

# MILESTONES IN SPACE EXPLORATIONS

Pranto - A23MJ4024 Usman - A23MJ3008  
Thamer - A23MJ4015 Zabir-A22MJ9161

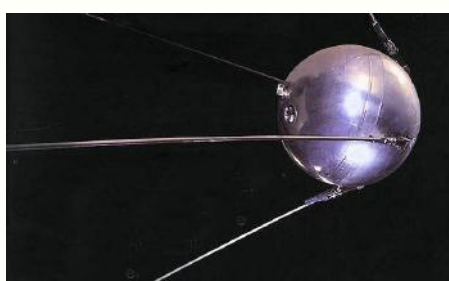


## 1944 - 1st Rocket to Outer Space

MW 18014 was a German A4 rocket which reached outer space for first time, attaining an apogee of 176 KMs.

## 1957 - 1st Object in Orbit

Soviet Launched Sputnik-1 which is believed to orbit the earth. It is also equipped with a 'beep' radio; heard from all over the globe.



## 1957 - 1st Animal in Space

On 3 November 1957, the second-ever orbiting spacecraft Sputnik-2 carried the first animal into orbit, the dog Laika



## 1961 - 1st Human Spaceflight

On 12 April 1961, Soviet Pilot Yuri Gagarin is the first human who pilots a full complete orbit around the earth. The rocket carried him was Vostok-1

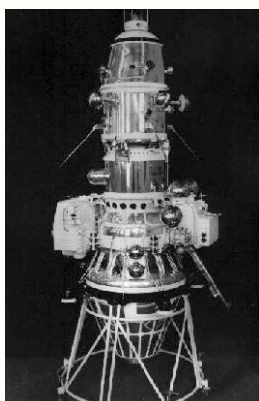


## 1963 - First Woman in Space

Valentina Tereshkova, a Soviet engineer was the first woman in space, having flown a solo mission on Vostok-6 on 16 June 1963





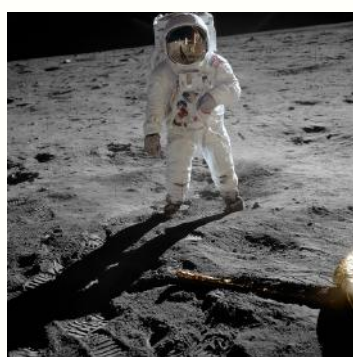


## 1966 - First Artificial Satellite

The USSR's Luna 10 became the first artificial satellite to successfully orbit the Moon

## 1969 - First humans on Moon

NASA's Apollo 11 mission landed the first humans on the Moon, with Neil Armstrong and Buzz Aldrin

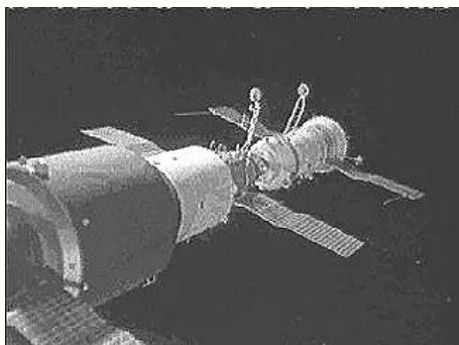


## 1970 - First Automated Return of Lunar Soil

USSR's Luna 16 mission completed the first automated return of lunar soil samples to Earth

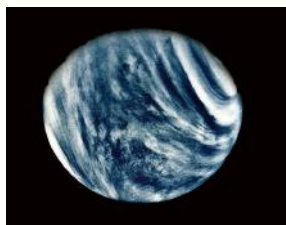
## 1971 - First Space Station

The USSR launched Salyut 1, the world's first space station, serving as an orbital laboratory for human spaceflight research.



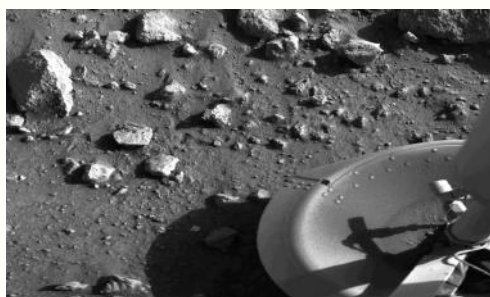
## 1974 - First Photos of Venus

NASA's Mariner 10 took the first close-up photographs of Venus, capturing its thick cloud cover and atmosphere.



## 1976 - First Martian soil sample

NASA's Viking 1 landed on Mars on 1976 and performed the first Martian soil sample using its robotic arm and a special biological laboratory








## 1982 - First Venus Soil Sample and Audio Recording



USSR's Venera 13 sent the first Venus soil samples and audio recordings from another planet, revealing insights into Venus's harsh surface.

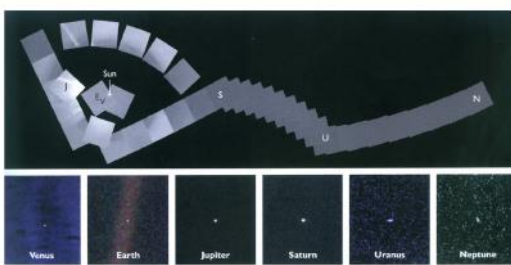


## 1985 - First Muslim Astronaut

Sultan ibn Salman Al Saud was the first Saudi Arabian citizen, the first Arab, the first Muslim, and the first member of a royal family to travel into space.



## 1990 - First Image of the Entire Solar System



Japan launched HALCA, the first orbital radio observatory, enabling astronomical observations with unprecedented resolution.

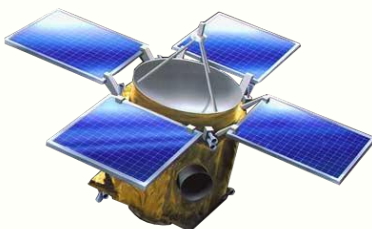


## 1997 - First orbital radio observatory

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## 2001 - First Landing on an Asteroid



NASA's NEAR Shoemaker spacecraft achieved the first landing on an asteroid, 433 Eros, gathering critical data on its composition.



## 2005 - First Soft Landing on Titan

The Cassini-Huygens mission accomplished the first soft landing on Titan, Saturn's largest moon, unveiling details of its icy surface and atmosphere.








## 2006 - First Samples from Comet 81P/Wild



NASA project that made history as the first mission to collect and return samples from a comet. Launched in 1999, Stardust traveled over three billion miles to encounter comet 81P/Wild in 2004.



## 2009 - First Space Telescope

NASA's Kepler Mission was the first space telescope dedicated to searching for Earth-like exoplanets.



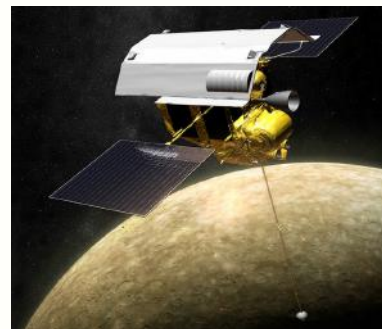
## 2010s-present - Reusable Rockets



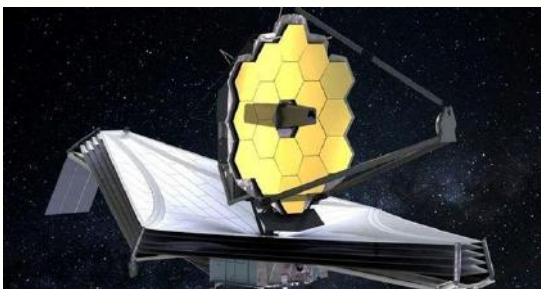
SpaceX's Falcon 9 introduced cost-effective reusable rockets, making space more accessible. Blue Origin and others joined the trend with reusable suborbital flights.

## MESSENGER (2011): NASA's spacecraft became the first to orbit Mercury.


Launched in 2004, it mapped Mercury's surface, studied its magnetic field, and gathered data on its composition. This mission provided new insights into Mercury's geological history and density before concluding in 2015.



## The James Webb Space Telescope



The James Webb Space Telescope is a powerful space observatory launched in 2021, designed to study the universe's earliest galaxies, stars, and planetary systems in unprecedented detail.



## Future Spaceships: Artemis and Starship

NASA's Artemis program and SpaceX's Starship aim to enable sustainable human presence on the Moon and eventually Mars, marking the next era in space exploration.

