

Why GAO Did This Study

This is GAO's fifth annual assessment of NASA's major projects. This report provides a snapshot of how well NASA is planning and executing its major acquisitions. Due to persistent cost and schedule growth associated with its major projects, this area is on GAO's high risk list. GAO previously reported that NASA has taken steps to address its acquisition management issues and was making progress toward improving the cost and schedule performance of its major projects.

This report provides observations about the cost and schedule performance of NASA's major projects, identifies factors that have contributed to this condition, and highlights challenges to NASA's management of the portfolio. To conduct this review, GAO assessed data on 18 current projects with an estimated life-cycle cost of over \$250 million, including data on projects' cost, schedule, technology maturity, design stability, and contracts; analyzed monthly project status reports; and interviewed NASA and contractor officials.

What GAO Recommends

GAO is not making recommendations in this report, but is highlighting several challenges for NASA's attention, including managing competing priorities and improving cost and schedule estimating practices. GAO has made prior recommendations aimed at improving oversight, including improving the use of earned value management, implementing design stability best practices, and providing transparency into costs. NASA agreed with GAO's assessment of its progress and remaining challenges and stressed its commitment to sustaining progress.

View [GAO-13-276SP](#). For more information, contact Cristina Chaplain at (202) 512-4841 or chaplainc@gao.gov.

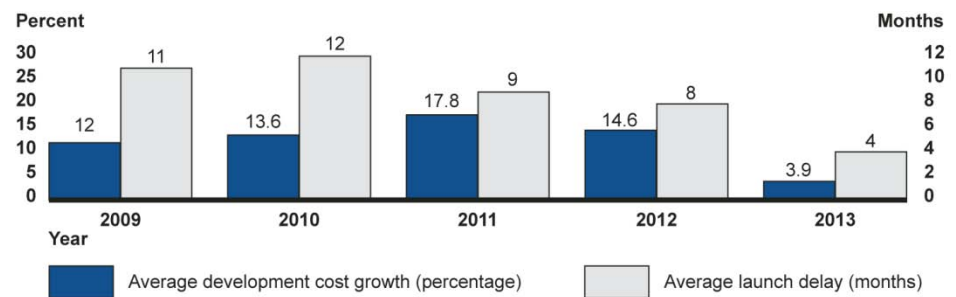
NASA

Assessments of Selected Large-Scale Projects

What GAO Found

The performance of the National Aeronautics and Space Administration's (NASA) portfolio of major projects has improved in the areas of cost and schedule growth since GAO's first assessment in 2009. Average development cost growth and schedule delay for the current portfolio have decreased to about a third of their 2009 levels.

Average Development Cost and Schedule Growth of Selected Major NASA Projects in the Implementation Phase, Excluding JWST



Source: GAO analysis of NASA data.

These figures exclude the cost and schedule growth of the James Webb Space Telescope (JWST), NASA's most expensive science project, in part because of its disproportionate effect on the portfolio average. Including the JWST in the calculation would increase the 2013 portfolio's average development cost growth from 3.9 percent to 46.4 percent and would double the average launch delay, from 4 to 8 months and obscure the progress the rest of the portfolio has made toward maintaining cost and schedule baselines. Of the 12 projects in implementation, 9 reported no development cost growth and or launch schedule delay in the past year, but 2 of these are currently facing cost and/or schedule pressures. Three projects reported development cost growth or a launch delay, but for two projects the impetus was outside of the project's direct control.

A number of factors appear to contribute to NASA's improved performance. For example, in prior reviews, a majority of projects exceeded their cost and schedule baselines. Most of these projects, however, have launched and are no longer affecting the portfolio. Consistent with prior recommendations, projects have also demonstrated some gains toward meeting best practices criteria for technology maturity and design stability. GAO has reported that conformity with these practices decreases cost and schedule risk. For example, 62 percent of the projects met technology maturity criteria this year as compared to 29 percent in 2010. Current projects also appear to be incorporating less technology risk, as the number of critical technologies per project has decreased from 4.7 in 2009 to 2.3 in 2013. NASA has also implemented new management practices that have likely contributed to improved performance, in part by increasing oversight.

Continued leadership attention will be needed to ensure that good practices are maintained in the face of several challenges including: (1) managing competing priorities within the context of constrained budgets, (2) estimating costs associated with several large-scale projects, (3) improving overall cost and schedule estimation, and (4) using consistent and proven design stability metrics.