createc, UK
14:10	3.2	**AI-Powered Nuclear Engineering - Story of a Journey from Expectations to Real Life** Victor Richet and Andy Radley, Assystem, France & UK
14:30	3.3	**Panel session (40'): Funding, management, supply chain, regulation, stakeholder engagement aspects**
15:10		Coffee break

Characterisation and sampling 4

Session Chair - Cynthia Barr, Nuclear Regulatory Commission (NRC), USA

15:30 **4.1 Automated Measurement System for Radioactive Waste Drums - implementation and commissioning experiences**

Hofkens Wim, Engie, Belgium

15:50 **4.2 Unmanned Aerial Vehicle (UAV) Radiological Surveillance Data Processing and Post-Processing**

Sven Altfelder, BGR, Germany

16:10 **4.3 Laser sampling in support of radiological, chemical and asbestos characterisation**

Kym Jarvis and Susan Parry, Viridian, UK

16:30 **4.4 Indoor drones for hot cell characterisation**

Orano, France, *to be confirmed*

16:50 **4.5 Further Q&A and session wrap-up Session Chair(s) 4.5**

Decontamination, dismantling, and handling (Part 1) 5

Session Chair - Ladislav Vargovcik, MISSL, Slovak Republic

17:00 **5.1 In-situ ultrasonic decontamination technology: application experiences in nuclear decommissioning**

EPRI, *to be confirmed*

17:20 **5.2 LD-SAFE: Underwater Laser Cutting Demonstration for Nuclear Dismantling**

Pierre Daguin, ONET, France

17:40 **5.3 Further Q&A and session wrap-up Session Chair(s)**

17:45 Day 1 wrap-up & finish

Workshop Co-Chairs

Draft Programme – Day 2

WEDNESDAY-2st April 2025

Decontamination, dismantling, and handling (Part 2) 5		
		Session Chair - Ladislav Vargovcik, TUK, Slovak Republic
9:00	5.4	**Robotic Technologies for Nuclear Decommissioning** Leonel Lagos, Florida International University, USA
9:20	5.5	**The use of Robotics and Remote Systems (RRS) in decommissioning by Vattenfall** Nicklas Tjernlund, Vattenfall AB, Sweden
9:40	5.6	**Innovative Handling System for Graphite Core Dismantling** Riccardo Chebac, GraphiCore, Italy
10:00	5.7	**Technology development and application to support recycling of radioactive materials** Tim Milner, Energy Solutions, USA
10:20	5.8	**Further Q&A and session wrap-up Session Chair(s)**
10:30		Coffee break

Behind the technology: human factors 6		
		Session Chair - Seifallah Ben Hadj Hassine, European Commission (EC)
11:00	6.1	**Unifying Humans and Autonomous Systems: Meeting Innovation Challenges in Deep Geological Repositories** Heikki Leitinen, SKB, Sweden
11:20	6.2	**Wearable Robotics, Human Machine Interface, common failures** Jason Wheeler, DOE, USA
11:40	6.3	**Further Q&A and session wrap-up Session Chair(s)**

11:50		Lunch

Digitalization and Cyber Security 7

Session Chair - Nicklas Tjernlund, Vattenfall AB, Sweden

13:40	7.1	**Context presentation** Rob Nichol, Sellafield Ltd, UK
14:00	7.2	**Cyber security for innovative nuclear technologies** Fan Zhang, Georgia Tech, USA
14:20	7.3	**Towards Safe & Secure use of robots in nuclear** Levente Nyusti, IFE, Norway
14:40	7.4	**Further Q&A and session wrap-up Session Chair(s)**
14:50		Coffee break

Safety considerations for automated and AI technologies 8

Session Chair – Michael Donnelly, Sellafield Ltd, UK

15:20	8.1	**Use of AI and automated systems to improve safety in radioactive waste management** Rustam Stolkin, University of Birmingham, UK
15:40	8.2	**Safety Standards, The Role Of AI-Large Language Models in Safety During Decommissioning** Duriem Calderin, International Atomic Energy Agency (IAEA)
16:00	8.3	**Trilateral Principles Paper on the Deployment of Artificial Intelligence in Nuclear Activities** Paolo Picca, ONR, UK
16:20	8.4	**Multimodal AI for Risk Modeling: Forecasting Cascading Risks** Alina Pak, Ekho Labs, USA
16:40	8.5	**Panel session on Safety consideration for automated and AI technologies**

17:30		Day 2 wrap-up & Finish Workshop Co-Chairs

Draft Programme – Day 3

THURSDAY-3rd April 2025

How could innovative technologies support the back end of SMRs and advanced reactors 9		
		Session Chair - Thomas Braunroth, GRS, Germany
9:00	9.1	**SMR concerns, constraints, and opportunities // NEA Activities** Gabriele Grassi, NEA
9:20	9.2	**Lessons learned from decommissioning thorium technology facilities** Pat Degagne, CNL, Canada
9:40	9.3	**SMR Program (lead reactor)** Pascal De Langhe, SCK CEN, Belgium
10:00	9.4	**IAEA Safety Considerations for Radioactive Waste, Spent Fuel Management, and Decommissioning of SMRs** Duriem Calderin, IAEA
10:20	9.5	**Further Q&A and session wrap-up Session Chair(s)**
10:30		Coffee break

Effective initiatives to foster innovation 10		
		Session Chair – Nicklas Tjernlund, Vattenfall AB, Sweden
11:00	10.1	**Euratom Research & Training Programme: a European strategy for research and innovation in D&D activities** Seifallah Ben Hadj Hassine, EC

11:20	**10.2**	**ONR Sandbox: regulators fostering innovation** Paolo Picca, ONR, UK
11:40	**10.3**	**When regulators adopt innovation** John McIntosh, Canadian Nuclear Safety Commission, Canada
12:00	**10.4**	**Électricité de France (EDF's) strategy on robotic training definition** Lise Thenault, EDF, France
12:20	**10.5**	**Further Q&A and session wrap-up Session Chair(s)**
12:30		**Closing remarks and summary** Workshop Co-Chairs
12:40		Workshop conclusion