



EXPLORATION AND SCIENCE

Enabling Human Space Exploration and Scientific Discovery

Northrop Grumman is an industry leader in technologies that enable our customers' missions in human spaceflight, astrophysics, heliophysics, weather and earth observation.

Powering the Artemis Generation

Northrop Grumman technologies are powering NASA's next-generation space exploration program to land the first woman and person of color on the Moon. We provide the solid rocket boosters for NASA's Space Launch System (SLS), the most powerful rocket ever launched, providing over 70% of thrust at liftoff. Northrop Grumman solid rocket technology also powers the Orion Launch Abort System, which is designed to safely pull the astronaut crew from the SLS in case of an emergency on the pad or during launch.

In addition, Northrop Grumman is designing and building the Habitation and Logistics Outpost (HALO) for NASA's Lunar Gateway,

humanity's first deep-space outpost that will enable sustained operations around the moon, human exploration of the lunar surface, and extended missions beyond cislunar space.

Sustaining Human Activity in Low Earth Orbit

Northrop Grumman is one of only two companies in the world providing commercial cargo resupply services to the International Space Station (ISS). Using our Cygnus logistics spacecraft we have delivered more than 139,000 pounds of critical crew supplies, scientific experiments and equipment to the astronauts aboard the station. Cygnus is also able to boost the station's orbit to keep it in its optimal altitude above earth. Looking ahead to future space stations, we are advancing the commercial space economy. We are adapting our Cygnus design for commercial space station logistics services, and our capabilities are positioned to support ISS deorbit.

Science Missions that Are Changing Our Understanding of the Solar System and the Universe

Northrop Grumman is the astrophysics company. We designed and built the

James Webb Space Telescope, the most complex space observatory ever built, which is fundamentally changing our understanding of the universe. We have a proud history of delivering reliable spacecraft for astrophysics, heliophysics and planetary science that have often far exceeded their design lifetimes and have provided valuable data on everything from exoplanets, the solar system, and black holes to gamma ray bursts, quasars, protoplanets and other astrophysical phenomena.

Weather Forecasting and Earth Observation for Our Planet

Northrop Grumman satellites circle the globe providing critical data for weather forecasting, land use, climate change research and atmospheric monitoring. Customers including NASA, NOAA and USGS rely on our flight-proven satellite platforms to deliver reliable data that affect the lives of millions of people on earth every day and expand our understanding of the earth's atmosphere, climate and land masses.



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SOME OF OUR PROGRAMS:

Human Space Systems

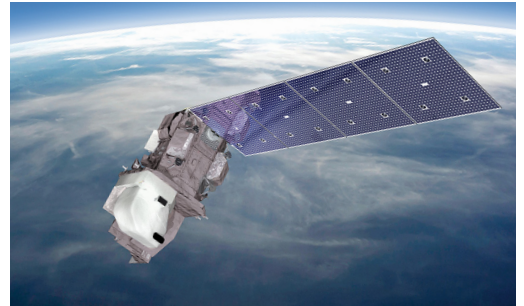
- SLS Boosters
- Orion Launch Abort System Motors
- Habitation and Logistics Outpost (HALO) for NASA's Lunar Gateway
- Cygnus/Commercial Resupply to the ISS

Science & Robotic Exploration

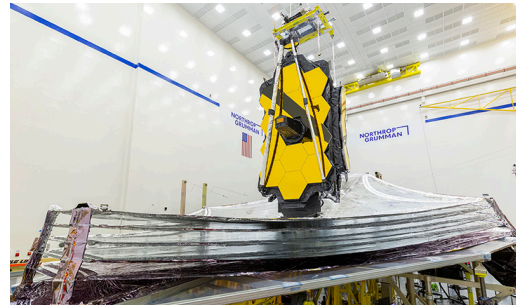
- James Webb Space Telescope
- Chandra X-ray Observatory
- Transiting Exoplanet Survey Satellite (TESS)
- Joint Polar Satellite System-2 - NOAA-21, JPSS-3 and -4
- Landsat 8 and 9
- Nuclear Spectroscopic Telescope Array (NuSTAR)
- HelioSwarm
- Compton Spectrometer and Imager (COSI)
- Fermi Gamma Ray Space Telescope
- Orbiting Carbon Observatory-2 (OCO-2)
- Aqua
- Aura
- Ice Cloud and Land Elevation Satellite-2 (ICESat-2)
- Neil Gehrels Swift Observatory
- Ultraviolet Explorer (UVEX)



Habitation and Logistics Outpost



Landsat 9



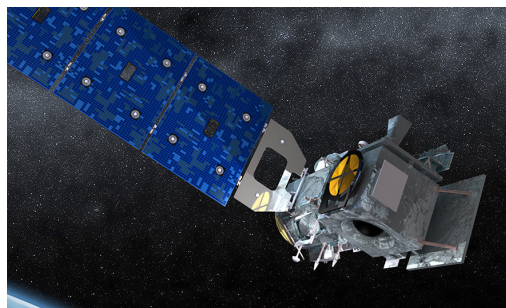
James Webb Space Telescope



Transiting Exoplanet Survey Satellites



Cygnus cargo delivery spacecraft



Ice Cloud and Land Elevation Satellite-2



Chandra X-Ray Observatory

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