

Mission Directorate: Exploration
Theme: Commercial Spaceflight
Program: Commercial Crew

FY 2012 Budget Request

Budget Authority (\$ millions)	FY 2010	Ann CR. FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
FY 2012 President's Budget Request	<u>0.0</u>	=	<u>792.8</u>	<u>795.0</u>	<u>792.5</u>	<u>789.7</u>	<u>785.5</u>
Commercial Crew	0.0	-	792.8	795.0	792.5	789.7	785.5

Note:

The FY 2011 appropriation for NASA was not enacted at the time that the FY 2012 Request was prepared; therefore, NASA is operating under a Continuing Resolution (P.L. 111-242, as amended). Amounts in the "Ann. CR FY 2011" column reflect the annualized level provided by the Continuing Resolution.

In accordance with the President's proposal to implement a five-year non-security discretionary spending freeze, budget figures shown for years after FY 2012 are notional and do not represent policy. Funding decisions will be made on a year-by-year basis.

In FY 2012 through FY 2016, civil service labor and expenses (CSLE) funds are administered within a single consolidated account in each of the appropriations, and not allocated within the project amounts shown above. The allocation to each project is reflected in the summary budget table included in the beginning of this budget request, which provides a full cost view. In FY 2010 and FY 2011, amounts are presented in full cost.

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Program Overview

In 2009, NASA began commercial crew activity with the initial round of five CCDev awards to stimulate efforts within the private sector to develop and demonstrate human space flight capabilities that could ultimately lead to the availability of commercial human space flight services. In October 2010, NASA solicited proposals from U.S. space industry participants for a second round of CCDev initiatives (CCDev 2) to further advance commercial crew transportation system concepts and mature the design and development of elements of the system such as launch vehicles and spacecraft. The agreements are expected to result in significant maturation of commercial crew transportation system capabilities, with consideration given to NASA's draft human certification requirements and standards or industry equivalent to those requirements and standards.

The results of these efforts will feed into CCDev Round 3. The primary objective of CCDev Round 3 will be to facilitate the development of a U.S. commercial crew space transportation capability with the goal of achieving safe, reliable, and cost effective access to and from LEO and the ISS. Once the capability is matured and available to customers, NASA plans to purchase transportation services to meet its ISS crew rotation and emergency return obligations.

CCDev Round 3 will follow an alternative business method that allows U.S. private companies more design ownership of their space systems and requires those companies to invest private capital to complement government funds. This approach is similar to that in use with the development, demonstration, and eventual purchase of cargo transportation services pioneered under the COTS and ISS Commercial Resupply Services (CRS) Programs.

For CCDev Round 3, NASA plans to award competitive, pre-negotiated, milestone-based agreements that support the development, testing, and demonstration of multiple commercial crew systems. CCDev Round 3 will feature an acquisition strategy based on pay-for-performance milestones, a fixed Government investment, the use of negotiated service goals instead of detailed design requirements, and a requirement for private capital. CCDev Round 3 will also use a Government insight/oversight model featuring a core team of sustaining engineering and discipline experts who closely follow the development of the vehicles. Additionally, CCDev Round 3 will use tailored human rating requirements, standards, and processes, with NASA providing the final crew transportation system certification.

Plans For FY 2012

Throughout most of FY 2012, the CCDev Round 2 commercial partners will be executing milestones associated with their Space Act Agreements. In the spring of 2012, NASA plans to make awards for CCDev Round 3. Partnering with industry in this innovative way potentially accelerates the availability of U.S. human access to LEO and reduces the risk of relying solely on foreign crew transports to the ISS for years to come. It will strengthen the U.S. commercial space launch industry, encourage competition, act as a catalyst for the development of additional space markets, provide new high-technology jobs, and reduce the cost of human access to space.

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Program Commitments

Commitment/Output FY 2012	Program/Project	Changes from FY 2011 PB Request
Conclude the commercial crew transportation systems (CCDev2) agreements and make initial selections for the design, development, and demonstration of commercial crew transportation systems.	Commercial Crew	None
Begin evaluation and certification of integrated commercial crew transportation system.	Commercial Crew	None

Program Management

The Commercial Crew Program Manager, located at Kennedy Space Center, reports to NASA Headquarters. The Deputy Program Manager resides at Johnson Space Center.

Acquisition Strategy

NASA is still developing the specific acquisition strategy for CCDev Round 3. Based on industry input and the lessons learned from COTS, CCDev, and CCDev Round 2, NASA is planning an acquisition approach that provides the following features:

- Pre-negotiated, pay-for-performance milestones to shift risk during the development phase to the private sector, encouraging innovation and efficiency in vehicle design;
- A fixed government investment that will permit NASA to seed the development of a risk-balanced portfolio of multiple concepts and systems;
- A tailored approach to government oversight of programmatic activities during development, including eliminating the need to validate contractor costs, reducing reporting requirements, and cutting down on significant paperwork, thereby decreasing costs and schedules;
- Identification of less prescriptive goals and objectives during the development phase that enables the companies the flexibility to provide innovative design solutions that effectively meet the needs of the commercial market and NASA while ensuring crew safety;
- Minimal Government retention of intellectual property to provide companies with confidence that they will retain the benefit of their investment; and
- A requirement for industry investment to leverage NASA dollars and ensure a larger net investment in commercial crew capability development.

NASA's objective is to remain primarily goal-based in the development phase, establishing a set of top-level performance requirements to encourage innovation and cost effectiveness.

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Program Risk Management

Title	Risk Statement	Risk Management Approach and Plan
Failure of a Commercial Partner	Commercial partners may not be able to complete the demonstration phase and thus NASA's investment would not result in available commercial services.	Commercial partners are incentivized to work through difficulties in order to avoid losing future funding and NASA technical assistance. Also, in order to insulate the agency in the unlikely event of a single commercial partner not completing their agreed-to milestones, NASA plans to execute agreements with multiple commercial providers.
Uncertainty Regarding Emerging Commercial Market Demand	With a minimum of only two flights per year from NASA and an uncertain non-NASA market, potential providers may be wary of the commercial business potential.	Given the decision to extend the life of the ISS, NASA will be an ongoing, long-term customer for commercial crew services, providing a strong base market for commercial providers. In addition, NASA plans to have extensive interaction with industry via requests for information, industry days, and draft announcements that will allow NASA to optimize the strategy of the program prior to awards.
Requirements Unique to NASA	NASA-unique requirements will increase the cost to provide services such that the commercial providers may not be able to capture non-NASA markets.	NASA has explicitly acknowledged that there are two objectives for the Commercial Crew program. One is the safe transportation of astronauts to and from the ISS, and the other is to enable the development of non-NASA commercial markets for human transportation services to and from LEO. NASA will seek a balance to achieve both objectives, not achieving one objective at the expense of the other.