Backgrounder

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Intelsat

Description and Purpose:
Nine Boeing-built geostationary satellites will refresh and add new telecommunications capacity to Intelsat's global satellite fleet.

Customer:
For more than four decades, Boeing has built more than 50 communications satellites for Intelsat, the leading provider of satellite services worldwide. In July 2009, Intelsat became Boeing's first customer for the Boeing 702MP satellite series when it ordered four spacecraft. In May 2013, Intelsat ordered an additional four 702MPs and in July 2014 added a ninth 702MP to its order sheet.

General Characteristics:
The new spacecraft features C- and Ku-band capacity optimized to distribute video, network and voice services from Asia and Africa to the Americas and Europe.

Intelsat 22, the first of the nine Boeing-built Intelsat satellites, carries 32 C-band and 24 Ku-band (36 MHZ-equivalent) transponders for commercial use, as well as an Ultra-High Frequency (UHF) government-hosted payload to provide service to the Australian Defence Force. Intelsat 22 was launched March 25, 2012, and is operating in a 72 degrees east orbital slot over the Indian Ocean.

The second Intelsat satellite, Intelsat 21, was launched August 18, 2012. As part of Intelsat's fleet replacement and expansion plans, Intelsat 21will start service at 302 degrees East in 2012, and will replace the IS-9 satellite. IS-21 will continue to serve the Latin America and Caribbean media community.

The third satellite, Intelsat 27, was to carry a UHF hosted payload and offer 20 25-KHz UHF channels capable of serving the U.S. government and other Intelsat clients around the world. The satellite was launched Jan. 31, 2013, but was lost due to a launch failure.

The fourth Boeing Intelsat 702MP, IS 29e, will carry Intelsat's next-generation high-performance Epic^{NG} system. Scheduled for launch in 2015, Intelsat 29e will offer communications coverage spanning North and South America, the Gulf of Mexico, Caribbean Sea, and the North Atlantic aeronautical route connecting North America and Europe.

The new contract announced in May 2013 adds four more Epic^{NG} satellites to the Intelsat fleet, starting with Intelsat 33e to be launched in 2016. The Intelsat satellites incorporate low-risk, proven technologies based on the Boeing 702HP satellite. The payload is powered by two solar wings, each with three panels (Intelsat 22 and 27) or four panels (Intelsat 21) of ultra triple-junction gallium arsenide solar cells.

In July 2014, Boeing and Intelsat announced that Boeing would be building another Epic^{NG}, the IS 35e. Intelsat's new satellites incorporate Boeing Lean manufacturing, which streamlines manufacturing and test through reduced part count, reduced assembly steps, more efficient operational layout and an enhanced supplier-management philosophy based on a product line rather than program approach. Because of the modular design, common manufacturing processes such as pulse line and manufacturing line production can be leveraged to accelerate the manufacturing cycle, leading to a faster delivery for the customer.

Background:
The 702MP satellite represents the first major evolution since the introduction of the Boeing 702HP in 1999. Boeing introduced the 702MP spacecraft in 2009 to meet the needs of customers seeking satellites in the middle-level power ranges. Its flexible design supports payloads that range in power from 6 to 12 kilowatts. The 702MP provides the high-capability features inherent in the flight-proven Boeing 702HP satellite model, but with a substantially updated satellite bus structure and simplified propulsion system.

Designed to provide 15 or more years of satellite service, the 702MP platform is able to accommodate hosted payloads (such as sensors, UHF and Ka-band for the U.S. government) for additional flexibility in customer business planning. The Boeing 702MP is compatible with the Atlas, Ariane, Falcon, Sea Launch and Proton launch vehicles.

The 702MP satellite is designed and built at The Boeing Company's satellite integration and test complex in El Segundo, Calif.

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