

## Task 3.2: Advanced intelligent turbocharger

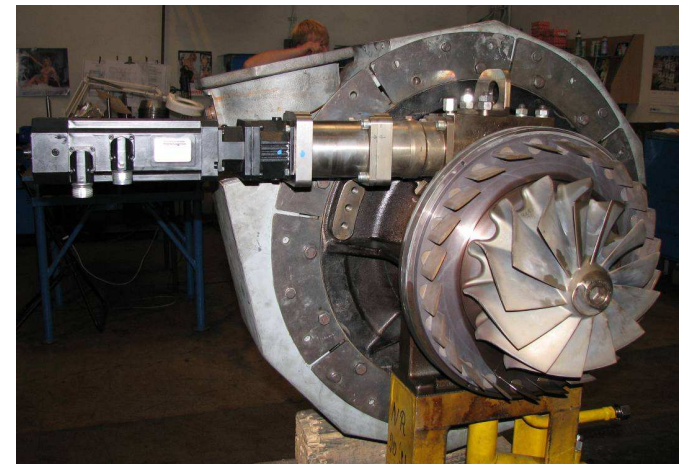
**Objectives:** Two-stage turbocharging for 2-/4-stroke marine diesel engines, operation at 30 bar PME  
2-stroke engines: PTI/PTO, VTA, SFOC reduction by 2-3%,  
4-stroke engines: VTA, PTI, NO<sub>x</sub> reduction of 50% compared to IMO Tier 1

### Progress Highlights:

- 2-stage process optimisation based on a large variety of design parameters
- Integration of PTI/PTO technology in progress
- Novel compact arrangement of 2-stage turbocharging systems onboard marine diesel engines
- Planned investigation of advanced controlled turbocharging systems



Turbocharger with variable compressor inlet guide vanes



Turbocharger with variable turbine nozzle vanes

Partners:

