Safety Information Analysis Program Update

Marc Champion, UAL

FOQA/ASAP Project Team Lead

IT TAKES A PILOT

ALPA AIR SAFETY FORUM

55th ASF AIR SAFETY FORUM

trained for the UNEXPECTED

Safety Information Analysis Program

- The mission of the Safety Information Analysis Program is to develop and maintain expertise in all forms of aviation safety data collection, mining and analysis. The program brings together the current experts in FOQA, ASAP and LOSA and seeks to develop the next generation of practitioners and developers of current and future data collection and analysis tools.

Safety Information Analysis Program

AAP

Group Chairman
Ray Gelinas, ACJ

SIAP

CAST/JIMDAT
Steve Erickson, DAL

FOQA/ASAP
Marc Champion, UAL
Brit Etzold, DAL

Safety Information Analysis Program

- Commercial Aviation Safety Team (CAST)
  - Joint Implementation Data Analysis Team (JIMDAT)
- Aviation Safety Information Analysis and Sharing (ASIAS)
  - Issue Analysis Team (IAT)
- ASAP Leadership Alliance (ALA).
- Regulatory and legislative policy.

Commercial Aviation Safety Team (CAST)

- Vision
  - Key aviation stakeholders acting cooperatively to lead the world-wide aviation community to the highest levels of global commercial aviation safety by focusing on the right things.
- Mission
  - Enable a continuous improvement framework built on monitoring the effectiveness of implemented actions and modifying actions to achieve the goal.
- Goal
  - Reduce the US commercial aviation fatal accident rate 80% by 2007.
  - Maintain a continuous reduction in fatality risk in US and International commercial aviation beyond 2007.

Commercial Aviation Safety Team (CAST)

CAST

Joint Safety Analysis Teams (JSAT)

- **Data analyses**

Joint Safety Implementation Teams (JSIT)
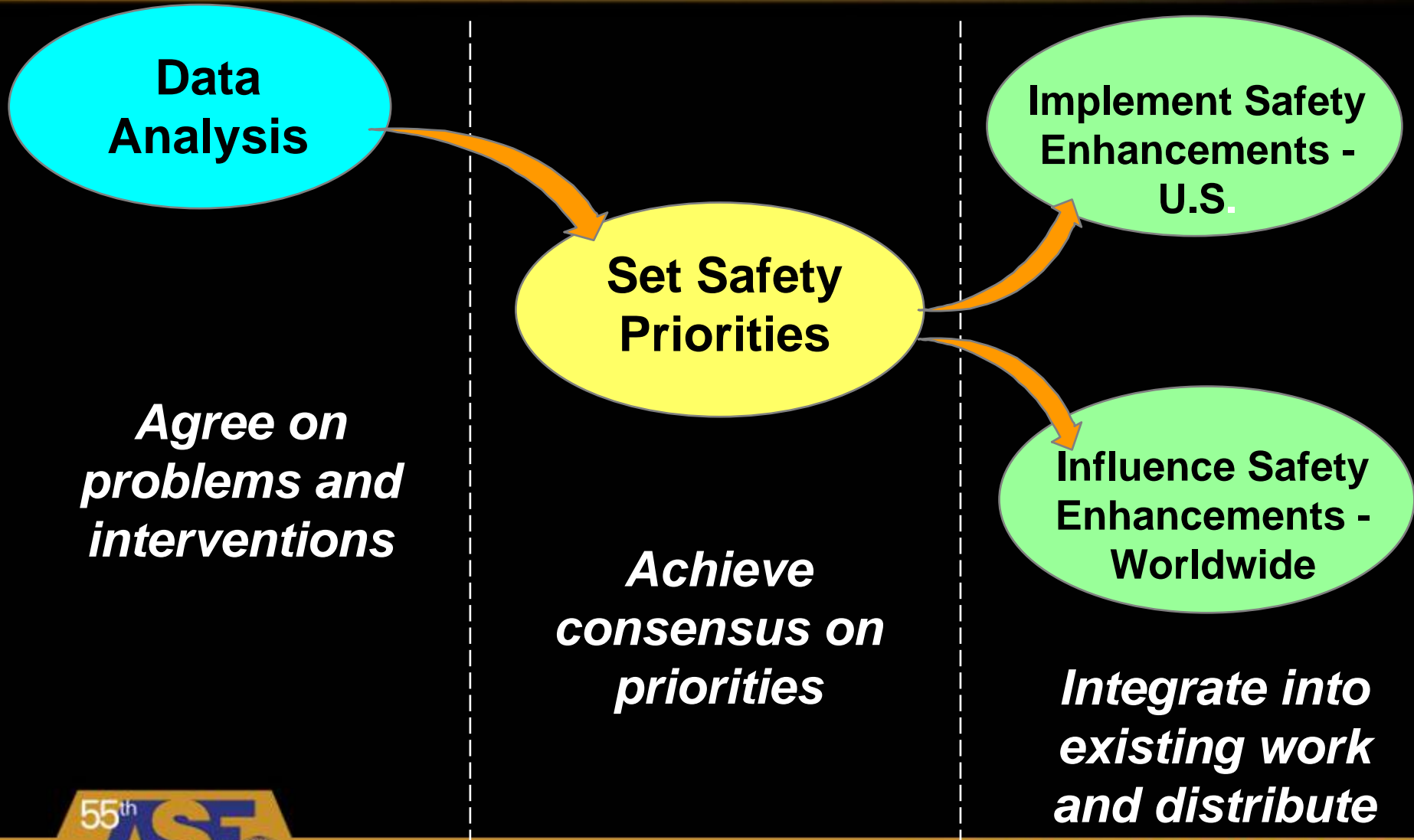
- **Safety enhancement development**

Joint Implementation Data Analysis Team (JIMDAT)

- **Master safety plan**
- **Enhancement effectiveness**
- **Future areas of study**

ALPA at Work

- CAST meets every other month:
  - Captain Rory Kay, Executive Air Safety Chairman.
  - Keith Hagy, Dir. Engineering & Air Safety.
  - Chris Baum, Mgr. Engineering & Operations.
- JIMDAT meets every month:
  - Steve Erickson, DAL
  - John White, Staff Engineer.

CAST Safety Strategy

Data Analysis

Agree on problems and interventions

Set Safety Priorities

Achieve consensus on priorities

Implement Safety Enhancements - U.S.

Influence Safety Enhancements - Worldwide

Integrate into existing work and distribute

CAST Safety Plan

- ■ 48 Completed Safety Enhancements
  - – Safety Culture
  - – Maintenance Procedures
  - – Flight Crew Training
  - – Air Traffic Controller Training
  - – Terrain avoidance warning system (TAWS)
  - – Standard Operating Procedures
  - – Precision Approaches
  - – Minimum Safe Altitude Warning (MSAW) Systems
  - – Proactive Safety Programs (FOQA + ASAP)

CAST Safety Plan

- 22 Committed Safety Enhancements
  - Policies and Procedures
  - Aircraft Design
  - Flight Crew Training (additional aspects)
  - Runway Incursion Prevention
  - Precision Approaches (additional projects)
  - Icing (additional turboprop projects)
  - Midair
  - Maintenance
  - Runway Safety
  - Safety culture, policies and procedures

ASIAS

- Aviation Safety Information Analysis and Sharing:

  - Develop tools to make data analysis more efficient.

  - Identify and access key data sources.

  - Discover potential aviation safety risks using the key data sources.

  - Central conduit for exchange of safety information for stakeholders.
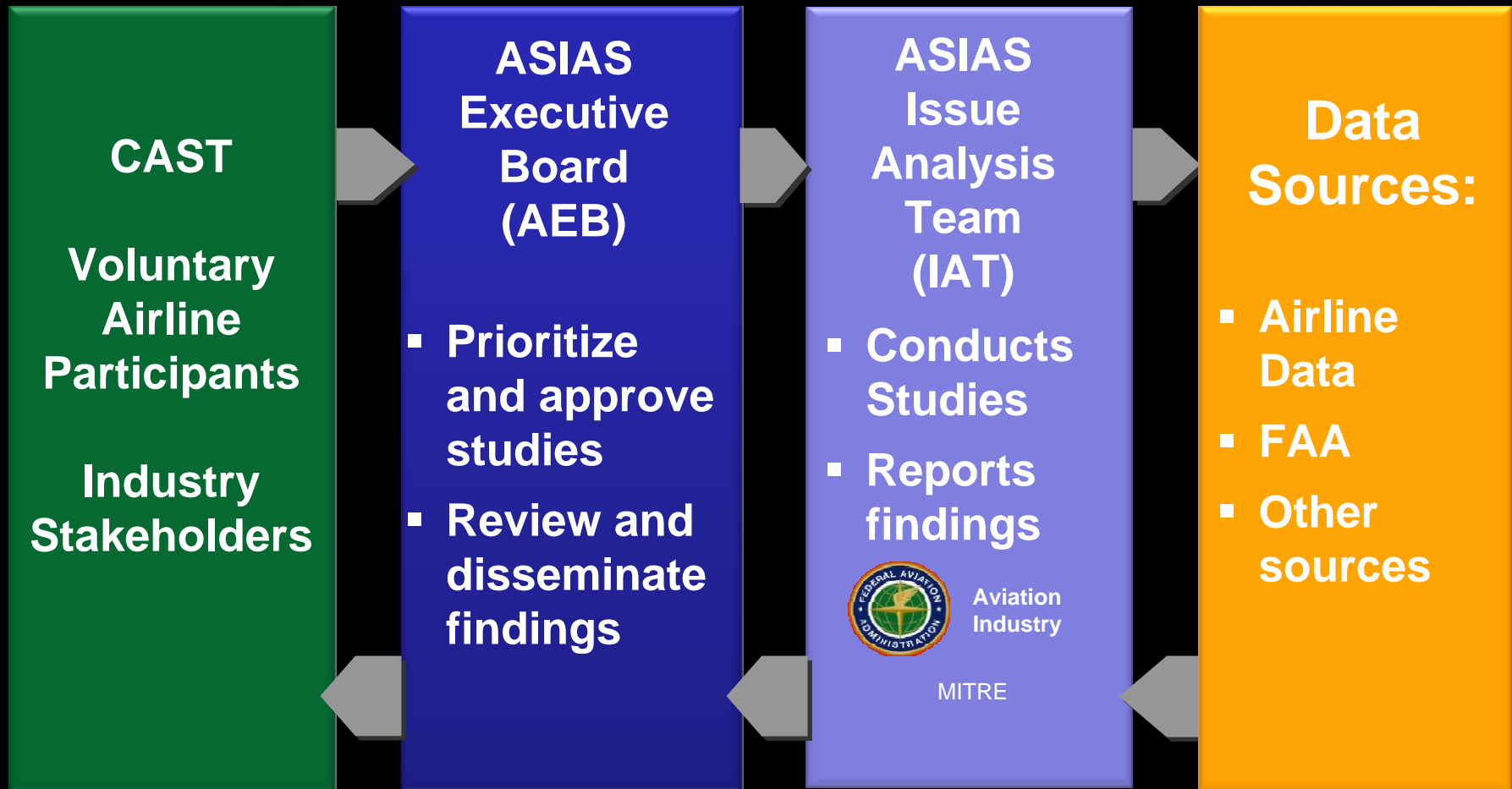
ASIAS Safety Analyses

Directed Studies

Safety Risk Montioring

Industry Benchmarking

Vulnerability Discovery

ASIAS Study Process

CAST

Voluntary Airline Participants

Industry Stakeholders

ASIAS Executive Board (AEB)

- **Prioritize and approve studies**
- **Review and disseminate findings**

ASIAS Issue Analysis Team (IAT)

- **Conducts Studies**
- **Reports findings**

Aviation Industry

MITRE

Data Sources:

- **Airline Data**
- **FAA**
- **Other sources**

ALPA at Work

- AEB meets every other month:
  - Captain Rory Kay, Executive Air Safety Chairman
- IAT meets every month:
  - Brit Etzold, DAL
  - Subject Matter Experts (SME) from multiple ALPA carriers.

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ASIAS Safety Studies

Directed Studies	Runway Safety
	Terrain Awareness Warning System Study
	TCAS Resolution Advisories

Safety Risk Monitoring	Landing Runway Excursion
	Runway Incursion
	LOC Due to Stall
	Mid-Air Collision
	CFIT
	Precision Approach Implementation
	Excursion from Normal Flight (ENF)

Benchmarks	Terrain Awareness Warning System Alerts
	Unstabilized Approaches
	TCAS Resolution Advisories

ASIAS Data Sources

Airline Data	• **Digital Flight Data /FOQA** • **Voluntary Pilot Safety Reports**
FAA	• **Surveillance Data** • **Traffic Management Reroutes & Delays** • **Airport Configuration and Operations** • **Sector and Route Structure** • **Procedures** • **Safety Reports**
Other Sources	• **Bureau of Transportation Statistics** • **Aviation Safety Reporting System** • **Weather / Winds** • **Manufacturer data** • **Worldwide Accident Data**

ASIAS Governing Principles

Data used solely for advancement of safety

Non-punitive reporting

Airline data is de-identified

Analyses approved by an ASIAS Executive Board

ASIAS Airline Participants

- 20 Airlines active or pending as of July, 2009.
- 75% of 2008 operations.
- Approximately 52,000 ASAP records.
- Approximately 4.3 million FOQA records.

ASIAS Hot Items

- Governance, procedures, and operation.
- Scoping directed studies.
- ASAP studies.
- Phase 2 ASIAS:
  – Broadened participation.
  – NextGen support.
  – SMS support.

ASAP Leadership Alliance

- Mission:
  - To improve safety in the air transportation system by providing a combined source of industry and FAA expertise for facilitating continuous improvement to ASAP.

ASAP Leadership Alliance

- Goal:
  - To analyze the effectiveness of ASAP in the air transportation system and at individual air carriers and to recommend appropriate policy, procedural, and regulatory modifications through consensus-based decision making.

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ASAP Leadership Alliance (ALA)

- Objectives:
  - Develop and sponsor initial and recurrent ASAP Event Review Committee training.
  - Provide neutral consultative service to industry or government participants.
  - Conduct periodic review of AC120-66 and ensure MOU template reflects policy change.
  - Seek out and collate ASAP success stories to promote program success.

ALPA at Work

- ALA meets approximately every other month:
  - Marc Champion, UAL
  - Don McClure, Air Safety Coordinator

ALA Hot Items

- FAA recognition.
- Inspector General report.
- AC 120-66C.
- Regulatory and legislative initiatives.

Legislative Initiatives

- **FAA Reauthorization Bill:**
  - Passed in the House May 2009.
  - Passed Senate Commerce Committee July 2009.

- **House Airline Safety and Pilot Training Improvement Act.**

- **Significant impact on voluntary safety reporting programs:**
  - Mandatory ASAP, FOQA, LOSA, FRMS.
  - Use of CVR in safety oversight practices.