What is the FAA Safety Assurance System (SAS)?

An Overview for Certificate Holders and Applicants (CH/As)

Introduction

This presentation is intended to provide Certificate Holders and Applicants (CH/As) with basic overview information about the Federal Aviation Administration (FAA) Safety Assurance System (SAS).

This overview presentation is not intended to serve as training for SAS, but rather to supplement other materials available to CH/As about SAS and the SAS External Portal.

To help you learn more, links to additional resources, such as online SAS External Portal Training and the SAS External Portal User Guide, are provided on the Resources slide at the end of this presentation.

Contents

What is SAS?

- The Safety Assurance System (SAS) is the FAA's oversight tool to perform certification, surveillance, and Continued Operational Safety (COS)
- Oversight is a function performed by the FAA to assure the highest level of safety in National Airspace System (NAS) by verifying that an aviation organization or designee complies with and uses safety-related standards, regulations, and associated procedures
- SAS includes policy, processes, and associated software the FAA Flight Standards Service (FS) uses to capture data when conducting oversight
- SAS was developed to satisfy the Safety Assurance component of the FAA FS internal Safety Management Systems (SMS)
- SAS is not a separate safety standard

What does SAS do?

The Safety Assurance System:

- **Standardizes** the work being accomplished across FS
- **Improves** consistency and collaboration between FAA and industry
- **Helps** FAA Aviation Safety Inspectors (ASIs) determine risk-based, data-supported oversight decisions
- **Determines** hazard identification and risk assessment strategies to formulate surveillance plans and where to focus FAA resources
- **Provides** the standardized protocols to evaluate whether Certificate Holder operations are in compliance with regulations

SAS Regulations and Requirements

SAS is based on:

- Statutory Authority
- Regulatory Authority
- System Safety
- System Attributes

Statutory Authority

Title 49 of the United States Code (49 U.S.C.) provides the statutory authority to the FAA for SAS. This consists of:

- **Title 49, Section 44701:** Promote safety by adhering to the FAA-prescribed minimum standards required in the interest of safety
- **Title 49, Section 44702:** Issuance of Certificates (highest level of safety - 14 CFR part 121/135)
- **Title 49, Section 44705:** Air Carrier Operating Certificates (demonstrated to conduct 14 CFR part 121/135 operations)
- **Title 49, Section 44707:** Examining and Rating Air Agencies (flight stations, repair stations and air agencies)

Regulatory Authority

Title 14 of the Code of Federal Regulations (14 CFR) provides the regulatory authority for SAS.

SAS was implemented to standardize the oversight of Title 14 of the Code of Federal Regulations 14 CFR parts 121 and 135 air operators and 141, 142, 145, and 147 air agencies. Additional 14 CFR parts will be added to SAS in future phases of SAS implementation.

System Safety

System Safety is recognized by the FAA and industry as a valuable component in identifying hazards and managing risk to an acceptable level.

The goal of System Safety is to:

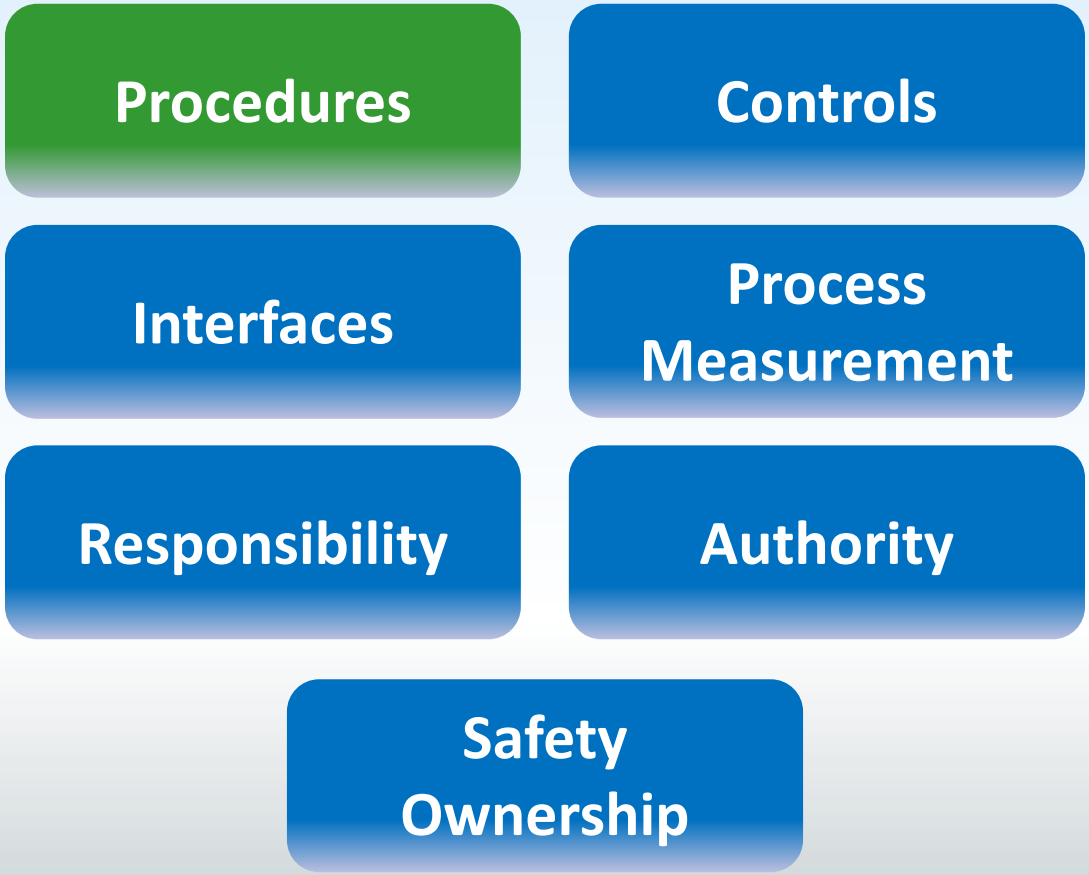
- Optimize safety by identifying hazards and managing the associated risk
- Eliminate or control associated risks through design and performance oversight

SAS meets these System Safety goals.

Safety Attributes

- Procedures
- Controls
- Interfaces
- Process Measurement
- Responsibility
- Authority
- Safety Ownership

Safety Attributes: Procedures



Procedures

Methods or practices that are written or unwritten, regulatory or nonregulatory, designed into a process that a Certificate Holder or Applicant uses to accomplish a desired result.

Note: Unwritten methods refer to Certificate Holders or Applicants that are not required by regulation to have documented procedures.

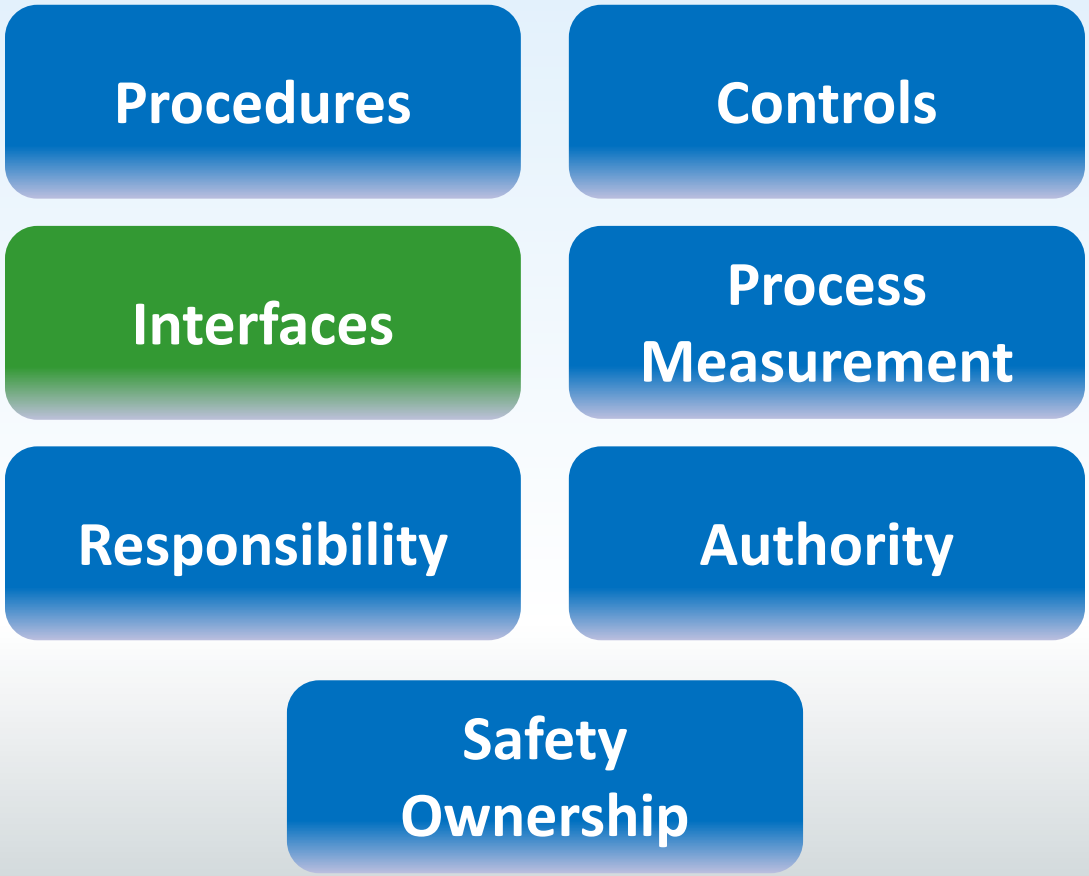
Safety Attributes: Controls

- Procedures
- Controls
- Interfaces
- Process Measurement
- Responsibility
- Authority
- Safety Ownership

Controls

The checks and restraints that exist within a process that ensure the potential effects of risks are reduced to an acceptable level.

Safety Attributes: Interfaces



Interfaces

Interactions between processes that must be managed in order to ensure desired outcomes.

Safety Attributes: Process Measurement

- Procedures
- Controls
- Interfaces
- **Process Measurement**
- Responsibility
- Authority
- Safety Ownership

Process Measurement

A method to monitor and measure the outputs and performance of a process, and to identify problems, or potential problems, in order to take corrective action.

Safety Attributes: Responsibility

- Procedures
- Controls
- Interfaces
- Process Measurement
- **Responsibility**
- Authority
- Safety Ownership

Responsibility

A clearly identified individual who is accountable for ensuring financial and human resources to ensure the safety and quality performance of the Certificate Holder.

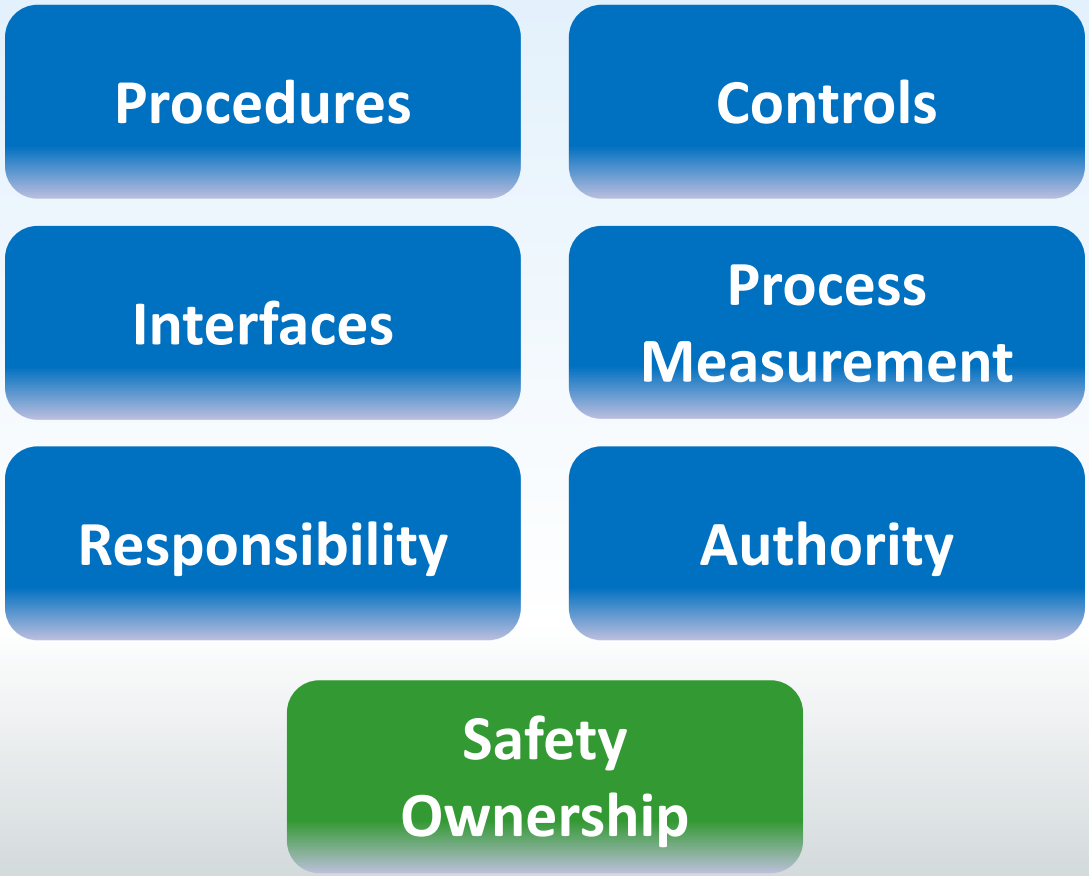
Safety Attributes: Authority

- Procedures
- Controls
- Interfaces
- Process Measurement
- Responsibility
- **Authority**
- Safety Ownership

Authority

A clearly identifiable, qualified, and knowledgeable person who effectively plans, directs, and controls resources; changes procedures; and makes key determinations including safety risk acceptance decisions.

Safety Attributes: Safety Ownership



Safety Ownership

An individual's understanding of how his or her role contributes to the overall safety of the organization.

SAS Focus Areas

SAS supports three focus areas:

- Initial Certification
- Continued Operational Safety (COS)
- Assurance Support

Initial Certification

The FAA certifies and authorizes Applicants to conduct business in a manner which complies with all:

- Applicable Regulations
- FAA Policy
- FAA Guidance

Continued Operational Safety (COS)

Surveillance and certificate management:

- Ensures Certificate Holder's compliance with US Code Title 49 and Title 14 of the Code of Federal Regulations (CFR) and ability to operate safely
- Verifies proposed changes to Certificate Holder’s operating practices
- Ensures the Certificate Holder or Applicant identifies and resolves any safety concerns by application of risk management principles

Assurance Support

Oversight planning, resource management and SAS management including the following:

- Work to be performed
- Resources required to perform oversight
- Gathering and analysis of safety data through National Safety Analysis (NSA)
- Continual process improvements

FAA Responsibilities

The FAA will:

- Verify that an Applicant can operate safely and is compliant with the regulations and standards before issuing a certificate and approving or accepting programs
- Conduct reviews to verify a Certificate Holder continues to meet regulatory requirements when the environment changes
- Validate the performance of a Certificate Holder's approved and accepted programs for the purpose of Continued Operational Safety (COS)

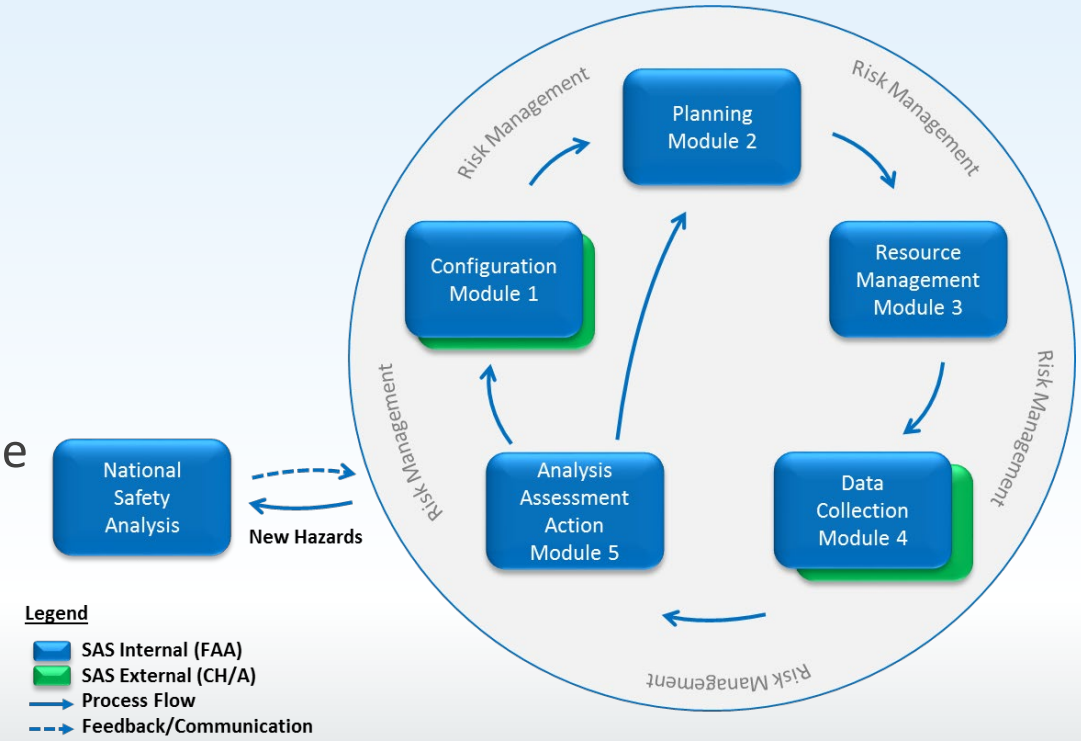
Certificate Holder Responsibilities

The Certificate Holder will:

- Ensure their employees are trained and competent
- Comply with not only written requirements, but also the intent of the regulations discussed in the Preamble of the Rule
- Provide their services with the highest possible degree of safety in the public interest (14 CFR parts 121/135)
- Promote safety by adhering to the FAA-prescribed minimum standards required in the interest of safety (14 CFR parts 141, 142, 145, and 147)

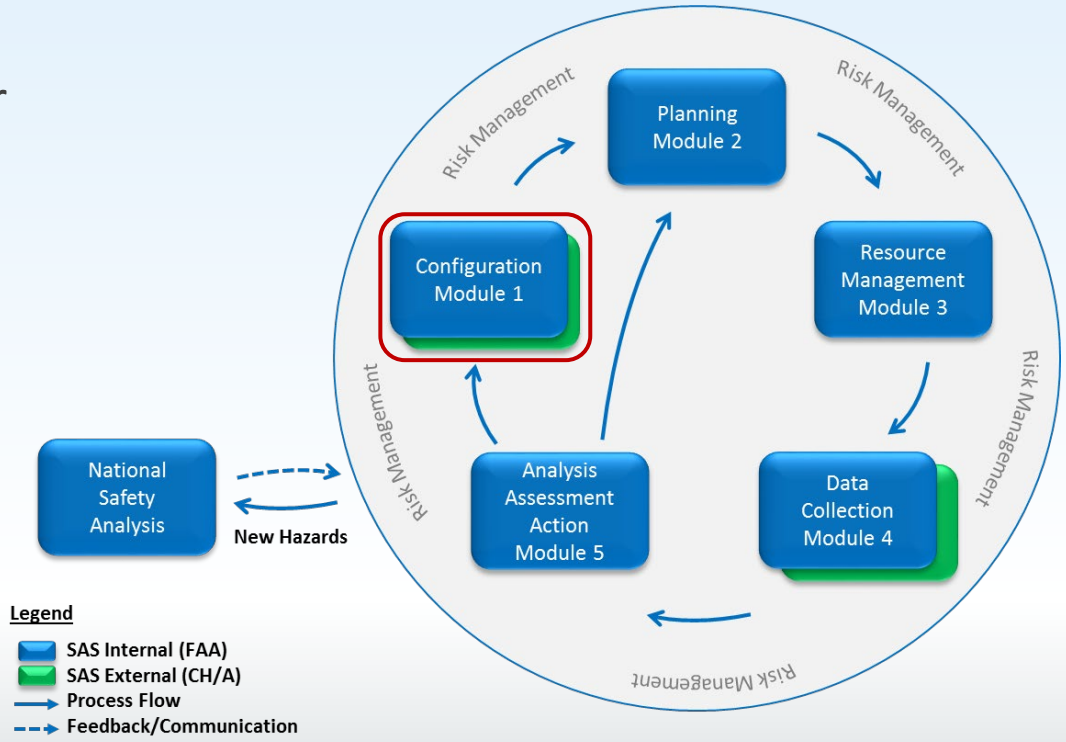
SAS Oversight Model

- Currently 14 CFR parts 121, 135, 141, 142, 145, and 147 oversight has been integrated into SAS
- Active Certificate Holders (CH) and Applicants (A) for new 14 CFR part certificates interact with SAS through the SAS External Portal in Module 1 and Module 4



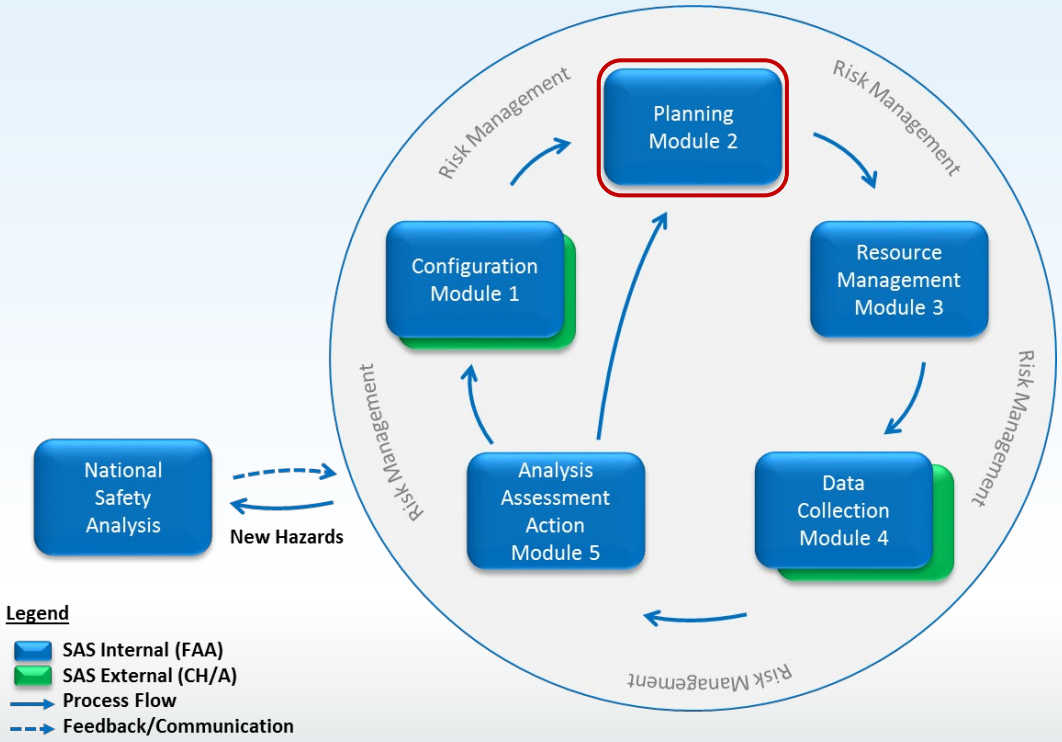
Configuration Module (Module 1)

- Certificate Holders access Configuration Information to view and initiate requests for new or changed scope of operations
- Applicants access Configuration Information to enter initial data for their proposed scope of operations
- This Configuration Information is used to finalize the Certificate Holder Operating Profile (CHOP)



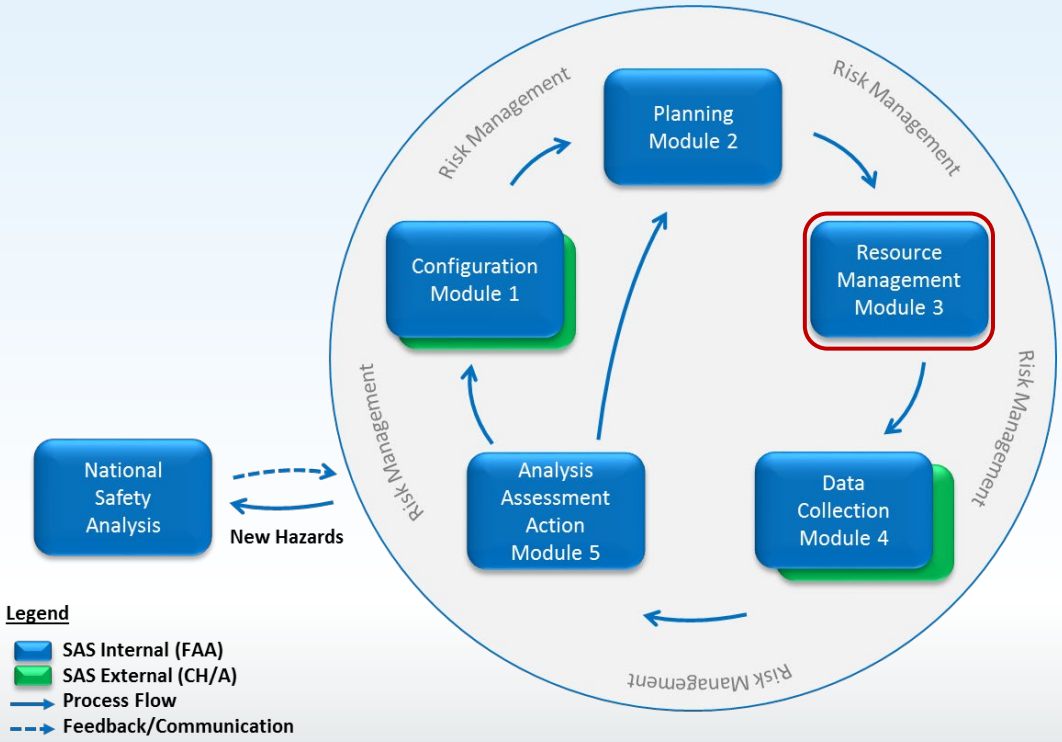
Planning (Module 2)

- In this module the FAA Principal Inspector (PI)or Training Center Program Manager (TCPM) identifies Certificate Holder risk and follow-up action through the use of the Certificate Holder Assessment Tool (CHAT)
- The PI reviews, adjusts, and validates the Comprehensive Assessment Plan (CAP), a risk-based, data-supported surveillance plan



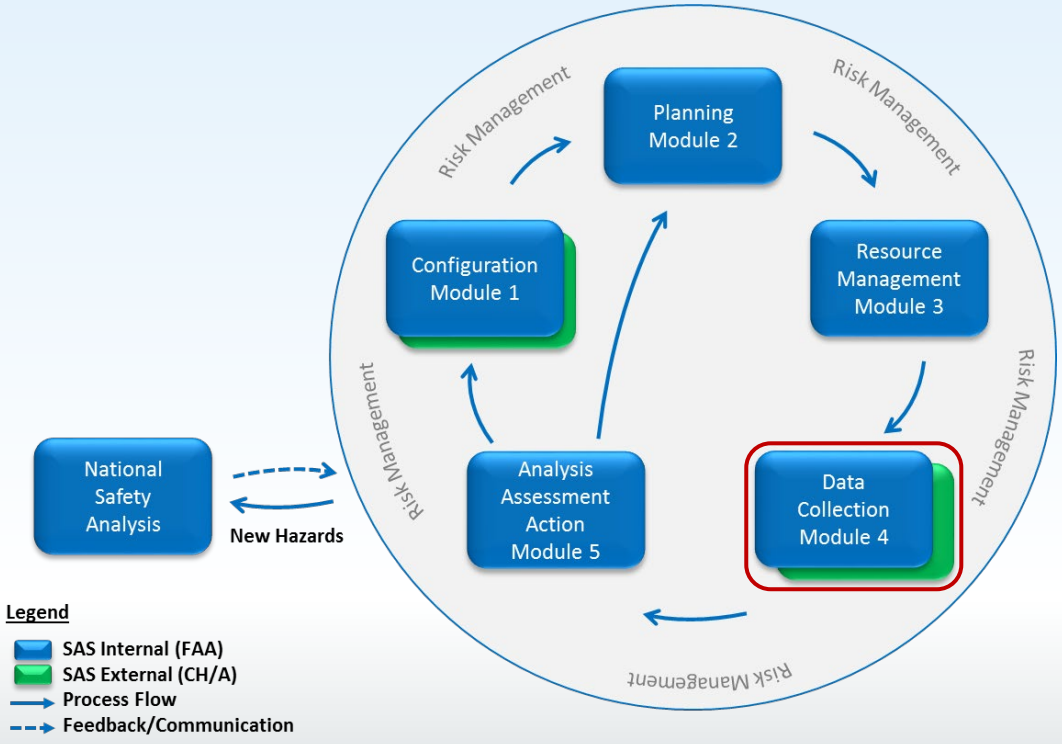
Resource Management (Module 3)

In this module, the FAA Office Management assigns FAA resources and concurs with the PI's surveillance plan (CAP).



Data Collection (Module 4)

- The PI's scheduled surveillance/oversight plan (CAP) is made up of Assessments scoped by the CHOP. Data is collected for these Assessments through the use of Data Collection Tools (DCTs)
- DCTs are based on:
  - Federal Aviation Regulations
  - OPSS Authorizing Documents
  - FS Policy and Guidance
  - Advisory Circulars
  - Safety Attributes



Data Collection Tools (DCTs)

DCTs are used to collect data needed for the evaluation of the performance or design of the Certificate Holder or Applicant

- Performance DCTs are used by ASIs when conducting an inspection or observation of a Certificate Holder or Applicant
- Design DCTs are used during surveillance and certificate management to ensure processes and procedures
- For initial certification, design DCTs are used to validate Initial Certification programs
- Certificate Holders may be asked to complete design DCTs during the approval process of a Configuration Change Request

Scoped Data Collection Tools

- Configuration Data consists of Operations Specifications and Vitals Data
- Scoping occurs resulting in scoped design/performance DCTs for each Certificate Holder or Applicant based on the Configuration Data, Training Specifications, and OPSS Authorizing Documents

Types of Data Collection Tools

- Element Design DCTs (ED DCTs)
- System/Subsystem Performance DCTs (SP DCTs)
- Element Performance DCTs (EP DCTs)
- Custom DCTs

Element Design Data Collection Tool (ED DCT)

- Reviews/validates the Certificate Holder or Applicant's design of systems for processes and procedures either written or unwritten
- Conducted by a single Aviation Safety Inspector or a team of inspectors
- Completed and submitted by the Certificate Holders or Applicants

System/Subsystem Performance Data Collection Tool (SP DCT)

- Questions are at a high “overview” level
- Observation of performance – assess Certificate Holder’s or Applicant’s processes or procedures
- Scheduled on a recurring basis
- Conducted by a single Aviation Safety Inspector or a team of inspectors

Element Performance Data Collection Tool (EP DCT)

- Observation of performance – validate Certificate Holder or Applicant's (CH/As) processes or procedures
- Data Collection Tool at the level of most detail
- Conducted by a single Aviation Safety Inspector or a team of inspectors

Custom DCTs

Custom DCTs are created for focused inspections. Some of the examples of the focused inspections for Custom DCTs are:

- National/Divisional including:
  - Maintenance Provider
  - Repair Station Outside U.S.
  - Safety Management System (SMS)
- Principal Inspectors (PIs)
- En Route
- Random

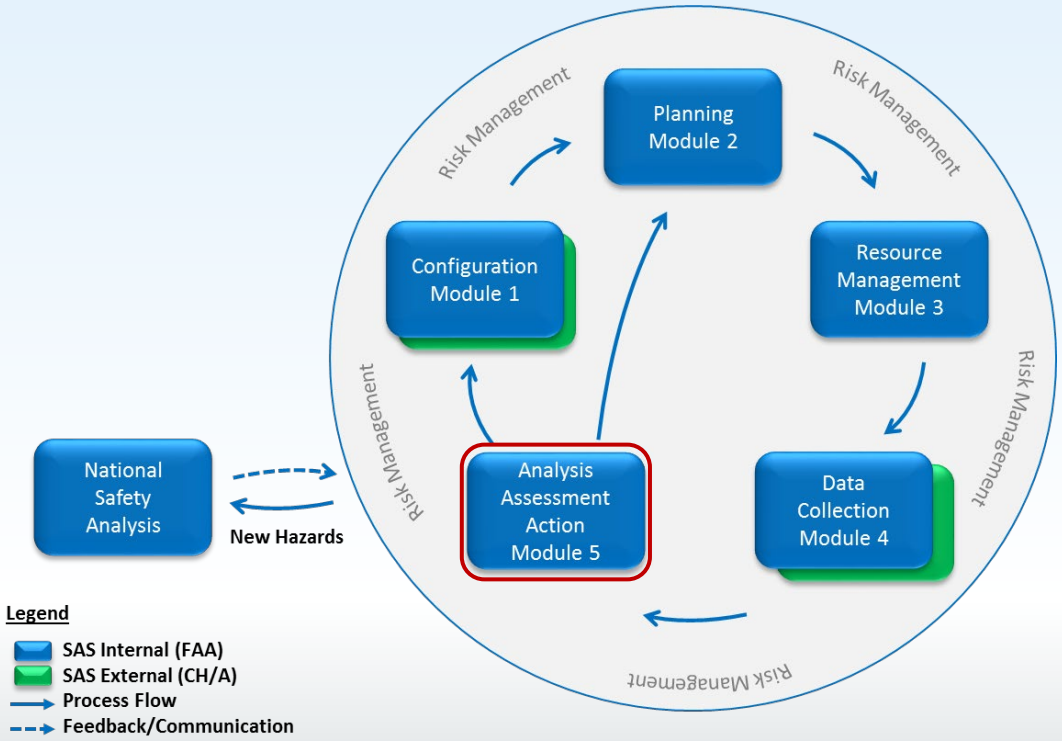
Data Collection Process

- The Certificate Holder can view scoped DCTs in their Operating Profile (CHOP) through the SAS External Portal
- The PI can send ED DCTs for completion by the Certificate Holder through the SAS External Portal
- Applicants can generate and complete ED DCTs based on their proposed Operating Profile to submit to the FAA Certification Project Manager (CPM). Applicants can submit ED DCTs only after a CPM is assigned to their Certification Project
- Data is collected, recorded in SAS, and then reviewed by the FAA Data Quality Reviewer

Once the Data Collection process is completed, the DCT data is available to the PIs or CPM for Analysis, Assessment, and Action (AAA) in Module 5.

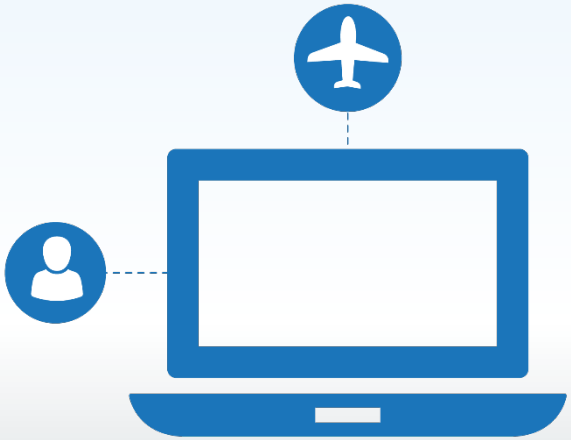
Analysis, Assessment, and Action (AAA) (Module 5)

The PI/CPM reviews the data collected and assesses the associated risk. The PI/CPM determines any follow-up action to be taken.



What is the SAS External Portal?

The SAS External Portal is an important component of the FAA Safety Assurance System. It is a free, secure, web-based application that allows for more direct, streamlined, and timely communication between Certificate Holders or Applicants and the FAA.



How Does the SAS External Portal Benefit Applicants?

The SAS External Portal allows Applicants to:

- Submit Preapplication Information
- Provide details on the size, type, and scope of operations they want to perform
- Generate, complete, and submit scoped ED DCTs to make the certification process more efficient and timely
- Submit documentation electronically and view FAA responses
- Exchange timely information with the FAA through the use of the SAS External Portal messaging system
- Coordinate Schedule of Events with FAA personnel

How Does the SAS External Portal Benefit Certificate Holders?

The SAS External Portal allows Certificate Holders to:

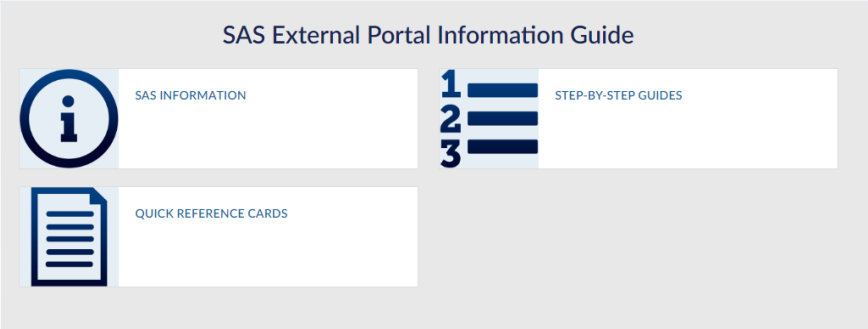
- Submit Configuration Change Requests
- View, complete, and submit PI-generated scoped ED DCTs
- Submit documentation electronically and view FAA responses
- Exchange timely information with the FAA through the use of the SAS External Portal messaging system

SAS External Portal Information Guide

The SAS External Portal Information Guide provides online resources including Step-by-Step Guides, Quick Reference Cards (Q-Cards), Video Demonstrations, and other helpful resource materials.

To access the SAS External Portal Information Guide, click here to open it

Please consider bookmarking this site for future reference.



SAS External Portal Step-by-Step Guides

The SAS External Portal Information Guide includes Step-by-Step Guides for in-depth walkthroughs of the processes.

It is imperative to follow the process steps in the applicable Step-by-Step Guide when signing up for and using the SAS External Portal.

System Use Notice

- Every time a user opens SAS, they agree to the System Use Notice before they can proceed
- It is very important that every SAS user reads and understands this notice because improper use can result in disciplinary action and possible civil or criminal penalties

SYSTEM USE NOTICE

- You are accessing a U.S. Government information system, which includes (1) this computer, (2) this computer network,(3) all other computers connected to this network, and (4) all devices and storage media attached to this network or to a computer on this network. This information system is provided for U.S. Government authorized use only.
- Unauthorized or improper use of this information may result in disciplinary action, as well as civil and criminal penalties.
- By using this information system you consent to the following:
  - You have no reasonable expectation of privacy regarding any communications or information transiting or stored in this information system. At any time, the government may for any lawful government purpose monitor, intercept, search, and seize any communication or information transiting or stored on this information system.
  - Any communication or data transiting or stored on this information system may be disclosed or used for any lawful government purpose.

Back to Introduction

Resources

Below are additional resources that can be used by Certificate Holders and Applicants (CH/As) to learn more about SAS and the SAS External Portal.

These resources are available on Faa.gov:

Resource	Description
Safety Assurance System (SAS) External Portal Training	This approximately 2-hour web-based training (WBT) offers external stakeholders a high-level overview of SAS and how the external portal fits within SAS.
SAS External Portal	The SAS External Portal is a free, secure, web-based application that allows current CH/As operating under 14 CFR parts 121, 135, 141, 142, 145, and 147 a means to communicate directly with local Flight Standards District Offices (FSDO) or Certificate Management Offices (CMO).
SAS External Portal User Guide	The SAS External Portal User Guide presents conceptual, procedural, and reference information for SAS External Portal users.
SAS External Portal Information Guide	The SAS External Portal Information Guide is a one-stop-shop where CH/As can access resources for the SAS External Portal. Contents include: Step-by-Step Guides, Quick Reference Cards (Q-Cards), Video Demonstrations, and SAS Information.