

A photograph of a large industrial facility, likely a nuclear reactor, featuring complex piping, large cylindrical vessels, and a central structure with multiple vertical rods. The scene is brightly lit, and the overall color palette is dominated by metallic greys and blues.

framatome

# POWER ON TOGETHER. THE FUTURE OF CLEAN ENERGY

June 2023



# Framatome at a glance

For over 60 years, Framatome's teams have been involved in developing safe, competitive, clean, low-carbon nuclear energy worldwide by:

- designing nuclear power plants,
- supplying nuclear steam supply systems,
- designing and manufacturing components and fuel assemblies,
- integrating automation systems,
- and servicing all types of nuclear reactors.

Framatome is the original equipment manufacturer of:

**92** nuclear power plants  
**€4.2** billion revenue in 2022



## Green energy.... Why we need nuclear energy

- We need energy
- What is green energy?
- Nuclear is a zero emissions clean energy
- US saved 476 million metric tones of CO2 = remove 100 millions of cars
- Land necessary (360x wind farm = 476 wind turbines or 75X for solar = 3M solar panels)
- Small waste in comparison of other traditioal fuel resources
- US 60 years of operation the total waste could fit in a single footbal field in a depht of 10 yards.
- Nuclear industry is very regulated
- Chernobil, FUKUSHIMA, TMI



# Our vision

**High-performing people and technologies  
for safe and competitive nuclear plants worldwide**



## Our values

**Passion**

**Integrity**

**Safety**

**Future**

**Performance**

# Our worldwide presence

**15,000** employees  
**60+** sites\*  
**20** countries



\*Locations have multiple sites

# Our activities in a nutshell



**Engineering & Design Authority:** Development, design and licensing of Nuclear Steam Supply System (NSSS) and associated services, including worldwide Technical Centers



**Projects and Components Manufacturing:** Design and manufacturing of heavy and mobile components for nuclear islands. Management and execution of nuclear reactor new build projects, as well as component replacement projects



**Instrumentation & Control (I&C):** Design and fabrication of safety I&C and automation systems for nuclear power plants



**Fuel:** Development, design, licensing and fabrication of fuel assemblies and core components for power reactors (PWR, VVER, BWR) and research reactors. Development of zirconium products



**Installed Base:** Products, maintenance and engineering services for existing nuclear fleets and reactors under construction

# Ongoing reactor construction

## Management of large projects

- Design, procurement, supply, and commissioning for new-build nuclear reactors
- Edvance: a joint EDF and Framatome engineering subsidiary dedicated to new-build reactor projects

### 4 New build projects

Olkiluoto 3 in Finland, Flamanville 3 in France, and Hinkley Point C and Sizewell C in the UK.





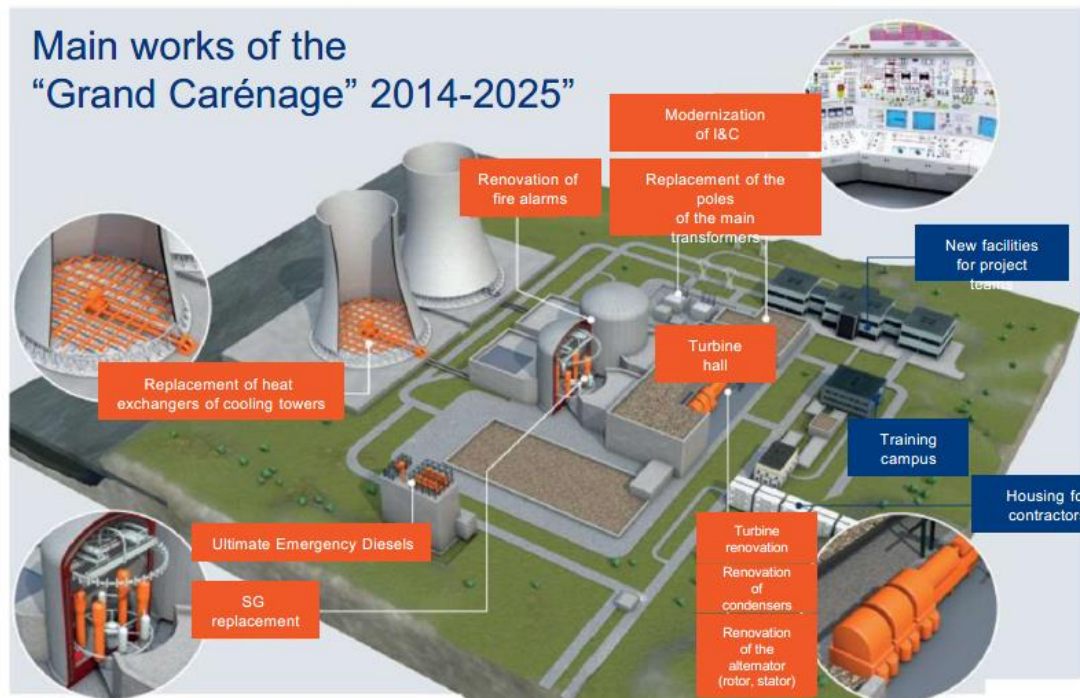
# The New Program of EPR2s

- In February 2022 the French President Emmanuel MACRON announced
  - that **6 EPR2s will be built in France** and that studies will be initiated for the construction of **8 additional units**
  - that no **operating reactor will be decommissioned** if it still has the capacity to produce electricity efficiently, as long as the highest standards of safety are ensured



# The periodical safety assessment / Life Time Extension

- The nuclear power reactors
  - are **initially licensed for 40 years** of operation
  - mandatorily undergo a thorough **safety reassessment every 10 years**
  - have to be retrofitted to account for the **lessons learned from the Fukushima accident**



➔ The Programme “Grand Carénage” aims at extending the Life Time of the Plants beyond 40 years while simultaneously retrofitting with post-Fukushima measures. It is deployed during the periodical safety assessment of the reactors.

**framatome**  
Healthcare



**design**  
school

**framatome**



**framatome**  
Defense



**Cyberwatch**  
**FOXGUARD**  
SOLUTIONS



*Energizing*  
**framatome** OUR FUTURE  
Commercial Convention | June 28 & 29 | Paris





# WORKING AREAS

## FUSION

- Project Management
- EPC Projects
- Engineering and Advance Calculations
- NDTs, Special Tests and FAT



## DIGITALIZATION

- Development customized management systems
- Development of computing platform
- Development of 3D virtual environments for training, ALARA studies, engineering, maintenance, etc.

## NUCLEAR

- Engineering ( Mechanical, Electrical, I&C, etc.)
- Spare Parts and Obsolescence studies
- EPC projects
- Advance Calculations
- Project execution on site



## HYDROGEN

- Project design (Feasibility Studies, Basic and Detail Engineering)
- EPC Projects: Construction of green hydrogen production infrastructures
- Customized Infrastructure Solutions

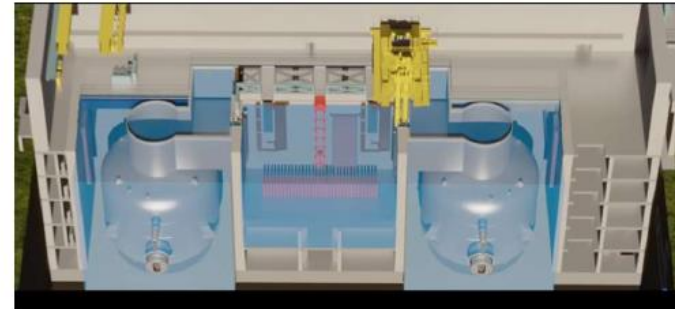
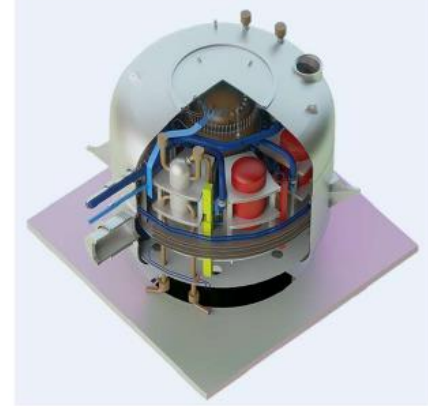
framato**me**



# The Nuward™ Small Modular Reactor

- EDF, CEA, Naval Group, Technicatome and Framatome are developing the **SMR Nuward**
  - 340 MWe unit** in a single building comprising two 170 MWe compact reactors
  - An Innovative design with **simplification by modularization**
  - Integrating the **highest standards of safety**
    - Generation III+ reactors meeting post Fukushima requirements
    - Robust to accident scenarios with passive safety systems
  - Flexible and continuous generation**, complementary with renewable intermittent production and large nuclear power plants to:
    - replace 300-400 MWe coal fired power plants
    - power remote municipalities and intensive industrial sites
    - supply networks not adapted to high/medium sized reactors

nuward



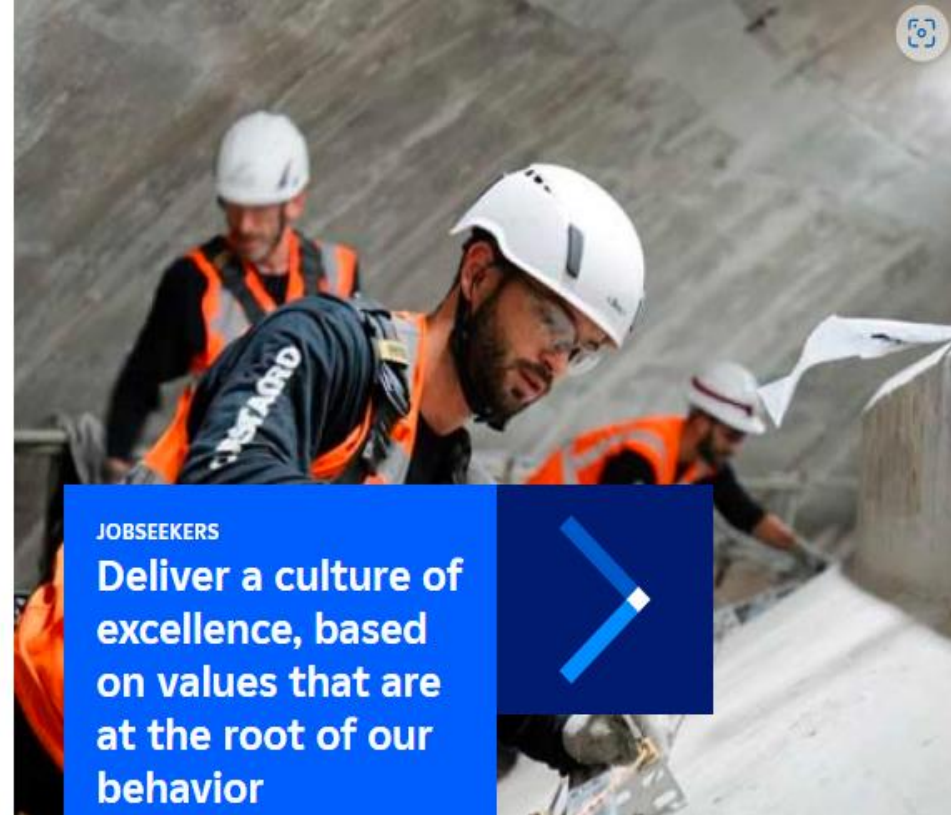


**we're  
hiring!**

[rrhh@framatome.com](mailto:rrhh@framatome.com)

MAIL SUBJECT: *Fusion meeting at CIEMAT*

- ✓ Project & Proposal Manager
- ✓ I&C Project Manager
- ✓ Stress Engineer
- ✓ Spare parts Engineer
- ✓ Mechanical calculations Engineer
- ✓ Electro-mechanical technicians

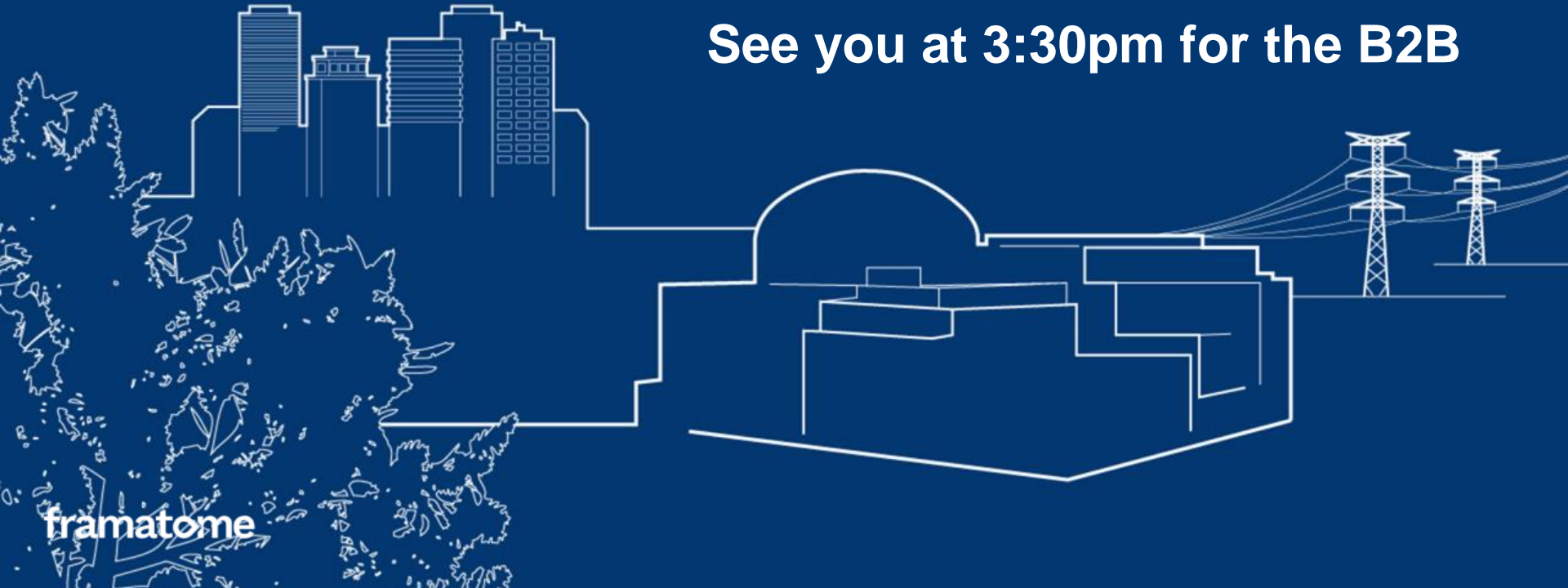


[https://www.youtube.com/watch?v=FTV-Rg9fzXI&ab\\_channel=Framatome](https://www.youtube.com/watch?v=FTV-Rg9fzXI&ab_channel=Framatome)

**framatome**

# Thank You

**See you at 3:30pm for the B2B**



**framatome**