

HEAVYcOPTer: Multi-objective Aerodynamic Optimization of engine installation on the AW101 helicopter using innovative evolutionary algorithms



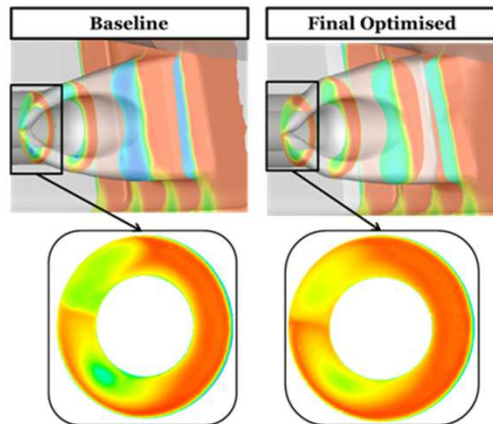
Air intakes

Engine exhaust

Shape optimization for efficient design of a heavy helicopter engine installation for losses reduction and improvement of both plume trajectory and engine bay cooling

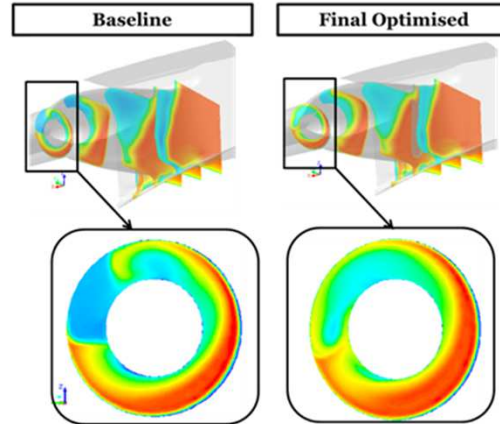
Reduced total pressure losses and flow distortion at AIP at both intakes

INTAKE#1

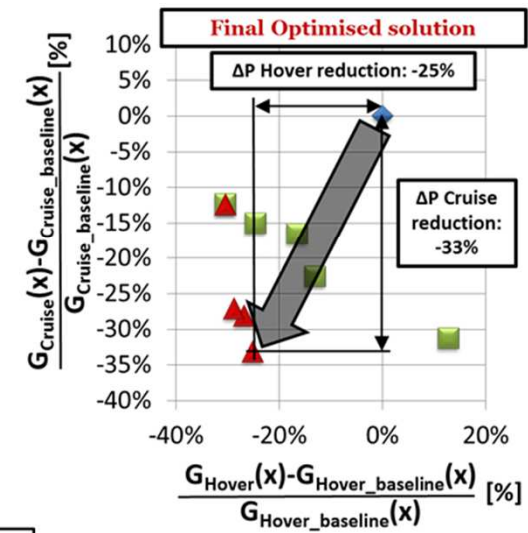


AIP Total pressure distribution comparison – Forward flight

INTAKE#2



AIP Total pressure distribution comparison – Forward flight



◆ Baseline ■ Generation 4 ▲ Generation 7