

SPACE OPERATIONS SYMPOSIUM (B6)  
Human Spaceflight Operations Concepts (1)

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FROM ATV JULES VERNE TO JOHANNES KEPLER – EUROPEANS MASTERING OF SPACE  
RENDEZVOUS OPERATIONS**Abstract**

On the 24th February 2011 the 2nd ATV Johannes Kepler has flawlessly docked to the International Space Station (ISS). The actual foreseen duration of the mission is 4 months. After the success of the first ATV mission – Jules Verne – in 2008, with this first recurring mission ESA has confirmed its capability to successfully operate complex spacecrafts and perform rendezvous operations. This paper describes the ATV Kepler mission operations, in all its aspects, and compares with its predecessor Jules Verne, with particular emphasis on: • The major changes of the European Ground Segment • The improvements implemented at ATV Mission Control Centre for ATV enhanced operations • Explanation of the differences in tasks and roles, and the introduction of ATV operations industrialization • Description of the simulation campaign, both ATV-CC stand alone and during Joint Integrated Simulations • The comparison between the ATV-01 and ATV-02 mission operations profiles • A status of achievements of ATV-02 mission objectives • A preliminary lessons learned from the ATV-02 • An assessment of the overall operations activities and an outlook of the future activities