GAO Highlights

Highlights of GAO-18-200, a report to congressional requesters.

January 2018

FEDERAL BUILDINGS

GSA Should Establish Goals and Performance Measures to Manage the Smart Buildings Program

Why GAO Did This Study

To help comply with federal policies aimed at improving federal building energy and environmental management, GSA has implemented a smart buildings program nationwide in federally owned buildings under its custody and control. Two key technologies included in the program are Internet-connected advanced utility meters and an analytical software application, GSAlink, which alerts staff to potential building system problems, such as equipment operating outside of normal hours.

GAO was asked to review GSA's smart buildings program. This report examines: (1) what is known about the costs and benefits of the program, (2) the extent to which GSA has developed performance goals and measures to help it manage the performance of the program, and (3) any challenges GSA faces in implementing the technologies used in the program and GSA's actions to mitigate those challenges. GAO reviewed relevant GSA documentation, interviewed officials at GSA's central and regional offices, and visited a sample of GSA smart buildings in San Francisco, California, and Washington, D.C. that were selected based on the high concentration of GSA smart buildings located in each city.

What GAO Recommends

GAO recommends that GSA establish clearly defined performance goals and related performance measures for the smart buildings program, and identify and develop data to measure progress. GSA concurred with GAO's recommendations.

View GAO-18-200. For more information, contact Lori Rectanus at (202) 512-2834 or rectanusl@gao.gov.

What GAO Found

Limited quantified information exists on the costs and benefits of the General Services Administration's (GSA) smart buildings program's key technologies. GSA officials stated that the approximate cost of equipping a building with these technologies ranged between about $48,000 to $155,000. However, they stated that accurately calculating installation costs is challenging because GSA typically installs these technologies in selected buildings incrementally and sometimes as part of other capital improvement projects. Additionally, GSA officials identified perceived operational benefits of the smart buildings program's key technologies, including that these technologies enable officials to more precisely identify building system problems and more closely monitor contractors. However, existing data on the smart buildings program are of limited usefulness in quantifying the program's benefits. For example, according to GSA officials, while data from an application within GSAlink that estimates avoided costs from addressing each fault that GSAlink identifies are useful for prioritizing maintenance actions, the imprecise estimates preclude their use as a measure of actual avoided costs in quantifying program benefits.

GSA does not have documented, clearly defined goals for the smart buildings program, nor has GSA developed performance measures that would allow it to assess the program's progress. These omissions are contrary to leading practices of results-oriented organizations identified in previous GAO work. GSA officials verbally described broad goals for the smart buildings program to GAO, but the agency has not documented these goals. Further, because GSA has not clearly defined its verbally expressed goals, it cannot demonstrate progress in achieving them. For example, GSA officials said that the agency cannot measure progress for the stated goal of improving tenant productivity and comfort because of the subjective nature of individual tenant preferences, such as for office temperatures. Additionally, GSA has not developed performance measures to assess the program, and GSA's lack of data that can be used to quantify benefits of the program impedes its ability to measure the success of the program. Without clearly defined goals, related performance measures, and data that can be used to measure its progress, GSA is limited in its ability to make informed decisions about the smart buildings program.

GSA faces challenges in implementing the smart buildings program and has taken steps to mitigate these challenges. Since smart building technologies are Internet-connected, they are potentially vulnerable to cyberattacks that could compromise security or cause harm to facilities or their occupants. GSA has taken actions intended to mitigate cybersecurity challenges, such as instituting policies to address threats and known vulnerabilities and moving Internet-connected building systems to GSA's secured network. Separately, according to GSA officials, GSA faces implementation challenges related to the limited technological proficiency of some GSA building managers and contractors or lack of buy-in from them. GSA is taking actions intended to address these challenges. For example, it has provided training to staff and contractors, and its central office monitors the extent to which staff address problems detected by the smart buildings program's key technologies.