



Japan Manned Space Systems Corporation (JAMSS) provides small satellites launch services around the world based on its launch services networks. JAMSS offers the best suitable launch services to meet your orbit requirements and launch schedule in total.

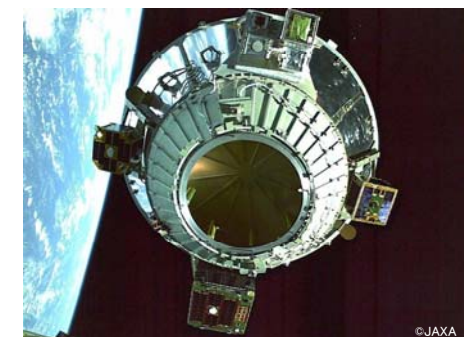
JAMSS started the small satellites deployment services from the International Space Station and small satellites launch services on launch vehicles as secondary payload such as H-IIA from 2014, using deployment/launch opportunities provided by Japan Aerospace Exploration Agency (JAXA).

The services include interface coordination with launch vehicle or the ISS, safety review support, technical consultation, logistics support of payloads.

Contact us!!

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ISS Deployment

J-SSOD Overview

◆ J-SSOD: JEM Small Satellite Orbital Deployer.

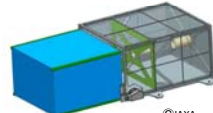
- CubeSats up to six 1U.
- Max 55 x 55 x 35[cm] and 50[kg].

◆ Heritage;

- October 2012: 1U x4 and 2U x1
- November 2013: 1U x3 and 3U x1
- Feb 2015: 1U x1



CubeSats up to six 1U



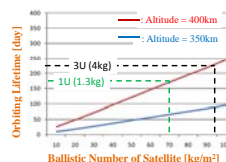
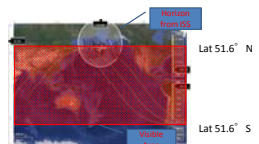
Microsats up to 50kg

Orbital parameters

| Parameters | Specification |
|-------------------|--|
| ISS Orbit | Altitude: 380~420km (Typically around 400km) Inclination: 51.6 deg. |
| Orbiting Lifetime | About 150~250 days |

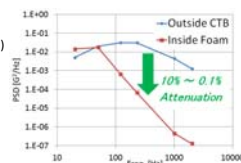
Pros:
• High resolution images (GSD) could be captured

Cons:
• High Latitude observation impossible
• Short orbiting life due to atmosphere friction



Advantages

- ◆ Frequent launch opportunities:
 - ~ 6 times per year (HTV, Space-X, Orbital, etc.)
 - Flexible with satellite development
- ◆ Moderate environment;
 - Vibration mostly attenuated
 - No shock environment
- ◆ Check out after launch;
 - Deployment is photographed.
 - Health check on-orbit can be conducted.

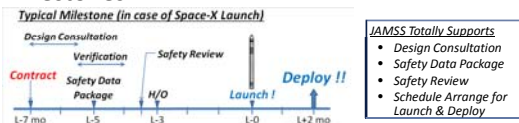


Expanded Capability

◆ Another type of satellite called TubeSat (approx. Φ90 x 130mm) can be deployed from J-SSOD, utilizing 3U size CubeSat named TuPOD which was developed by G.A.U.S.S. Srl.

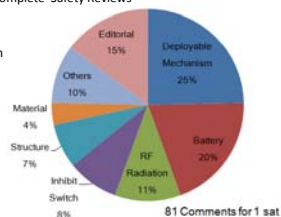


Milestones



Safety Reviews

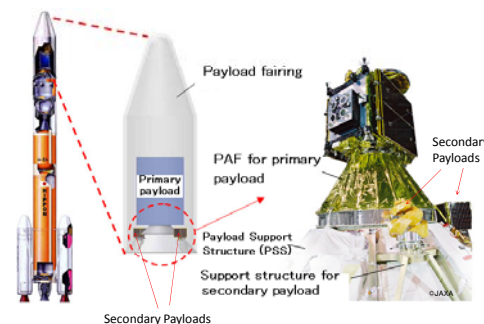
- ◆ JAMSS fully supports to complete Safety Reviews based on its expertise.
- ◆ Key requirements
 - Deployment mechanism
 - Battery



Launch Vehicles

H-IIA Launch Vehicle

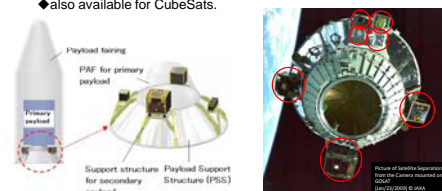
H-IIA, Japanese flag ship launch vehicle contributes to inject not only large satellites but also small satellites as secondary payloads to on orbit destination.



Capacity

H-IIA accommodates four microsattellites. General technical conditions are;

- ◆ Envelope dimension should be no more than 50x50x50cm (Four 60cm class satellites can be loaded).
- ◆ Mass should be no more than 50kg.
- ◆ Hot launch is not available.
- ◆ also available for CubeSats.



Small Satellite Flight Heritage on H-IIA

| No. | Primary PL | Orbit | Flight # | Launch Date | Secondary PL |
|-----|-----------------------|--------------|----------|---------------------------|--------------------|
| 1 | "IBUKI" (GOSAT) | SSO | 15 | Jan. 23, 2009 | 7 microsattellites |
| 2 | "AKATSUKI" (Planet-C) | Trance-Venus | 17 | May 21, 2010 | 4 microsattellites |
| 3 | "SHIZUKU" (GCOM-W1) | SSO | 21 | May 18, 2012 | 2 microsattellite |
| 4 | GPM | LEO | 23 | Feb. 28, 2014 | 7 microsattellites |
| 5 | "DAICHI-2" (ALOS-2) | SSO | 24 | May 24, 2014 | 4 microsattellites |
| 6 | HAYABUSA 2 | Earth-escape | 26 | Dec. 3, 2014 | 3 microsattellites |
| 7 | ASTRO-H | LEO | TBD | To be launched in JFY2015 | 4 microsattellites |

Launch Site



Tanegashima Space Center (TNSC)



Future Launch Services

JAMSS strives to provide user friendly launch services and contribute to the space utilization with small satellites in the world. Those efforts include small satellite launch application on other Japanese launch vehicles.

Launch & Deployment

JAMSS will support from integration into J-SSOD on the ground, manifesting for launch (HTV, Space-X, Orbital, etc) to deployment on-orbit.

