

Providing Civil Space Situational Awareness

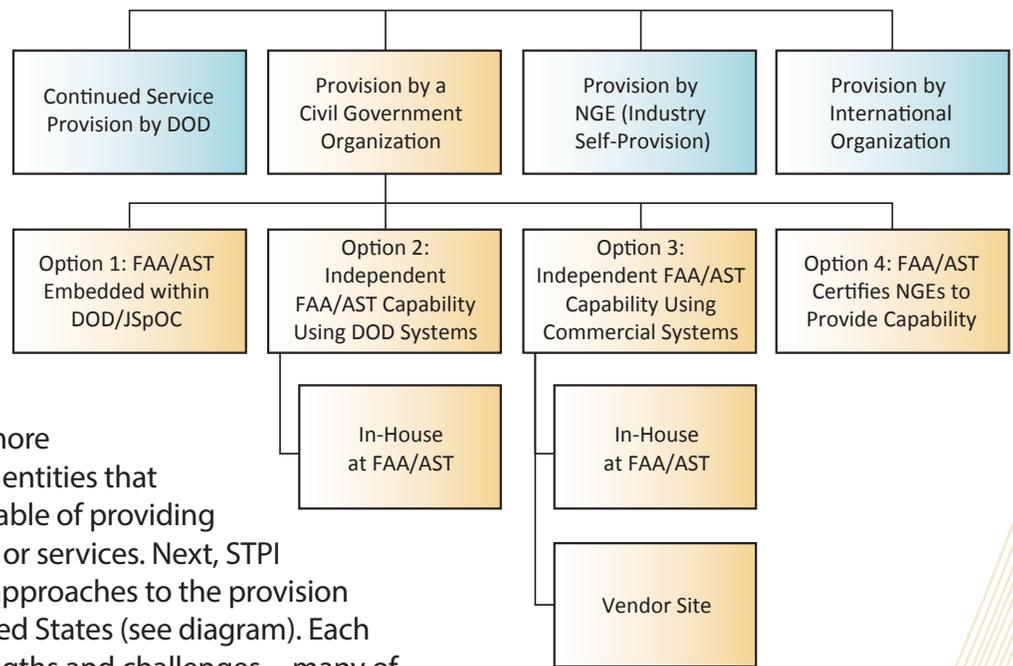
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Background

In recent years, the number of objects in space has grown dramatically as a result of increasing numbers of active satellites and orbital space debris, and the problem is expected to get worse. As a result, space situational awareness (SSA)—knowing where space objects are, communicating that information to stakeholders, and developing regimes for ensuring safety of space flight—is more crucial now than it has been in the recent past. The Department of Defense (DoD) Joint Space Operations Command (JSpOC) currently provides SSA services to the global space community, but changes to the system are being sought to improve services. At the same time, DoD is under pressure to address growing space-based threats to national security. Concerned about the possibility of overextending across conflicting missions in a fiscally constrained environment, some DoD officials have publicly noted a desire to move non-national security-related SSA services out of DoD’s purview.

Approaches to Provision of Civil Sector SSA Service

Researchers at the IDA Science and Technology Policy Institute (STPI) reviewed foundational reports and current literature, interviewed key stakeholders and experts, and conducted a market survey of private sector entities that could support civil SSA service provision. The market survey identified more than two dozen private-sector entities that are either providing or are capable of providing a subset of SSA data, software, or services. Next, STPI identified and evaluated four approaches to the provision of civil SSA services in the United States (see diagram). Each approach and option has strengths and challenges—many of which were identified in the report—that need to be evaluated in concert with cost to the government.



The approaches are complex, and the complexity lies in the details. For example, even within the approach where SSA services are provided by a civil government entity such as the Federal Aviation Administration (FAA) Office of Commercial Space Transportation (AST), part of the Department of Transportation, there are four options via which services can be provided. In all, civil SSA services could be provided in multiple ways, differentiated by level of service, data sets being used, and location where activities occur. The options differ in the amount of vendor engagement, and vendor-reported prices range from \$2 million to \$60 million.