



# FINDING COST EFFICIENCIES IN U.S. NATIONAL AIRSPACE OPERATIONS

**CHALLENGE:** The U.S. National Airspace System (NAS) is comprised of airspace, along with navigation facilities and airports. There are approximately 41,000 NAS operational facilities in the U.S. Efficient and safe air traffic management operations are critical for NAS. The SMART NAS Test Bed (SNTB) is the leading research, test, and demonstration environment for air traffic management technologies. The SMART NAS program seeks to estimate costs for the baseline NAS for its research; however, calculating the total NAS cost is not currently possible.

**MISSION DIRECTORATE:**

Aeronautics Research

**SMALL COMPANY**

Robust Analytics  
Crofton, MD

**SNAPSHOT**

A ground-breaking tool for NASA scientists to study air traffic costs of the United States National Airspace System.

**SOLUTION:** Under the NASA SBIR Phase II, Robust Analytics developed the Air Traffic Cost Assessment Tool (ATCAT), a model that estimates the cost of operating commercial aircraft in the NAS. The ATCAT software and associated data will be integrated with the SMART NAS Data Distribution Service message infrastructure as a stand-alone application or service for use by NASA researchers. The ATCAT version installed in the test bed will estimate in near real-time the costs of operating flights in the NAS, including: actual NAS flights, planned flights, and simulated and shadow-mode flights. This innovation offers a greater understanding of the cost drivers for aircraft operators and will help to validate the cost and revenue impacts.