



Bartolomeo

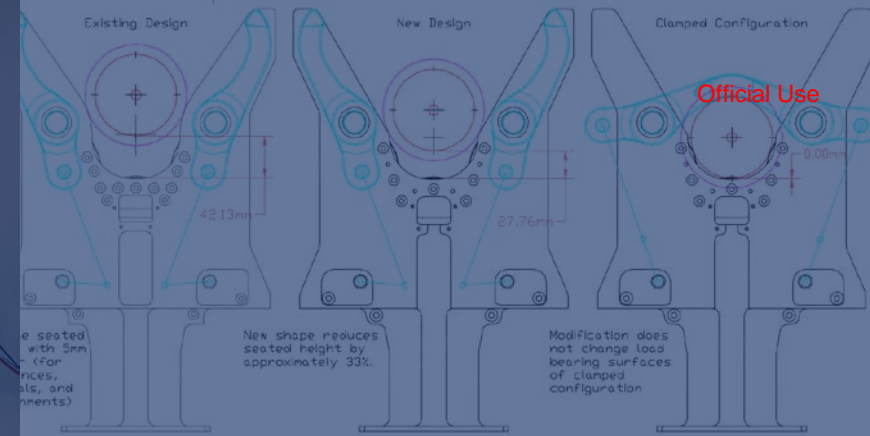
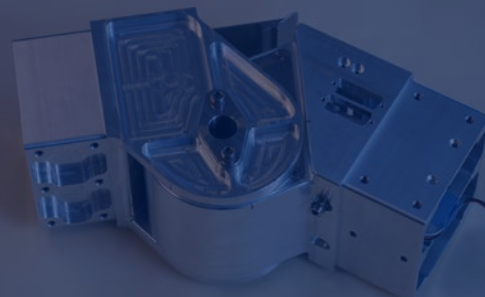
Your All-in-one Space Mission Service

DEFENCE AND SPACE

Dr. Christian Steimle, Simone Sasse

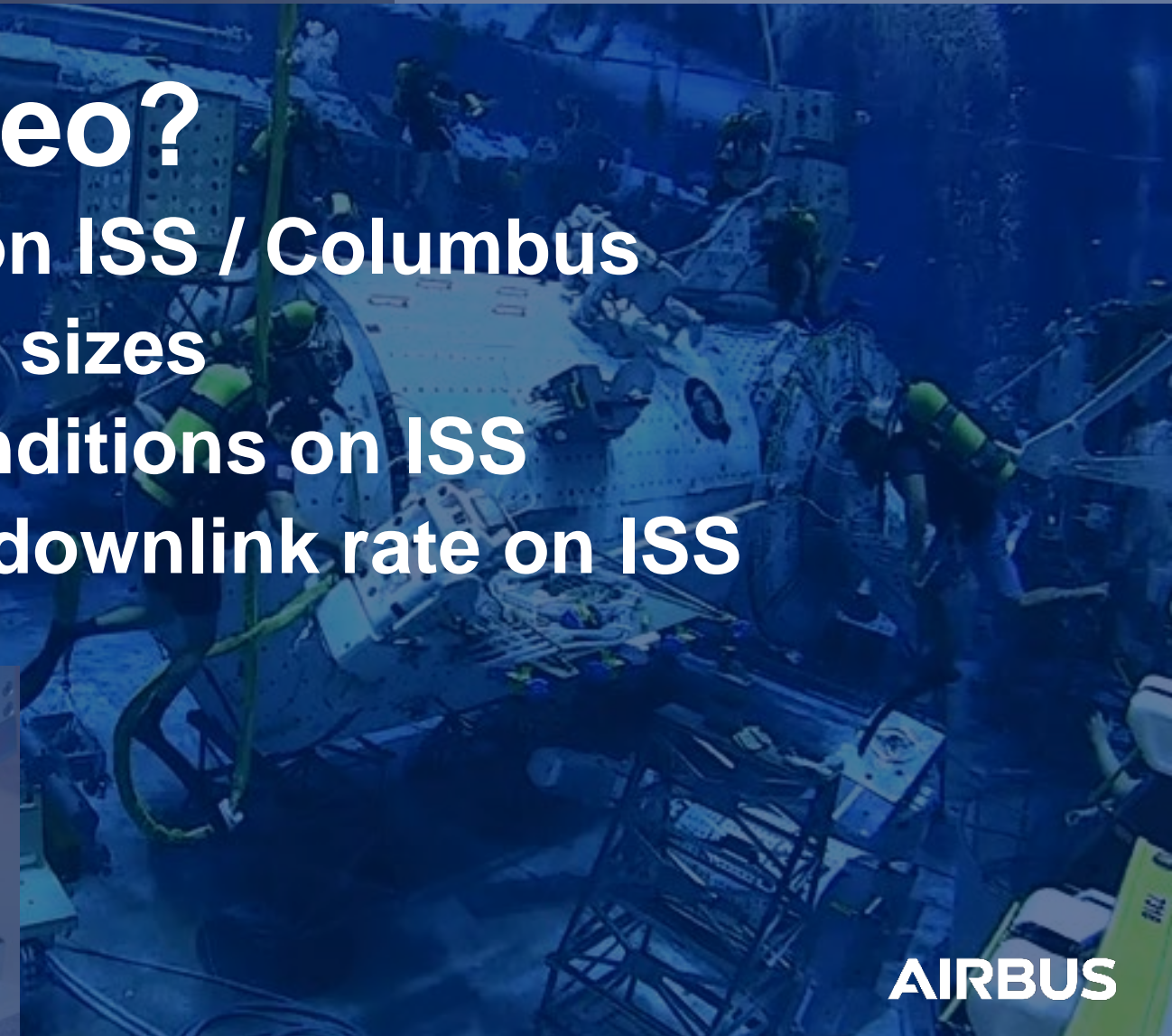
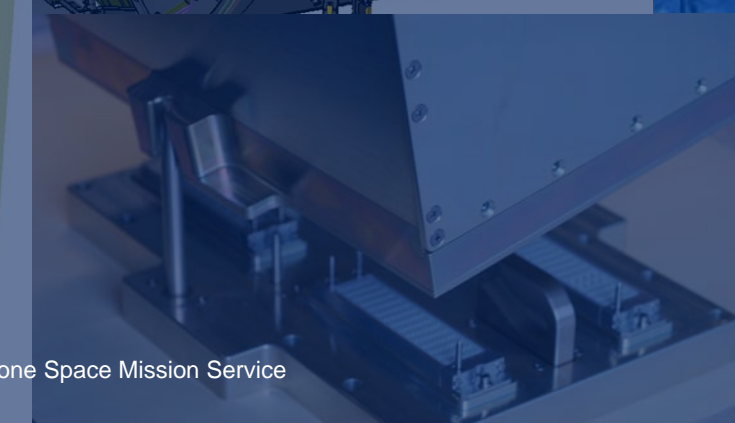
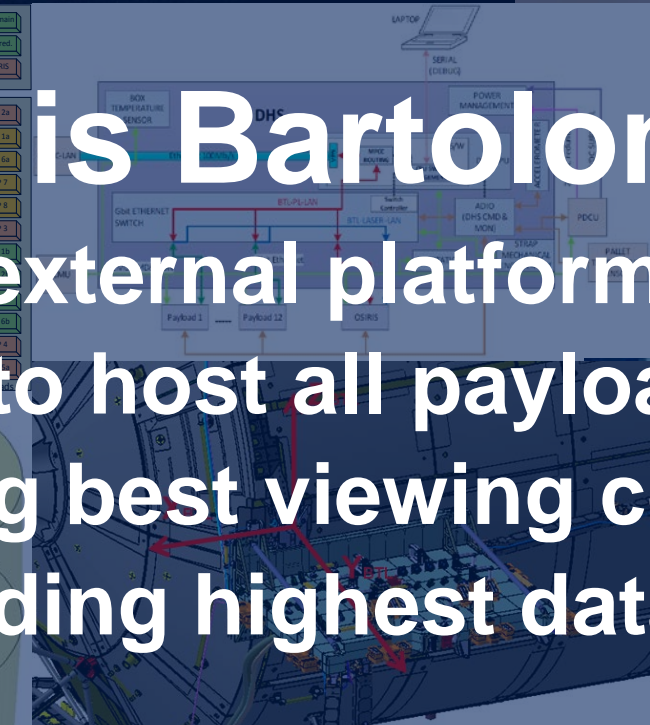
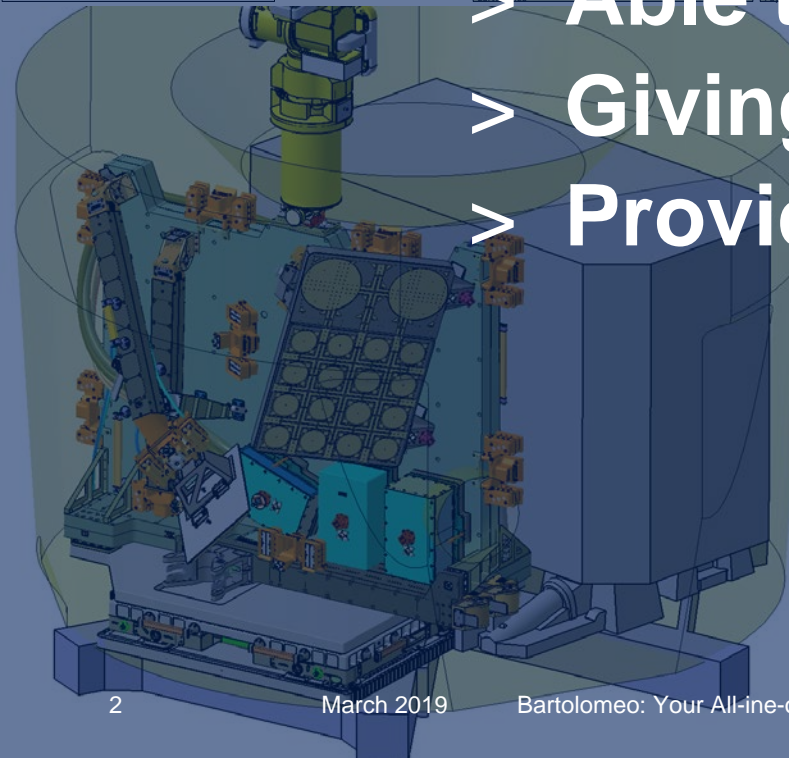
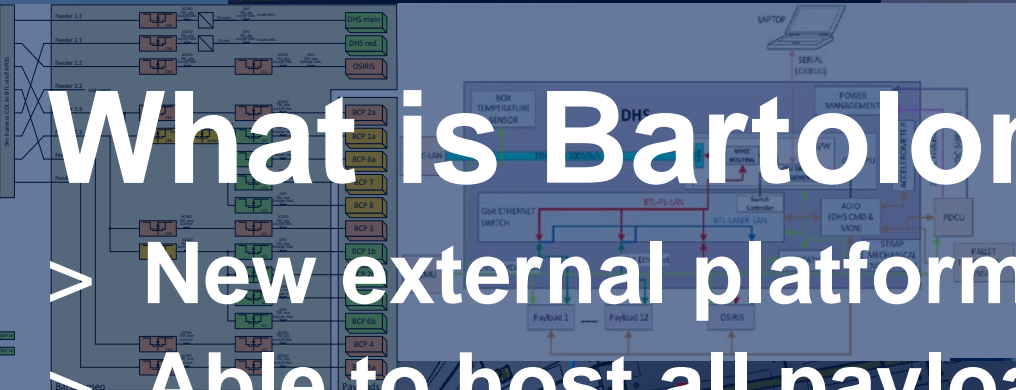
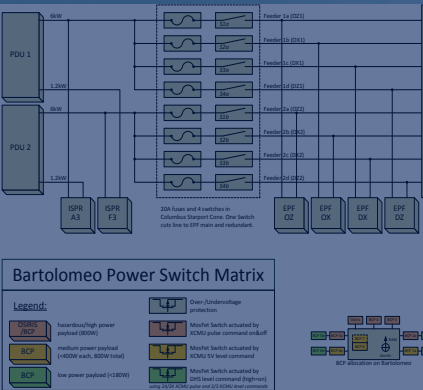
United Nations/Jordan Workshop: Global Partnership in Space Exploration and
Innovation, 25 - 28 March 2019

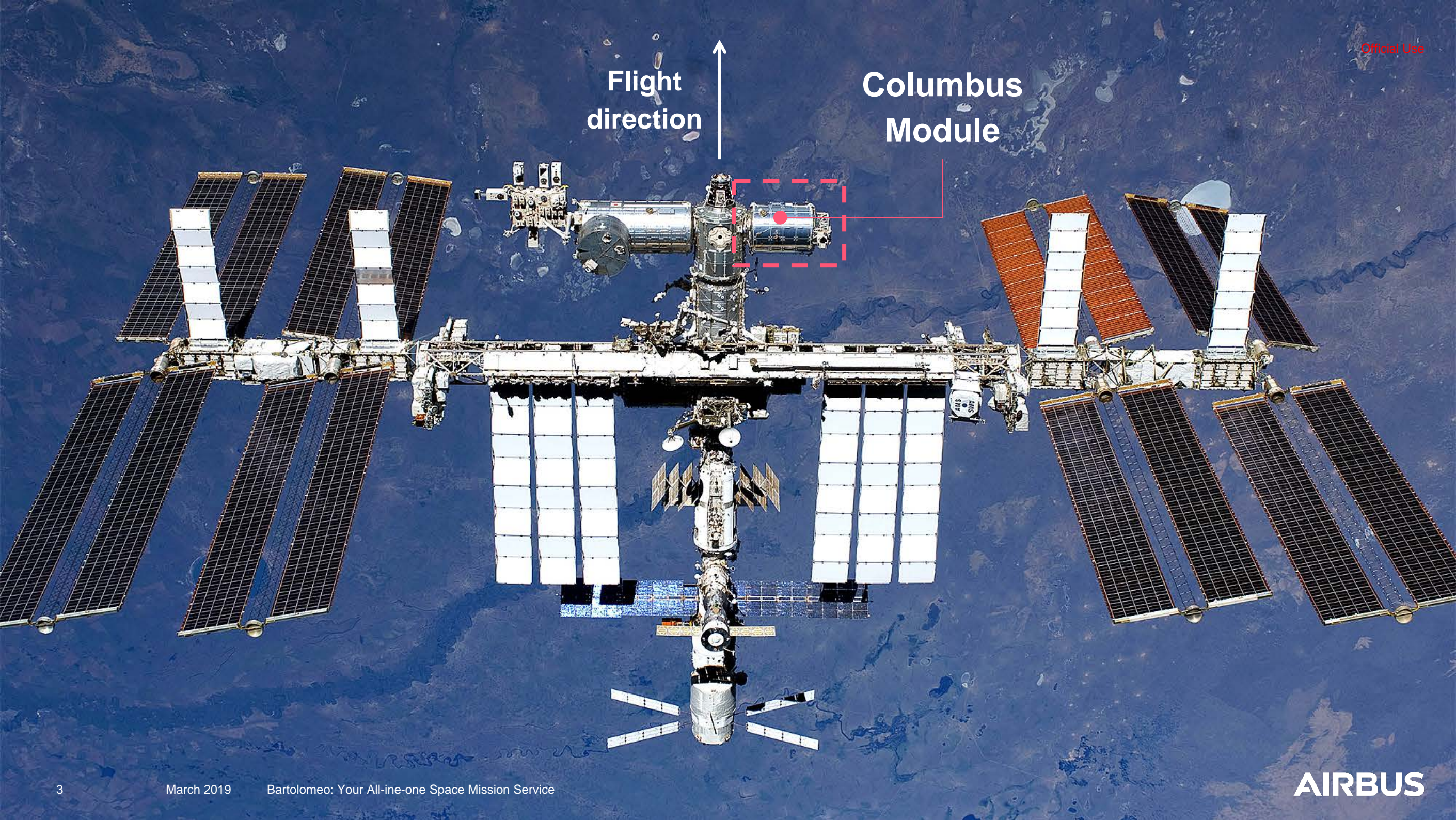
AIRBUS



What is Bartolomeo?

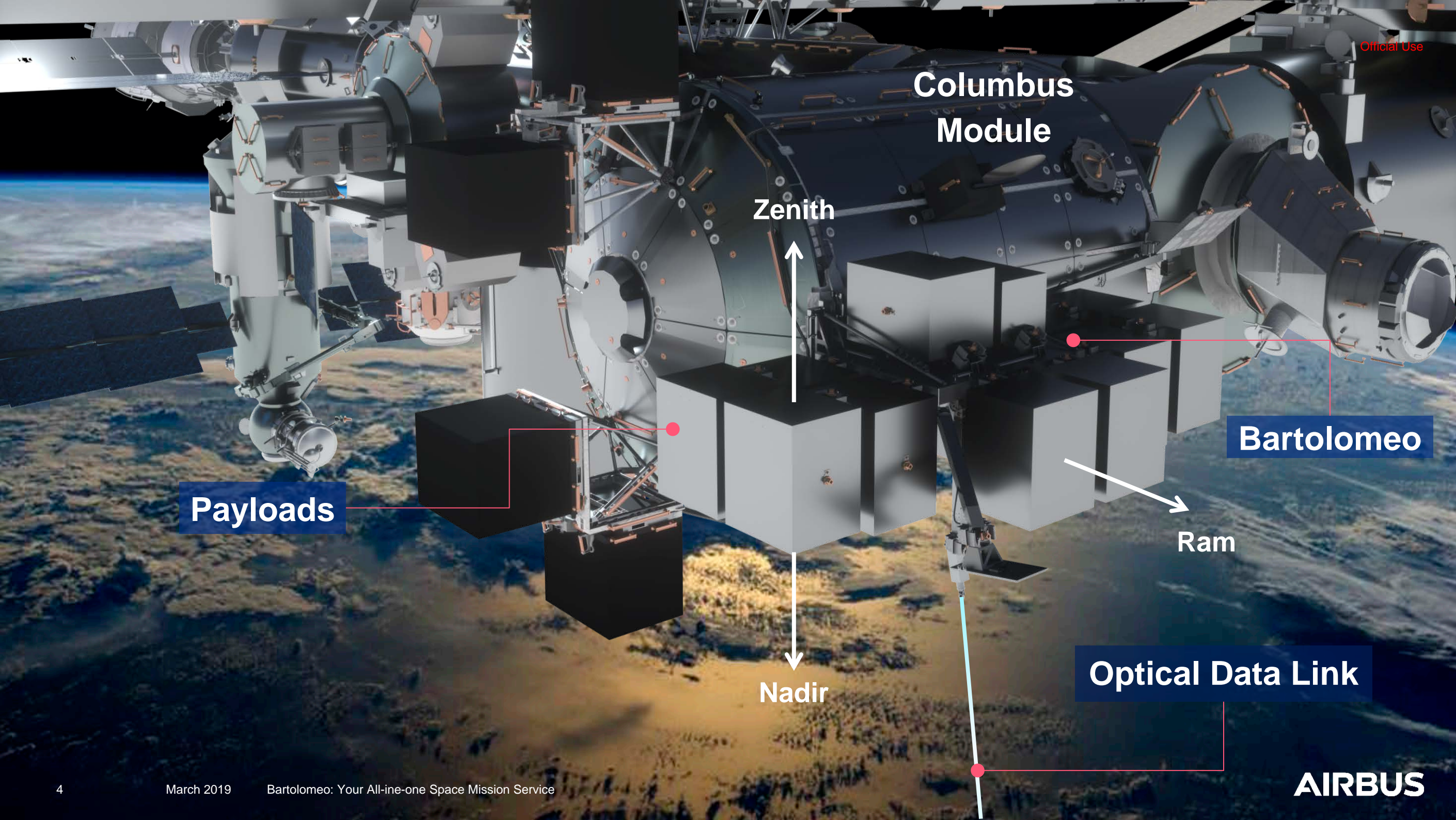
- > New external platform on ISS / Columbus
- > Able to host all payload sizes
- > Giving best viewing conditions on ISS
- > Providing highest data downlink rate on ISS





Flight
direction

Columbus
Module



Columbus Module

Zenith



Nadir



Payloads

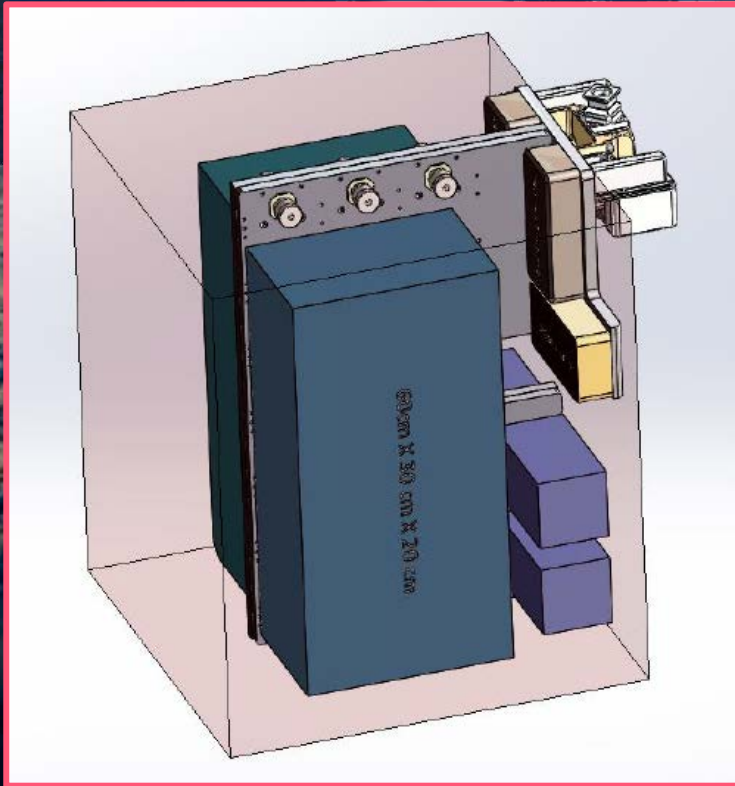
Bartolomeo

Ram

Optical Data Link

Columbus Module

ArgUS Multi-Payload Adapter



Zenith



Nadir



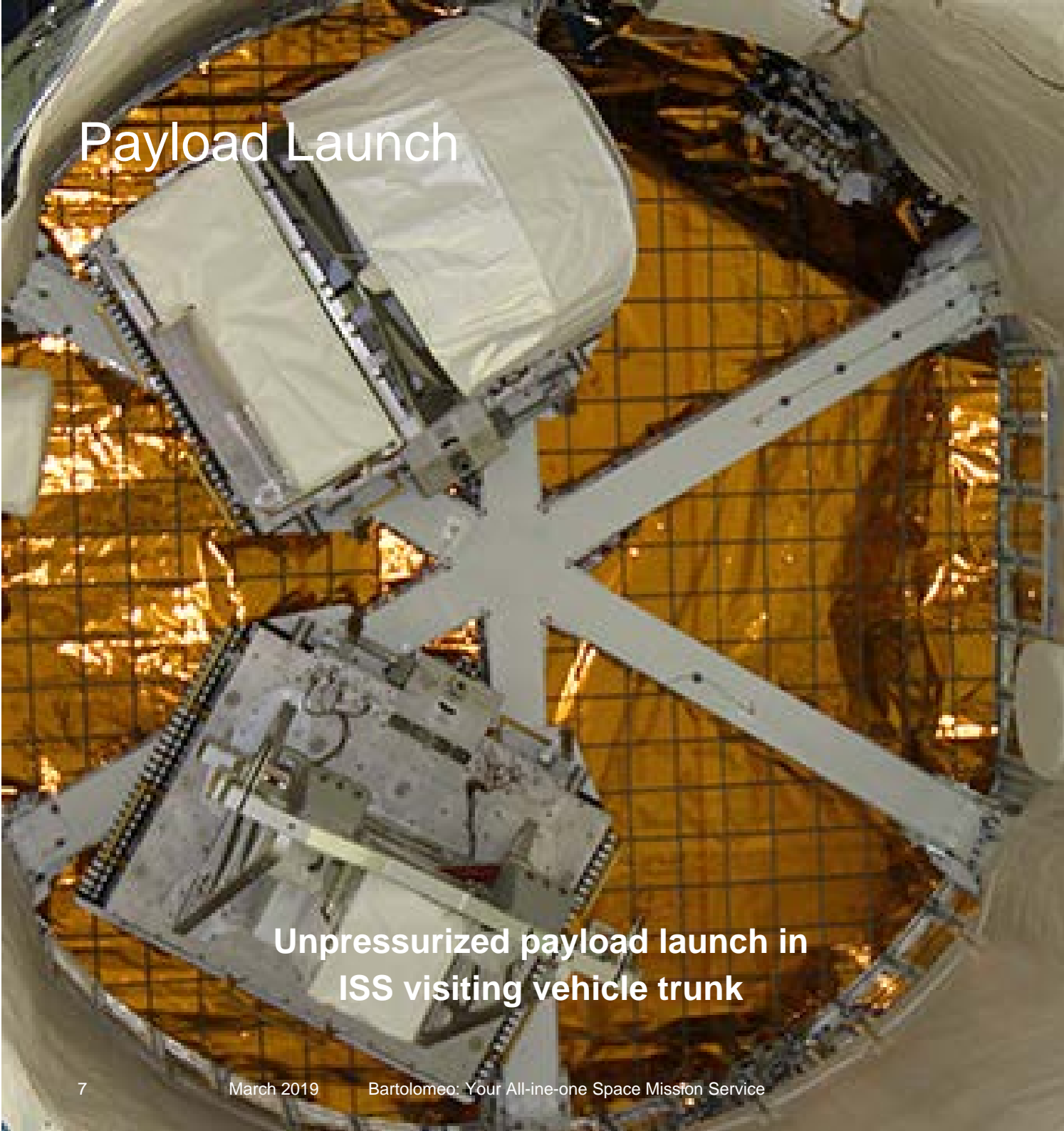
Bartolomeo

Ram

Optical Data Link

Bartolomeo Concept of Operations

Payload Launch



Unpressurized payload launch in
ISS visiting vehicle trunk

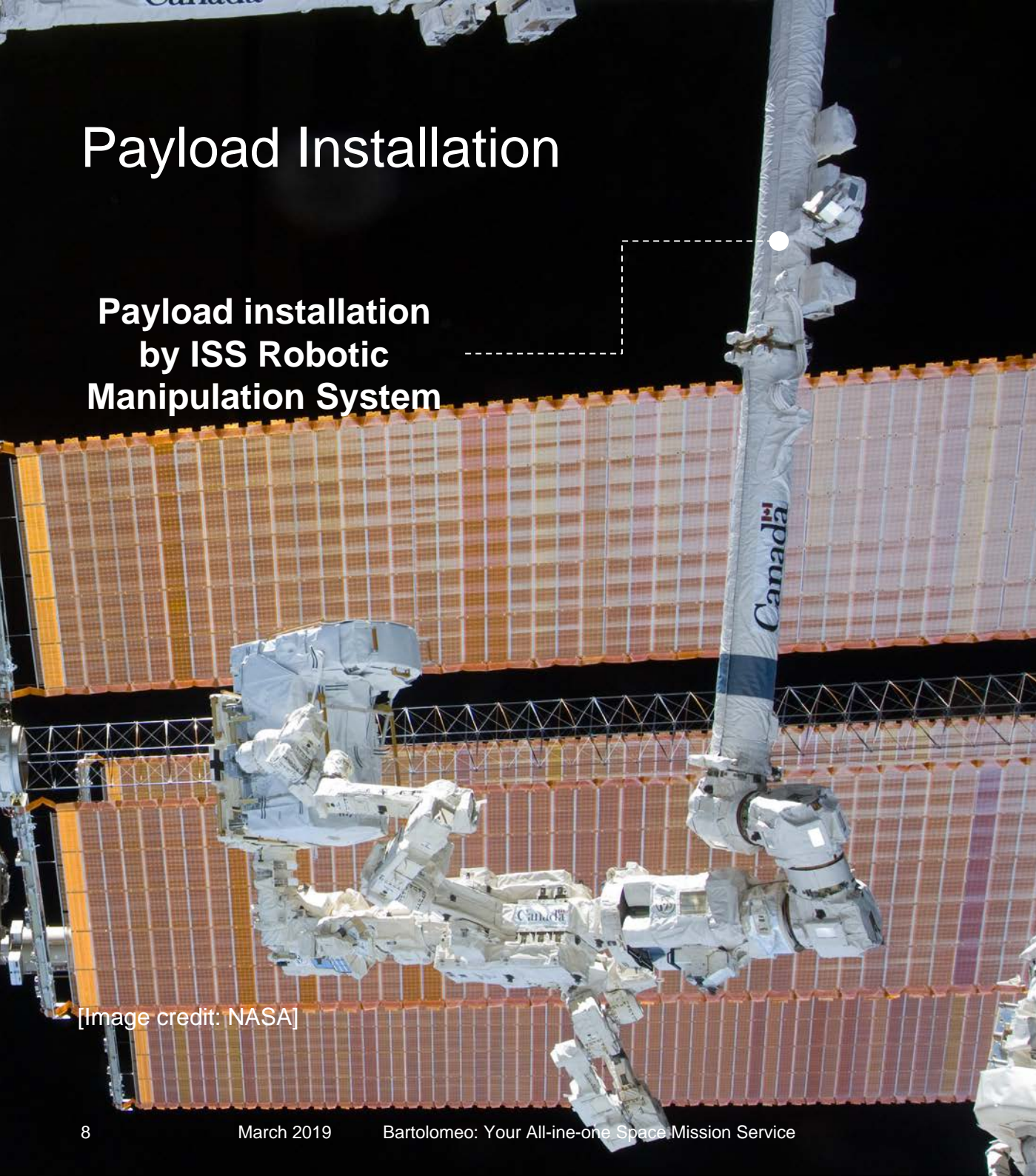
[Image credit: NASA]



Pressurized payload launch in ISS
visiting vehicle pressurized compartment

Payload Installation

**Payload installation
by ISS Robotic
Manipulation System**



[Image credit: NASA]

[Image credit: NASA]

Official Use



**Payload transfer
through either ISS
payload airlock**



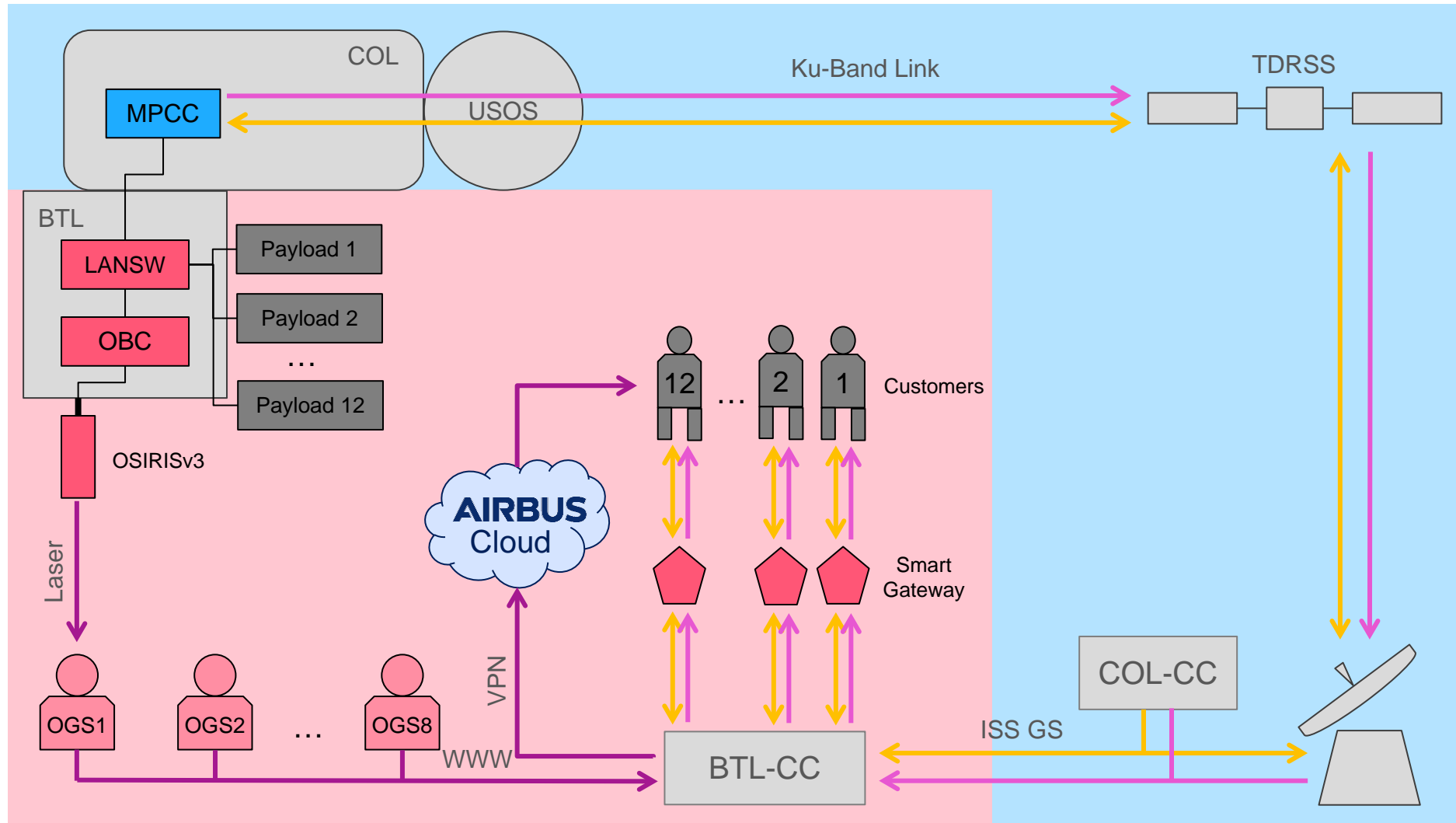
[Image credit: NanoRacks]

Payload Retrieval

Payload / sample retrieval option through the payload airlock

[Image credit: NASA]

Payload Operation

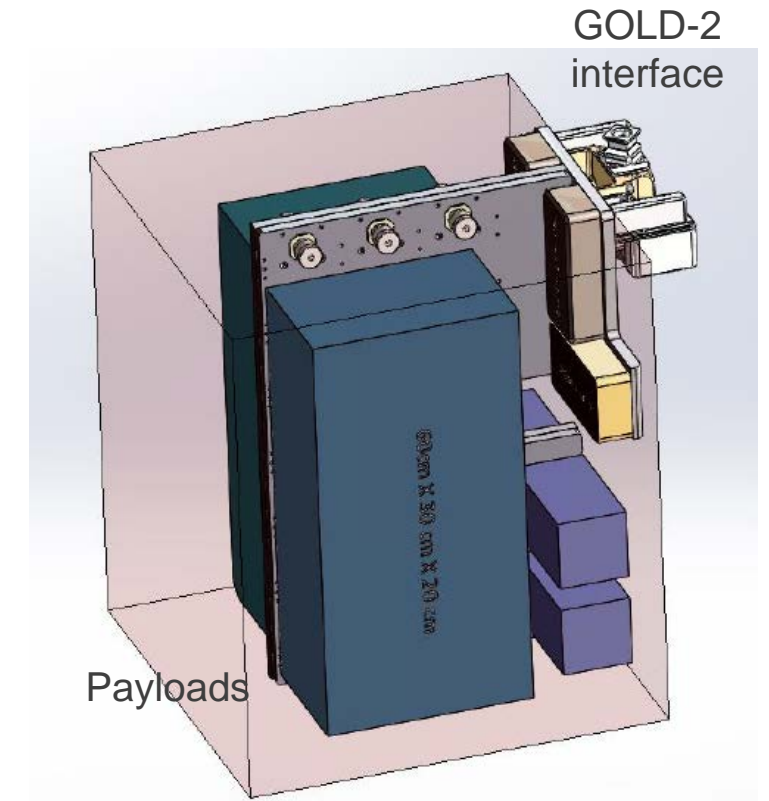
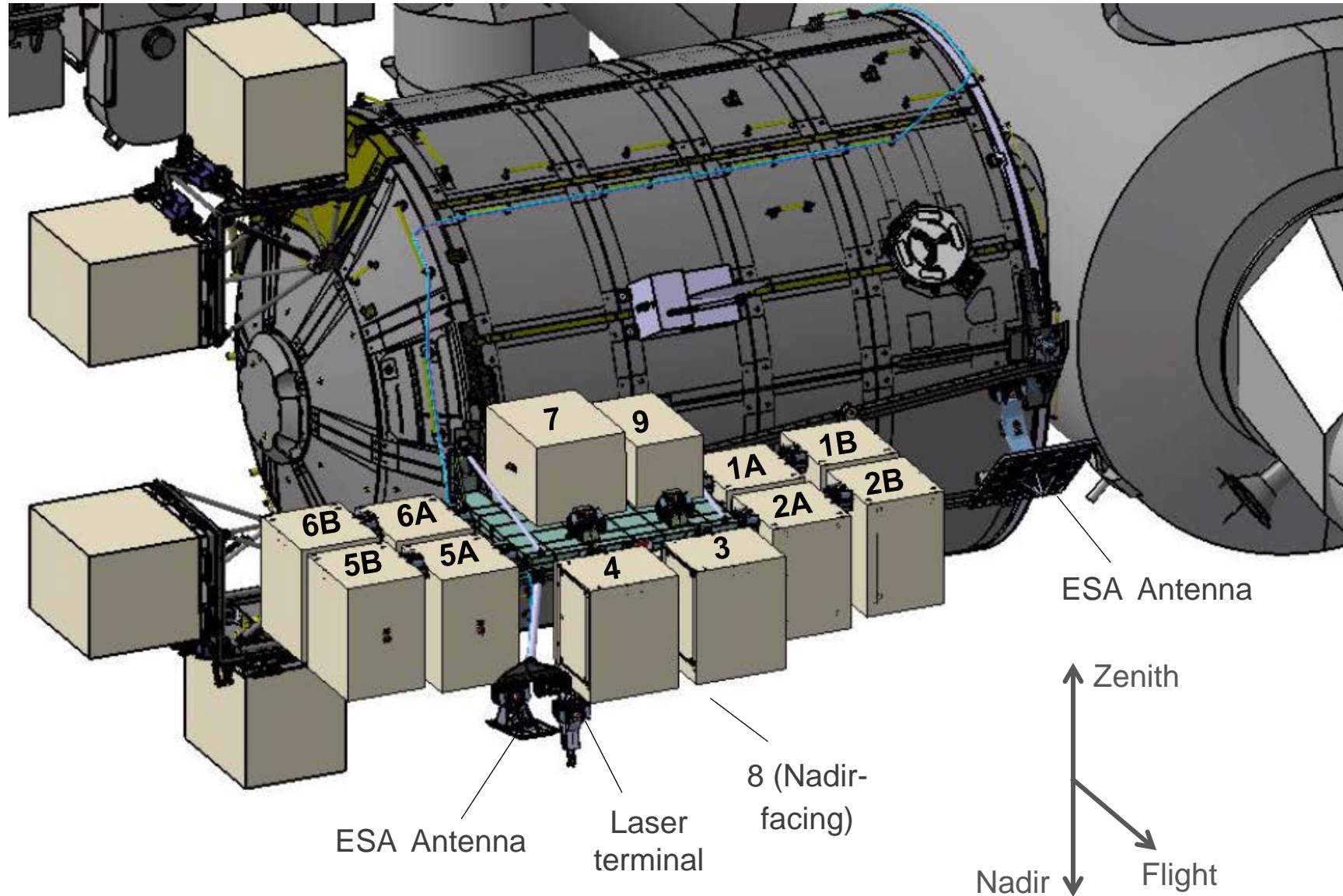


- ↔ TM/TC link
- Near Real Time Data downlink (1 Mbps)
- High capacity data downlink

Link	NRT Link	HC Link
Downlink	1-10 Mbps	2.5 TB/day
Uplink	1 Mbps	None
Latency	below 1 s	N/A

Bartolomeo Platform Design and Capabilities

Payload Accommodation



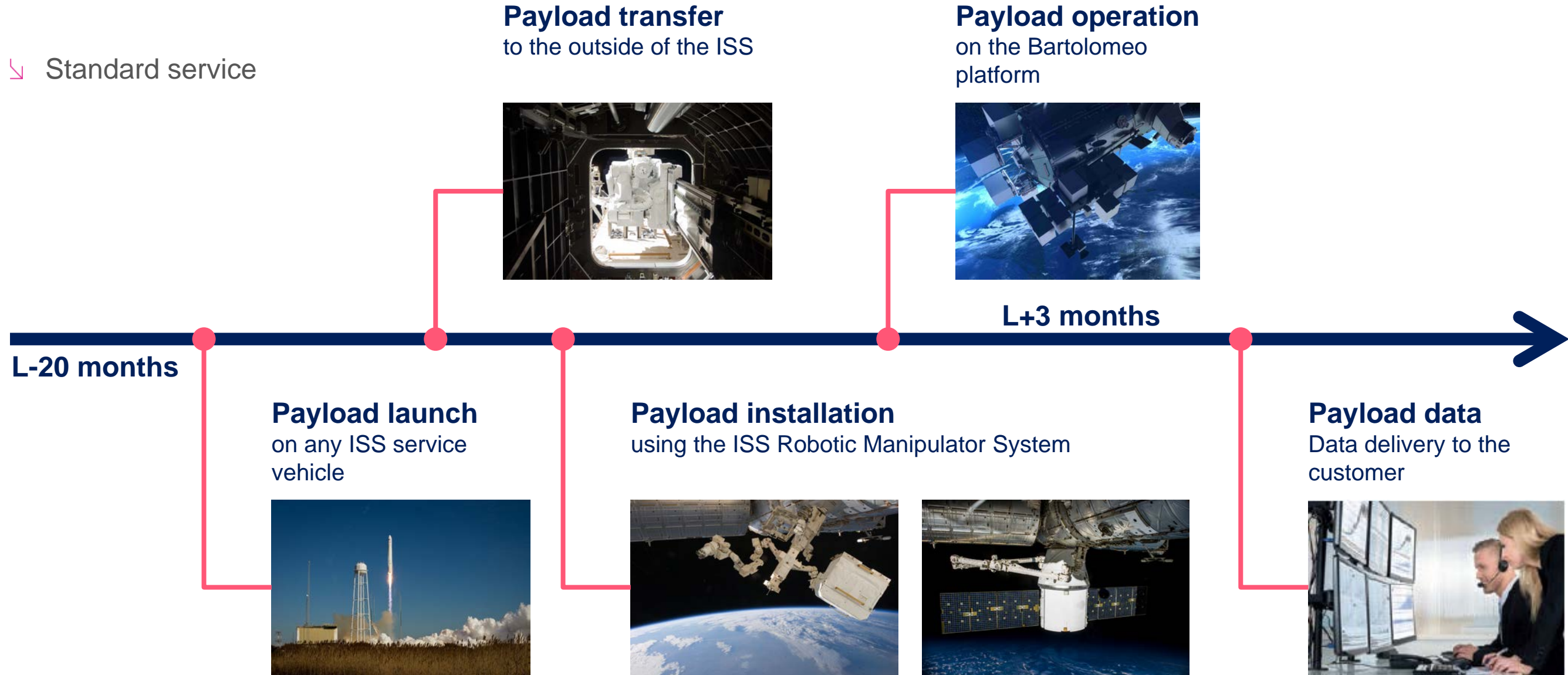
ArgUS Multi-Payload Adapter

- ↳ ArgUS can be accommodated on Slot 1, 2, 3, 4, 5, and 6
- ↳ Slot selected based on payload requirements and overall booking situation

Bartolomeo All-in-one Space Mission Service

Bartolomeo All-in-one Space Mission Service

Standard service



Capability offered within the upcoming 1st Announcement of Opportunity

Capability offered within the upcoming 1st Announcement of Opportunity

- **3U-sized payload** will be integrated, launched, installed and operated as part of the Bartolomeo / ArgUS Multi-Payload Adapter system free of charge
 - ↳ 1U = 10 x 10 x 10 cm
- **Mission duration 1 year** is included

Optional Services:

- Larger payload sizes and longer mission durations are available at 80,000 USD / U / year
- Payload return available at 80,000 USD / kg
- Broadband data downlink capability available at extra charge TBD

SUSTAINABLE DEVELOPMENT GOALS



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