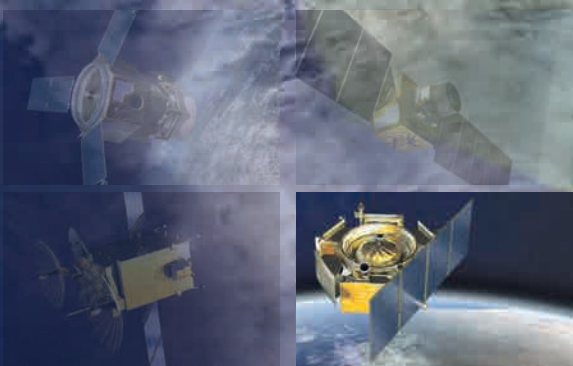


Eagle-S™

*Efficient and flexible
rideshare spacecraft*



THE VALUE OF PERFORMANCE.

NORTHROP GRUMMAN

Eagle-S™ Spacecraft

The Eagle-S configuration of the Eagle spacecraft product line is uniquely designed to take advantage of excess capacity available on missions using the Evolved Expendable Launch Vehicle (EELV), Falcon Heavy, Falcon 9 or Antares. The Eagle-S spacecraft is designed as a secondary payload leveraging the lower launch costs as a rideshare and gaining the benefit of high reliability launch platforms. An Eagle testbed is available for payload testing.

The Eagle-S bus has been designed to accommodate an optional fully redundant hardware suite for missions that require longer mission life. Using an EELV Secondary Payload Adapter (ESPA) as its primary structure allows Eagle-S to be launched with another spacecraft as demonstrated with the Northrop Grumman-built Lunar CRater Observation and Sensing Satellite (LCROSS).

The LCROSS spacecraft, launched as the secondary payload with the Lunar Reconnaissance Orbiter (LRO) spacecraft on an EELV,



LCROSS (circled) and LRO stacked for launch

resulted in substantial launch cost savings and 100 percent mission success.

The Eagle-S spacecraft provides affordability while maintaining the reliability and performance for which Northrop Grumman is known.

Eagle-S Specifications

Payload Mass	180 kg per available ESPA port, maximum 6,800 kg mounted to upper interface
Payload Power	795 W or greater
Payload Data Interface Type	100 Mbps (SpaceWire) 330 Kbps (1553B) 10 Mbps (RS-422) Up to 384 Gb-SDRAM or 1526 Gb-Flash data storage
Pointing Knowledge	22-60 arcsec, 3σ*
Pointing Control	1,550 arcsec, 3σ**
Design Life	3 years (selective redundancy); 7 years (full redundancy option)
Propulsion Type, Capability (delta V)	Monoprop, 800 m/s or greater
Bus Delivery	20 months from authorization to proceed

* Higher performance available using payload data

** Higher performance using reaction wheels

Optimal Eagle Spacecraft and Launch Vehicle Matching



Eagle-1M



Eagle-2



Eagle-3



Eagle-S



Minotaur I

Taurus 3210

Minotaur IV

Delta II



Antares

Falcon 9

Falcon Heavy

EELV

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