Under a contract from Thales Alenia Space, Northrop Grumman is assembling, integrating, and testing 81 spacecraft for the Iridium NEXT program including 66 operational spacecraft, six on-orbit spares, and nine ground-backup spacecraft. Northrop Grumman’s responsibilities also include Ground Support Equipment (GSE), payload integration, including hosted payloads, shipment, and launch integration services.

Each spacecraft employs an L-band phased array antenna for generation of the 48-beam, 4,700 kilometer diameter cellular pattern on the Earth’s surface for communication with subscribers/users. Ka-band links are also provided for communications with ground-based gateways and for crosslinks with adjacent spacecraft in orbit. The cross-linked 66 satellite constellation forms a global network in space allowing communications from a ground or airborne user from any location on Earth to anywhere else on Earth.

Coverage
Worldwide

Mission
Global mobile communications

Customers
Thales Alenia Space
Cannes, France

Iridium Communications Inc.
McLean, Virginia
Specifications

Spacecraft
Launch Mass: 860 kg (1,896 lb.)
Solar Array: 2,200 W with a 2 axis motion control
Orbital Altitude: 780 km (485 mi)
Stabilization: 3-axis (all axis are controlled)
Mission Life: 12.5 years design life – up to 15 years mission lifetime

Communications
Software defined regenerative processing payload.

L-band
• Single 48-beam transmit/receive phased array antenna
• Time-Division Duplex (TDD) architecture

Ka-band
• Two 20/30 GHz steerable feeder links to terrestrial gateways
• Four 23 GHz crosslinks to adjacent Iridium NEXT satellites for relay communications, two steerable, two fixed antennas
  Time-Division Duplex (TDD) architecture

TT&C
• 20/30 GHz links via omni antennas

Launch
Launch Vehicle: Falcon 9
Site: Vandenberg Air Force Base, CA
Date: 2017-2018

Mission Partners
Iridium Communications Inc
Owner/operator of the Iridium® System

Thales Alenia Space
Prime contractor for the Iridium NEXT satellite system

Northrop Grumman
Assembly, integration and test of the 81 satellites including primary and hosted payloads, shipment and launch integration services

Hosted Payloads
The Iridium NEXT spacecraft design allows for up to a 54-kilogram hosted payload. Hosted payloads enjoy the interconnectivity of the 66 satellite Iridium network and near-real time relay of data to and from space, providing the end user global coverage at a fraction of the price of a dedicated mission. The end user receives hosted payload data via an IP interface to Iridium facilities, which obviates the need for any customer owned ground stations. Additional benefits to hosted payload missions include persistence, revisit capabilities and resilience.

Total Mass: Up to 54 kg
Dimensions: 30 x 40 x 70 cm
Power: 90 W Orbit Average, 200 W Peak
Data Rate: Up to 1 Mbps

More Information
Diane Hockenberry
Director, Communications and Public Relations
Diane.Hockenberry@Iridium.com

Artist’s rendering of the Iridium NEXT constellation of satellites