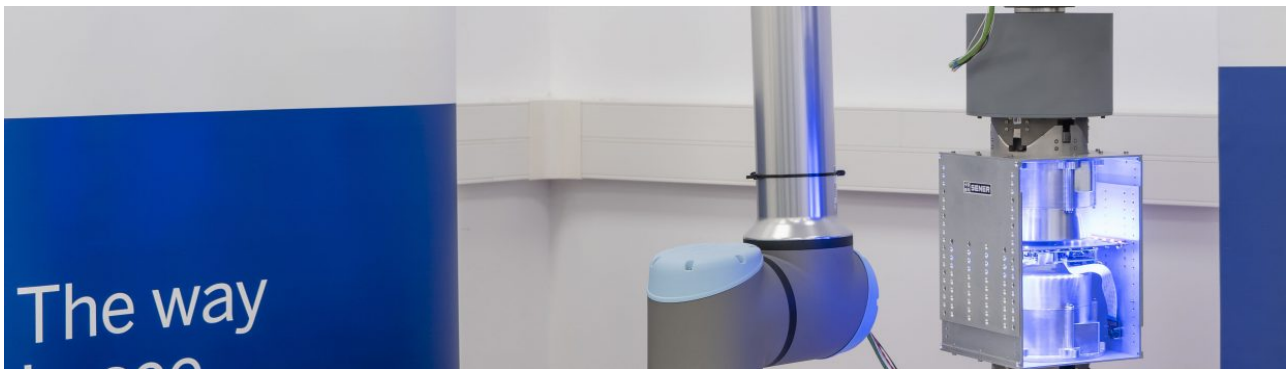




# Standard Interface for Robotic Manipulation (SIROM)



SENER AEROSPACE & DEFENSE / SPACE / ELECTROMECHANICAL SYSTEMS / INTERNATIONAL

*STANDARD INTERFACE  
FOR ROBOTIC MANIPU-  
LATION (SIROM)*

**Cliente: H2020 – EC – REA /**

**PERASPERA**

**País: International**

SIROM is a robotic interface that can be used both in orbital and planetary applications. As a robotic interface, SIROM integrates four different functionalities in a single mechanism: mechanical, data, electrical and fluids.

SIROM is one of the key “building blocks” developed for the European Union in the frame of PERASPERA, a project aiming to deliver enabling technologies and demonstrate autonomous robotic systems for on-orbit satellite servicing and planetary exploration.

SIROM was developed in the first Call of PERASPERA (2016-2019) by a project consortium formed by Sener Aeroespacial, AIRBUS DS, Thales Alenia Space, Leonardo, University of Strathclyde, DFKI, Teletel, Space



Applications Services and Mag Soar.

As project coordinator, Sener Aeroespacial responsibilities included the development, design, manufacturing, assembly, and integration of the SIROM mechanical interface, including the allocation of the rest of interfaces: data, electrical/power and thermal.

SIROM was successfully tested in a final orbital scenario by means of robotic devices, performing several test maneuvers, in AIRBUS DS (Bremen) and DLR.

In EROSS, project of the second Call of PERASPERA (2019-2021), Sener Aeroespacial has developed an integrated SIROM product combining the mechanics and flight compatible electronics, resulting in a simple and compact mechanism. SIROM is also being applied in other projects such as: MIRROR (ESA project), PERIOD (third PERASPERA Call) or LOP-G IVR studies.

#### **SIROM GENERIC DESIGN**

SIROM is multi-functional (4-in-1 functionalities) intelligent interface combining the following in a single and integrated form:

- Mechanical interface to allow mating and load transfer
- Electrical interface for power transmission
- Data interfaces for data, TM & TC transmission
- Fluid interface for refueling or heat regulation

#### **APPLICATIONS**

- On-orbit servicing
- Refueling
- In-orbit assembly and manufacturing
- Assembly of large structures or antennas in space
- Payload upgrade or replacement for satellites
- Robot tool exchange
- Active debris removal



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#### DOWNLOADABLE FILES



SIROM version of OG5 & OG7

Formato: PDF

1,4 MB

