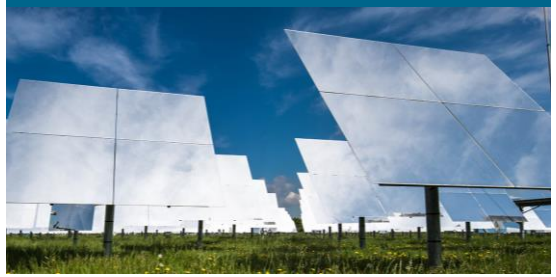
DLR‘S ACTIVITIES IN THE US

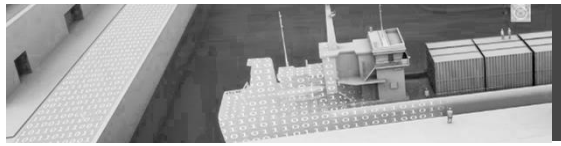
Dr. Thomas Mernik

DLR Washington Office

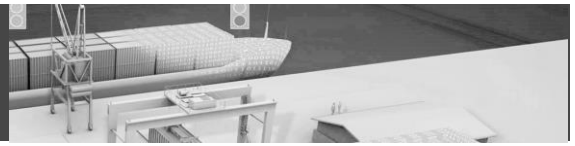
DLR OVERVIEW

Research Centre + Space Agency + Project Management Agency

AERONAUTICS	SPACE	ENERGY	TRANSPORT
			



SECURITY
Civil & defence security research



DIGITALISATION within all research areas
Quantum technologies & system modelling

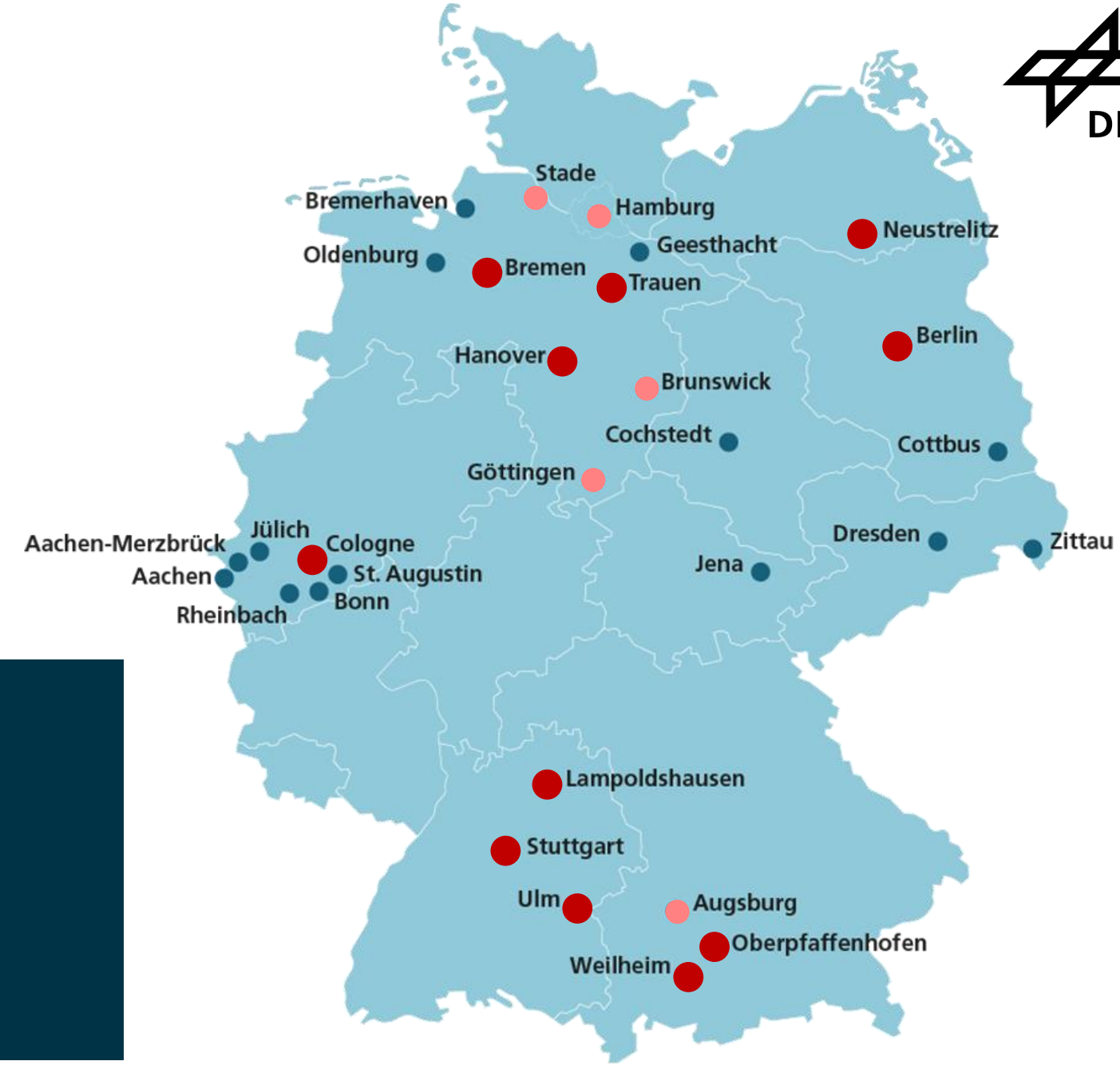
- Europe’s largest research centre for aeronautics and space
- Close cooperation with the scientific community, business and industry
- Participation-led ministry BMFTR, institutional funding by BMVg
- Project funding by BMI, BMU, BMZ, etc.

DLR at a Glance

- 55 institutes and facilities
- 30 sites across Germany
- 4 international offices:
  Brussels, Paris, Tokyo, Washington
- Research infrastructure across the globe, e.g. in Spain, Canada, Antarctica
- More than 11,000 employees

DLR Space Research:

- Main locations
- 33 Institutes and 3 facilities
- 2 Ground stations abroad:
  O'Higgins (OHG, Antarctica),
  Inuvik (INU, Canada)

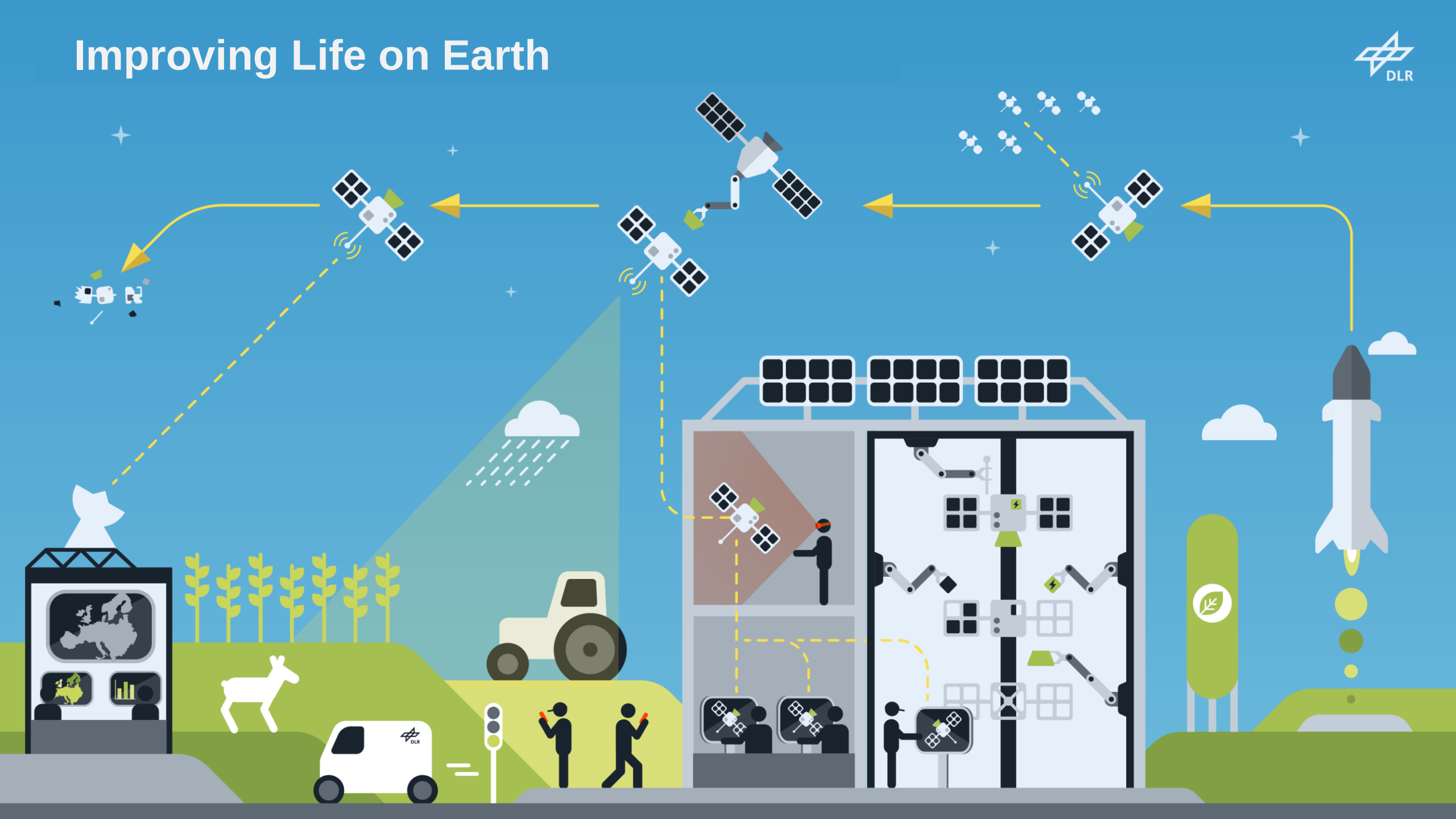


DLR Washington D.C. Office

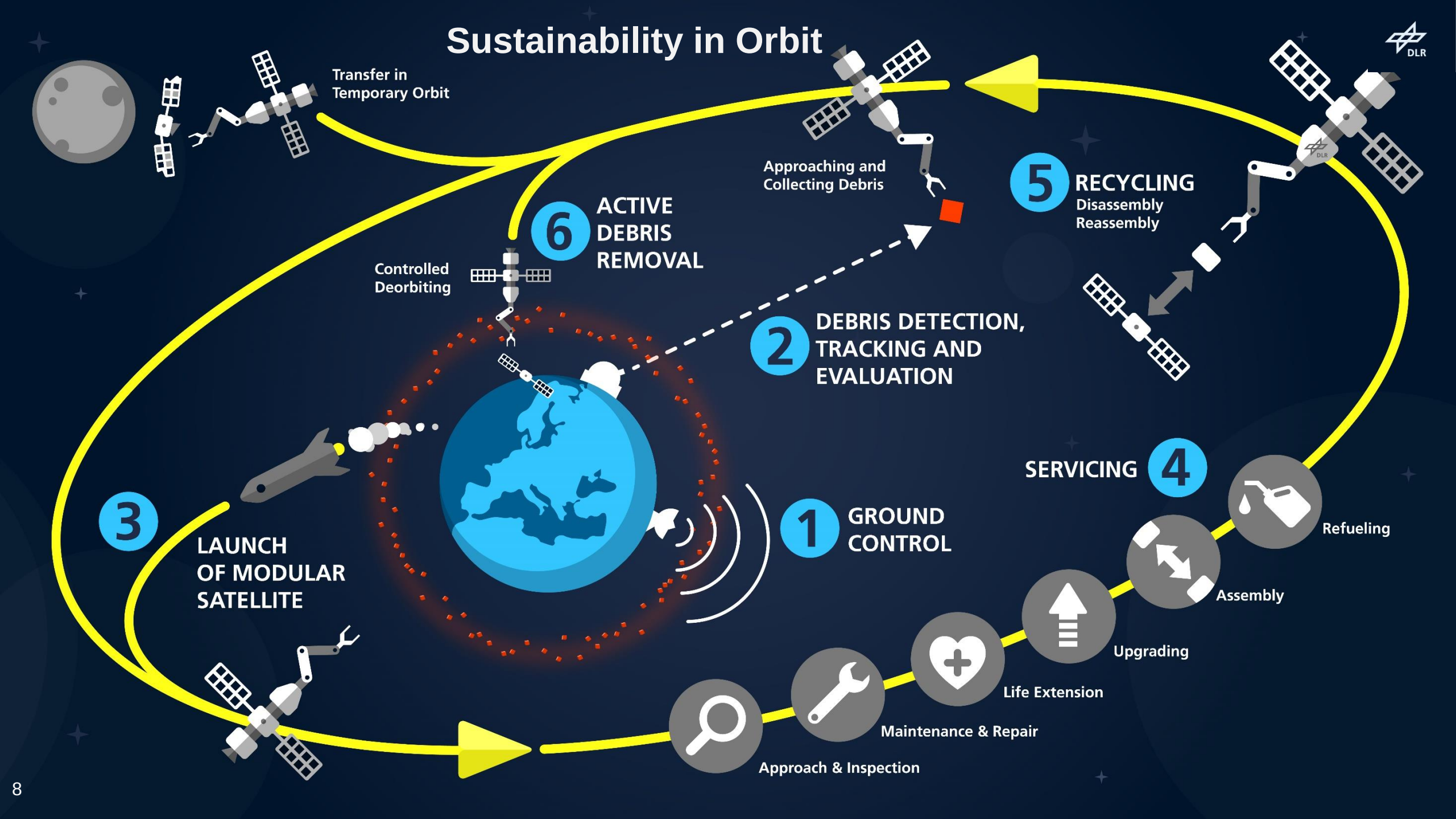
- Covering United States and Canada
- Representation of DLR
- Establishing, developing and maintaining relations with partner organizations from government, academia, universities, industry and international institutions
- Supporting ongoing and kicking-off new collaborations
- Analysis and reporting of policy, research, and technology developments
- Outreach about DLR’s activities and collaboration opportunities
- Planning, organization and support of DLR and political delegation visits
- Promotion of the exchange of personnel between US / Canadian institutions and DLR
- Supporting German industry and research activities

SPACE RESEARCH

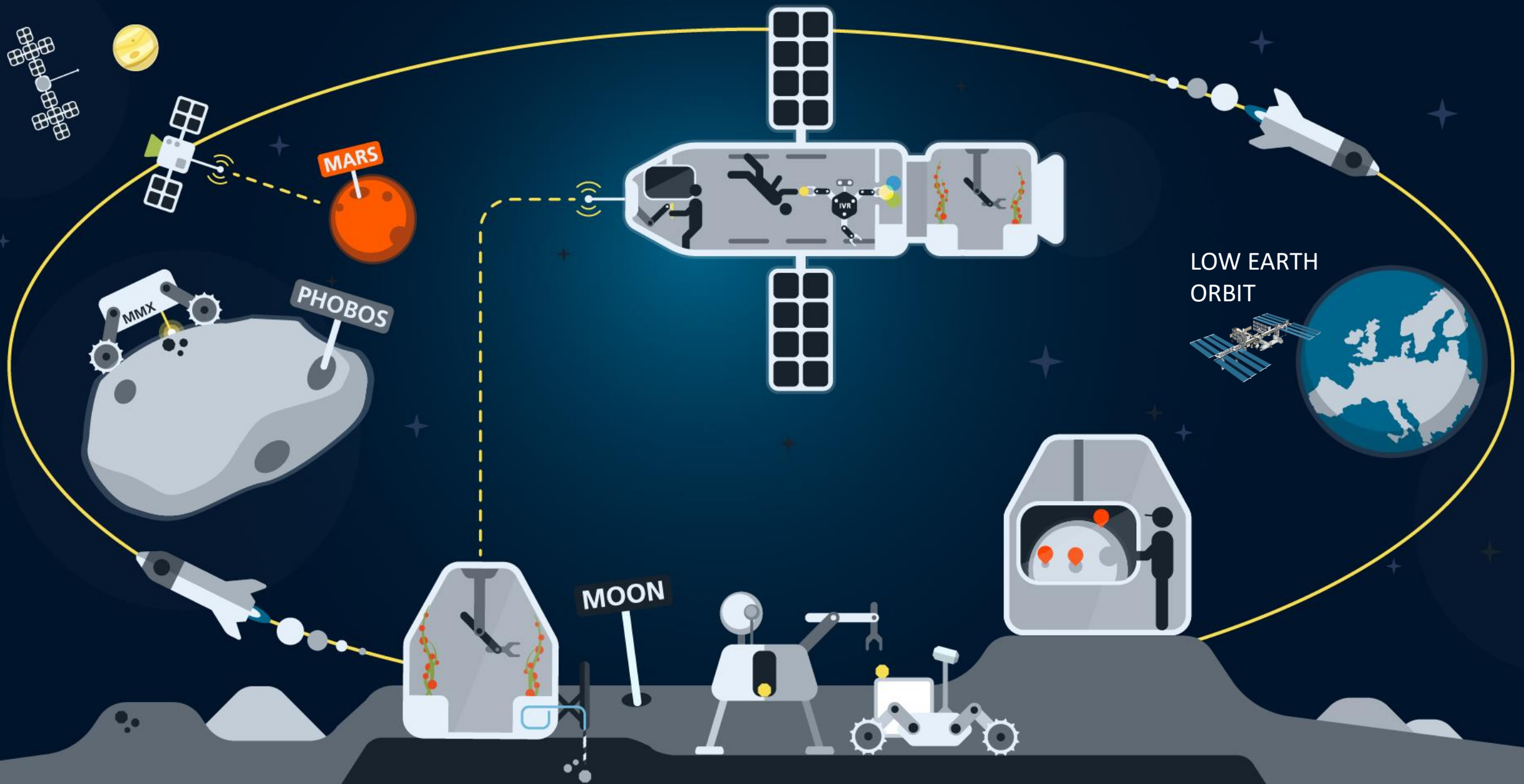
Improving Life on Earth



Sustainability in Orbit



Space Exploration And Accessibility

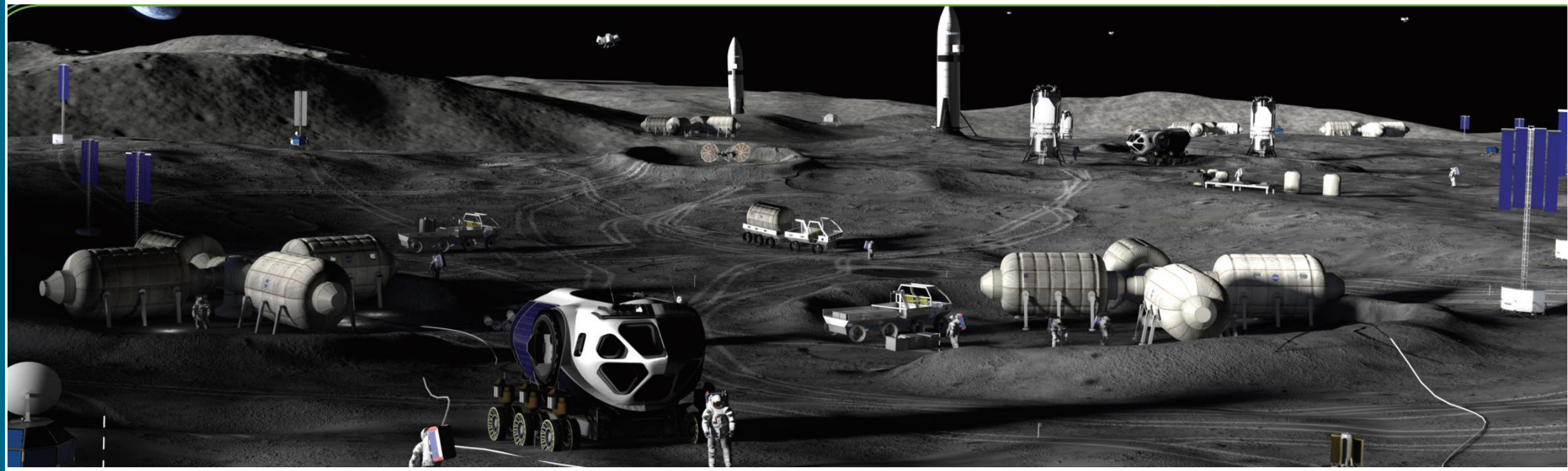


Space Research Infrastructure

DLR/NASA Collaboration

Recent Developments in the US

- Lifetime extension of the ISS
- Lunar Gateway put on hold
- Creation of a permanent lunar outpost
- Plans to launch a nuclear reactor into space



[www.nasa.gov/architecture, moon users guide]

Impact on International Collaboration

US/NASA is in lead, partner nations have limited options to influence policy

Envisaged launch cadence and milestones hard to meet with traditional approach

International contributions need financial committment by the partner countries, TBD.

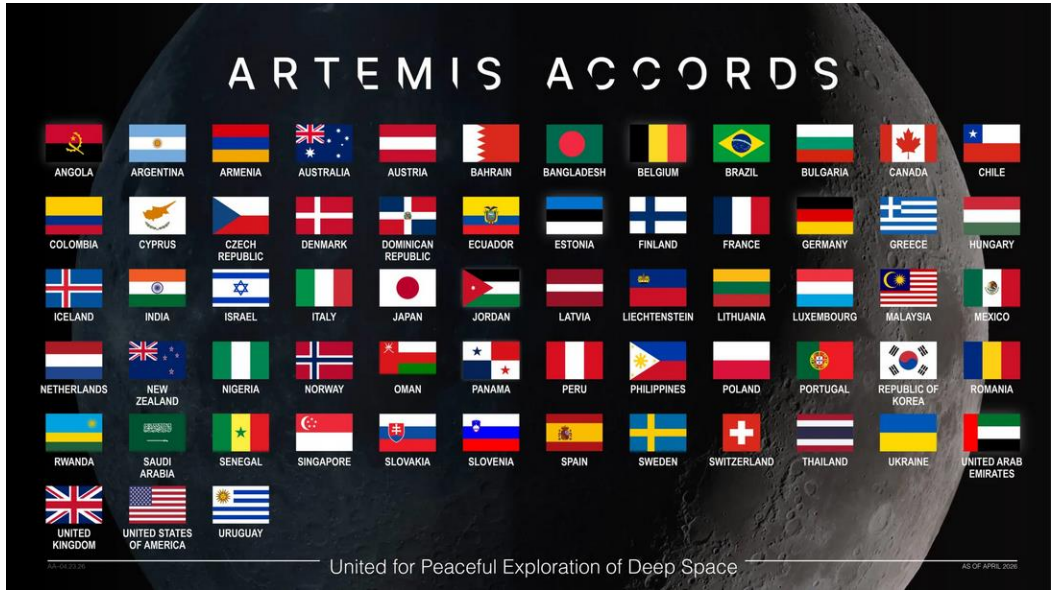
Big industrial calls open to US companies only

Artemis Accords Signatories invited to participate

Due to the ambitious timeline NASA will have to rely strongly on already available technologies and knowhow.

30 bn US$ will be invested until the mid 2030s

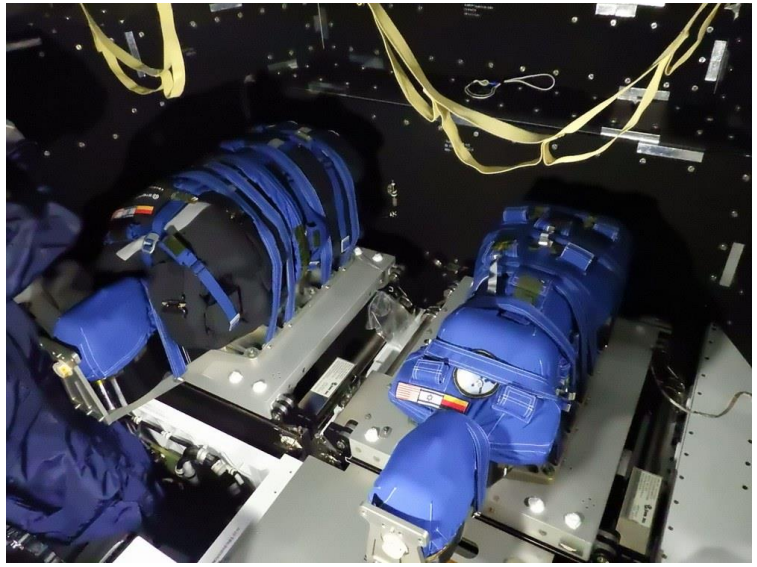
Great oportunities for academia and industry

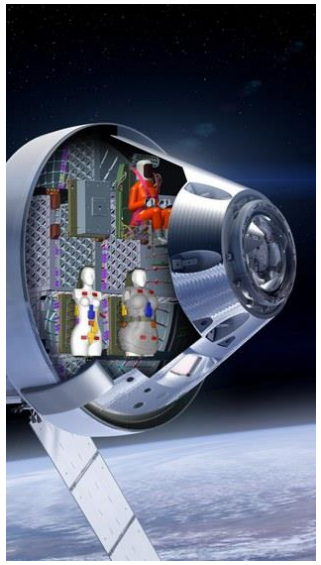


[www.nasa.gov/architecture]

Artemis 1 - MARE

MARE cosmic radiation experiment on board Artemis I.

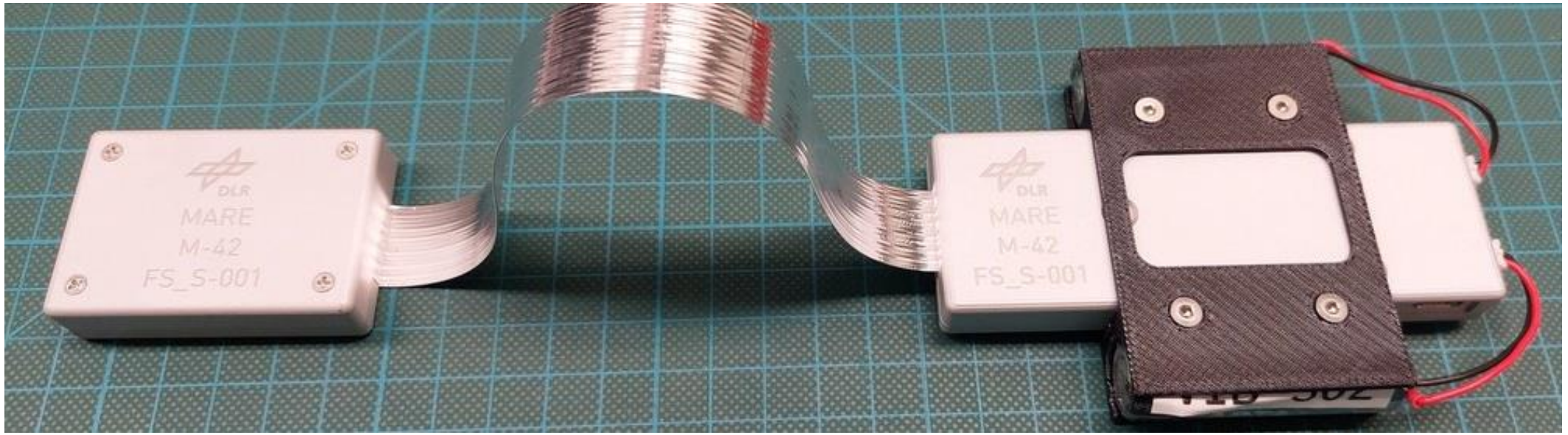




- The two ‘phantoms’ of the Matroshka AstroRad Radiation Experiment (MARE), flew to the Moon on the Artemis I mission, occupy two of passenger seats (Seat #3 and Seat #4) in the Orion capsule.

Artemis 2 - M-42 EXT Radiation Detectors

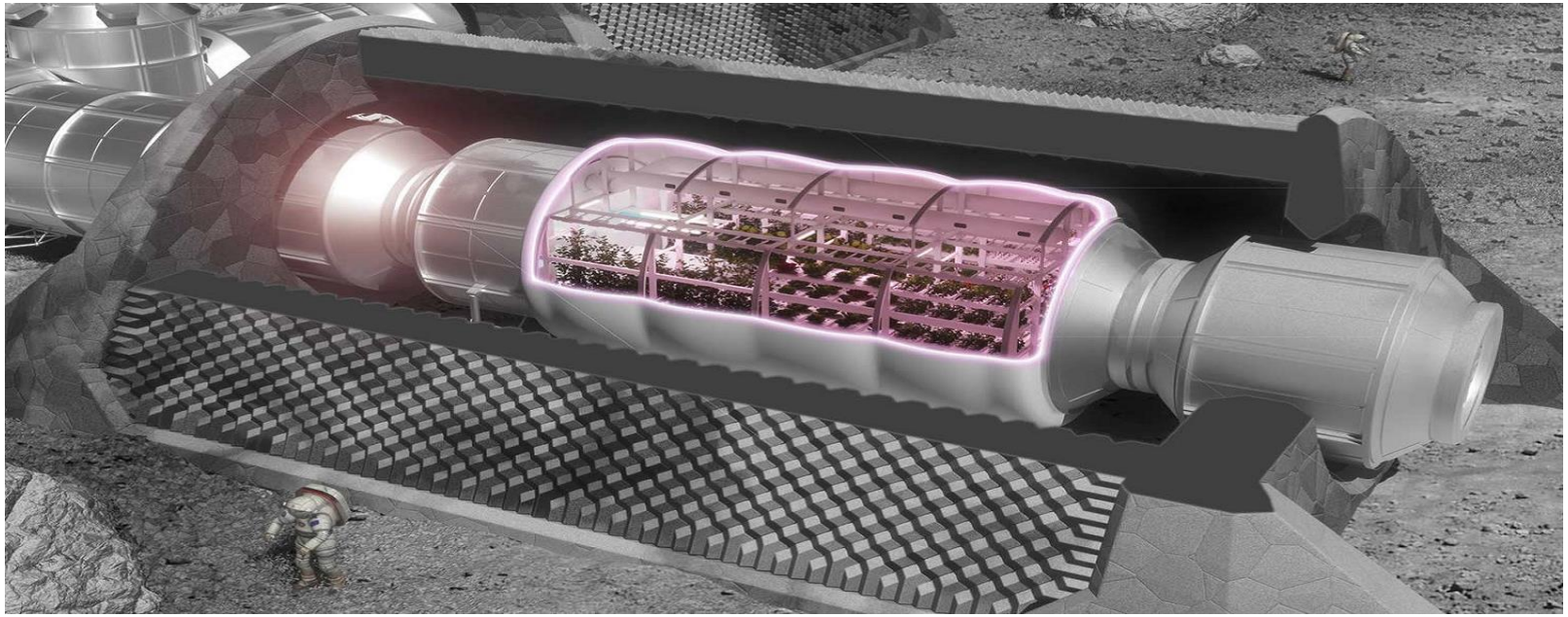
DLR provides advanced radiation sensors aboard the Orion spacecraft during NASA’s Artemis II mission.



- During the Artemis II mission’s planned 10-day journey around the Moon and back, four of DLR’s newly developed M-42 extended (M-42 EXT) radiation detectors will be on board, contributing vital data to support astronaut safety.
- This next-generation device represents a new phase of research as NASA and DLR continue working together to safeguard human health in space.

EDEN NEXT GENERATION

Bio-Regenerative Life Support System for the Lunar Surface.



- The Lunar Agriculture Module - Ground Test Demonstrator (LAM-GTD) provides for a simplified habitat simulator that is connected to the greenhouse ground demonstrator in order to simulate all the necessary interfaces, in particular the gas exchange, between the greenhouse and a future habitat.
- Experts from four DLR institutes, the Canadian Space Agency (CSA), the Canadian National Research Council (NRC) and associated partners from NASA and the ASI (Italian Space Agency) are involved.

THANK YOU VERY MUCH!

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