

# NASA accepts third generation TDRS into network

August 19 2013

---



This is TDRS-k, ready for launch. Credit: Boeing

NASA has accepted ownership of its newest Tracking and Data Relay Satellite (TDRS) from Boeing after successfully completing in orbit testing. TDRS-K, will be renamed TDRS-11 upon entry into service.

"This is a major step in replenishing an aging TDRS fleet which is essential in providing communications to support space exploration," said Badri Younes, deputy associate administrator for Space Communications and Navigation at NASA Headquarters. "We look forward to the launch of two additional satellites in the next few years to complete the replenishment program."

The TDRS fleet provides communications support to an array of [science missions](#), as well as several launch vehicles. The network has provided critical real-time communication with NASA's human spaceflights since early in the Space Shuttle Program. TDRS network operations continue to provide support for International Space Station activities.

"The acceptance of this spacecraft is the result of many years of hard work by dedicated team members at NASA and Boeing," said Jeffrey Gramling, TDRS project manager at NASA's Goddard Space Flight Center in Greenbelt, Md. "This next generation of spacecraft ensure network continuity for at least another decade."

Goddard is home to the TDRS Project Office, which is responsible for the development and launch of the communication satellites. The Boeing Company headquartered in Chicago, Ill., is the private contractor for the TDRS K, L and M satellites. TDRS is the space element of NASA's Space Network, providing the critical communication lifeline for NASA missions. NASA's Space Communications and Navigation Program, part of the Human Exploration and Operations Mission Directorate at the agency's Headquarters in Washington, is responsible for NASA's Space Network.

The TDRS fleet now consists of eight satellites with ground stations at White Sands, N.M. and Guam. NASA's upgrade to the network includes modifications to those ground terminals.

The TDRS Project was established in 1973 to provide continuous communications to NASA's critical low Earth-orbiting science and human spaceflight missions. When TDRS-1 was launched from [space shuttle Challenger](#) in 1983, TDRS spacecraft were the largest, most sophisticated [communication satellites](#) ever built. TDRS-1 provided NASA an exponential increase in data rates and contact time communicating with spacecraft.

NASA continued adding TDRS spacecraft (the first seven were built by TRW, later to become Northrop Grumman) until 1995. TDRS-2 was lost during the Challenger accident in 1986. From 2000 to 2002, NASA added three spacecraft to the fleet, establishing the second generation. The H, I, and J, satellites were built by Hughes (later to become Boeing) and continue to operate along with members of the now aging first generation. TDRS-1 was retired in 2010 and TDRS-4 in 2011.

On Jan. 30, TDRS-K was launched aboard an Atlas V rocket from Cape Canaveral Air Force Station in Florida. Before this year's launch it had been 10 years since NASA last added a TDRS to the network. These next-generation satellites are being built at Boeing's Space & Intelligence Systems in El Segundo, Calif.

TDRS-K, L, M, together with the other spacecraft that continue to operate well beyond their design life, will ensure NASA's critical missions will be supported into the 2020's. The launch of TDRS-L is slated for January 2014 and TDRS-M will be ready for launch in December of 2015.

**More information:** [tdrs.gsfc.nasa.gov/](http://tdrs.gsfc.nasa.gov/)  
[www.nasa.gov/SCaN](http://www.nasa.gov/SCaN)

Provided by NASA's Goddard Space Flight Center

Citation: NASA accepts third generation TDRS into network (2013, August 19) retrieved 26 April 2024 from <https://phys.org/news/2013-08-nasa-tdrs-network.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.