SPACE COMMAND AND CONTROL

Opportunities Exist to Enhance Annual Reporting

Why GAO Did This Study

The Department of the Air Force has worked for decades to develop improved space command and control systems. A number of prior efforts experienced significant delays and cost increases. The current Space C2 program began in 2018.

The National Defense Authorization Act (NDAA) for Fiscal Year 2020 included a provision for the Department of the Air Force to submit annual status reports on the Space C2 program and for GAO to review them. This report assesses the extent to which (1) the Department of the Air Force's 2020 and 2021 Space C2 annual reports include and address the key elements that Congress outlined; and (2) the annual reports provide effective information for program oversight.

GAO analyzed NDAA requirements and the 2020 and 2021 annual reports, reviewed agency policies and guidance as well as leading practices related to software development, and interviewed officials from the Departments of Defense and the Air Force, and the U.S. Space Force. GAO also met with congressional staff regarding information for oversight.

What GAO Recommends

GAO recommends that the Air Force include in its annual reports: (1) an explanation of significant changes from the previous report and (2) user perspectives on the operational benefits of program efforts. The Department of Defense agreed with the substance of the recommendations and identified steps to address them.

View GAO-22-104685. For more information, contact Jon Ludwigson at (202) 512-4841 or ludwigsonj@gao.gov

What GAO Found
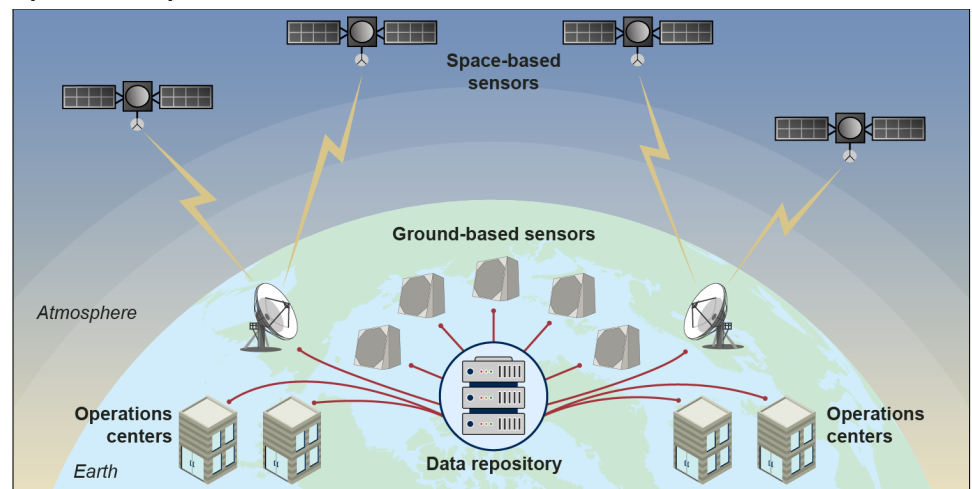
In recent years, the Department of Defense has recognized that potential adversaries may target its space assets during conflicts to diminish U.S. capabilities. The Space Command and Control (C2) program is the Air Force's latest software-intensive effort to develop a system that gathers data from space- and ground-based sensors and transmits these data to a data repository (see figure). Data are processed to enable commanders to make timely decisions, take action, and counter threats.

Operational Space Command and Control

Source: GAO analysis of Department of the Air Force information. | GAO-22-104685

The Air Force's 2020 and 2021 Space C2 annual reports on program status addressed all eight of the required reporting elements outlined in statute, such as a description of changes to program metrics. However, the usefulness of these annual reports for oversight is limited because they lack information needed to provide a more complete picture of the status of the Space C2 program. For example, some short-term priorities for delivering capabilities differ between the two reports, and there is not enough information to determine the reasons for the changes. Given cost, schedule, and performance challenges faced by previous space command and control efforts, program oversight and knowledge-based decision-making would benefit from additional information, such as an explanation of significant changes from one report to the next.

Further, information in the annual reports related to return on investment could be enhanced by documenting user perspectives on the operational benefits associated with program efforts. For example, the 2021 report states that an application that automates radio frequency selection reduced processing time from days to minutes. However, including user perspectives on associated operational benefits of program efforts—such as organizational efficiencies or additional warfighting capabilities—would provide important information for understanding program value, enhance program oversight, and inform future investment decisions.

United States Government Accountability Office