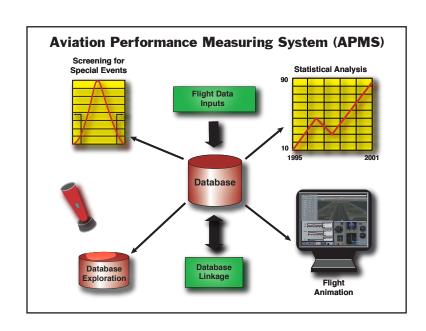# Human Factors
research and technology division

Aviation Performance Measuring System (APMS)

Objective

APMS is an element of the ASMM Project that is developing the technology to enable very large quantities of flight data to be processed in a highly automated fashion in order to address questions relating to operational performance and safety in a regular and routine manner.

Approach

Working with U.S. airlines to establish user needs, APMS enhances the existing COTS capabilities for Flight Operation Quality Assurance (FOQA) in the form of knowledge-based computerized assistance for proactive assessment of safety risk. Using APMS tools, analysts can better identify, verify, and interpret both exceedances and routine operations. Tools currently in development will integrate distributed sources of data for causal analysis, search for patterns of typical and atypical operations that may spot developing risks, and facilitate data mining through regular review of routine operations

Impact

APMS will change the philosophy of operations for air carriers by enabling routine monitoring of flight data to support not only flight operations but eventually engineering, maintenance, training, scheduling, and dispatch. The tools of APMS are also applicable to space flight and other areas.

Information Technology

APMS incorporates innovative technology for rapid processing of large volumes of complex data, and state-of-the-art tools for extraction, presentation and visualization of information from flight data.

POC: Thomas Chidester, Ph.D

URL: http://humanfactors.arc.nasa.gov/ihs.html

E-mail: Thomas.R.Chidester@nasa.gov

Aviation Performance Measuring System (APMS)
- Screening for Special Events
- Statistical Analysis
- Flight Data Inputs
- Database
- Database Exploration
- Database Linkage
- Flight Animation