

# SpaceX and its achievements

May 3, 2019

## Manifest Pedagogy

SpaceX activities are as important as ISRO's or NASA's activities. One has to note down the first-of-its-kind programs of SpaceX be it in space exploration or aeronautics. It will help in both prelims and mains as far as achievements in the field of science and technology.

## In news

- Crew Dragon Demo-1 Mission of SpaceX

## Placing it in the syllabus

Awareness in the field of space

## Static dimensions

- About SpaceX
- Important achievements of SpaceX

## Current dimensions

- Its role in advancing the future

## Content

### About SpaceX

SpaceX is a private American aerospace manufacturer and space transportation services company headquartered in Hawthorne, California. It 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. SpaceX has gained worldwide attention for a series of historic milestones.

### **Important achievements of SpaceX**

- **Falcon 1** becomes the first privately developed liquid fuel rocket to reach Earth orbit in 2008.
- Falcon 1 Flight 5 makes history, becoming the first privately developed liquid fuel rocket to deliver a commercial satellite to Earth orbit in 2009.
- **Falcon 9** was the first flight to meet 100% mission objectives in 2010
- Dragon returns home: It is the only private company capable of returning a spacecraft (Dragon) from low Earth orbit, which it first accomplished in 2010.
- In **2012 SpaceX's Dragon** becomes the first private spacecraft in history to visit the space station.
- In 2013 the **Grasshopper program** of the SpaceX finished with a 744m flight, hover, and landing.
- The first private company to send a satellite into **geosynchronous transfer orbit**(Falcon 9) in 2013.
- In 2014 the first stage of Falcon landed in **Atlantic ocean** successfully.
- Again in 2014, the Falcon 9 reusable test vehicle flew 1000m, Vehicle completes **highest leap** to date, lands safely.
- In 2015 the SpaceX began series of first stage landing attempts on an autonomous spaceport drone ship.
- **Crew Dragon tests launch abort system**, which can provide astronauts with escape capability all the way to orbit in 2015
- In December 2015 the SpaceX another milestone that the Falcon 9 rocket delivered 11 communications satellites to orbit, and the first stage returned and landed at Landing Zone 1 -- the first-ever orbital class rocket landing.
- The SpaceX's the Falcon 9 rocket launched the **Dragon**

- spacecraft to the International Space Station**, and the first stage returned and landed on the “Of Course I Still Love You” droneship in April 2016.
- In March 2017, SpaceX achieved the world’s **first reflight of an orbital class rocket**. Following the delivery of the payload, the Falcon 9 first stage returned to Earth for the second time.
  - In June 2017, the **Dragon resupply mission** represented the first reflight of a commercial spacecraft to and from the International Space Station.
  - In 2018 Falcon Heavy became the world’s most powerful operational rocket by a factor of two, capable of carrying large payloads to orbit and supporting missions as far as the Moon or Mars.
  - The first private company to send a **human-rated spacecraft to space (Crew Dragon Demo-1 Mission**, SpX Flight 72 on Falcon 9 flight 69 on March 2, 2019) and the first private company to autonomously dock a spacecraft to the International Space Station (same flight on March 3, 2019)

### **Its role in advancing the future**

- As one of the world’s fastest growing providers of launch services, SpaceX has secured over 100 missions to its manifest, representing over \$12 billion on contract. These include commercial satellite launches as well as US government missions.
- SpaceX’s Dragon spacecraft is flying numerous cargo resupply missions to the space station under a series of Commercial Resupply Services contracts. Dragon was designed from the outset to carry humans to space and will soon fly astronauts under NASA’s Commercial Crew Program.
- Building on the achievements of Falcon 9 and Falcon Heavy, SpaceX is working on the next generation of fully reusable launch vehicles that will be the most powerful

ever built, capable of carrying humans to Mars and other destinations in the solar system.