

# **Transporting People Beyond the Atmosphere**

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This presentation will summarize the various roles the NASA Lewis Research Center has had in the research and development of space transportation technologies. These technologies have proven invaluable for enabling both human and robotic transportation beyond Earth's atmosphere. Beginning with pioneering work in cryogenic rocket and aircraft propellants during the 1950's, the presentation will highlight major space travel accomplishments up to the present day. Several prominent LeRC accomplishments pertaining to the robotic space program will be highlighted, including the 35 year evolution of the RL-10 rocket engine, the Centaur upper stage rocket, and some of their more well known interplanetary missions such as Viking 1 & 2 to Mars, Voyager 1 & 2 to Jupiter/Saturn/Uranus/Neptune. The Cassini mission to Saturn, scheduled for launch in October 1997, represents the most complex interplanetary launch for LeRC this decade. LeRC support of the human space program will be also be covered, including the early Mercury astronaut training and Space Shuttle propulsion testing. Current LeRC efforts in the lower-cost, Reusable Launch Vehicle Program, as well as analyzing propulsion technology options for sending humans to Mars will also be discussed.