

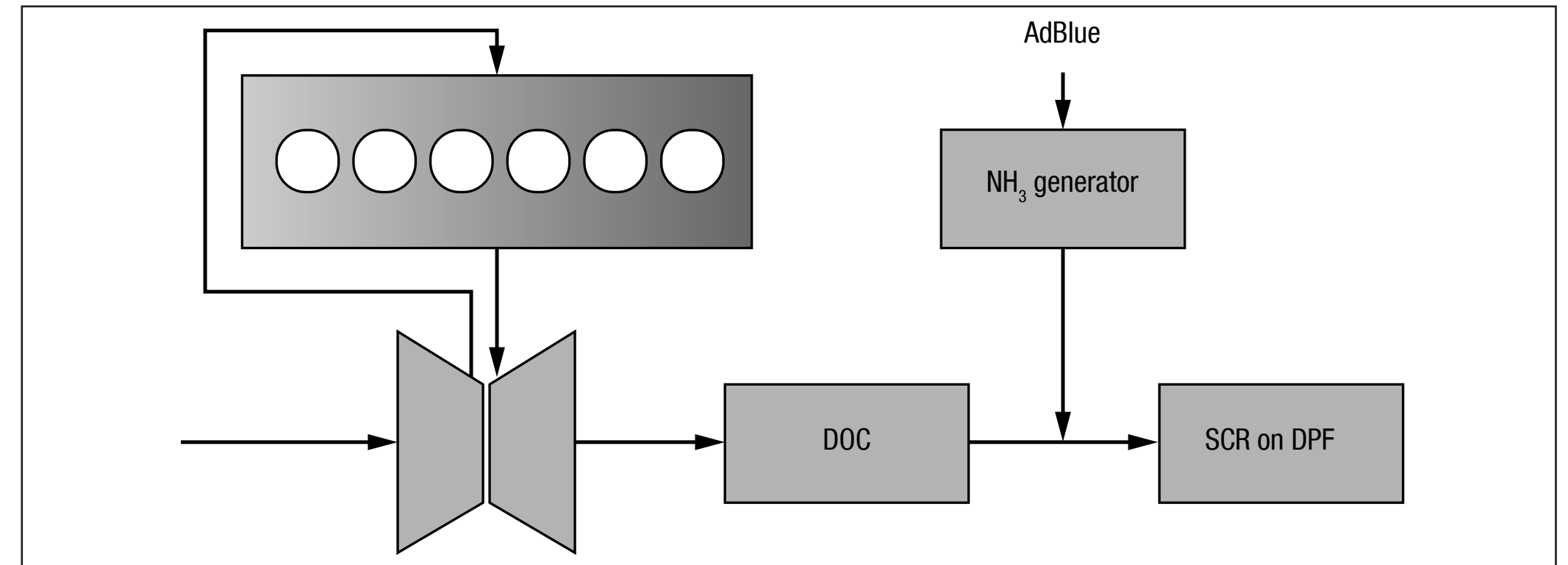
WP8 Engine Integrated SCR and Combined DPF and SCR



WP OBJECTIVES

Two-stroke objectives are to investigate the various HP SCR processes with the aim of designing compact SCR system for improved engine integration and reduced footprint.

Four-stroke objectives are to investigate LP SCR processes when combined with DPF, with the aim of reducing the total necessary installation space for a combined use of compliant DPF and SCR systems.



Concept of four-stroke high speed engine with SCR on DPF after-treatment system

EXPECTED OUTCOME

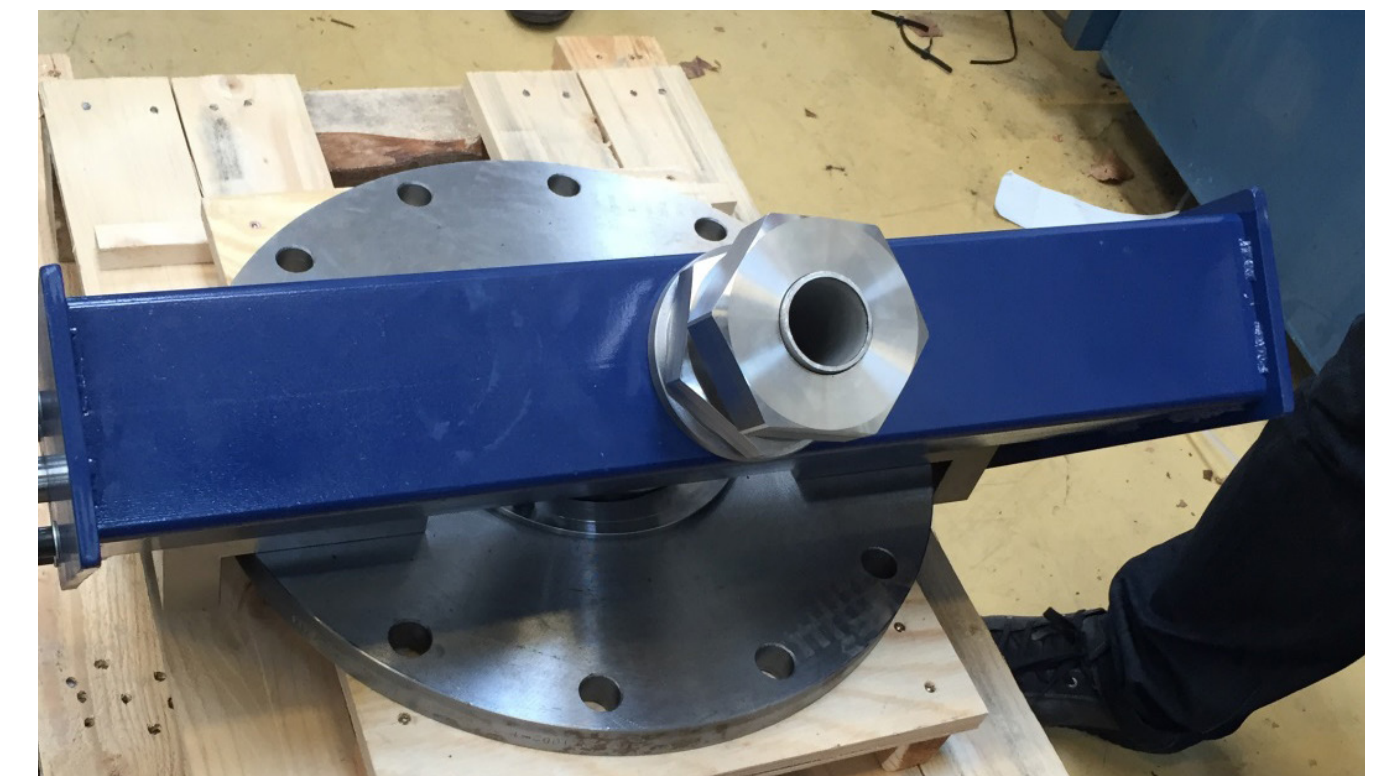
- Engine integrated SCR design and test on 4T50ME-X test engine in Copenhagen
- High performing sub-processes (mixing, decomposition etc...)
- High performing NH₃ control and measurement techniques
- Combined DPF and SCR with low engine room footprint
- Evaluation of optimal SCR catalyst and filter material/coating for combined DPF and SCR technology



Hot exhaust gas flow rig for investigation of urea injection, evaporation and mixing

PROGRESS AND PLANS

- Emission control set-up for NH₃ slip completed
- Measurement device for traverse NH₃ measurements on track
- Mini-SCR test facility completed and first test performed
- Comparisons between trace component flow profile and CFD calculations performed
- Build-up of synthetic gas test bed in progress
- Investigation of SCR coated DPF samples ongoing
- Set-up of the hot exhaust gas flow test rig completed
- Validation measurements of pressure influence completed
- Measurements of mixer influence under development
- Development and verification of the measurement equipment for hot exhaust gas flow rig on track



Mechanism for NH₃ measurements



High pressure mini SCR

WP PARTICIPANTS

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