OVERVIEW

The Air Transportation Oversight System (ATOS) is a new approach to FAA certification and surveillance oversight, using system safety principles and systematic processes to assure air carriers are in compliance with the FAA regulations and have safety built into their operating systems. Unlike the traditional oversight methods, ATOS incorporates the structured application of new inspection tasks, analytical processes, and data collection techniques to the oversight of individual air carriers. This approach enables Flight Standards inspectors to be more effective in the oversight of air carriers by focusing on the most critical safety aspects of an air carrier’s operation.

SERVICES PROVIDED

CGH developed ATOS as a web-based application for the FAA’s Flight Standards division (AFS). ATOS captures data from Aviation Safety Inspectors (ASI) using standard web browsers, thereby automating the aircraft inspection and safety surveillance process. Users can enter, encrypt, and store data in a SQL Server database, perform analyses, and identify potential safety issues. Further, Certificate Management Teams (CMTs) have web-based browser functionality to plan, execute, and analyze the results of air carrier surveillance. These ATOS-automated functions guide Principal Investigators through the new planning process and associate surveillance data to the appropriate system, sub-system, or element to be analyzed on a systems basis. The targeted collection and measurable quality of the data captured under the improved surveillance process is stored in an ATOS data repository. It has enabled us to create a targeted, more effective surveillance plan.

TOOLS AND CAPABILITIES

- Web Browsers to support airworthiness and operation data capture and report generation by PIs
- Existing FAA communications infrastructure including access to the FAA intranet via controlled Internet entrance;
- Creation of an ATOS web site for dissemination of policy and procedures and problem reporting;
- Extensive ATOS edit and validation criteria to ensure data quality and to support factual ATOS quantification and qualification metric’s and measurements
- Data repository with four levels of CMT security including to the data element level
- Unique digital encryption and decryption keys for transmitting (sending and receiving) ATOS data over the Internet
- Online support five days a week, 16 hours a day for 900 users; including hotline and problem reports

ATOS utilizes Spatial Information Systems (SIS) capabilities to associate geographic surveillance data and permitted the automated determination of trends and patterns as well as support look ahead proactive problem identification. The SIS capabilities were based on COTS Geographical Information System (GIS) products and included Spatial Data Base Engines. Geographically dispersed field users can use queries to associate events, situations, and patterns occurring in one part of the United States with those occurring in their area. Spatial and Geographical displays will be available to show the potential impact of a pattern or series of patterns as they develop, as well as identify the magnitude and impact corrective action.