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SPACE EXPLORATION SYMPOSIUM (A3)
Space Exploration Overview (1)

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DEEP SPACE EXPLORATION AND AUSTRALIA'S ROLE THROUGH THE CANBERRA DEEP SPACE COMMUNICATION COMPLEX

Abstract

For over 5 decades, the Canberra Space Communications Complex (CDSCC) managed by the Commonwealth Scientific and Industrial Research Organisation (CSIRO) has been the leading Australian ground station facility for the US Deep Space Network (DSN).

In collaboration with NASA JPL and sister stations in Spain and the USA, CDSCC tracks more than 40 International spacecraft to every planet in the solar system through the robotic science exploration missions of NASA, ESA, JAXA and other international space agencies.

From the first Pioneer and Voyager missions to visit the outer planets and fly through the then unchartered Asteroid Belt to the Dawn missions exploration of Vesta and Ceres, to the Spirit, Opportunity and 2012 Curiosity rover landing on the Martian planet, CDSCC has provided a critical node to planetary scientists as they explore deep space.

Among the hundreds of successful missions supported, CDSCC was global prime for the Galileo mission as the European Space Agency's Huygens probe descended towards the surface of Saturn's largest moon, Titan. In 2010 CDSCC provided support to the JAXA Hyabusa mission as it re-entered over Australia and in 2015 was a key downlink station for the New Horizons Pluto Charon flyby providing the first ever detailed images of Pluto.

This paper will discuss the key role that this NASA-JPL-CSIRO Australian ground station continues to play in robotic solar system exploration, the important science diplomacy achieved and the future place Australia has through CDSCC and the DSN, in manned space flight.