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RDV Technology for Future European Space Missions

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ABSTRACT

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Title : RVD Technology for Future European Space Missions.

The development of a prototype on board software package for autonomous rendez-vous operations belongs to one of the key elements of ESA sponsored rendez-vous development activities in which MBB/ERNO is strongly involved. General guidelines, control algorithms and the software architecture, were principal tasks which have been completed before detailed design, coding and verification tests were started. It is expected that the Columbus missions with enhanced EURECA, MTFF (Man tended free flyer) and HERMES will benefit from the experience gained from this ESA RVD technology program.

On orbit servicing of EURECA at the USSS or at the station vicinity by NSTS will need partial or complete rendez-vous capabilities.

Current MTFF mission concepts, for which servicing at the USSS is intended, will need adequate rendez-vous and berthing capabilities. A conceptual mission design has been performed to support system requirements definition work. Principal features of the manoeuvre strategies and related performance analysis will be addressed.