

# SES-9 Mission

## Mission Overview

SpaceX’s Falcon 9 rocket will deliver SES-9, a commercial communications satellite for SES, to a Geostationary Transfer Orbit (GTO). SES is a world-leading satellite operator that provides satellite-enabled communications services to broadcasters, Internet service providers, mobile and fixed network operators, and business and governmental organizations worldwide using its fleet of more than 50 geostationary satellites.



Official SpaceX SES-9 mission patch

SpaceX is targeting an evening launch of SES-9 from Space Launch Complex 40 at Cape Canaveral Air Force Station, Fla. The approximately 90-minute launch window opens on February 24 at 6:46:14 pm ET. A backup launch window opens at 6:46:17 pm ET on February 25. The satellite will be deployed approximately 31 minutes after liftoff.

This mission is going to a Geostationary Transfer Orbit. Following stage separation, the first stage of the Falcon 9 will attempt an experimental landing on the “Of Course I Still Love You” droneship. Given this mission’s unique GTO profile, a successful landing is not expected.

## Payload

SES-9 is the largest satellite dedicated to serving the Asia-Pacific region for SES. With its payload of 81 high-powered Ku-band transponder equivalents, SES-9 will be the 7th SES satellite providing unparalleled coverage to over 20 countries in the region.

SES-9 will provide expansion and replacement capacity to serve the video, enterprise, mobility and government sectors in fast-growing markets across Northeast Asia, South Asia and Indonesia. The additional capacity on SES-9 will enable direct-to-home operators to broadcast more local content and increase their SD and HDTV channel line-up to 22 million households across Asia-Pacific, in markets such as India, Indonesia, and the Philippines.

SES-9 will also deliver high-speed broadband services and mobile backhaul to remote regions to enable the deployment of communication networks, such as banking and e-government services.

In addition, SES-9 is well-equipped to meet the demand for maritime connectivity with its dedicated mobility beams, which will provide comprehensive coverage for the 26,000 vessels expected to sail on high-traffic maritime routes in Asia-Pacific in 2016, such as between the Suez Canal and Strait of Malacca.

The satellite’s Indian Ocean and South East Asian coverage is ideal for providing seamless in-flight connectivity for domestic Asian flights operating in countries like Indonesia and the Philippines. With 3.8 billion people expected to fly globally in 2016, SES-9 mobility beams will help to meet part of the increasing demand for in-flight connectivity from airline passengers.

SES-9 will be co-located with another SES-owned satellite, SES-7, at the prime orbital location of 108.2 degrees East.

SES-9 was built by Boeing Satellite Systems International and is designed to operate for 15 years in geostationary orbit.

## Mission Timeline

### COUNTDOWN

Hour/Min	Events
- 00:34	Launch Conductor takes launch readiness poll
- 00:30	RP-1 (rocket grade kerosene) and liquid oxygen (LOX) loading underway
- 00:10	Falcon 9 begins engine chill prior to launch
- 00:02	Range Control Officer (USAF) verifies range is go for launch
- 00:01:30	SpaceX Launch Director verifies go for launch
- 00:01	Command flight computer to begin final prelaunch checks
- 00:01	Pressurize propellant tanks
- 00:00:03	Engine controller commands engine ignition sequence to start
00:00:00	Falcon 9 liftoff

### LAUNCH AND SATELLITE DEPLOYMENT

Hour/Min	Events
00:01	Max Q (moment of peak mechanical stress on the rocket)
00:02:36	1st stage engine shutdown/main engine cutoff (MECO)
00:02:40	1st and 2nd stages separate
00:02:47	2nd stage engine starts
00:03:42	Fairing deployment
00:09:01	2nd stage engine cutoff (SECO-1)
00:27:07	2nd stage engine restarts
00:27:55	2nd stage engine cutoff (SECO-2)
00:31:24	SES-9 satellite deployed

## Launch Facility

### Space Launch Complex 40, Cape Canaveral Air Force Station, Fla.

SpaceX's Space Launch Complex 40 (SLC-40) at Cape Canaveral Air Force Station is a world-class launch site that builds on a strong heritage. The site at the north end of the Cape was used for many years to launch Titan rockets, among the most powerful rockets in the U.S. fleet. SpaceX took over the facility in May 2008.

The center of the complex is composed of the concrete launch pad and flame exhaust duct. Surrounding the pad are four lightning towers, propellant storage tanks, and the integration hangar. Before launch, Falcon 9's stages and payload are housed inside the hangar. The SES-9 satellite was encapsulated at the SpaceX payload processing facility at Cape Canaveral. The encapsulated payload was transported to the SLC-40 hangar and mated to the Falcon 9 already on the transporter erector. The rocket and payload are then rolled out from the hangar to the launch pad on fixed rails and lifted to a vertical position prior to launch.

## Resources

**SPACE CONTACT** | John Taylor, Director of Communications, 310-363-6703, [media@spacex.com](mailto:media@spacex.com).

**PHOTOS** | High-resolution photos will be posted at [spacex.com/media](http://spacex.com/media) and [flickr.com/spacexphotos](http://flickr.com/spacexphotos).

**WEBCAST** | Launch webcast will be live at [spacex.com/webcast](http://spacex.com/webcast) approximately 20 min before launch.