



MATCH PROGRAMME

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Nuclear : France's 3rd largest industrial sector

- **56 reactors** in operation in France on 18 sites
- Nuclear energy represents **70.6%** of all electricity generated in 2020
- 120 reactors using French technology throughout the world
- More than **3,000 companies** in the French supply chain

- 85 % of small and medium-sized companies
- ≈200,000 employees
- Over 130 different jobs
- 30,000 recruitments 2015-2018



Building plans

In February 2022 France announced plans to build **six new reactors** and to consider building **a further eight**

The President Macron highlighted the need to increase electricity supply by “**up to 60%**” as the country attempts to reduce consumption of oil and gas over the next 30 years

A SMR design called "NUWARD" is under development in France.

This project is supported by the French consortium gathering EDF, CEA, TechnicAtome and Naval Group

MATCH programme : a collaborative tool to help the industry to resource its programs

MATCH programme:

- provides **a method for matching abilities and needs (from nuclear operators)**,
- aims to provide **a structured 10-year vision of the nuclear industry's preparedness** in 20 operational segments at the heart of the industry (engineering, civil engineering, testing and inspection, boilermaking-piping-welding, etc.), and 84 key professions:
 - Human resources (analytics/qualitative approach)
 - Industrial capabilities (qualitative approach)



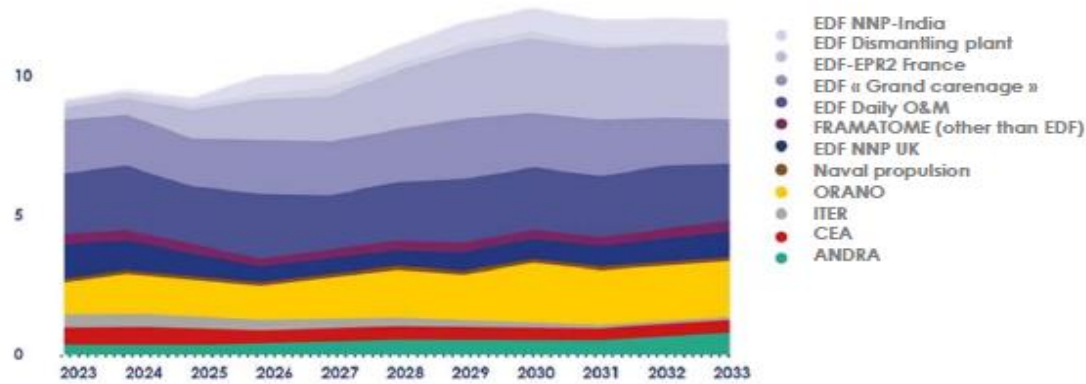
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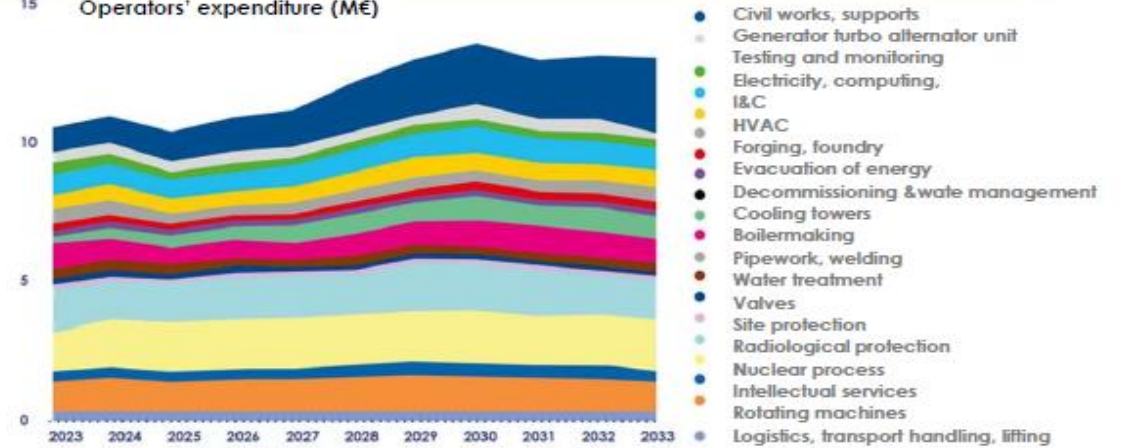
Workload plan considered

Load plan subcontracted by the operators to their suppliers

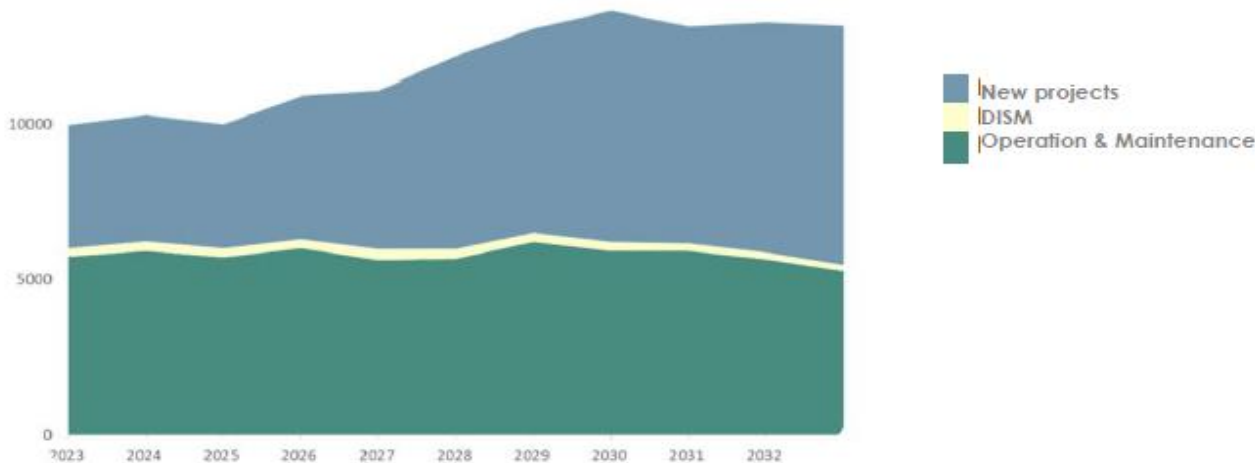
15 Operators' expenditure (M€)



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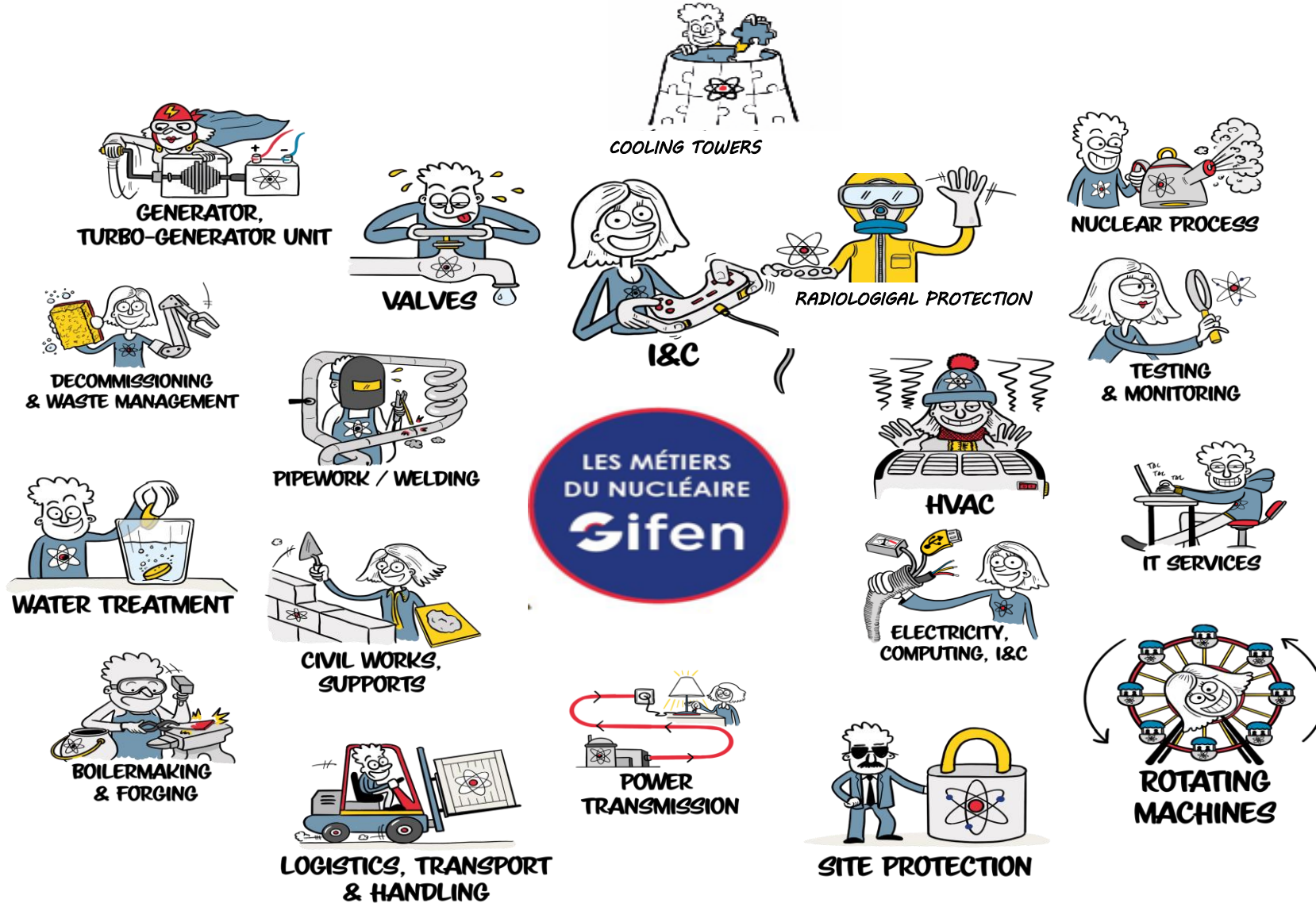


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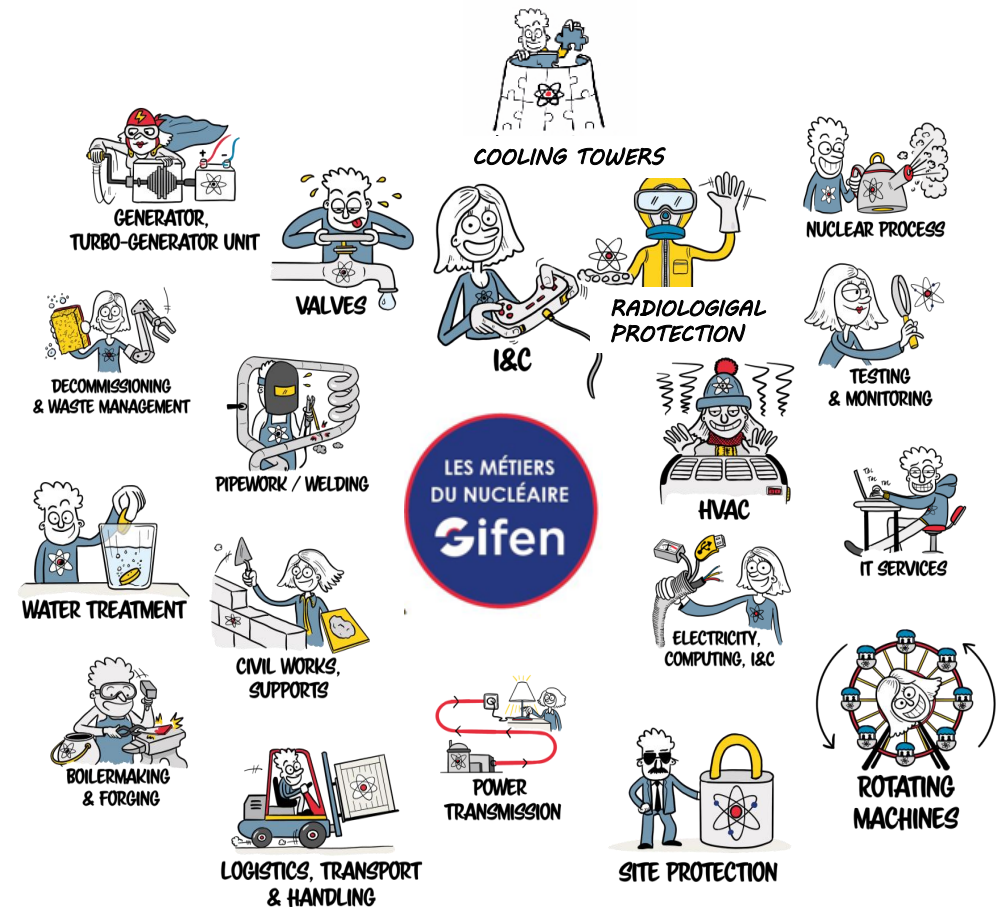


The 20 segments of activity addressed by the MATCH program



Focus on 20 segments providing direct jobs at the heart of the industry (~125,000)

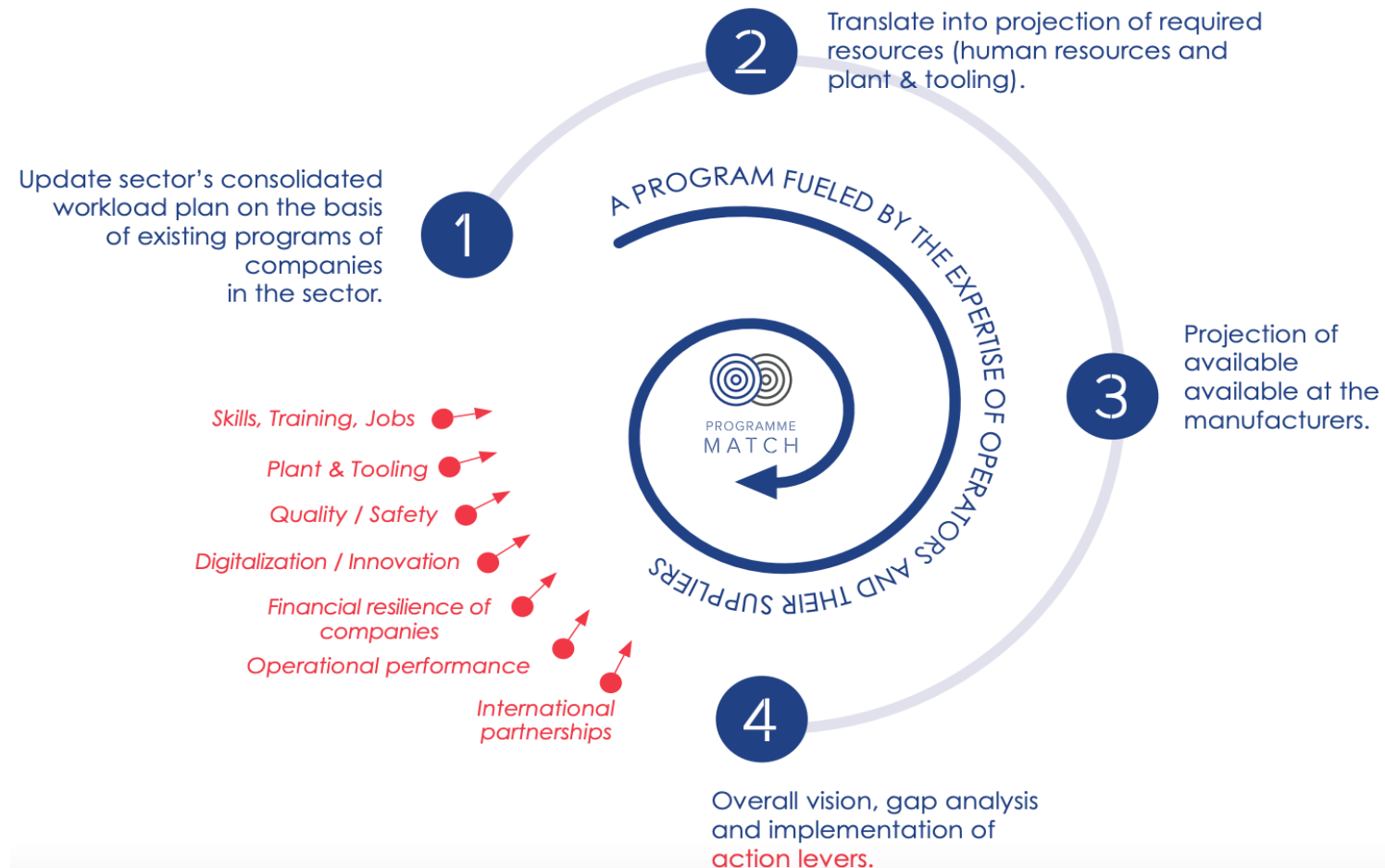
- **GIFEN working in conjunction with professional organizations and more than a hundred companies in the sector**, including nuclear operators and their suppliers, for certain segments grouped together in dedicated working groups.
- Current scope takes account of the industry's present situation, as well as projects already launched in France ("grand carénage" modernization program, 6 EPR2s, CIGEO, RJH, ITER, enrichment plant extension, etc.) and internationally (HPC, SZL, JTP) + naval propulsion.
- Not addressed in April Match results: additional 8 EPR2s by 2050, **SMR/AMR reactors**, extended operation of current fleet, other exports...



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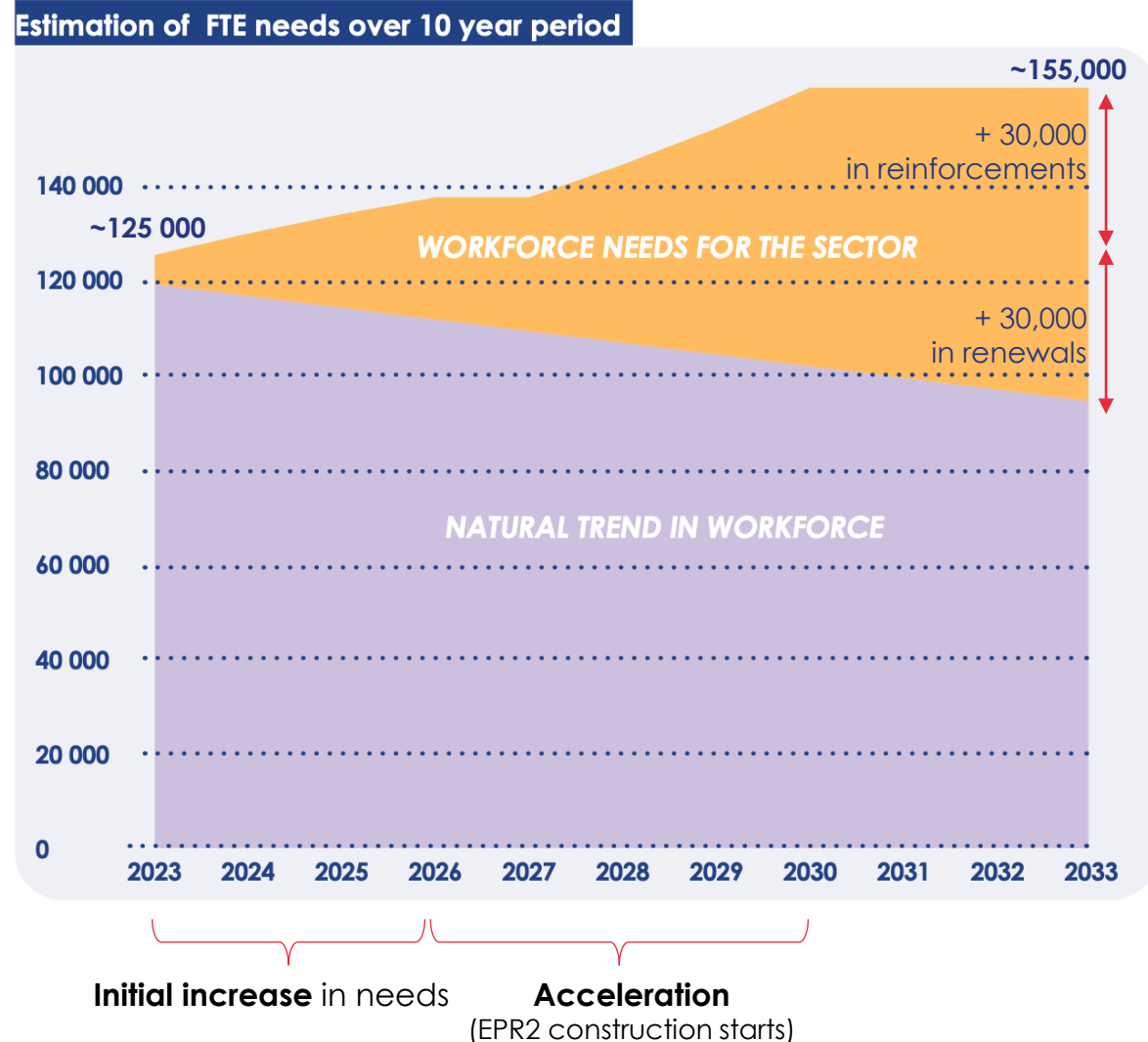
A collaborative and recurring method... to achieve the right match!

The MATCH program :





Focus on HR results: + 25% increase over 10 years



Growth in volume of direct jobs likely to concern mainly (around 70%) the sector's **mid-tier and SME suppliers**.

Needs correspond to **fully productive employees** => **anticipate** recruitment, training and experience building.



Jobs considered the most "sensitive" for the civil nuclear industry

Jobs	
Automation engineer	Electrical Design Studies Engineer
Winding technician	Mechanical design studies engineer
Boilermaker	Process engineer / General installation engineer
Project Manager (including responses to calls for tenders)	Fitter
Formworker	Personnel certified for non-destructive testing and inspection (END-CND)
Site Supervisor	Civil engineering designer / BIM designer (Building Information Modeling)
Draftsman	Welder
Electrician	Maintenance technician
Founder	Radiation protection technician
Blacksmith	Pipefitter

The choice of sensitive professions was made taking into account :

- the weight of the profession in the industry;
- the estimated volume, timing and rate of recruitment for the period 2023-2033;
- difficulties in recruiting for the occupation on the job market;
- the training capacity in terms of potential number of graduates likely to join the civil nuclear industry;
- The post-recruitment training required to become fully operational in the job

What can we conclude from these results?

Key success factors identified by the MATCH program :



Match-up between the sectors needs and abilities



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