

## Mechanical calculation expertise

For Small Modular & Advanced Reactor

### Taking advantage of Framatome's calculations Excellence Center

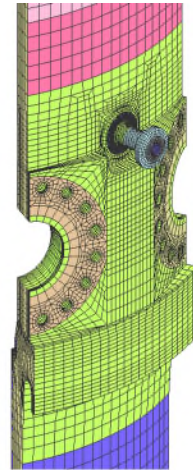
#### Your Challenges

- Assess and Optimize the performance of a future product (sizing, weight saving, process manufacturing, lifetime, power efficiency) from the early stage of SMR or Advanced Reactor projects.
- Simulate nuclear components toward applicable standards and building codes.

#### Solution

Framatome proposes an integrated solution for mechanical calculations on Small Modular and Advanced Reactor :

- Thermal, thermal hydraulics and mechanical multi-action-effect calculation
- Fracture mechanics: analysis of crack propagation in the components due to manufacturing process and component lifetime cycle.
- Fatigue analysis : demonstration and improvement of component lifetime .
- Elastic and elastoplastic analysis
- ASME, RCC-M, RSE-M, ESPN codes and regulations, etc.



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#### Tools

- Code\_Aster simulation softwares, Systus and other softwares
- Certified Nuclear
- Developed-Codes
- CATIA type CAD

#### References

- International nuclear market (South Africa, UK, China, US)
- Justification of power plants primary loop components, including pressurized components

#### Customer benefits

- Safety and Quality Conformity
- Internationally trusted supplier with proven experience in nuclear industry
- Flexible solutions to solve problems
- Analysis by Calculation Experts leading to decisive conclusions and helping in decision making process
- Deep knowledge of construction codes and regulations in complementary to pragmatic manufacturing approach.
- Time and Cost Savings time when dealing with nuclear safety authorities.
- Extensive knowledge of various nuclear technologies systems and under pressure nuclear components.
- Long lasting relationship thanks to our sustainable shareholding.

**Your performance is our everyday commitment**

#### Key figures

**60** years of expertise in mechanical calculations

**>100** Calculation experts within the Framatome Calculation Excellence Center

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