NICETRIP

Novel Innovative Competitive Effective Tilt Rotor Integrated Project

Funding: European (6th RTD Framework Programme)
Duration: Nov 2006 - Dec 2013
Status: Complete with results
Total project cost: €35,505,778
EU contribution: €18,999,050

Call for proposal: FP6-2005-AERO-1
CORDIS RCN: 81483

Background & policy context:
The proposal was prepared in the framework of a research and development roadmap defined by the European rotorcraft community that aims to develop a civil tilt-rotor aircraft. A key target of the roadmap is a flying demonstrator in the 2010 decade.

NICETRIP specifically addresses the acquisition of new knowledge and technology validation concerning the tilt-rotor.

Objectives:
The main project objectives are:

- to validate the European civil tilt-rotor concept based on the ERICA architecture;
- to validate critical technologies and systems through the development, integration and testing of components of a tilt-rotor aircraft on full-scale dedicated rigs;
- to acquire new knowledge on tilt-rotor through the development and testing of several wind tunnel models, including a large-scale full-span powered model;
- to investigate and evaluate the introduction of tilt-rotors in the European Air Traffic Management System;
- to assess the sustainability of the tilt-rotor product with respect to social and environmental issues and to define the path towards a future tilt-rotor flying demonstrator.

Methodology:
The NICETRIP work plan was designed accordingly in order to address the main objectives separately and to reduce the risks of not achieving them. Progress towards objective achievement will be monitored during the project and objective achievement will be assessed with suitable quantified performance targets that will be defined at the start of each related work package or task.

Parent Programmes:
FP6-AEROSPACE - Aeronautics and Space - Priority Thematic Area 4 (PTA4)

Institute type: Public institution
Institute name: European Commission
Funding type: Public (EU)

Lead Organisation:
G.e.i.e. Vertair
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| **EU Contribution:** | €0 |

**Partner Organisations:**

**Secondo Mona S.p.a.**

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**Organisation Website:**
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**The University Of Liverpool**

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**EU Contribution:** €0
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<tr>
<td>Liebherr-Aerospace Lindenberg GmbH</td>
<td>Pfaenderstrasse 50-52, 88161 LINDENBERG, Germany</td>
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<td>Zf Luftfahrttechnik GmbH</td>
<td>Flugplatzstrasse, CALDEN, Germany</td>
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<td>Samtech S.a.</td>
<td>Rue des Chasseurs-Ardennais 8, ANGLEUR (LIÈGE), Belgium</td>
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<td>Politecnico Di Milano</td>
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<td>Aernnova Aerospace S.a.u.</td>
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<td>Airbus Helicopters</td>
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**Mecaer Aviation Group S.p.a.**

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<tr>
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<td><a href="http://www.uni-paderborn.de">http://www.uni-paderborn.de</a></td>
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<td>Avenue Jean Mermoz 30, Bât. Mermoz 1 / GOSSELIES Belgium</td>
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<td>Riga Scientific Experimental Centre &quot;aviatest Lnk&quot;</td>
<td>Rezeknes Str. 1 Riga Latvia</td>
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<td><a href="http://www.ulg.ac.be">http://www.ulg.ac.be</a></td>
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Airbus Helicopters Deutschland GmbH

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EU Contribution: €0

Key Results:

Project duration is extended to December 2013. The expected NICE-TRIP results are:

- Research in several topics: flight mechanics modelling, aeromechanics modelling, simulation and computation codes improvement, aircraft performance prediction, handling qualities, aeroelasticity and aero-acoustic prediction, stress calculation, materials.
- Teaching and training programmes in aeronautics with enhanced tools.
- Exploitation for research and studies of the powered full-span mock-up and ground testing tilt-rotor parts built in the project.
- Exploitation for research and development of the enhanced testing facilities built in the project.
- Development of improved elements of traditional rotorcrafts (rotor, drive train) for more efficient and competitive products, including new manufacturing processes.
- Development of improved systems for conventional rotorcrafts (flight control, actuation).
- Exploitation of an enhanced expertise in rotorcraft development.
- Pre-certification studies (by rotorcraft manufacturers) and certification work (by airworthiness authorities).
- Integration of tilt-rotors in air traffic management and control (ATM/ATC).

Documents:

Aerodays 2011.pdf (Project presentation)

STRIA Roadmaps: Vehicle design and manufacturing, Network and traffic management systems

Transport mode: Air transport

Transport sectors: Passenger transport, Freight transport

Transport policies: Societal/Economic issues

Geo-spatial type: Network corridors