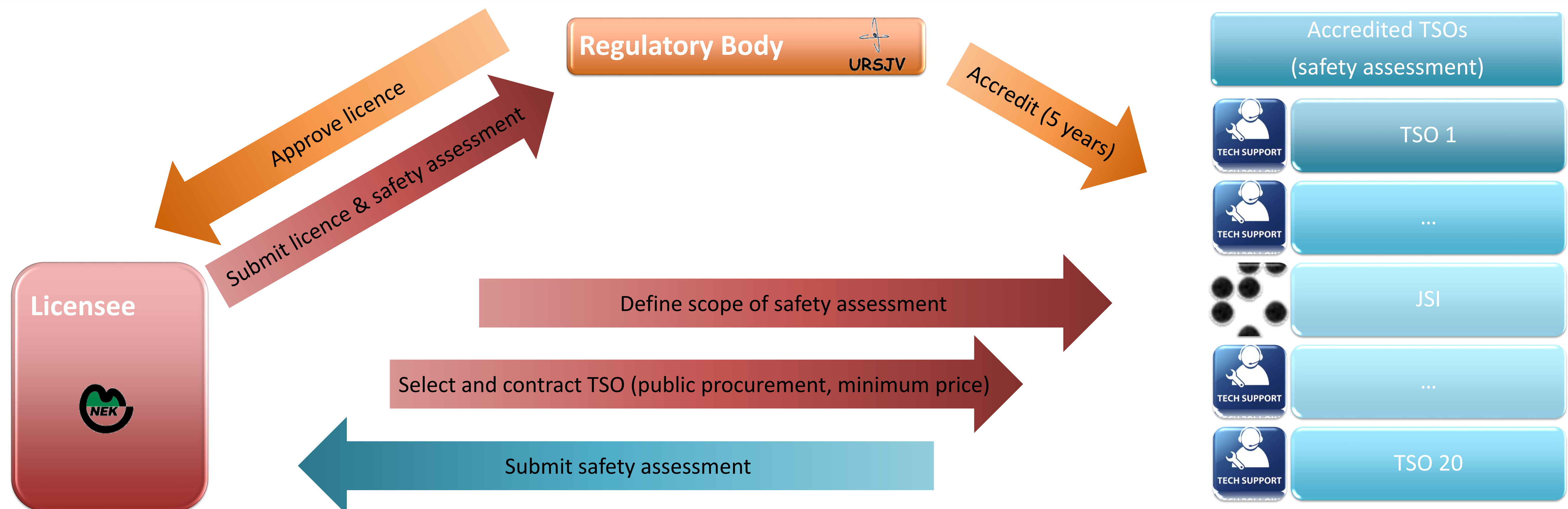


Jožef Stefan Institute as a scientific and technical support organization to the nuclear regulatory body in Slovenia

Leon Cizelj, Mitja Uršič

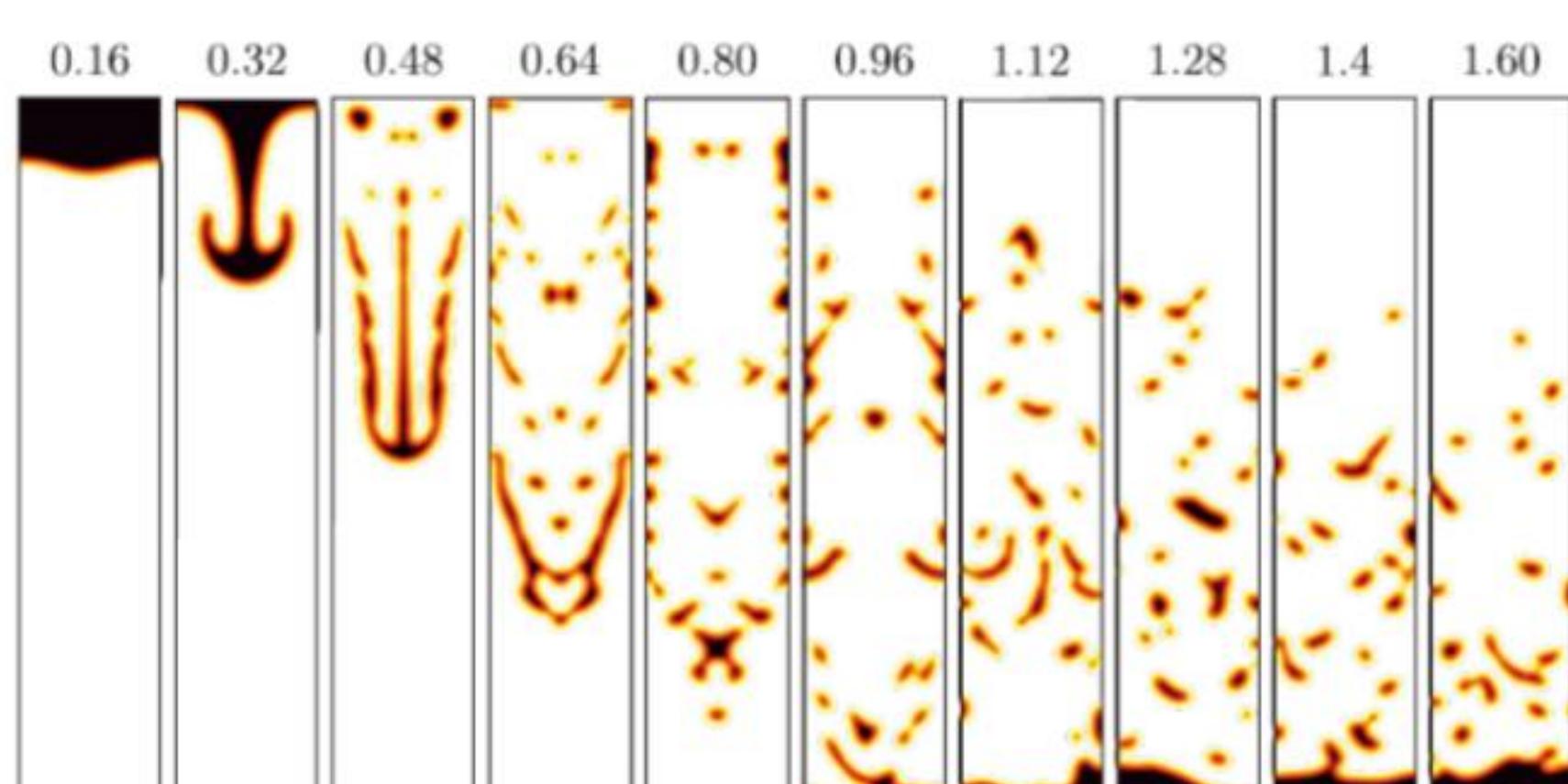
Slovenian competitive TSO approach



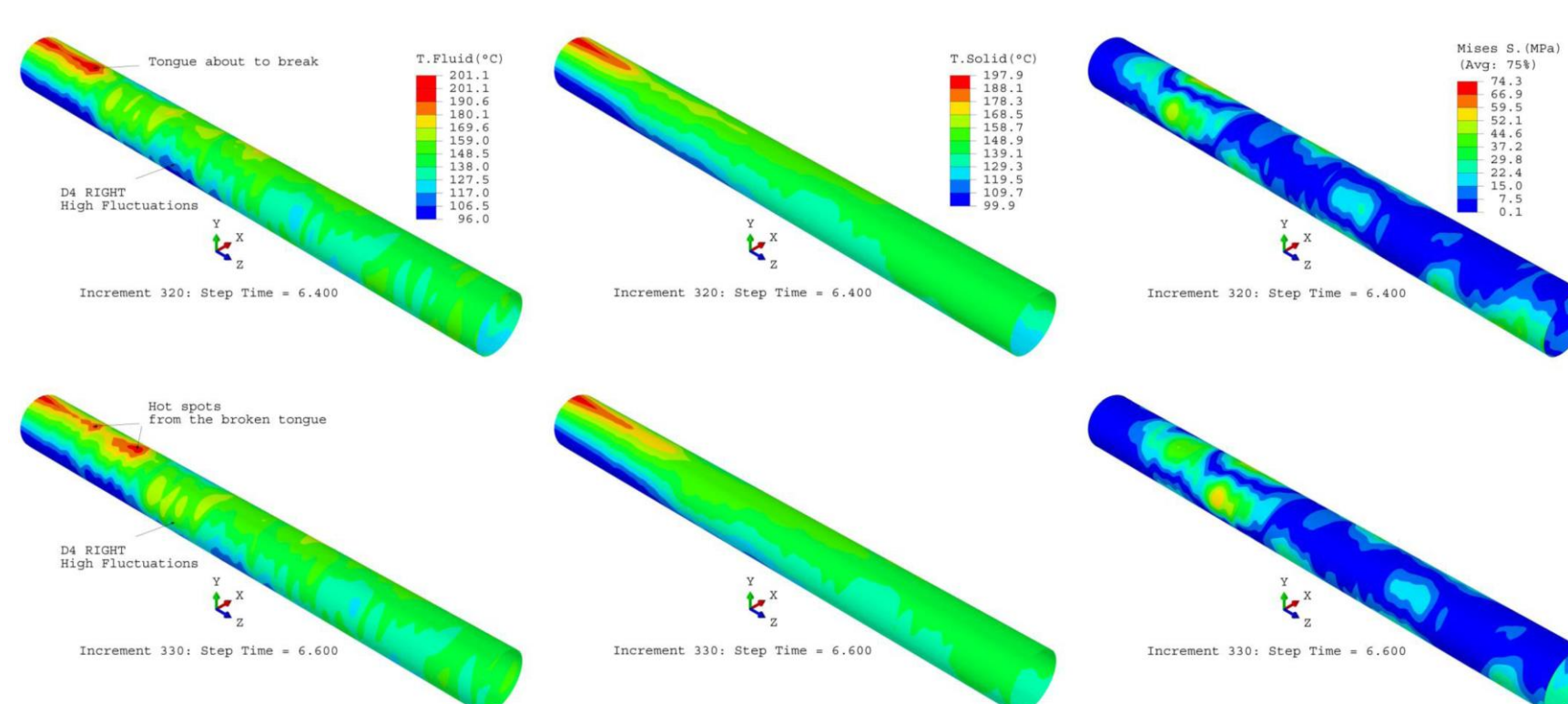
JSI is the only Slovenian TSO with comprehensive nuclear and safety research programs and hands on experience with reactor operation and management of high level waste (JSI is operating TRIGA Mark II research reactor).

Examples of nuclear and radiation safety research at JSI

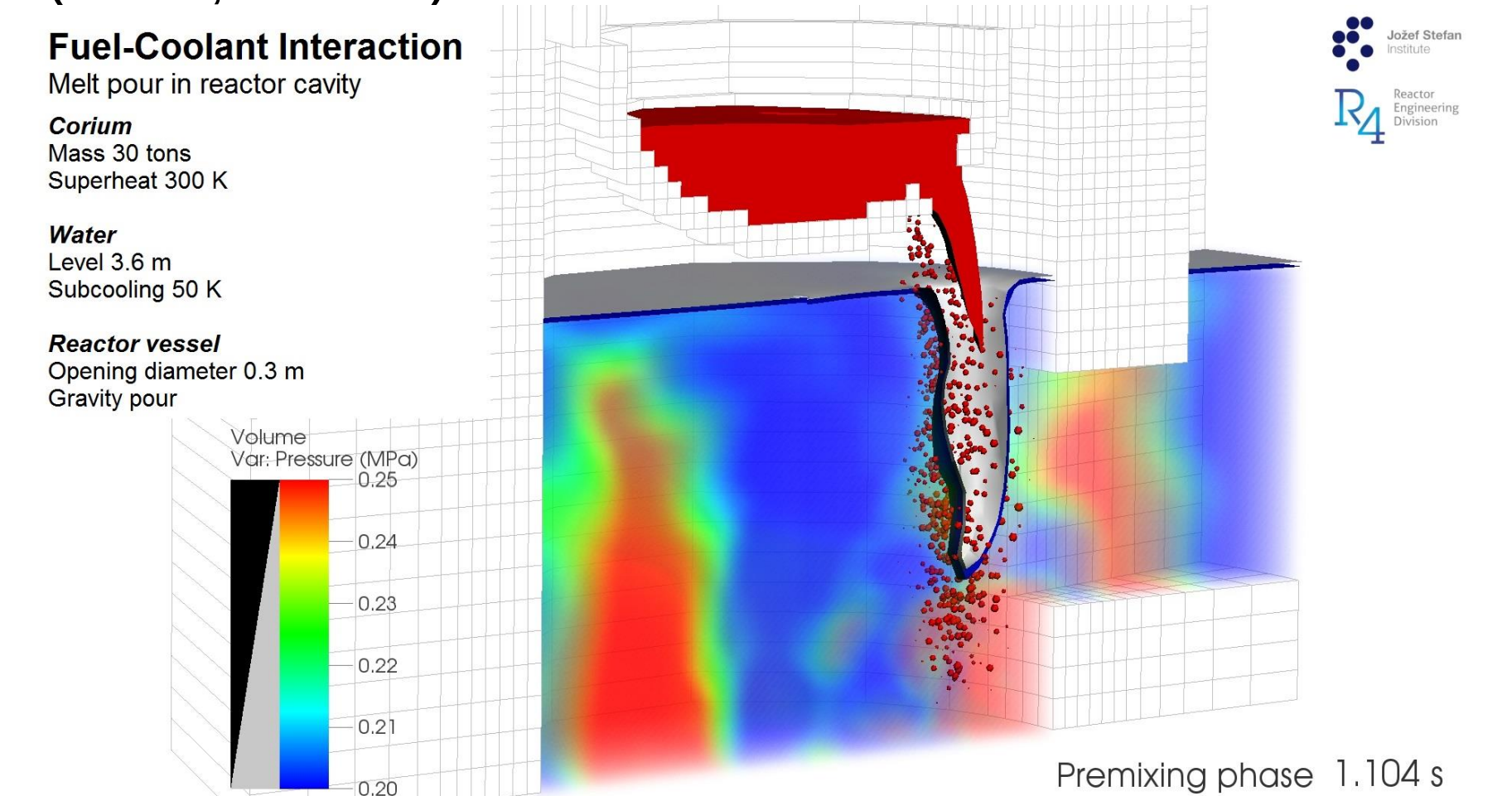
Two fluid model with surface sharpening: a Rayleigh–Taylor instability simulation.



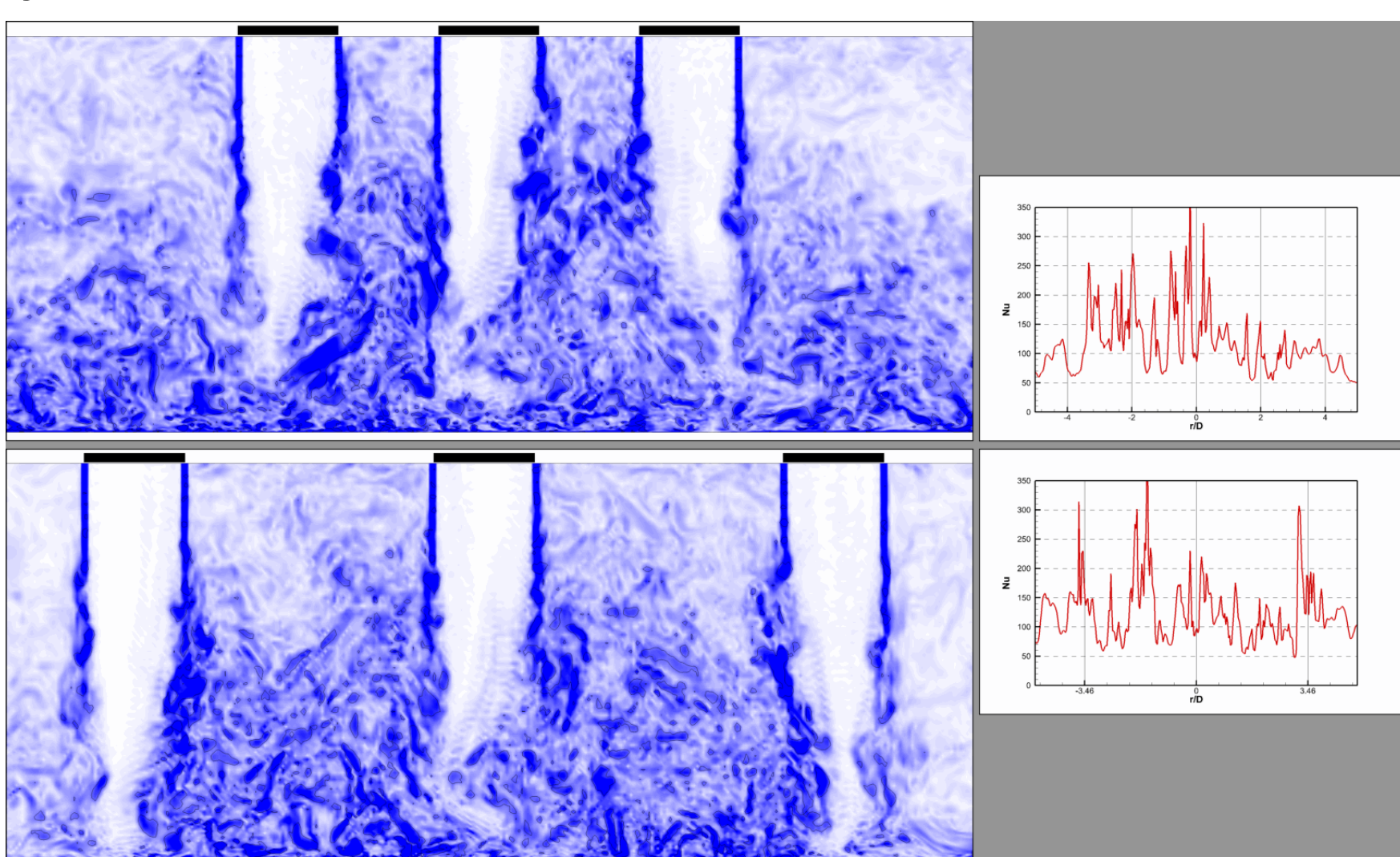
Random temperature fields for thermal fatigue assessment of the pipes.



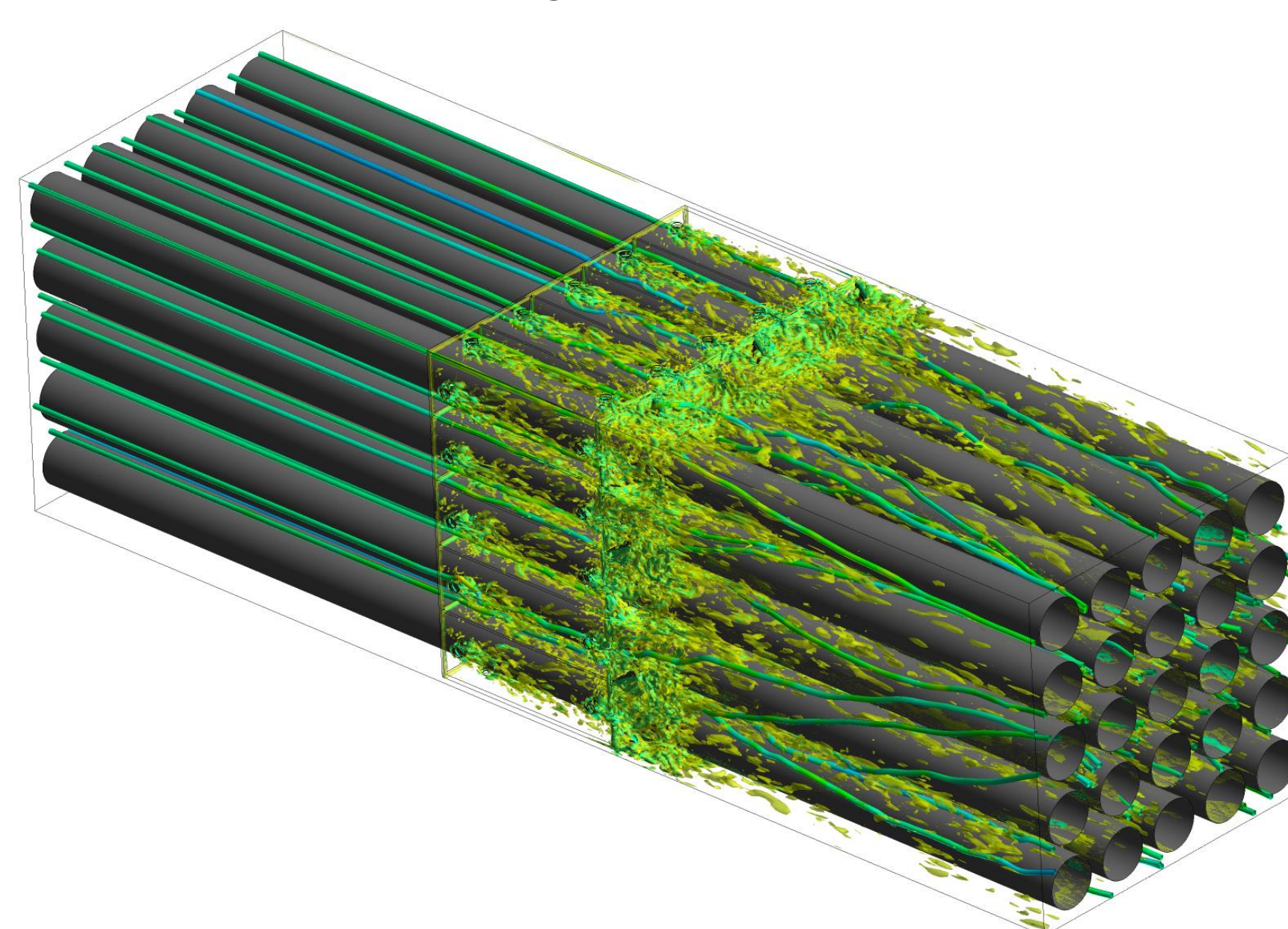
3D simulation of the fuel-coolant interaction in a typical pressurized water reactor with the MC3D code (IRSN, France).



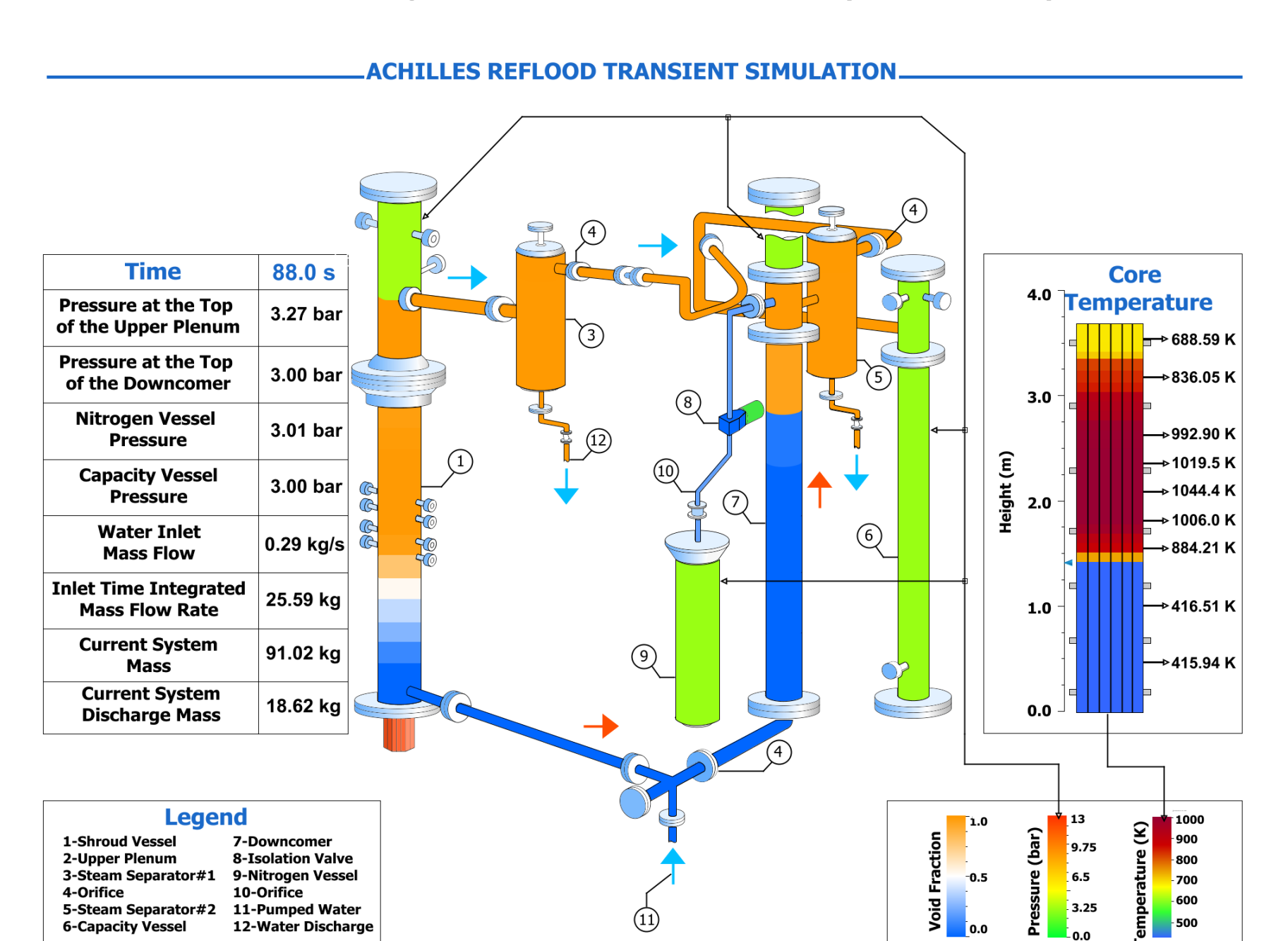
Large Eddy Simulation of a flow of multiple impinging jets.



Simulation of single-phase turbulent flow inside the fuel bundle with mixing vanes.



Thermal-hydraulic simulation of Achilles natural reflood test using the TRACE code (US NRC).



International cooperation (research and TSO)

- **Examples of the Framework projects of EC:** NURESIM, NURISP, THINS, SARNET, SARNET-2, LISSAC, CESAM, THERFAT, MULTIMETAL, SNF-TP, ENEN, NEPTUNO, ENEN-II, ENEN-III, TRASNUSAFE, NEWLANCER, NULIFE, ARCADIA, ASAMPSA_E, ANNETTE, SESAME, ENEN+ and NARSIS.
- **Examples of cooperation within OECD/NEA:** SERENA-2, SETH-2 and PHEBUS.
- **Cooperation with US NRC:** CAMP and CSARP.
- **Members:** ETSON, SNETP, ENEN, NUGENIA and CONCERT.

