

## Research Project Fact Sheet

<b>Title of Project</b>	<b>“NEW Aero engine core Concepts”,</b>	
<b>Project Acronym</b>	NEWAC	
<b>Funding Program</b>	FP6 Integrated Project	
<b>Project Identifier</b>	AIP5-CT-2006-030876 (FP6)	
<b>Total Budget</b>	71 M€	
<b>Starting – Ending Date</b>	01/2007 -12/2010	
<b>Consortium</b>	MTU Aero Engines (DE) (coordinator)      Rolls Royce Plc (UK) Snecma (FR)      AVIO S.p.A (IT) Volvo Aero Corporation (SW)      Turbomeca (FR) Rolls Royce Deutschland Ltd & Co KG (DE)      Techspace Aero (BE) Wytwonia Sprzetu Komunikacyjnego (PL)      ARTTIC S.A.S. (FR) První Brněnská Strojírna (CZ)      Airbus France S.A.S (FR) Aristotle University of Thessaloniki (GR)      University of Cambridge (UK) Centre de Recherche en Aéronautique (BE)      CEP(FR) Cranfield University (UK)      Chalmers University of Technology (SW) DLR (DE)      Ecole Polytechnique de Lausanne (CH) Ecole Centrale de Lyon (FR)      Loughborough University (UK) EnginSoft (IT)      National Technical University of Athens (GR) Office National d'Etudes et de Recherches Aerospaciales (FR)      PCA Engineers Limited (UK) University of Oxford (UK)      Scitek Consultants Ltd (UK) University of Technology – Aachen (DE)      Société des Nouvelles Applications des Techniques de Surface (FR) Université Belfort-Montbéliard (FR)      Sulzer Metco AG (CH) Steigerwald Strahltechnik GmbH (DE)      Università degli Studi di Firenze (IT) University of Technology – Graz (AU)      University of Karlsruhe (DE) Université de Liège (BE)      University of Sussex (UK) University of Stuttgart (DE)      Vibro-Meter S.A. (CH)	
<b>Project Objectives</b>	<p>NEWAC was a European-level programme, under the leadership of MTU Aero Engines, in which major European engine manufacturers, assisted by universities, research institutes and enterprises – 40 partners in all - focus on new core engine concepts. NEWAC will develop and validate novel core engine technologies to further close the gap between the current emissions and the ACARE targets. NEWAC is a 71 million Euro programme of which 40 million Euro is funded by the EC.</p> <p>Four core concepts were investigated:</p> <ul style="list-style-type: none"> <li>▪ Intercooled Recuperative Core (SP 2) for the intercooled recuperative aero engine concept (IRA) operated at low OPR and using a LP(P) combustor concept (SP 6)</li> <li>▪ Intercooled Core (SP 3) for a high OPR engine concept based on a 3 shaft direct drive turbo fan (DDTF) with a LDI combustor (SP 6)</li> <li>▪ Active Core (SP 4) with active systems applicable for a geared turbo fan (GTF) using a PERM combustor (SP 6)</li> <li>▪ Flow Controlled Core (SP 5) for the counter rotating turbo fan (CRTF) using a PERM or a LDI combustor (SP 6)</li> </ul> <p>The main NEWAC result will be fully validated novel technologies enabling a 6% reduction in CO<sub>2</sub> emissions and a further 16% reduction in NO<sub>x</sub>.</p>	
<b>External References</b>	<a href="http://www.newac.eu/">http://www.newac.eu/</a>	