BUSINESS INNOVATION SYMPOSIUM (E6)
Entrepreneurship and Investment for Commercial in-Space Activities (2)

Author: Mr. Alan T. DeLuna
United States

THE AIRLINE MODEL ROLE OF GOVERNMENT IN COMMERCIAL CREW TRANSPORTATION

Abstract

The Commercial Orbital Transportation (COTS) and International Space Station (ISS) Commercial Resupply Services (CRS) programs are among the initial steps in the effort to develop private astronaut transportation. Similar to the DoD Evolved Expendable Launch Vehicle Program (EELV), NASA is co-funding with industry the development of the launch vehicles and spacecraft. And, as in the EELV program, the government will purchase transportation services from the private sector. NASA is looking forward to significantly lower costs than from a NASA program by leveraging off the resulting robust commercial market it expects to develop in the near future. As part of the program, each company is developing end-to-end, often unique systems. Not only are they creating new launch vehicles and spacecraft, they are each developing independent ground and flight support systems and processes. NASA is now on a path to develop astronaut transportation utilizing the same philosophy, process and expectations. Companies bringing the end-to-end solution can create significant future risk. If this occurs, there is resulting increased cost, technical, schedule, economic, and political risk. The government recognized this when it outlawed the ownership of airlines by the airplane manufactures. It recognized this when it decided that transportation infrastructure in the airline industry is the proper purview of government. If the air systems had to be developed end-to-end by a singular corporation, they would not exist in their present form, accessible across industry and public. Infrastructure would have been a major barrier to the industry. There would not have been enough investment. As government builds the new astronaut transport industry it should recognize its historic role to reduce barriers to entry. It should provide a model such that the vehicle (car, plane, ship, space ship) builder can focus on vehicle development within a defined support and utilization infrastructure. The infrastructure provides for the safe and efficient operation of the vehicle. This paper offers several considerations to reduce cost to government while aiding commercial entry to this new human transportation market. Consolidation of common infrastructure and operations will reduce corporate investment requirements, reduce overall government cost, reduce risk, and strengthen the implementation of human rating requirements. This will allow NASA to maintain multiple LEO transportation providers without the costs of redundant development and maintenance of this operational infrastructure.