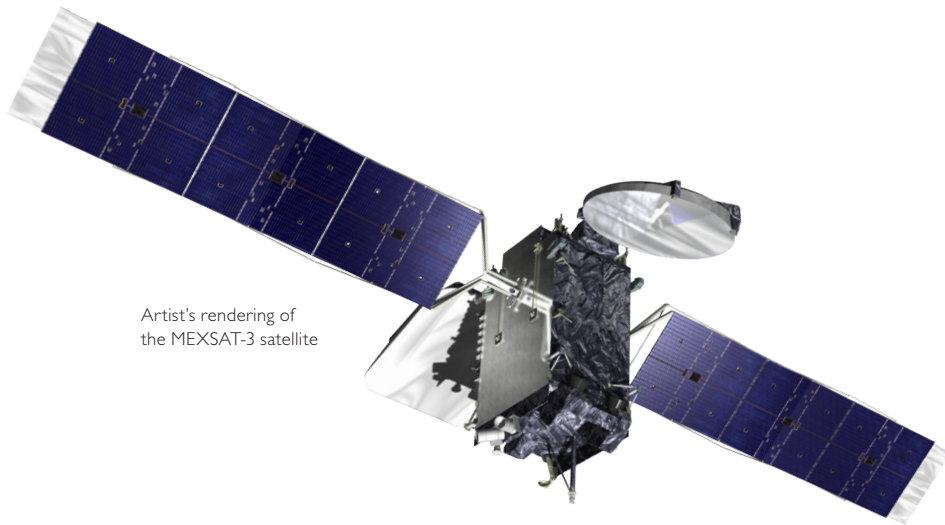




MEXSAT-3

C-band/Ku-band Hybrid Satellite for Mexico



Artist's rendering of the MEXSAT-3 satellite

Mission Description

Orbital was selected by the Boeing Company to provide the Fixed Satellite Services (FSS) segment of the MEXSAT satellite system for the Federal Government of Mexico. The MEXSAT system is a three satellite system consisting of two Mobile Satellite Services (MSS) spacecraft designed and built by Boeing (MEXSAT-1 & MEXSAT-2) and one FSS satellite, MEXSAT-3, designed and built by Orbital.

MEXSAT-3 is based on Orbital's GEOStar-2 platform and will generate approximately 3.5 kilowatts of payload power and carry 12 active extended Ku-band and 12 active extended C-band transponders. The spacecraft will provide communications services to Mexico and its surrounding waters from the 114.9 degree West Longitude orbital slot. In addition to the MEXSAT-3 spacecraft, Orbital will also provide the FSS ground segment, including the satellite command and control ground equipment and software as well as training and operational documentation.

QUICK FACTS:



Coverage:
Mexico and surrounding waters

Mission:
Ku- and C-band FSS communications

Customer:
The Boeing Company (MEXSAT prime contractor) and the Federal Government of Mexico, through the Ministry of Communications and Transports



MEXSAT-3 is based on Orbital's STAR satellite platform, and will undergo integration and testing at Orbital's Satellite Manufacturing Facility in Dulles, VA

MEXSAT-3

Specifications

Spacecraft

Nominal Launch Mass:	2,900 kg (6,393 lb.)
Payload Power:	3,500 W
Solar Arrays:	Three panels per array, UTJ Gallium Arsenide cells
Stabilization:	3-axis stabilized; zero momentum
Propulsion:	Liquid bi-propellant transfer orbit system; monopropellant (hydrazine) on-orbit system
Batteries:	Lithium Ion
Mission Life:	≥ 15 years
Orbit:	114.9 degrees West Longitude

Hybrid Payload

C-band

Repeater:	12 active extended C-band transponders
Antenna:	2.3 m dual gridded deployable reflector

Ku-band

Repeater:	12 active extended Ku-band transponders
Antenna:	2.5x2.7 m single shell super-elliptical deployable reflector

Launch

Launch Vehicle:	Ariane 5
Site:	Kourou, French Guiana
Date:	2012

The GEOStar™ Advantage

Orbital's highly successful Geosynchronous Earth Orbit (GEO) communications satellites are based on the company's GEOStar spacecraft platform, which is able to accommodate all types of commercial communications payloads and is compatible with all major commercial launchers. The company's GEOStar product line includes the GEOStar-2 design, which is optimized for smaller satellite missions that can support up to 5.0 kW of payload power. Orbital has also developed the higher-power GEOStar-3 spacecraft design, delivering the next increment of payload power for applications between 5.0 and 7.5 kW, allowing Orbital to offer its innovative and reliable satellite design to the medium-class of communications satellites.

Mission Partners

Federal Government of Mexico

Ministry of Communications and Transport

Orbital Sciences Corporation

Design, integration and test of the MEXSAT-3 satellite, and FSS ground segment

The Boeing Company

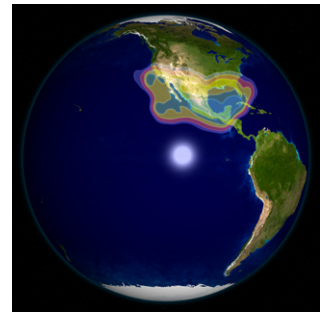
Prime contractor for the MEXSAT satellite system; design, integration and test of the MEXSAT-1 and -2 spacecraft

MEXSAT-3 Coverage Contour Maps

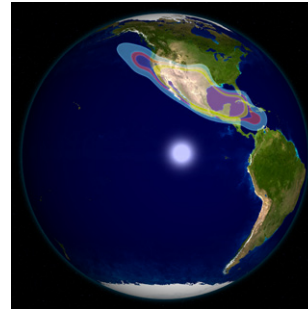
Ku-band Rx



Ku-band Tx



C-band Rx



C-band Tx

