



COMMERCIAL AND GOVERNMENT SATELLITES INTELSAT



DESCRIPTION & PURPOSE

Nine Boeing-built geostationary satellites provide 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 21 started service at 302 degrees East in 2012, and replaced 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, was launched January 27, 2016, carrying Intelsat's next-generation high performance EpicNG system. Intelsat 29e offers 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 second satellite of the EpicNG service, Intelsat 33e, covers Europe, Africa and most of Asia from the 60° East longitude, where it replaced Intelsat 904, and was launched on August 24, 2016. Intelsat 35e covers the Americas, Europe and Sub-Saharan Africa, and Intelsat 37e replaced Intelsat 901, which provides Ku-band spot beam coverage for Europe and C-band coverage for the Atlantic Ocean region. Both 35e and 37e were launched in 2017.



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. 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.

702 BACKGROUND

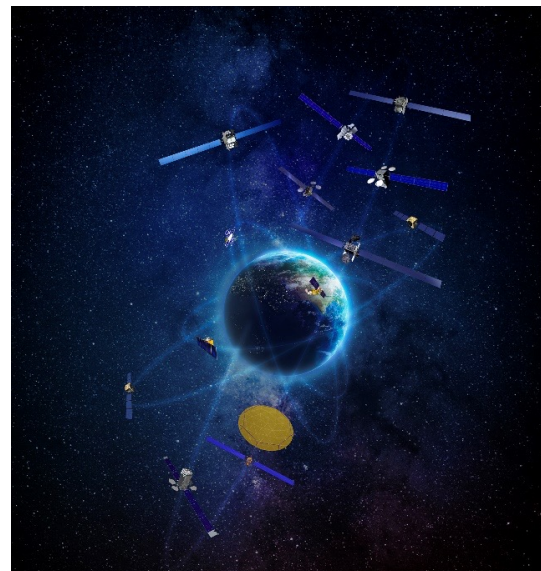
The scalable, flexible 702 product line is an orbit-proven platform that cost-efficiently serves a wide range of commercial and government customers. Boeing introduced the 702 spacecraft family in 1995, and today more than two dozen are on orbit, with almost a dozen more currently in production. The 702 family product line offers flexible designs supporting payload power levels from 3 to 25 kilowatts, meeting the needs of customers seeking satellites in wide power ranges.

FLEXIBLE SATELLITES FOR GOVERNMENT AND COMMERCIAL OPERATORS

Boeing builds adaptable satellites to meet changing business cases and fulfill even the most demanding missions. We're well into our sixth decade of providing advanced space and communications systems for military, commercial and scientific uses.

Boeing satellites reliably deliver digital communications, mobile communications, broadband internet connectivity, streaming entertainment, and direct-to-home entertainment around the world.

We continue to invest in and create a continuum of products across all orbits to give customers tiered options based on size, weight and power, to deliver the capability they need to their end-users.



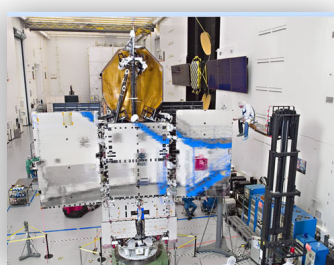
Artist rendering of Boeing satellites operating across all orbits

MISSION ASSURANCE

Boeing's satellite systems business is located in El Segundo, Calif. The world's first geosynchronous communications satellite, Syncom, was built there by Boeing and launched in 1963. Since then, Boeing has delivered more than 300 satellites to more than 50 customers in more than 20 countries, and continues to design and build government and commercial satellites in its factory in El Segundo.



Exterior of Boeing Satellite Factory



High Bay



Thermal Vacuum



Payload Integration & Test

STRONGER TOGETHER

In addition to Boeing's space capabilities, Spectrolab and Millennium are also a part of the Boeing team. Click on the company logos to learn more!



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