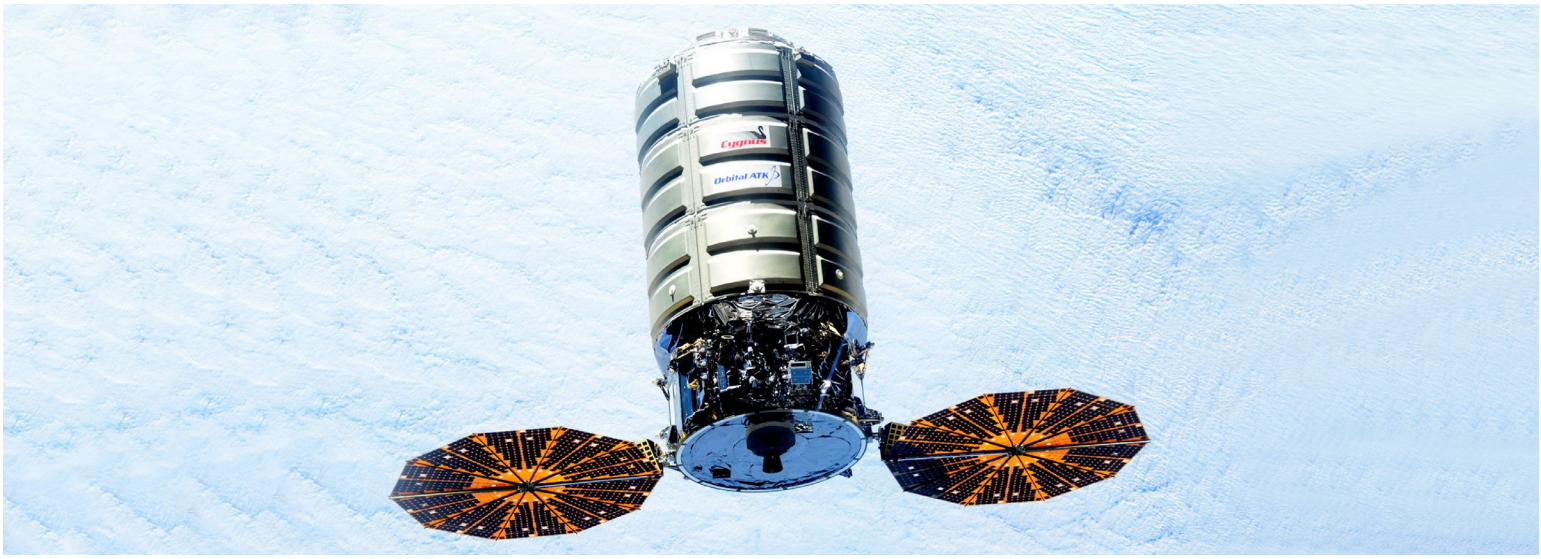
Cygnus™ OA-6 Mission

Cargo Delivery Spacecraft for the International Space Station (ISS)

FACT SHEET



Overview

The Cygnus spacecraft is a flight proven system, having successfully delivered cargo to the ISS on four previous missions. Cygnus is used to carry crew supplies, spare equipment and scientific experiments to the ISS.

For the OA-6 mission, Orbital ATK is using the Enhanced Cygnus to deliver cargo to the International Space Station (ISS). The cargo capability of the Enhanced Cygnus is more than 3500 kg (7700 lbs) versus the maximum capability of 2300 kg (5070 lbs) on the Standard version.

The Service Module utilizes flight proven avionics and communication systems, and incorporates UltraFlex™ solar arrays as well as an optimized propulsion system and structure.

The Enhanced Pressurized Cargo Module is based on the standard PCM, developed by Thales Alenia Space for the Cygnus spacecraft. The Enhanced PCM has increased volume capability by approximately 50%, as well as an improved secondary structure allowing for more densely packed cargo.

For the OA-6 mission Cygnus will carry the Saffire payload experiment to study combustion behavior in the microgravity environment. The experiment will be conducted after Cygnus departs the ISS. The results will be downloaded via telemetry prior to reentry.

The OA-6 mission will be the second Cygnus mission utilizing the Atlas V launch system, providing increased performance and flexibility to the Orbital ATK cargo delivery service. This mission will again utilize the Kennedy Space Center and launch from the Cape Canaveral Air Force base in Cape Canaveral, Florida.

FACTS AT A GLANCE

Mission Partners

Orbital ATK
Prime contractor; engineering and development; Cygnus Service Module, mission and cargo operations

Thales Alenia Space
Pressurized cargo module

Mitsubishi Electric Corporation (MELCO)
Proximity link system

Draper Laboratory
Guidance, navigation and fault tolerant computer support

United Launch Alliance
Atlas V 401 launch vehicle delivery service

JAMSS America, Inc.
Operations support

Kennedy Space Center
Spacecraft processing facilities and services

Cygnus OA-6 Mission

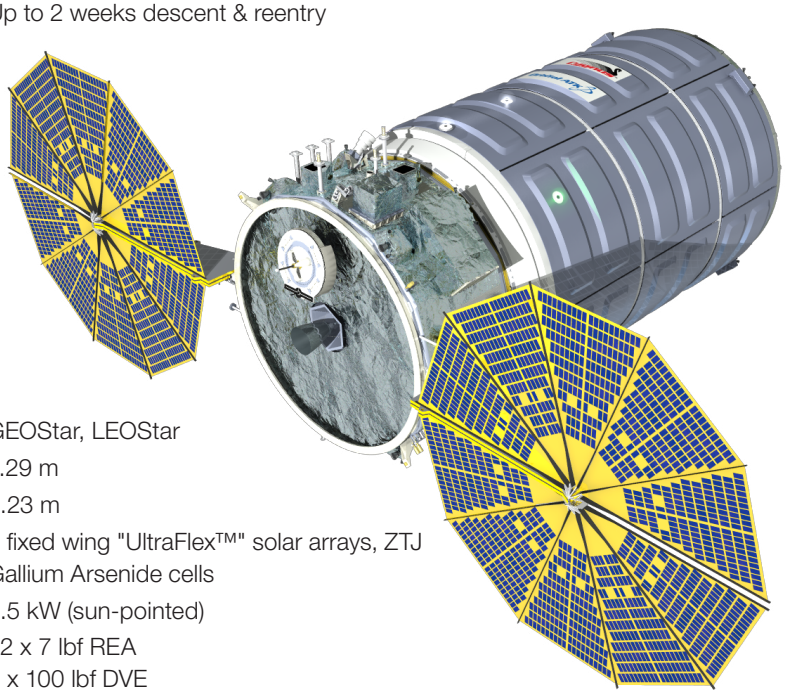
Specifications

Mission Overview

Space Vehicle:	Cygnus
Launch Vehicle:	Atlas V 401
Cygnus Launch Mass:	7,492 kg
Propellant Mass:	828 kg
Ascent Cargo Mass:	3,513 kg
Descent Cargo Mass:	1854 kg
Mission Duration:	4 days ascent & phasing up to 60 days berthed Up to 2 weeks descent & reentry

Pressurized Cargo Module

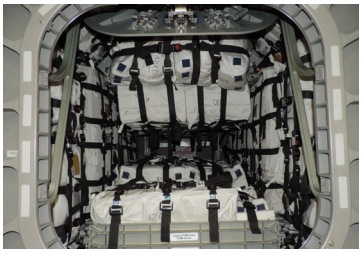
Height:	5.1 m
Diameter:	3.05 m
Heritage:	Multi-Purpose Logistics Module
Total Cargo Mass:	3,513 kg
Pressurized Volume:	27 m^3
Berthing at ISS:	Common Berthing Mechanism (CBM), Node-1 nadir or Node-2 nadir



Service Module

Heritage:	GEOStar, LEOStar
Height:	1.29 m
Max Diameter:	3.23 m
Power Generation:	2 fixed wing "UltraFlex™" solar arrays, ZTJ Gallium Arsenide cells
Power Output:	3.5 kW (sun-pointed)
Propulsion:	32 x 7 lbf REA 1 x 100 lbf DVE
Propellant:	Dual-mode N_2H_4/MON-3 or N_2H_4

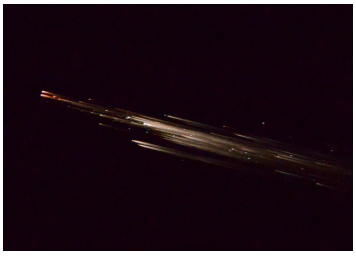
Mission Profile



NASA cargo loaded in Cygnus Pressurized Cargo Module

Launch from Kennedy Space Center

Rendezvous and berthing with ISS



Destructive reentry above the Pacific Ocean

Key Contacts

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