

NASA mission to look for water on Jupiter's moon Europa

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Washington: NASA has come a step closer to its planned mission to Europa which will try to find out if a liquid water ocean beneath the surface of the Jupiter's moon have the ingredients to support life.

NASA's mission concept -- to conduct a detailed survey of Europa and investigate its habitability -- has successfully completed its first major review by the agency and now is entering the development phase known as formulation, space agency said in a statement.

Beyond Earth, Europa is considered one of the most promising places in the solar system to search for signs of the present-day life.

"Today, we are taking an exciting step from concept to mission, in our quest to find signs of life beyond Earth," said John Grunsfeld, associate administrator for NASA's Science Mission Directorate in Washington.

"Observations of Europa have provided us with tantalizing clues over the last two decades, and the time has come to seek answers to one of humanity's most profound questions," Grunsfeld said.

The mission plan calls for a spacecraft to be launched to Jupiter in the 2020s, arriving in the distant planet's orbit after a journey of several years.

The spacecraft would orbit the giant planet about every two weeks, providing many opportunities for close flybys of Europa. The mission plan includes 45 flybys, during which the spacecraft would image the moon's icy surface at high resolution and investigate its composition and the structure of its interior and icy shell.

NASA's Galileo mission to Jupiter in the late 1990s produced strong evidence that Europa, about the size of Earth's moon, has an ocean beneath its frozen crust.

If proven to exist, this global ocean could hold more than twice as much water as Earth. With abundant salt water, a rocky sea floor, and the energy and chemistry provided by tidal heating, Europa may have the ingredients needed to support simple organisms.

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