

Key facts about SpaceX

May 22 2012

Space Exploration Technologies is the first private company to attempt to send its own cargo capsule to the International Space Station and back.

Read: [SpaceX private rocket blasts off for space station](#)

Here are some key facts about the company, known as [SpaceX](#), and its mission.

SPACEX

SpaceX was founded in 2002 by billionaire [Internet entrepreneur](#) Elon Musk, the co-founder of PayPal. Musk is also currently the chief executive officer of [Tesla Motors](#), which builds and sells electric cars.

The Hawthorne, California-based company's mission is "to revolutionize space transportation in order to eventually make it possible for people to live on other planets."

The company aims to be able to send people to space aboard its Dragon craft by 2015.

SpaceX employs more than 1,700 people, including a number of former NASA astronauts.

Launch facilities are at the [Cape Canaveral Air Force Station](#) and Vandenberg [Air Force](#) Base; rocket development facility in McGregor, Texas; and offices in Chantilly, Virginia and the US capital, Washington.

ROCKET

The two-stage Falcon 9 rocket stands at a height of 48.1 meters (158 feet) with the Dragon space capsule on top, and is capable of producing one million pounds of thrust in a vacuum.

All structures, engines, avionics and ground systems are designed, manufactured and tested in the United States.

It is named after the Millennium Falcon, the personal spaceship of the Star Wars characters Han Solo and Chewbacca.

The rocket is powered by nine Merlin engines in the first stage and one in the second stage.

Falcon 9 is powered by [liquid oxygen](#) and rocket grade kerosene.

Its first successful launch was on June 4, 2010, followed by a second on December 8, 2010.

The first attempt to launch Falcon 9 to the [space station](#) was canceled on May 19 when computers detected high pressure in the central engine. A faulty check valve believed to have caused the problem was replaced the same day.

SPACECRAFT

Dragon is a reusable spacecraft that was built to carry and return both astronauts and cargo to the [International Space Station](#).

The white capsule stands 4.4 meters (14.4 feet) high and is 3.66 meters (12 feet) in diameter. With its two solar array wings extended, the span is 16.5 meters (54 feet) wide.

Dragon can carry over 3,310 kilograms (7,297 pounds) split between pressurized cargo in the capsule and unpressurized cargo in the trunk.

On this mission, it will carry 521 kilograms (1,148 pounds) of cargo for the space lab and will also aim to return a 660-kilogram (1,455-pound) load to Earth.

Dragon is also built to carry up to seven astronauts to the ISS on future missions.

The capsule is maneuvered by 18 Draco thrusters powered by nitrogen tetroxide/monomethylhydrazine propellants.

It is protected by the most powerful heat shield in the world, designed in cooperation with NASA and made of a material called PICA-X.

In December 2010, it became the first private spacecraft to reach orbit and back.

ISS MISSION

May 22: Falcon 9 launches from Cape Canaveral Air Force Station at 3:55 am (0755 GMT).

May 24: A flyby of the International Space Station is planned for the early morning hours.

May 25: If the fly-by tests are successful, Dragon will rendezvous and berth to the ISS.

May 26: Live coverage of the hatch opening and entry of the Dragon spacecraft.

May 31: The ISS crew will detach Dragon from the space station, and the capsule will perform a series of engine burns that will move it away from the orbiting lab.

About five hours later, the Dragon should reenter the Earth's atmosphere and splash down in the Pacific Ocean, about 450 kilometers (250 miles) off the West Coast of the United States.

More information: NASA TV is viewable at:
www.nasa.gov/multimedia/nasatv/index.html

(c) 2012 AFP

Citation: Key facts about SpaceX (2012, May 22) retrieved 25 April 2024 from
<https://phys.org/news/2012-05-key-facts-spacex.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.