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ASSAS

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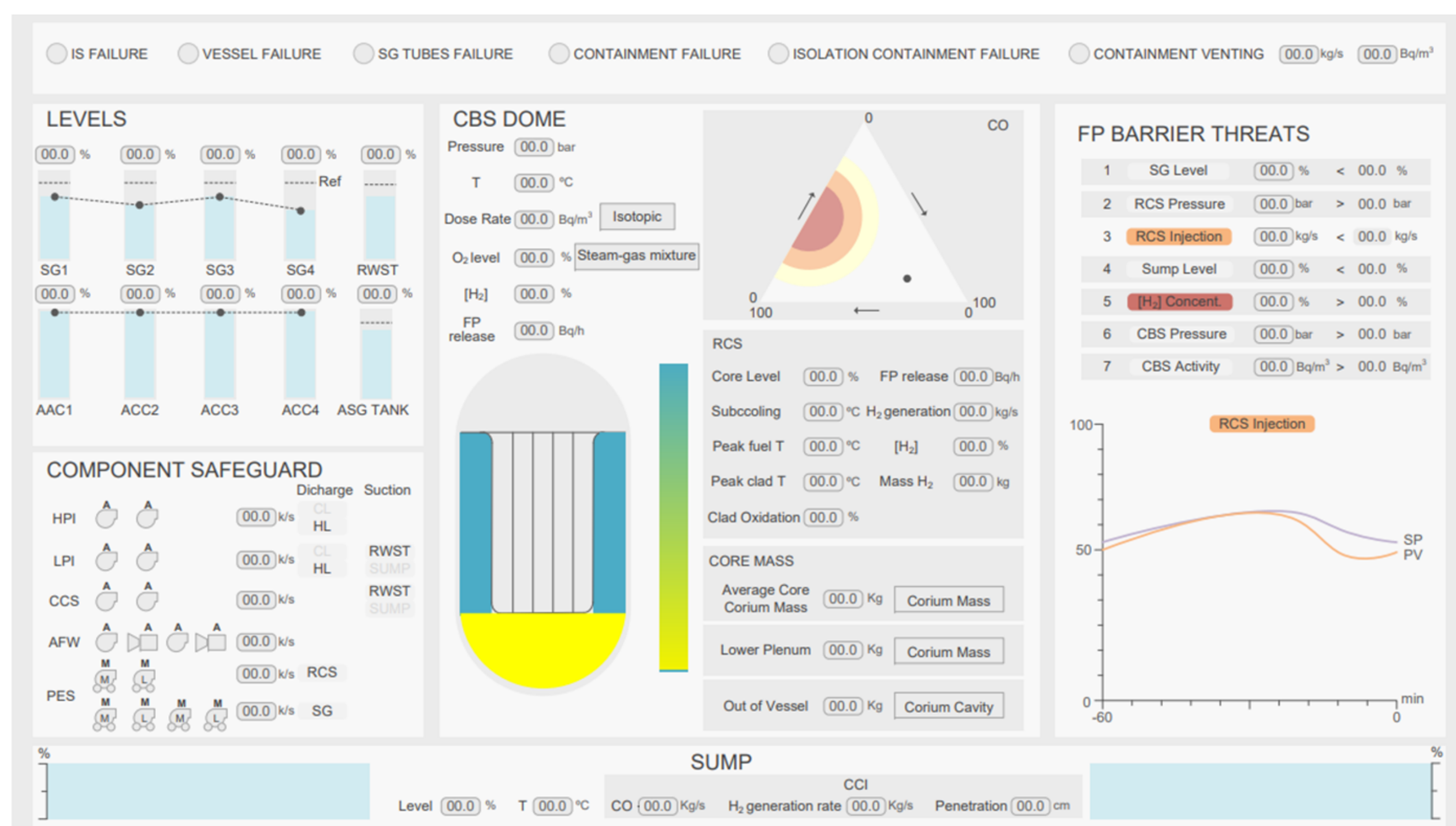
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ASSAS Project

Objectives

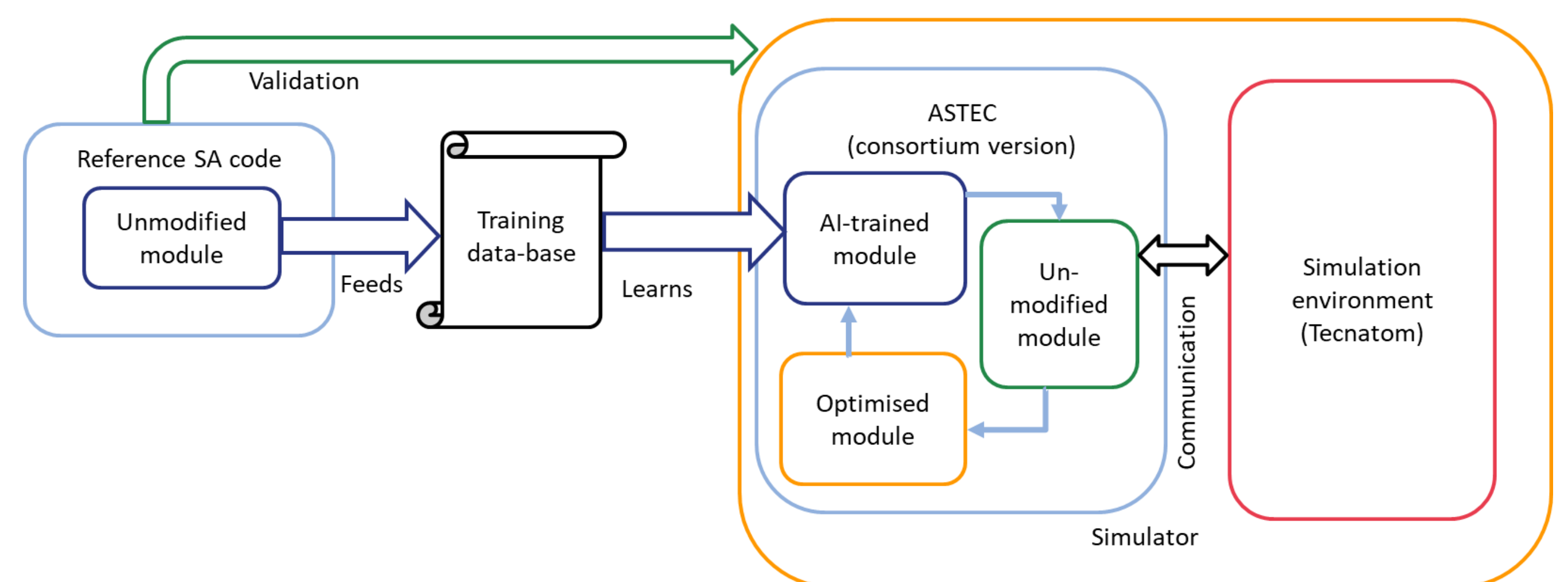
- Develop a basic-principles severe accident simulator:
 - Close to best-estimate accuracy
 - With real-time execution
 - A prototype for industrial simulators
- Develop fast surrogate models for ASTEC and MELCOR thanks to machine-learning
- Project duration from November 2022 to October 2026 with a budget of €3.7 million
- 14 partners from nuclear and data science



Work packages

ASSAS (Artificial intelligence for the Simulation of Severe AccidentS) is divided in 5 technical work packages:

- Methodology
 - Strategy to develop data-driven surrogate models
- Generation of the training database
 - Data hosted by the Large-Scale Data Facility (KIT)
 - PWR (main focus), VVER, Nordic BWR designs
- Development of data-driven surrogate models
 - 5 strategies targetting different physical models and phases of the accident for ASTEC and MELCOR
- Optimisation of ASTEC
 - Parallelization & low-level algorithmic optimisation
 - Simplification of models and input decks
- Development of the simulator
 - Focused on ASTEC and the PWR design
 - Development of the human-machine interface based on TEAM_SUITE® and connection with ASTEC



Partners

