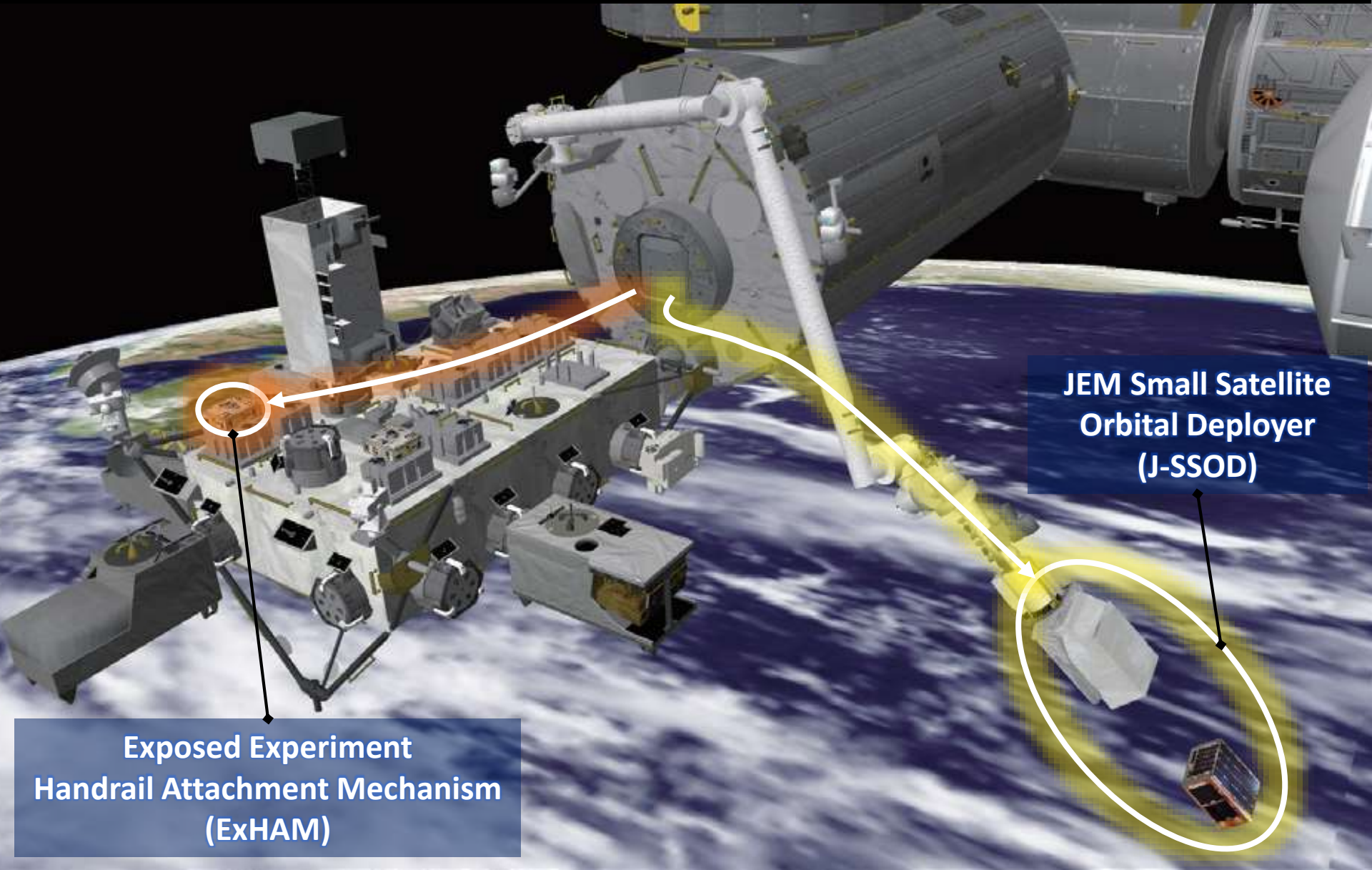


New Space Environment Utilization with **Kibo** Unique Exposed Facility



Exposed Experiment Handrail Attachment Mechanism (ExHAM)

JEM Small Satellite Orbital Deployer (J-SSOD)

“Kibo” is Unique! – Exposed Facility

JEM Small Satellite Orbital Deployer

- **Lower vibration environment** are provided since Small Satellites are stowed in a soft bag and carried to the ISS together with other cargo.
- Use the Airlock and Robotic Arm of Kibo without Extra-Vehicular Activity of astronauts.
- As of Nov 2017, **more than 200** satellites have been deployed from Kibo by the Deployers developed by Japan or the US. Kibo is the sole facility of ISS for conducting this mission.

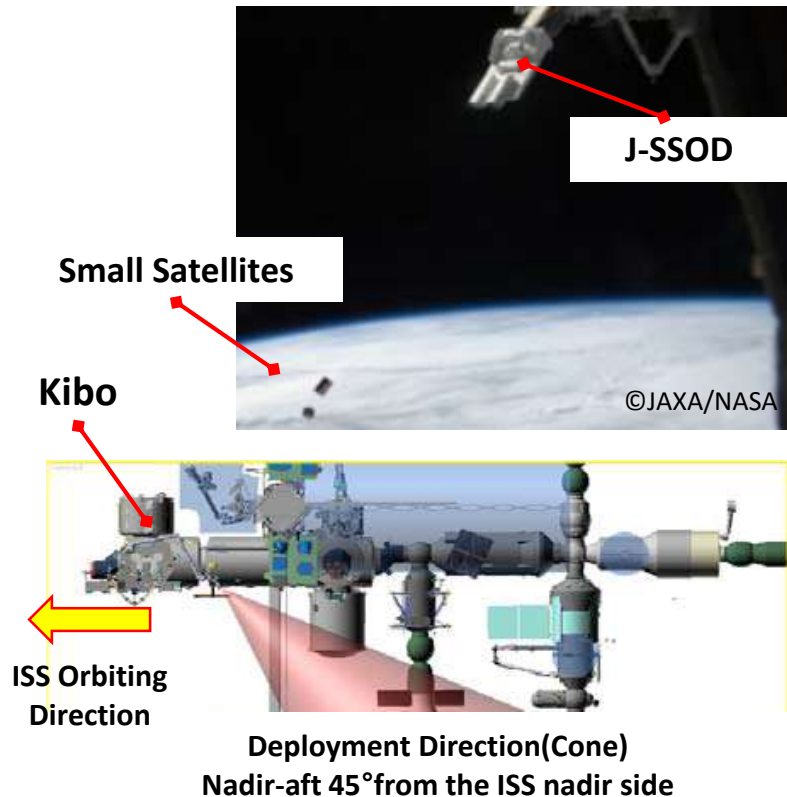
Item	Specification
Satellite Size	CubeSat : 1U, 2U, or 3U (*1) 50 kg class satellite: 55 × 35 × 55 cm
Satellite mass	CubeSat : 1.33 kg or less per 1U 50 kg class satellite: 50kg or less
Orbital altitude	approximately 380 - 420 km (*2)
Inclination	51.6°
Deployment direction	Nadir-aft 45° from the ISS nadir side
Deployment velocity	CubeSat : 1.1 - 1.7 m/sec 50 kg Microsat : 0.4 m/sec
Ballistic coefficient	100kg/m ² or less (*3)

*1) CubeSat specification:

10 cm (W) × 10 cm (D) Height: 1U: 10 cm, 2U: 20 cm, 3U: 30 cm

*2) Depends on ISS altitude.

*3) Depends on ballistic coefficient, altitude at release, solar activity, etc.



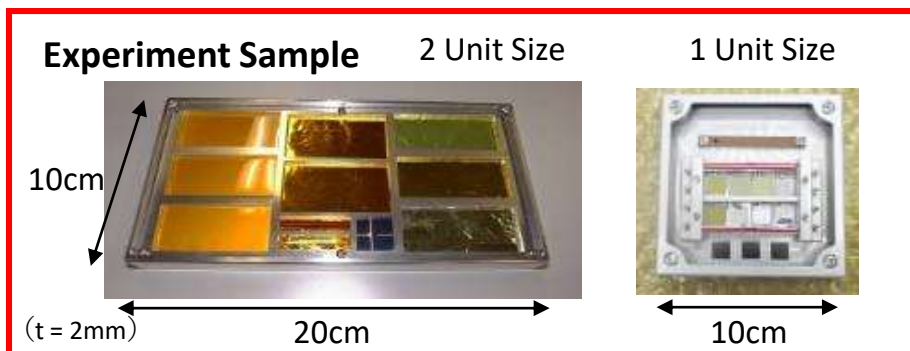
“Kibo” is Unique! – Exposed Facility

Exposed Experiment Handrail Attachment Mechanism (ExHAM)

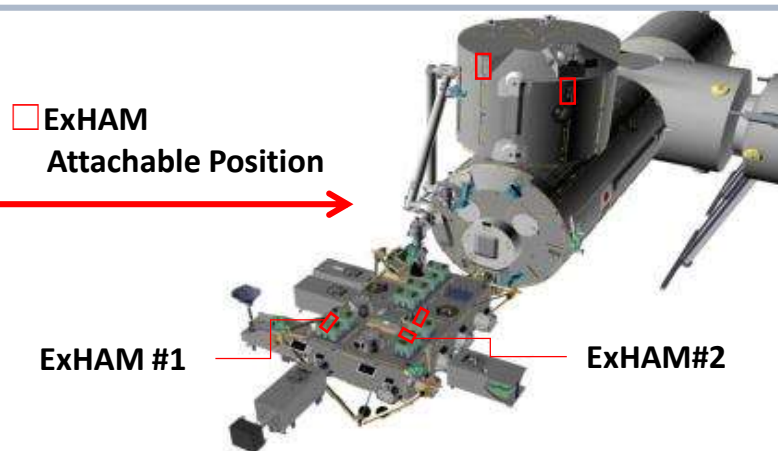
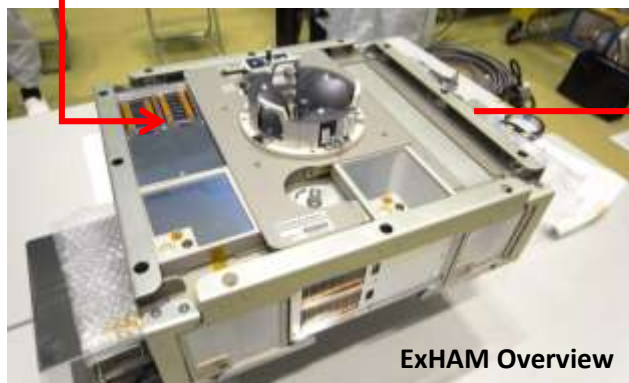
Sample can be loaded on ExHAM, subjected to long-term exposure to space, and returned to Earth, for spacecraft development, capture of cosmic dust, etc.

ExHAM provides easier and more frequent opportunities for small sized experiments.

- ExHAM can be attached onto the external area of “Kibo”.(External dimensions: approx.45 cm × 10 cm × 27 cm; mass: approx. 12 kg)
- Samples 10 cm × 10 cm (type 1) and 10 cm × 20 cm (type 2) are available.
- Up to 7 samples can be attached to the upper ExHAM surface, 13 samples on the sides.



ExHAM has the area for 20 units.



If you are interested in the Kibo Exposed Facility, please contact to JAXA:

JAXA JEM Utilization Center: z-kibo-promotion@ml.jaxa.jp