

WM2011

Session 62

Training and HR Development in RWM

Shifting From R&D to Preparing for the Operation of a
Disposal Facility

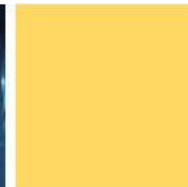
Ensuring Competence and Competence Providing Infrastructures for a Small
Waste Management Organisation

Case of Posiva Oy

Marjatta Palmu, Senior Adviser



POSIVA

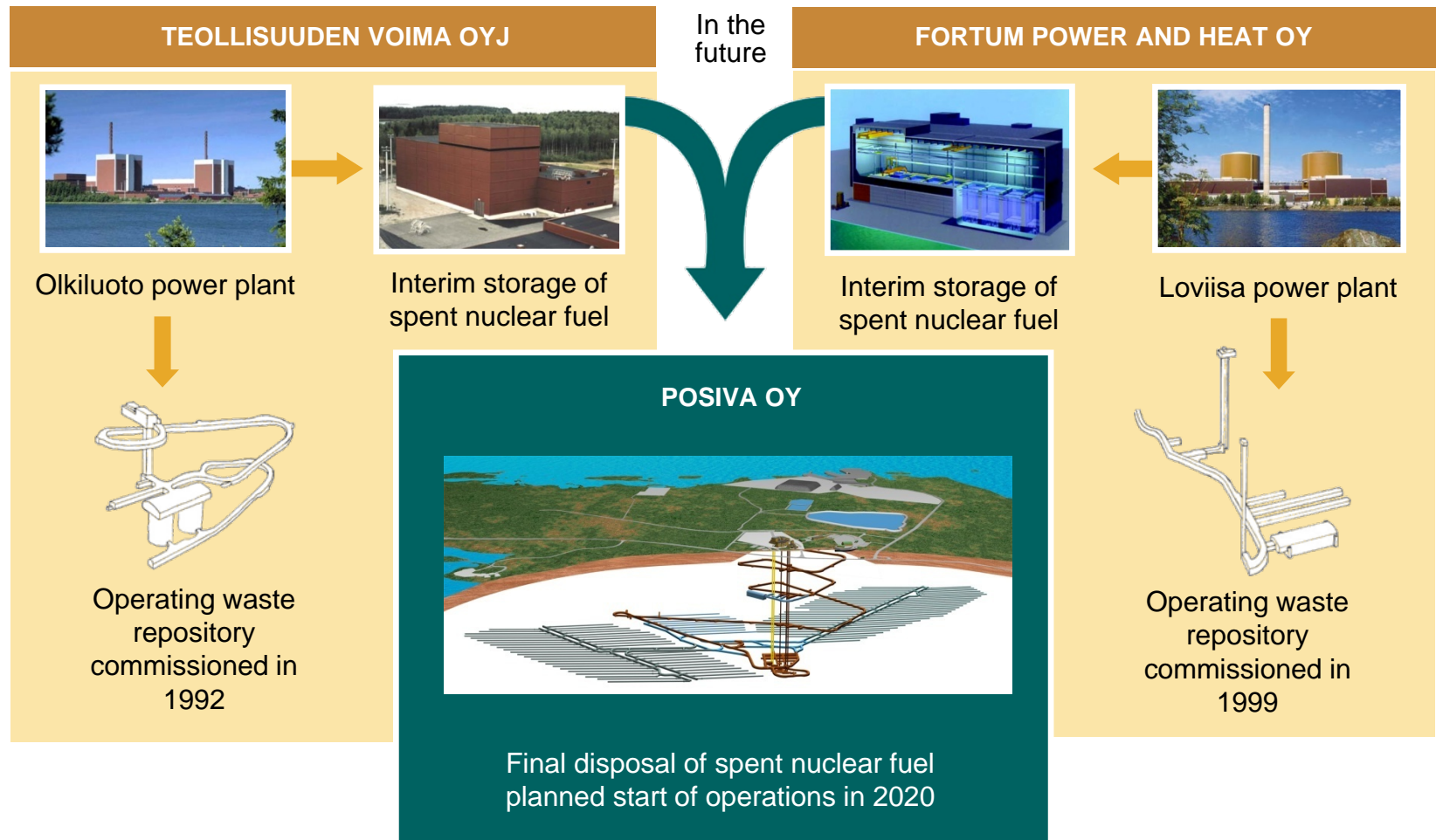


15.2.2011

Palmu Marjatta

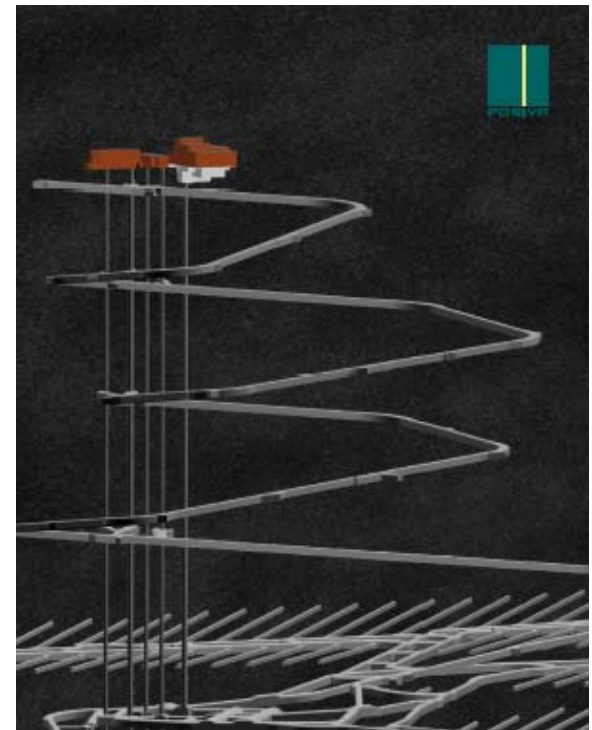
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Nuclear Waste Management of the Existing NPP's in Finland



Posiva Oy Founded in 1995

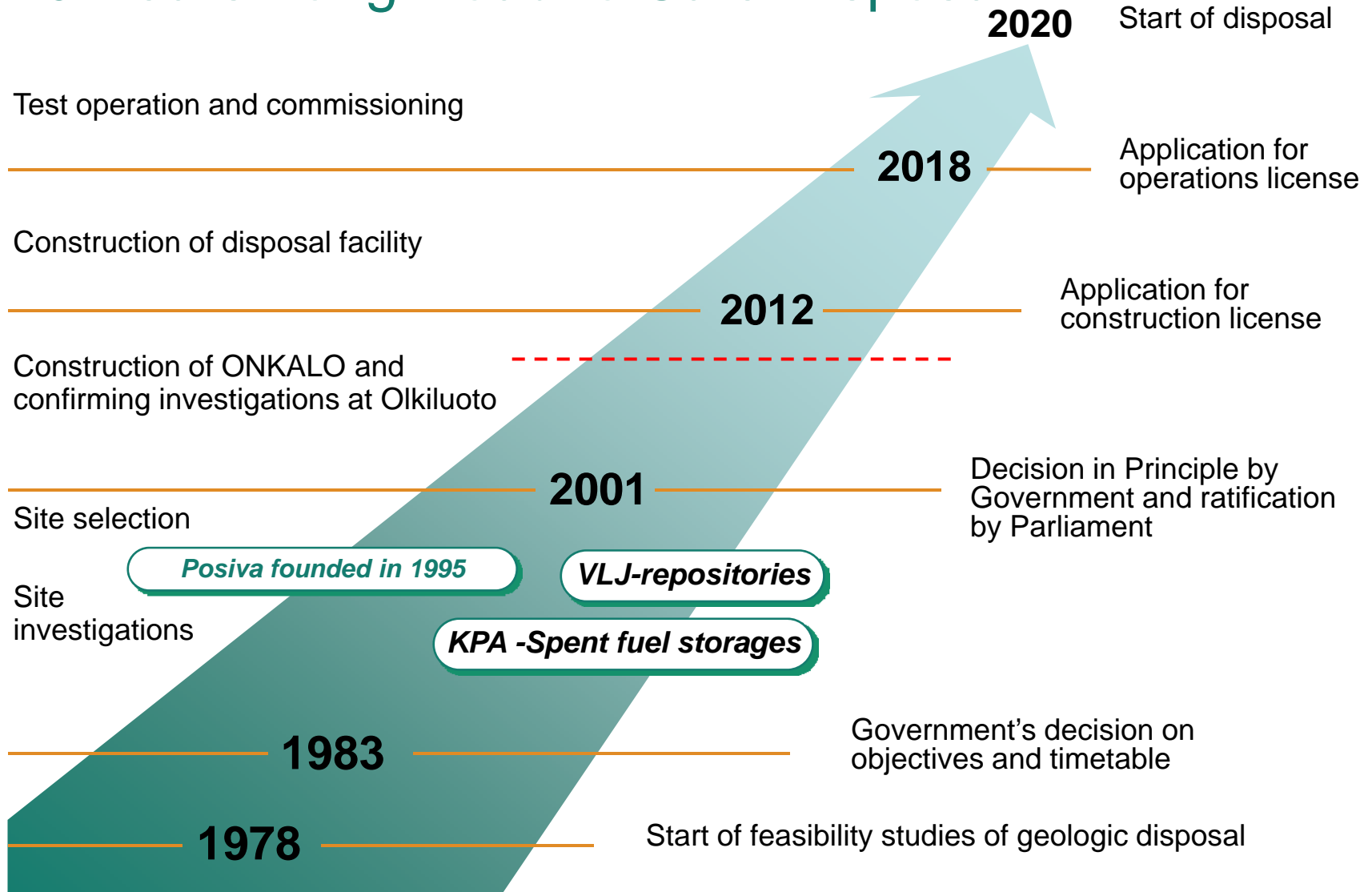
- Ownership: Teollisuuden Voima Oyj 60 %, Fortum Power and Heat Oy 40 %
- ISO 9001 certified in 2008, ISO 14000 certified in 2010
- Mission: Final disposal of spent nuclear fuel of the owners
- Gradual change from a R&D company to an implementing organisation
- Steady increase of personnel: 92 people
 - total direct employment effect over 300 persons
- Accrued budget in 2010 : EUR 61 million
- Estimate for 2011: EUR 71 million



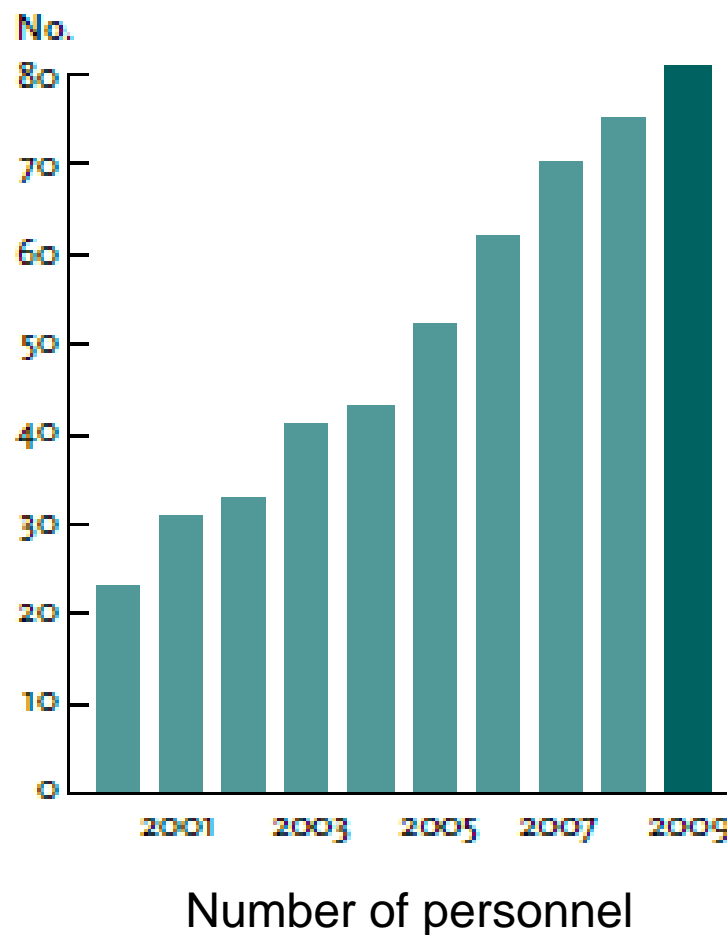
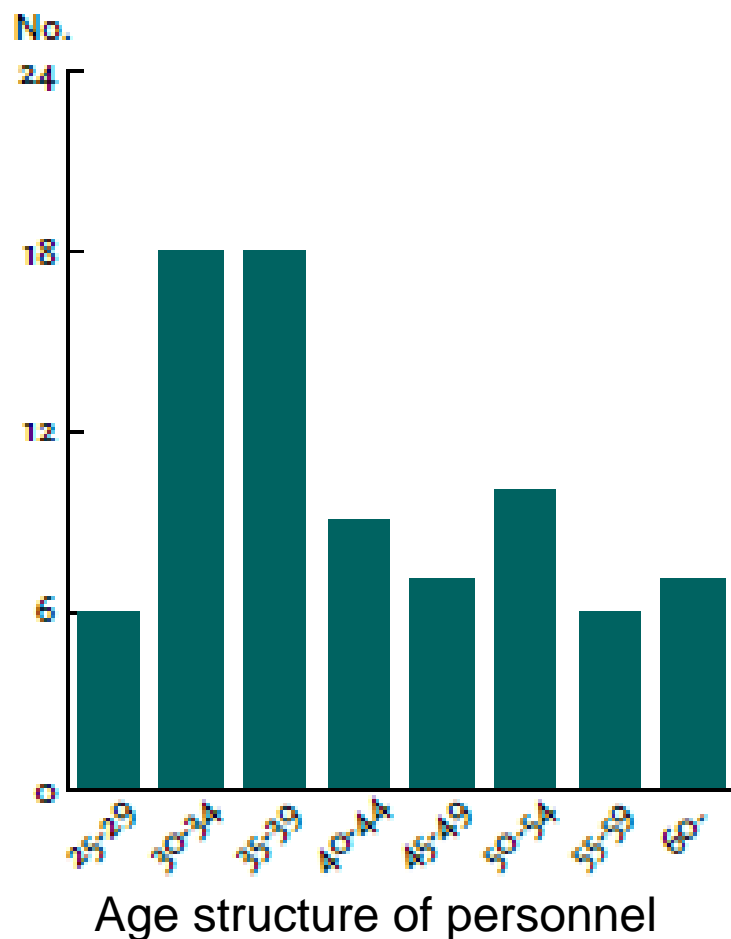
Focus from Development to Design, Construction and Demonstration for the Operating License

- FSAR of the disposal facility: Main tasks
 - Demonstrations in ONKALO URCAF (RSC), the final construction works
 - Design, sealing, NDT and manufacturing of canister
 - Design and construction of encapsulation facility and its equipment
 - Main drawings and construction of repository, development and manufacturing of disposal technology and equipment
- Supporting tasks
 - Transportation of spent fuel (procurement)
 - Safeguards issues - not only for ONKALO
 - Training of operating personnel
 - *Cost estimates and the Waste Management Scheme*
 - Ensuring operational safety in the facilities

40 Years Long Road to Safe Disposal

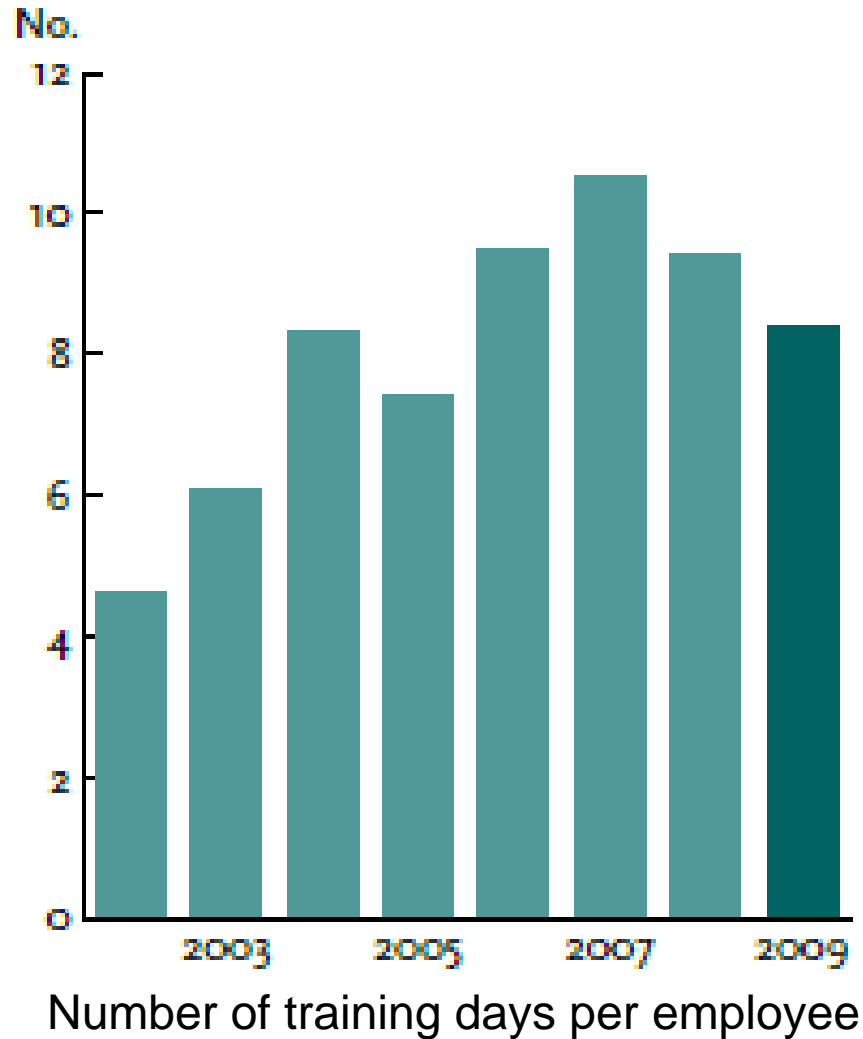


A Lot of New Young Employees Hired. Investment in the Induction of New Personnel



Source: Annual report 2009

Training of Personnel



Source: Annual report 2009

Type of training courses having reruns:

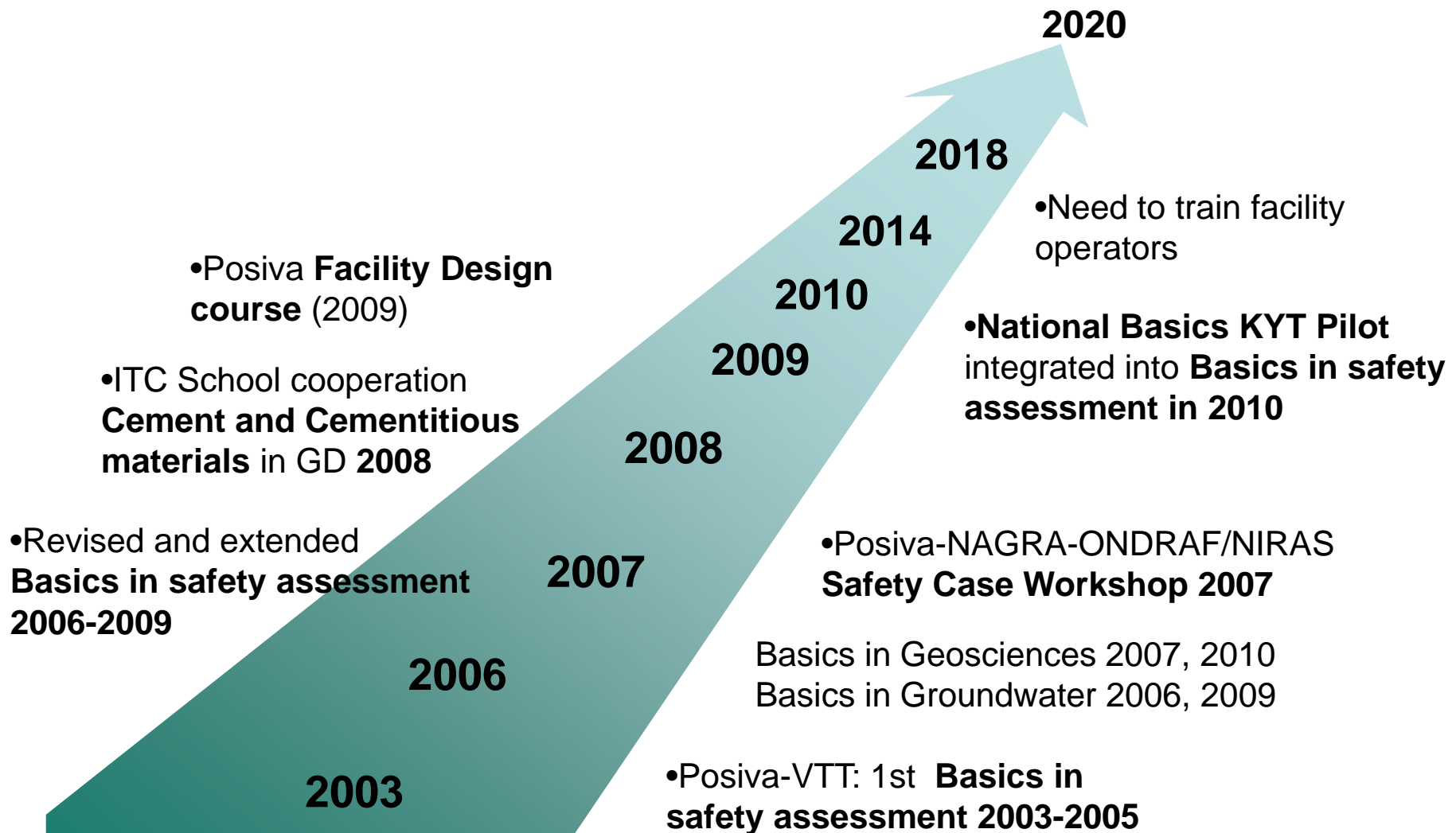
- Basics in GD Safety Assessment
- Basics in Geosciences and
- Basics in Groundwater
- Regulatory Guidelines

Sourcing training from TVO:

- Nuclear specific topics and radiation protection

Specific topical seminars and workshops

Posiva's Training in Geological Disposal Now – Selected Basics and Specialized Courses

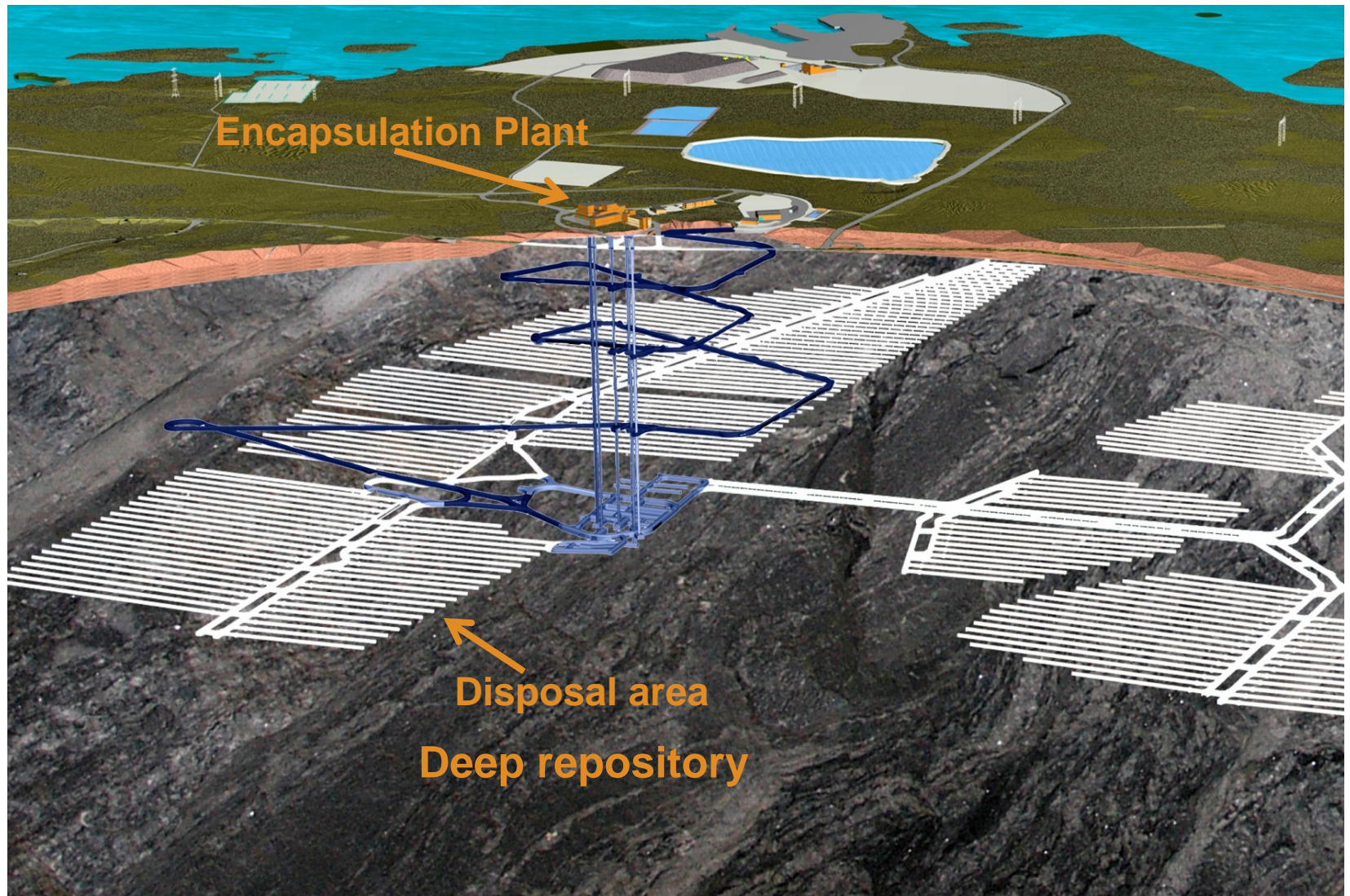


Different Needs at Different Times

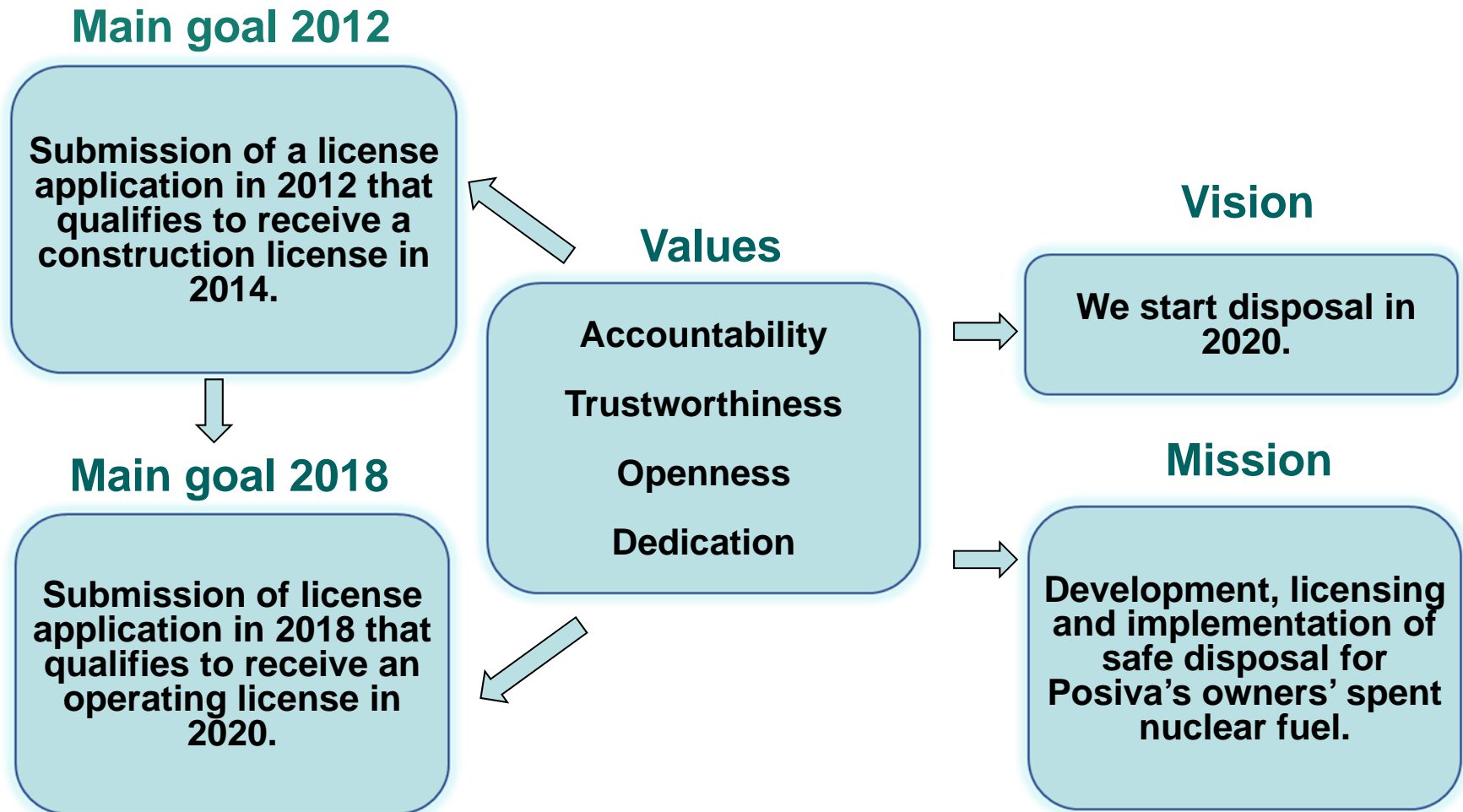
- Site selection stage – site investigation and technology development focus (personnel: ~20-30 people),
- ONKALO URCF stage – learning to build and operate underground (personnel up to 90 people),
- Licensing application preparation stage until operating license (personnel up to 120 people).

- Preparing for operations – becoming a nuclear operator
 - Not only the operations but also the different new requirements e.g. validations and qualifications, pre-reviews, inspections are of source of new needs,
- Reflected in Posiva's strategy and organisation
 - New skills and new competence needed for existing personnel, too.
 - Definition of qualifications of personnel for safety critical tasks.

Entire Disposal Facility around Year 2100 and Foreseen Closure around Year 2130



Posiva's New Strategy Map 2010



Working Together with Universities to Create a Network of Competence Infrastructures

- First national pilot on the Fundamentals –course
 - Initiative from the Ministry (TEM), coordination by Aalto University
- Petrus II network
 - End-user needs on professional development schemes
 - Use of the competence data from various end-users, not only from Posiva
- International activity increasing
 - OECD/NEA ad hoc groups and EC's EHRO-N

A National Competence Working Group by the Ministry of Employment and the Economics

Parliament required a study on the availability of competence for new build.

A working group established by TEM with a main group and subgroups engaging around 120 experts

1. Availability and need of nuclear specific work force (experts and operators)
2. E&T offering and needs
3. National research programmes (KYT, SAFIR)
4. Research infrastructures
5. International research cooperation
6. VTT's research reactor (FIR1)
7. Finnish suppliers' capability and competitiveness for new build

Going Down is Good! ONKALO tunnel at PL3100



But So is Going Upwards, too!



Ventilation and hoisting equipment buildings in Autumn 2010



POSIVA