



# Mitigation of LOC-I risk in AFI Region

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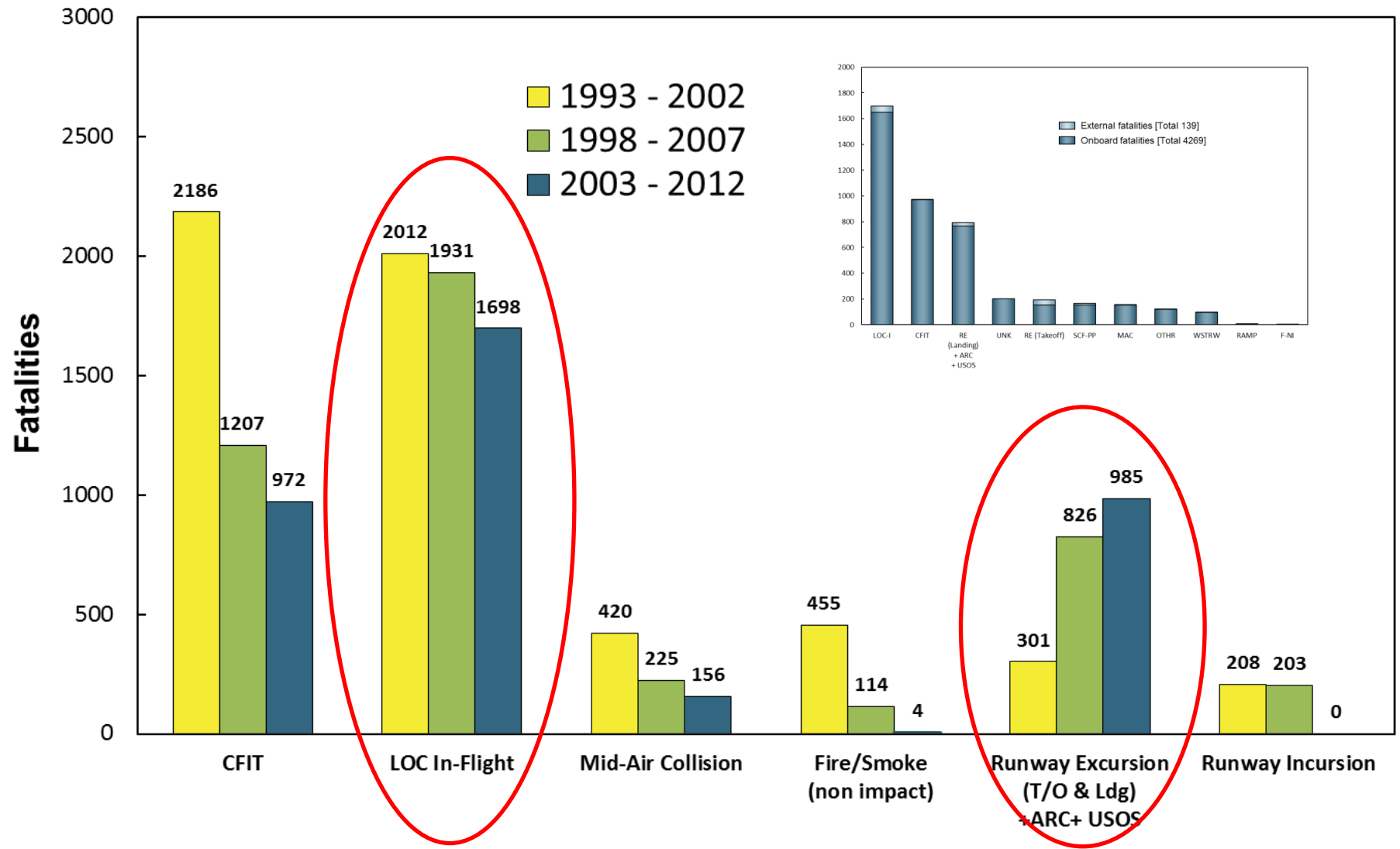
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# Comparison of Fatalities 1993-2002, 1998-2007 and 2003-2012

## Fatalities by CAST/ICAO (CICTT) Aviation Occurrence Categories

### Fatal Accidents – Worldwide Commercial Jet Fleet



# ASA Significant Themes

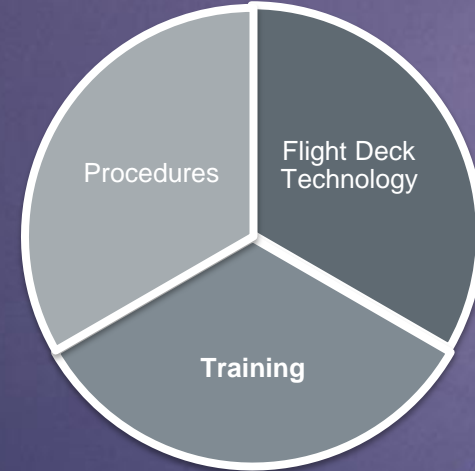
Summary of Significant Themes Across All Events

	Lack of External Visual References	Flight Crew Impairment	Training	Airplane Maintenance	Safety Culture	Invalid Source Data	Distraction	Systems Knowledge	Crew Resource Management	Automation Confusion/Awareness	Ineffective Alerting	Inappropriate Control Actions	Total
Saab 340	x	x			x		x	x	x		x		7
747-200F	x			x		x	x		x		x		6
737-300	x		x		x		x		x	x	x	x	8
737-400	x		x	x			x	x	x	x	x	x	9
737-800	x		x				x		x	x	x	x	7
737-500	x	x	x	x	x		x	x	x	x	x	x	11
A320	x		x				x		x		x	x	6
757-200	x						x		x	x	x	x	6
A320	x	x			x		x		x	x	x	x	8
757-200	x				x	x	x	x	x	x	x	x	9
717	x				x	x	x		x		x	x	7
DHC-8-Q400	x	x	x		x		x	x	x	x	x	x	10
DHC-8	x		x				x			x	x	x	6
737-800	x		x	x	x		x			x	x		7
MD-82	x	x			x		x	x	x	x	x	x	9
A320		x	x	x	x	x	x	x	x	x	x		10
737-800	x			x	x	x	x		x	x	x		8
ATR-42	x	x			x		x		x	x	x		7
<b>Overall</b>	17	7	9	6	12	5	18	7	16	14	18	12	

# Loss of Control

## Significant Themes

- Lack of External Visual Reference
- Flight Crew Impairment
- Training
- Airplane Maintenance
- Safety Culture
- Invalid Source Data
- Distraction
- System Knowledge
- Crew Resource Management
- Automation Confusion/Awareness
- Ineffective Alerting
- Inappropriate Control Actions



- SE192: Airplane State Awareness - Low Airspeed Alerting
- SE193: Airplane State Awareness - Non-Standard/Non-Revenue Flights
- SE194: Airplane State Awareness - Standard Operating Procedures Effectiveness and Adherence
- SE195: Airplane State Awareness - Flight Crew Training Verification and Validation
- SE196: Airplane State Awareness - Effective Upset Prevention and Recovery Training
- SE197: Airplane State Awareness - Policy and Training or Non-normal Situations
- SE198: Airplane State Awareness - Scenario-Based Training for Go-Around Maneuvers
- SE199: Airplane State Awareness - Enhanced Crew Resource Management Training
- SE200: Airplane State Awareness - Virtual Day-VMC Displays
- SE201: Airplane State Awareness - Bank Angle Alerting and Recovery Guidance Systems
- SE202: Airplane State Awareness - Bank Angle Protection
- SE203: Airplane State Awareness - Features for Current Production or In-Development Fly-by-Wire Airplane Designs
- SE204: Airplane State Awareness - Features for Existing non-Fly-by-Wire Airplane Designs
- SE205: Airplane State Awareness - Features for Out-of-Production Airplane Designs
- SE207: Airplane State Awareness - Attitude and Energy State Awareness Technologies (R-D)
- SE208: Airplane State Awareness - Airplane Systems Awareness (R-D)
- SE209: Airplane State Awareness - Simulator Fidelity (R-D)
- SE210: Airplane State Awareness - Flight Crew Performance Data (R-D)
- SE211: Airplane State Awareness - Training for Attention Management (R-D)





# Questions