



Hosted Payload Service

Hosted Payload Service Utilizing 6U General-Purpose Satellite Bus

February, 2026

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Why On-Orbit Demonstration Is Essential for Entering the Space Industry

Why On-Orbit Demonstration Is Essential

Space is an environment where, once a system is launched, it cannot be repaired. As a result, the market does not accept products without proven on-orbit operational heritage, making on-orbit demonstration an indispensable process.

Characteristics of the Space Environment

Space Is a “Non-Repairable” Environment

- Once deployed into orbit, **repair or re-adjustment is generally not possible**
- 
- Even if anomalies occur, **root-cause analysis and corrective actions are far more difficult than on the ground**
- 
- Therefore, **whether a system has actually operated in orbit** is of critical importance

Changes in the Use of Space

From Scientific Demonstration to Commercial Utilization

- Space activities are becoming **commercialized and privatized**
- More services require **continuous, real-world operation**

Growing Demand for “Space Quality”

- Evaluation is based on **performance in orbit**, not only ground testing
- Systems must work under **real constraints** such as power, communication, and operations

In-Orbit Track Record Matters

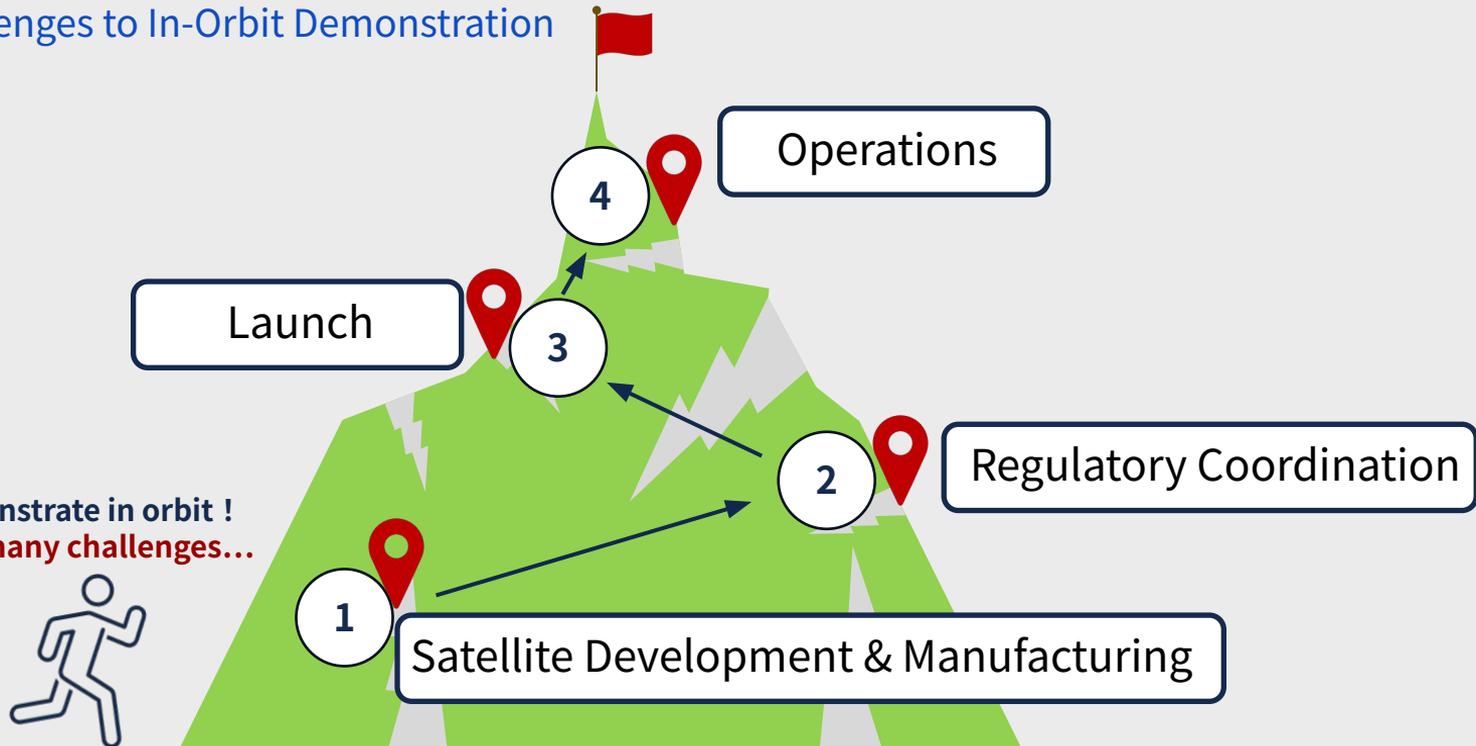
- Without in-orbit heritage, systems may **not be considered for selection**
- Proven operation in orbit directly supports **reliability and business credibility**

In-Orbit Demonstration Is Indispensable

Key Challenges in In-Orbit Demonstration

While the importance of in-orbit demonstration is widely recognized, achieving it requires overcoming many challenges beyond payload development, including satellite development, regulatory coordination, launch, and operations.

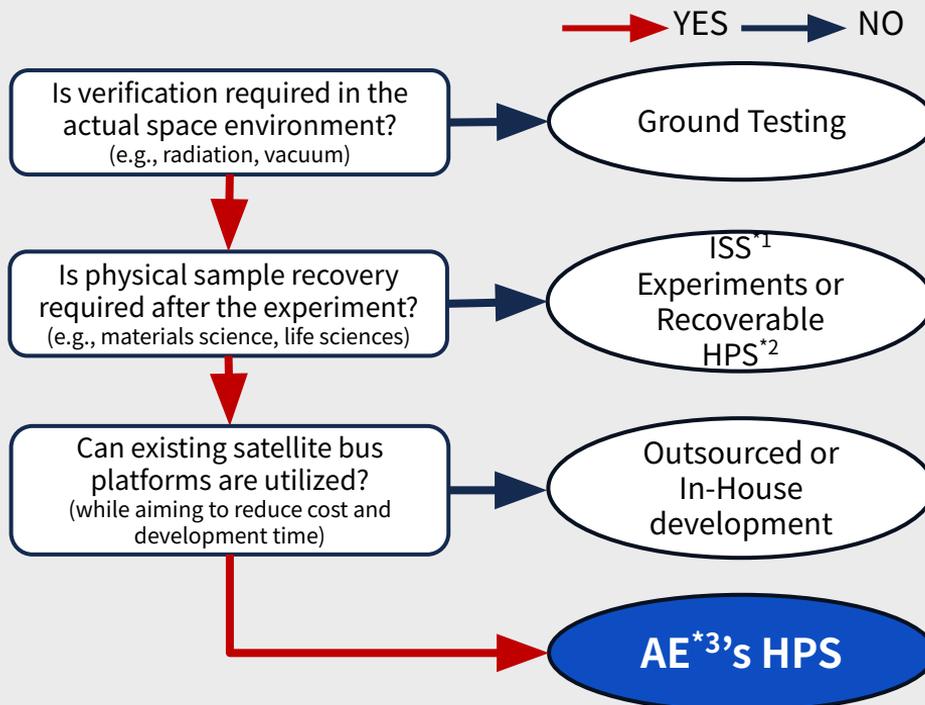
Major Challenges to In-Orbit Demonstration



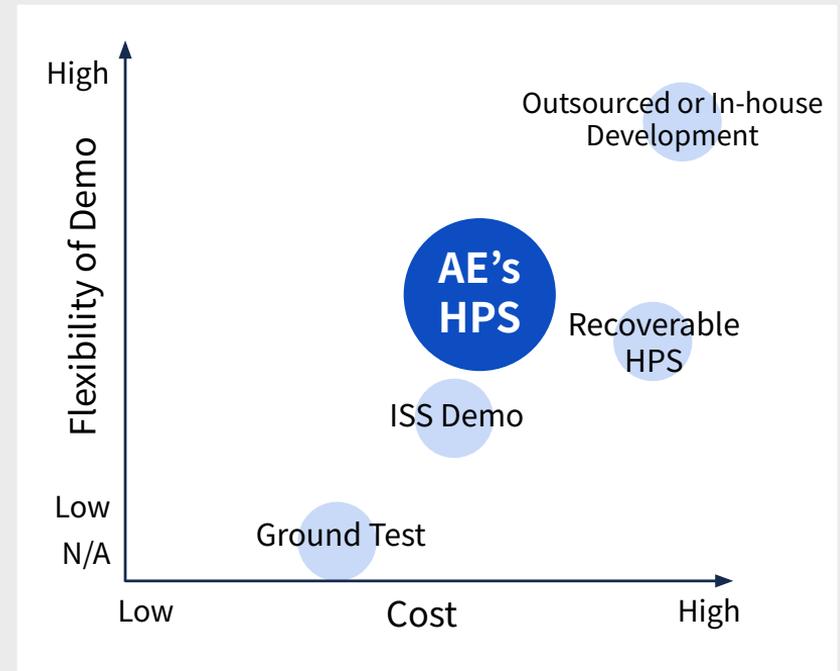
Key Challenges in In-Orbit Demonstration

There are multiple ways to conduct in-orbit demonstration. The optimal approach depends on what you want to verify and what constraints you face.

Approach to Selecting Demonstration Methods



Cost and Demonstration Flexibility Comparison^{*4}



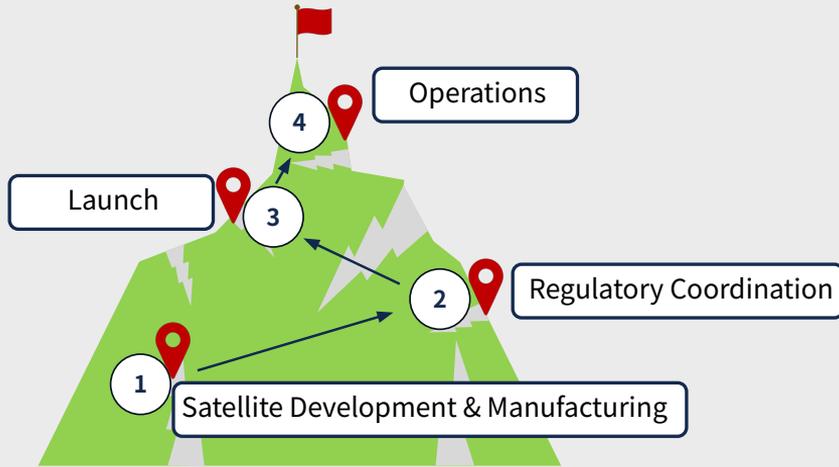
(※1) International Space Station (※2) Hosted Payload Service (※3) ArkEdge Space Inc. (※4) As of January 2026, AE analysis

Value Provided by Our Service

What is Hosted Payload Service

A hosted payload service allows a customer's payload to be integrated onto a satellite, with support for launch and on-orbit operations. The scope of services provided varies by provider.

Comparison of Hosted Payload Service Offerings and Scope^{*1}



	①	②	③	④
	Satellite Development & Manufacturing	Regulatory Coordination	Launch Coordination	Operations
Overseas Company A	○			
Overseas Company B	○	○		○
ArkEdge Space	○(6U)	○	○	○

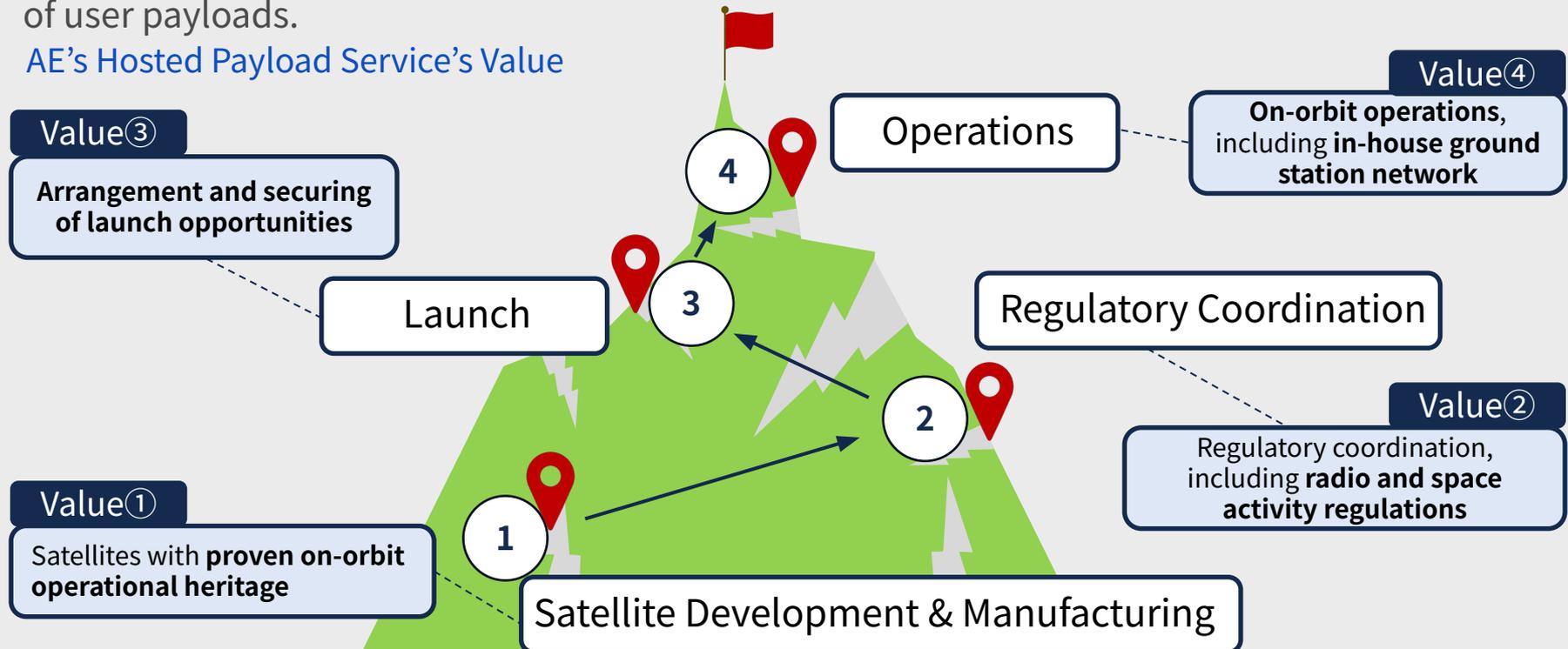
(※1) Only for CubeSat

We provide comprehensive support across all 4 stages (①–④), reducing the overall burden on payload providers.

Overview of ArkEdge Space's Hosted Payload Service

AE's hosted payload service provides comprehensive support across all stages—from satellite development through operations (including end-of-life disposal via atmospheric reentry)—to address each technical and operational hurdle and to ensure reliable on-orbit demonstration of user payloads.

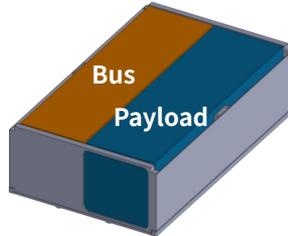
AE's Hosted Payload Service's Value



Value ① Satellites with proven on-orbit operational heritage

Our satellites are designed and operated for continuous commercial services, not just for research. By integrating hardware and software as a unified system, we enable customer payloads to be reliably operated in orbit.

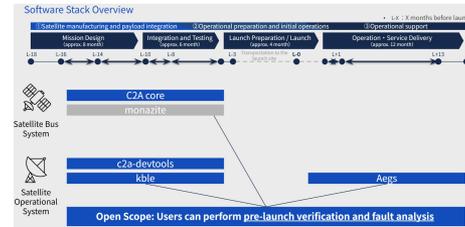
Hardware: Highly Independent Satellite Architecture



Provided as
a Package

-  Continued use of a general-purpose bus with proven on-orbit operation
-  Clear physical and logical separation between the payload and the bus
-  Standardized interfaces for power, communications, and structure
-  Design templates optimized for hosting customer payloads

Software: Open and Practical Software Platform



-  Standardized telemetry and command definitions
-  Selective disclosure of bus-side source code and configuration information
-  Enables user-side fault analysis when anomalies occur
-  Operational design refined through real on-orbit experience

Value② One-Stop Regulatory Coordination to Ensure Uninterrupted Demonstration

On-orbit demonstrations require multiple regulatory approvals. AE's HPS centrally manages all regulatory coordination, allowing customers to focus on their mission.

Radio Regulations (Ministry of Internal Affairs and Communications)*¹

The Radio Act governs the use of radio frequencies and technical standards in Japan to prevent interference. In satellite communications, frequency use is reviewed through licensing and technical assessments and coordinated internationally under the ITU framework.



Space Activities Act (Cabinet Office of Japan)*²

A legal framework to ensure that satellites do not pose risks to people or property and that Japan fulfills its international responsibilities.

It reviews launch and operational safety, debris mitigation measures, operational management, and liability arrangements in case of accidents.



AE handles the entire process

*1 : [Ministry of Internal Affairs and Communications](#) *2 : [Cabinet office of Japan](#)

Value③ One-Stop Service from Launch Vehicle Securing to Initial Checkout

Launch vehicle procurement and launch operations are among the most complex and high-risk steps in on-orbit demonstration. We provide one-stop support covering this entire process.

Coordination Flow from Launch Vehicle Procurement to Initial Checkout



AE handles the entire process

AE executes the most complex and risk-intensive phase —from launch procurement to launch—based on proven experience, eliminating the burden on customers.

Value④ Operational Framework to Enable Successful On-Orbit Demonstration

Success depends not on technology, but on operations.

AE takes full responsibility for operations from pre-design through demonstration completion.

(Before Launch) Operations-Driven Mission Design

- ✔ Define clear success criteria in advance
- ✔ Translate goals into on-orbit-ready operations, not ground assumptions
- ✔ Propose realistic demonstration plans based on flight heritage

(During Demo) In-House Satellite Operations & Data Acquisition

- ✔ Flight-proven satellite bus developed and operated by AE
- ✔ High-responsiveness operations via AE-owned ground stations
- ✔ AE is fully accountable for operations and data acquisition

(Without Stopping Demo) Rapid Troubleshooting & Decision-Making

- ✔ Satellite, bus, and operations handled in-house, enabling immediate response
- ✔ No dependency on third-party operators
→ no delays in judgment or action

An in-house framework covering design, operations, and anomaly response enables demonstrations that are carried through to completion

Why Customers Choose Our Service

Why Choose Our Hosted Payload Service

AE is the optimal choice for customers who prioritize mission success

Key Strengths of AE

- Performance defined based on actual operational needs
- Single-point responsibility from design through operations
- Clear decision-making and response flows for anomalies

Market Positioning^{*1} (As of January 2026, AE analysis)

Aspect	AE	Overseas Providers (Typical)
Performance	○ (Sufficient for operations)	○ (Conditional/additional cost)
Cost	○	◎ ~ ○
Schedule	△ (Approx. 2 years to ensure regulatory compliance)	○ ~ △
Support (Optional)	◎	△ ~ ✕

(※1) : Only for CubeSat

AE aims to be the option that “maximizes mission success probability” from PoC to early commercial phases

Service Track Record and External Evaluations

AE collaborates with domestic and international partners to provide on-orbit demonstration services. AE is officially selected by JAXA as a priority on-orbit demonstration provider, capable of coordinating domestic launch opportunities.

Examples of Past Initiatives

(Development and On-Orbit Demonstration Collaborations)

Satellite	Partner Organizations	Mission
 EQUULEUS	University of Tokyo(Japan), JAXA ※Operation by AE ※AE founding engineers participated during their university tenure	Demonstration of orbit control technologies in the Earth-Moon region
 ONGLAISAT	University of Tokyo(Japan) Taiwan Space Agency(TASA) ※Operation by AE	Remote sensing World-leading resolution achieved in the 6U satellite class
 AE1c	Domestic private company	Component on-orbit operation

Selection under JAXA Space Strategy Fund Program

Registered On-Orbit Demonstration Providers (Priority Group)^{*1}

Category			Company	Service Overview
On-orbit demonstration	Earth-circling orbit	Non-recoverable	ArkEdge Space	We host customer payloads on our standard 6U satellite bus and provide on-orbit operation opportunities in low Earth orbit (LEO). Our service covers satellite
		Recoverable	Axcel Space IDDK	Highly proven satellite bus with heritage in customer payload demonstrations, we deliver a cost-effective and highly reliable service.

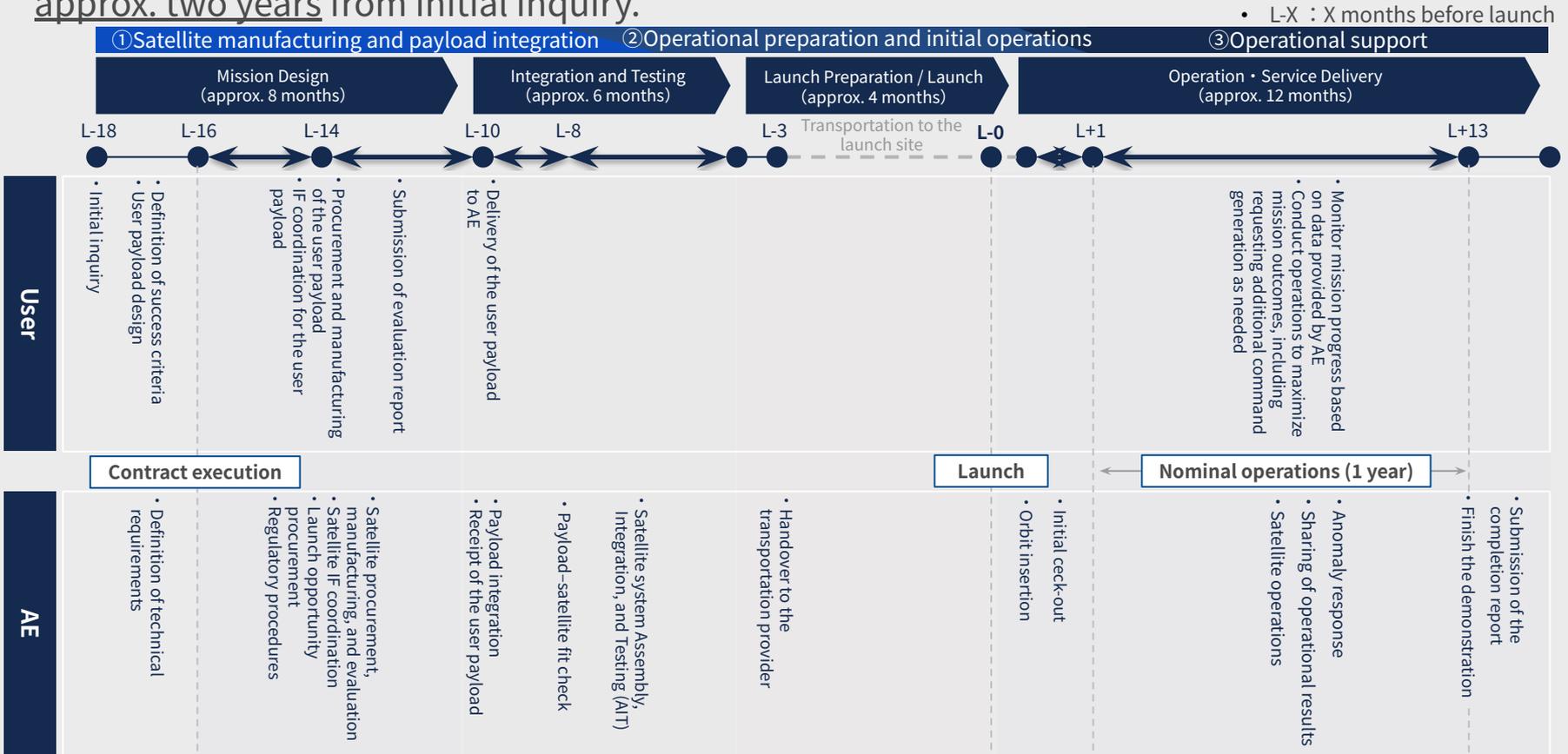
AE is positioned as a Priority Group 1 on-orbit demonstration provider capable of coordinating domestic launch opportunities.

(※1) Registered On-Orbit Demonstration Providers (Priority Group 1: Based on JAXA's registered on-orbit demonstration provider list)

How the Service Works

Service Workflow(Normal case)

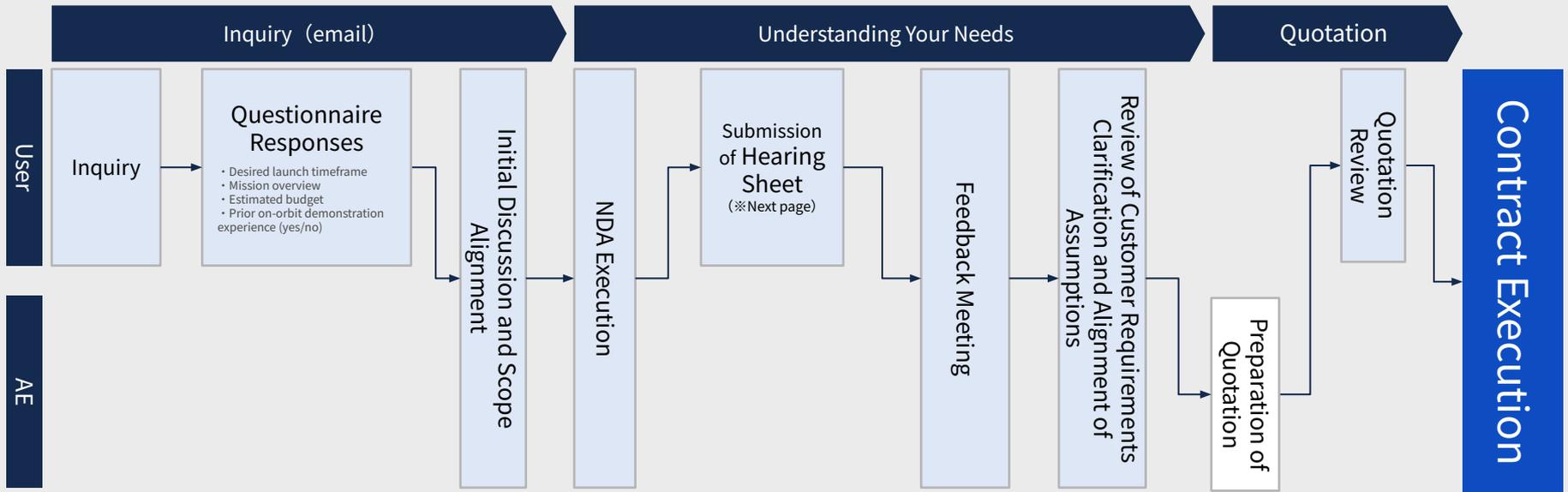
Through IF standardization and related measures, we can achieve launch within approx. two years from initial inquiry.



Initial Feasibility Study Process

Please contact us first.

Based on your answers to the questionnaire, we will hold an initial meeting.



Pricing and Contractual Matters

Pricing Structure

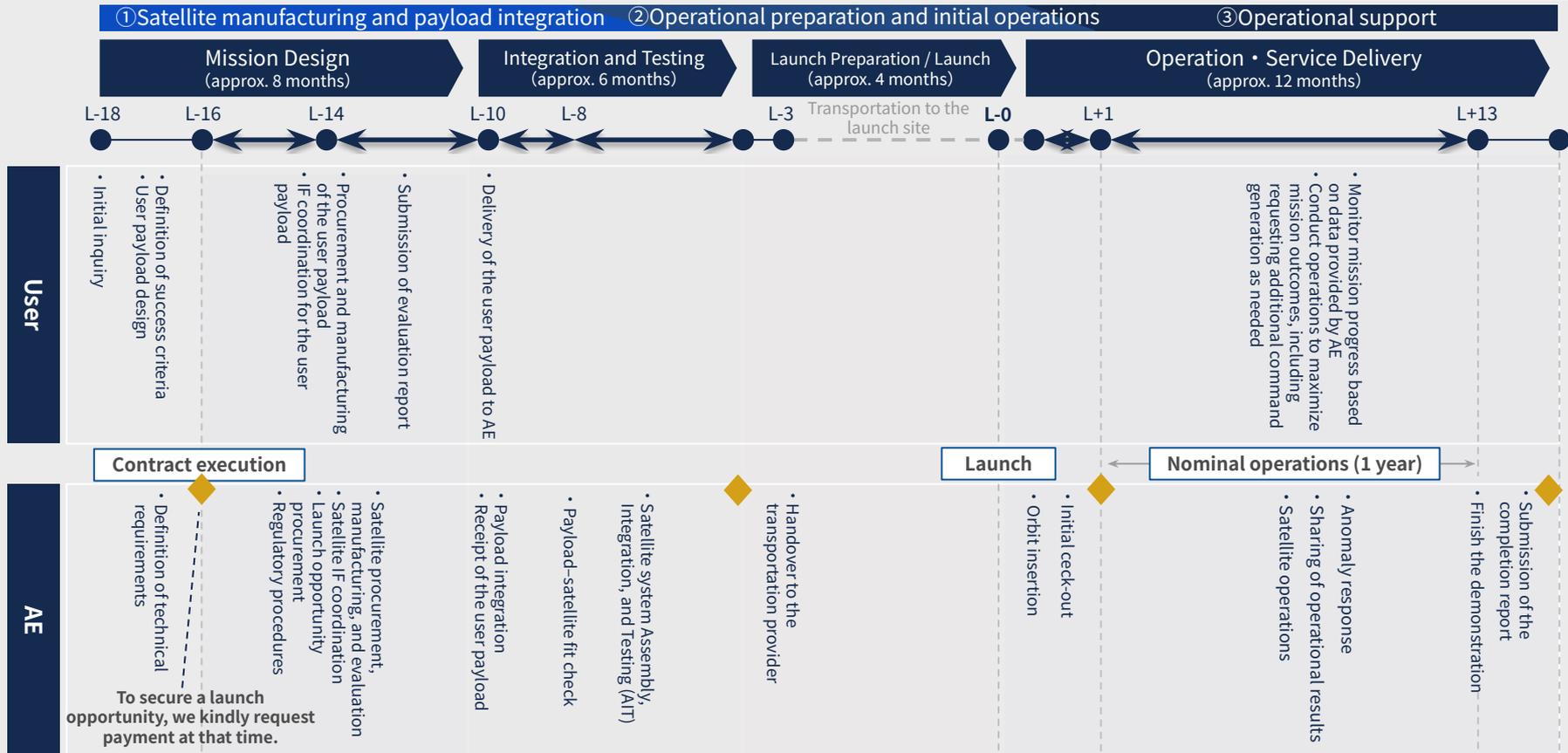
Pricing is determined individually, based on the user payload and demonstration conditions.

Cost Category	Details	Price Variability
Satellite Design & Manufacturing	Development planning	Depends on mission (However, if a design exceeding the standard interface is required, an additional fee may be charged.)
	Design & manufacturing	
	Satellite-specific development and integration	
	Design review & approval	
Launch Support	Launch IF coordination	Depends on mission
	Safety review support	
	Satellite transportation	
	Launch vehicle procurement	
	Regulatory coordination	
User Payload Demonstration Support	Operation preparation	Fixed (mission-independent)
	Initial operations	Depends on operation period & frequency
	Nominal operations	
Ground Station Usage		Depends on operation period & frequency
Reporting		Fixed (mission-independent)

Payment Milestone

Payments are made in four installments, aligned with project milestones.

- L-X : X months before launch
- ♦ : Payment Milestone



Frequently Asked Questions (FAQ)

Frequently Asked Questions (FAQ)

Q. Who owns the satellite used in ArkEdge Space's Hosted Payload Service (HPS)?

To centralize mission responsibility, regulatory compliance, and operational decision-making, **the satellite ownership, in principle, belongs to AE;** however, this can also be determined through mutual discussion.

Q. Are there any materials that cannot be used as user payloads?

Certain materials are not permitted.

From the perspectives of potential impacts on the satellite bus and other onboard equipment, as well as debris generation risk, the **use of high-outgassing materials, magnetic materials, flammable or high-melting-point materials, hazardous metals, and materials that may volatilize in a vacuum environment is prohibited.**

For materials whose suitability is difficult to determine, please consult with us in advance. We will review the materials and provide guidance accordingly.

Frequently Asked Questions (FAQ)

Q. How long can additional operations be supported?

The satellite's operational lifetime is **strongly influenced not only by its health condition but also by external factors such as solar activity**. Therefore, the duration for which additional operations may be possible varies **depending on the satellite's orbital altitude and condition at the end of the one-year nominal operation period**. As a result, the feasibility and duration of any extended operations will be determined on a **case-by-case basis based on the actual operational status**.

Q. How frequently is communication available?

The standard service includes **approximately four communication sessions per week and does not support continuous (real-time) communication**.

If more than four sessions per week are required, **additional fees will apply**.

※The number of occurrences may vary depending on the satellite's on-orbit position and the operational conditions of other satellites.

Q. What kind of missions are supported?

In principle, **the scope includes on-orbit functional verification and data acquisition for various sensors**.

Please contact us for further information.

※For detailed conditions, please contact us for a case-by-case discussion based on the mission requirements.

Frequently Asked Questions (FAQ)

Q. Can regulatory application procedures and operational know-how be shared through the use of HPS?

Yes. Within the scope that can be disclosed, AE provides information **aligned as closely as possible with the user's needs.**

However, depending on the **content, scope, and level of support required, additional fees may apply.** Please contact us for details.

Q. Can payloads demonstrated on HPS be used for commercial services, not only for experiments?

Yes. However, for **commercial service use**, additional applications and procedures—such as **frequency coordination**—are required, and these are **significantly more extensive and complex** than for experimental use.

As a result, **additional costs may apply** depending on the required level of support.

Frequently Asked Questions (FAQ)

Q. Is operation for less than one year possible?

Yes.

The standard contract assumes a **one-year operation period**.

If the actual operation period is shorter, **operation fees will be adjusted on a pro-rata basis** according to the duration.

Please contact us to discuss detailed conditions.

Q. How can in-orbit demonstration costs be reduced?

To reduce costs, while maintaining a balance with the **demonstration objectives**, the following options can be considered:

- Relaxing **attitude control performance requirements**
- **Shortening the operation period**
- Reducing **operation frequency** (e.g., communication or data acquisition frequency)

Based on the **demonstration goals and required data**, we will propose the **optimal configuration**.

Frequently Asked Questions (FAQ)

Q. We would prefer full payment after completion due to internal policies. Is this possible?

As this service requires advance allocation of costs such as launch procurement and satellite development and preparation, a portion of the contract amount is generally payable in advance as milestone payments. Accordingly, **full post-payment is not accepted** as a general rule. Details of the payment terms can be discussed on a case-by-case basis.

Q. What happens if the launch fails?

A re-launch will be arranged and conducted at a later opportunity. Please note that **refunds due to launch failure are not provided.** Details are defined in the contract and will be explained separately.

Q. Can we name the satellite used in HPS?

Yes. Satellite naming is available **as an optional service**, subject to an **additional fee.** Please contact us for details.

※For detailed conditions, please contact us for a case-by-case discussion based on the mission requirements.

Frequently Asked Questions (FAQ)

Q. When using AE's HPS, is co-hosting with other payloads possible?

Yes, **co-hosting with other payloads is possible** if technical compatibility with other payloads can be ensured. However, in co-hosting missions:

- A satellite matching the customer's desired launch schedule **may not always be available**
- **Operational constraints** may arise due to coexistence with other payloads

For customers who prioritize **mission certainty and schedule assurance**, **dedicated (exclusive) use is recommended over co-hosting with other payloads.**

Q. Could AE's software updates or verification activities negatively affect the user's mission?

No.

Software updates and verification activities may be conducted **outside of the user's mission operation periods**, but they **will not interfere with mission execution.**

User mission plans are given **top priority**, and any software updates are performed **only during time windows and conditions that do not affect mission operations.**

As a result, **there will be no negative impact on mission execution or acquired data.**

Frequently Asked Questions (FAQ)

Q. After the demonstration is completed, how is the satellite handled?

After completion of the demonstration, ownership of the satellite, as well as responsibility for its operation and management, will continue to reside with AE.

AE will also **remain the responsible entity under the Space Activities Act and will ensure proper end-of-life disposal, so no additional legal obligations will arise for the user.**

Following the demonstration, the satellite will either continue to be operated in accordance with AE's operational plan—utilizing its functions (e.g., IoT capabilities)—or transition to a defined end-of-life process. In all cases, **no additional actions or responsibilities will be required** of the customer after the demonstration has concluded.

Q. Can users arrange the launch slot themselves?

Yes.

If the user arranges the launch slot independently, the **scope of services can be adjusted flexibly.** However, in such cases, **prior coordination is required** regarding the **transfer of satellite management, allocation of responsibilities, and liability conditions.**

Contact Information

Contact Information

We are happy to discuss your needs and provide flexible support.

Please feel free to contact us

Contact us by email

ss-dept@arkedgespace.com

We accept inquiries 24/7, year-round.

Our team will get back to you within three business days.

Company Overview



Company Name		ArkEdge Space Inc.
Headquarter		DOME ARIAKE HEADQUATER 3F, 1-3-33 Ariake, Koto-ku, Tokyo, Japan
CEO		Takayoshi Fukuyo
Established		July 18, 2018
Number of Employees		190(Including part-time and temporary staff, as of December 2025)
Business		<ul style="list-style-type: none">• Design, Development, and Operation Services for Micro-Satellites• Building Satellite Constellations for Various Missions• Providing Components and Software Related to Micro Satellites• Operating Satellite Control Ground Stations• Offering Educational and Consulting Services

Appendix

Value^① Satellites with proven on-orbit operational heritage

Hardware

Software

Standard Platform Specifications (Structure)

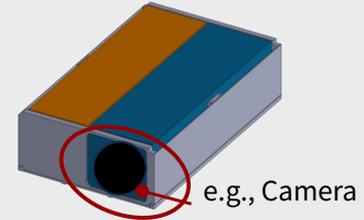
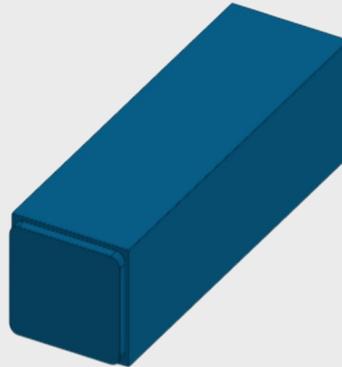
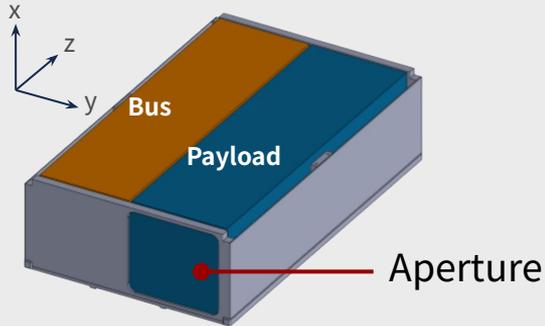
6U Satellite Structure



Payload

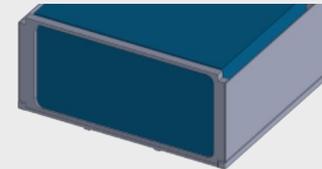
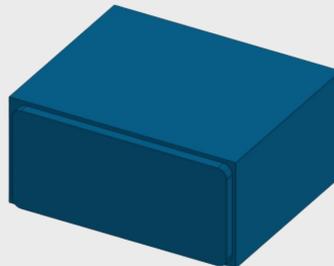
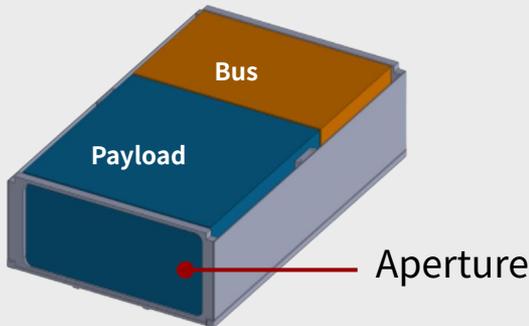
Notes

Long Type



The indicated surface may be used for mounting user payloads up to the plane of the satellite exterior. Deployment mechanisms (e.g., antennas) are subject to consultation.

Wide Type



The frame shape around the aperture may vary depending on structural design and mission mounting requirements.

※ Illustrations and dimensions are for reference only

Value ① Satellites with proven on-orbit operational heritage

Hardware

Software

Software Stack Overview



Satellite Bus System



Satellite Operational System



Open Scope: Users can perform pre-launch verification and fault analysis

Standard Platform Specifications

Standard Platform Specifications

Item	Value / Description
Orbit	Low Earth Orbit (LEO)
Size (Stowed)	100.0mm × 226.3mm × 366.0mm (W6U)
Maximum Payload Envelope	Long Type : 95.0mm × 110.0mm × 336.5mm ^{※1} Wide Type : 95.0mm × 205.0mm × 207.0mm ^{※1} (approx. 3U equivalent)
MTQ Maximum Output	0.30 [Am ²] ^{※2}
Power Generation	50 [W] ^{※3} (BOL, cell temperature 28°C)
Battery Capacity	93 [Wh] ^{※3}
Communication Rate (CMD UP / HK DOWN)	4 [kbps] (max) / 100 [kbps] (max)
Communication Rate (Mission Data DOWN)	20 [Mbps] (max) ^{※1}

(※1) 20 Mbps is available only when an S-band payload is installed. In this case, the available payload volume will be reduced.

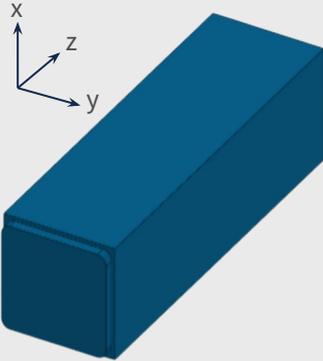
(※2) Attitude control is performed using MTQs. Installing magnetic materials may affect attitude control performance.

(※3) Power values represent system-level figures. Available payload power depends on bus power consumption and mission configuration.

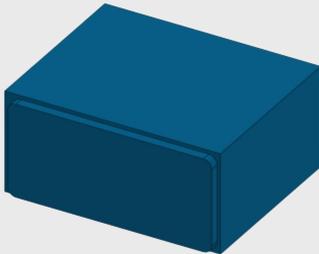
Platform Standard Specifications (User Payload Envelope)

Payload Section

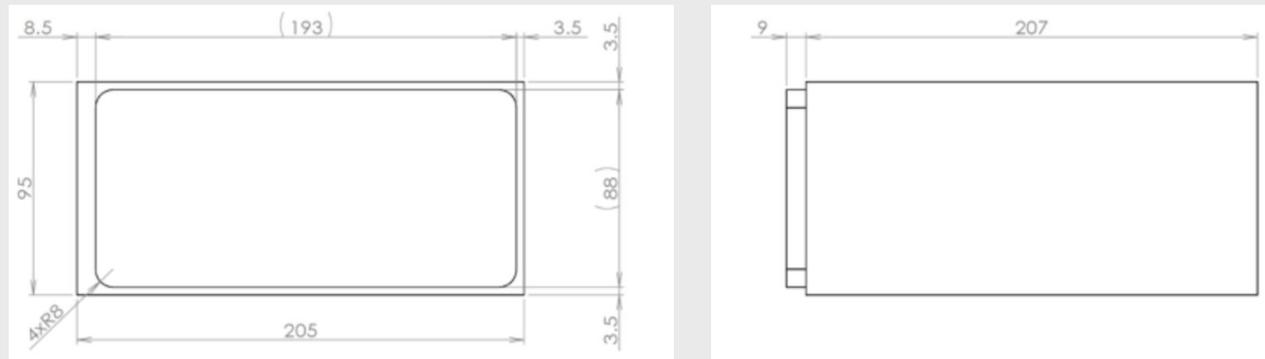
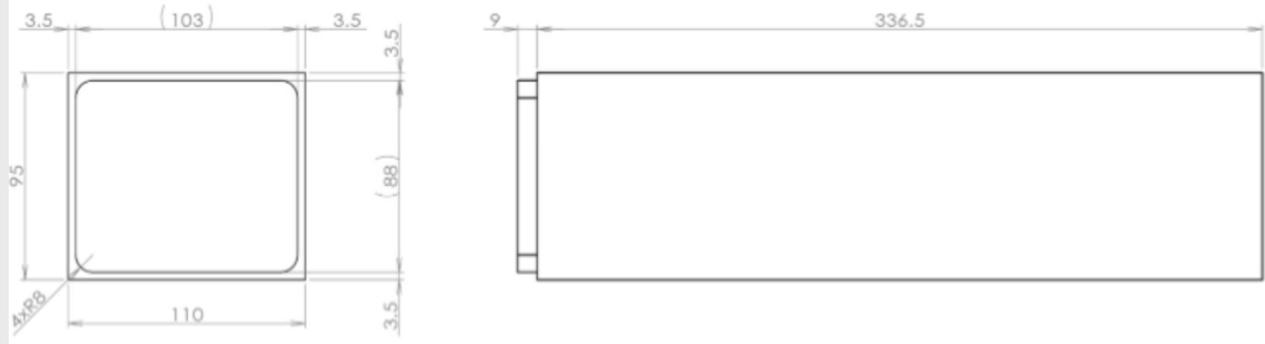
Long type



Wide type



User Payload Envelope (Design Drawings)



※Note: The user payload envelope includes the user payload connectors.

Test Scope

Our Hosted Payload Service includes the following tests conducted by AE.

- Structural interface verification test between the satellite bus and the payload (fit check)
- A series of system-level tests using the Flight Model (FM)

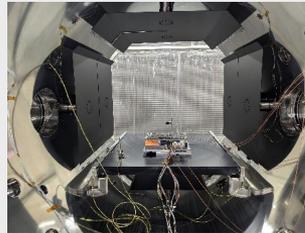
Electrical Test

—

Thermal Cycling Test



Thermal Vacuum Test



Vibration Test



System-Level Test

—

(Final verification for launch readiness)

※Evaluation of the payload itself shall be conducted by the user in accordance with the requirements separately specified, and the payload must satisfy those criteria.

※Tests other than those listed above may be offered as optional services.



Empowering people with satellites for a prosperous future.