

# ASTRID reactor : Design overview and main innovative options for Basic Design

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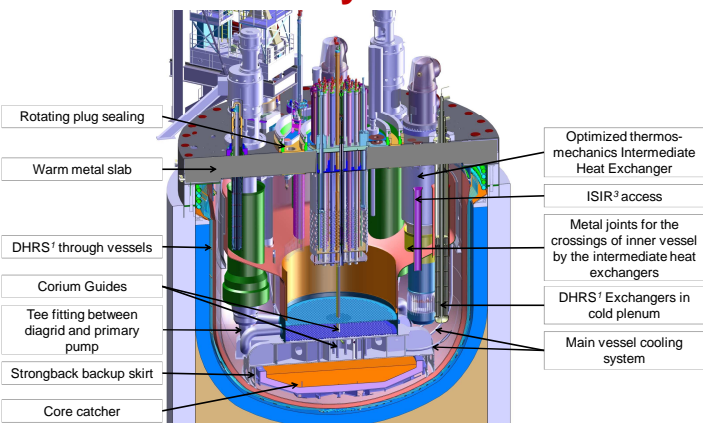
## Context of ASTRID

The ambitious objectives of ASTRID require the implementation of innovating technological solutions which go beyond the current feedbacks. These solutions will be further developed in the next phases of ASTRID design studies, keeping a strong interaction between design, R&D and programs of qualification.

## A close cooperation between partners



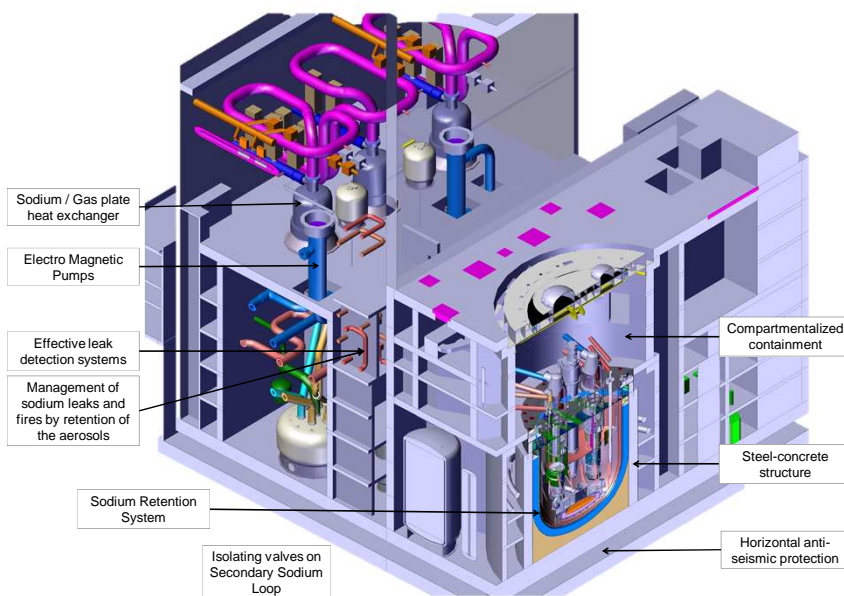
## Primary circuit



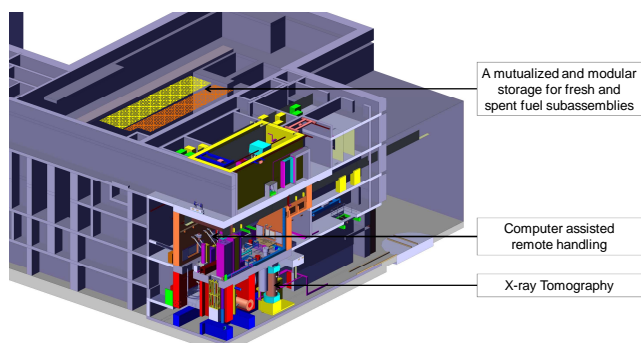
Beyond the technical innovations, ASTRID plays a part of precursor in the field of:

- Requirements and configuration management,
- Transversal studies (constructability, operability),
- An easier close collaboration thanks to partnerships,
- New computational tools (Computing Fluid Dynamic Coupling system, Neutron & thermo-hydraulic chaining, etc)

## Nuclear Island



## Fuel handling and hot cells



<sup>1</sup> DHRS : Decay Heat Removal Systems  
<sup>2</sup> ODS : Oxide Dispersion Strengthening  
<sup>3</sup> ISIR : In Service Inspection and Repair

Water steam Power Conversion System & Steam Generator (not shown on figures)			
Hydrogen detection at low temperature		Inspection of tube bundle of the Steam Generator	
Sodium flow (inlet-outlet) in the Steam Generator in the lower part of GV		Passive acoustic detection	