



WP2.2 – Strategic Research Agenda Development

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PREDIS SRA - Purpose

- Development of a Strategic Research Agenda specific to the needs of predisposal activities.
- Describe the scientific and technical domains and sub-domains and knowledge management needs of common interest between PREDIS participant organisations.
- Build on available existing SRAs developed by European and worldwide nuclear waste management organisations, forums and governing bodies, identifying topics and themes pertinent to PREDIS
- Strongly link with Gap Analysis task 2.6. The SRA will be informed by the gap analysis where topics for future consideration are identified, whilst recognising the two documents have differing purpose
- Take into account needs identified by end users and PREDIS participants over the duration of the project

Overview of WP Objectives – progress to-date

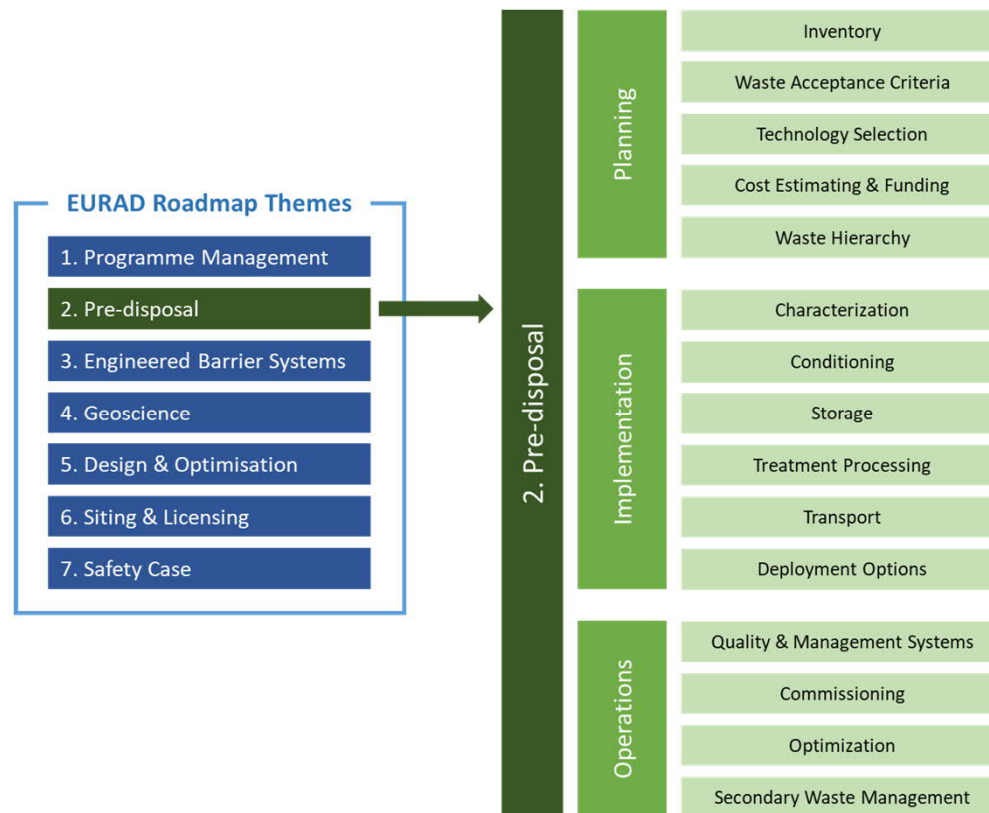
■ WP2.2 – Develop a predisposal Strategic Research Agenda

- Develop and agree document structure for baseline SRA
- Identify existing SRA documents for review and extract relevant sections
- Capture audit trail for document review
- Compile initial baseline content
- Undertake assessment of baseline content to identify key topics and themes
- Undertake review of SRA baseline development process with PREDIS partners
- Iterate SRA structure and baseline input data from review feedback
- Issue Baseline SRA Document

Overview of WP Objectives – SRA structure

1. PREDIS introduction
2. Purpose of SRA
3. Methodology of compilation
4. PREDIS Strategic Research Agenda
 - Predisposal Management
 - i. Waste generation*
 - ii. Processing*
 - iii. Storage & Transport*
 - Disposability Management
 - i. Disposability Assessment*
 - ii. Waste Acceptance Criteria*
5. Socio-economic and legislative considerations
6. Way forward
 - Knowledge Management
 - Stakeholder Engagement

Overview of WP Objectives – Alignment with EURAD



SRA and roadmap documents for review

Document/Area	Status	Document/Area	Status
H2020 CHANCE		EC EURATOM	
H2020 Micado		H2020 EURAD	
H2020 Metrodecom		H2020 JOPRAD	
H2020 Pleiades		ERDO	
IAEA IDN		EDRAM	
NEA RWMC		WENRA	
NEA CDLM		EUR organisation	
WNA		ENEF	
SNETP		SITEX Network	
Nugenia - Global Vision		IAEA - NEFW	
Nugenia Technical Area 5B V. 2014		IAEA - IPN	
IGD-TP		IAEA - CRP T13017	
H2020 Theramin		IAEA Disponet	
H2020 Mind		IAEA - Labonet	
EURAD-SCIENCE			

Key:



No document identified, or not relevant to PREDIS

Reviewed and relevant sections identified

Initial SRA analysis – mapping to structure

Areas	Nugenia Global Vision	Nugenia Technical Area 5B	IGD-TP-Vision 2040	MIIND	SNETP	THERAMIN	JOPRAD	EUR	SITEX II ToR	SITEX II SRA	WNA
Methodology for identifying the SRA											
Predisposal Management - Waste generation											
Predisposal Management - Processing											
Predisposal Management - Storage & Transport											
Disposability Management - Disposability Assessment											
Disposability Management - WAC											
Way forward - Knowledge Management											
Way forward - Stakeholder Engagement											

Initial SRA analysis – identifying themes & topics

Areas	Nugenia Global Vision	Nugenia Technical Area 5B	IGD-TP-Vision 2040	MIND	SNETP	THERAMIN	JOPRAD	EUR	SITEX II ToR	SITEX II SRA	WNA
Methodology for identifying the SRA											
Predisposal Management - Waste generation											
Predisposal Management - Processing											
Predisposal Management - Storage & Transport											
Disposability Management - Disposability Assessment											
Disposability Management - WAC											
Way forward - Knowledge Management											
Way forward - Stakeholder Engagement											



SRA Topic	Keywords	Description
Waste generation	Planning	Waste management strategy, waste hierarchy, waste routes, technology selection
	Inventory	Sources and quantities of waste generated and in existing storage, future waste generation
	Classification	Characteristics of wastes in order to sort, classify and identify waste types
Processing	Treatment	Pre-treatment and treatment to minimise waste quantities and volumes
	Conditioning	Stabilise waste by conditioning
	Packaging	Containers and packaging for future transport, storage and disposal
Storage & Transport	Storage	Safe storage of wastes/packages including decay storage, interim storage and long-term storage
	Transport	Transport of wastes between facilities at different stages of pre-disposal management
Disposability Assessment	Disposability	Suitability of wastefrom for disposal, behaviour within a disposal environment, implications for treatment, conditioning and packaging
WAC	WAC	Parameters and metrics for waste acceptance
Cross-cutting	Characterisation	Characterisation of wastes throughout the lifetime of wastes/packages
	Optimisation	Optimisation of the different phases of pre-disposal management
	Quality & Mgmt	Quality and management systems, records management and monitoring required throughout the lifetime of the wastes/packages

Initial SRA analysis – common themes & topics

- Different types of wastes generated in the future as a result of using new/advanced fuel types and fuel
- Legacy / historical wastes and wastes with specific issues, problematic wastes
- Wastes and wasteforms with organic content - influence on long-term behaviour, complexation
- Chemotoxic / non-rad characteristics of wastes
- Remote methods for monitoring and non-destructive testing and analysis
- Novel technologies for conditioning of wastes, e.g. geopolymers
- New candidates for container materials
- Advancing treatment, conditioning and other technologies from laboratory scale to demonstration
- Optimisation of treatment processes, etc.
- Understanding ageing of wastes/waste packages
- Dealing with damaged waste packages and accident scenarios
- Understanding long-term behaviour of waste packages and containers under repository conditions
- Waste acceptance criteria - good practice, WAC relevant to new treatments and conditioning