

EU-H2020- SHARE-Decommissioning On-line Workshop, December 1-3, 2020

Objectives

1. To get feedback from the SHARE Expert Review Panel and other stakeholders on
 - The first results of the project: domains with needs for research, the first analysis of existing solutions and on-going developments in each domain, and initial gap identification
 - The methodology and schedule for next steps: gap analysis, SRA, Road Map
2. To coordinate with other international initiatives
3. To share with stakeholders the investigation of needs and existing innovative solutions or on-going developments, in order to be able to conduct gap analysis and to provide, by the end of 2021, a strategic research agenda and a road map for potential future collaborative projects (R&D-I, Methodologies, Standardisation in technical and non-technical areas).

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Nota: for any question about this agenda or any problem during the workshop, please contact Christine GEORGES at <mailto:christine.georges@cea.fr> or at +33 (0)6 03 32 29 61.

Tuesday, December 1st, morning, Plenary session (Q/As through chat function)

9:00 am CET

INTRODUCTION AND PRESENTATION OF SHARE ACHIEVEMENTS AT THIS STAGE

- Welcome + Objectives and agenda of the workshop by Christine Georges, Coordinator of project “SHARE-Decommissioning”, CEA (10min)
- Introduction by EU Project Officer, by Roger Garbil, Head of Euratom Research Fission Sector (15min)
- General presentation of the project, by Christine Georges, CEA (15 min)
- Results of the Stakeholders survey on needs for Research for decommissioning, by Emilio Garcia Neri, ENRESA (20 min)
- Review of best practices and on-going developments + Objectives of breakout sessions, by Antony Bandford NNL (20min)

10:20 Short break / restitution of on-line polls

INVESTIGATION OF NEEDS AND ON-GOING INTERNATIONAL INITIATIVES

10:40: GLOBAL POINT OF VIEW OF END USERS

- EU programs in Decommissioning by Gianfranco Brunetti, European Commission (10 min)
- IAEA networks and activities related to D&ER by Olena MYKOLAICHUK, IAEA (10 min)
- NEA/ CDLM /RWMC by Rebecca Tadesse, NEA (10 min)
- NEA/ CPD by Martin Macasek, JAVYS (10 min)

11:20: ON GOING INITIATIVES (part 1)

- R&D activities for decommissioning of the Fukushima Daiichi NPS, by Takaki Tsujimoto, NDF
- SNETP (Sustainable Nuclear Energy Technology Platform), by Abderrahim Al Mazouzi, EDF (10 min)
- WNA ‘Waste Management & Decommissioning (WM&D) Working Group’, by Michel Pieraccini, EDF (10 min)
- FORATOM RWM and Decommissioning Working group, by Berta Picamal, FORATOM (10 min)

12:00: Lunch break

13:00: ON GOING INITIATIVES (part 2)

- R&D-I roadmap and on-going developments at EPRI by Rick Reid, EPRI (10 min)
- R&D-I roadmap for CANDU reactors by Paul Dinner, Candu Owners group (10 min)

13:20: EXPLANATION OF LOGISTICS FOR BREAK-OUT SESSIONS

- *Guidance and Demonstration of MURAL “ post it sessions “, by Samantha Ree, NNL / Romain Tricon Duez (20 min)*

13:40: End of plenary session and switch to breakout sessions

Tuesday, December 1st, Afternoon Break-out sessions Part 1

During the break-out sessions, 5 groups will address 8 thematic areas.

Each session will start with presentations by leaders of relevant, recent or current initiatives in the thematic area, followed by a presentation of results from SHARE project in this associated sub-thematic areas.

Then, 'virtual' post it sessions will be organized (using MURAL tool) where participants will be asked to investigate the needs and on-going solutions/ developments in these specific sub-thematic areas.

Details of presentations and list of sub-thematic areas addressed in the different groups are given in Annex 2.

		Group A	Group B	Group C	Group D	Group E
Dec. 1st	13:50 (CET)	① Safety and Radiological Protection	② Project Management and costing	④ Characterization	⑥ Dismantling technologies	⑧ Management of Waste
	- 16:50					

Wednesday, December 2d, Break-out sessions Part 2

		Group A	Group B	Group C	Group D	Group E
Dec. 2nd	9:00 CET	① Safety and Radiological Protection	② Project Management and costing	④ Characterization	⑥ Dismantling technologies	⑧ Management of Waste
	- 11:00					
	11:20	⑦ Environmental remediation and Site Release				
	- 12:00					
12:00- 13 :00 : lunch break						
	13:00					
	- 15 :00					
	15:00		③ Human resources management			
	- 16:50					

Thursday, December 3d, morning, Break-out sessions Part 3

		Group A	Group B	Group C	Group D	Group E
Dec. 3d	9 :00 CET -	⑦ Environmental remediation and Site Release	③ Human resources management	④ Characterization	⑤ Site preparatory activities	⑧ Management of Waste
	12:00					

12:00- 13:00: lunch break

Thursday, December 3rd, Afternoon, Plenary

13:00: RESTITUTION OF WORK DONE IN BREAK OUT SESSIONS + Q/As

15:30: NEXT STEPS FOR SHARE AND NEXT EVENTS ABOUT DECOMMISSIONING + CONCLUSION OF THE WORKSHOP

16: 00: End the Workshop

ANNEX: Details of the program for each group.

(Links will be given *the week before the workshop*, by mail to registered participants, with more *guidance on MURAL sessions*).

GROUP A

① Safety and Radiological Protection

Dec. 1st <small>Link teams 1st Plenary</small>	9:00 CET- 13:40: Plenary session (see general program) and switch to breakout sessions		
Dec. 1st <small>Link teams Dec 1st Group A</small>	International initiatives		
	13:50	1A	Presentation of ETSON by Karine Herviou, IRSN (10 min)
	14:00	1B	Presentation of NEA Regulator forum, and /or presentation of NEA / CRPPH by Thierry Schneider , CEPN Association (10 min)
	14:10	1C	Presentation of "SHARE" European Platform for Social Sciences and Humanities research relating to Ionizing Radiation, by Tanja Perko, SCK-CEN (10 min)
	14:20	1D	Presentation of first achievements from SHARE in this area + introduction to post it session, by Reika Szoke, IFE
	14:40- 16:50 - Post it session by sub-thematic area		
	Link MURAL 10	10	International harmonization of safety standards and safety approaches / Decommissioning
	Link MURAL 11	11	- Development / National regulatory guidance for Decommissioning: Preparatory activities
	Link MURAL 12	12	- Development / National regulatory guidance for Decommissioning: Dismantling
	Link MURAL 15	15	Methods and tools for nuclear safety
Dec 2d <small>Link teams Dec 2d Group A</small>	9:00 - 11:10 - Post it session by sub-thematic area		
Link MURAL 13	13	Development / National regulatory guidance for Decommissioning: Clearance of structures and materials	
Link MURAL 14	14	Development /National regulatory guidance for Decommissioning: Final site release	
Link MURAL 17	17	Development of radiological protection approaches and guidance for Decommissioning	
Link MURAL 16	16	Methods and tools for conventional industrial safety	

⑦ Environmental Remediation and Site Release

Dec 2d <small>Link teams Dec 2d Group A</small>	International initiatives		
	11 :20	7A	IAEA Environet and NORM conference by Olena MYKOLAICHUK, IAEA (10 min)
	11:30	7B	IAEA Project on Completion of Decommissioning (COMDEC), by Patrice François, IRSN (10min)
	11:40	7C	NEA/CPD Report on Nuclear Site Remediation and Restoration during Decommissioning of Nuclear Installations, TBC (10 min)
	11:50	7D	Presentation of first achievements from SHARE in this area + introduction to post it session, by Frederica Pancotti, SOGIN
	<i>12:00- 13:00 Lunch Break</i>		
	13:00- 16:50 Post it session by sub- thematic area		
	Link MURAL 63	63	Characterization methods and technologies to identify subsurface contamination
	Link MURAL 64	64	Modelling and statistical tools to analyze contaminant transport in subsurface soil and groundwater
	Link MURAL 65	65	Soil remediation technologies (washing, bioremediation, contamination fixing)
Link MURAL 68	68	Tools for statistical analysis and management of survey data for site release	
Dec 3d <small>Link teams Dec 3d Group A</small>	9:00- 12:00 Post it session by sub- thematic area		
Link MURAL 62	62	Clearance of surfaces and structures (interiors and exteriors)	
Link MURAL 66	66	Remediation of contaminated groundwater (radiological)	
Link MURAL 67	67	Methodologies and techniques for final release survey of the Site	
<i>12:00- 13:00 Lunch Break</i>			

Dec. 3d Link teams 3d Plenary	13:00 CET - 16:00: Plenary session (see general program)		
GROUP B			
② Project Management & costing			
Dec. 1 st Link teams 1 st Plenary	9:00 CET- 13:40: Plenary session (see general program) and switch to breakout sessions		
Dec. 1 st Link teams Dec 1 st Group B	International initiatives		
	13:50	2A	Presentation of IAEA DACCORD (+ CERREX + ISDC, etc.) by Patrick O'Sullivan, IAEA (10min)
	14:00	2B	Presentation of NEA activities relating to costing of decommissioning and legacy management by Niklas Bergh, Westinghouse (10min)
	14:10	2C	Presentation of EU-H2020 Project PLEIADES by Caroline CHABAL, CEA (10min)
	14:20	2D	Presentation of first achievements from SHARE in this area + introduction to post it session, by Fanny Fert, CEA
	14:40- 16:50 - Post it session by sub-thematic area		
	Link MURAL 25	25	Methodologies and guidance for cost estimation
	Link MURAL 28	28	Methods and tools for sensitivity and uncertainty analysis in cost estimation
	Link MURAL 26	26	Software for cost estimation
Dec. 2 nd Link teams Dec 2 ^d Group B	9:00- 12:00 - Post it session by sub-thematic area		
	Link MURAL 19	19	Methodologies and software tools for comparison of alternative decommissioning strategies
	Link MURAL 21	21	Tools for data collection in the field (e.g. for work monitoring)
	Link MURAL 22	22	Digital transformation in decommissioning (big data, business intelligence)
	Link MURAL 27	27	Development of mechanisms for cost benchmarking
	12h00- 13:00 Lunch Break		
	13:00- 15:00 - Post it session by sub-thematic area		
	Link MURAL 24	24	Methods and tools for communication (public)
	Link MURAL 20	20	Methodologies and software tools for project management and performance monitoring
Link MURAL 23	23	Supply chain management for Decommissioning	
③ Human resources management			
Dec. 2 nd Link teams Dec 2 ^d Group B	International initiatives		
	15:10	3A	Presentation of IDN IAEA Wiki by Patrick O'Sullivan (10min)
	15:20	3B	Presentation of EU Project ELINDER by Pierre Kockerols, JRC (10min)
	15:30	3C	Presentation of ENEN by Joerg Starflinger (10min)
	15:40	3D	Presentation of first achievements from SHARE in this area + introduction to post it session, by Lucas Stephane, IFE
	16- 16:50: Post it session by sub-thematic area		
	Link MURAL 32	32	General education for Decommissioning
Dec. 3d Link teams Dec 3 ^d Group B	9:00-12:00: Post it session by sub-thematic area		
	Link MURAL 31	31	Methods and software tools for knowledge management (e.g. competence preservation)
	Link MURAL 33	33	Methodologies and tools for task specific training
	Link MURAL 30	30	Organisation models (staff and resources)
Dec. 3d Link teams 3d Plenary	13:00 CET - 16:00: Plenary session (see general program)		

GROUP C

④ Characterization

Dec. 1st <small>Link teams Dec1st Plenary</small>	9:00 am CET - 13:40: Plenary session (see general program) and switch to breakout sessions	
Dec. 1st <small>Link teams Dec 1^d Group C</small>	International initiatives	
	13:50	4.A Presentation of EU-H2020 Project INSIDER by Danièle ROUDIL, CEA (10min)
	14:00	4.B Presentation of EU-H2020 Project MICADO "Measurement and Instrumentation for Cleaning And Decommissioning Operations" by Massimo Moricchi, CAEN (10min)
	14:10	4.C Presentation of EU-H2020 Project CLEANDEM by Frederick Carrel, CEA (10min)
	14:20	4.D Presentation of EU- EMPIR Metrodecom "Metrology for Decommissioning", by Ben Russell, NPL, (10min)
	14:30	4.E Presentation of EU-H2020- CHANCE by Denise RICARD, ANDRA, (10min)
	14:40	4.F Presentation of first achievements from SHARE in this area + introduction to post it session, by Laura ALDAVE-DE-LAS-HERAS, JRC
	15:00- 16:50: Post it session by sub-thematic area	
	<small>Link MURAL 36</small>	36 Inventory assessment (Radiological and non-radiological)
	<small>Link MURAL 35</small>	35 Methodology for historical site assessment
Dec. 2nd <small>Link teams Dec 2^d Group C</small>	9:00- 12:00: Post it session by sub-thematic area	
	<small>Link MURAL 37</small>	37 Characterization of activated components and areas: Metal
	<small>Link MURAL 83</small>	83 Characterization and survey of containerized radioactive waste
	<small>Link MURAL 39</small>	39 Characterization of activated components and areas: Graphite
	<i>12:00- 13:00: Lunch Break</i>	
	13:00- 16:50: Post it session by sub-thematic area	
	<small>Link MURAL 53</small>	53 In situ Radioactive Waste characterization and segregation
	<small>Link MURAL 40</small>	40 Technologies for hard to access areas (high walls, embedded components, harsh environment...)
	<small>Link MURAL 42</small>	42 Standards for statistical sampling
	<small>Link MURAL 44</small>	44 Sample analysis technologies
<small>Link MURAL 43</small>	43 Geostatistical software applications	
Dec 3d <small>Link teams Dec 3^d Group C</small>	9 :00- 12:00: Post it session by sub-thematic area	
	<small>Link MURAL 38</small>	38 Characterization of activated components and areas: Concrete
	<small>Link MURAL 45</small>	45 Alpha and beta non-destructive measurements
	<small>Link MURAL 41</small>	41 Development of modelling and simulation software for characterization of irradiated components
<i>12:00- 13:00: Lunch Break</i>		
Dec. 3d <small>Link teams 3d Plenary</small>	13:00 CET- 16:00: Plenary session (see general program)	

GROUP D

⑥ Dismantling Technologies

Dec. 1st <small>Link teams 1st Plenary</small>	9:00 CET- 13:40: Plenary session (see general program) and switch to breakout sessions		
Dec. 1st <small>Link teams Dec 1st Group D</small>	International initiatives		
	13:50	6A	Zoom on EPRI achievement et perspectives, by Rick Reid (10min)
	14:00	6B	NEA EGRRS “Expert Group on the Application of Robotic and Remote Systems in nuclear back-end”, by Rustam Stolkin, UK National Centre for Nuclear Robotics (10min)
	14:10	6C	Presentation of EU-H2020 Project INNO4GRAPH by EDF (10min)
	14:20	6D	Presentation of EU-H2020 Project LD-Safe by Pierre Daguin, ONET (10min)
	14:30	6E	EU-H2020 RoMaNS by Rustam Stolkin (10min)
	14:40	6F	Presentation of first achievements from SHARE in this area + introduction to post it session, by Junaid Chaudhry, KIT
	15:00 – 16:50: Post it session by sub-thematic area		
	<small>Link MURAL 60</small>	60	Robots and remote controlled tools for dismantling
<small>Link MURAL 59</small>	59	Demolition of large, reinforced concrete structures	
Dec 2d <small>Link teams Dec 2d Group D</small>	9:00- 12:00: Post it session by sub-thematic area		
	<small>Link MURAL 58</small>	58	Management (characterization, decontamination, removal) of radiological embedded elements)
	<small>Link MURAL 71</small>	71	Mechanical Radioactive material decontamination
	<small>Link MURAL 72</small>	72	Electrochemical Radioactive material decontamination
	<small>Link MURAL 57</small>	57	In situ decontamination of building surface (concrete)
	<i>12:00- 13:00: Lunch Break</i>		
	13:00- 16:50: Post it session by sub-thematic area		
	<small>Link MURAL 51</small>	51	Segmentation of large irradiated metallic components (reactor vessel internals, etc.)
	<small>Link MURAL 54</small>	54	Segmentation of large surface-contaminated components
	<small>Link MURAL 52</small>	52	Handling, segregation and loading of segmented elements and secondary waste
<small>Link MURAL 55</small>	55	Dismantling of surface-contaminated piping and small components	
<small>Link MURAL 56</small>	56	Segmentation of interior concrete structures (e.g., bioshield)	
Site preparatory activities			
Dec 3d <small>Link teams Dec 3d Group A</small>	International initiatives		
	9:00	5A	Presentation of IAEA report on preparation of decommissioning by Patrick O’Sullivan (10min)
	9:10	5B	Presentation of NEA Report “Preparing for Decommissioning During Operation and After Final Shutdown” (TGPF) By Boris Brendebach, German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (10min)
	9:20	5C	Presentation of first achievements from SHARE in this area + introduction to post it session, by Junaid Chaudhry, KIT
	9:40 - 12:00 Post it session by sub- thematic area		
	<small>Link MURAL 49</small>	49	Systems for internal decontamination
	<small>Link MURAL 48</small>	48	Preparation of infrastructures and buildings for decommissioning (storages, capabilities for material sorting and treatment...)
<small>Link MURAL 47</small>	47	Adaption of auxiliary systems for decommissioning (ventilation, electrical, monitoring, etc.)	
12:00- 13:00 Lunch Break			
Dec. 3d	13:00 - 16:00: Plenary session (see general program)		

GROUP E

⑧ Management of material and radioactive waste from Decommissioning / Legacy Waste

Dec. 1st Link teams 1 st Plenary	9:00 CET - 13:40: Plenary session (see general program) and switch to breakout sessions		
Dec. 1st Link teams Dec 1 ^d Group E	International initiatives		
	13:50	8.A	IAEA IPN Achievements, on-going and future activities, by Rebecca Robbins, IAEA (10min)
	14:00	8.B	EU-H2020-ROUTE , survey on Waste with no route, by Elisa Léoni (10min)
	14:10	8.C	presentation of EU-H2020- PREDIS, by Erika Holt (10 min)
	14:20	8D	IAEA Workshop on circular economy, by Vladimir Michal (10min)
	14:30	8E	Presentation of NEA-CPD Task Group on Recycling and Reuse of Materials (TGRM) by Bart Ooms, Belgoprocess N.V. (10min)
	14:40	8F	Methodology to Manage Material and Waste from Nuclear Decommissioning- WNA, by Michel Pieraccini, EDF (10min)
	14:50	8G	Presentation of first achievements from SHARE in this area + introduction to post it session, by Antony Bandford, NNL
	15:10- 16:50: Post it session by sub-thematic area		
	Link MURAL 70	70	Management routes for materials including radioactive waste streams
Link MURAL 76	76	Treatment processes for non-aqueous liquids	
Dec. 2nd Link teams Dec 2 ^d Group E	9:00 – 12:00: Post it session by sub-thematic area		
	Link MURAL 84	84	Material clearance (methodology and procedures + instrumentation and logistics)
	Link MURAL 74	74	Treatment processes for concrete
	Link MURAL 75	75	Treatment processes for aqueous liquids
	Link MURAL 77	77	Treatment processes for organic materials
	12:00- 13:00 Lunch Break		
	13:00- 16:50: Post it session by sub- thematic area		
	Link MURAL 86	86	Management of hazardous and toxic materials (asbestos, lead in paint, etc.)
	Link MURAL 81	81	Radioactive waste conditioning
	Link MURAL 82	82	Radioactive waste packaging and logistics
Link MURAL 80	80	Treatment processes for ILW	
Link MURAL 78	78	Treatment processes for VLLW	
Dec 3d Link teams Dec 3 ^d Group E	9:00- 12:00: Post it session by sub- thematic area		
	Link MURAL 87	87	Conventional and cleared materials recycling (circular economy)
	Link MURAL 73	73	Treatment processes for metals
	Link MURAL 85	85	Material clearance (instrumentation and logistics)
	Link MURAL 79	79	Treatment processes for LLW
12:00- 13:00: Lunch Break			
Dec. 3d Link teams 3d Plenary	13:00 CET - 16:00: Plenary session (see general program)		