



30 May - 3 June 2022  
Lyon, France

## Different Missions – Common Goals

IAEA, PREDIS & EURAD Working Together to Strengthen  
Radioactive Waste Management World-Wide

Rebecca Robbins, IAEA



10<sup>th</sup> European Commission Conference on EURATOM Research and Training in Radioactive Waste Management  
30 May - 3 June 2022 | Lyon, France

# IAEA at a Glance

175  
Member States  
(as of May 2022)

2,500+ staff  
from  
over 100  
countries

## IAEA Mandate

*“The Agency shall seek to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity.”*

### IAEA Discriminators

- Global reach
- Convening power & longevity
- Safety standards
- Technical guidance



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# IAEA – Waste Technology Section

## Mission

*To support Member States in strengthening their infrastructure and capabilities, and in improving their practices in RWM, towards a comprehensive RWM programme, which addresses their entire current and future national inventory.*



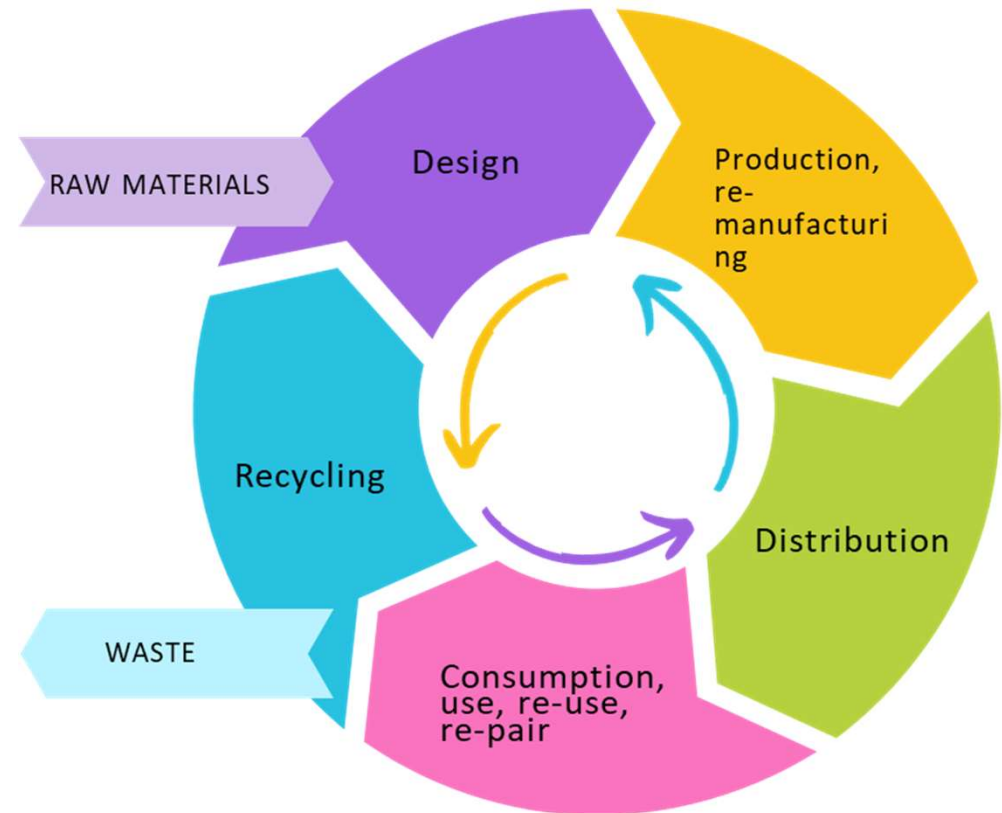
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# The Future.....Radioactive Waste Management World-Wide

- **Life-cycle radioactive waste management planning** begins **before** any waste is generated
- **Sustainability principles** are adopted (avoid, minimize, recycle, reuse) throughout the nuclear fuel cycle to **minimize waste** going to disposal
- **End-of-life plans** are in place for all new sealed sources (i.e. reuse, recycle, return, disposal)
- All waste is **characterized** at the **point of generation**
- A **waste inventory** is created and tracked at **all life-cycle stages**
- **Fit-for-purpose** processing, storage and **disposal** solutions are selected and implemented in a timely manner
- Adequate **provision** is made for radioactive waste management **resources** at all stages – financial, technical and human



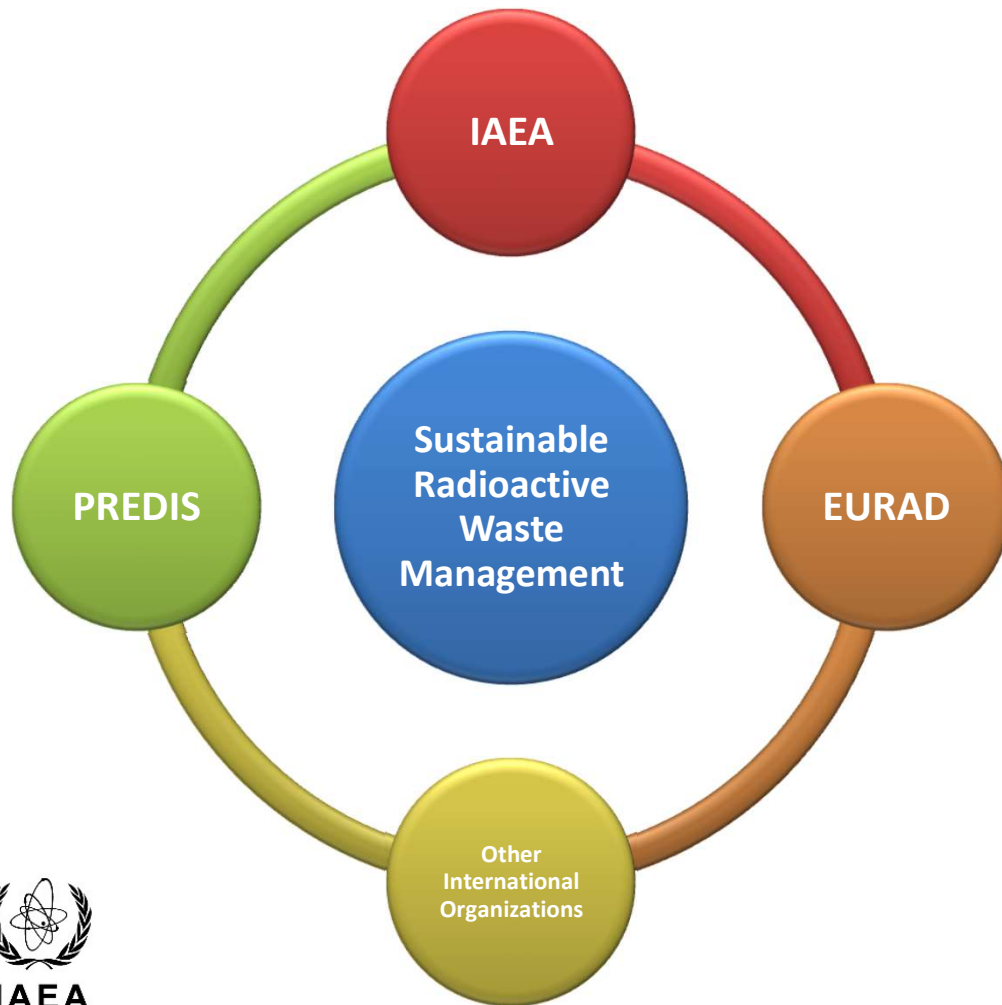
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# Different Missions – Common Goals



## IAEA WTS Vision

IAEA Member States are better able to advance their socio-economic progress by using radioactive technologies for peaceful purposes, through ready access to safe, low cost and effective solutions for radioactive waste management

## EURAD Vision

A step change in European collaboration towards safe radioactive waste management (RWM), including disposal, through the development of a robust and sustained science, technology and knowledge management programme that supports timely implementation of RWM activities and serves to foster mutual understanding and trust between Joint Programme participant



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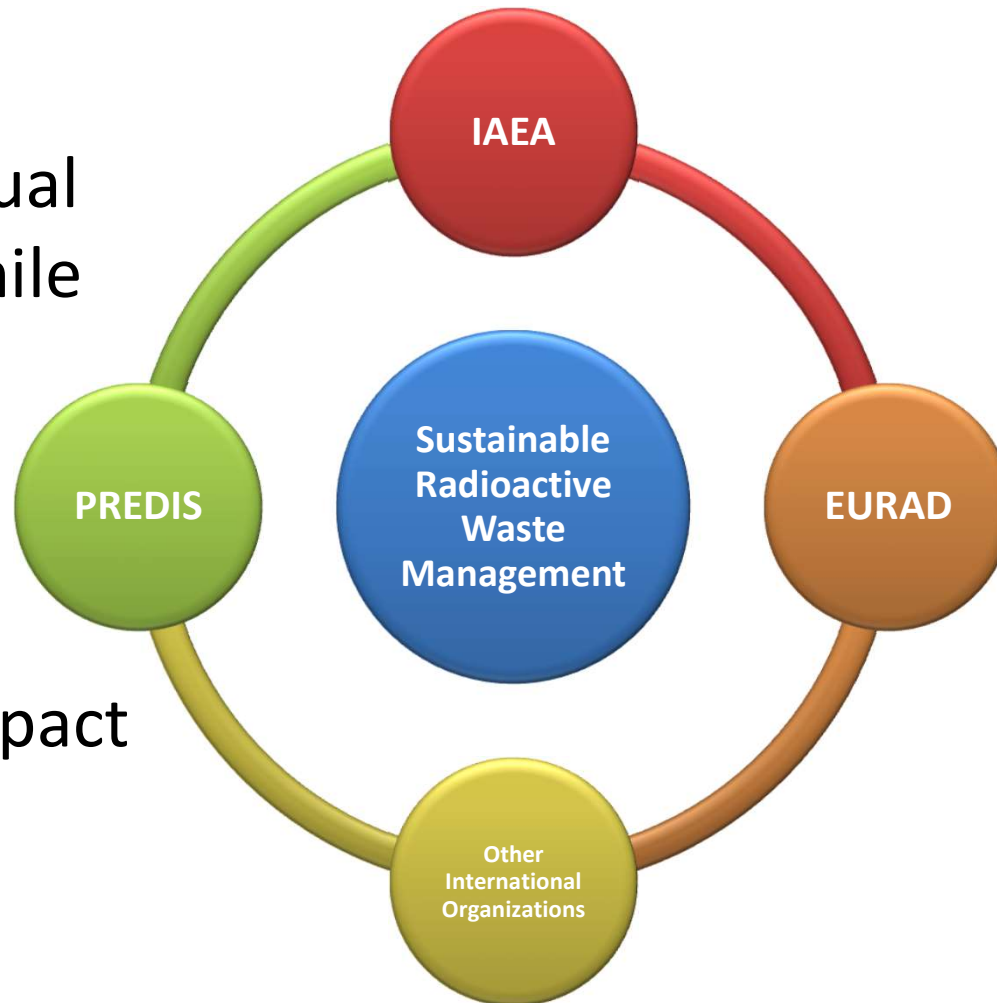




# Working Together - Sustainable Radioactive Waste Management

## Philosophy

Fulfill individual mandates while optimizing synergies & leveraging outputs for maximum impact



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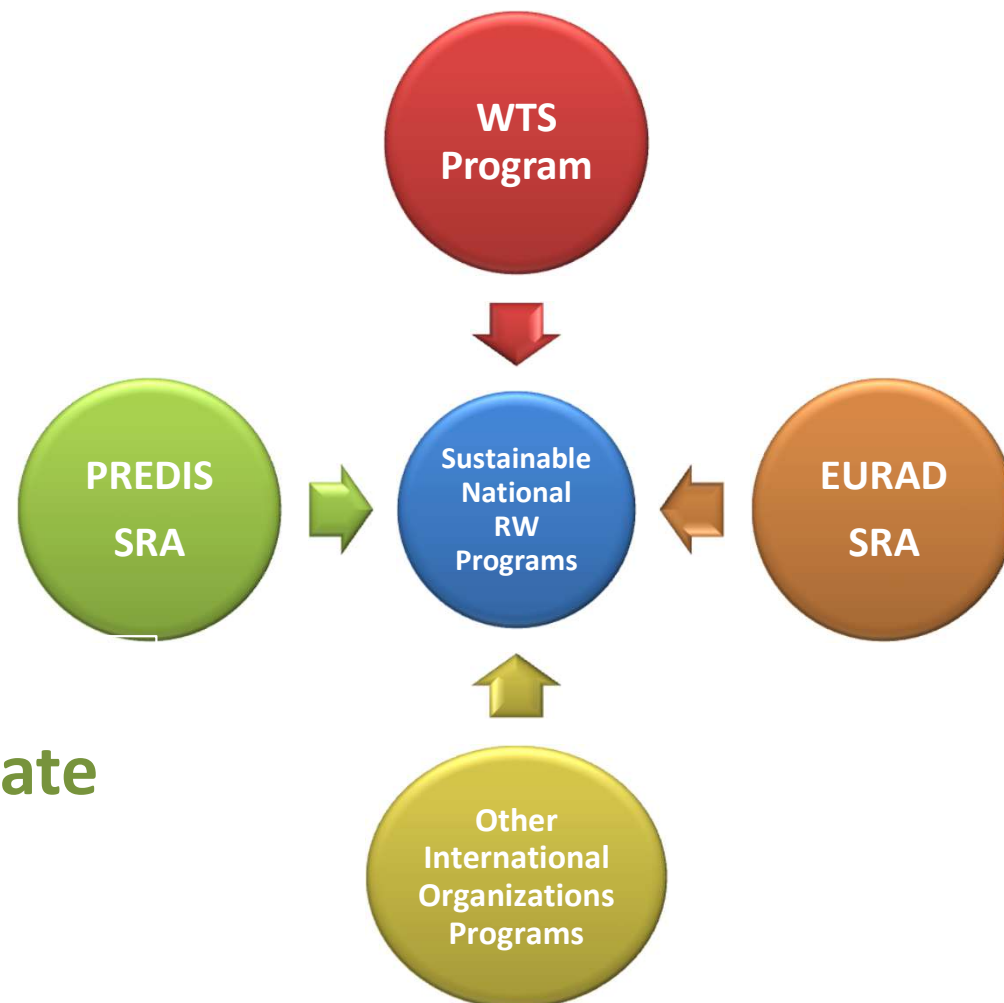
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# Working Together - Sustainable Radioactive Waste Management

Co-ordinate

Co-operate

Do not duplicate



- Commitment to share information & future plans
- Use common terminology and ontologies
- Focus on strengths
- Recognize and leverage project strengths
- Provide mutually beneficial support
- Complementary approaches
- Amplify project outputs
- Integrate work programmes
- Foster an atmosphere of trust & transparency



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SRA – Strategic Research Agenda



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# IAEA WASTE TECHNOLOGY SECTION PROGRAMME



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# WTS Radioactive Waste Management Priorities



**Fix the future**



**Address the past**



**Small inventory solutions**



**Share good practices**



**Facilitate societal acceptance**



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# Priority – Fix the Future



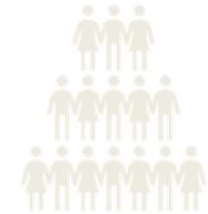
Address the past



Small inventory solutions



Share good practices



Facilitate societal acceptance



Fix the future



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Promote the concept of:

- Integrated cradle to grave waste management before activities begin to generate RWM
- Transition to **proactive** RWM rather than **reactive**
- Plan and assure that all waste has a clear, identified pathway to disposition
- Dialogue with designers of new reactor and fuel cycle facilities to raise awareness of downstream RWM liabilities



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# Priority – Address the Past



Fix the future



Small inventory  
solutions



Promote good  
practices



Facilitate societal  
acceptance



**Address the  
past**



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- The large and complex legacy of waste from past activities leads to a negative perception of nuclear energy and its applications as well as presenting a significant safety hazard.
- Implementation of solutions to manage this legacy is essential to ensuring a sustainable future for nuclear technology
- Share proven approaches to overcome barriers to process legacy waste inventories to safe storage pending disposal
- Identify opportunities for technology needs and innovations

# Priority – Small Inventories Solutions



Fix the future



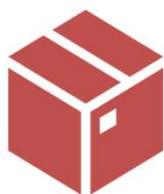
Address the past



Promote good  
practices



Facilitate societal  
acceptance



**Small inventory  
solutions**



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Strengthen MSs capacity to identify, plan and implement fit-for purpose programmes

- Raise awareness, understanding & selection of available implementation options
- Promotion of waste management strategies that maintain flexibility for future decisions/endpoints
- Scalable processing & storage solutions
- Raise awareness of technology gaps and limitations of existing technologies



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# Priority – Facilitate Societal Acceptance



Fix the future



Address the past



Small inventory  
solutions



Promote good  
practices



**Facilitate  
societal  
acceptance**

- Stakeholder involvement is an essential part of any complete, efficient and safe nuclear programme.
- “Context-specific” stakeholder engagement is a “make or break” component of any disposal programme, especially for a deep geological facility
- Needs:
  - Using sound approaches
  - Understanding local stakeholders' expectations
  - Getting policy makers on board



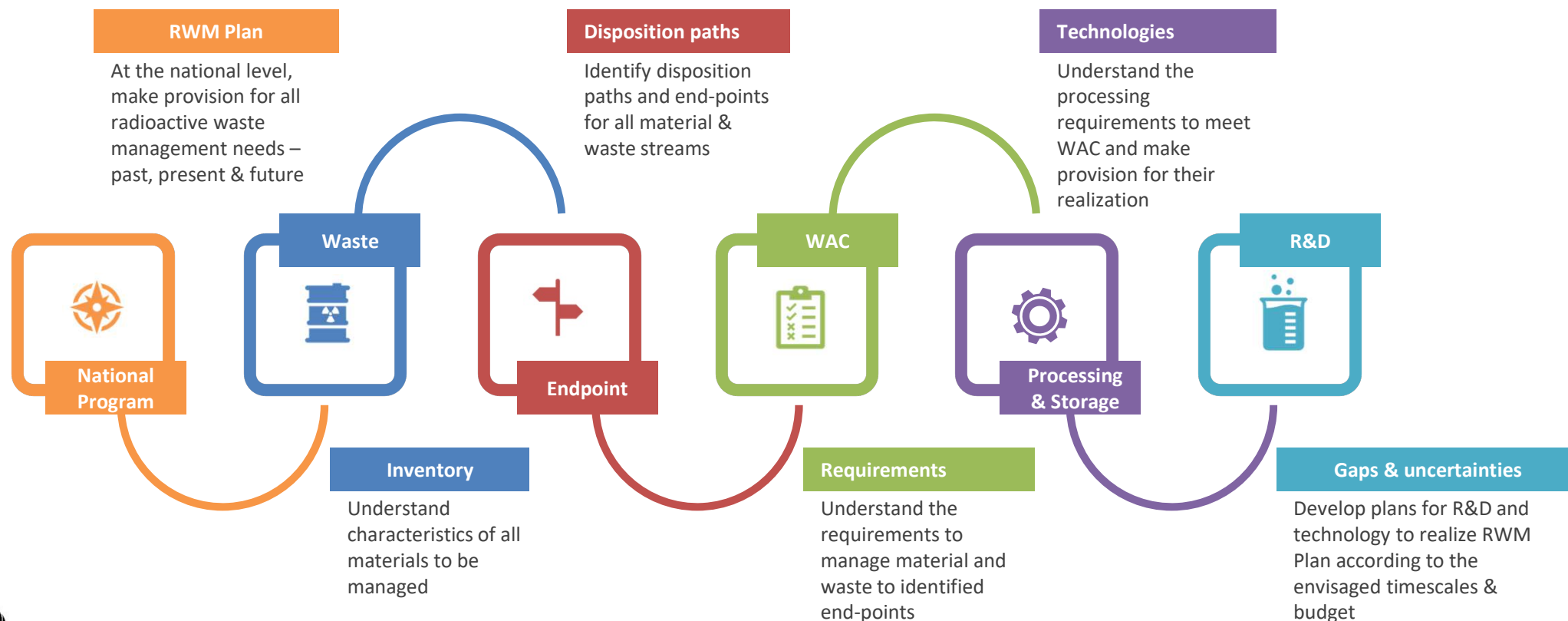
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# End-point Informed Radioactive Waste Management



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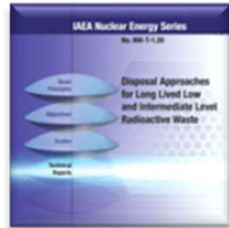
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# WTS Programme Products & Tools



Publications

CONNECT

LAB

IPN

URF

DISP

Networks

Expert Missions



Peer Reviews

ARTEMIS



Workshops &  
Training Courses



Information  
Sharing

Cooperative  
Research Projects

Processing of Irradiated  
Graphite to Meet Acceptance  
Criteria for Waste Disposal  
*Results of a Coordinated Research Project*

Nuclear Wiki



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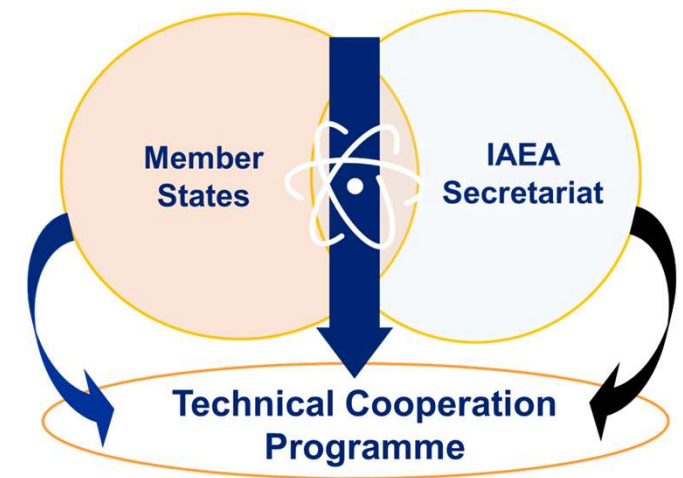
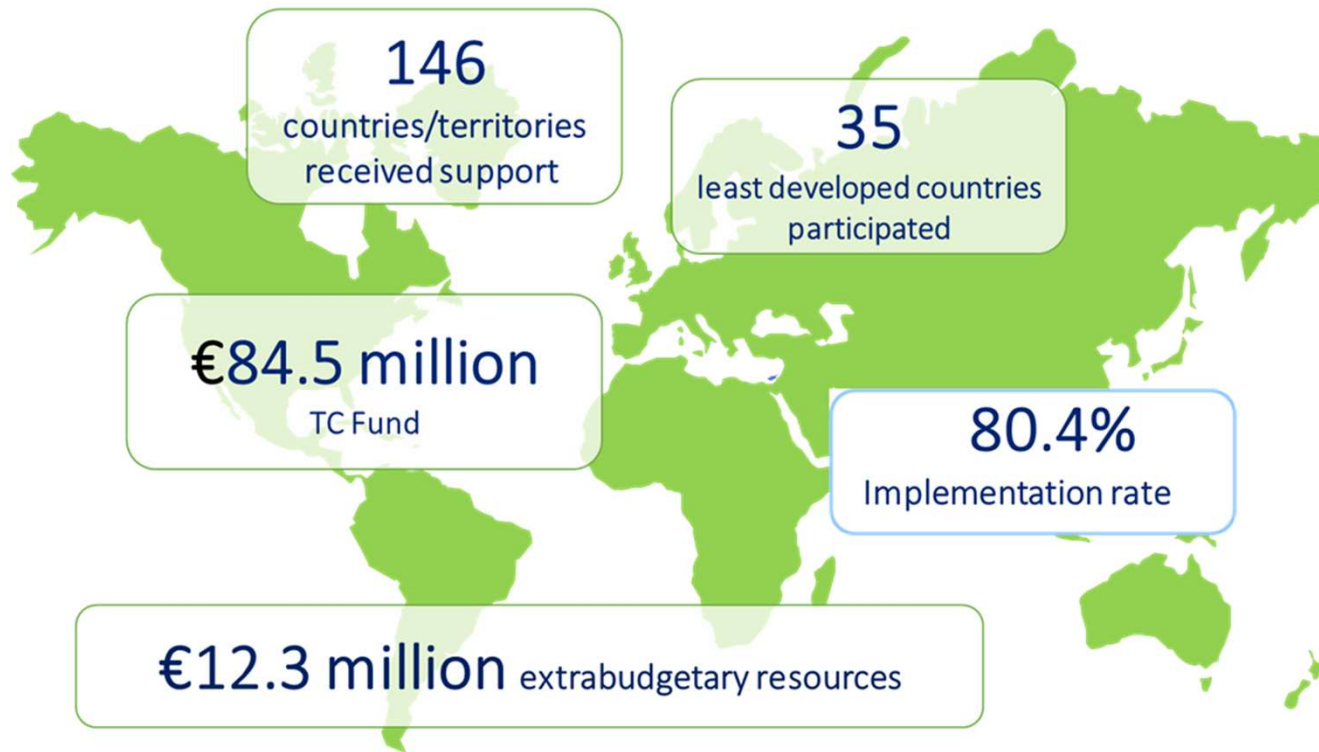
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# IAEA Technical Cooperation Programme

Status: 2020



IAEA brings the ability to amplify and transfer collective information, knowledge & good practices in radioactive waste management world-wide



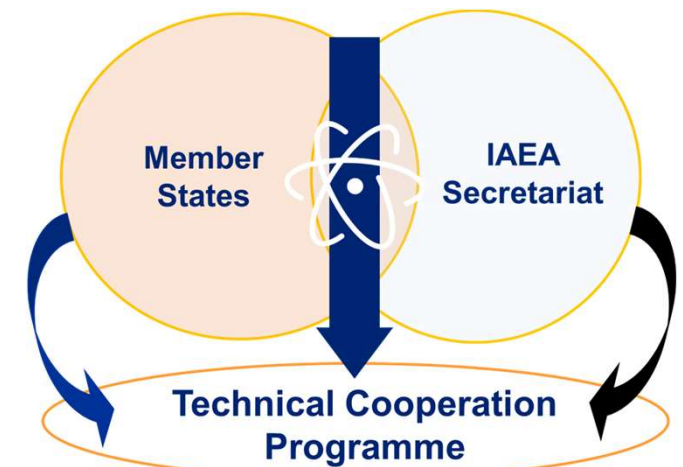
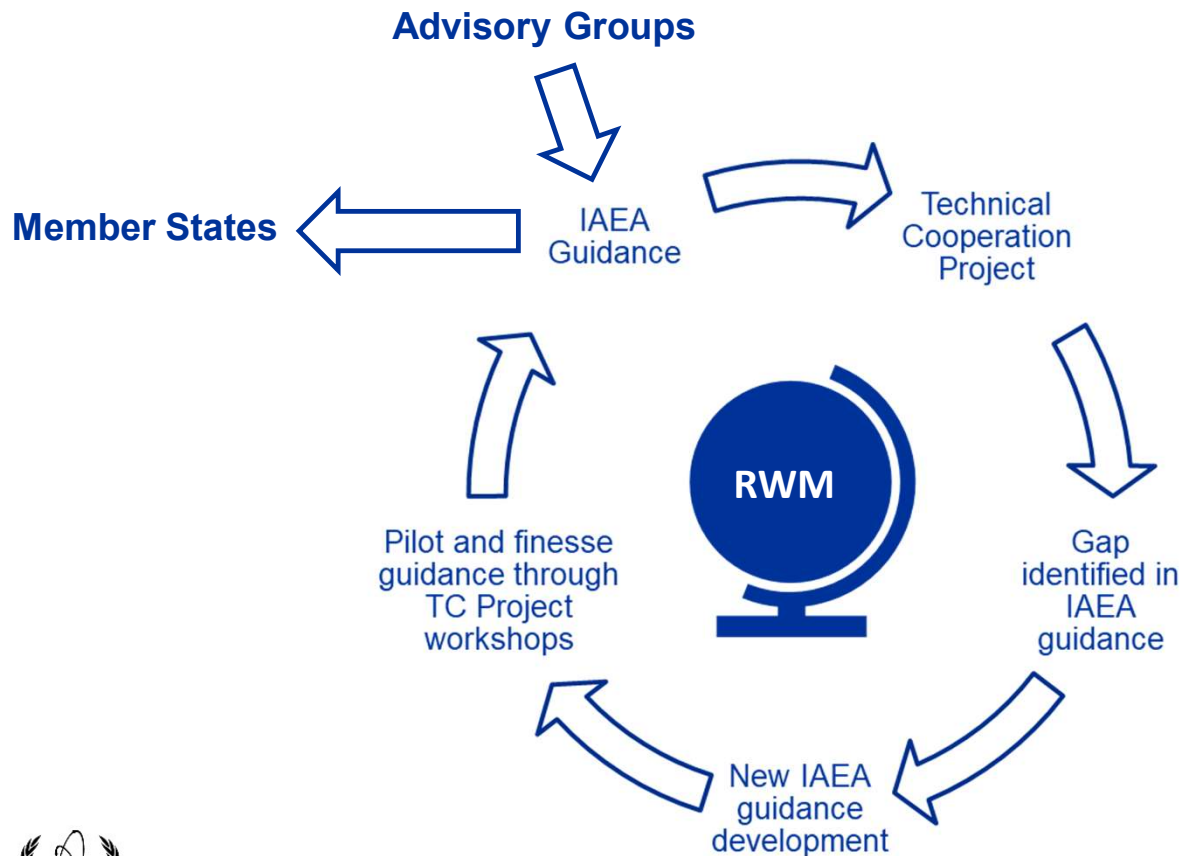
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# IAEA WTS Programme Development



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# IAEA – EURAD – PREDIS SYNERGIES



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# Programme Synergies

## IAEA Waste Technology Programme

- Publish guidance on the fundamental principles, technologies & concepts underpinning radioactive waste management
- Compile up to date information on status & trends in radioactive waste management world-wide
- Identify and communicate gaps and needs across a broad range of programme types
- Provide forums and platforms for sharing information



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Capacity building

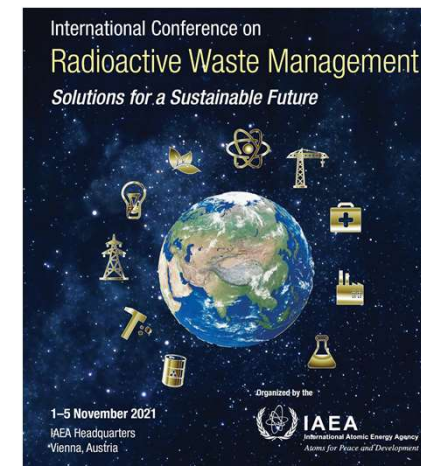
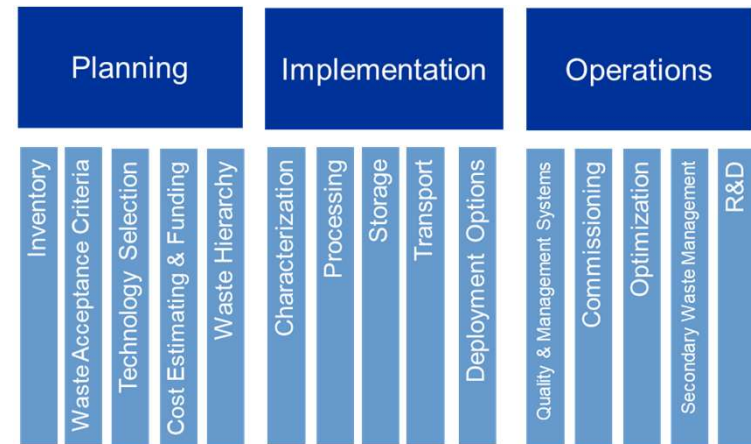
## EURAD & PREDIS

- Facilitate EU member states working together towards a common goal
- Oversight & implementation of radioactive waste management programmes
- Compile and share state-of-knowledge
- Consolidating science & technology
- Optimize predisposal programmes
- Mature technology solutions
- Develop innovative approaches and technologies
- Harmonization and standardization



# Achievements to date

- Proactive sharing of current programmes, objectives and future plans
- Understanding of each organization's strengths
- Alignment of domains and terminology
- Participation in outreach events
  - IAEA's RWM Conference
  - PREDIS & EURAD workshops and webinars
- Sharing of approaches and tools for Knowledge Management



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# Future Prospects



## Fundamental guidance

Develop, collate and document good practices in radioactive waste management



## Information Sharing & Knowledge Transfer

Leveraging tools and platforms to capture and share information and experience to facilitate knowledge transfer



## Capacity Building

Sharing of expertise and leveraging activities



## Fostering and Targeting Innovation

Understanding of Member States' needs, technology gaps and implementation options to focus R&D and technology development activities



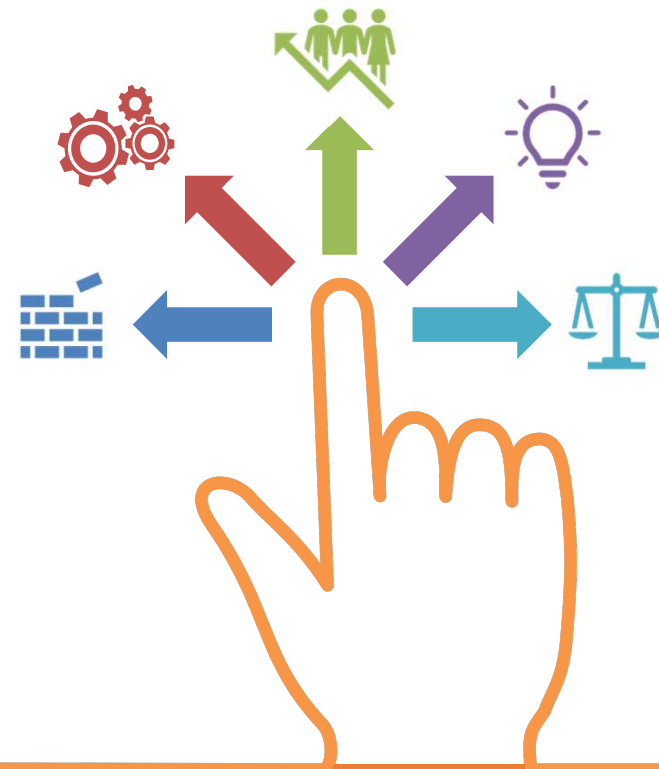
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## Harmonization

Common terminology and approaches to facilitate standardization of radioactive waste management practices between countries





# EURADWASTE'22

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*Thank you!*



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