

HUMAN SPACE ENDEAVOURS SYMPOSIUM (B3)
Overview Session (Present and Near-Term Human Space Flight Programs) (1)

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CANADA AND THE INTERNATIONAL SPACE STATION PROGRAM: OVERVIEW AND STATUS
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Abstract

Since the 2009 meeting of the IAC in Daejeon, the Canadian Space Station Program has been busy supporting the final assembly stages of the ISS and continuing preparations for the maintenance and utilization phase of ISS operations. This paper provides a status on the milestones reached and various activities that have occurred in the past twelve months.

The Mobile Servicing System installed several different new modules onto the space station during the six shuttle flights in the past year, including Node 3, the Cupola, and MRM1. In addition, MSS moved several stowage platforms filled with spare parts and logistics modules from the shuttle payload bay onto the space station. These spare parts cover many of the space station's vital systems and will be central to the maintenance of the station over the coming decade.

On the human spaceflight front, Dr. Robert Thirsk completed a six month stay aboard the space station in November 2009, setting a Canadian record of 188 days in space. Guy Laliberte's visit to the space station in early October made him the first Canadian spaceflight participant.

Additional checkouts of Dextre's functionality were completed, including releasing tools from their launch restraints and picking them up while using Dextre's Force Moment Accommodation (FMA) sensors and software to ensure a light touch. The final step of the checkouts was to complete a Remote Power Controller Module (RPCM) remove and replace operation, preparing the way for future robotic station maintenance activities.

Record-setting utilization of the ISS resources has taken place during this period with Canadian sponsorship of several on-board experiments. The Bodies in Space Experiment continued to gather data assessing the influence of gravity on the perception of up and down and Advanced Plant EXperiments on Orbit studied the impact of gravity on wood formation. Radiation measurements (high energy neutrons, Radi-N), a robotic technology demonstrator (Avatar) and educational (Image Reversal In Space) payloads were also sponsored. CSA-supported Canadian scientists have also been collaborating experiments led by other ISS partners.

As the end of the space shuttle missions approaches, CSA continues to expand its abilities for utilization and robotic maintenance. Along with other ISS partners, CSA is working towards the goal of supporting space station operations beyond 2015 in order to continue to benefit from having a world-class laboratory in space.