

## Highlights

EU DEMO entered into pre-conceptual design phase, with broad investigations on magnet system conducted within EUROfusion framework since 2014.

- Investigations on 3 options for TF winding pack design (R&W / W&R; layer / pancakes; ,on radial plates)
- Thermo-hydraulic and mechanical evaluation loops led to TF WPs evolutions along DEMO operation point changes
- R&D outcomes (TF conductor full-scale samples, strands Ic-strain tests, AC losses) allowed to orientate the TF design
- CS design was addressed with system-level study and first WP proposals
- Cryoplant and quench protection system operation were studied for TF
- Along all activities, dimensionning tools were developed and efficiently supported proto-designs by pre-evaluation with intermediate-scale models (thermo-hydraulic, mechanic) showing the interest to invest in such tools for sake of project efficiency.