

Safety Management Systems

Flight Standards and Industry Roles in the AVSSMS

Presented to: AFS Manager's conference

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Date: August 23, 2007



Federal Aviation
Administration



Safety Management Systems

- **Safety and Safety Management**
- **Safety Management Systems**
- **Oversight and SMS**
- **AFS in the AVSSMS**
- **SMS Rulemaking**
- **SMS Pilot Project**
- **Panel Discussion**



What is safety?

- Safety is not equivalent to risk free (U.S. Supreme Court, 1980)
- Carelessness and overconfidence are more dangerous than deliberately accepted risk (Wilbur Wright, 1901)
- “Risk management” is a more practical term than “safety.” (Jerome Lederer ~1928)
- Practical safety is *risk management*



Risk Acceptance

- **Risk is inherent** in aviation operations
- Risk results from aspects of the **environment** and byproducts of **operational activities**
- **Operator is responsible for risk management** (Title 49 – FA Act)
- **Acceptance of risk** is fundamental to risk management
- **Risk management** is fundamental to the SMS



SMS Purpose and Methods

- The purpose of a safety management system is to provide a **systematic** way to **control risk** and to provide **assurance** that those risk controls are effective
- The SMS will give certificate holders a formal means of meeting **statutory safety requirements** (title 49) and the FAA a means of evaluating management capability

A Managerial Approach: ICAO view

- Safety should be approached in the same way as any other important objective – through careful, **effective management**
- Safety management combines **system safety and quality management** principles (US Translation)
 - Safety Risk Management (Design)
 - Safety Assurance (Performance and Effectiveness)



Is safety management the same thing as quality management?

Absolutely maybe...

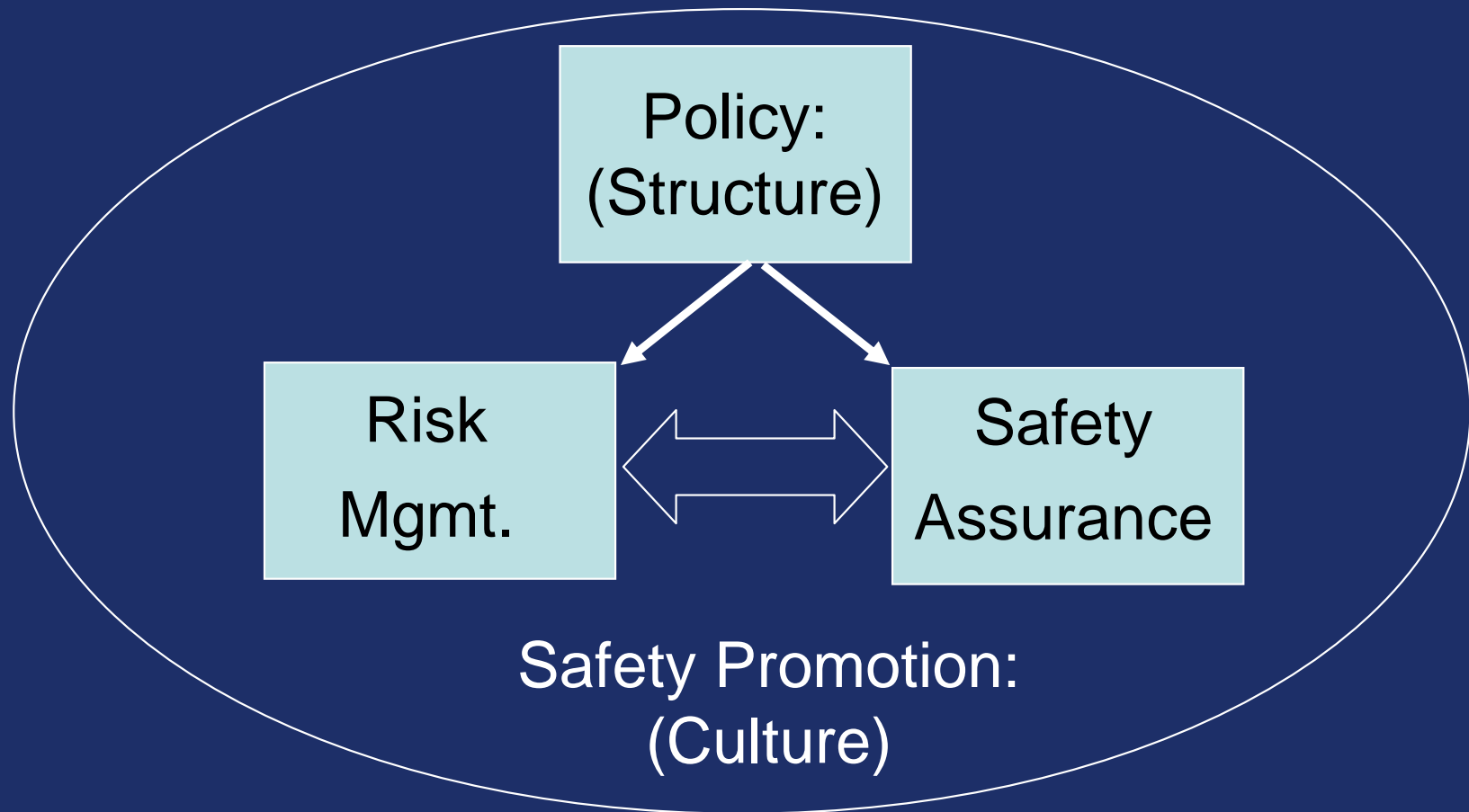


SMS or QMS?

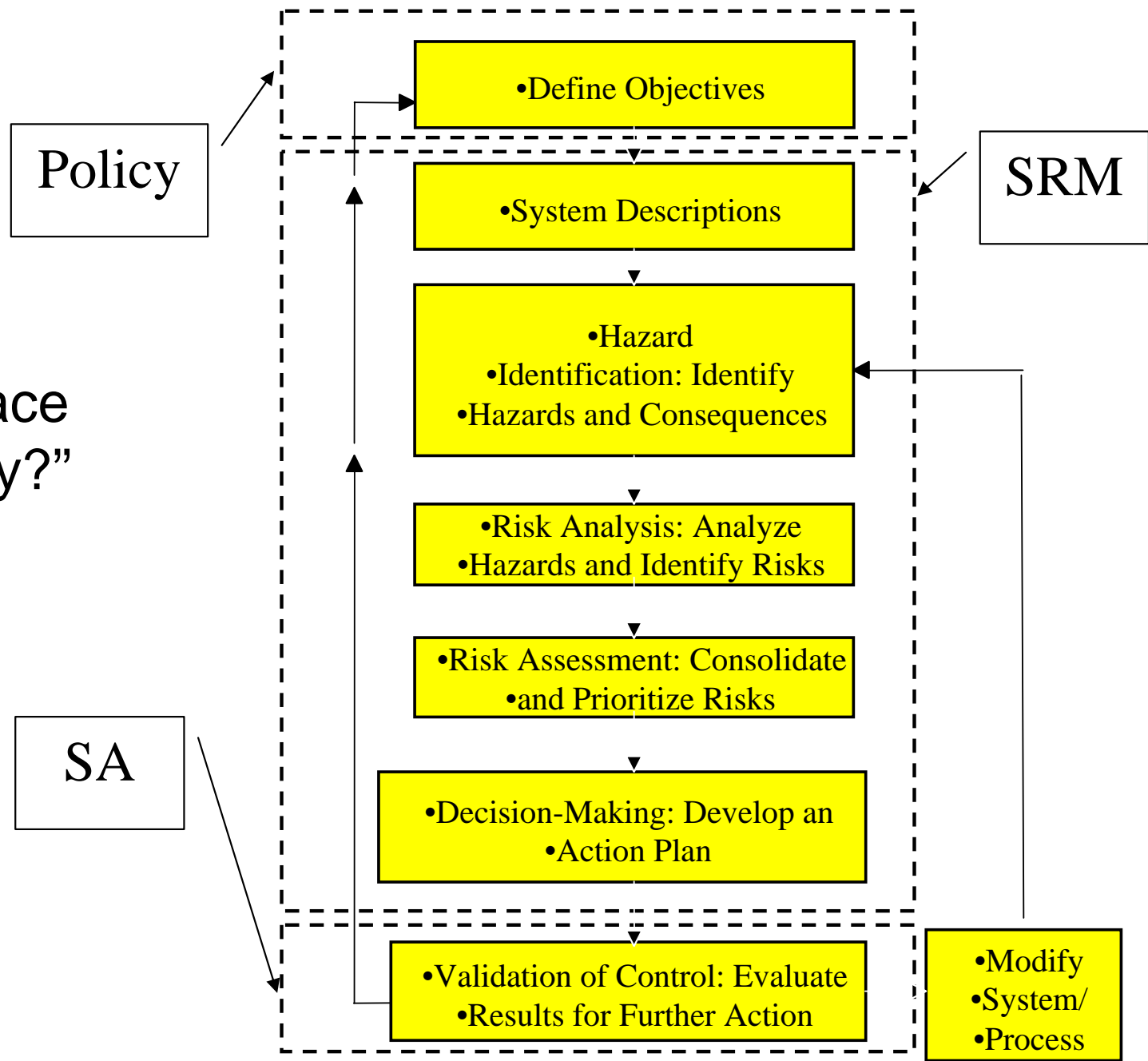
- Quality Management System (QMS) requirements are based on **customer requirements** for products & services
- Requirements for protective systems such as Safety Management Systems (SMS) are based on **objective determination of risk**
- Both types of systems **assure consistency of meeting requirements**



SMS Components (“Four Pillars”)

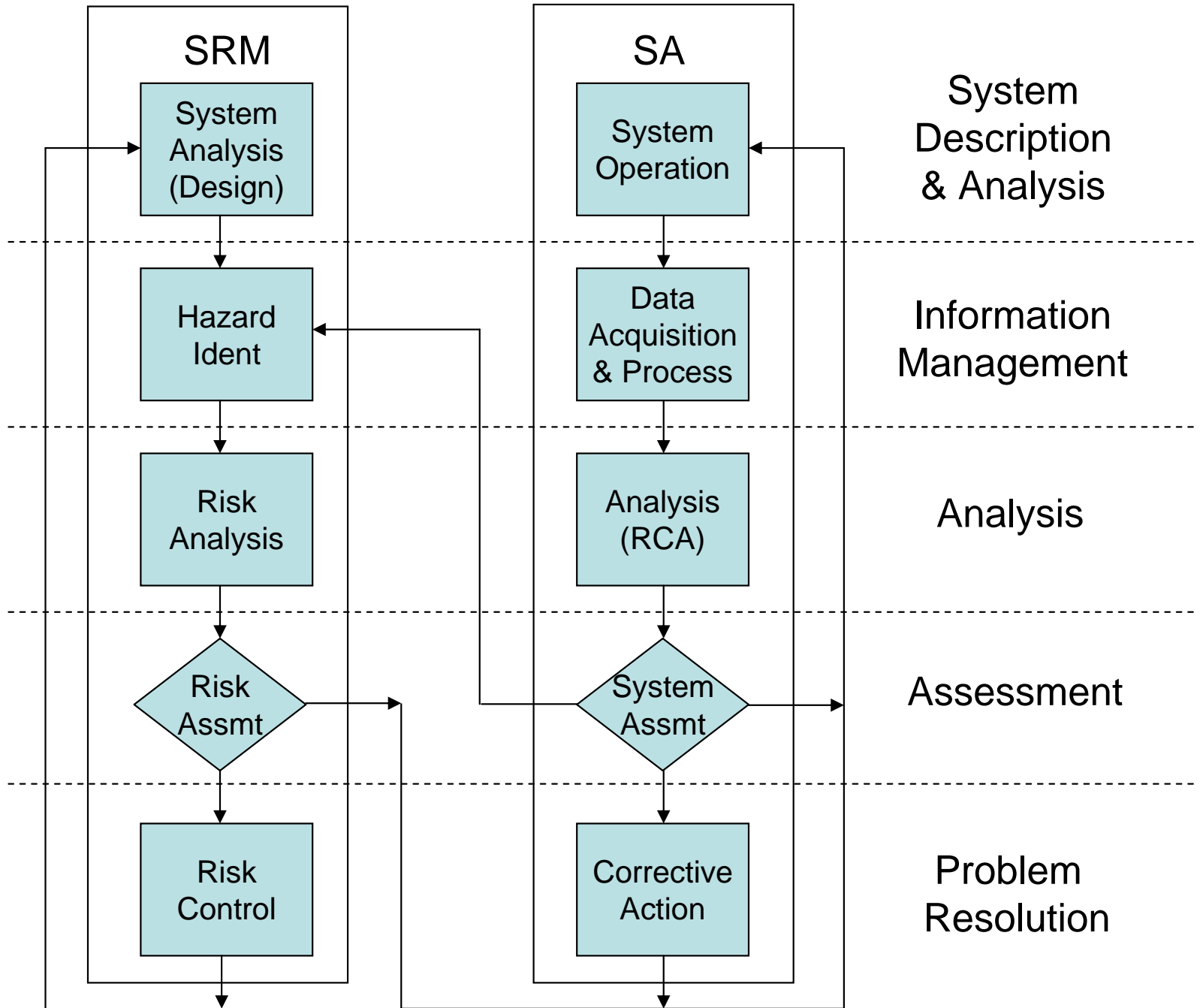


Will SMS replace
“System Safety?”



Design

Performance



Air Transportation Oversight System

- ATOS uses a **risk assessment** process to determine safety assurance objectives
- **Design Assessments** (SAls) are used to determine the ability of organizational design to meet regulatory requirements and operator risk management objectives
- **Performance Assessments** (EPIs) are used to determine conformance to design requirements

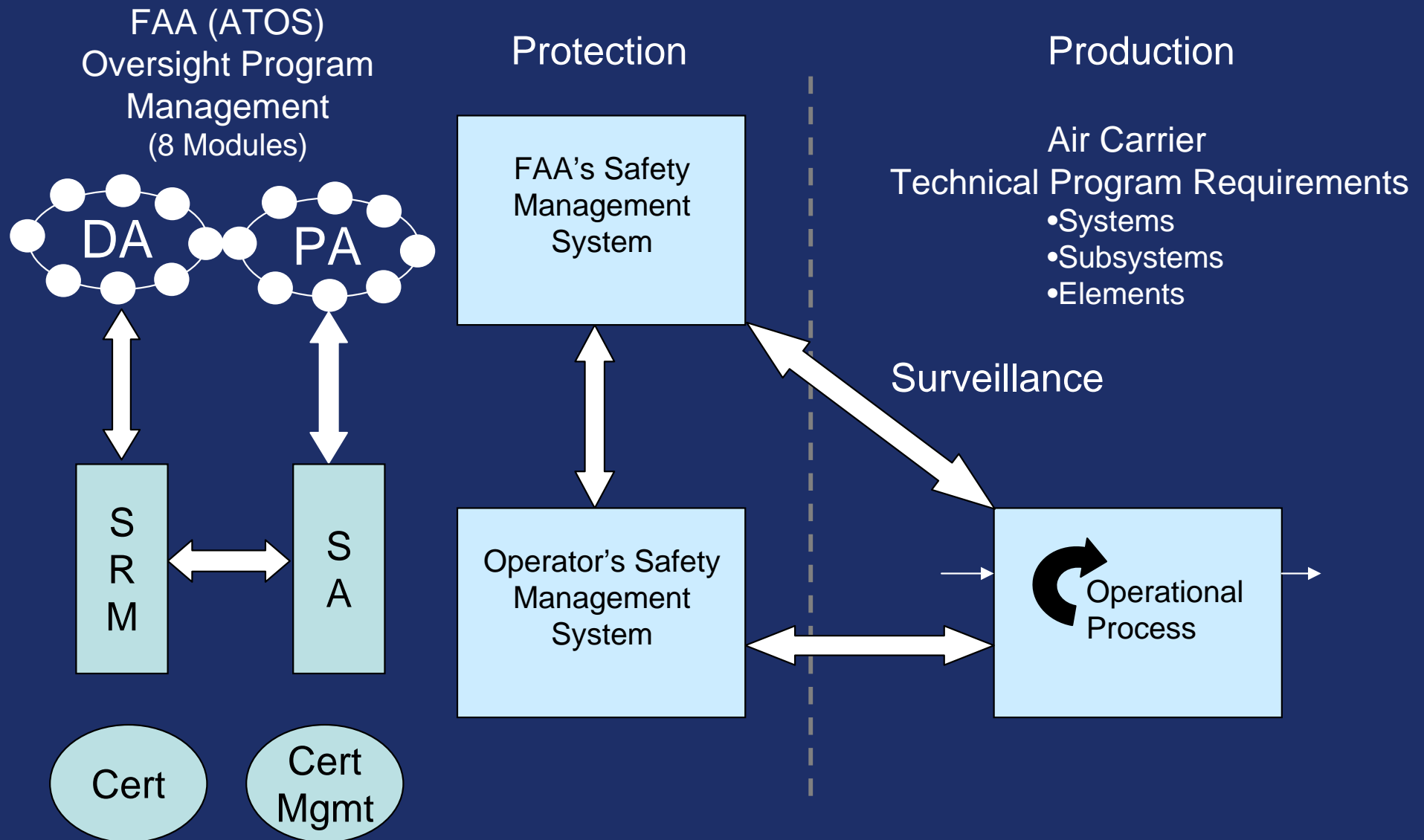


Is ATOS the same as SMS?

- **ATOS**: An **Oversight System** used to fulfill FAA safety responsibilities
- **SMS**: A **Management System** used to fulfill operator safety responsibilities



Oversight and SMS



The AVSSMS



U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
AVS Policy

ORDER

VS

8000.1

Effective Date:
08/11/2006

SUBJ: SAFETY MANAGEMENT SYSTEM DOCTRINE

SECTION 1. INTRODUCTION

1-1. PURPOSE. This order—

a. Provides a doctrine for Federal Aviation Administration (FAA) Aviation Safety (AVS) services/offices to implement a common AVS Safety Management System (AVSSMS). Specifically, this order—

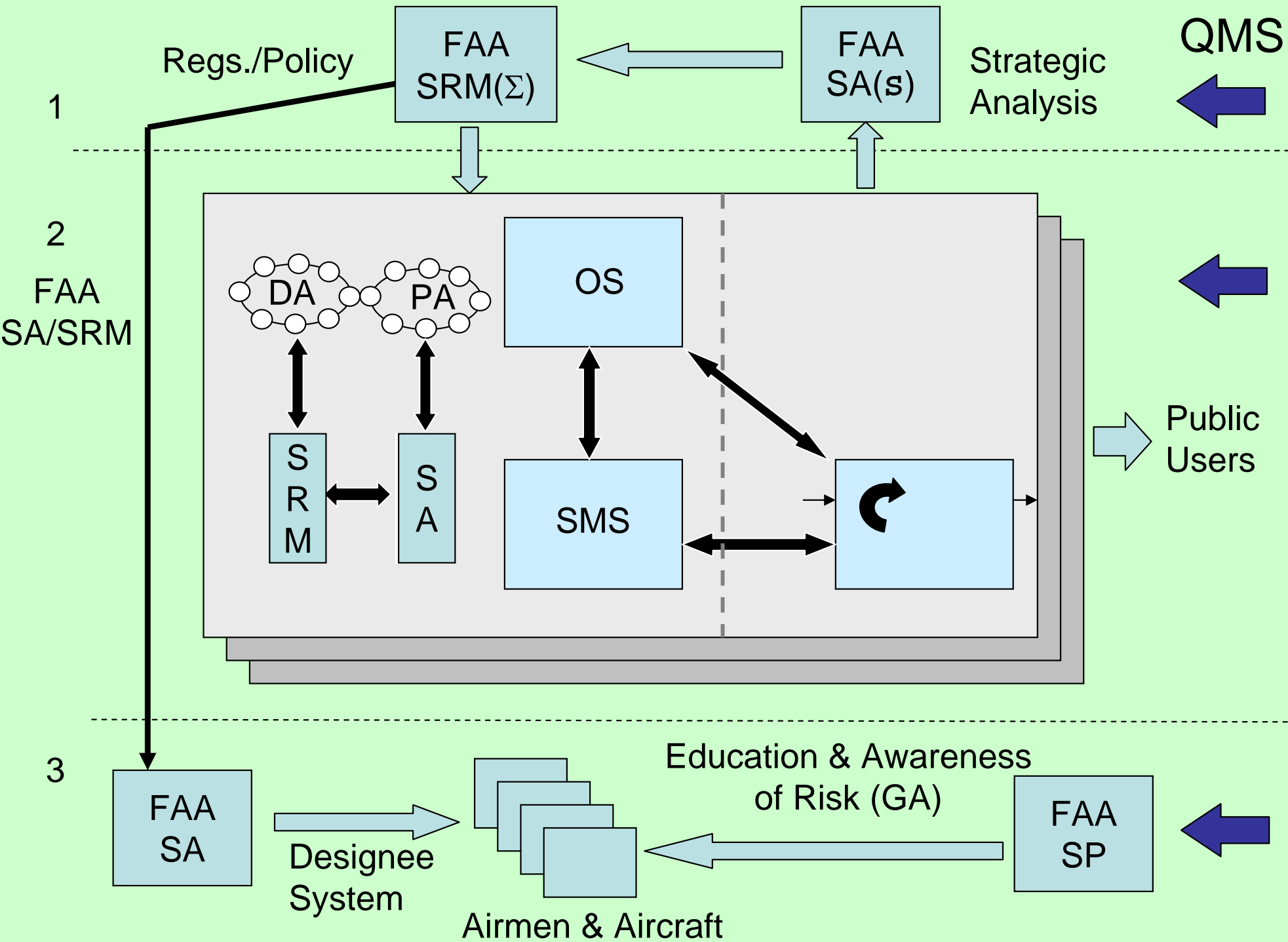
(1) Furthers the practice of managing safety by moving to a more process-oriented system safety approach that stresses not only promulgation and application of technical standards but an increased emphasis on the management systems that ensure risk management and safety assurance.



SMS Implementation in AVS/AFS

- **Application of SM principles to our operations**
- **Integration of AVS SM efforts**
- **Level 1**
 - Large scale – “Flight Plan” level
- **Level 2**
 - Direct interface with certificate holders
- **Level 3**
 - Individual airmen and aircraft





Rulemaking Effort

- **Rulemaking Project Record (RPR) opened Nov. 2006**
- **Proposed strategy:**
 - Align regulations with ICAO SARP
 - Regulatory concept similar to current CASS
 - Draft acceptance criteria (similar to present voluntary standard)
 - Implementation milestones will be in the regulatory language



SMS Pilot Project

- **Pilot Project activities commenced in 2007**
- **Voluntary SMS development and interface with oversight systems**
- **AFS combined effort**
- **Objectives:**
 - Development of guidance material,
 - Implementation strategies, and
 - Oversight systems
 - Provide experience for FAA and operators



SMS Implementation Process



Panel Discussion

- **SRM (Regs and Policy)**
 - Rick Clarke, AFS-200
- **SA (Certificate Oversight)**
 - Tom Stachiw, Delta Air Lines CMO
- **SP & GA Safety Management**
 - Keith Ballenger, FAASTeam
- **Industry View**
 - Bill Yantiss, United Airlines
- **Safety Management**
 - Nicholas Bahr, Booz-Allen



“Carelessness and overconfidence are more dangerous than deliberately accepted risk”
Wilbur Wright, 1901

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Wilbur Wright gliding, 1901
Photographs: Library of Congress

