

SPACE OPERATIONS SYMPOSIUM (B6)
Mission Operations, Validation, Simulation and Training (3)

Author: Ms. Nadia This
BIRA-IASB, Belgium

Mr. Alejandro Sela
Space Applications Services NV/SA, Belgium

Mr. Alexander Karl
Space Applications Services NV/SA, Belgium

Mr. Denis Van Hoof
Space Applications Services, Belgium

Mr. Lode Pieters
Space Applications Services (SAS), Belgium

Ms. Alice Michel
Belgian User Support and Operation Centre (B.USOC), Belgium

Mr. Etienne Haumont
BIRA-IASB, Belgium

Mr. Karim Litefti
BIRA-IASB, Belgium

Mr. Alejandro Diaz
Space Applications Services (SAS), Belgium

Dr. Didier Moreau
Belgian User Support and Operation Centre (B.USOC), Belgium

TRANSFERRING PAYLOAD OPERATIONS FROM ONE CENTRE TO ANOTHER: THE FSL CASE

Abstract

The Fluid Science Laboratory (FSL) is a research facility installed in the European Columbus module of the International Space Station. It provides 70+ different diagnostics to insertable Experiment Containers (EC). In the first 6 years of its operational life, FSL operations were managed by the Italian Microgravity Advanced Research and Support Center (MARS) following the European User Support and Operations Centre (USOC) concept. In 2014 however it was decided that the Belgian USOC (B.USOC) would take over the operations.

B.USOC has several years of experience in ISS operations with payloads covering, amongst others, solar science, technology demonstrations and educational activities. However fluid science is a field of expertise that was up to now not covered. Combined with the complexity of the FSL facility, the hand-over posed quite some challenges.

One of the main problems is that instruments, facilities and operations of those evolve over time. Although ideally all details are documented at delivery of a payload, this documentation does not stay up to date for a long time. Anomalies are discovered during operational lifetime, operation strategies change etc. This results in deviations from the original set-up that are either documented on distributed platforms (anomaly reports, software upgrade documentation, technical notes...) or are not documented at all but become part of the experience gained by the operator, in which the operator himself might not even realize

he has/uses certain knowledge. As B.USOC was taking over, it was important to make a consistent story of the information available and find a way to extract as much as possible from the MARS “hands-on” experience in order for B.USOC not to start from scratch.

The article will explain the difficulties encountered in this hand-over, the challenges B.USOC operators faced while preparing for operations in a new scientific discipline, and the lessons learned in the process.