TELEOP

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Introduction

Figure 1: Apollo 15 EVA1 Station 2 [1]

TELEOP

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Impact of confinement and isolation on the crew performances during teleoperation activities in long-term exploration missions.

- Hypothesis:
  - Increase of confinement.
  - Lowest motivation levels in the middle of the mission.
  - Mental state of operator varies on confinement –> Engagement.
  - Teleoperation performance is affected by engagement.

- Protocol:

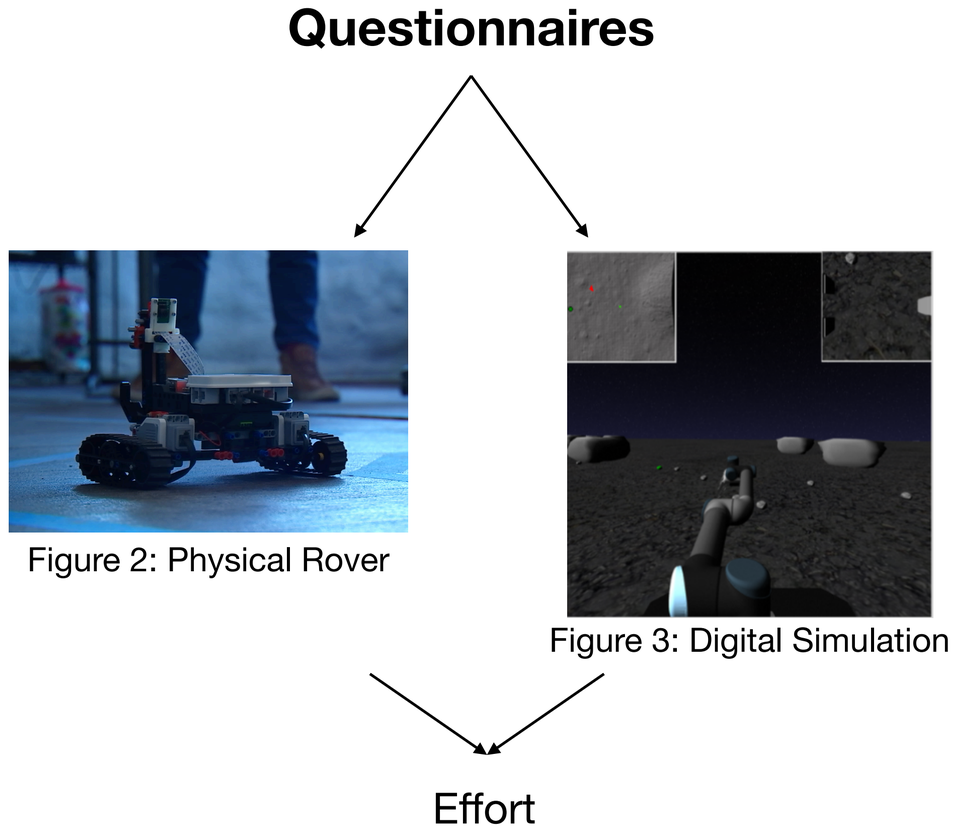

Figure 2: Physical Rover

Figure 3: Digital Simulation

TELEOP

- Experimental Methods:

Figure 4: MDRS-189 [2]

MDRS-189

- Isolation.
- 3 weeks.
- 7 crew members (6+1).
- 4 TELEOP sessions.
- Protocol: Physical rover.

Figure 6: MDRS-206 [2]

MDRS-206

- Isolation.
- 3 weeks.
- 6 crew members (5+1).
- 9 TELEOP sessions.
- Protocol: Physical and Digital rover + Training.

Figure 5: ARES III [3]

ARES III

- Confinement and Isolation.
- 2 weeks.
- 6 crew members (5+1).
- 4 TELEOP sessions.
- Protocol: Physical rover.

Figure 7: SIRIUS-19 [4]

SIRIUS-19

- Confinement and Isolation.
- 4 months.
- 6 crew members.
- 21 TELEOP sessions.
- Protocol: Digital rover + Training.

TELEOP in the future?

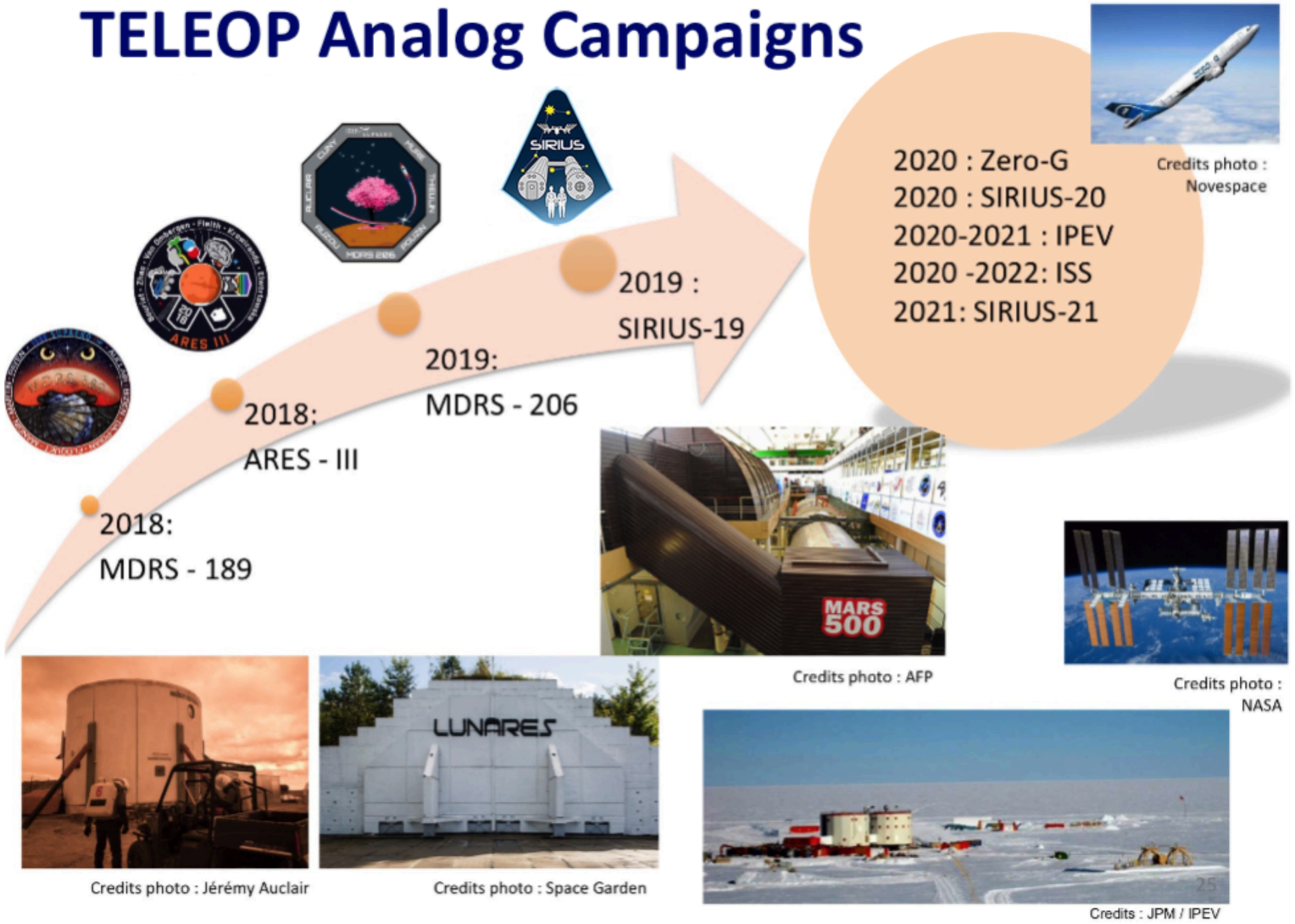

Figure 8: Timeline of TELEOP

References

1 **Source of Figure 1:** Lunar and Planetary Institute. APOLLO SURFACE PANORAMAS. https://www.lpi.usra.edu/resources/apollopanoramas/pans/?pan=JSC2011e118359

2 **Source of Figure 4, 6:** The Mars Society. THE TIME HAS COME TO GO TO MARS. http://www.marssociety.org

3 **Source of Figure 5:** Rêves d'Espace. ARES III : UNE MISSIONS MARTIENNE… EN POLOGNE ! https://reves-d-espace.com/ares-3-une-mission-martienne-en-pologne/

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