



DigiDECOM

DigiDECOM's NuclearNEXT 2025



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Explore the Posters – On Display All Four Days!

Discover the latest research, projects, and innovative ideas shaping the future of the nuclear field. Engage with experts, exchange insights, and be inspired by the next wave of innovation.

Day 1 – Nov 17

08:00 – 09:00	Registration
09:00	Welcome & Practical Information
09:10	Opening Remarks – The Mayor of Halden, the Vice President of IFE Opening Speech by the Director-General of the Nuclear Energy Agency William D. Magwood
Session 1	Plenary Presentations Theme: Global Perspectives and Innovations Shaping the Future of Nuclear Energy
09:30	Helena Mrazova IAEA Plenary Presentation
09:55	Alexia Mercier OECD NEA Plenary Presentation
10:20	Keynote Arne Larson The WNA Perspectives and Consequences on Alignment of Regulations in Nuclear Back-end
10:45 – 11:05	Coffee Break
11:05	Keynote Ole Reistad (DNV) Nuclear reactor systems for international commercial marine vessels: The shipping perspective
11:30	Keynote Donald Hoffman (EXCEL Services Corporation)
11:55	Keynote István Szőke From the Halden Legacy to the Next Era of Nuclear Innovation
12:20– 13:30	Lunch
13:30	Roadshow for Sponsors – Opening Speech (IFE VP)
	Participating Sponsors INGECID, Createc, Halden Kommune, Halden HTO Program, Cyclife, Norwegian Nuclear Decommissioning (NND), Norwegian Nuclear Research Centre (NNRC)



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Session 2	Role of AI, Data and Robotics in Safety Compliance and Knowledge
14:30	Introduction by Session Chairs
14:35 – 14:55	Presentation by Ingecid
14:55 – 15:25	Stine A. Mikkelsplass (IFE) – Cybersecurity in the age of digitalization and AI
15:25 – 15:45	Coffee Break
15:45 – 16:05	Helena Mrazova (IAEA) – Semantic technologies application to enhance accessibility of knowledge in nuclear decommissioning
16:05 – 16:25	Duriem Calderin (IAEA) – Safety Considerations for Radioactive Waste, Spent Fuel Management and Decommissioning of Small Modular Reactors
16:25 – 16:45	Duriem Calderin (IAEA) – AI Large Language Models for Safety in Decommissioning
16:45 – 17:05	Andy Connell & Darren Rourke (Amentum) ThreadSafe: AI-Enabled Ontology and Graph-Based Management of Nuclear Safety Cases
17:05 – 17:25	Jarl Robert Heer (AFRY) – Safety and Modelling perspectives for Safety Cases on Radionuclide Emission Cases
17:25 – 17:45	Philip Harding (Brenk Systemplanung GmbH) – An AI cutting and packaging planning of activated and contaminated 3D structures, systems and components in the dismantling of nuclear facilities
18:05	Day Adjourned

Day 2 – Nov 18

Session 3	Shaping a Smarter Nuclear Future Through AI and Digital Innovation
08:40	Introduction by Session Chairs
8:45 – 9:05	Albrecht Kyrieleis (Amentum) Machine Learning based design optimisation – example: fusion tritium breeder digital twin
09:05 – 09:25	Sebastian Kitchin (Createc)
09:25 – 09:45	Ole Jakob Ottestad (NND)



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09:45 – 10:05	Zdeněk Rudovský (CVUT) – Digitalisation of the in-situ experiment of radioactive waste disposal in deep geological repositories
10:05 – 10:25	Hideki Mizukami (TEPCO) – The achievements of the Digital Mock-up system at Fukushima Daiichi Nuclear Power Station and future plans
10:25 – 10:45	Holger Seher (GRS) – Use of innovative technologies to support knowledge management for decommissioning, the GRS approach
10:45 – 11:05	Renée Hageman (NRG Pallas, Young Generation) – Testing wireless communication for shielded areas and sensor-networks techniques best suited for decommissioning sites
11:05 – 11:25	Coffee break
Panel Discussion 11:25 – 12:45	Stakeholder Engagement & Social Acceptance in Nuclear The panel will explore the evolving trends in stakeholder engagement and social acceptance within the nuclear industry, focusing on decommissioning and waste management. Experts will discuss strategies for building public trust, addressing societal concerns, and enhancing communication.
12:45 -14:00	Lunch Break
Session 4	Building Resilience: Integrated Risk, Safety, and Security Management
14:00	Introduction by Session Chairs
14:05 – 14:25	Sizarta Sarshar (IFE) – Using Structured Safety Argument Techniques to Plan Safety-Critical Operations
14:25 – 14:45	Ankur Shukla (IFE) – Integrated Cyber Risk Management for IT, OT, and AI Systems in Safety-Critical Environments
14:45 – 15:05	Speaker(s) from Ukraine
15:05 – 15:25	Per A. Jørgensen (IFE) – Safety & Security challenges
15:25 – 15:45	Emilie Greaker (IFE, Young Generation) – An approach to structured safety arguments for safe use of black box reinforcement learning in the control loop of real-time control systems
15:45 – 16:05	Coffee Break
Special Session	16:05 IAEA Workshop Moderated by IAEA



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18:00	Day Adjourned
Time to unwind and connect! 19:30 – Welcome Drinks 🍷 Raise a glass, meet new faces, and catch up with old friends. 20:00 – Banquet Dinner 🍽️ With Toastmaster Prosper A. Kwei-Narh leading the evening expect laughter, good vibes, and a few surprises! ❖ Great company, great food, and even better stories await. Dress to impress and bring your best smile!	

Day 3 – Nov 19

9:00 – 12:00 Special Session	9:00 – 10:00 From Regulatory Insights to Digital Decommissioning James M. Hylko (Hylko Nuclear, LLC) A retrospective on the role of regulation and worker safety driving technological innovation in radioactive waste characterization Patrice Francois (ASNR) Insights in safety assessment for emerging technologies Antti Rätty (VTT) Applying Digital Twins and dedicated Ontology for Robot-Assisted Decommissioning Operations (EURATOM DORADO)
	10:00 – 12:00 Group Discussions & Insights from the Project EURATOM DORADO breakout room
12:00 -13:15	Lunch
Panel Discussion	13:15 – 14:30 AI, Data & Robotics in Nuclear Experts will discuss how AI, data analytics, and robotics are driving efficiency, enhancing safety, and promoting environmental sustainability in the nuclear process. The panel will also explore the critical role of human and organizational factors in implementing these technologies, ensuring that both technological advancements and effective workforce management align to improve overall performance, safety, and community engagement throughout the nuclear lifecycle.

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Session 5	Knowledge Management and Innovation for a Sustainable Nuclear Future
14:30	Introduction by Session Chairs
14:35 – 15:25	Sushil Birla (NRC) – Knowledge Management Fundamentals
15:25 – 15:45	Arne Larsson (Cyclife) – Design, Build and Commissioning of a treatment facility for contaminated metals
15:45 – 16:05	Siavash Kazemi (KIT) – Development of an Autonomous Robotic System for decontamination tasks in nuclear power plants
16:05 – 16:30	Coffee Break
16:30 – 16:50	Niels-Kristian Mark (IFE) – VRdose use in planning, training, operation and decommissioning
16:50 – 17:10	Edvin Nordheim Edvardsen (IFE, Young Generation) – Building Nuclear Competence in Ukraine
17:10	Day Adjourned

Day 4 – Nov 20

Session 6	Human & Organizational Considerations & Human-centred AI
9:00	Introduction by Session Chairs
9:05 – 9:25	Stine Stand (IFE) – Human Factors in Control Room Design and Evaluation
9:25 – 9:45	Jarl Robert Heer (AFRY) – The Human and Organizational Preparedness for Emerging Nuclear Power
9:45 – 11:00:05	Yukihiro Iguchi (Univ. of Fukui) – Evaluation of the Effectiveness and Optimisation of digital technologies in decommissioning
10:05 – 10:25	Prosper A. Kwei-Narh (IFE) – A Dynamic multi-pronged approach to Capture & Learn from safety issues in nuclear power plant decommissioning
10:25 – 10:45	Per Ø. Braarud Integrating AI into Control Centers? Human Factors Considerations
10:45 -11:25	Coffee Break



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Session 7	The Euratom Research and Training Program: Building Europe's Nuclear Future
11:25	Introduction by Session Chairs
11:30 – 11:50	Stine Strand - EURATOM EASI-SMR
11:50 – 12:10	Omar Zahra - EURATOM DORADO
12:10 – 12:30	Abdenour Benkrid - Euratom XS-Ability
12:30 – 12:50	Réka Szőke - Eurad-2 DITOCO work package
12:50 – 13:10	📅 Adjournment of the DigiDECOM NuclearNEXT Technical Session 💎 We look forward to seeing you next year for another exciting DigiDECOM journey!
13:10 – 14:30	Lunch

Day 5 – Nov 21

09:00 – 12:30	Technical Visit Join us for an exclusive behind-the-scenes tour of IFE Halden's state-of-the-art facilities: ♦ HADRON Lab ♦ Cybersecurity Centre, ♦ HAMMLAB ♦ VR Centre ♦ VRdose demo Discover where innovation, research, and technology come together to shape the future of the nuclear field. Be inspired by cutting-edge developments and expertise driving the next generation of solutions.
12:30	Lunch (grab and go)