Clean Sky 2 Information Day
Fast Rotorcraft IADP - Tiltrotor

Innovation Takes Off
Wien, 23rd January 2014
www.cleansky.eu
From **Clean Sky towards Clean Sky 2**

CLEAN SKY has demonstrated to be a "game changer" in R&T

- focuses resources and effort
- favors integration of competence
- generates real impact on environment
- allows for multi-annual planning and stable resources

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**Active Gurney Flap on Rotor Blades**

**Lower Noise Flightpath**

**Environmentally More Sustainable Processes**
Global Competition and Demanding Market

Competitions

Market Requests more:
Speed, range, capacity, productivity, efficiency and sustainability...
Next Generation Civil Tiltrotor (NextGenCTR) Filling Critical Gap

Turboprop airplane

TiltRotor

Gap

Compound

Helicopter

Cabin Pressurization Required

Altitude ft

Speed (kts)
A World of Opportunities Awaiting

Passenger transport
Search & rescue
Disaster relief
Coastal patrol

Emergency medical transport
Law enforcement, and others...
Global Competition and Demanding Market

Technology Leadership
- design, build, and fly to validate configuration, technologies, and operations

Mobility
- VSTOL versatility to meet different mission requirements
- Cruises at 300+ kts
- Does search & rescue and medical missions to 250 nautical miles away under 1h45m
- Moves payload quickly at efficient cost

Sustainability
- CO2 reduction up to 17%
- Noise cut 20% within 2030
CS2 Budget ~ €254m, EU funding ~ €127m, *of which 60% goes to partners*

Additional budget and activities outside CS2 necessary to cover full scope
# Next Generation Civil Tiltrotor (NextGenCTR)
Requires many Skills and Competencies from Europe

<table>
<thead>
<tr>
<th>WP</th>
<th>Topics</th>
<th>Skills, Competences</th>
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<tbody>
<tr>
<td>WP1</td>
<td>Integrated design, TDH, flight demo tests</td>
<td>System design, testing</td>
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<tr>
<td>WP2</td>
<td>Safety, reliability, low drag, low noise</td>
<td>Structural design, aerodynamics analysis, wind tunnel tests</td>
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<td>WP3</td>
<td>Advanced materials for low environmental impact, design-to cost/weight, safety</td>
<td>Drive system mechanical design, lubrication design, noise testing</td>
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<tr>
<td>WP4</td>
<td>Design-to-weight /cost /drag, system integration, crashworthiness</td>
<td>Aerodynamics/structure modeling &amp; testing, advanced materials (composite, metallic), system design, modeling and analysis</td>
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<tr>
<td>WP5</td>
<td>Performance, drag, crashworthiness</td>
<td>Fluiddynamics, system modeling, simulation &amp; integration, testing</td>
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<tr>
<td>WP6</td>
<td>Electrical power generation &amp; distribution, flight control system &amp; actuation, electrical pressurization (bleed-less engine)</td>
<td>Safety &amp; reliability, energy management design &amp; integration, HMI, rig testing</td>
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<td>WP7</td>
<td>Technology impact, mobility, environmental impact modelling and simulation</td>
<td>LCA analysis, flight mechanics, aeroacoustics, mobility concept, mission analysis</td>
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Next Generation Civil Tiltrotor (NextGenCTR) Schedule

2014
2015
2016
2017
2018
2019
2020
2021
2022
2023


CleanSky outcomes Call for Proposals full certification
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Next Generation Civil Tiltrotor (NextGenCTR)