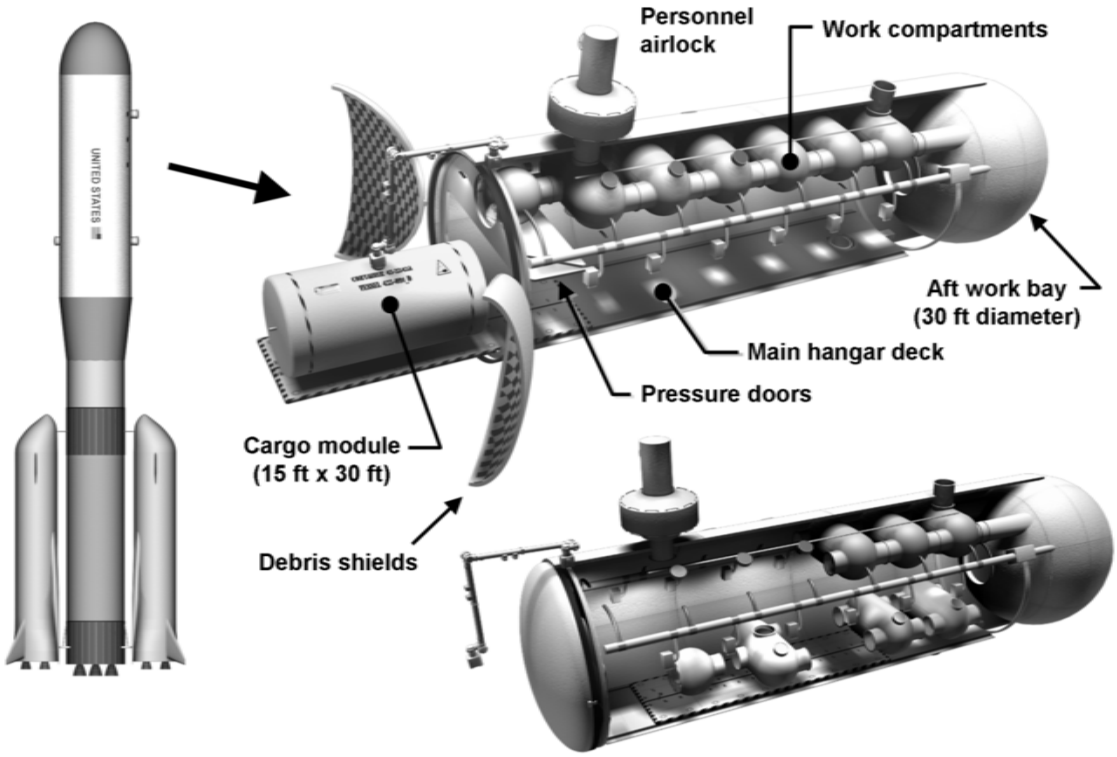
Spacefaring Logistics Infrastructure Fact Sheet



1. System element name: **Space hangar (space logistics base)**
2. Infrastructure phase deployed: 2
3. Function: Provides pressurized servicing capabilities
4. 2007 Technology Readiness Level: 6-9
5. Description:
   - Space hangar primary structure consists of the forward flat pressure bulkhead, the cylindrical pressure shell, and the aft spherical work bay. This entire unit is deployed to orbit using a single Shuttle-derived spacelifter.
   - Hangar is divided into three areas: main hangar deck, aft spherical work bay, and upper work compartments. Pressurization is controlled separately for each of these areas.
   - Main hangar deck, accessible through the pressure doors, enables servicing of large units, unloading of cargo containers, and support for passenger spaceplanes.
   - Aft work bay is accessible through a 12.5 ft diameter pressure door from the main hangar deck or from an identical door opposite (not shown) opening to space. The aft work bay is used to service smaller satellites, space tug crew modules, etc.
   - The work compartments provide airlock access to the main hangar deck and to the outside, via the personnel airlock. They are also used for bench-level servicing of smaller components. The work compartments, sized to fit within the Gen. 1 aerospaceplane cargo container, are installed in orbit as the hangar is being configured for operations.
   - The forward work compartment is used to observe the placement of cargo on the sliding ramp and control the robotic arm. Once the cargo is secured to the ramp, the ramp retracts into the main hangar deck.
   - Main hangar deck enables pressurized, unpressurized, or inert atmosphere servicing operations to be performed manually, robotically, or remotely controlled.
6. Technical data (initial estimate)
   - Hangar length: ~120 ft
   - Hangar outer diameter: ~33 ft
   - Useable main hangar deck length: ~75 ft
   - Useable main hangar deck width: ~20 ft
   - Useable main hangar deck height: ~16 ft

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