# SIROM

## News Article on SIROM Project Consortium Management Meeting 5

Xiu Yan, June 2018

## Summary

The SIROM Project Consortium Meeting 5 (PM5) took place on the 6th of June, 2018 at SENER, Tres Cantos, Madrid. The topics of this consortium project meeting reflect the stage of the project, focusing on the review of the manufacturing progress of SIROM prototypes, testing arrangements and dissemination activities. Representatives from SENER, Leonardo, University of Strathclyde, DFKI, Space Applications and MAG SOAR, and the project officers from Programme Support Activity (PSA) of the Strategic Research Cluster in Space Robotics Technologies of Horizon 2020 programme of the European Commission Dr. Daniel Noelke, Dr. Javier Rodriguez Gonzalez and a new officer Dr. Roberto Bertacin from ASI (PSA) attend the physical meeting, whereas colleagues from Thales Alenia Space and TELETEL attended the PM5 via phone and video conferencing.

**Figure 1 Consortium members and the project officers from Programme Support Activity (PSA) in front of the SENER's iconic building**

This one day meeting was organised according to the following agenda:

**Wednesday 6th of June 2018**

1. Manufacturing and Purchasing progress (Excel file review) - SENER
   • Harness discussion - SENER
2. Schedule update - SENER
   • Testing activities detail:
   • Equipment/subassembly tests by equipment responsible (WP4 MAI SIROM): SAS, SENER, LEONARDO, TELETEL
   • OG5 Mechanical Verification at ADS Bremen (WP4 MAI SIROM): SENER
   • OG5 Data and Power Verification at SAS (WP4 MAI SIROM): SAS
   • Orbital test within OG6 test field at DLR (WP5 Validation): SENER
   • Planetary test within OG6 test field at DFKI (WP5 Validation): SAS
   • Thermal tests of thermal IF: MAGSOAR
3. AOB - SENER
   • IAC-2018 papers organization/preparation: Staff planning for the PERASPERA booth on IAC 2018 – video & Next Progress Mtg.
   • Next Deliverables
   • Other dissemination activities

SENER also offered a presentation of SENER Space activities within the organisation and a tour of its facilities and capabilities, ranging from spacecraft landing system to space robotic interface and flight control systems.

# SIROM progress:

## Manufacturing

It is good to note that majority of the manufacturing and purchasing activities are taking place as planned for five SIROMs using conventional manufacturing methods. The Consortium also pursued a novel approach to manufacture these components using latest additive manufacturing technologies for one SIROM. Figure below shows a subassembly of one of the five SIROM being manufactured.

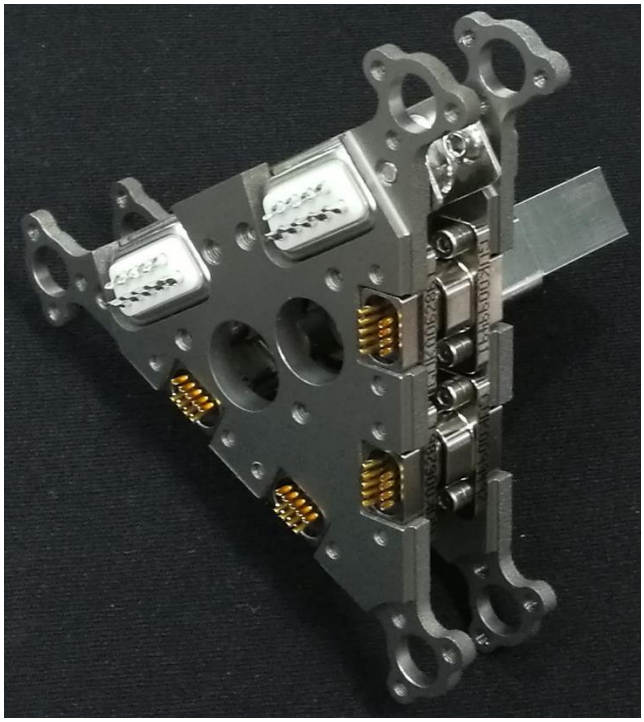

Figure 2 A sub-assembly of the SIROM

## Dissemination summary

Dissemination of SIROM resaerch results have also been discussed and relevant actions agreed in order to produce high quality papers based on three abstracts accepted. It is further discussed that on one paper entitled Multi-Functional Interface for Payload Interconnection of Robotic Systems In Space. It is worth noting that Mr. Javier Vinals has been invited to present this paper in an from Interactive Presentations Session and has also been invited to submit to be considered as a journal paper in a Special IAC Issue. The Consortium agreed to work on a new deadline for this paper aiming to get it accepted. Subsequently, the paper has been produced on time and was submitted before the deadline for consideration.

The consortium has done well in dissemination activities and has achieved the following results:

1. One important journal paper was accepted and it present an extensive review of literatures on standard interfaces with the following detail:

Xiu-Tian Yan, Wiebke Brinkmann, Roberto Palazzetti, Craig Melville, Youhua Li Sebastian Bartsch and Frank Kirchner, “Integrated mechanical, thermal, data and power transfer interfaces for future space robotics”, Frontiers in Robotics and AI, June 2018, 10.3389/frobt.2018.00064.

2. Three abstracts have been accepted by the IAF Secretariat of the International Astronautical Federation with the following details:

[1] Javier Vinals, Eduardo Urgoiti, Gonzalo Guerra, Ignacio Valiente, Judit Esnoz-Larraya, Michel Ilzkovitz, Dogu Cetin, Pierre Letier, Xiu-Tian Yan, Gwenole Henry, Albino Quaranta, Wiebke Brinkmann, Marko Jankovic, Sebastian Bartsch, Vangelis Kollias, Nikos Pogkas, Alessandro Fumagalli, and Manfred Doermer, “Systems and Infrastructures to Implement Future Building Blocks in Space Exploration and Development - future space missions with reconfigurable modular payload modules and standard interface - an overview of the SIROM project”, accepted to the 69th International Astronautical Congress (IAC 2018), October 1-5, Bremen, Germany, International Astronautical Federation (IAF), 2018.

[2] Javier Vinals, Eduardo Urgoiti, Gonzalo Guerra, Ignacio Valiente, Judit Esnoz-Larraya, Michel Ilzkovitz, Dogu Cetin, Pierre Letier, Xiu-Tian Yan, Gwenole Henry, Albino Quaranta, Wiebke Brinkmann, Marko Jankovic, Sebastian Bartsch, Alessandro Fumagalli and Manfred Doermer "Systems and Infrastructures to Implement Future Building Blocks in Space Exploration and Development - multi-functional interface for payload interconnection of robotic systems in space", , accepted to the 69th International Astronautical Congress (IAC 2018), October 1-5, Bremen, Germany, International Astronautical Federation (IAF), 2018.
[3] Wiebke Brinkmann, Marko Jankovic, Christoph Stoeffler, Marcos Ubierna, Eduardo Urgoiti, Javier Vinals and Sebastian Bartsch "Modular Active Payload Modules for Robotoc Handlings in Future Orbital Missions", accepted to the 69th International Astronautical Congress (IAC 2018), October 1-5, Bremen, Germany, International Astronautical Federation (IAF), 2018

3. Discussion also had on the production of video materials for the public engagement at the IAC on Space Robotics Research along with all other OG projects.