

DigiDecom 2021 – DIGITAL

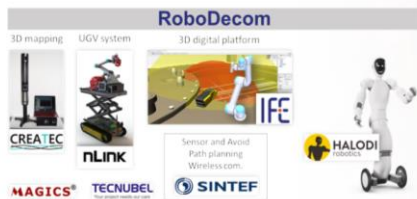
Online international workshop focusing on digital transformation, robotics and other game changing trends in nuclear decommissioning



*Decommissioning includes waste management and environmental remediation



The 2021 workshop will support and disseminate results from the SHARE www.Share-h2020.eu PLEIADES pleiades-platform.eu and PREDIS predis-h2020.eu Horizon 2020 projects



RoboDecom ife.no/robodecom/ and **LiveDecom** ife.no/livedecom/ Norwegian funded international projects

DigiDecom 2021 will also support the NEA's EGRRS Expert Group on the application of Robotics and Remote-Systems in the nuclear back end

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Monday - 22 March: Welcome virtual get-together (late afternoon before the first day)

16:00 Virtual welcome for getting to know each other and test connection. Introduction of the chairs, group discussion moderators and all other participants.

Tuesday - 23 March: Innovation needs, solutions and initiatives

11:00 Participants Admission

11:30 Welcome on behalf of IFE (IFE CEO / Tomas Nordlander and István Szőke), IAEA (Vladimir Michal), NEA (Martin Brandauer), OECD HTO (Andreas Bye), VTT (Erika Holt), CEA (Christine Georges) and presentation of the program (Réka Szőke)
Topical presentation from NEA and EPRI will be on Thursday

Session 1: International landscape of innovation for nuclear decommissioning and waste management – introductory presentations from organizers and invited speakers *Chairs: Vladimir Michal and Christine Georges (CEA)*

11:50 Opening Remarks by Session Chairs

12:00 IAEA perspectives and supported innovation initiatives
Patrick O’Sullivan (IAEA)

12:20 JAEA decommissioning status and its approach for the digitalization
Dr. Taruta Yasuyoshi and Dr. Yukihiro Iguchi (JAEA, Japan)

12:40 International needs and opportunities for innovation
István Szőke (IFE, Norway)

13:00 Presentation of the PREDIS project on predisposal waste management
Erika Holt (VTT, Finland)

13:20 20 min Break

13:40 Decommissioning in Norway – foreseen challenges and related innovation needs
Martin Andreasson / Peter Keyser (NND, Norway)

14:00 Overview presentation of the PLEIADES project on PLatform based on Emerging and Interoperable Applications for enhanced Decommissioning processes
Caroline Chabal (CEA, France) and István Szőke (IFE, Norway) (presented by István Sz.)

14:20 Needs and trends for innovation of decommissioning in the Oil & Gas sector.
Craig Nicol (OGTC, UK)

14:40 Overview of the Sustainable Nuclear Energy Technology Platform (SNETP)
Anthony Banford (NNL, UK)

14:50 20 min Break

Session 2: Presentation of result from the “SHARE” EU project on a roadmap for decommissioning R&D priorities

Chairs: Christine Georges (CEA) and Patrick O’Sullivan (IAEA)

Presentations will be 15 minutes each. Presenters are requested to facilitate interactivity (ask questions from audience, allow questions during presentation, ...)

15:10 Presentation of results from the “SHARE” EU project: a roadmap to enhance collaborative Research activities for Decommissioning
Christine Georges (CEA, France)

15:30 Analysis of results from stakeholders survey about importance and urgency of needs in Research for decommissioning
Gintautas Poškas (LEI, Lithuania) and Laura Aldave de las Heras (JRC)

15:50 Implementation of gap analysis between needs and existing solutions / international initiatives
Anthony Banford (NNL, UK)

16:10	<p>Discussion of innovation needs and possible solutions</p> <p>Chairs present of the objectives of the group sessions</p> <p>Breakout into groups:</p> <p>Group moderators shortly present thematic areas and related outcomes from SHARE gap analysis, for discussion and additional proposals.</p> <p>Group 1 Safety / radiological protection aspects, environmental remediation, and site release Moderators: Réka Szőke (IFE) and Anumaija Leskinen (VTT)</p> <p>Group 2 Project management, costing and human resource management Moderators: Fanny Fert (CEA) and Lucas Stephane (IFE)</p> <p>Group 3 Characterization Moderators: Laura Aldave de las Heras (JRC) and Kurt van den Dungen (SCK-CEN)</p> <p>Group 4 Site preparatory activities and Technologies for dismantling operations Moderators: Junaid Chaudhry (KIT) and Federica Pancotti (SOGIN)</p> <p>Group 5 Management of materials and waste from decommissioning Moderators: Anthony Banford (NNL) and Christine Georges (CEA)</p>
17:10	<p>Short summaries from the group discussions presented in Plenary by the Moderators (5 min each) & Plenary Discussion Moderators and Session Chairs</p>
17:50 –	Final remarks of the Session Chairs
18:00	<i>Christine Georges and Patrick O’Sullivan</i>
<p>Wednesday - 24 March: Innovation needs, solutions and initiatives related to digital transformation of decommissioning and waste management Chairs: Erika Holt (VTT) and Ole Jakob Ottestad (NND)</p>	
<p><u><i>Surveys by the PLEIADES project related to use of digital models in decommissioning</i></u> http://pleiades-platform.eu/2021/01/13/pleiades-survey/</p>	
11:00	Participants Admission
11:30	Opening Remarks by Session Chairs
11:40	NND on a journey towards digital decommissioning and waste management <i>Ole Jakob Ottestad (NND, Norway)</i>
12:00	Digital transformation of decommissioning <i>István Szőke (IFE, Norway)</i>
12:20	Computational personal dosimetry using flexible phantoms and staff tracking: possible applications in decommissioning <i>Filip Vanhavere and Pasquale Lombardo (SCK-CEN, Belgium)</i>
12:40	Towards an international nuclear decommissioning ontology – Results from work in PLEIADES and co-operation among IAEA collaborating centres <i>Franz Borrmann (iUS, Germany)</i>
13:00	Technical aspects of digital integrated decommissioning support systems and prospects with ISDC (International Structure for Decommissioning Costing of Nuclear Installations) based costing <i>Dusan Daniska (WAI – Aquila Costing, Slovakia)</i>
13:20	3D Digital Simulation of complex D&D projects - Use case: Chinon A2 dismantling project <i>Paola Ontiveros (Cyclife Digital Solutions, France)</i>
13:40	20 min Break
14:00	How BIM is used in the construction industry – prospects for use in nuclear decommissioning <i>Dag Fjeld Edvardsen et. al. (Catenda, Norway)</i>
14:20	Digital transformation – A TSO point of view <i>Patrice François (IRSN, France)</i>

14:40	How digital models and simulation are used by the Norwegian and Russian regulatory bodies in legacy management <i>Malgorzata Sneve (DSA, Norway)</i>
15:00	Up-to-date view of the site improves project performance – user study of Fortum's eSiteview in decommissioning <i>Jere Luukkanen and Miko Olkkonen (Fortum Power and Heat Oy, eSite)</i>
15:20	Towards digital tools for waste package and facility monitoring and prediction <i>Ernst Niederleithinger (BAM, Germany)</i>
15:40	A new IAEA Technical Document on Occupational Radiation Protection in Decommissioning of Nuclear Installations - Main Aspects of Management, Planning and Conduct <i>Burcin Okyar (IAEA)</i>
16:00	20 min Break
16:20	<p>Discussion of innovation needs and possible solutions related to digital transformation of decommissioning</p> <p>Chairs present of the objectives of the group sessions</p> <p>Moderators shortly present the topic of their group and some food for thought (e.g. outcomes from PLEIADES)</p> <p>Breakout to groups:</p> <p>Group 1 Regulatory/TSO aspects for use of BIM based of modular integrated software systems Moderators: Patrice Francois and Malgorzata Sneve</p> <p>Group 2 Technical barriers and needs for implementation of BIM based modular integrated software systems Moderators: Dušan Daniška, Dag Fjeld Edvardsen and Ole Jakob Ottestad</p> <p>Group 3 Human and organisational barriers and needs for implementation of BIM and digital twin based support systems for decommissioning and waste management Moderators: Erika Holt, Martin Andreasson and José Antonio R Cabrerizo (KIT)</p> <p>Group 4 International nuclear decommissioning ontology Moderators: Franz Borrmann and Maarten Becker (iUS)</p> <p>Group 5 Use of digital models and simulations for international knowledge exchange Moderators: Patrick O'Sullivan and István Szőke</p> <p><i>Moderators will steer discussions and prepare final summary report from the session. Mural rooms will be used for collecting and summarizing input from the participants.</i></p> <p>Instruction for moderators: Focus on identifying user requirements (and, possibly, associated tech requirements) for use of 3D digital modes.</p>
17:20 – 18:00	Short summaries from the group discussions presented in Plenary by the Moderators (5 min each) & Plenary Discussion <i>Moderators and Session Chairs</i>
18:00 – 18:15	Final remarks of the Session Chairs <i>Erika Holt and Ole Jakob Ottestad</i>
<p>Thursday - 25 March: Innovation needs, solutions and initiatives related to digitalisation as well as robotics and remote systems in decommissioning</p> <p>Chairs: Vladimir Lebedev (NEA) and Martin Brandauer (NEA)</p>	
<p><i>Surveys of the NEA Expert Group on the Application of Robotics and Remote Systems in the Nuclear Back-end (EGRRS):</i></p> <p>1. STATUS OF CURRENT TECHNOLOGIES AND USES / DEFINE TERMINOLOGY: https://www.surveymonkey.com/r/EGRRS-STATUS (Password: OeCD-NeA_202*)</p> <p>2. BARRIERS / IMPEDIMENTS https://ec.europa.eu/eusurvey/runner/EGRRSBarriers (Password: Oecd202*)</p> <p><i>A participation in advance of the meeting would be appreciated.</i></p>	
11:30	Participants Admission
11:50	Opening Remarks by Session Chairs

12:00	Robotics and Remote Systems applications in the Decommissioning and Radioactive Waste Management - The NEA EGRRS (Expert Group on the application of Robotics and Remote-Systems in the nuclear back end) <i>Rustam Stolkin (University of Birmingham and NEA-EGRRS Chair, UK)</i>
12:30	Robotics and 3D gamma mapping technologies for supporting nuclear decommissioning <i>Matt Mellor (CREATEC, UK)</i>
12:50	Digital innovation for robotics applications in decommissioning <i>István Szőke (IFE, Norway)</i>
13:10	Modular unmanned and humanoid robot platform based technology – prospects for application in nuclear decommissioning <i>Nasser Ukla (IFE), Tomas Henninge (nLink), Bernt Øivind Børnich/Egil Utheim (Halodi robotics) (Norway)</i>
13:40	Robotics research and applications by Florida International University (FIU) <i>Leonel Lagos (FIU, US)</i>
14:00	The use of Robotics and Remote Equipment in International Projects implemented at Chernobyl NPP <i>Norbert Molitor (PLEJADES GmbH, Germany), Valeriy Seyda, Sergiy Kondratenko (Chernobyl NPP, Ukraine) and Cécile Javelle (PLEJADES GmbH, Germany)</i>
14:20	Economic drivers for robotic and remote systems in decommissioning (including FREMES example) <i>Eduard Nikitin (ROSATOM, Russian Federation) and Norbert Molitor (PLEJADES GmbH, Germany)</i>
14:40	Robotic fragmentation of large equipment at decommissioning of NPPs <i>Ladislav Vargocik, Jozef Varga and Jan Semjon (TUKE, Slovak Republic)</i>
15:00	20 min Break
15:20 – 16:20	<p>Discussion of innovation needs and possible solutions related to robotics applications in decommissioning</p> <p>Chairs present of the objectives of the group sessions and the required background information</p> <p>Breakout to groups:</p> <p>Each moderator will provide a short teaser presentation within their group</p> <p>Group 1 Implementation barriers based on experience with application of robotics Moderators: Rick Reid (EPRI), Leonel Lagos and Laurent Velnom (EC)</p> <p>Group 2 Safety and security requirements for robotics applications in decommissioning Moderators: Michael Knaack, Matthias Schoepfer (TüV Nord)</p> <p>Group 3 Digitalisation and robotics – how can they strengthen/enable each other? Moderators: Rustam Stolkin, István Szőke and Matt Mellor</p> <p>Group 4 Economic benefit drivers for robotics applications in the nuclear Moderators: Eduard Nikitin and Norbert Molitor</p> <p><i>Moderators will steer discussions and prepare final summary report from the session. A moderator will capture comments with on-line sharing of their screen.</i></p> <p>Instruction for moderators: Touch upon each group topic in the summaries if input is provided. Highlight suggestion for EGRRS group if proposals are provided.</p>
16:20	Short summaries from the group discussions presented in Plenary by the Moderators (5 min each) & Plenary Discussion Moderators and Session Chairs
17:05 – 17:20	Final remarks of the Session Chairs Vladimir Lebedev and Martin Brandauer (NEA)