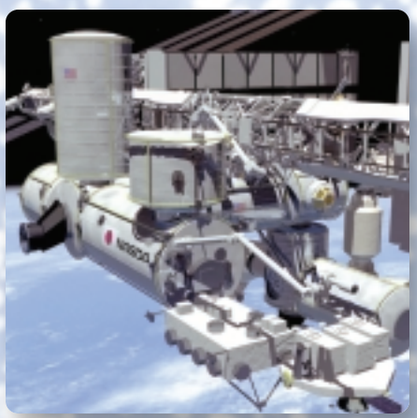
International Space Station
Commercial Programs



National Aeronautics and Space Administration (NASA)

Process

Principal Components of Offer
- Offer Description
- Technical Information
- Company Information and Management Team
- Market Analysis and Strategy Summary
- Financial Plan
- Letters of Intent/Commitment

Offer Review Steps
- Registration of Offer
- Review: Business Issues
  Technical Issues
  Legal/Policy Issues
- Dispositioning (Acceptance/Rejection)

Notifications to Offeror
- Registration Letter
- Evaluation Letter
- Status Letter

http://commercial.hq.nasa.gov/submit.html

Conditions of Sale

- Term of use is up to one year from onorbit deployment.
- Timing of use is negotiable, subject to the inventory of resources and accommodations available at each phase in the ISS program.
- Fractional bundles, as small as 1/6th of a bundle, will be priced on a pro-rata basis including pro-rata utilities.
- Resale or barter of unused resources and accommodations is not permitted during the ISS assembly phase if it would change the NASA interface relative to the bundle purchaser.
- Costs associated with integration, flight certification, and safety compliance are the responsibility of the buyer.
- Costs associated with all hardware and software required for operations or training are the responsibility of the buyer.
- Rack bundle includes crew training, subject to availability and scheduling, for one flight increment.

http://commercial.hq.nasa.gov/price.html

Pricing

Schedule	Available Inventory (Assembly Complete)	Price Structure (per annum)
Internal Rack Bundle Site One 3kW ISPR Site 2,880 kWh energy 86 IVA crew-hours 2.0 Terabits, space-to-ground	8	$20.8M
External Adapter Bundle Site One Express Adapter Site 1,800 kWh energy 32 IVA crew-hours 2.6 Terabits, space-to-ground	7	$20.8M

Premiums
- $22,000 per kg ($10,000 per lbm) each way (Space Shuttle passive pressurized cargo)
- $26,500 per kg ($12,000 per lbm) each way (Space Shuttle passive unpressurized cargo)
- $15,000 per Space Station IVA crew-hour
- $2,000 per Space Station kWh energy
- $100 per minute TDRS transponder time

http://commercial.hq.nasa.gov/price.html

Contact Information

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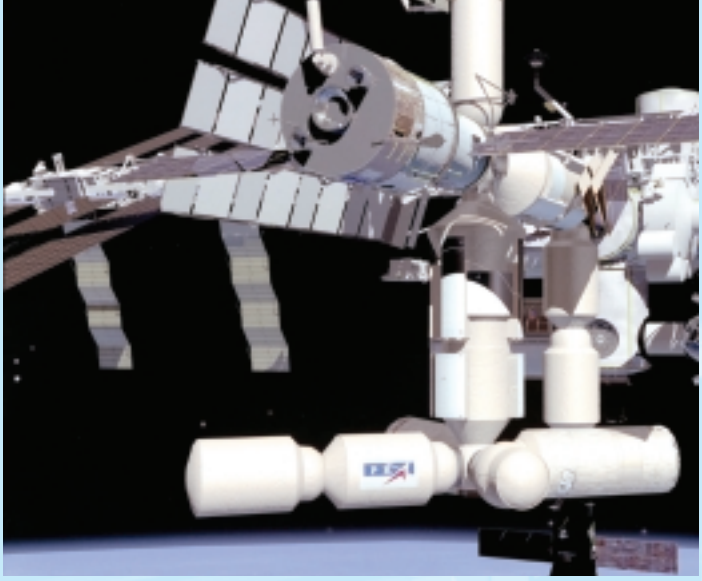

Russian Aviation and Space Agency (Rosaviakosmos)

Process

Principal Components of Offer
- Offer Description
- Technical Information
- Company Information and Management Team
- Market Analysis and Strategy Summary
- Financial Plan
- Letters of Intent/Commitment

Offer Review Steps
- Registration of Offer
- Review: Business Issues
  Technical Issues
  Legal/Policy Issues
- Dispositioning (Acceptance/Rejection)

Notifications to Offeror
- Registration Letter
- Evaluation Letter
- Status Letter

Commercial Development

- Minimal time from user's offer to project implementation
  Depending on procedures
- Simple and clear process for offer review and selection, applied criteria, existing limitations, and restrictions
  Depending on procedures
- Transparent pricing policy, reduced prices
  Depending on project specificity
- Confidentiality/proprietary rights (i.e., intellectual property rights) protection
  Depending on project specificity
- Standard commercial contracts for standard services
  Depending on project specificity
- Nonstandard service offer (in particular, services which cannot be provided by other partners: delivery and accommodation of nonstandard equipment, user consulting based on Russian unique experience, user access to databases on previous activities onboard Russian crewed space stations, etc.)
  Depending on project specificity

Available Inventory & Pricing Policy

Space flights
- Participation of a customer or his representative in short guest mission (up to 10 days)
- Long-duration space flight to implement a customer's specific program

Standard provisions: cosmonaut and backup training, payload delivery by PROGRESS vehicle, payload delivery and return by SOYUZ vehicle, crew participation in the customer's program, communication and information, provision with resources for specific program, cosmonaut delivery, habitation, and return
Pricing in 2001–2002: depending on customer's schedule, program, and specific requirements.

Opportunities for scientific research and experiments
Available resources (for internal and external payloads): payload delivery by PROGRESS vehicle, crew time, volume, power, communication, and information
For external payloads, in addition: accommodation on external Universal Working Place, EVA
Pricing in 2001–2002: depending on required resources, ISS RS integration requirements, Russian party's interest in research results.

Advertisement
On a customer's demand (taking into consideration legal limitations)
Pricing: depending on required resources, ISS RS integration requirements, Russian party's sharing in profits of the commercial activity, and other specific terms and conditions.

Sale of resources
Resources: payload delivery and return, crew time, power, volume, and up and down link.
Pricing: The prices for the ISS RS resources and services are under development and will be published later.

Conditions of Services Sale, Lease of Resources

- Timing of use is negotiable, subject to the inventory of resources and accommodations available at every ISS program stage.
- Resale or transfer of customer rights is not permitted unless specifically agreed for certain cases.
- Costs associated with integration, flight certification, and safety compliance are the responsibility of the buyer.
- Costs associated with all hardware, software, and crew resources used onboard are to be covered by the buyer.
- Delivery to and from the launch site, freight, customs clearance taxes, and duties are the responsibility of the buyer.

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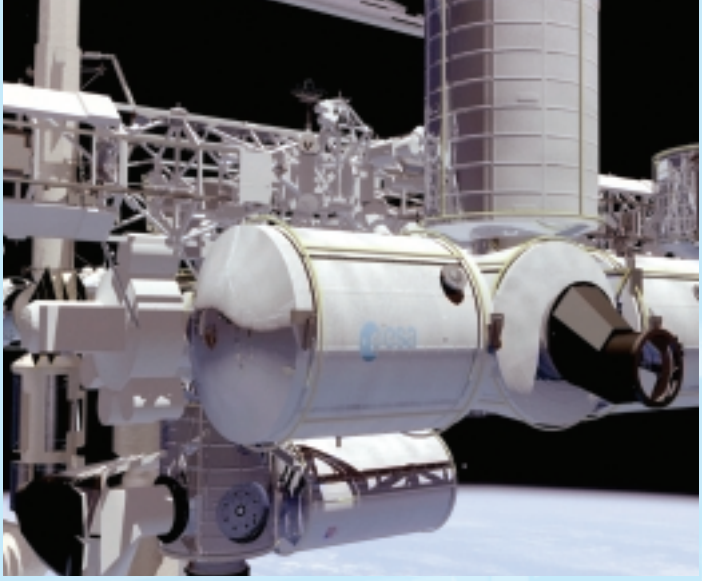

European Space Agency (ESA)

Process

Principal Components of Offer
- Offer Description
- Technical Information
- Company Information and Management Team
- Market Analysis and Strategy Summary
- Business Plan or Proof of Financing
- Letters of Intent/Commitment

Offer Review Steps
- Registration of Offer
- Review: Compliance with ISS Image
  Technical Issues
  Business Issues
  Legal/Policy Issues
- Dispositioning (Acceptance/Rejection)

Notifications to Offeror
- Registration Letter
- Evaluation Letter
- Status Letter

Conditions of Sale

- Timing of use is negotiable, subject to the inventory of resources and accommodations available at each phase in the ISS program.
- Costs associated with nonstandard services are the responsibility of the buyer.
- Costs associated with all payload hardware and software are the responsibility of the buyer.
- Customers from ESA Member States contributing to ISS exploitation[1], which procure ISS services and resources, may apply for ESA deferred payments in the commercial venture.

[1] Currently: Belgium, Denmark, France, Germany, Italy, the Netherlands, Norway, Spain, Sweden, and Switzerland.

Pricing

Product	Quantity	Price[1]
Accommodation:		
▪ EDR locker, inclusive of standard services	1 locker for 3 months inclusive of: 3 crew hrs and 100 kWh	830 KEUR
▪ EDR drawer, inclusive of standard services	1 drawer for 3 months inclusive of: 4 crew hrs and 130 kWh	1050 KEUR
Research facility:		
▪ ESA MFC facility or external facility	1 facility per day[2] including: 15 crew min and 8.5 kWh	70 KEUR
▪ Basic payload support	1 kg payload	10 KEUR
Communication services:		
▪ Data Rate	1 min of TDRSS link	100 USD[3]
Transportation services:		
▪ Pressurised up/downmass	1 kg (each way, passive cargo)	22 KUSD[3]
▪ Unpressurised up/downmass	1 kg (each way, passive cargo)	26.5 KUSD[3]
Additional resources and services		On demand
Media and commercial communication		On demand

Specific customers' requirements will be agreed on a case-by-case basis.

[1] Prices are applicable for customers from States contributing to ISS exploitation. Prices for customers from other States will be agreed on a case-by-case basis.

[2] Several customers may share the usage of one facility, thus reducing the individual cost.

[3] Prices in U.S. dollars refer to services provided via NASA and are subject to NASA pricing provisions.

Contact Information

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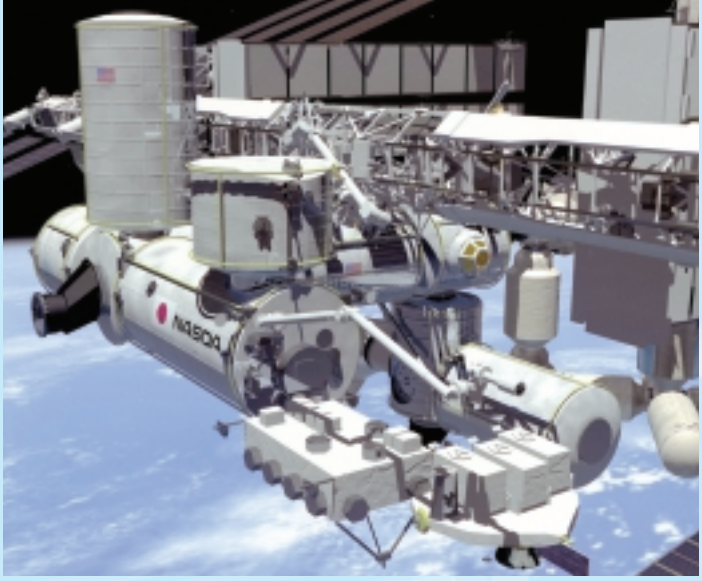

National Space Development Agency of Japan (NASDA)

Japanese Experiment Module (JEM) Initial Utilization (until 2008)

- **Promote diverse fields and styles of JEM utilization and commercial uses.**

Issues to Be Settled

1. Offering timely utilization opportunities making use of pilot projects as test cases
   Status: The National Space Development Agency of Japan (NASDA) has already started various pilot projects for JEM utilization. A new series of pilot projects by NASDA targeting a wider scope, including commercial uses, is starting in 2001.

2. Strategic PR to announce new activities for JEM utilization
   Status: Symposium announcing NASDA's new activities to widen JEM utilization was held in March 2001. NASDA is planning to have such symposiums annually.

3. Confidentiality
   Status: NASDA maintains confidentiality of proposals of pilot projects. Special agreements on this issue between the user are possible if required.

- **Set up basic policies as a guideline for JEM utilization by the public.**

Issues to Be Settled

1. Reasonable and flexible fee system
   Status: To be set by NASDA through the experience of pilot projects. The cost sharing of the first pilot projects is to be decided on a case-by-case basis.

2. User-friendly systems and reasonable management systems
   Status: To be established by NASDA based on the experience of pilot projects.

First Pilot Project Process Starting 2001*

Application
- Offer Description Including Purpose, Novelty, Benefit for People
- Technical Information
- Company Information
- Market Analysis and Strategy Summary
- Financial Plan for the Cost Sharing with NASDA
- Implementation Schedule
- Letters of Intent/Commitment

Offer Review Steps
- Registration of Offer
- First selection by application letter
- Second and final selection based on interview with applicants

Notification to Applicants
- Registration Letter
- Status Letter
- Status Letter

* NASDA is going to start a new type of pilot project series to widen the scope of JEM utilization. The first one, starting in 2001, will be implemented as a joint activity with NASDA, based on a proposed idea by the public to make use of resources provided by NASDA. NASDA is planning to develop the substance of each pilot project one by one in order to gather data to establish user-friendly systems for future JEM utilization.

Main evaluation points for the first pilot projects are 1) effects for the promotion of JEM utilization, 2) novelty of the proposals that diversify JEM utilization, 3) technical feasibility, and 4) budgetary feasibility.

Conditions for the First Pilot Project

- Costs associated with nonstandard integration, flight certification, and safety compliance are the responsibility of the buyer.
- Costs associated with all hardware and software required for additional operations or nonstandard training are the responsibility of the buyer.

First Pilot Project Contact Information

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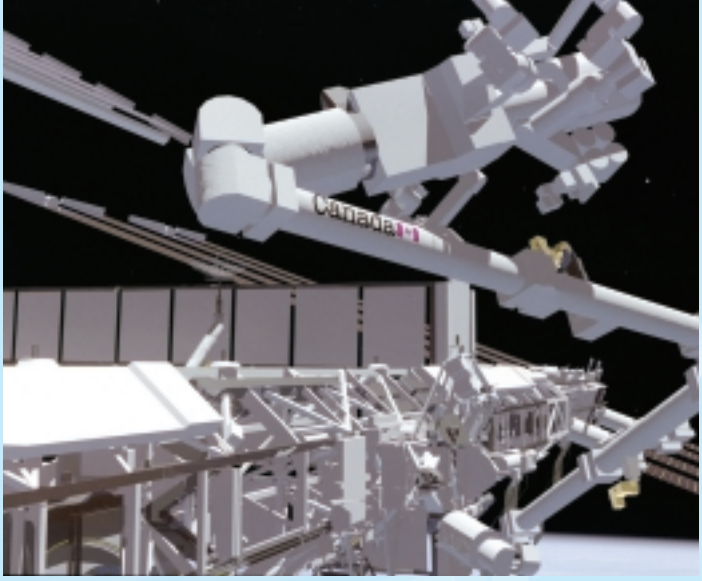

Canadian Space Agency (CSA)

Process

Principal Components of Offer

*Before CIAC Is Established:**

- Offer Description
- Technical Information
- Company Information and Management Team
- Letters of Intent/Commitment

After CIAC Is Established:

- To be set by the Canadian ISS Access Company

Offer Review Steps

Before CIAC Is Established:

- Registration of Offer
- Review of Business, Technical, Legal/Policy Issues
- Disposition (Acceptance/Rejection)

After CIAC Is Established:

- To be done by CIAC (will ensure compliance with IGA, MOUs, payload selection criteria, Canadian laws and regulations, and Government policies)**

Notifications to Offeror

Before CIAC Is Established:

- Registration Letter
- Evaluation Letter
- Status Letter

After CIAC Is Established:

- To be done by CIAC

* CIAC stands for Canadian ISS Access Company. CIAC will have the mandate to commercialize Canada's ISS access rights.

** Questionable payloads will be reviewed by CSA (may require Partner consultation).

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Pricing

Resources	Available Inventory (assembly complete)	Price Structure
Internal Sites 50% of Canadian ISS allocation	Utilization of 4 lockers and 1 supply drawer (and corresponding utilization resources)	To be determined
External Sites 50% of Canadian ISS allocation	Utilization of 1 EPA site for half of ISS lifetime (and corresponding utilization resources)	To be determined

Conditions of Lease

- Leasing of rights to utilization (and site enhancement) of 4 lockers and 1 drawer/1 EPA site designated for commercial purposes will be the mandate of the CIAC.
- CIAC will be selected through a competitive procurement. More information is available at *http://www.space.gc.ca/business/com/iss*
- Master Agreement between CSA and CIAC will determine fee/revenue arrangement.
- CSA will retain the right to ensure full compliance with payload criteria. To preserve integrity, ensure safety and non-interference with other payloads and/or other station-keeping activities, privately developed payloads and/or other commercial activities must comply with all restrictions found in the Intergovernmental Agreement (IGA) and Memorandums of Understanding (MOUs), and must abide by Canadian laws and regulations, ethical guidelines, and other applicable federal policies.
- CSA will process payload-related technical information with diligence and discretion and will share only the required pertinent information with other ISS partners, under the same condition of discretion, for payload integration and safety review.
- CSA will allow non-conventional uses for its ISS allocation (subject to some limited criteria) and will adopt a non-prohibitive approach towards the CIAC's future market development and exploitation of them.

General Policies and Procedures

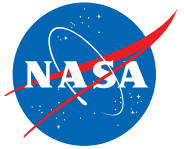
Intellectual Property Protection

Proprietary Information (IGA and Crew Code of Conduct provide the following)

- The IGA safeguards the proprietary nature of utilization data passing through the communications systems of the ISS and the proprietary nature of data and goods transported on a Partners' space transportation system.
- Crew members are required to use confidential data obtained in the course of performing their duties for official purposes only.
- The IGA establishes a procedure to protect sensitive data exchanged in performance of activities on the ISS, and all properly identified proprietary data derived from an experiment will be protected.
- Commercial customers will be guaranteed confidentiality.

Inventions

- The IGA establishes that for purposes of determining the country of inventorship, a territorial approach based on the ownership/registry of elements prevails. Therefore, an activity occurring on an element is deemed to have occurred in the territory of the Partner who owns/registers that element.
- Full scripting of experiment procedures or self-contained packaging of the experiment can minimize or eliminate possible crew inventorship issues.



NASDA


International Space Station
Commercial Programs