



European Human Resources Observatory in the Nuclear Field (EHRO-N)

ENSREG:
7th European Nuclear Safety Conference
Responding to the growing interest in
nuclear energy
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Belgium

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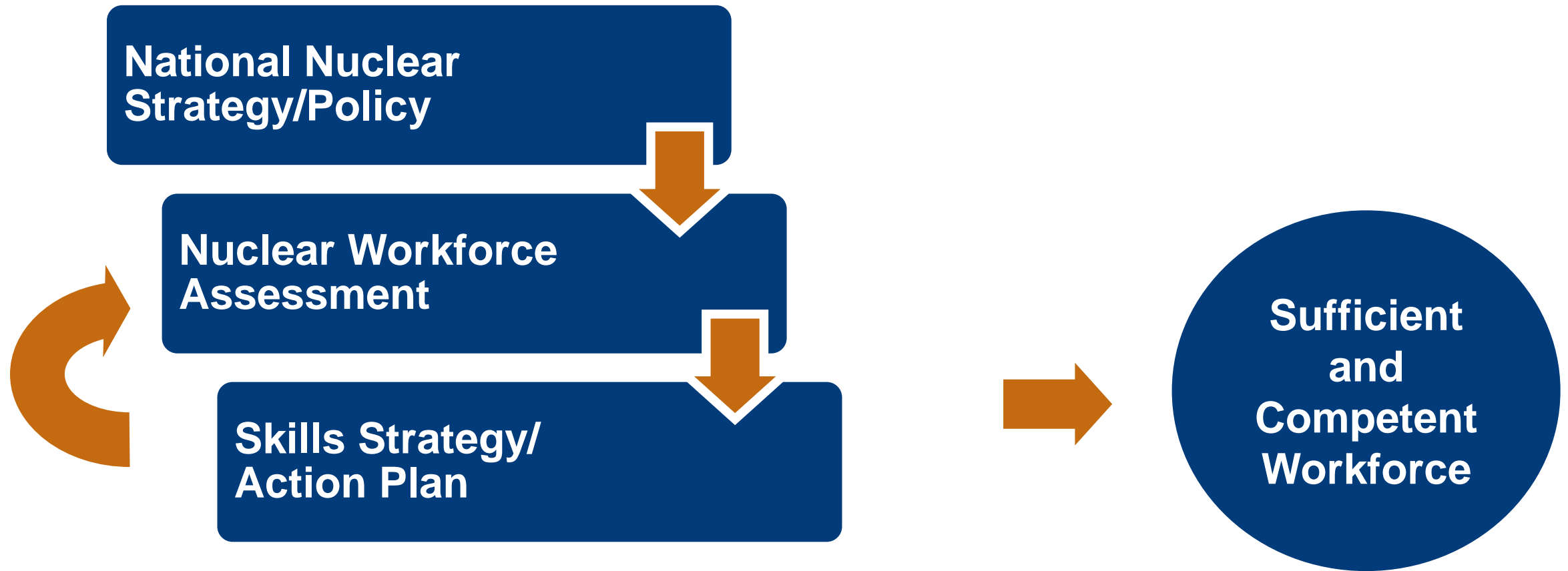
EHRO-N background



- **2008:** Council *"ENCOURAGES the Member States and the Commission to establish a review of professional qualifications and skills in the nuclear field for the European Union, which would give an overall picture of the current situation and enable appropriate solutions to be identified and implemented"*
- **2010:** Commission launches the **European Human Resources Observatory for the Nuclear field (EHRO-N)**
- EHRO-N organisational structure:
 - **Advisory Board** of senior representatives from European groups & networks and international organisations
 - **Expert Groups**, e.g., on Jobs Classification
 - **Operating Agent** is JRC



Basic elements of the nuclear workforce planning cycle



Work stream 1:

Best practices for national nuclear workforce assessments



1. Mapping the current workforce

- including job function, education level
- competences and skills, demographics

2. Predict future workforce demands

- National policies: new-build, LTO, decommissioning, Health programmes
- Possible by use of modelling tools

3. Mapping of HR supply to the workforce

- Education (academia)
- VET programmes (re-skilling, up-skilling).
- Research programmes (infrastructures for E&T)

4. Analyse gaps between HR demands and supply

- Retirement rates, mobility, competition between sectors

5. Develop a Nuclear Skills Strategy (Action Plan)

- Mitigating the HR gaps (supply to the workforce)

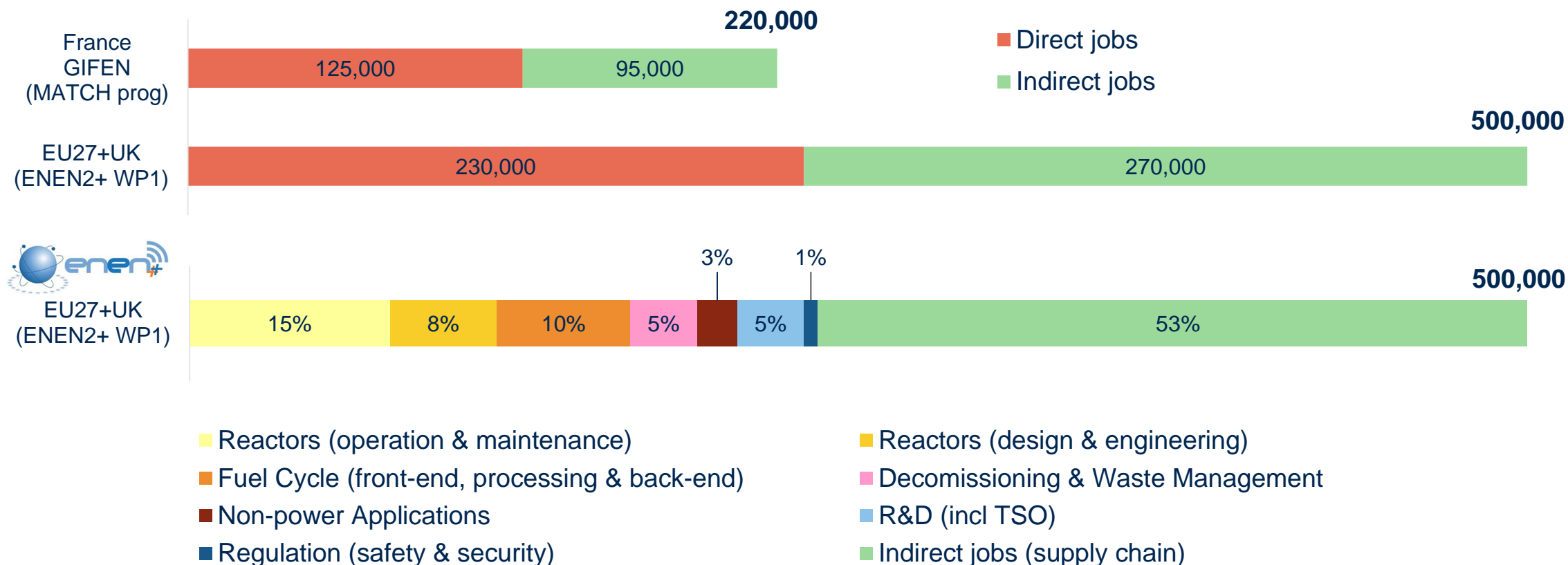
6. Implement the Nuclear Skills Strategy

7. Monitor and review the process

Work stream 2:

European workforce numbers and needs

ENEN2+ Workforce size EU27+UK:



⇒ More than 50% of jobs supporting the nuclear sector are indirect jobs (supply chain)

Workforce needs next 10 years (EU27+UK)

Today 500.000 jobs in the nuclear sector
(230.000 direct jobs + 270.000 indirect jobs)

Retirement existing workforce
(2.5% per year)

Recruitments needed until 2035:

Scenario 1:	0% growth in nuclear capacity 57.500 direct jobs and 67.500 indirect jobs	= 125.000 jobs
Scenario 2:	10% growth in nuclear capacity 80.500 direct jobs and 94.500 indirect jobs	= 175.000 jobs
Scenario 3	20% growth in nuclear capacity: 103.500 direct jobs and 121.500 indirect jobs	= 225.000 jobs

Fragile skills from ENEN2+ 2023



Nuclear professionals/experts

- Engineering nuclear
- Process engineers, reactor physics and dynamics
- Radiation protection
- Physics (nuclear)
- Medical nuclear applications

Nuclearized

- Engineering electrical, mechanical, instrumentation
- Welders, fitters, boilermakers
- Dismantling and waste management,
- Transport and handling

Nuclear-aware

- Project Management
- General administration
- Finance
- Legal/compliance
- Training
- Emergency preparedness
- ICT/Cybersecurity

Other - also soft skills needed

- Leadership
- Communication
- Adaptability

Other JRC actions for nuclear skills

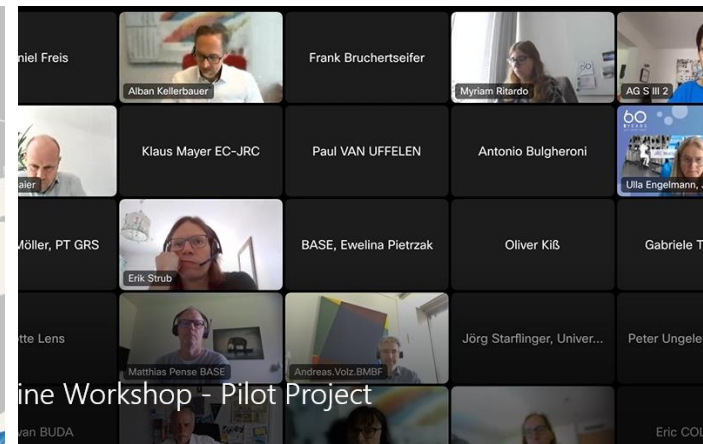
Open Access to
JRC Research
Infrastructures



Traineeship
Programme



Pilot Project with
German nuclear
stakeholders



Training courses
(EUSECTRA)



Conclusions

1. A **National Nuclear Workforce Assessment** is an important tool serving as input for a targeted and relevant **Skills Strategy** ensuring sufficient and competent workforce
2. A **NWA requires participation of all relevant stakeholders** to be as complete as possible
3. The SMR Industrial Alliance is aiming at 150 GW installed capacity in 2050. For this **the nuclear sector need to recruit 225.000 over the next 10 years**, most of them highly skilled



Thank you!

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