

## Mechanical calculations tool development

Framatome Center of Excellence for Calculations to serve Customers worldwide

### Challenge

Demonstration of compliance with technical and regulatory requirements for components and mechanical structures in various industries due to qualified engineering tools.

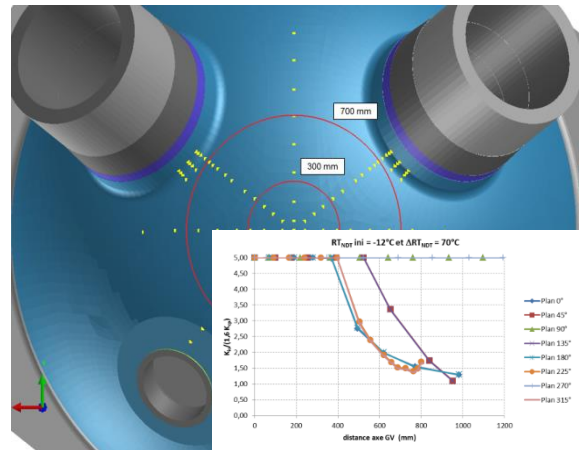
### Solution

- Development of post processors to analyze stress according to RCC-M, ASME or RSE-M codes in domains such as fast fracture analysis, fatigue analysis, multi perforated structure analysis, ...
- Qualification of the tools according to the most stringent regulation rules : ESPN, EN.. ASME ...
- Training pack for end users
- Development of toolkit based on SALOME\_MECA platform to solve mechanical problems : various levels of support are proposed depending on the customer's needs
- Implementation of calculation suit to chain calculations.
- Solutions applicable to a wide range of industries (Oil & Gas, Energy, Aerospace, Chemical, Pharmaceutical, Transportation, Special Tooling, Ship Building Industry and Navy, Defense)

### Customer benefits

- Safety and Quality Conformity
- Training sessions with experts in analysis tools, regulations and mechanical analyses
- Agile solutions to solve problems

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### Tools

- SALOME\_MECA & CODE\_ASTER
- Python
- ANSYS
- SYSTUS
- SYSPIPE, PIPESTRESS

### References

- Capacity to fit the global market (South Africa, UK, China, US)
- Justification of nuclear primary loop components including pressurized equipment
- EDF large scale modernization program (extension of 1300MWe nuclear reactors' service lifetime)

### Key figures

**45** years of expertise in mechanical analyses and software development

**20%** of the team is made up of experts having a PhD degree

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