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Can the Next Generation Overhead Persistent Infrared Program Overcome an Aggressive Schedule Using the Middle Tier of Acquisition?

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Abstract

The U.S. defense and intelligence communities depend on data from overhead persistent infrared sensors. These sensors provide early warning of ballistic missile launches and contribute to other defense and intelligence missions. The planned Next Generation Overhead Persistent Infrared (Next Gen OPIR) system is intended to replace the Space Based Infrared System, which began in the mid-1990s. This presentation (1) identifies the challenges Next Gen OPIR acquisition efforts face and the extent to which the Space Force is addressing them, and (2) assesses the extent to which Next Gen OPIR capabilities will address missions supported by the current system.

Background

The U.S. Space Force plans to spend around \$14.4 billion over the next five years to develop the Next Generation Overhead Persistent Infrared (Next Gen OPIR) system, comprised of satellites and a ground system to detect and track missiles, among other things. The Next Gen OPIR system is intended to replace the Space Based Infrared System (SBIRS), which began in the mid-1990s. The Air Force experienced significant problems when it developed SBIRS, and the program was roughly nine years late and cost more than three times its initial estimate.

The U.S. defense and intelligence communities depend on overhead persistent infrared sensors to provide essential launch detection, missile tracking, and reconnaissance data to mitigate, predict, track, and respond to a variety of threats. The Space Force plans to launch the first of five Next Gen OPIR satellites in 2025, an aggressive launch requirement validated by the Joint Requirements Oversight Council.

Objectives, Scope and Methodology

This report (1) identifies the challenges Next Gen OPIR acquisition efforts face and the extent to which the Space Force is addressing them, and (2) assesses the extent to which Next Gen OPIR capabilities will address missions supported by the current system. GAO reviewed program documentation, acquisition strategies, and Air Force and DoD acquisition guidance, and interviewed DoD officials. GAO assessed this information against acquisition and collaboration best practices.

Summary

The Space Force is acquiring Next Gen OPIR Block 0 using a relatively new acquisition approach. Specifically, the Space Force initiated Next Gen OPIR Block 0 as a rapid prototyping middle tier of acquisition (MTA) program. The rapid prototyping MTA pathway provides for the use of innovative technologies to rapidly develop fieldable prototypes to demonstrate new capabilities and meet emerging military needs. The Next Gen OPIR MTA designation helped streamline and expedite the start of the program.



Given the highly aggressive development and launch schedule validated by the JROC, hastening the start of the program was important for Next Gen OPIR.

Space Force officials recognized the significant development and schedule challenges at the inception of the Next Gen OPIR program and structured the program in several ways to address them. However, despite early gains in schedule and steps taken to speed up program development, the Next Gen OPIR program continues to face significant technical and managerial challenges—such as developing a new mission payload, integrating a novel payload onto a modified space vehicle, and serving as the lead system integrator for the first time in this area—that are likely to delay the initial launch.

See GAO-21-105249 for additional details

<https://www.gao.gov/products/gao-21-105249>





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