

A Vision for Future Space Exploration Missions

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Main Challenges:

- Technological
- Physiological

- Lift capabilities
- Engines
- Life Support Systems
- Energy production
 - Systems
 - Crew
- Materials, duration, maintenance...

- Present, near future
 - Launchers
 - Spacecraft
 - Space Stations

Launchers and Spacecraft: Soyuz



Launchers and Spacecraft: Soyuz







Launchers and Spacecraft: CST 100 'Starliner'



Launchers and Spacecraft: Falcon 9



Launchers and Spacecraft: Dragon







Launchers and Spacecraft: Long March





Space Stations: ISS

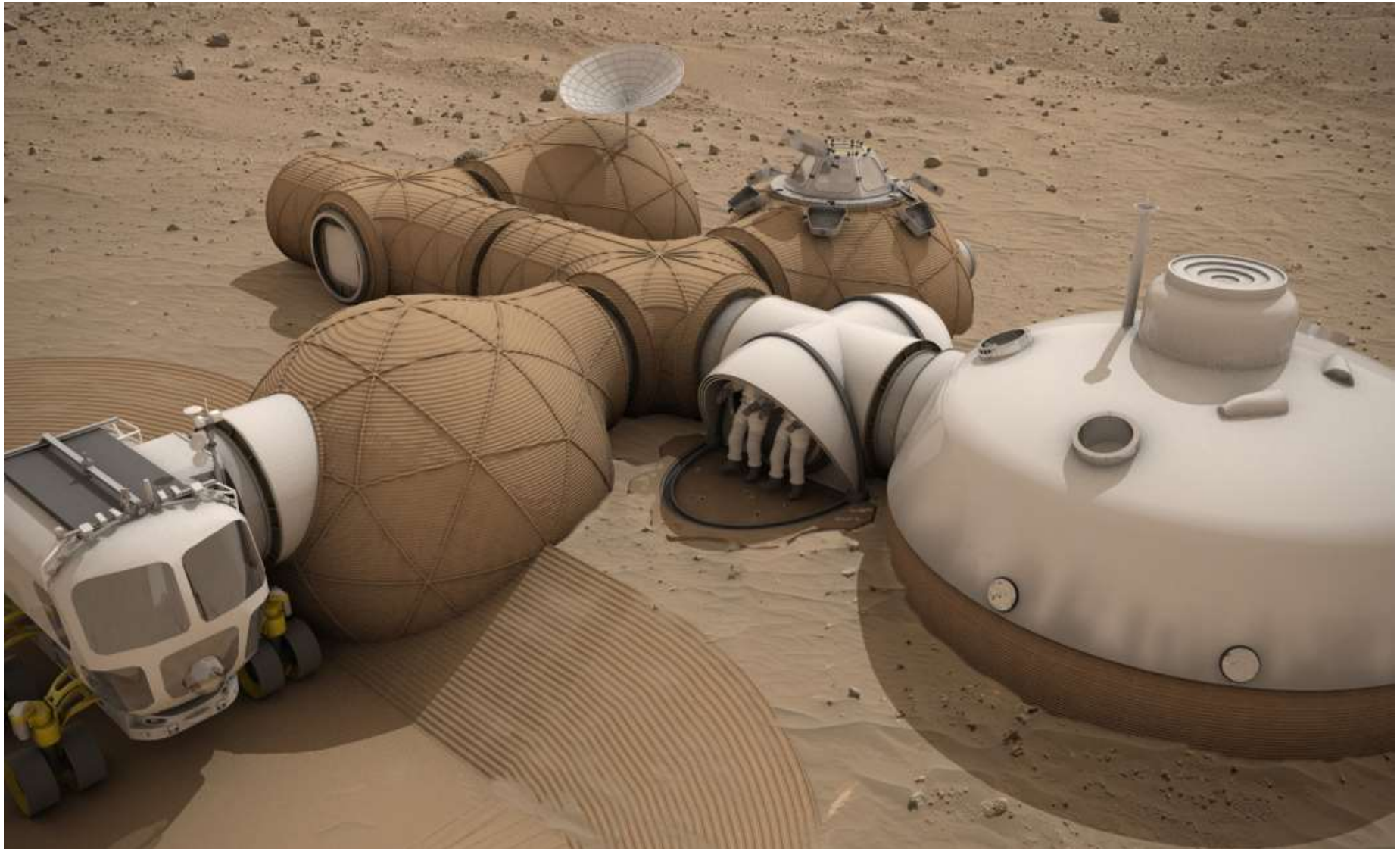


- Far future
 - Moon
 - Travelling to the Moon
 - L1 – L2 Habitats
 - Moon Habitats





- Far future
 - Mars
 - Travelling to Mars
 - Mars Habitats

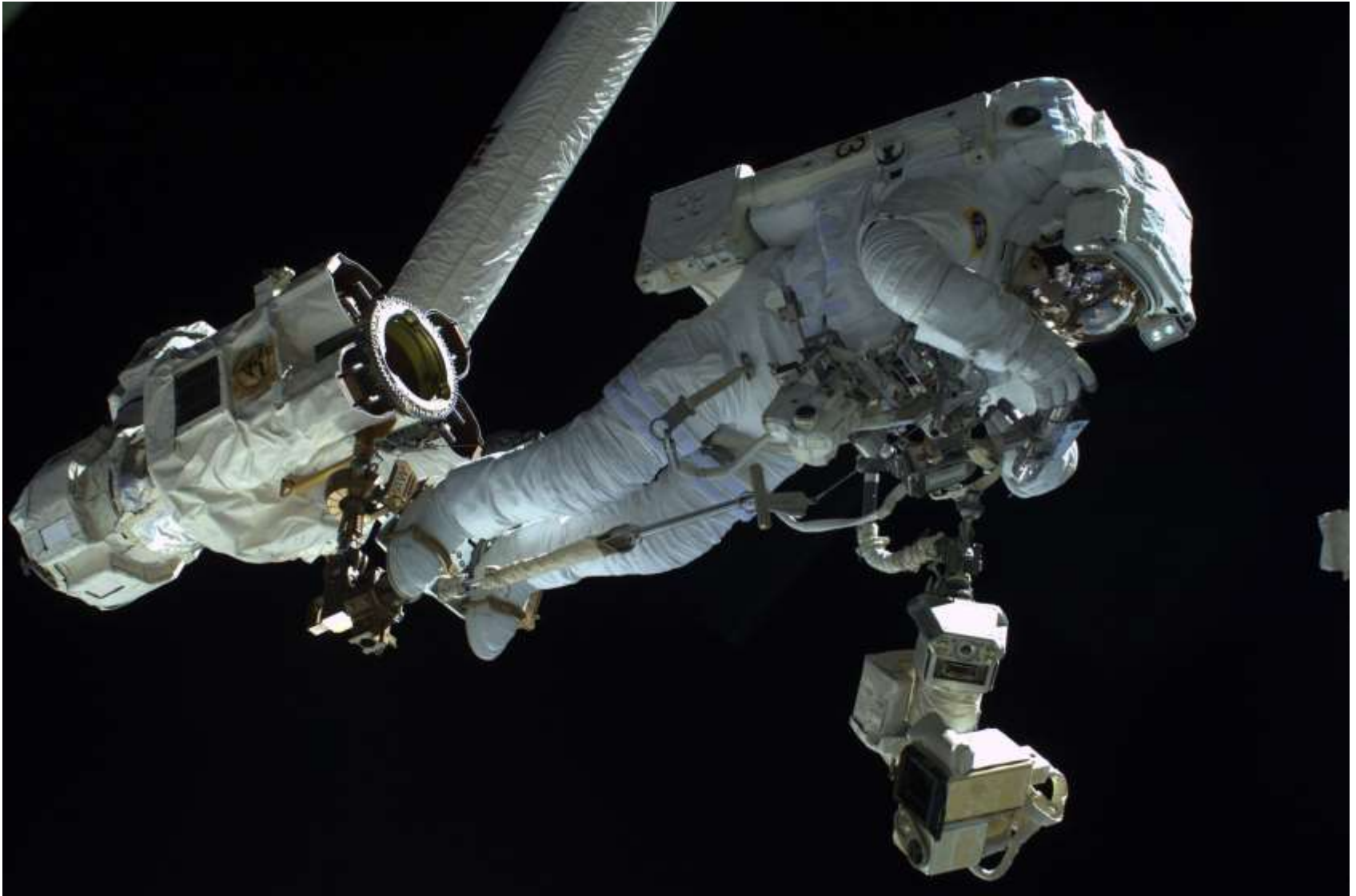


Main Challenges:

- Technological
- Physiological

- Cardio Vascular
- Osteo Muscular
- Passive – active systems
- Ongoing studies
- Energy intake/output
- Radiations
 - Shielding
 - Magnetosphere

- Present, near future
 - ISS



Penguin suits













Spinal Ultrasound



Spinal Ultrasound



Spinal ultrasound











Orthostatic research













Energy intake - precapture











- Far future
 - Moon
 - Mars

- Far future
 - Moon
 - Mars
 - radiations
 - Nanotechnology
 - Cryotechnology
 - DNA

Would you like to know more?

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