# SES-12 MISSION

## MISSION OVERVIEW

SpaceX is targeting launch of the SES-12 satellite to a Geostationary Transfer Orbit (GTO) from Space Launch Complex 40 (SLC-40) at Cape Canaveral Air Force Station, Florida. The four-hour launch window opens on Monday, June 4 at 12:29 a.m. EDT, or 4:29 UTC. The satellite will be deployed approximately 32 minutes after liftoff.

A four-hour backup launch window opens on Tuesday, June 5 at 12:29 a.m. EDT, or 4:29 UTC.

Falcon 9's first stage for the SES-12 mission previously supported the OTV-5 mission from Launch Complex 39A in September 2017. SpaceX will not attempt to recover Falcon 9's first stage after launch.


Official SpaceX SES-12 Mission Patch

## PAYLOAD

SES-12 will expand SES's capability to provide incremental high performance capacity and offer greater reliability and flexibility to meet the diverse needs of SES's video, fixed data, mobility and government customers across Asia-Pacific and the Middle East. The satellite will replace NSS-6 at an orbital position of 95º East and will be co-located with SES-8.

SES-12 is a uniquely designed satellite that will allow telephone companies, mobile network operators and internet service providers to deliver more reliable cellular backhaul and faster broadband service. From its orbital position, SES-12 will also be pivotal in supporting government efforts to bridge the digital divide through connectivity programs and provide television operators with additional capacity to deliver more content and higher picture quality to meet customer demand.

With six wide beams and 72 high throughput user spot beams, SES-12 is one of the largest geostationary satellites SES has procured. The spacecraft also has a Digital Transparent Processor (DTP) that increases payload flexibility to provide more customizable bandwidth solutions to SES's customers. The all-electric SES-12 spacecraft was built by Airbus Defence and Space, and will use electric propulsion for orbit raising and subsequent on-orbit maneuvers.

## MISSION TIMELINE (ALL TIMES APPROXIMATE)

### COUNTDOWN

| Hour/Min/Sec | Events |
|---|---|
| - 01:13:00 | SpaceX Launch Director verifies go for propellant load |
| - 01:10:00 | RP-1 (rocket grade kerosene) loading underway |
| - 00:35:00 | LOX (liquid oxygen) loading underway |
| - 00:07:00 | Falcon 9 begins engine chill prior to launch |
| - 00:01:00 | Command flight computer to begin final prelaunch checks |
| - 00:01:00 | Propellant tank pressurization to flight pressure begins |
| - 00:00:45 | SpaceX Launch Director verifies go for launch |
| - 00:00:03 | Engine controller commands engine ignition sequence to start |
| 00:00:00 | Falcon 9 liftoff |

### LAUNCH AND SATELLITE DEPLOYMENT

| Hour/Min/Sec | Events |
|---|---|
| 00:01:21 | Max Q (moment of peak mechanical stress on the rocket) |
| 00:02:44 | 1st stage main engine cutoff (MECO) |
| 00:02:48 | 1st and 2nd stages separate |
| 00:02:55 | 2nd stage engine starts |
| 00:03:27 | Fairing deployment |
| 00:08:25 | 2nd stage engine cutoff (SECO-1) |
| 00:26:06 | 2nd stage engine restarts |
| 00:27:13 | 2nd stage engine cutoff (SECO-2) |
| 00:32:14 | SES-12 satellite deployment |

## LAUNCH FACILITY

**Space Launch Complex 40 at Cape Canaveral Air Force Station, Florida**

SpaceX's SLC-40 at Cape Canaveral Air Force Station is a world-class launch site that builds on a strong heritage. The site, located at the north end of Cape Canaveral Air Force Station, was used for many years to launch Titan rockets, among the most powerful 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 diverter system. 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 payload is mated to the Falcon 9 inside SLC-40's hangar on the transporter erector. The rocket and payload are then rolled out from the hangar to the launch pad and lifted to a vertical position.

## RESOURCES

SpaceX Contact | James Gleeson, Sr. Communications Manager, 202-649-2633, media@spacex.com.

Photos | High-resolution photos will be posted at flickr.com/spacex.

Webcast | Launch webcast will go live about 15 minutes before liftoff at spacex.com/webcast.