



**SMS and Aviation Safety Oversight  
Reactor Oversight Process Initiatives**

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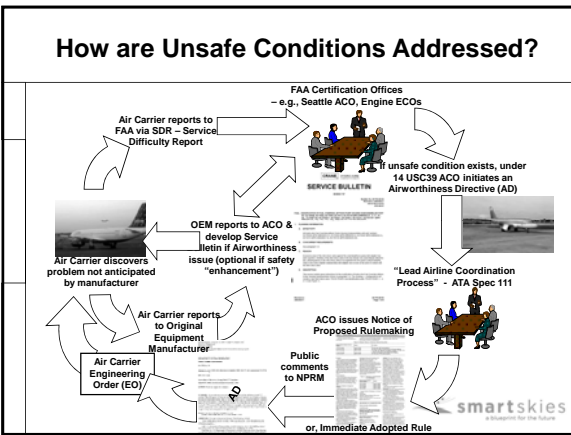
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### Why Did the April 2008 Process Go Wrong?

- Air Carrier and FAA Certificate Management Office did not follow AD process to the letter
- Non-compliance was assessed based on failure to strictly adhere to Service Bulletin instructions *beyond achievement of the safety objective* – “prevent wiring bundle chafing”
- Service Bulletins and some EOs did not depict variations in as-delivered wiring bundle configurations
- Licensed mechanics made “on the spot” judgments to prevent chafing
- FAA Inspector guidance allows determination of “non-compliance” in the strictest sense without judgment of safety assurance




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### Compliance vs. Safety

- *Is there a difference?*
- *Should regulatory compliance be based on explicit instructions to the lowest level of detail or should standard practices and judgment be assumed at certain levels?*
- *Can you be "in compliance" but still "unsafe?"*
- *Is it possible to assess risk (probability of occurrence vs. severity) and manage expectations accordingly?*
- *Task for operators – adopt SMS*
- *Task for regulator – ensure SMS is working!*



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### What are Emerging Airline Safety Initiatives?

- Air Carrier - Voluntary Safety Reporting Systems
  - Aviation Safety Action Program (ASAP)
  - Flight Operations Quality Assurance (FOQA)
  - Internal Evaluation Program
  - Maintenance Reliability Review Board (MRB)
  - Continuing Airworthiness Surveillance (CAS)
  - Voluntary Disclosure Reporting Program (VDRP)
  - Safety Management System (SMS)
- Regulator
  - Air Transportation Oversight Program (ATOS)
  - Safety Management System (SMS)



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### Aviation Safety Information & Analysis System

What is ASIAs...?

*A collaborative Government-Industry initiative on data sharing & analysis to proactively discover safety concerns before accidents or incidents occur, leading to timely mitigation and prevention*



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### Aviation Safety Information & Analysis System

<p><b>De-Identified FOQA Data</b></p>	<p><b>ATC Information</b></p> <ul style="list-style-type: none"> <li>• Traffic Management Reroutes and Delays</li> <li>• Airport Configuration and Operations</li> <li>• Sector and Route Structure</li> <li>• Procedures</li> </ul>
<p><b>De-Identified ASAP Data</b></p>	
<p><b>Aviation Safety Reporting System</b></p>	<p><b>Surveillance Data</b></p> <ul style="list-style-type: none"> <li>• En route</li> <li>• Terminal</li> <li>• Airport</li> </ul>
<p><b>Safety Reports</b></p> <ul style="list-style-type: none"> <li>• Runway Incursion</li> <li>• Surface Incident</li> <li>• Operational Error / Operational Deviation</li> <li>• Pilot Deviation</li> <li>• Vehicle or Pedestrian Deviation</li> <li>• National Transportation Safety Board</li> <li>• Accident/Incident Data System</li> <li>• Service Difficulty Reports</li> </ul>	<p><b>Other Information</b></p> <ul style="list-style-type: none"> <li>• Bureau of Transportation Statistics</li> <li>• Weather / Winds</li> <li>• Manufacturer Data</li> <li>• Avionics Data</li> <li>• Worldwide Accident Data</li> </ul>

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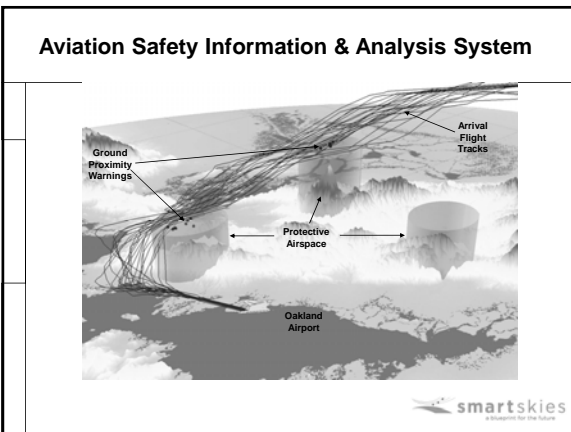
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### Aviation Safety Information & Analysis System

#### Typical ASAP Narrative

During a right base leg for a visual approach, Air Traffic Control switched us to a new runway with our concurrence. Both pilots switched to the appropriate Instrument Landing System frequency as a backup for the visual approach. The localizer signal was confirmed, but no glide slope signal was obtained. We had already started the landing configuration sequence and were configured with flaps 15 degrees and landing gear down on a normal descent path. As pilot monitoring, I was attempting to discern why the glide slope was unavailable for the pilot flying. The 1000 foot call was made with an airspeed of 150 knots. V-target was 141 knots. Shortly thereafter, at 500 feet above ground level, we received the warning "too low, flaps." The pilot flying called for flaps 30 degrees and the Before Landing Checklist. I complied but I should have directed a go around. The landing was completed without incident, and the taxi to the gate was uneventful. In an attempt to offer support to the pilot flying, I had allowed myself to become distracted during a critical phase of flight with an unnecessary piece of approach guidance for the type of approach being flown. Proper prioritization and application of pilot monitoring duties would certainly have prevented this. Pilot monitoring is also flying, just not necessarily "hands on." Whether pilot flying or pilot monitoring, one should aviate first and avoid/contain unnecessary distractions through correct identification and prioritization of perceived problems.

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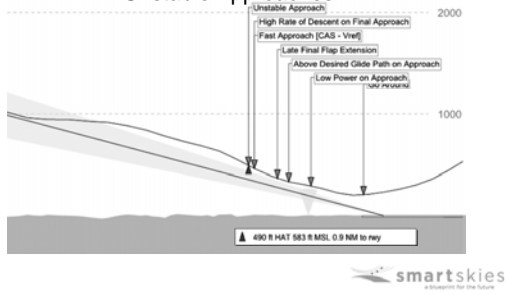
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### Aviation Safety Information & Analysis System

#### Digital Data Provides Insight about Flights: e.g., Unstable Approaches




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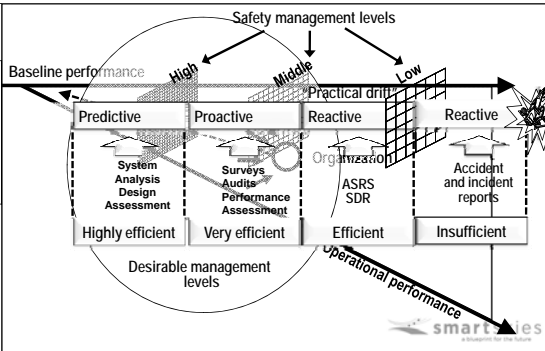
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### Safety Management Systems




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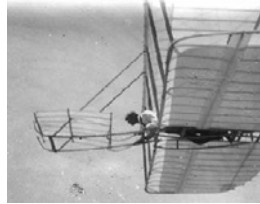
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## Safety Management Systems

*"Carelessness and overconfidence are more dangerous than deliberately accepted risk"...* Wilbur Wright, 1901



Wilbur Wright gliding, 1901  
Photographs: Library of Congress



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