Selected Travel Events in the Millennium's Second Decade and the Future of System Safety

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Dr. Geoff McIntyre
Editor
Scope

• Mirrored Events
• Public Policy Choices
• Preventable Events
• Statistical Safety
• Avoid “Organizational Stasis”
Mirrored Events

- Combat Zones
- Endogenous Security Threats
- Air, Auto & Marine Transportation
Public Policy Choices

• Stewardship & Accountability

• Nanny State v. Self-Regulation

• Hide No Harm Act: 2014, ‘15, ‘16?
Aircraft Tracking Void / High Seas

- Air France #447; 1 June, 2009
- Malaysian Airlines #370; 8 March, 2014
Civilian Aircraft / Combat Zones

Persian Gulf
1988
Iran Air #655

Ukraine
2014
Malaysian Airlines MH #17
2014: Hazardous Information Void

• Within hours, airlines flew route

• “No information sharing on Ukraine combat zone. Some knew of anti-aircraft missiles. ...avoided the airspace.”
Aircraft Security

1999
- Egypt Air #990
- 217 Killed

2015
- Germanwings #4U 925
- 150 Killed
Phantom Pilots- Security Breaches

1995-1998
• Disguised United Airlines “Captain” operated 3 years
• Fake Pan Am Pilot 1960’s

2013 PHL
• Disguised 747 Air France Pilot/Domestic US flight
Regulatory Failure

1972
• DC-10 Door Tests Ignored
• 52 Crashes/ 1,261 lives - June 1979: Fleet Grounded

2013
• B-787 Lithium Batteries Went Nova - No Lives Lost
• January – April; Fleet Grounded
“Industry does everything they can and gets away with it almost all the time, whether it’s the coal industry, ... or water or whatever.”

Senator Jay Rockefeller, Chair Senate Commerce, Science Transportation
General Motors

• 2014: Year of “Great Disappointment”
• Ignition Switch — 2.6 million GM cars recalled in — 42 deaths; $35 million NHTSA fine
• Organization culture change
“How NOT to Handle A Recall”

2010 Toyota

• Lesson learned was that risk cannot be ignored

2014 Takata

• Decade-old secret airbag test results ignored
Zeebrugger Ferry Terminal, Belgium, 1987

- 459 on Board / 193 Killed
- “Negligence at every level…”
- Legal precedent set-- Manslaughter
Ferry Disasters: Asia

Hong Kong 2012
- Fatal Collision
- 39 Killed
- “Systematic Failings”

S. Korea 2014
- 477 on Board
- 304 Killed
- “Priority of Profits Over Safety”
A Tragic “Sail-By-Salute” 2012

- Italy- 13 Jan, 2012.
- Costa Concordia cruise ship struck a reef & capsized.
- 4,200 on board.
- 32 killed, 64 injured.
Statistical Safety

• Low accident rate

• 2002–07, 1 fatal /15 M Flights

• 2018 target: 1 fatal / 30 M flights; 2023: 1 fatal / 40 M flights.

• “There’s not too much to worry about statistically.”
“Facts do not cease to exist because they are ignored.”
Aldous Huxley
Ignored Data

- “Nearly missed hitting.”
- Airlines’ Maintenance violations.
- Cabin / facilities events*
- Fewer Inspections

* 26 September 2014, a deliberately set fire at Chicago's air traffic control facility caused 850 flight cancellations.
Near Mid-Air Collisions: 2008 - 2014

Sources: Freeridestate; FAA; NTSB; U.S. DOT
Civilian Drones: A Game Changer

- 2012- Congress mandated the FAA to “safely accelerate” civilian drones by 30 September 2015
- FAA Drone Report (Feb –Nov 2014)
- FAA Proposed New Rules, 15 February 2015
Proposed Regulations: Core Issue

How best to *sustain* the safety record of the National Airspace System (NAS), mindful of asymmetrical warfare, general aviation flyers, and accommodate use of civilian drones for delivering consumer goods?
Second Decade Common Themes

• Inadequate Safety Assessments
• Regulatory Nonfeasance
• Process Management Failures
• How to Avoid Stasis?
Classify - industry methods, standards & processes
Assess - horizontal applications
Develop Safety Assessment Templates
Define & Recommend Regulatory Performance Standards: Government Industry Self-Regulation
Process Management, Psychological Metrics & Training: Accountable / Monetary Rewards
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