

PERIOD

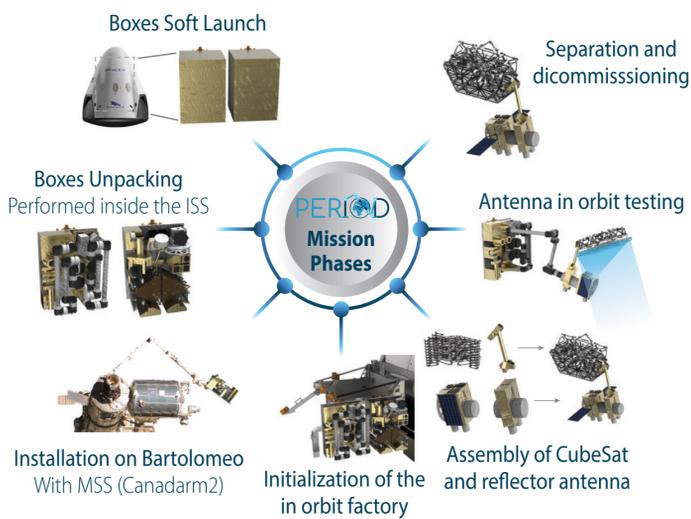
PERASPERA In-Orbit Demonstration

“ Preparing the paradigm shift for changing the way space systems are designed, built and operated “



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MISSION CONCEPT & ORBITAL FACTORY



“ Definition of an orbital factory concept including antenna reflector manufacturing, satellite assembly and refueling “

- ✓ The PERIOD mission definition has been updated, refining the overall mission architecture concept.
- ✓ For each of the main demonstration phases, the operations have been defined in more detail, translating the interactions between the operational entities.
- ✓ A harmonization of the accommodation of all the components within the available design space of the Bartolomeo payload boxes was also completed.

TECHNOLOGY MATURATION

“ Achievement of TRL5 for the building blocks ESROCOS, ERGO & InFuse for the defined PERIOD mission and system concept “



TASTE function commanding robotic manipulator

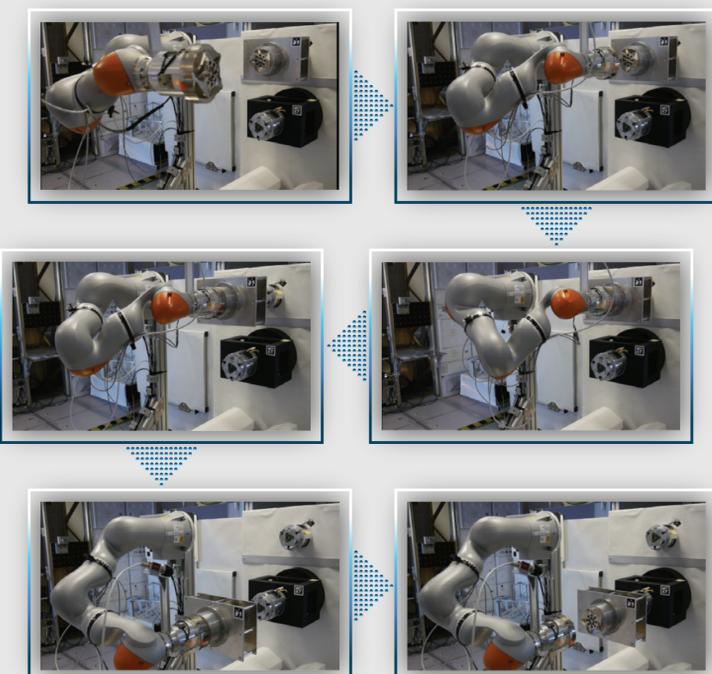


Robotic arm motion planning & execution integration testing



ArUco markers reachability simulation

INTEGRATED BREADBOARD DEMONSTRATION



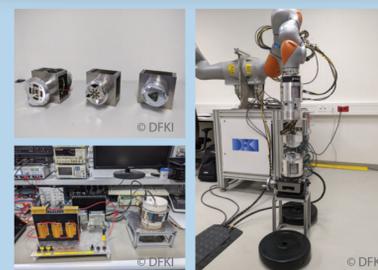
“ Successful demonstration of the developed PERASPERA building blocks by implementing a mission scenario on the Robotic In Space Manufacturing Assembly Testbed (RISMAT) “

- ✓ The objective of the integrated breadboard is the demonstration of the major building blocks and their collaborative operations in a testbed relevant environment to support the building block TRL5 assessment.
- ✓ The demonstration scenario is a simplified subset of the PERIOD mission scenarios.
- ✓ The main goal is to show that the S/W building blocks can successfully collaborate and solve a small mission under real-world constraints.

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STANDARD INTERCONNECTS (SI) BENCHMARK ANALYSIS

“ Comprehensive Standard Interconnects (SI) evaluation with respect to the demonstration scenario, based on a benchmark analysis “



- ✓ The selection of an appropriate SI is crucial not only for the assembly and operations but also for the design of critical equipment like the manipulator with an impact to their development effort and costing.

- ✓ A benchmark of SIROM (SENER Aeroespacial), HOTDOCK (Space Applications Services), and iSSI (iBOSS) has been performed to evaluate and compare their performance in defined scenarios.

design by EASN-TIS

OUR TEAM



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