



Highlights of [GAO-12-282](#), a report to congressional committees

## Why GAO Did This Study

Following the recent retirement of the space shuttle, the National Aeronautics and Space Administration (NASA) lacks a domestic capability to send crew and cargo to the International Space Station. NASA has been funding private industry development of space transportation capabilities since 2005 with the intent of purchasing these services commercially. NASA's commercial efforts to transport cargo are well under way, but its efforts to transport crew are in their infancy. The risks associated with transportation of crew are greater than its cargo efforts because human lives are at stake.

GAO is required by the NASA Authorization Act of 2010 to assess NASA's strategy for acquiring commercial crew services. Specifically, GAO addressed how NASA's planned approach for commercial crew services aligns with good acquisition practices and the challenges it faces in implementation. GAO reviewed NASA's plan; compared it to good acquisition practices identified in prior GAO reports, regulations, and the elements required to be addressed in the act; and interviewed program officials to obtain further information on the approach.

## What GAO Recommends

GAO is recommending that NASA reassess its approach for commercial crew services prior to initiating its procurement because of the impact of reduced funding levels on the approach and establish a timeframe and criteria to use for deciding whether to purchase additional services from the Russians. NASA concurred with our report and recommendations.

View [GAO-12-282](#). For more information, contact Cristina Chaplain at (202) 512-4841 or [chaplainc@gao.gov](mailto:chaplainc@gao.gov).

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# NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

## Acquisition Approach for Commercial Crew Transportation Includes Good Practices, but Faces Significant Challenges

### What GAO Found

NASA's planned approach for acquiring U.S. commercial crew transportation faces significant challenges that could impact its success, although it includes some good acquisition practices. Specifically, NASA's current funding level for its program is lower than anticipated and may not allow NASA to award multiple contracts, which is its key element for maintaining cost control by sustaining competition through all phases of its commercial crew transportation program. Moreover, the critical need to transport crew to the space station beginning in 2016 requires an aggressive program schedule that may not be attainable given NASA's experiences with past government and commercial development efforts.

Among the good practices that NASA adopted in its planned approach is the use of firm-fixed-price, performance-based contracts for the remaining program phases. NASA also plans to define high-level requirements before it awards contracts, and expects to minimize chances for requirements changes by allowing contractors maximum flexibility in developing vehicles and systems that can meet their private sector business needs as well as NASA's needs. In addition, NASA has established a new process for obtaining insight and providing oversight of contractor's progress that will be in place when the next phase of contracts are awarded. The insight that NASA obtains needs to provide sufficient data for NASA to monitor the need to change course for the program, and provide sufficient lead time to purchase additional seats on the Russian Soyuz vehicle, if needed. Moreover, effective implementation is key to the success of any acquisition approach, as success cannot be attributed to any one aspect of it, such as contract type or oversight processes.

NASA's current funding level is almost 50 percent less than the funding level it anticipated when developing its acquisition approach. As a result, NASA's ability to execute its approach as currently planned is unlikely. For example, if NASA cannot maintain more than one contractor for its next phase of commercial crew development, its prospects for competition for subsequent phases are weakened. Although private investment is anticipated, without government investment the market alone may not continue to grow and provide more than one contractor that would be able to compete for subsequent phases. As a result, NASA could become dependent on one contractor for providing crew transportation services to the space station, which increases the risk that the government will pay more than anticipated as few or no competitors will exist to help control market prices.

Finally, the overall schedule for the commercial crew transportation program is aggressive and leaves little room for any potential delays, though experience in developing space flight systems both traditionally and commercially indicates that there is significant schedule risk. This risk is also heightened given the inexperience of some of the potential commercial providers. Moreover, the strategy does not make it clear when and how NASA would need to make a decision to purchase additional flights on the Russian Soyuz vehicle, should the schedule for commercial efforts slip or if the proposed systems are not successful. Given that the lead time for purchasing a flight on the Soyuz is 3 years, not having a decision point could create additional risks of having no access to the space station for an extended period of time.