



Towards SAFER2028

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SAFER2028

- Purpose and vision
- Thematic research areas
- Administration structure
- Research project portfolio and SAFER capability model
- Project types in SAFER2028
- International evaluation results
- Management Group's proposal for funding in 2023

Purpose and vision SAFER2028

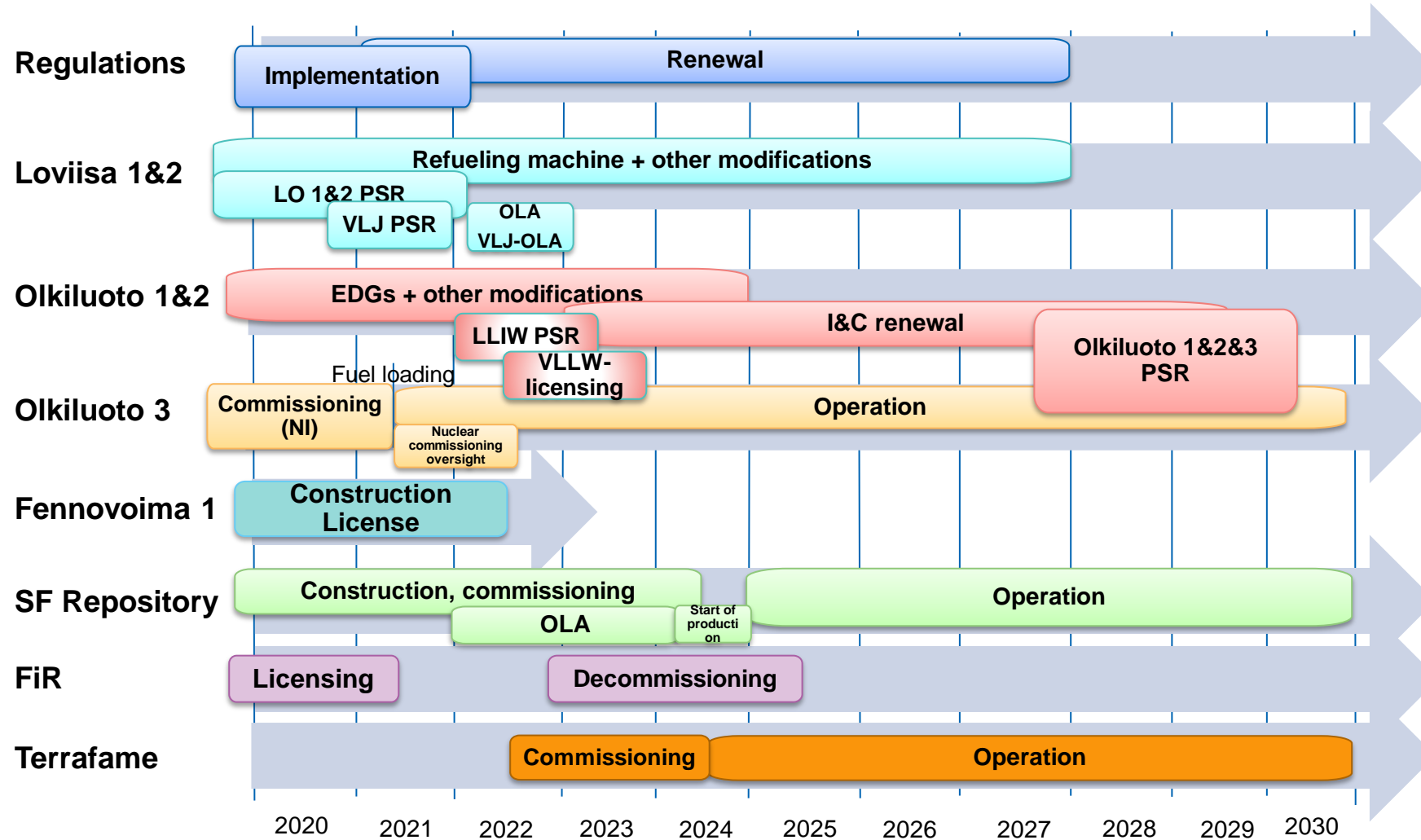
Purpose:

To ensure national nuclear energy safety expertise over generations.

Vision:

The SAFER2028 research community is a vigilant and agile competence pool that carries out excellent and internationally attractive research on topics relevant to the safety of Finnish nuclear power plants and nuclear waste management facilities.

Large oversight projects at nuclear facilities in Finland



Thematic research areas

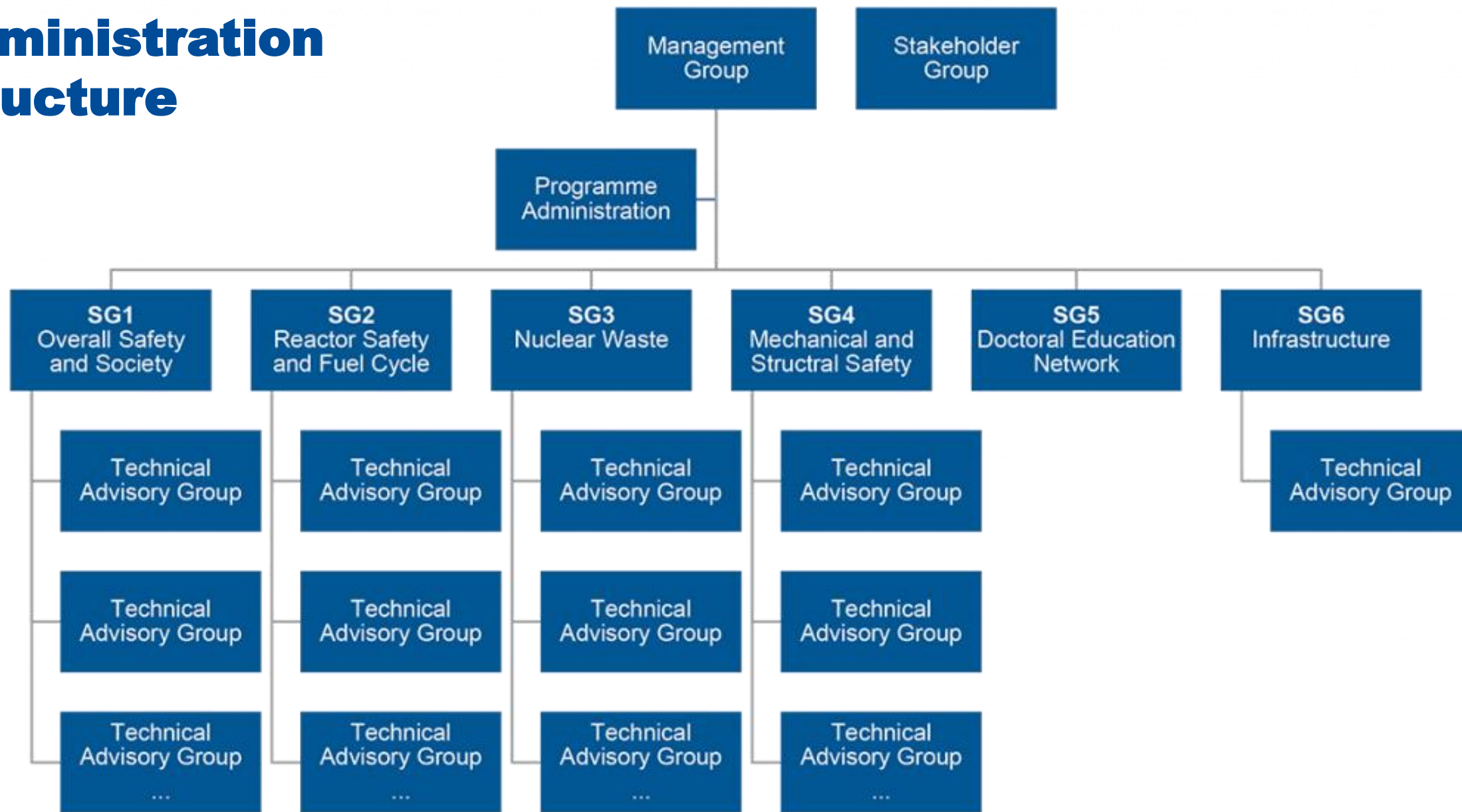
Four thematic areas

- Overall safety and society
- Reactor safety and fuel cycle
- Nuclear waste management, final disposal and decommissioning
- Mechanical and structural safety of NPPs

In addition

- Doctoral education network (DENSE)
- Infrastructure

Administration structure



Four thematic research areas in SAFER2028

Overall Safety and Society

- Overall safety concept
- Safety and society
- Systems engineering
- Risk assessment
- Human factors
- Organisational factors

Reactor Safety and Fuel Cycle

- Analytical tools and methods
- Experimental research
- Fuel
- Severe accidents

Nuclear Waste Management, Final Disposal and Decommissioning

- Pre-disposal of radioactive waste
- Nuclear Waste Disposal and Long-term Safety
- Long-term safety aspects and safety case methodology
- Decommissioning
- Alternative Waste Management Concepts

Mechanical and Structural Safety of NPP's

- Ageing management
- New methods and materials
- Safety related relevant loads

Research project portfolio and SAFER capability model

Crosscutting topics:

1. Infrastructure capability
2. Overall safety and systemic approach to safety
3. Validated tools and methods for safety assessment
4. Nuclear fuel and its lifecycle from reactor to final disposal
5. Ageing phenomena and the integrity of barriers of nuclear power plants
6. Long-term safety of final disposal
7. Safety and feasibility of short- and medium-term nuclear waste management activities

8. Severe accidents
9. External and internal hazards
10. Nuclear safety in a changing environment

The key areas to be assessed in the capability model are:

- 1) human resources and experts,
- 2) validated safety assessment tools,
- 3) nuclear safety research laboratories and research facilities,
- 4) career building and training and networking,
- 5) knowledge management and assets,
- 6) general research programme indicators.

Results from the international evaluation in 2022 SAFIR2022, KYT2022 & SAFER2028

General remarks:

- High level research
- Remarkable level of scientific output for a modest stream of funding
- Quite a broad scope compared to the funding level

Further recommendations:

- Enhance end-user engagement
- Clarify priorities and objectives on competencies
- Promote informal communication and information change
- Reinforcement of knowledge management
- Reduce administrative load in projects

MG's funding proposal in SAFER2028 for 2023

Overall Safety and Society

- 9 projects (out of 16 proposals)
- 930 k€ (2171 k€ sought)

Reactor Safety and Fuel Cycle

- 9 projects (out of 15)
- 1075 k€ (2342 k€ sought)

Nuclear Waste Management, Final Disposal and Decommissioning

- 13 projects (out of 24)
- 1395 k€ (2990 k€ sought)

Mechanical and Structural Safety of NPP's

- 8 projects (out of 16)
- 962 k€ (2202 k€ sought)

Doctoral Education Network

- 4 projects (out of 8)
- 200 k€ (391 k€ sought)

Infrastructure

- 2 projects (out of 3)
- 243 k€ (414 k€ sought)
- + 2700 k€ for Radiological laboratory facility costs

