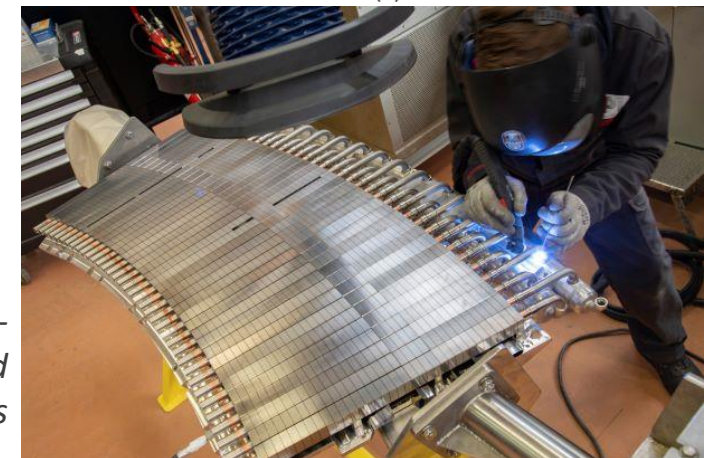
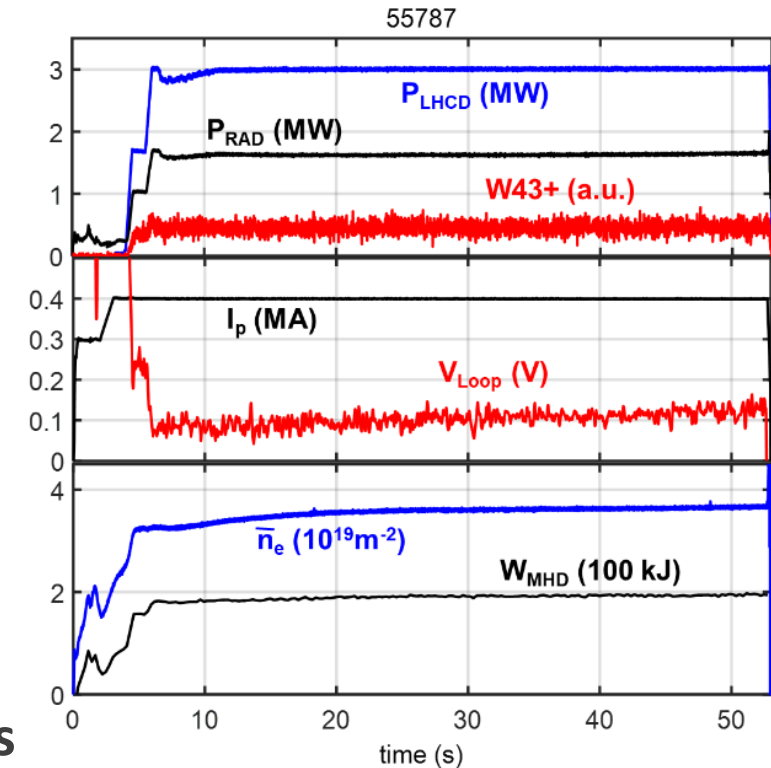


Long pulse discharges with duration 30 s – 1 min routinely performed in Phase I

- ▶ 9 MW of combined ICRF/LHCD power coupled, without W accumulation
- ▶ Wall monitoring system for RT metallic PFC protection implemented
- ▶ No failure on ITER-grade PFU prototypes (from CN, EU and JPN) but evidence of damages after several hours of plasma at moderate heat fluxes:
 - ✓ Optical hot spot observed for the first time as predicted by modeling
 - ✓ Cracks and local melting observed at moderate heat flux on misaligned PFUs from 0.3mm - 0.8mm → **crucial issues for safe operation in ITER and divertor lifetime**

Phase II with the full ITER-grade divertor aiming at 1000s plasmas to start in summer 2021

- ▶ 456 PFUs manufactured and reception tests competed → assembly ongoing
- ▶ Main thrusts for phase 2:
 - ✓ Combined high heat flux/high particle fluences studies
 - ✓ Towards **steady-state H-mode operation in full W device**



Welding of a 30 degree-sector of divertor composed of 38 ITER-grade PFUs