

HUMAN SPACEFLIGHT SYMPOSIUM (B3) Commercial Human Spaceflight Programs (2)

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NON-TRADITIONAL ASPECTS OF NASA'S COMMERCIAL CREW PROGRAM

Abstract

The objective of NASA's Commercial Crew Program (CCP) is to facilitate the development of a U.S. commercial crew space transportation capability to achieve safe, reliable and cost effective access to and from low-Earth orbit and the International Space Station (ISS). Once the capability is matured and made available to the government and other customers, NASA could purchase transportation services to meet its space station crew rotation and emergency return obligations.

In order to meet these objectives, NASA is following a non- traditional business method with the American aerospace industry to allow private companies more ownership over design of their space systems and will require those companies to invest private capital to complement government funds. This approach is similar to that used with the development, demonstration, and eventual purchase of cargo transportation services pioneered under the Commercial Orbital Transportation Services (COTS) and space station Commercial Resupply Services (CRS) programs. While there is some risk to this approach, it holds the promise of enabling cost-effective, routine human access to space and offers a greater return on taxpayer investment.

NASA's non-traditional approach for CCP features several key paradigm changes during the system design and development, including: • Competition among multiple industry partners • Unique acquisition strategy • Efficient and effective government insight and oversight • Mature and stable requirements, managed at a higher level • Opportunity to apply alternate standards • Lean NASA program management

Each of these features will be discussed in the context of their application in the CCP. The purpose of contrasting NASA's traditional and non-traditional approaches does not mean to imply that one is better than the other, but to show how each approach can be used effectively depending on the type of program that is required. NASA believes that partnering with industry in this innovative way accelerates the availability of U.S. human access to low-Earth orbit, as well as reduces the risk of relying solely on foreign crew transports to the International Space Station for years to come. These partnerships will also strengthen the commercial space launch industry, encourage competition, act as a catalyst for the development of other new space markets, provide new high-technology jobs, and potentially reduce the cost of human access to space.