

# GAO Highlights

Highlights of [GAO-23-105565](#), a report to congressional committees

## Why GAO Did This Study

As the number of threats and objects in space grows, SSA data about these objects are essential to managing commercial and military activities in space. A growing number of commercial companies are using ground-based sensors, such as radar and optical telescopes, to collect SSA data. These companies plan to sell the data, and licenses to use the data, to other companies and government agencies.

A House Armed Services Committee report included a provision for GAO to review planned procurement of commercial SSA data and provide an overview of the UDL. This report (1) describes the challenges DOD faces in identifying and characterizing objects in space, (2) assesses the extent to which DOD uses commercial SSA data, and (3) assesses the status of the UDL. To do this work, GAO reviewed and analyzed DOD and Space Force documents. GAO also interviewed DOD and Space Force officials and a non-generalizable sample of 10 out of about 50 SSA companies. We selected these companies based on what type of SSA products they provided and whether they had a contract with DOD.

## What GAO Recommends

GAO is making two recommendations to the Space Force, including to (1) establish a process to regularly identify and evaluate commercial SSA capabilities for applicability to the Space Force's needs and (2) create a plan to determine how to use the UDL with its SSA systems. DOD concurred with the recommendations.

View [GAO-23-105565](#). For more information, contact Jon Ludwigson at (202) 512-4841 or [LudwigsonJ@gao.gov](mailto:LudwigsonJ@gao.gov), or Alissa H. Czyz at (202) 512-3058 or [CzyzA@gao.gov](mailto:CzyzA@gao.gov).

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## SPACE SITUATIONAL AWARENESS

### DOD Should Evaluate How It Can Use Commercial Data

## What GAO Found

Department of Defense (DOD) strategies emphasize that space is a contested environment with increasing threats to satellites. Thus, space situational awareness (SSA)—the foundational knowledge and characterization of objects in space and the environment—is critical. DOD conducts SSA as shown in the figure below.

### Space Situational Awareness Steps



Source: GAO summary of Space Force data. | [GAO-23-105565](#)

The growth in the number of objects in space has created challenges for the Space Force. These include gaps in the geographical distribution of global sensors that collect data and limited sensor capability for objects in deep space. The Space Force is working to mitigate these challenges by adding other kinds of sensors for SSA and exploring ways to leverage commercial SSA data. Specifically, there is a growing commercial SSA sector that may provide benefits to DOD, including expanding geographic sensor coverage and providing unclassified, shareable SSA data.

Space Force has some efforts underway to use commercial SSA data. However, it has not comprehensively evaluated the range of data available to help meet SSA mission needs. DOD strategy emphasizes using commercial options when possible. However, the Space Force's evaluation and acquisition of licenses to access, use, and potentially share commercial SSA data have been limited to a few studies and training events. Establishing a process to regularly identify and evaluate commercial SSA data would better position the Space Force to meet its growing need to identify and characterize space objects.

The Space Force's Unified Data Library (UDL) is a cloud-based data repository designed to consolidate commercial and U.S. government SSA data, as well as data from other countries. In January 2021, the Space Force's Chief of Space Operations declared the UDL the single source for accessing and managing all data in support of Space Force operational systems. The Space Force has deployed an initial operational version of the UDL and plans to further develop it; however, staff who monitor objects in space are not using it in daily SSA operations because it is not integrated into their operational systems. A plan on how to use the UDL with SSA operational systems would facilitate the Space Force's ability to benefit from the amount of data in the UDL.