

NextGen Air Traffic Control/Technical Operations Human Factors

Brief Description

This program has the unique mission to translate the cross-cutting effects of NextGen on the human performance of actors in the domains of Air Traffic Control and Technical Operations. The team of researchers funded by this program analyze the OIs and increments that define NextGen, and review all relevant program and Human Factors documents. The team evaluates the effect of NextGen on the NAS Actors by interviewing or performing studies with Subject Matter Experts (SMEs) and current Air Traffic Controllers(ATCs)/Traffic Managers(TMs) /Airway Transportation System Specialists (ATSSs). They take a cross-cutting view of the OIs and increments to identify the enterprise level effects of NextGen, which are then communicated to the individual programs. Outputs of this program include training and staffing needs, guidance on skill degradation and non-conformance due to increased automation, and human error mitigations for complex systems and procedures.

The NextGen ATC/TechOps Human Factors Program will assess the required human performance across systems and air traffic and TechOps domains in order to ensure proper integration of NextGen systems for the needs of the human component of the aviation system. These systems include a combination of new decision support tools, automation, and procedures, to achieve the operational improvement. The effectiveness of each of these technologies is contingent upon the proper integration of the new capability with the work performed by the controllers, traffic managers, and maintainers. Human performance issues

Four Focus Areas of this Program Include:

1. Information Integration, Comprehension, and Application
2. Error management and Complex Systems (including Automation)
3. Procedure Design and Evaluation
4. Change Management and Training

This program is currently assessing RNAV/RNP non-conformance conditions and developing mitigation strategies and guidance to provide to AFS-400 and AJV-1. This program is also assessing NextGen automation, decision support tools, and alarms and alerts. This effort will provide guidance for the programs developing ERAM, TFDM, and STARS technology add-ons to ensure that the implementation of new alerts and decision support tools are enhancing human performance. This effort will also assesses skill degradation as a result of increased automation use. This program is also assessing the strategic job and training needs of air traffic and TechOps personnel to provide staffing and training guidance to AJI-21, AJV-73, and AJW-13.

Significant Accomplishments: FY13 to Present

- NextGen Human Systems Integration Strategic Plan
- HSI Roadmap
- NextGen Segment Bravo Human Hazard Assessment Report
- Human Factors Air/Ground Integration Assessment of Interval Management (MITRE)

Special Issues:

The Office of Management and Budget removed our Programs budget line for FY15. We are working to complete FY14 research efforts and transition to a limited FY16 budget. The program is working closely with the NextGen office to resolve this, and future budget issues.