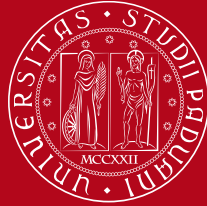


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Scienza e tecnologia per l'esplorazione spaziale

Giuseppe Ventura - 38th Cycle

Supervisor: Prof. Alessandro Francesconi

Admission to the first year - 09/11/2022

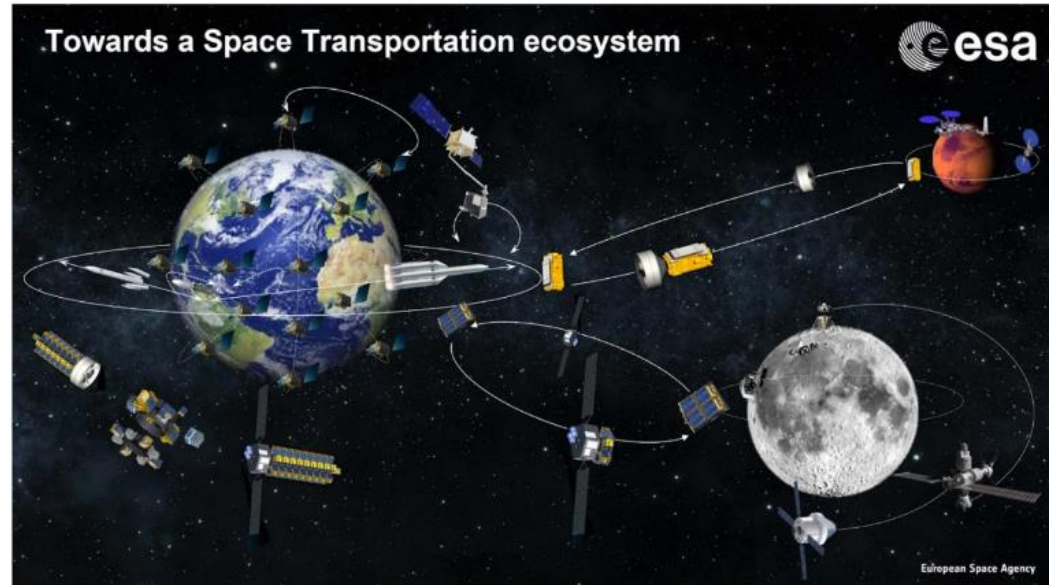
In-orbit servicing

In-space manufacturing and assembly

End-of-life management and active debris removal

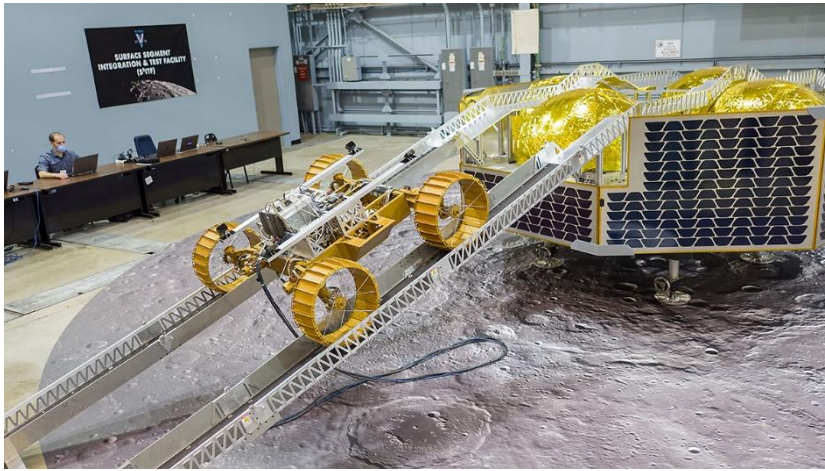
In-orbit infrastructures for energy and/or data exchanges

Return to Earth



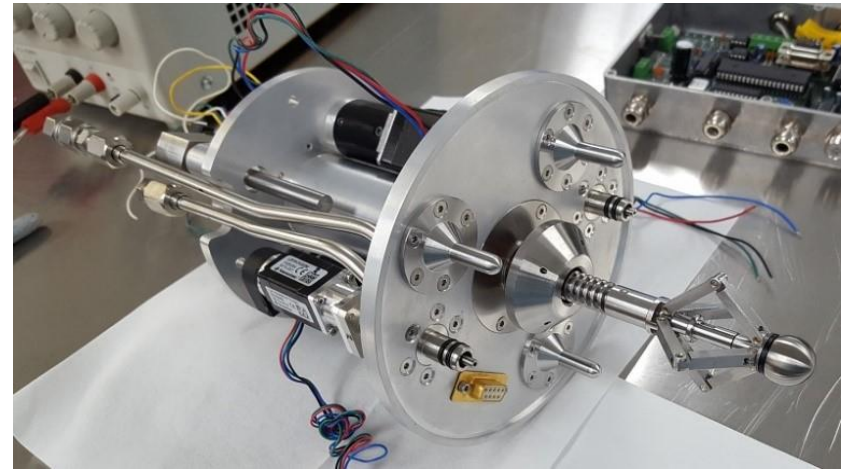
Robotic systems

Planetary exploration



VIPER rover

In-orbit servicing



ASSIST docking system

Identification of key technologies for space robotic systems

Conceptual design of the robotic system concepts

Optimization of the conceptual design and its realization

State of art definition

- Systems type analyses
- Environmental scenarios and constraints definition
- Mechanisms, interfaces and sensor analysis

Conceptual design

- Functional requirements definition
- Mechanisms, interfaces and sensor design
- Virtual prototyping, simulations and testing

Prototyping and testing

- Detailed design, manufacturing and assembly
- Experimental campaign

Thanks for the attention

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