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Very High Speed Serial Interfaces

Fact Sheet

Project Information

VHiSSI

Grant agreement ID: 284389

[Project website](#) 

Project closed

Start date

1 January 2012

End date

31 October 2014

Funded under

Specific Programme "Cooperation": Space

Total cost

€ 2 630 218,84

EU contribution

€ 1 999 998,98

Coordinated by

UNIVERSITY OF DUNDEE



United Kingdom

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Objective

Space-based Earth observation and scientific instrumentation currently under development will push the limits of on-board data-handling technology. In the past Mil-Std 1553 and proprietary data-links were used to get instrument data from the instruments to the on-board mass memory unit and to the down-link telemetry system. Over the past decade the proprietary data links have been replaced with a standard networking technology designed for use on-board spacecraft: SpaceWire. While SpaceWire is currently being used to fulfil the on-board data-handling requirements of many missions, there are some very high data-rate instruments which are beyond its capabilities.

Several future space-based instruments, for example synthetic aperture radar (SAR) and hyper-spectral imagers, will be capable of producing data at data rates of several Gbits/s. New downlink telemetry techniques will be able to provide much higher downlink capacity than previously possible. High speed memory technologies will be able to serve multiple high data rate instruments and stream data to ground on demand. To support the growing demand for onboard communications network bandwidth, technologies able to support multi-Gbits/s data transfer have been developed, unfortunately these are all restricted USA devices resulting in a critical European dependency.

ESA has been developing a standard multi-Gbits/s network technology called SpaceFibre. At present this important ESA technology is dependent upon the USA for the radiation-tolerant physical layer devices. The SpaceFibre-HSSI project plans to integrate two or more complete SpaceFibre interfaces together with the physical layer devices in a single radiation tolerant ASIC manufactured by a European foundry. Not only will this alleviate the dependency on very high-speed serial interface devices, it will provide a complete SpaceFibre solution in a single chip, and develop an essential European radiation-tolerant ASIC fabrication capability.

Fields of science (EuroSciVoc)

[engineering and technology](#) > [mechanical engineering](#) > [vehicle engineering](#) > [aerospace engineering](#) > [astronautical engineering](#) > **[spacecraft](#)**

[engineering and technology](#) > [electrical engineering](#), [electronic engineering](#), [information engineering](#) > [information engineering](#) > [telecommunications](#) > [radio technology](#) > **[radar](#)**

Programme(s)

[FP7-SPACE - Specific Programme "Cooperation": Space](#)

Topic(s)

[SPA.2011.2.2-02 - Space critical technologies](#)

Call for proposal

FP7-SPACE-2011-1

[See other projects for this call](#)

Funding Scheme

[CP-FP - Small or medium-scale focused research project](#)

Coordinator



UNIVERSITY OF DUNDEE

EU contribution

€ 374 921,60

Total cost

No data

Address

Nethergate

DD1 4HN Dundee

 **United Kingdom** 

Region

Scotland > Eastern Scotland > Angus and Dundee City

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Participants (7)



STAR-DUNDEE LIMITED

United Kingdom

EU contribution

€ 374 995,23

Address

166 NETHERGATE STAR HOUSE
DD1 4EE Dundee

Region

Scotland > Eastern Scotland > Angus and Dundee City

Activity type

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

Links

- [Contact the organisation](#)
- [Website](#)
- [Participation in EU R&I programmes](#)
- [HORIZON collaboration network](#)

Total cost

No data



ACE IC LTD

Israel

EU contribution

€ 374 986,40

Address

HATOCHEN STREET 2 NORTH INDUSTRIAL PARK
38900 CAESAREA

Activity type

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

Links

- [Contact the organisation](#)
- [Participation in EU R&I programmes](#)
- [HORIZON collaboration network](#)

Total cost

No data



RAMON CHIPS LTD

 Israel

EU contribution

€ 374 880,00

Address

HACARMEL STREET 5
2069201 YOKNEAM ELITE 

Activity type

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

Links

[Contact the organisation](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

No data



IHP GMBH - LEIBNIZ INSTITUTE FOR HIGH PERFORMANCE MICROELECTRONICS

 Germany

EU contribution

€ 290 403,75

Address

IM TECHNOLOGIEPARK 25
15236 Frankfurt Oder 

Region

Brandenburg > Brandenburg > Frankfurt (Oder)

Activity type

Research Organisations

Links

[Contact the organisation](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost
No data



AIRBUS DS GMBH

Germany

EU contribution

€ 70 630,00

Address

**ROBERT KOCH STRASSE 1
82024 TAUFKIRCHEN**

Activity type

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

Links

- [Contact the organisation](#)
- [Website](#)
- [Participation in EU R&I programmes](#)
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Total cost
No data



EURO INSTRUMENTS TRADING S.R.L.

Italy

EU contribution

No data

Address

**VIA DEI FABBRI 35
25032 CHIARI BS**

Activity type

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

Links

- [Contact the organisation](#)
- [Website](#)
- [Participation in EU R&I programmes](#)
- [HORIZON collaboration network](#)

Total cost
No data



SYNERGIE CAD INSTRUMENTS SRL

 Italy

EU contribution

€ 139 182,00

Address

VIA MILANO 15L/15I

25032 Chiari Bs 

Region

Nord-Ovest > Lombardia > Brescia

Activity type

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

Links

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Total cost

No data

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Permalink: <https://cordis.europa.eu/project/id/284389>

European Union, 2025