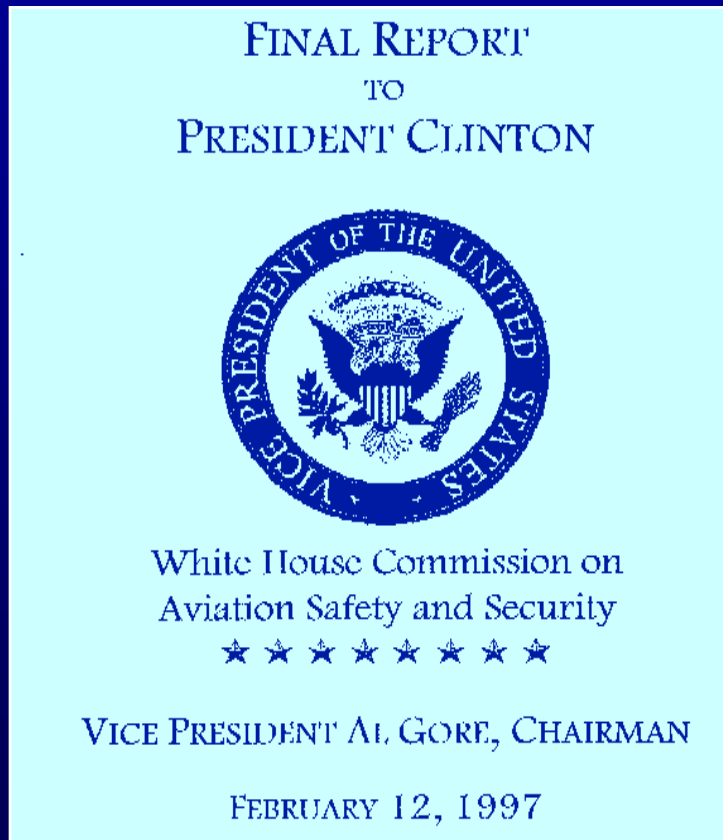
An aerial photograph of a sunset over a landscape. The sun is low on the horizon, creating a bright orange and yellow glow that illuminates the clouds and the ground below. The sky is a mix of deep blue and purple, with wispy clouds scattered throughout. The ground below is a mix of green and brown, suggesting a rural or agricultural area. The overall mood is serene and peaceful.

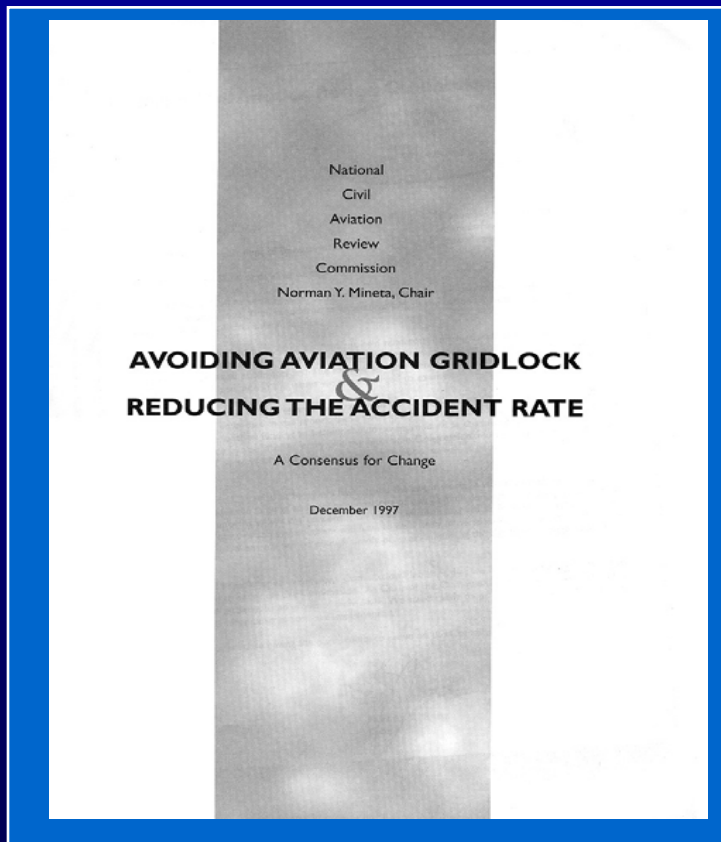
Commercial Aviation Safety Team (CAST) Overview

In the U.S., our focus is set by the White House Commission on Aviation Safety



- 1.1 Government and industry should establish a national goal to reduce the aviation fatal accident rate by a factor of five within ten years and conduct safety research to support that goal.
- 1.2 The FAA should develop standards for continuous safety improvement, and should target its regulatory resources based on performance against those standards

The National Civil Aviation Review Commission (NCARC) *on Aviation Safety Provided Additional Direction*



- FAA and the aviation industry must develop a strategic plan to improve safety, with specific priorities based on objective, quantitative analysis of safety information and data.
- Government should expand on their programs to improve aviation safety in other parts of the world.

Vision - Mission - Goals

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.

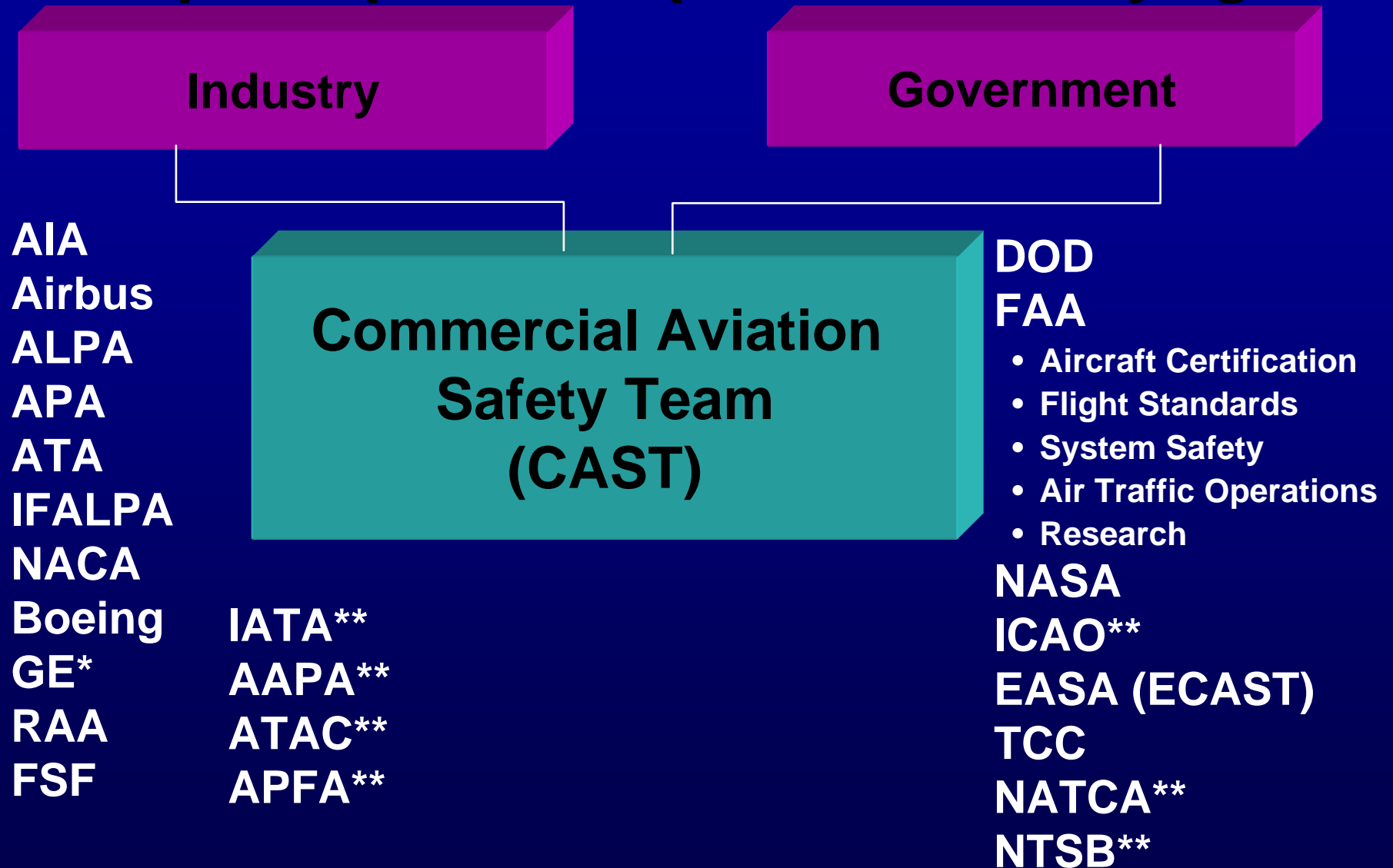
Goal

- Reduce the US commercial aviation fatal accident rate 80% by 2007.

And

- Maintain a continuous reduction in fatality risk in US and International commercial aviation beyond 2007.

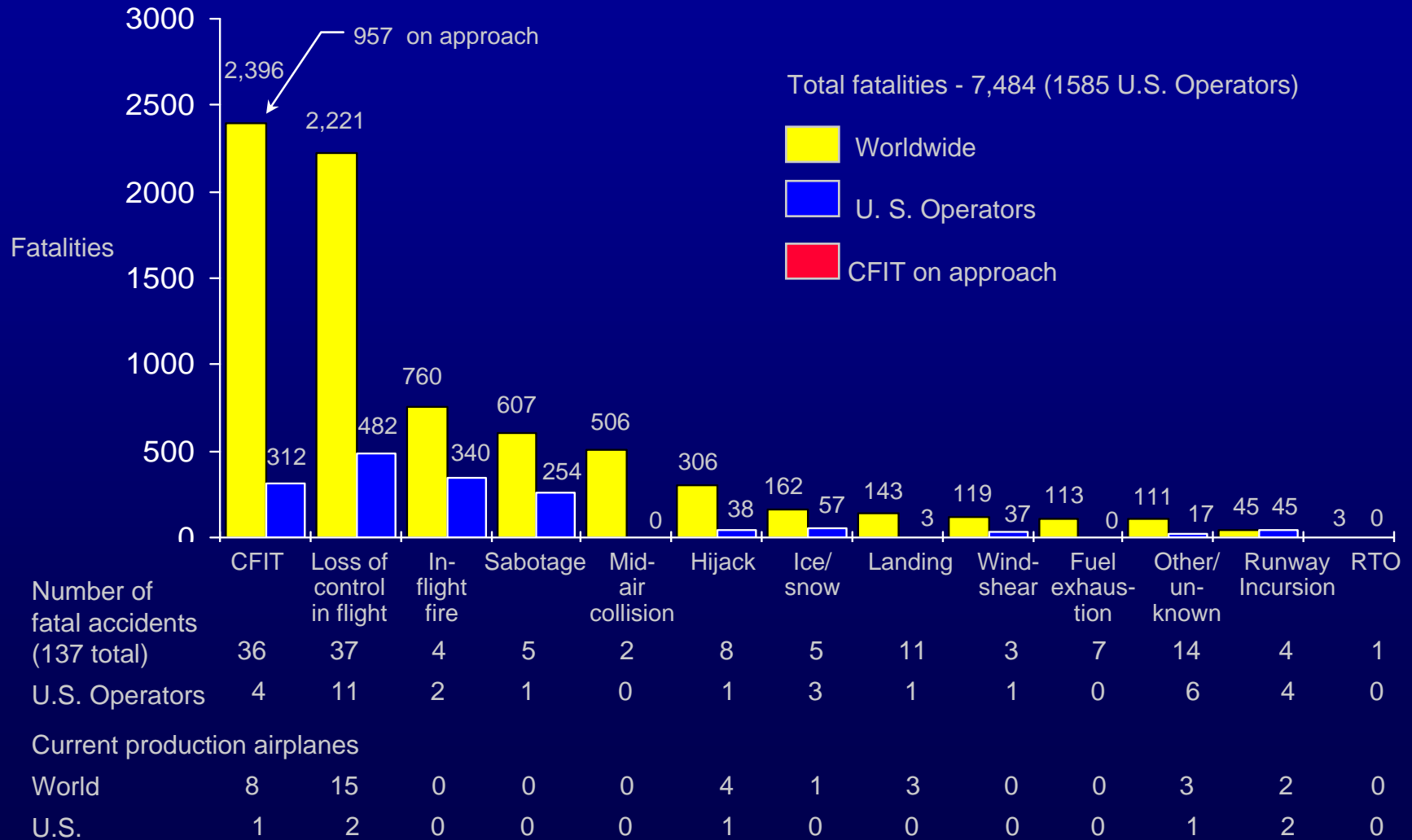
CAST brings key stakeholders to cooperatively develop & implement a prioritized safety agenda



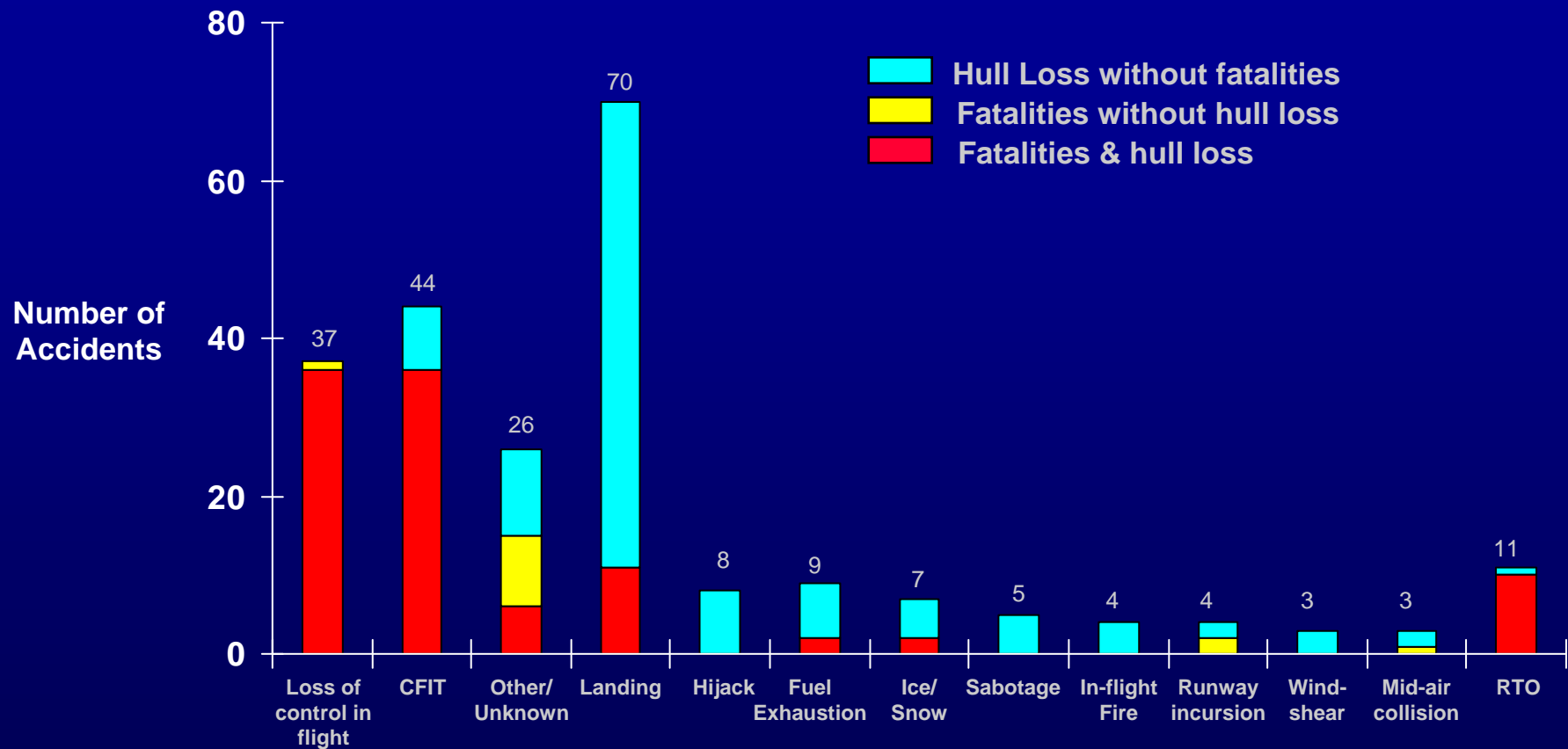
* Representing P&W and RR

** Observer

Worldwide and U. S. Airline Fatalities Classified by Type of Accident – 1987 through 1996



Worldwide Airline Accidents Classified by Type of Event 1987 - 1996



Commercial Aviation Safety Team (CAST)

CAST

**Joint Safety
Analysis Teams (JSAT)**

- Data analyses

**Joint Safety
Implementation
Teams (JSIT)**

- Safety
enhancement
development

**Joint Implementation
Measurement Data
Analysis Team (JIMDAT)**

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

CAST Safety Strategy

**Data
Analysis**

*Agree on
problems and
interventions*

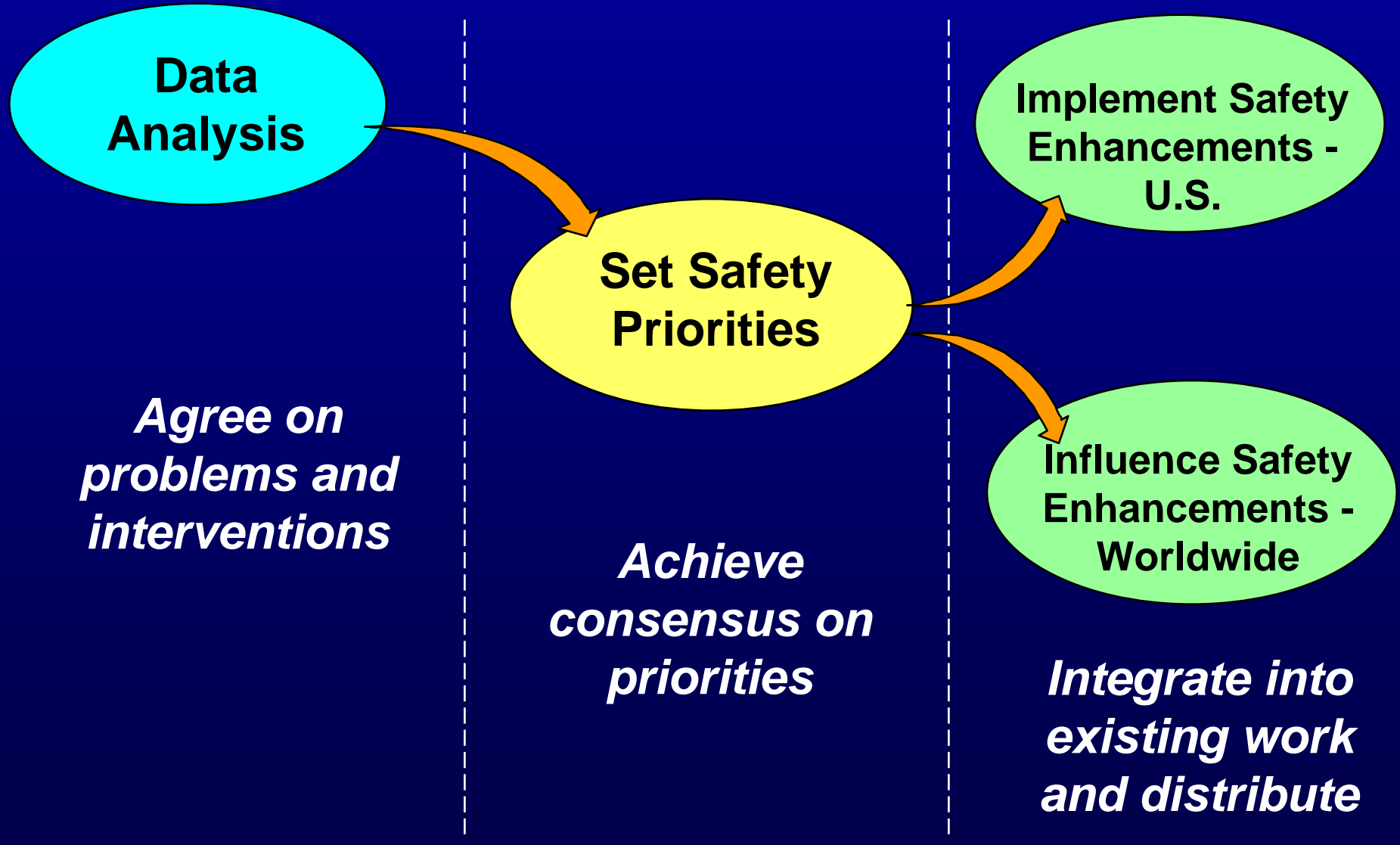
**Set Safety
Priorities**

*Achieve
consensus on
priorities*

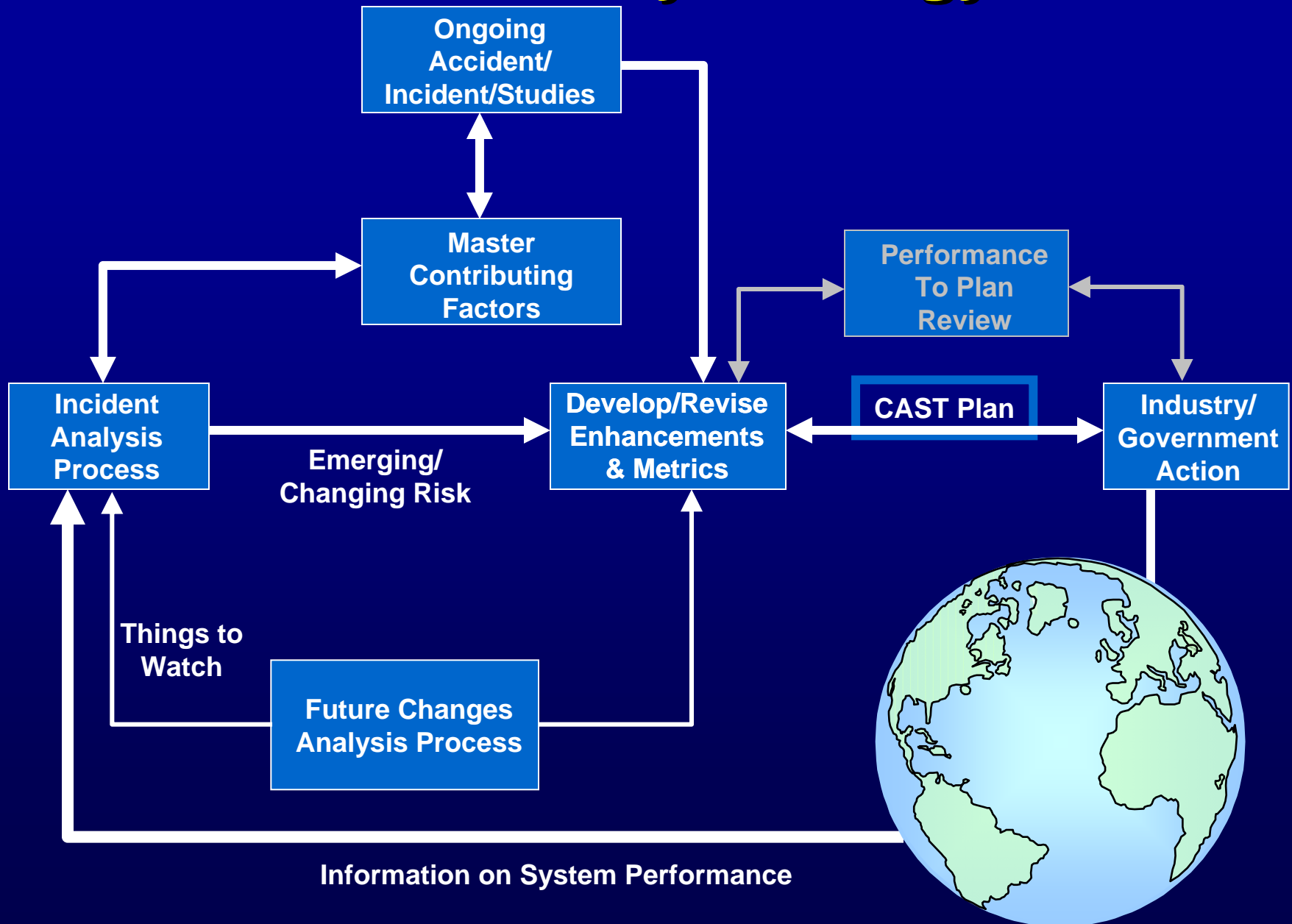
**Implement Safety
Enhancements -
U.S.**

**Influence Safety
Enhancements -
Worldwide**

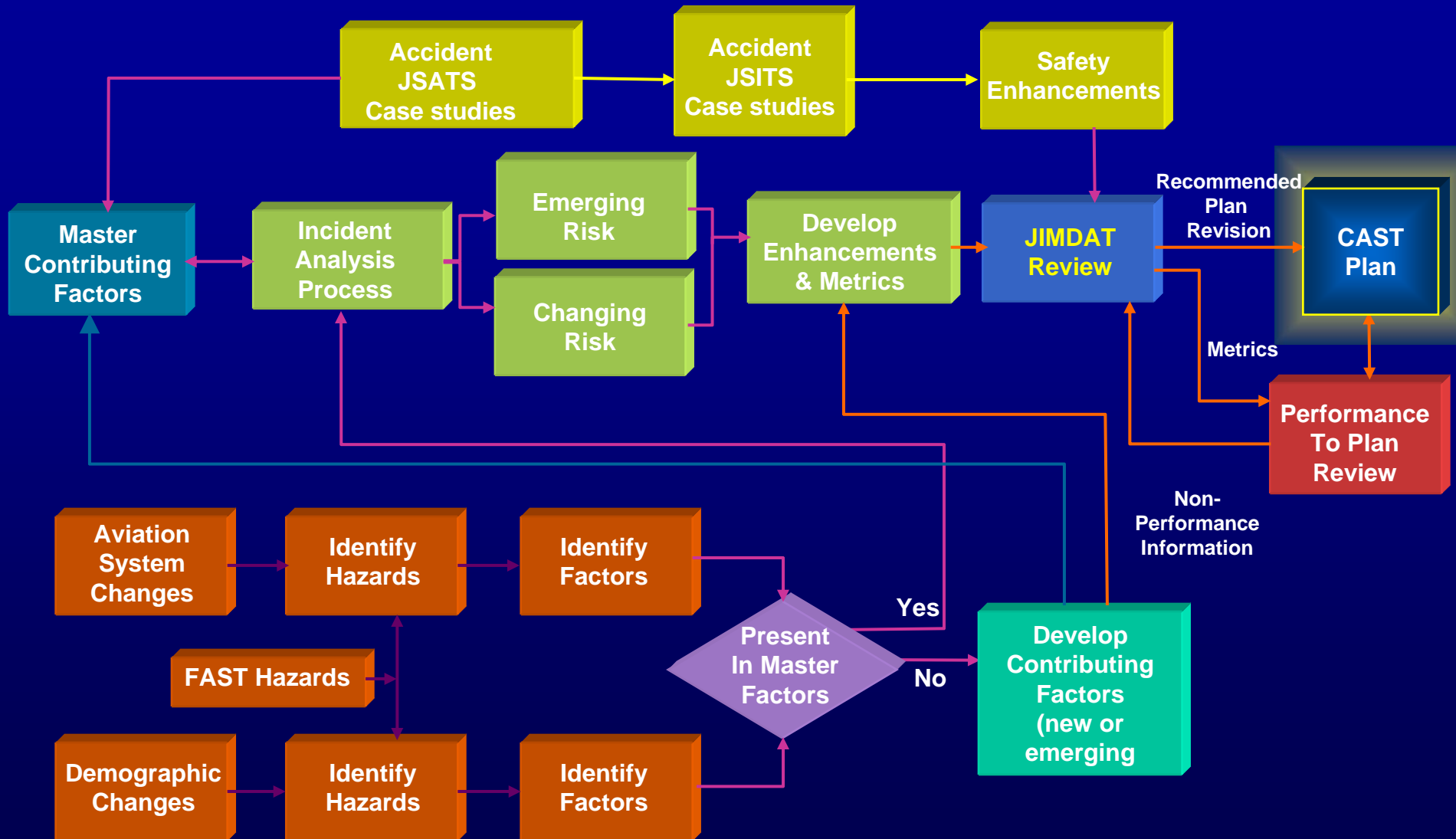
*Integrate into
existing work
and distribute*



CAST Safety Strategy



Safety Plan Development



Robust CAST Methodology

- **Detailed event sequence - problem identification from worldwide accidents and incidents**
- **Broad-based teams (45-50 specialists /team)**
- **Over 450 problem statements (contributing factors)**
- **Over 900 interventions proposed**
- **Analyzed for effectiveness and synergy**

CAST Process Led to Integrated Strategic Safety Plan

- Part 121 or equivalent passenger and cargo operations studied
- Current CAST plan:
 - 70 Prioritized Safety Enhancements
 - 47 Complete and 23 underway
 - *Projected 74% fatality risk reduction by 2020*
- Industry and Government implementing plan

CAST Safety Plan

47 Completed Safety Enhancements

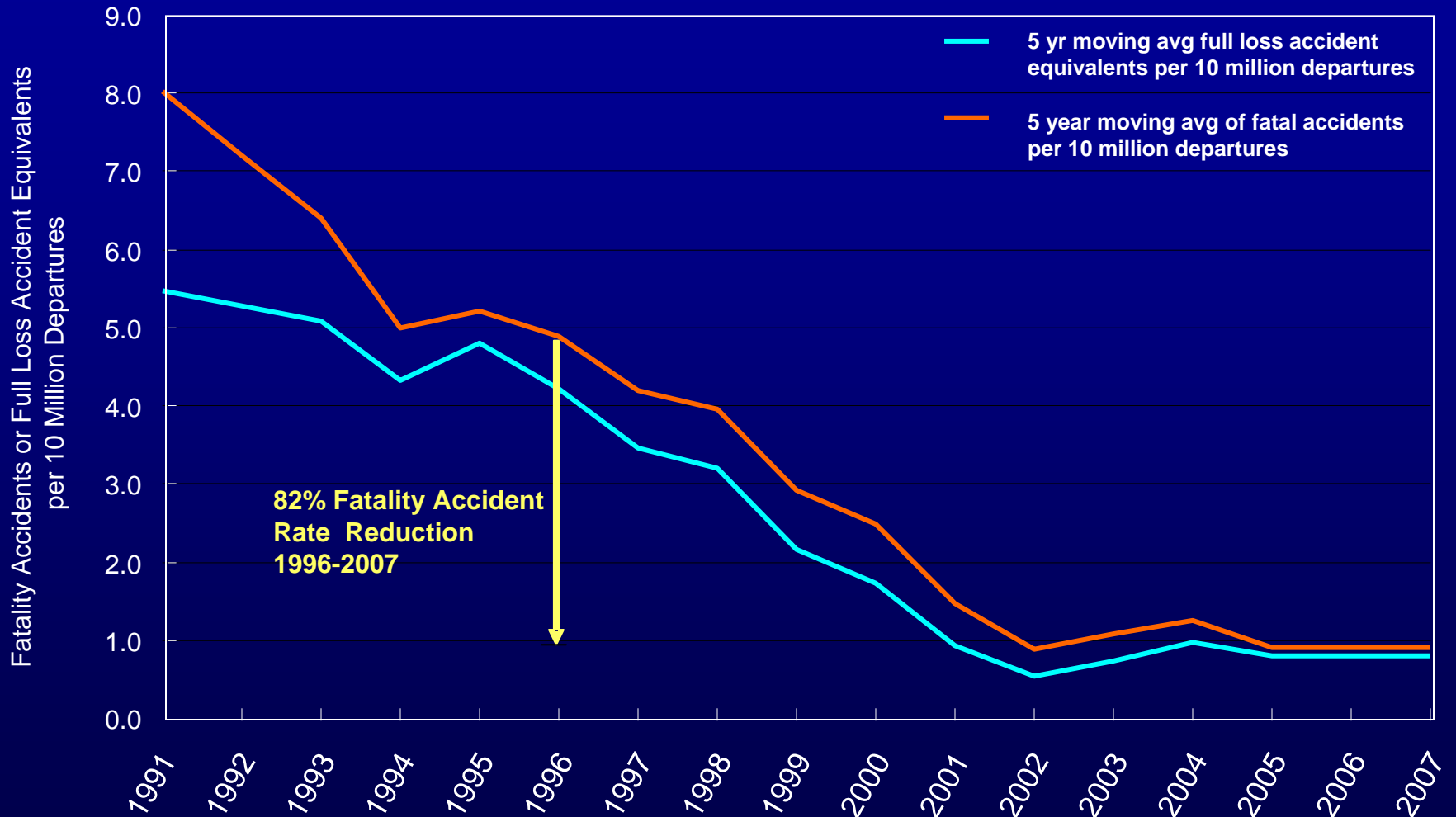
- Safety Culture**
- Maintenance Procedures**
- Flight Crew Training**
- Air Traffic Controller Training**
- Uncontained Engine Failures**
- Terrain avoidance warning system (TAWS)**
- Standard Operating Procedures**
- Precision Approaches**
- Minimum Safe Altitude Warning (MSAW) Systems**
- Proactive Safety Programs (FOQA + ASAP)**

CAST Safety Plan (cont.)

23 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**
- Safety culture, policies and procedures**

Fatal Accident Rate and Full Airplane Loss Equivalents Rate for Part 121 Operations (5 year moving average)



International Perspective CAST Safety Enhancements



Global Aviation Safety Roadmap

- **CAST supports the GASR as an excellent guide for the development of aviation safety enhancement programs**
- **CAST believes the GASR will be an effective tool to prioritize safety risks and actions to mitigate such risks**
 - **These risk mitigation actions should include, as appropriate, safety enhancements developed by the CAST and the European Safety Strategic Initiative**

Future Traffic Increases Demand Improved Safety Methodologies

- **Air traffic is expected to continue to increase**
- **Increasing the number of operations requires reducing the accident rate to prevent the number of accidents from increasing!**
- **A robust safety information system that discovers safety precursors and implements preventive measures is the solution accepted by both government & industry**

Previous Studies of Safety Issues Illustrate

- **The limitations of the current information sharing systems (cannot cross-query digital and text data – many hours/days to refine each query)**
- **Vast amounts of data combined with labor intensive tools, have resulted in untimely responses, and inability to cross-query databases (terabytes of data)**
- **Need for data standardization, common taxonomies, data architecture to support the collection/integration of data/information to view relevant input from multiple sources as a single system**

CAST Created the Aviation Safety Information Analysis and Sharing (ASIAS) System in order to:

- **Develop tools to make data analysis more efficient**
- **Identify and access key data sources**
- **Discover potential aviation safety risks using the key data sources**
- **Develop automated information integration capabilities centered on aviation safety risk topics**
- **Transfer technologies and key data sources into National Archives**

Summary

- **History shows focused action and introduction of new capabilities have led to accident risk reductions**
- **Joint industry and government teams working together to a common goal can further enhance the safety of our very safe aviation system**
- **Full implementation will require a coordinated effort between industry and government**
- **CAST is moving forward to meet the challenge**



<http://www.cast-safety.org/>