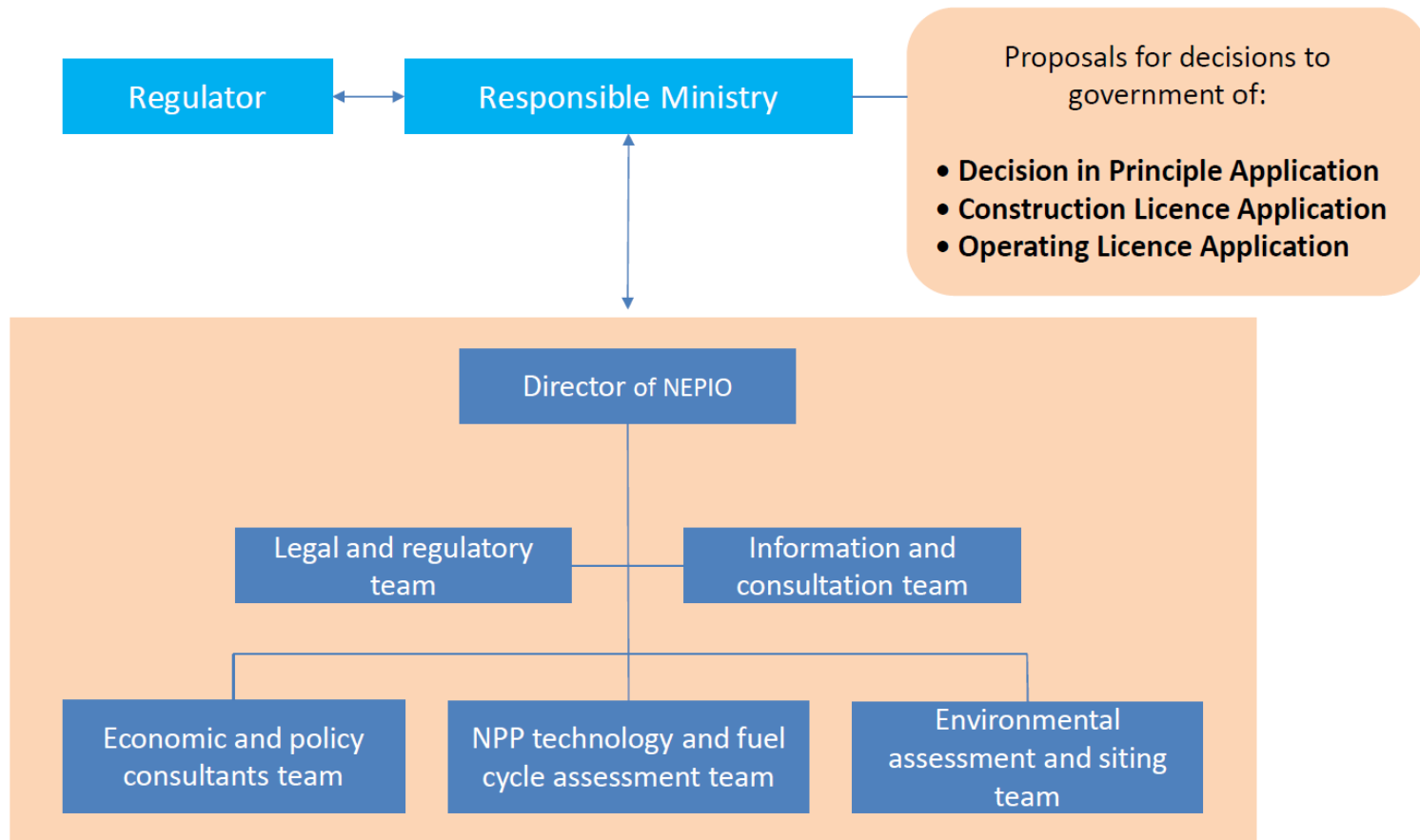


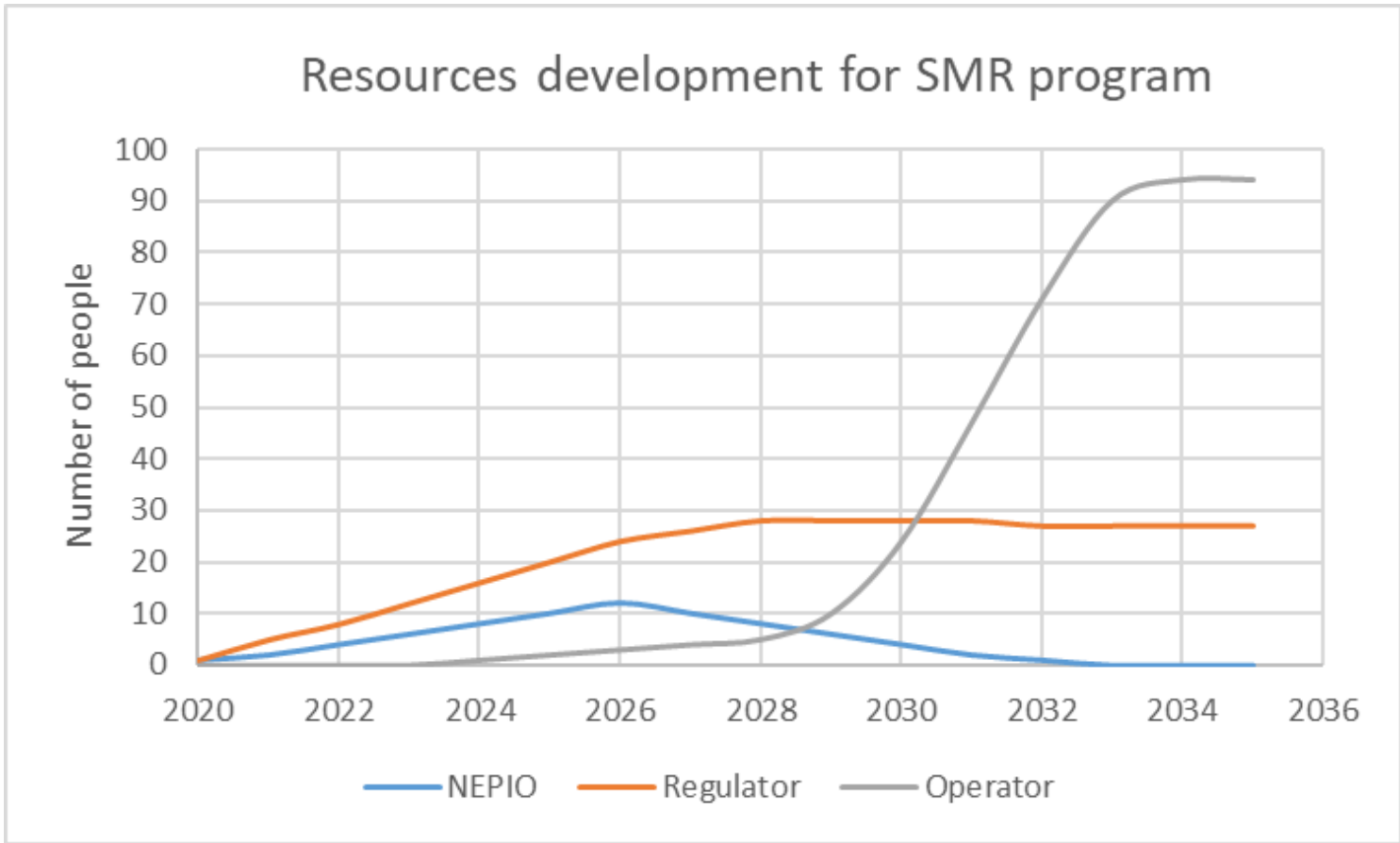
# Necessary state competences and their development

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Conference:  
New Generation Nuclear Energy in Estonia  
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**Example of a Nuclear Energy Program Implementing Organisation (NEPIO) and its communication between the responsible Ministry about SMR licensing matters.**



**Estimated temporal behaviour of workforce during a SMR program.**

# Preconditions for nuclear infrastructure development program

- Nuclear energy legislation available
- Competent Radiation and nuclear safety authority
  - Regulatory guides
- Compatibility with international guidance and regulations
  - Fulfilling the IAEA's Integrated Nuclear Infrastructure Review (INIR) procedure

# Nuclear infrastructure development steps

IAEA's three based approach to develop nuclear power:

## ■ PHASE 1: "Consider"

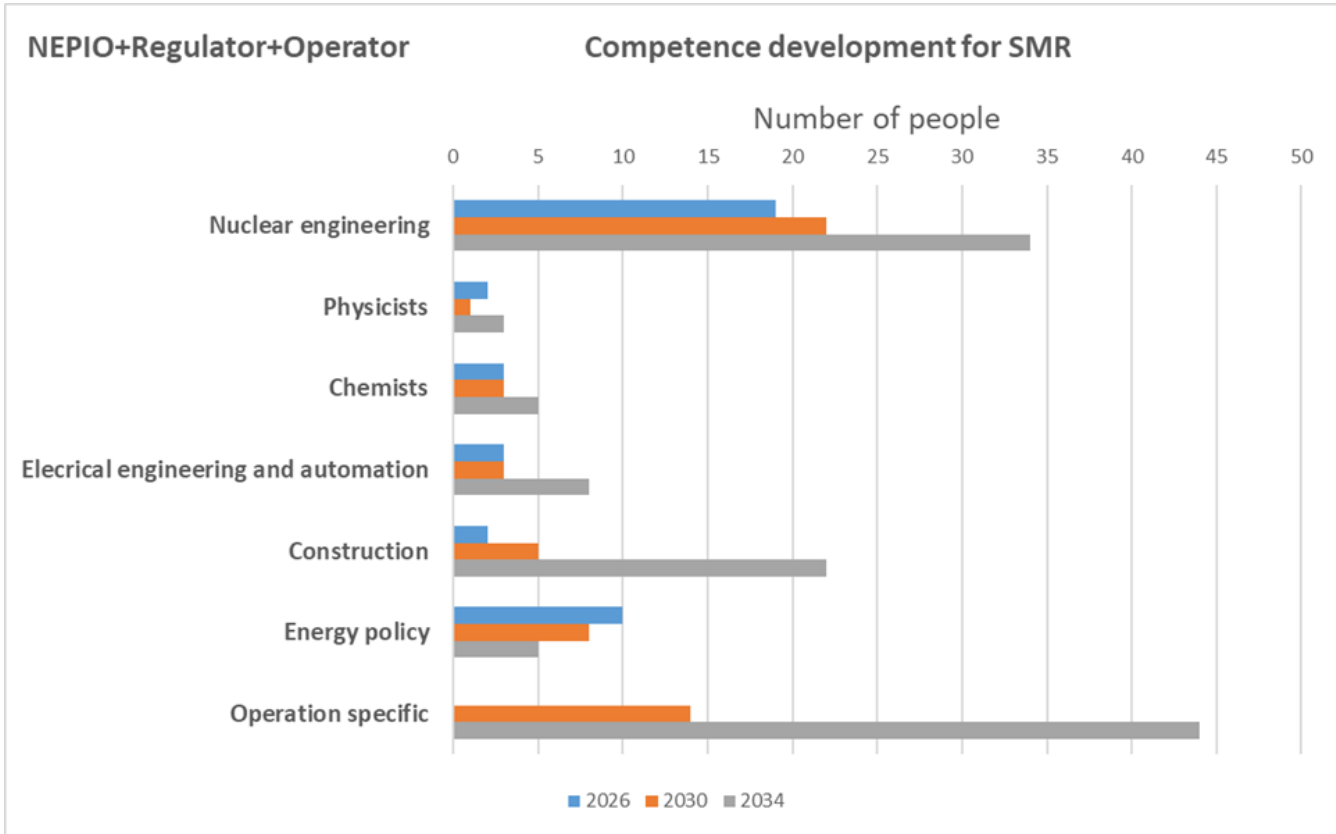
- Considerations before a decision (e.g. Feasibility study)
- Milestone 1: Ready to make a knowledgeable commitment to a SMR program

## ■ PHASE 2: "Prepare"

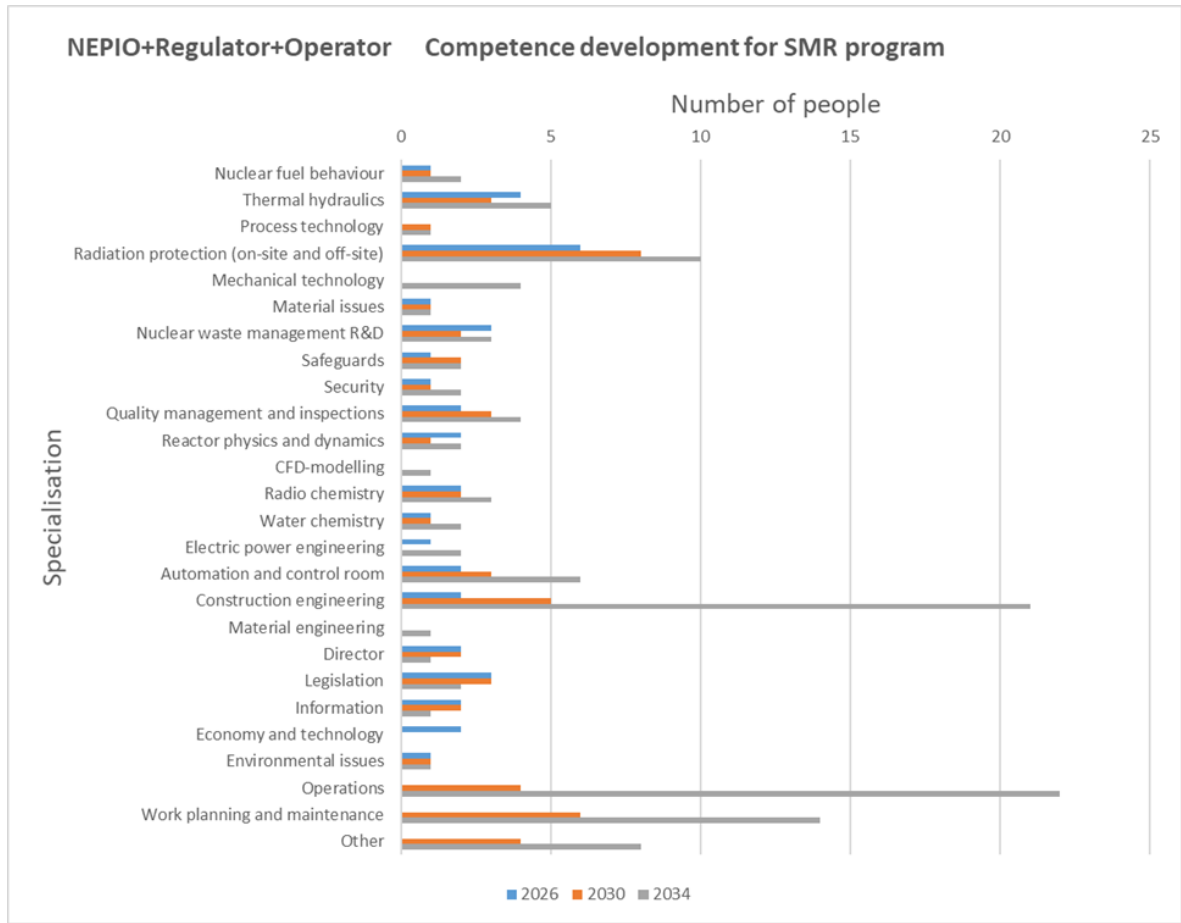
- Preparatory work for the contracting and construction of SMR
- Milestone 2: Ready to invite bids for the first SMR

## ■ PHASE 3: "Implement"

- Activities to implement the plant
- Milestone 3: Ready to commission and operate the first SMR



**Estimated total (NEPIO+Regulator+Operator) personnel needs per areas for the years 2026, 2030 and 2034.**



**Estimated total (NEPIO+Regulator+Operator) personnel needs per specialisations for the years 2026, 2030 and 2034.**

# Competence during licensing phases

- **The national regulatory body need sufficient competence in reviewing the licence applications** (Decision in Principle Application, Construction Licence Application, Operating Licence Application)
- **Oversight authority necessary competences:**
  - **Reactor safety** (fuel performance, thermal hydraulics, materials, etc.)
  - **Environmental impact** assessments (radiological, geological, etc.)
  - **Legal** matters (nuclear legislation)
- **Primary licensing** in the country of origin or **international certification** for SMR plant design diminishes review work in the operating country
  - Easier licensing and SMR plant design certification procedure



## Summary

- State competence is necessary in all phases of the nuclear infrastructure development program
- An appropriate balance of resources and competence between the operating organisation, regulator and ministry is essential
- Compatibility with international guidance and regulations

*Thank you!*