

1st DRAFT

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Human Factors Practitioners in System Development

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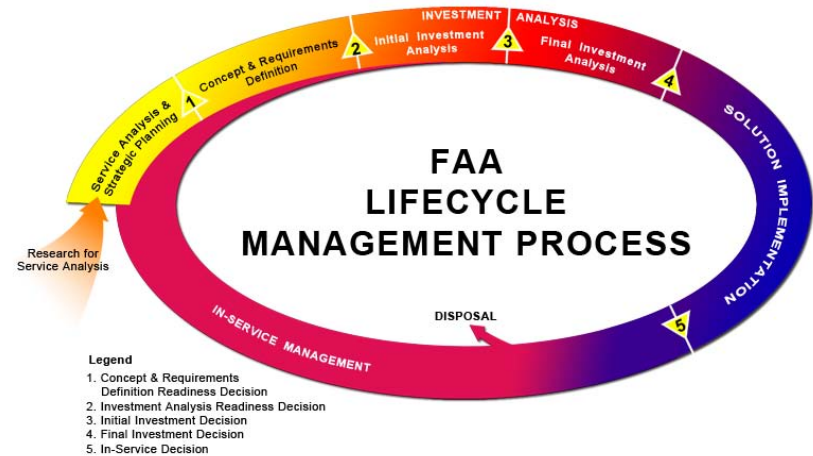
FAA

What is the FAA Acquisition Management System?

Established in 1996 to address the unique needs of the FAA and provide for more timely and cost-effective management of investments in equipment, materials, and services

Covers many management disciplines

- + Strategic planning
- + Budgeting
- + Enterprise Architecture
- + Portfolio Management
- + Investment Decision-making

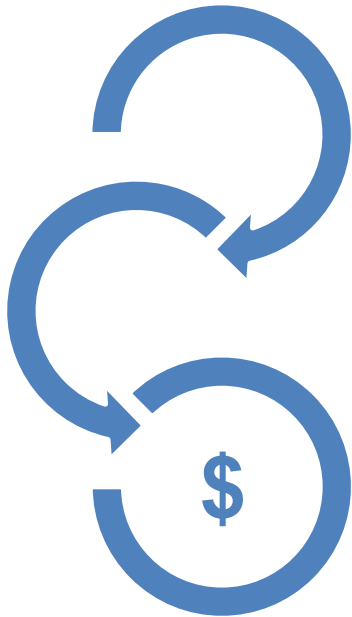


Generic Life Cycle	Concept Stage	Development Stage	Production Stage	Utilization Stage
FAA Life Cycle Phases	Service Analysis	Concept & Requirements Definition	Investment Analysis	Solution Implementation
			In-Service Management	

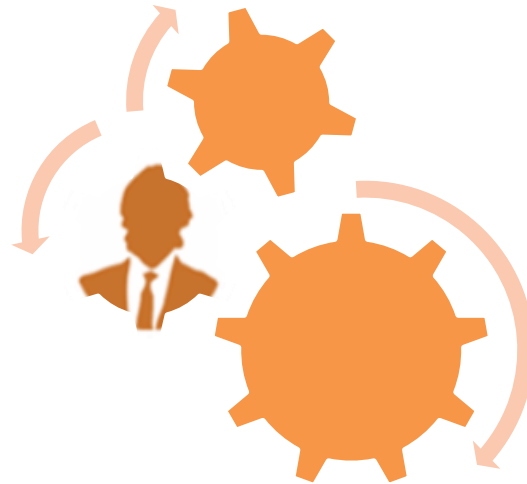


What is the human factors function in the Acquisition Management System?

Lower lifecycle costs



Improve human-system performance



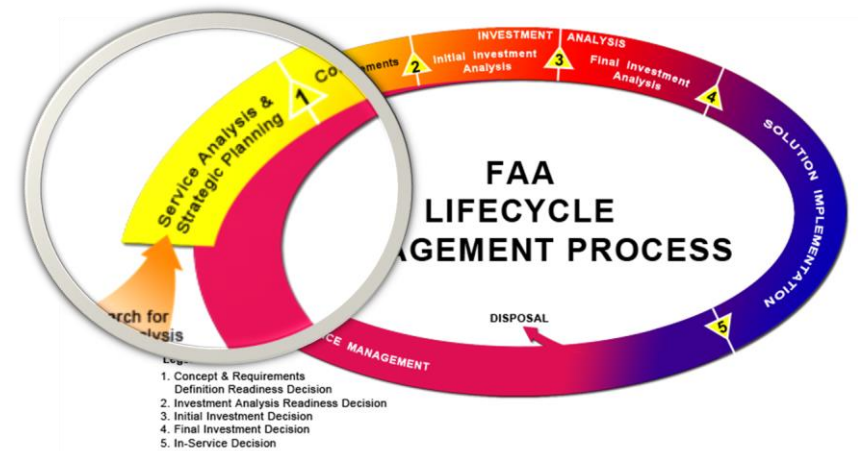
Reduce technical risk



What are the functions of the FAA's Subject Matter Expert across the lifecycle?

Review all applicable system acquisition life-cycle requirements and compliance documents...

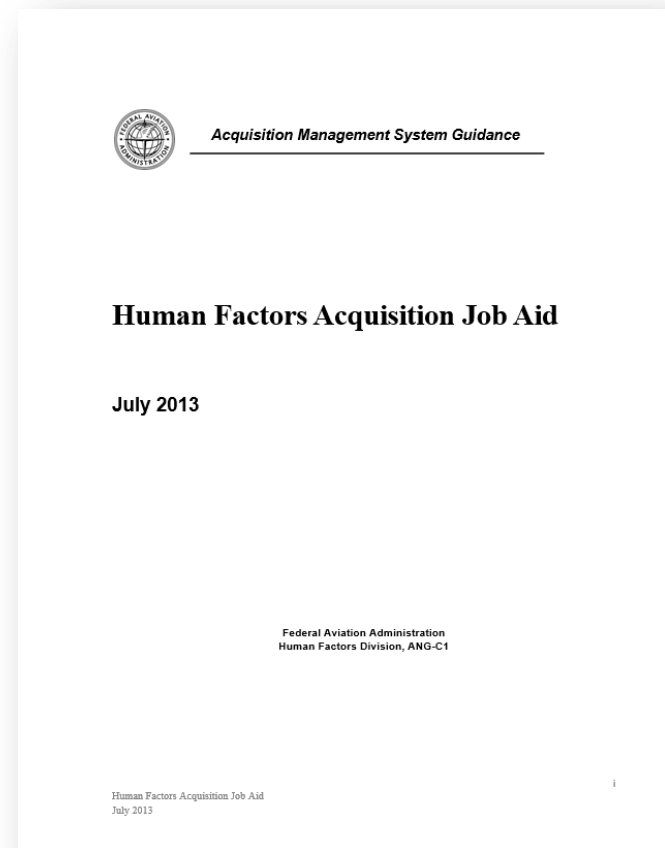
- ✦ Human Factors Assessments
- ✦ Program Requirements
- ✦ Business Cases
- ✦ Implementation Strategy & Planning
- ✦ Integrated Human Factors Plans
- ✦ In-Service Review Checklists



...to ensure that human factors requirements have been properly addressed.

What are the functions of a program's Human Factors Coordinator across the lifecycle?

- Coordinates the Human Factors Program
- Coordinates the development of the Integrated Human Factors Plan
- Develops, directs, and monitors the Human Factors Program and its activities for the program



What are the functions of a program's Human Factors Engineers across the lifecycle?

- Develops the Human Engineering Program Plan
- Develops the Human Engineering Design Approach for the Operator
- Develops the Human Engineering Design Approach for the Maintainer
- Conducts a Critical Task Analysis
- Develops the Human Engineering Simulation Concept

How does FAA address human factors in Systems of Systems development?

A system is an integrated set of constituent pieces that are combined in an operational or support environment to accomplish a defined objective.

- ✦ People
- ✦ Hardware
- ✦ Software
- ✦ Firmware
- ✦ Information
- ✦ Procedures
- ✦ Facilities
- ✦ Services

A System of Systems is a collection of independent systems that work together to achieve some common purpose.



What are the functions of an organization's Senior Human Factors Engineers?

Experts on systems such as Terminal, En Route, and Technical Operations

Integrate communication, navigation, and surveillance systems

Develop and manage human factors sections of acquisition documents

- ✦ Concepts of Operations
- ✦ Concepts of Use
- ✦ System Requirements
- ✦ Test Plans



What are the functions of the FAA's Human Factors Integration Lead?

- Establish, coordinate, and disseminate Human Factors Integration Program policy, guidance, and procedures to all FAA organizations.
- Establish and maintain a knowledge-based monitoring, assessment, and evaluation system to account for all human factors activity and its return on investment.
- Review the application of Human Factors in FAA models, simulations, and analyses.
- Sponsor Human System Integration Workshops to further professional coordination and collaboration among training, human factors engineering, and safety.

What other human factors functions support FAA system development?

Air Traffic Organization

Program Management Office

Technical Operations

Safety & Technical Training

NextGen

Human Factors Division

Lifecycle Integration

Programs

Technical Center

Aviation Safety

Chief Scientific & Technical Advisors

Flight Standards

Aircraft Certification

Civil Aerospace Medical Institute

With what other specialty engineering does FAA human factors coordinate?

- Reliability, Maintainability, and Availability Engineering
- Life Cycle Engineering
- Information Security Engineering
- System Safety Engineering
- Hazardous Materials Management, Environmental Engineering, and Environmental, Occupational Safety & Health

How are policy and guidance for human factors in AMS developed?

AMS Includes

- ✦ Policy
- ✦ Guidance
- ✦ Flowcharts
- ✦ Templates
- ✦ Checklists
- ✦ Clauses

Changes are made in accordance with AMS Policy



- Human Factors Working Group makes changes
- Chairperson is assigned by NextGen
- Members from across the FAA represent their organization or line of business

What training and tools are available to support human factors practitioners?

Human Factors Engineering is an integral part of Systems Engineering and is supported by agency-wide efforts to identify staffing needs, training requirements, training and workforce development strategies, competency fulfillment, accession, recruitment and retention.



NextGEN



FAA