Building the next generation high-speed data converters to strengthen European excellence and competitiveness on space applications and beyond

**Fact Sheet**

**Project information**

INTERSTELLAR

Grant agreement ID: 730165

Project website

Status

Ongoing project

Start date 1 December 2016

End date 30 September 2021

Funded under:

H2020-EU.2.1.6.2.
H2020-EU.2.1.6.1.1.

Overall budget:

€ 7 309 500,50

EU contribution

€ 6 201 187,50

Coordinated by:

TELEDYNE E2V SEMICONDUCTORS SAS

France

**Objective**

The proposed INTERSTELLAR project addresses one critical topic of European non-dependence under the line “High speed DAC-ADC based on European Technology” – analogue-to-digital and digital-to-analogue data converters. E2V designs, manufactures, supplies to the space market these essential components, but faces keen competition from US providers. To preserve know-how and production of such competitive components in Europe and to underscore its efforts for non-dependence, the industrial consortium proposes to develop two new data converters and to mature them to TRL6. A four-channel ADC, sampling at up to 6 GSPs offers ultra-wide input bandwidth, flexibility and high-speed serial outputs. A multi-channel DAC, reconstructing at up to 6 GSPs offers multi-Nyquist output bandwidth, configurable modes and high-speed serial inputs. Using a European semiconductor technology, the new converters shall target performances beyond today's state-of-the-art to ensure their competitiveness by their delivery dates. Such devices facilitate innovative Rx-to-Tx signal chain solutions for satellite telecommunications, earth observation, navigation and scientific missions. To achieve the challenging objectives set, the four partners have intimate knowledge in space technology and will bring expertise to the project. E2V (F), coordinator, will be in charge of design, manufacturing and test activities. AIRBUS Defence & Space (UK) and THALES ALenia SPACE (F), the two major European space companies, will make a key contribution as end-users of space data converters – guiding initial requirements and evaluating the devices under relevant conditions.
The Fraunhofer Institute (D) will significantly contribute with reference PCBs hosting the new ADC and DAC, thus enabling detailed device evaluation and enhancing the dissemination of the results. Assembling such honed skills within a fruitful cooperation, promises to make the INTERSTELLAR project a great success for the European space industry.

Field of Science

/ engineering and technology / electrical engineering, electronic engineering, information engineering / information engineering / telecommunications

/ natural sciences / physical sciences / electromagnetism and electronics / electrical conductivity / semiconductor

/ social sciences / economics and business / business and management / commerce

Programme(s)

H2020-EU.2.1.6.2. - Enabling advances in space technology

H2020-EU.2.1.6.1.1. - Safeguard and further develop a competitive, sustainable and entrepreneurial space industry and research community and strengthen European non-dependence in space systems

Topic(s)

COMPET-1-2016 - Technologies for European non-dependence and competitiveness

Call for proposal

H2020-COMPET-2016

See other projects for this call

Funding Scheme

RIA - Research and Innovation action

Coordinator
<table>
<thead>
<tr>
<th>Organisation</th>
<th>Country</th>
<th>Activity type</th>
<th>EU Contribution</th>
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<tr>
<td><strong>TELEDYNE E2V SEMICONDUCTORS SAS</strong></td>
<td>France</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
<td>€ 3 746 250</td>
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<td><strong>THALES ALENIA SPACE FRANCE SAS</strong></td>
<td>France</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
<td>€ 1 232 371,25</td>
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<td><strong>AIRBUS DEFENCE AND SPACE LTD</strong></td>
<td>United Kingdom</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
<td>€ 69 522,99</td>
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FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.
Germany

Address: Hansastrasse 27c
80686 Munchen

Activity type: Research Organisations

EU Contribution: € 849 980

KAPITECH SP ZOO
Poland

Address: Zwirki I Wigury 16b
02-092 Warszawa

Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)

EU Contribution: € 18 750

AIRBUS ITALIA SPA
Italy

Address: Via Dei Luxardo 22-24
00156 Roma

Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)

EU Contribution: € 284 313,26

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