Forward Acquisition of Soil and Terrain for Exploration Rover

Fact Sheet

Project Information

FASTER

Grant agreement ID: 284419

Project website

Project closed

Start date
1 November 2011

End date
30 November 2014

Funded under
Specific Programme "Cooperation": Space

Total cost
€ 2 732 342,28

EU contribution
€ 1 985 541,62

Coordinated by
DEUTSCHES FORSCHUNGSZENTRUM FUR KUNSTLICHE INTELLIGENZ GMBH
Germany

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Objective

The goal of the FASTER project is to address three key technology developments for planetary exploration: forward looking surface properties characterisation, innovative locomotion system for a scout type rover, and collaborative operation of a mother/scout pair. 1.) The project will develop methods and instrumentation to characterise the properties of planetary surfaces in which robotic rover vehicles operate to be able to anticipate hazards in advance of locomotion and navigation over that surface. By assessing the soil trafficability for a rover, decisions affecting rover safety (avoiding becoming stuck) can be reliably taken and hazards avoided. 2.) The project will look at what innovation can be applied to ensure that the scout rover is able to operate with minimal risk of encountering hazardous situations from which it must recover. 3.) FASTER will explore the feasibility and performance of a mother/scout rover pair combination and develop methods to achieve successful collaborative and autonomous robot operation. The forward looking scout rover will be equipped with a special combination of sensor technologies to acquire soil and terrain information. This information will allow a risk model to be constructed that indicates the potential hazards that the terrain represents to the following mother rover. Reducing the locomotion and traverse risks using the proposed advances in autonomous mother / scout collaboration will allow mission operators to explore planetary surfaces with increased safety. It will make possible new levels of autonomous operations by significantly reducing the greatest uncertainty factor – namely properties of the surface material on which the rover must operate. This will lead to increased operational efficiency and, when coupled with the increased richness of the surface properties data, will lead to much higher scientific returns per capital investment for each mission.

Fields of science (EuroSciVoc)

natural sciences > physical sciences > astronomy > planetary sciences > **planetary geology**

engineering and technology > electrical engineering, electronic engineering, information engineering > electronic engineering > robotics > **autonomous robots**

engineering and technology > electrical engineering, electronic engineering, information engineering > electronic engineering > **sensors**

Programme(s)

FP7-SPACE - Specific Programme "Cooperation": Space

Topic(s)

SPA.2011.2.1-02 - Research and development for space exploration

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

DEUTSCHES FORSCHUNGSZENTRUM FUR KUNSTLICHE INTELLIGENZ GMBH

EU contribution

€ 531 000,00

Total cost

No data

Address

TRIPPSTADTER STRASSE 122
67663 Kaiserslautern
Germany

Region

Rheinland-Pfalz > Rheinhessen-Pfalz > Kaiserslautern, Kreisfreie Stadt

Activity type

Research Organisations

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

Participants (5)

UNIVERSITY OF SURREY

United Kingdom

EU contribution

€ 503 005,05

Address

Stag Hill
GU2 7XH Guildford

Region

South East (England) > Surrey, East and West Sussex > West Surrey

Activity type

Higher or Secondary Education Establishments

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

Total cost

No data

AIRBUS DEFENCE AND SPACE LTD

United Kingdom

EU contribution

€ 113 223,13

Address

GUNNELS WOOD ROAD
SG1 2AS Stevenage

Region

East of England > Bedfordshire and Hertfordshire > Hertfordshire

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

SPACE APPLICATIONS SERVICES NV

Belgium

EU contribution

€ 361 718,44

Address

LEUVENSESTEENWEG 325
1932 Zaventem

Region

Vlaams Gewest > Prov. Vlaams-Brabant > Arr. Halle-Vilvoorde

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

LIQUIFER SYSTEMS GROUP GMBH

Austria

EU contribution

€ 260 295,00

Address

OBERE DONAUSTRASSE 97-99 1 62
1020 Wien

Region

Ostösterreich > Wien > Wien

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

ASTRI POLSKA SPOLKA Z OGRANICZONA ODPOWIEDZIALNOSCIA

Poland

EU contribution

€ 216 300,00

Address

ULICA BARTYCKA 18A
00716 Warszawa

Region

Makroregion województwo mazowieckie > Warszawski stołeczny > Miasto Warszawa

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

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