

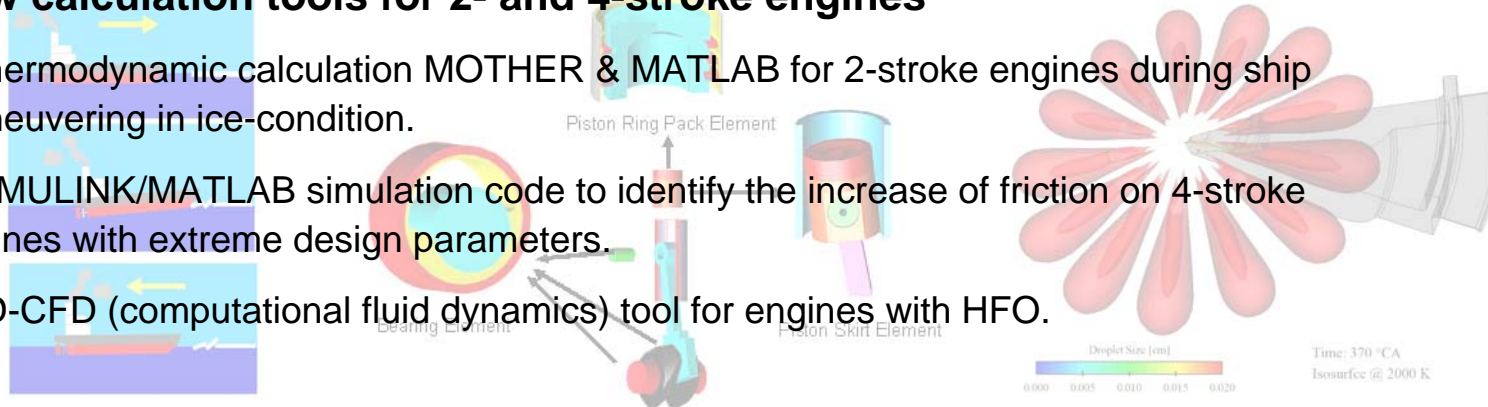
HERCULES Task 1.2

Extreme engine design parameters



New calculation tools for 2- and 4-stroke engines

- Thermodynamic calculation MOTHER & MATLAB for 2-stroke engines during ship maneuvering in ice-condition.
- SIMULINK/MATLAB simulation code to identify the increase of friction on 4-stroke engines with extreme design parameters.
- 3D-CFD (computational fluid dynamics) tool for engines with HFO.



New engine components and test results

- New valve spindle, top piston ring, main bearing shell and fuel valve nozzle for 2-stroke engines.
- Introduction of new fuel valve nozzle and new ME-B small-bore design capable of extreme parameters.
- New big end - and main bearing shells and piston rings for 4-stroke engines.
- 4-stroke engine running with extreme parameters and measuring results regarding fuel oil consumption and NOx emission.

