

HUMAN SPACE ENDEAVOURS SYMPOSIUM (B3)
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ONE YEAR OF COLUMBUS OPERATIONS AND FIRST EXPERIENCE WITH 6 PERSONS CREW

Abstract

On 12 February 2009 the first year of operation of the Columbus Module was passed. These 12 months of Columbus in orbit have shown a lot of successes of the whole Columbus operation teams but also has shown some open topics which have already been addressed to ensure a long-term operation of Columbus.

In the first year 4 NASA racks were successfully relocated from Destiny module to the Columbus, re-activated and used by NASA for various experiments with support from Col-CC and other European centres. The first Columbus software transition in space from Cycle 10 to Cycle 11 to be compatible with the NASA R7 software upgrade has been performed smoothly in August 2008. Many European experiments performed by the USOCs like WAICOI (in the Biolab rack), Geoflow (in the FSL rack) and SOLO (using European, US and Russian assets) have been successfully supported by Columbus Flight Control Team (Col-FCT).

The Col-FCT was also able to perform corrective and preventive system maintenance like sensor replacement, exchange of an air fan and rebooting of one of the central computer systems. This ensured full support of the Columbus systems for payload operations in this first year in orbit. In addition the team structure was enforced to allow continuous support of ISS operations for the next years.

The Flight Control Team is at the moment preparing for the first permanent 6 person crew on ISS starting with Soyuz 19 in May 2009 and the new possibilities in payload operations which is enabled by this crew ramp up. The astronauts, including the ESA Astronaut Frank de Winne, will be able to perform more experiments in parallel, which will increase the preparation and execution work of the teams on ground.

The paper will present the experiences gained during more than one year of Columbus operations and will give a first insight in the changes of the Col-FCT work due to the 6 person crew on board ISS starting in May 2009.