



SOYUZ SPACECRAFT - SPACE

News: A Soyuz spacecraft carrying two Russians and an American docked at the International Space Station (ISS) recently, a little more than three hours after its launch.

What's in the news?

Soyuz Spacecraft:

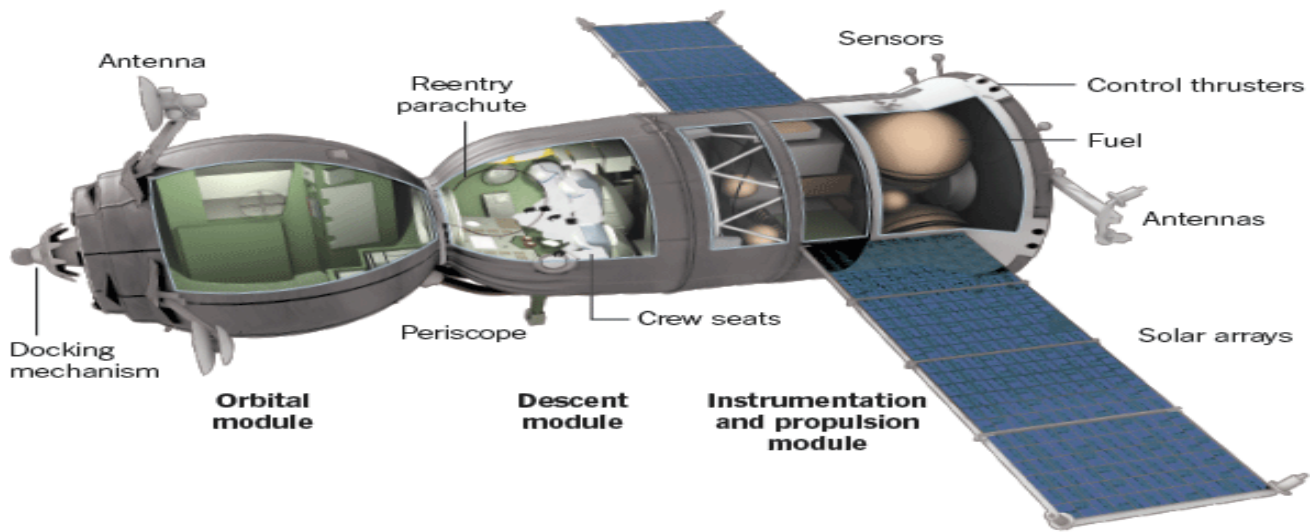
- The Soyuz is a renowned Russian spacecraft.
- It holds the record as the longest continuously operational human spacecraft program in the annals of space exploration.

Functional Capabilities:

- **Crew Composition:** The Soyuz is manned by Russian cosmonauts, with additional crew members from the United States (referred to as astronauts) and other international astronauts from Europe, Canada, and Japan.
- **Transportation Role:** The spacecraft is crucial for ferrying cosmonauts and astronauts to and from the International Space Station (ISS).
- **Specifications:** The Soyuz has a mass of 7 tonnes, with dimensions of 7.2 meters in length and 2.7 meters in diameter, accommodating three crew members.
- **Supply Functions:** It is tasked with delivering essential supplies such as food and water to the ISS.

Dual Functionality:

- **Operational Design:** The Soyuz doubles as both a transport vehicle to the ISS and a safety mechanism.
- **Emergency Utility:** It remains perpetually docked at the ISS to serve as an emergency escape vehicle, facilitating rapid evacuation and safe return to Earth when necessary.



Structural Components:

- **Orbital Module:** Provides living quarters for the crew while in orbit, directly connecting to the space station.
- **Descent Module:** Employed during both launch and return phases, it is engineered to endure the challenges of reentry and guarantee a safe landing.
- **Service Module:** Contains vital life support systems including batteries, solar panels, and steering engines essential for the mission's success and the crew's safety.

Propulsion and Journey:

- The spacecraft is launched by a Soyuz rocket, which detaches when the craft reaches orbit.
- Remarkably, the capsule reaches space in just nine minutes, while the rocket component returns to Earth.

Source: <https://timesofindia.indiatimes.com/science/soyuz-spacecraft-carrying-two-russians-and-an-american-launches-for-iss/articleshow/113268251.cms>