

MIS	μwave Imager/Sounder
VIIRS	Visible/Infrared Imager
CrIS	Infrared Sounder
ATMS	Microwave Sounder
OMPS	Ozone
ADCS	Data Collection
SEM-N	Space Environment
SARSAT	Search & Rescue
CERES	Solar Irradiance

NPOESS 1730 Configuration

The NPOESS will operate in two different sun synchronous orbits, 1330 and 1730 with different configurations of environmental sensors that provide environmental data records (EDRs) for space, oceanographic, land, radiation clouds and atmospheric parameters.

In order to meet this requirement, the NPOESS prime contractor, Northrop Grumman Space Technology, is using its flight-qualified NPOESS T430 spacecraft. This spacecraft leverages extensive experience on NASA's EOS Aqua and Aura programs that integrated sensors similar to NPOESS.

As was required for EOS, the NPOESS T430 structure is an optically and dynamically stable platform specifically designed for earth observation missions with complex sensor suites.

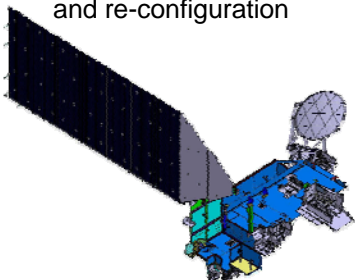
In order to manage engineering, design, and integration risks, a single spacecraft bus for both orbits provides support for accelerated launch call-up and operational requirement changes. In most cases, a sensor can be easily launched in a different orbit because it will be placed in the same position on any spacecraft. There are ample resource margins for the sensors, allowing for compensation due to changes in sensor requirements and future improvements.

The spacecraft still has reserve mass and power margin for the most stressing 1330 orbit. The seven panel solar array, expandable to eight, is a single design, providing power in the different orbits and configurations.

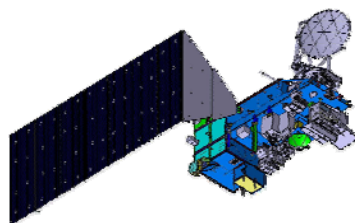
	1330	1730	NPP
VIIRS	X	X	X
MIS	X	X	
CrIS	X		X
ATMS	X		X
OMPS	X		X
ADCS	X	X	
SARSAT	X	X	
CERES	X		X
SEM-N	X	X	

Single satellite design with common sensor locations

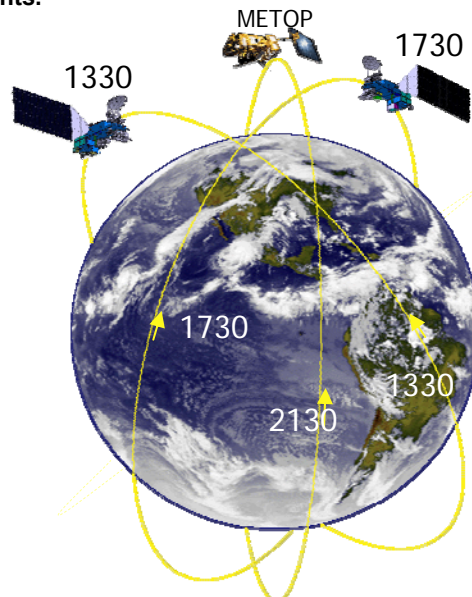
- Common spacecraft design for both orbits
- Common sensors in the same place for efficient integration and re-configuration



1330 (C3) LTAN



1730 LTAN



*Per US/EUMETSAT agreement, NPOESS will fly CrIS/ATMS only on the 1330 spacecraft and use EUMETSAT's IASI/AMSU on its 2130 spacecraft. The advanced sounders greatly improve numerical forecasting capability.