Enduring American Presence in Low Earth Orbit is National Imperative

Alongside existing plans for transitioning the International Space Station to commercial destinations, NASA is introducing an additional low Earth orbit (LEO) strategy. This new approach preserves the existing pathway while introducing an additional option to maintain an uninterrupted U.S. presence in low Earth orbit.

For more than two decades, the space station has served as a world class orbital laboratory, enabling more than 4,000 research investigations, supporting more 5,000 researchers, and hosting visitors from 26 countries. The space station required 37 shuttle flights, 160 spacewalks, two decades, and more than $100 billion to design, develop, and build.

The International Space Station remains a unique microgravity platform but sustaining it has required overcoming decades of issues – major spacecraft failures, suit issues, medical contingencies, debris avoidance maneuvers, and more than 110 corrective spacewalks since assembly. A quarter-century of space station success has depended on constant human intervention and a deep bench of technical expertise. Building and operating a new station will face these same challenges.

With the International Space Station approaching retirement, NASA must pragmatically develop the next generation of orbital platforms without compromising America's enduring presence in LEO.

Present Challenge: Aging Infrastructure, Limited Markets, Budget Reality

NASA is introducing an additional strategy that responds directly to the challenges outlined in the latest review of the LEO landscape:

- International Space Station life is limited, and the United States and its international partners cannot afford to misstep on its replacement strategy.
- After more than 25 years of commercial use, no breakthrough products or scalable in-space manufacturing markets have emerged, and tourism has not materialized as a meaningful market. The U.S. Government continues to subsidize every attempt at commercialization in space.
- There is still no independently verifiable evidence that a commercial station funded partially by NASA would be economically viable.
- Budgets are inadequate: NASA cannot afford the originally envisioned path of developing two commercial stations and today cannot even afford one, leaving a shortfall amounting to billions of dollars.

- This fiscal reality forces a single-provider, “winner-take-all” scenario with no redundancy and execution risk in an environment that no provider has comparable experience in.
- Doing nothing would risk a gap in U.S. human presence in LEO at a pivotal time when the Chinese are both inhabiting and rapidly maturing their LEO space station.

NASA Will Consider Two Approaches

1. Status-Quo Commercial Replacement (Insufficient Funding)

This option requires NASA to immediately transition to help develop and purchase commercial station services alongside the decommissioning of the International Space Station relies heavily on an unverifiable market and carries a high execution and operational risk of losing U.S. presence in low Earth orbit.

2. Incremental Transition Approach (NASA’s Preferred Path, Insufficient Funding)

NASA’s preferred strategy is a phased approach that matures commercial capability while leveraging the International Space Station as a foundation.

- NASA will procure commercial modules that attach to the International Space Station first. This risk reduction approach will leverage the space station to keep astronauts alive in the unforgiving environment of space.
- These modules will be tested, outfitted, and validated using the International Space Station infrastructure, robotics, spacewalk capability, and visiting spacecraft.
- After maturing technical and operational capabilities and market demand is realized, the International Space Station will be decommissioned, the new stations will detach into free flight, and NASA will be one of many customers purchasing commercial services.
- This approach provides operational flexibility, ensures rigorous anomaly response during development, allows commercial capabilities to mature, and avoids risking a leadership gap.

NASA’s Updated Architecture

NASA’s refined architecture builds commercial capability in deliberate phases:

Phase 1: NASA Core Module

Working alongside industry, NASA will procure a Core Module that attaches to the International Space Station, supplying propulsion, refueling, power, cooling, docking ports, and basic life support.

Phase 2: Commercial Modules

Two commercial modules arrive and are integrated with the Core Module. International Space Station assets and capabilities are transferred to support outfitting and early operations, enabling commercial partners to build experience.

Phase 3: Separation and Growth

Once ready, the stations detach from the International Space Station with expanded power and cooling capacity, supporting continuous crew presence. The transition is seamless, without a gap in operations.

Phase 4: Market-Driven Expansion

The architecture is flexible, scaling with demand as NASA transitions to being one customer among many.

Benefits of Using Space Station for Transition

The updated plan leverages the International Space Station to reduce risk and accelerate commercial success:

- Full operational capability to support commercial development.
- Shared habitability, crew, and cargo systems.
- Access to International Space Station robotics and EVA.
- Stable environment for anomaly response.
- Ability to transfer ISS assets directly into new commercial modules.

This creates the safest and most cost-effective pathway to maturing commercial LEO infrastructure.

Expanded Opportunities for Industry

Regardless of the pathway, NASA is taking the obligation to stimulate, not force an orbital economy, through the following actions:

- Two private astronaut missions per year.
- Sale of a commander seat for eligible flyers.

- Expanded International Space Station use opportunities.
- Potential joint commercial–NASA crew missions.
- Multiple competitions for commercial module development.
- Leveraging NASA's statutory prize authority, funding market-driven awards for future capabilities and for breakthroughs in microgravity that help to ignite an orbital economy.

NASA is seeking industry feedback on partnership structures, financial commitments, long-term viability of business models, and approaches to address very real technical and operational risks.

An RFI will open on March 25, followed by a rapid review period to initiate procurement activities.

Sustainable Future for U.S. Leadership in LEO

Regardless of the specific pathway, ensuring American space superiority requires a thoughtful, economical, and safe transition that both safeguards an enduring American presence in orbit while simultaneously enabling a pathway to a strong commercial future in LEO.