



Using Safety Information – A Manufacturer's Perspective



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Topics of Discussion

- **Boeing Perspective**
- **Worldwide Accident Rates**
- **Hull Loss vs Fatality Risk**
- **Addressing Risk**
- **Conclusions and Recommendations**

Boeing Safety Leadership: Working together for a Safe and Efficient Global Air Transportation System today and in the future.



Design > Build > Operation > Maintenance > Infrastructure > Regulation

Safety Integration Across the Value Stream

Safety Responsibilities Are Shared

We Need to Work Together to Improve Safety



Manufacturers

- Safe airplane design
- Safety-enhancing technology development
- Flight and maintenance operations, recommendations, documents, training, and support
- Maintenance planning
- Safety-related analysis
- Safety initiatives

Operators

- Operations policy and procedures
- Airplane/pilot publications
- Approved maintenance program
- Maintenance, policy, and procedures
- Maintenance publications
- Safety program
- Training

Governments

- Aviation law
- Operations specification
- Rules and regulations
- Inspectors policy, procedures, and training
- Airline policy and procedures requirements
- Safety, health, environmental law, and regulations
- Navigation facilities/operations
- Airport facilities
- Departure en route, arrival, approach policy, and procedures
- Air traffic control services
- Safety-related analysis

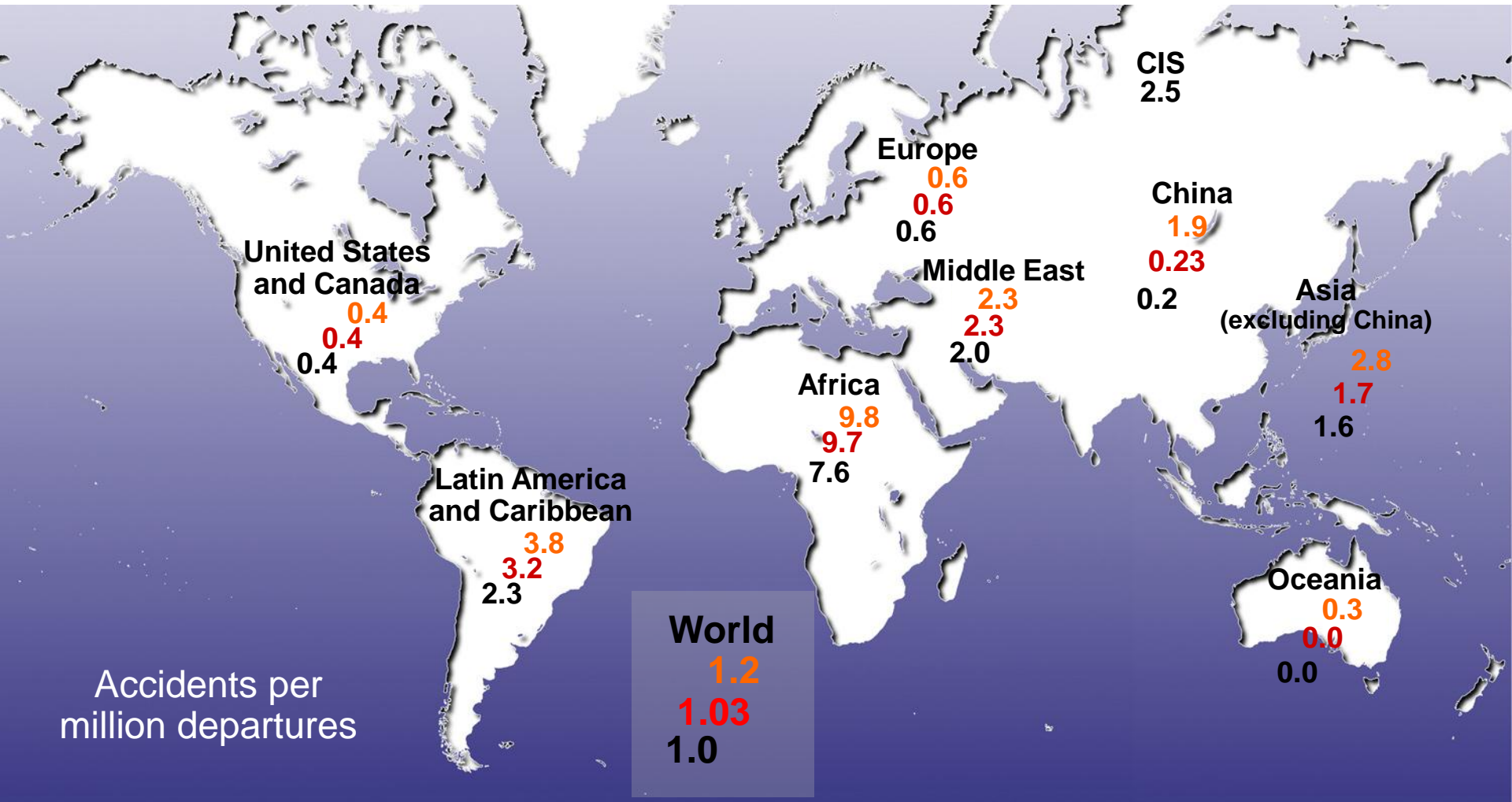
Safe Airplane + Safe Operation + Safe Infrastructure = Safe Air Travel

Accident Rates by Region of the World

2000 through 2010

2000
2005
2010

Western-built transports >60,000-pounds *hull loss* accidents, by *airline domicile*

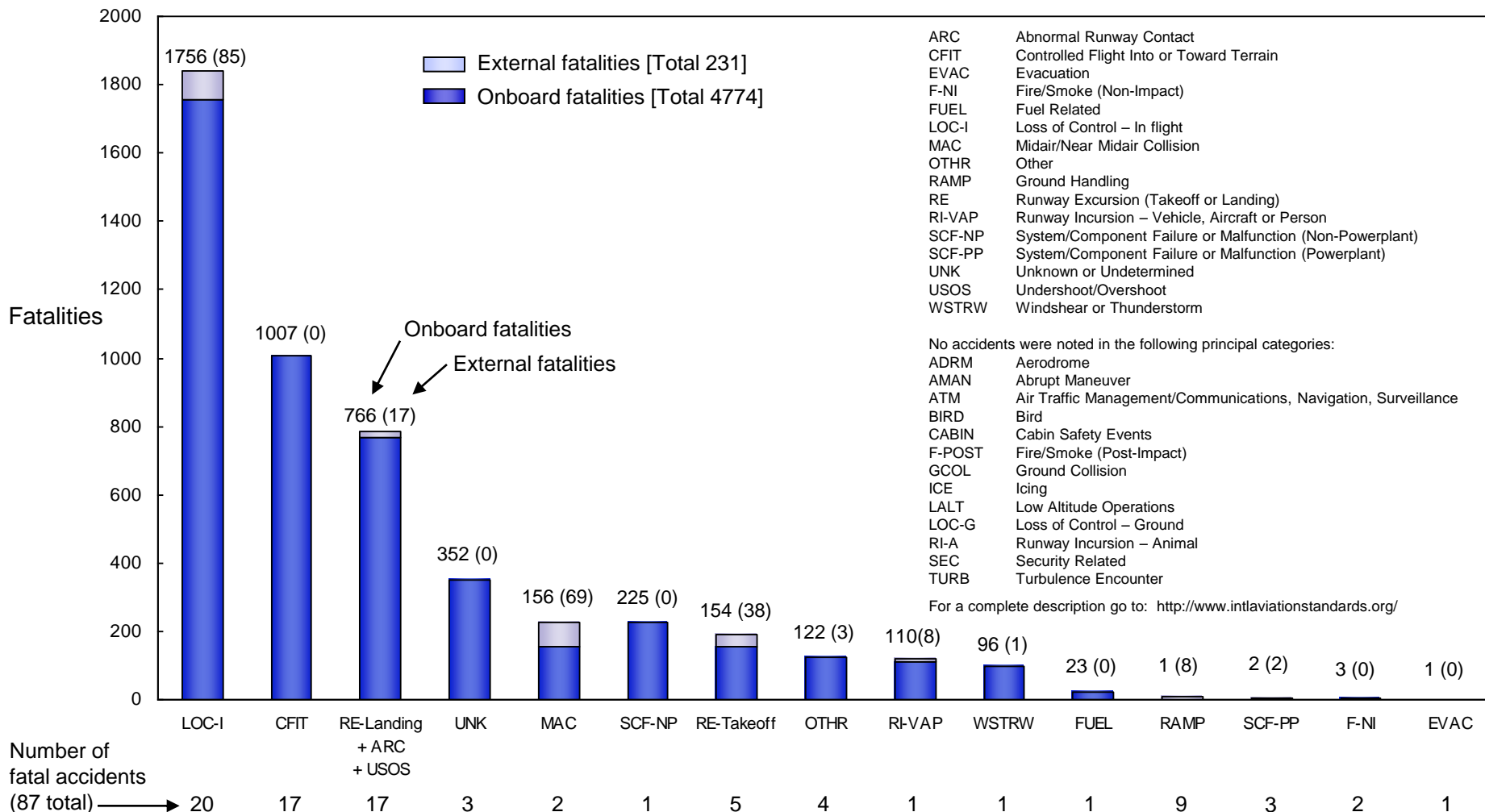


Accidents per million departures

Fatalities by CAST/ICAO Common Taxonomy Team (CICTT)

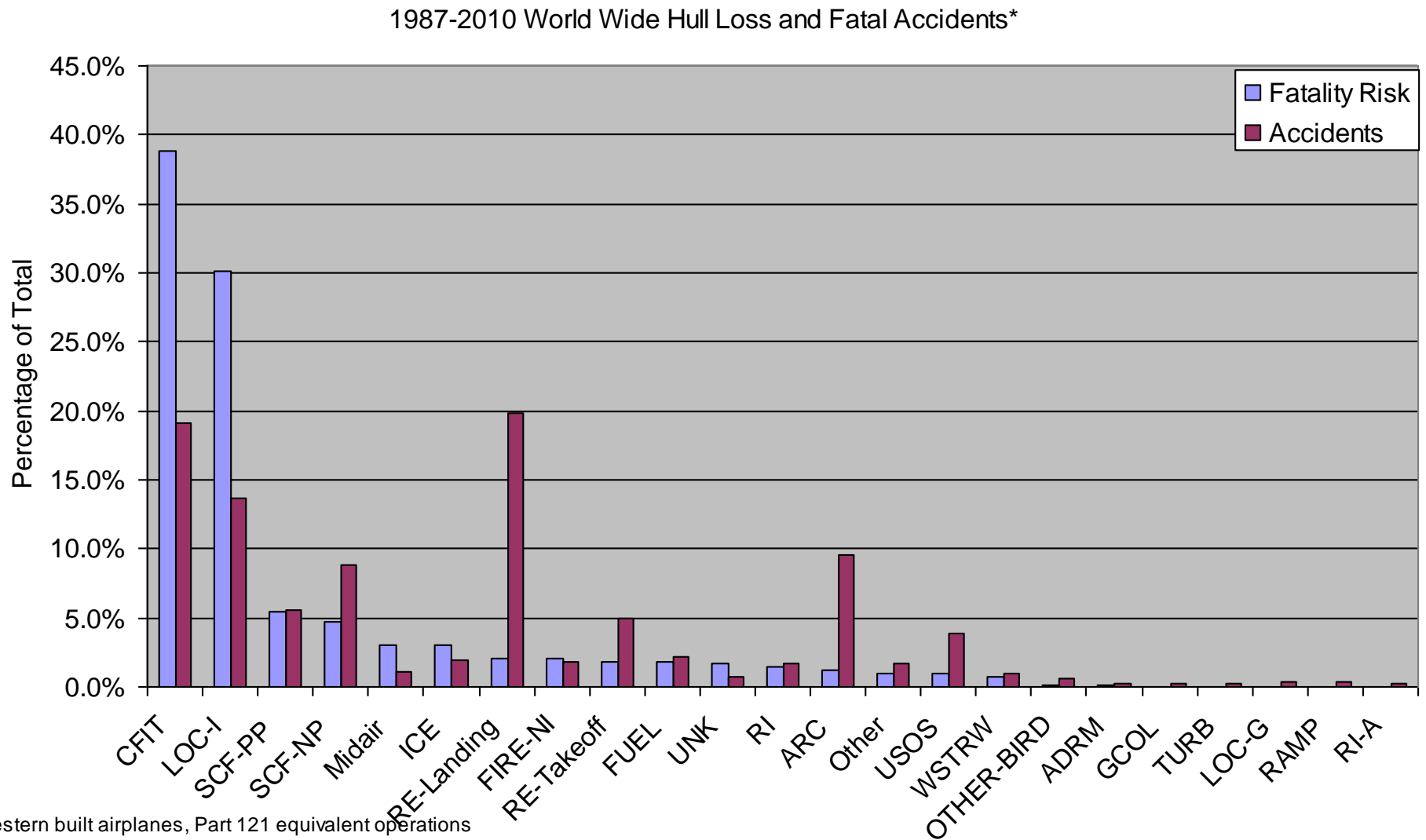
Aviation Occurrence Categories

Fatal Accidents – Worldwide Commercial Jet Fleet – 2001 Through 2010



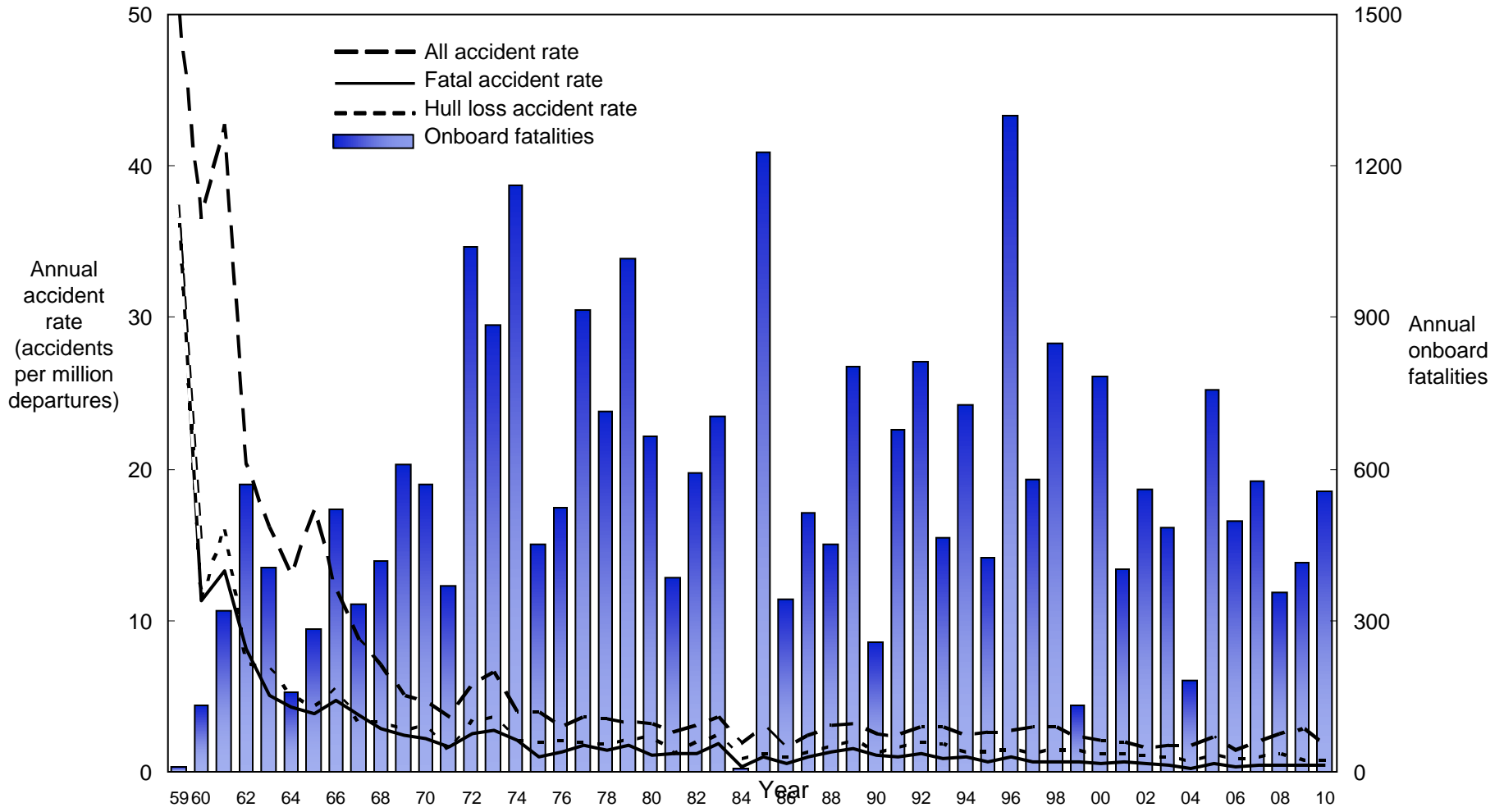
Note: Principal categories as assigned by CAST.

World-wide Accidents: Hull Loss and Fatality Risk 1987 through 2010



Accident Rates and Onboard Fatalities by Year

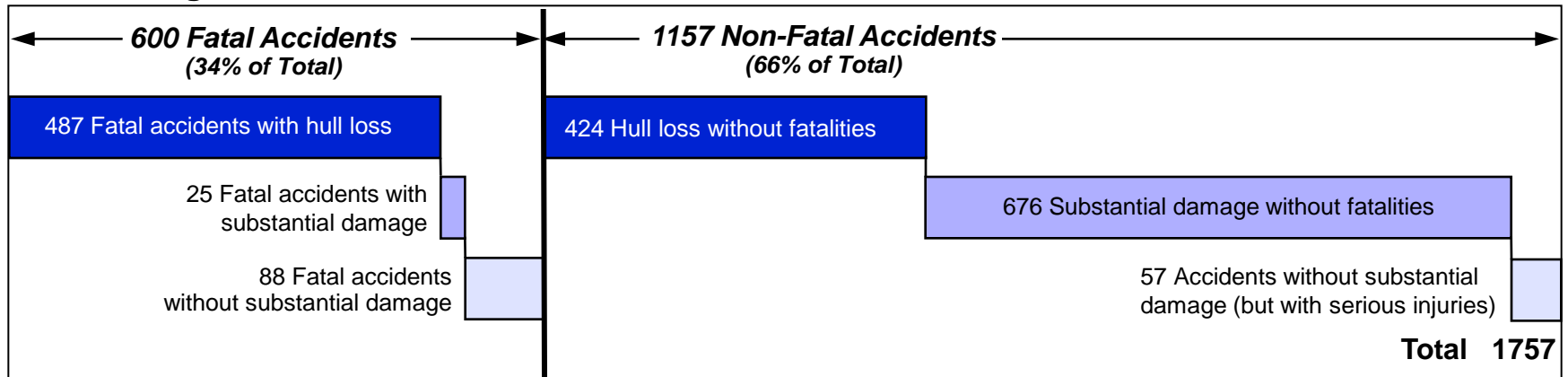
Worldwide Commercial Jet Fleet – 1959 Through 2010



Accident Summary by Injury and Damage

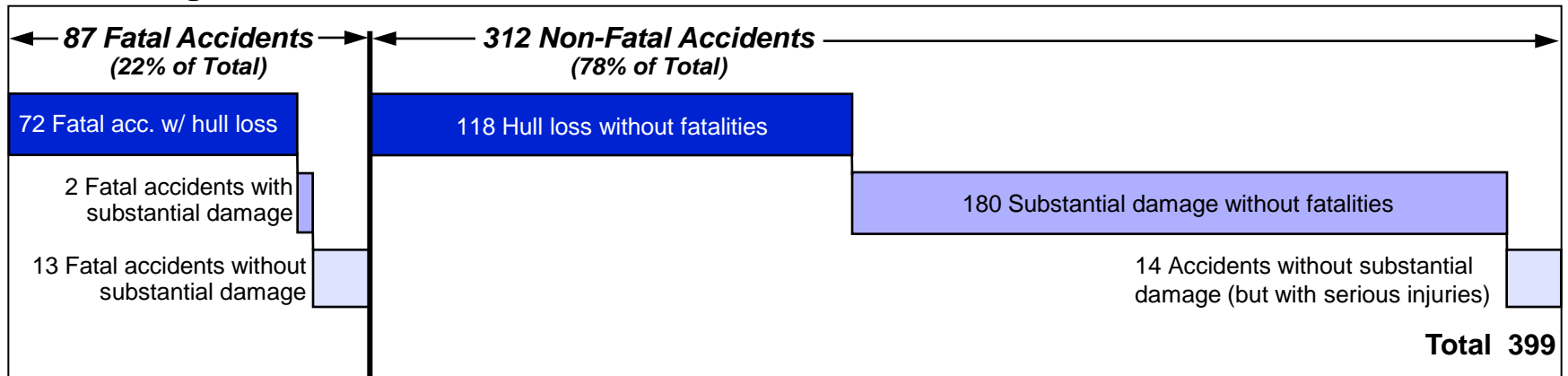
All Accidents – Worldwide Commercial Jet Fleet

1959 Through 2010



Number of Accidents

2001 Through 2010



Number of Accidents

Addressing Risk

- **Identify problems based on data, establish consensus on priorities**
- **Evaluate the implementation of appropriate Safety Enhancements to reduce risk**
- **Develop an Implementation Plan, identifying existing gaps and required actions**
- **Measure implementation levels and effectiveness of processes and procedures already put in place**

Conclusions

- **We have available tools to prevent most accidents occurring today**
- **Aviation is a complex system, no single stakeholder can provide the necessary safety enhancements**
- **Efforts to improve safety have been most successful when industry and government have worked together, with better use and coordination of resources**
- **A collaborative approach promotes rapid implementation of risk mitigation strategies in an efficient manner**
- **A co-led industry-government regional safety group is the best way to coordinate the implementation**



“A goal without a plan is only a wish.”

Antoine de Saint-Exupery

