AEROFAST

Project ID: 218797
Funded under: FP7-SPACE

AEROcapture for Future spAce tranSporTation

From 2009-01-01 to 2011-09-30, closed project | AEROFAST Website

Project details

<table>
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<tr>
<th>Total cost:</th>
<th>Topic(s):</th>
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<tbody>
<tr>
<td>EUR 2 985 856,20</td>
<td>SPA-2007-2.2-02 - Space transportation</td>
</tr>
<tr>
<td>EU contribution:</td>
<td>Funding scheme:</td>
</tr>
<tr>
<td>EUR 1 924 374</td>
<td>CP - Collaborative project (generic)</td>
</tr>
<tr>
<td>Coordinated in:</td>
<td></td>
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<td>France</td>
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Objective

AEROFAST main goal is to invest and improve the AEROCAPTURE transportation mean. An important step to allow for human expansion into the solar system is to develop advanced transportation systems to move humans and cargo between GEO and LEO, and also returning them from the Moon or from Mars. Typically such vehicle must rely on aerocapture to be mass effective: using atmospheric drag to slow space vehicles is regarded as one of the largest contributors to making both lunar and Martian missions affordable. In the coming decade’s aerocapture will become one of the core capabilities for planetary transportation. This technology allows for large amount of mass saved (up to 30 %) at launch and is fully adapted to large weight missions (Sample return missions and manned missions): for an insertion into a low Mars orbit with propulsion, 41% of the initial mass is put on final orbit whereas with an aerocapture manoeuvre 82% of the initial mass is put into final orbit. Today the technology readiness level of such an aerocapture mission is roughly 2 to 3 in Europe. AEROFAST goal is to prepare for a flight demonstration on a planet with atmosphere (earth or even more attractive Mars) and to reach TRL 3 to 4 in the frame of this FP7 first call.

Related information

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<th>Report Summaries</th>
<th>Final Report Summary - AEROFAST (AEROcapture for Future spAce tranSporTation)</th>
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