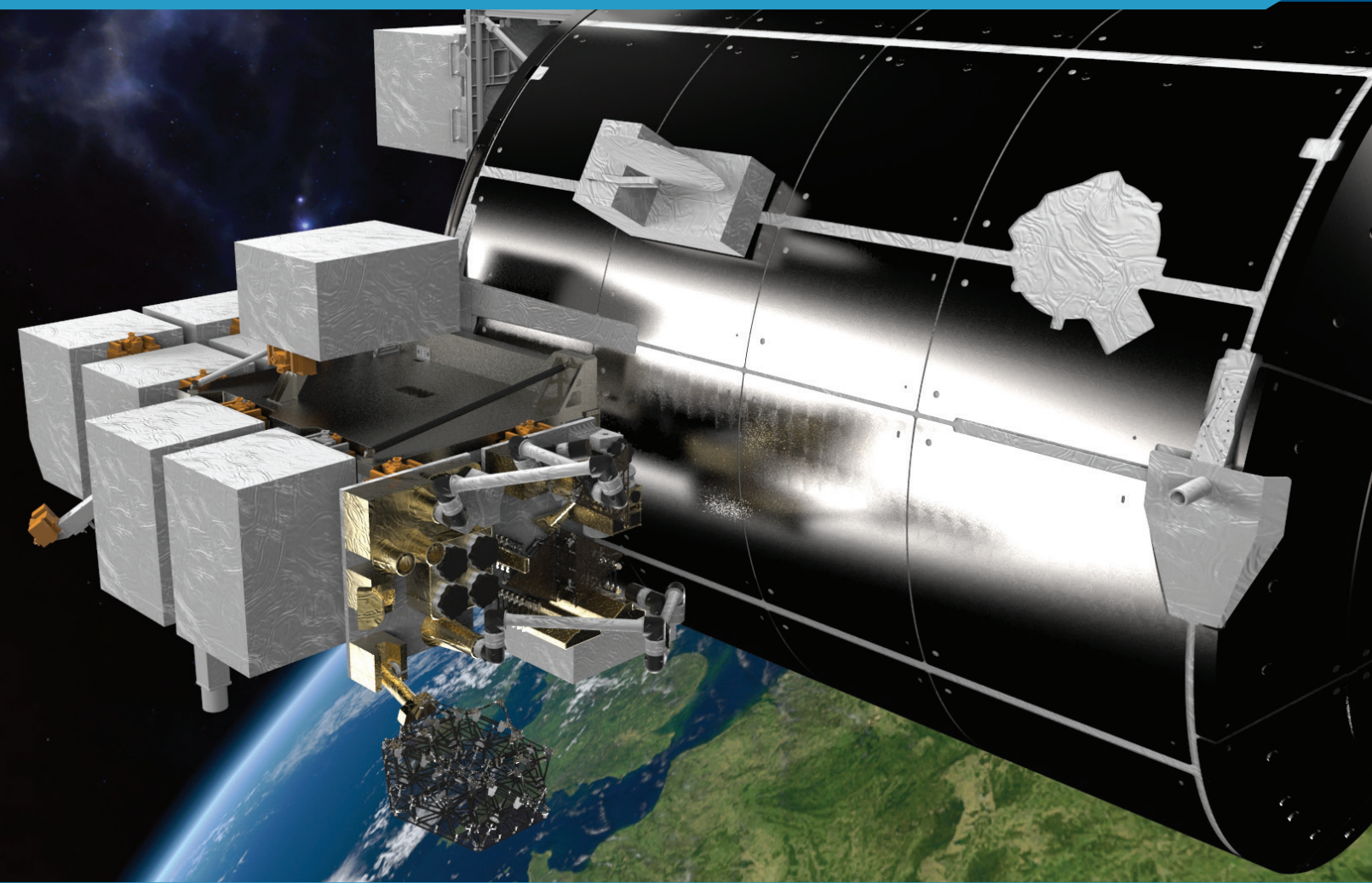


# PERIOD

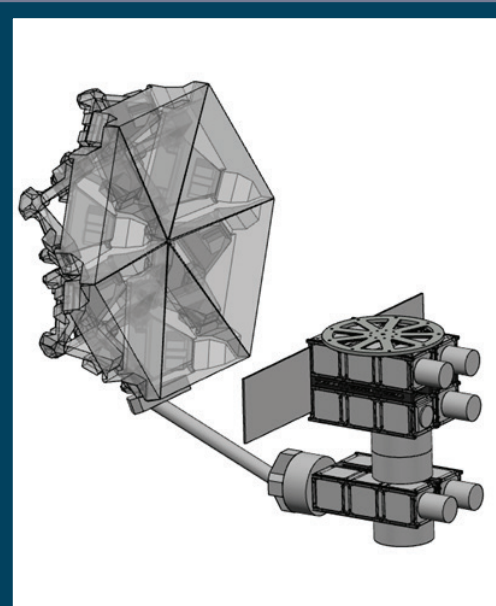
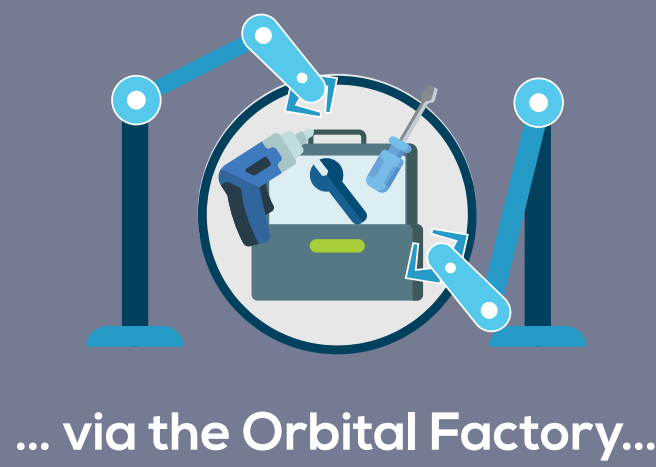
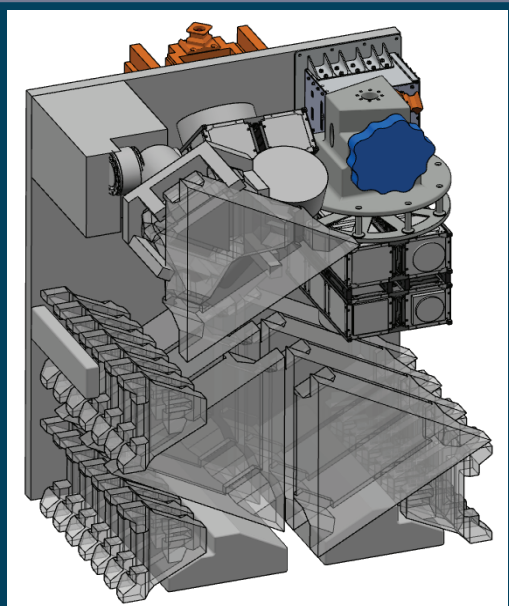
## PERASPERA In-Orbit Demonstration

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



### PERIOD DEMONSTRATION MAIN OBJECTIVE

From a  
satellite kit...



...to a functioning  
assembled satellite,  
including inspection,  
reconfiguration, at-  
tachment, refuelling.

“  
On Orbit Services (OOS)  
and  
In Space Manufacturing  
& Assembly (ISMA) is the  
way to increase function-  
ality, capacities  
& resilience of space assets  
while reducing costs”

### MISSION STATEMENT

Demonstrating ISMA capabilities, the PERIOD mission will initiate the transformation of the lifecycle of space systems toward higher value, higher system capacities, higher resilience and lower capital expense, and toward independent European capabilities allowing Europe building the future orbital infrastructure and being competitive on the ISMA market.



**Higher value** means the part of the total mass of the space asset dedicated to the payload generating revenues is higher.



**Higher system capacities** will be provided by larger reflectors for communication or telescope and larger hub to integrate and operate numerous payloads.



**Higher resilience** comes from the built-in servicing capabilities of the spacecraft.

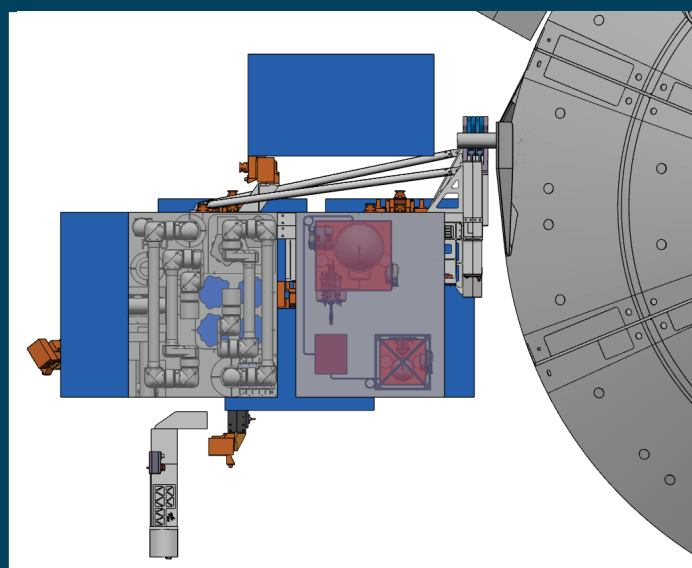
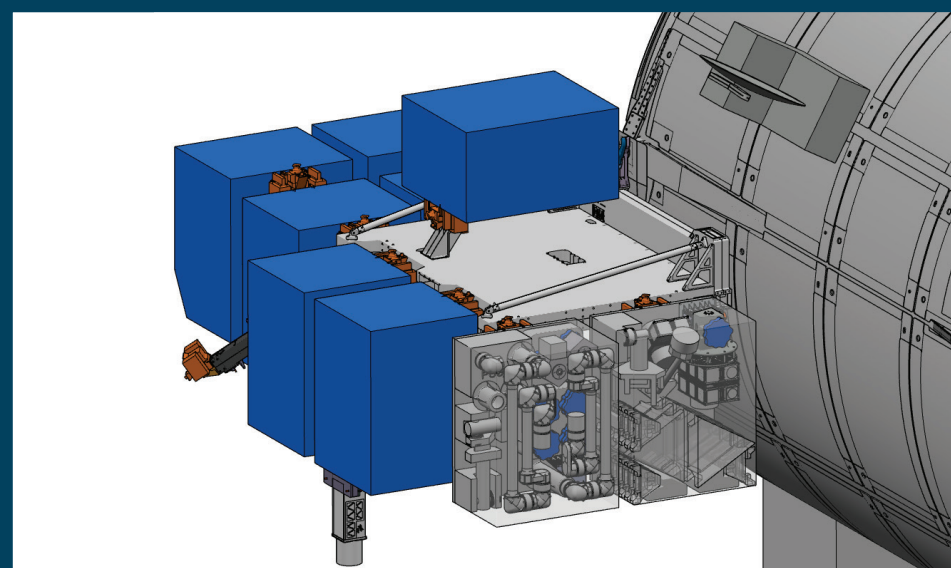
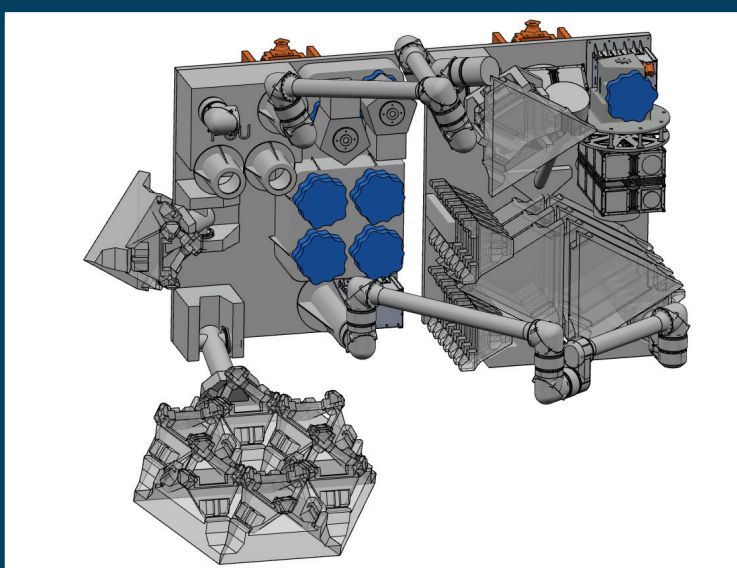


**Lower capital expense (Capex)** for providing additional and new capacities is made possible as not the overall spacecraft needs to be replaced on a regular basis but potentially only the parts related to the payload.

### ORBITAL FACTORY ACCOMMODATION

Initially the slots will be occupied by:

- the factory box containing robotic manipulators, required tools, the system avionics and observation hardware.
- a satellite assembly box including the required material and workbench infrastructure.



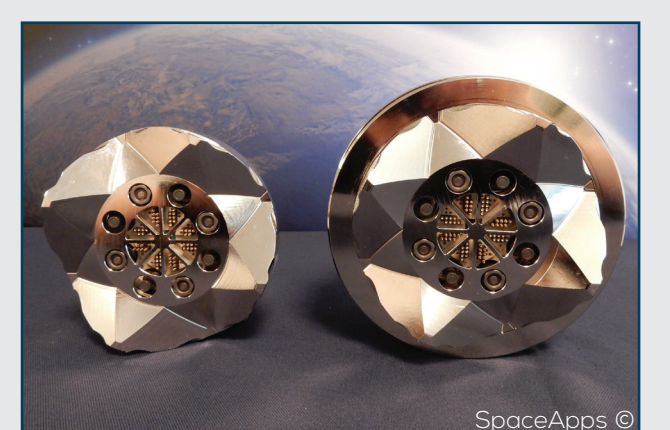
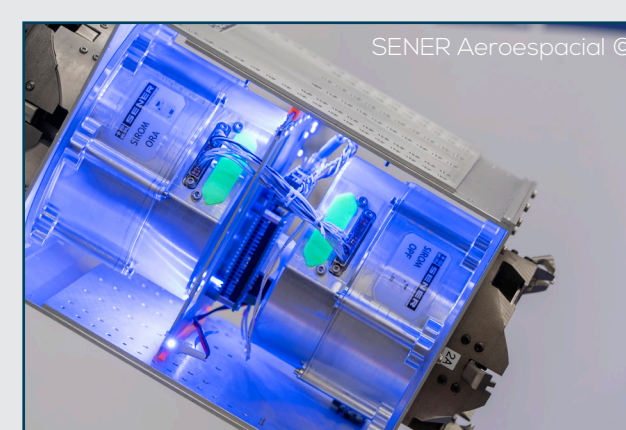
After the successful demonstration of the satellite assembly and re-configuration, the empty box will be replaced by an attachment and refueling element providing both the fuel depot as well as to receive a Xenon propellant (used for electrical propulsion).

### TECHNOLOGY MATURATION & STANDARD INTERFACES BENCHMARKING



Further development of key technologies of the Strategic Research Cluster's Building Blocks is currently in progress to assure that by the end of the project phase A/B1 (2022) they are at TRL5.

The availability of reliable Standard Interfaces (SIs) is critical for ISMA applications. A benchmarking of the SI technologies SIROM and HOTDOCK is also in progress.



### OUR TEAM

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