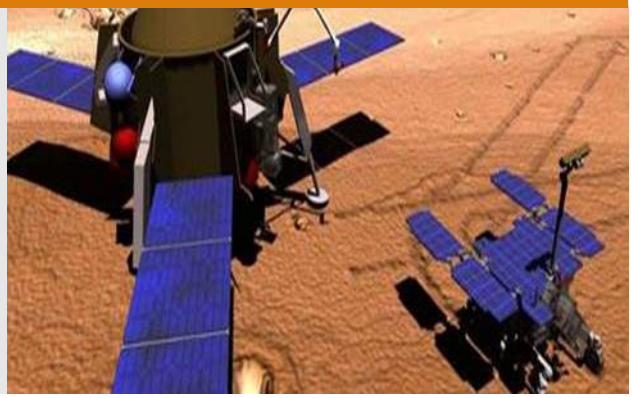
German Research Center for Artificial Intelligence

SIROM

Standard Interface for Robotic Manipulation of Payloads in Future Space Missions (PERASPERA: Space Robotics Techologies, Operational Grant 5)

Photos: www.h2020-sirom.eu



Space Robotic Technologies

The SIROM project aims to develop a standard interface, which can be used to connect payloads in planetary and orbital applications with manipulators or other payloads, as well as two systems, e.g. client and server. This interface includes a physical connection and also serve to transmit electrical energy, data, and heat. The focus is on the development of key technologies for autonomic robotic systems to be used in on-orbit satellite maintenance and assembly work as well as in planetary exploration.

The standard Interface will take into account long duration missions, no logistics support and missions composed of multiple payloads and architectures. Main benefits:

- Improve operational capacity
- Reduced logistics with common and modular spares
- Common maintenance standards
- Interface architecture flexibility: common infrastructure needed to support the modular design
- Mission flexibility (configuration changes)
- Standardizes mechanical connection and data, electrical, thermal transfer
- Introduce in the design aspects related to interchangeability and interoperability

SIROM is part of the project PERASPERA which is funded by a grant by the European Union through the Horizon 2020 Programme.

The European Commission has funded, as part of the Horizon 2020 Space Work Programme 2014, a Programme Support Activity (PSA) for the implementation of a Strategic Research Cluster (SRC) on Space Robotics Technologies.

The DFKI Robotic Innovation Center is responsible for the development of a mechanical interface in general as well as for the development of the orbital Active Payload Modules (APMs) and for the definition of requirements in particular as well as for the execution and evaluation of the final experiments.

Duration: 11/2016 – 01/2019

Partners:

SENER, AIRBUS DEFENCE & SPACE, ThalesAlenia, LEONARDO, MAG SOAR, University of Strathclyde Glasgow, teletel, spaceapplications

Funded by:

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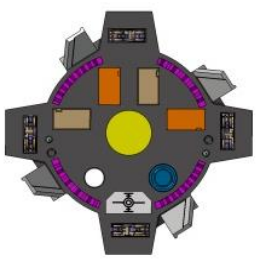

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