The Falcon Heavy launch: the most powerful operational rocket in the world

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Recently, SpaceX launched the Falcon Heavy rocket into a geosynchronous Earth orbit.

[*Ref: The Hindu*]

Current Mission:

- The rocket is carrying **satellites to space for the U.S. military** in a mission named as U.S. Space Force (USSF)-44.
- The mission deployed **two spacecraft payloads.**
    - One of which is the TETRA 1 microsatellite created for various prototype missions in and around the geosynchronous earth orbit.
    - The other payload is for national defence purposes.
- It will **place the satellites for the Space Systems Command's Innovation and Prototyping.**

Space Systems Command (SSC):

- It is the **oldest military space organisation** in the **United States Armed Forces.**
- It is **responsible for developing, acquiring**, equipping, fielding and sustaining lethal and **resilient space capabilities.**

Specifications of the Falcon Heavy rocket:

- The Falcon Heavy **uses three boosters** for added thrust and lift capacity.
    - The two side boosters will be refurbished for a subsequent U.S. Space Force mission later this year, to cut down on mission costs.
- SpaceX claims Falcon Heavy to be **the most powerful rocket in the world today** by a factor of two.
- With a **lifting capacity of around 64 metric tonnes into orbit,** Falcon Heavy can lift more than twice the payload of the next closest operational vehicle, the Delta IV Heavy.
- Falcon Heavy has **27 Merlin engines** which together generate more than five million pounds of thrust at lift-off.
    - Merlin is a **family of rocket engines developed by SpaceX** for use on its Falcon 1, Falcon 9 and Falcon Heavy launch vehicles.
    - Merlin engines **use RP-1 and liquid oxygen** as rocket propellants in a gas-generator

power cycle.

