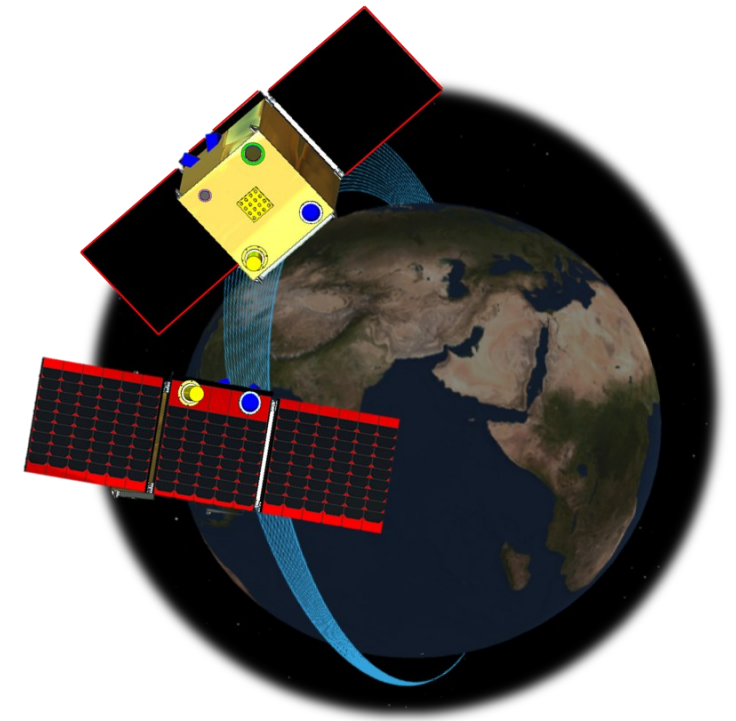The Institute of Space Systems (IRS) at the University of Stuttgart aims to advance the cost-effective and reliable exploration of the middle Earth orbit (MEO) with its own satellite mission:
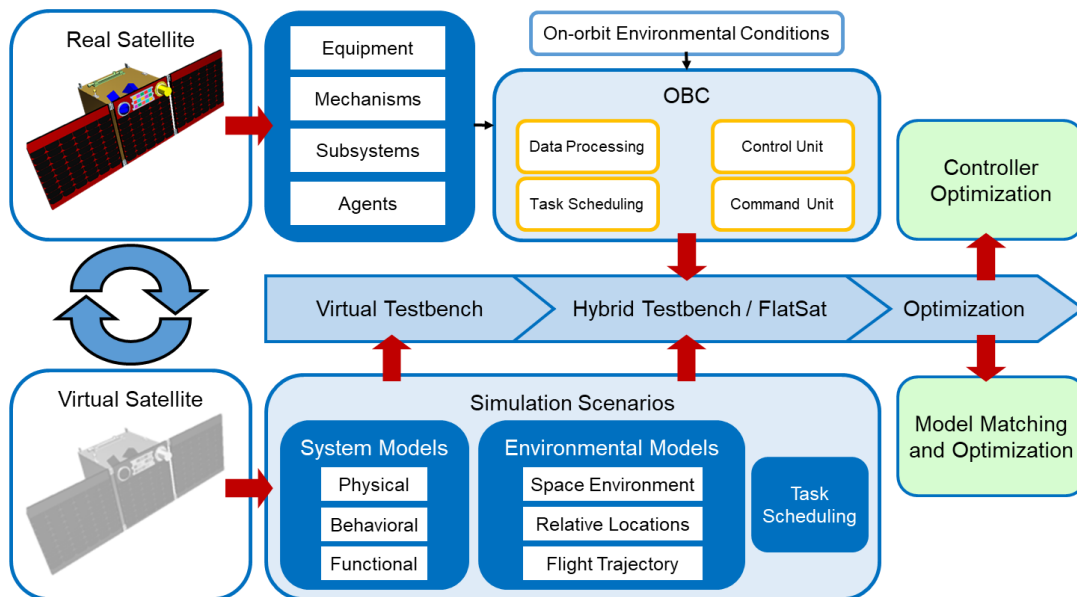
ROMEO (Research and Observation in Medium Earth Orbit)

The satellite is intended to demonstrate that operation under high radiation exposure of the MEO is possible with commercial components.

To ensure the reliability of design and effectiveness of this mission, the development of a ***real-time satellite systems simulator*** is in process. The virtual representation of the ROMEO satellite is subsequently utilized in both Software-in-the-Loop (SIL) and Hardware-in-the-Loop (HIL) simulations.

If you're a student with an interest in simulation sciences and programming in a fast-growing language like **Rust**, you can join our SimLab at the IRS to work on your **Bachelor's or Master's thesis** in one of the following areas:

- **AOCS actuator system simulation**
- **GNSS system simulation**
- **Telecommunication system simulation**
- **Water-based propulsion system simulation**
- **Electrolyser unit system simulation**

If you're interested or have any questions, please don't hesitate to contact Bahareh Vossoughi at:

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