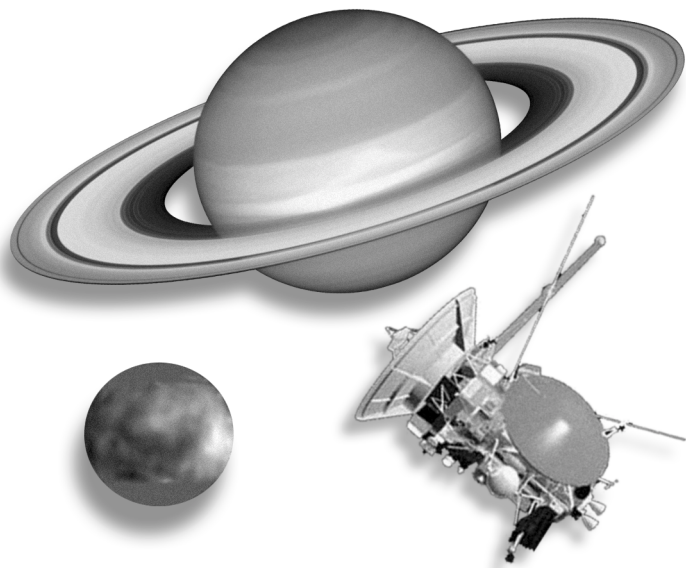




Canberra Space Centre

# FACT SHEET

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# Cassini

## Revealing the ringed-planet

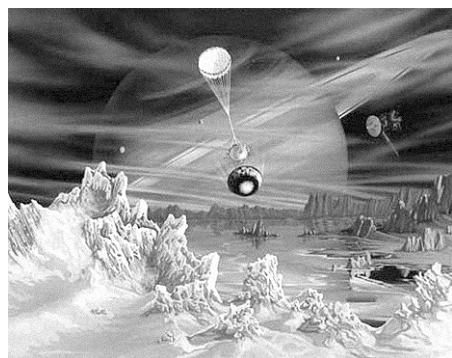
Launched October 15, 1997, the two-storey-tall robotic spacecraft - **Cassini** - began its seven year journey to reach and explore the exciting realm of Saturn.

The Cassini mission to Saturn is the most ambitious effort in planetary space exploration ever mounted. A joint endeavor of NASA, the European Space Agency (ESA) and the Italian Space Agency.

Cassini is a sophisticated exploration vehicle designed to orbit the ringed planet and study the Saturnian system in detail over a four-year period.

Entering Saturn's orbit on July 1, 2004, Cassini will study Saturn's atmosphere and interior, as well as its most spectacular feature - a massive, multiple-ring system.

Cassini will also study Saturn's many moons, and one of those moons - Titan - will come under special attention.



The Huygens probe will parachute to the surface of Titan in 2005.

Onboard Cassini is a scientific probe called Huygens that will descend through the opaque atmosphere and land on the surface on January 14, 2005.

Observations from Earth-based and orbiting telescopes have indicated that Titan's atmosphere includes organic compounds that scientists believe is like a frozen vault of conditions similar to those on Earth before life began. The Cassini orbiter will also use imaging radar to map Titan's surface.

The mission is named in honour of the seventeenth-century, French-Italian astronomer Jean Dominique Cassini, who discovered the prominent gap in Saturn's main rings, as well as the icy moons Iapetus, Rhea, Dione, and Tethys.

The ESA Titan probe is named in honour of the exceptional Dutch scientist Christiaan Huygens, who discovered Titan in 1655, followed in 1659 by his announcement that the strange Saturn "moons" seen by Galileo in 1610 were actually a ring system surrounding the planet.

What we know about the moon Titan is certainly tantalising. Slightly larger than the planet Mercury, its brownish-orange, hazy atmosphere of nitrogen, methane, and complex array of carbon-based molecules hides a frigid surface that may contain lakes of liquid ethane.

As high-energy particles and ultraviolet light bombard the nitrogen and methane molecules in the atmosphere, these and further reactions create a variety of organic molecules that rain slowly down upon the mysterious surface below.

In many ways, Titan's environment may resemble the chemical factory of primordial Earth. Though life is unlikely due to the extreme cold, Titan may still provide valuable clues to the chemistry of early Earth.

Cassini's primary mission should conclude in 2008.

Saturn's incredible system of rings composed of billions of particles of rock and ice. Probably created by the collision of smaller moons and other materials from the formation of the Solar System.



Further information on the Internet:  
<http://saturn.jpl.nasa.gov>