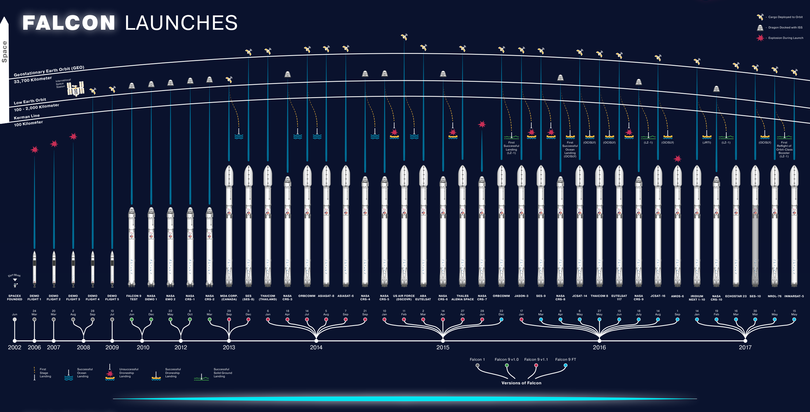
SPACEX

Designed by Mano Frigyes Barkovics

FALCON LAUNCHES



MAKING HISTORY

SpaceX designs, manufactures and launches advanced rockets and spacecraft. The company was founded in 2002 to revolutionize space technology, with the ultimate goal of enabling people to live on other planets.

95% succession rate. As of May 2017, 45 rockets have been launched.

- **6** Drone Ship Landing
- **4** LZ-1 Landing
- **1** Reflown Stage

Goals

- Making Humans a Multiplanetary Species (Research ITS)
- Develop, Test, and Launch Falcon Heavy & Dragon 2
- Decrease the Launch, Land, and Refurbish Protocol to 24 Hours
- Send Privately Crewed Dragon 2 Spacecraft Beyond the Moon
- Land on Mars by 2020

Problems

- Falcon 1 Explosions Almost Setting SpaceX into Bankruptcy
- CRS-7 Explosion 139 Second After Lift-Off - 6 Months Delay
- AMOS-6 Explosion on SLC-40 6 Months Delay & Loss of Pad
- Refurbishing the Falcon 9 Stages Takes Approximately 3 Months
- Innovating with Rockets is Challenging

Achievements

- 2017: First Ever Re-Flight of an Orbit-Class Liquid Rocket Booster
- 2016: First Successful Landing of an Orbit-Class Booster on a Drone Ship
- 2015: First Successful Landing of an Orbit-Class Booster on Land
- 2014: Offers Most Affordable Service to Launch Payload onto LEO & GEO
- 2014: Twenty Commercial Resupply Services (CRS) Awarded from NASA

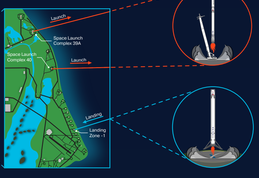
MISSION CONTROL

SpaceX maintains launch sites at Cape Canaveral Air Force Station (CCAFS), Kennedy Space Center in Florida, Vandenberg Air Force Base (VAFB) in California, and Boca Chica, Texas. Each location offers key benefits to support the customers' missions.

Map Legend:

- SpaceX Headquarters
- Development Facility
- Supplier Locations
- Launch Facility
- SpaceX Satellite Offices
- Government Facility

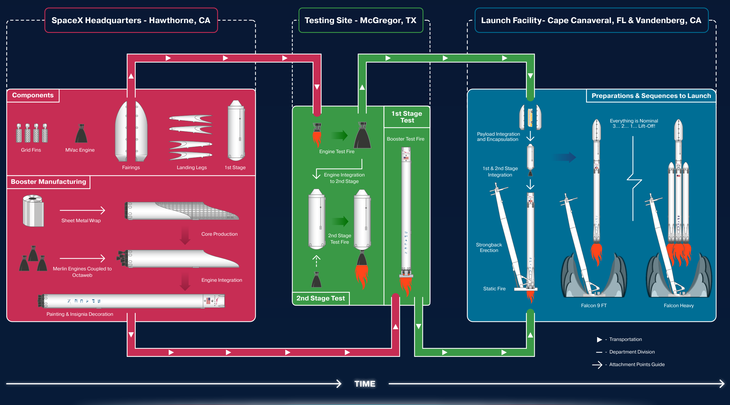
The southeast coast of the US provides access to a wide range of low and medium inclination orbits frequently used by supply missions to the ISS. Also allows access to geostationary orbits, as well as departures to the Moon and interplanetary destinations.



The site's location on the California coastline provides customers with access to high inclination and polar orbits, frequently used by satellite communication, defense intelligence and Earth-observing satellites, and some lunar missions.

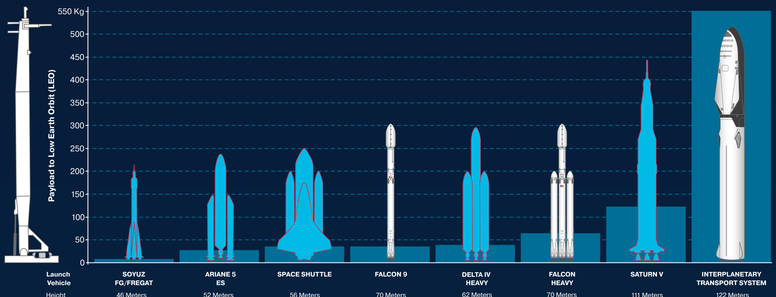
PROCESS OF MANUFACTURING & LAUNCHING

With an ever-increasing launch cadence, SpaceX is on track to equal or surpass other launch providers by annual vehicles launched and continues, nearly year-on-year, to set vehicle flight records. SpaceX continues to work toward one of its key goals - developing fully and rapidly reusable rockets, a feat that will transform space exploration by delivering highly reliable vehicle at radically reduced costs.



ROCKETS OF THE WORLD

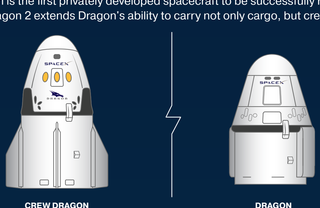
Nearly 3/4's the height of the Saturn V, yet thinner than a Space Shuttle SRB, Falcon 9 is the workhorse of SpaceX's rocket fleet. Falcon Heavy is the world's most powerful rocket rising on its 27 first stage Merlin 1D engines. Only the mighty Saturn V has delivered more payload to orbit. SpaceX also offers competitive pricing for its Falcon 9 and Falcon Heavy launch services.



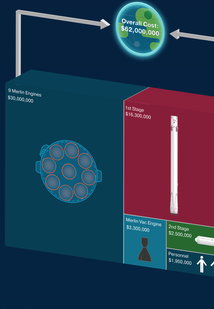
Launch Vehicle	SOYUZ FG/FREGAT	ARIANE 5 ES	SPACE SHUTTLE	FALCON 9	DELTA IV HEAVY	FALCON HEAVY	SATURN V	INTERPLANETARY TRANSPORT SYSTEM
Height	46 Meters	52 Meters	56 Meters	70 Meters	62 Meters	70 Meters	111 Meters	122 Meters

CAPABILTIES & SERVICES

Dragon is SpaceX's orbital spacecraft, and has flown 12 times atop of a Falcon 9 rocket. Dragon is the first privately developed spacecraft to be successfully recovered from orbit. Dragon 2 extends Dragon's ability to carry not only cargo, but crew too.



Spacecraft	CREW DRAGON	DRAGON
Crew	7 (Max Capacity)	None
Role	Space Colonization	ISS Logistics
Payload	To LEO - 3,310 Kg	To LEO - 3,310 Kg
Price	$20 Million per Seat	None



For SpaceX to succeed at reducing the cost of getting payload to orbit, reusability of launch vehicles is imperative. It involves returning the first stage of the rocket back safely to Earth. Difficult task involving a combination of three burns that must be executed perfectly.