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Aviation Safety Information Analysis and Sharing – General Aviation (ASIAS – GA)

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**Aviation Safety
Information Analysis
and Sharing –
General Aviation
(ASIAS – GA)**

Alan J. Stolzer, Ph.D.

**EMBRY-RIDDLE
AERONAUTICAL UNIVERSITY**



**General Aviation Flight Data
Monitoring Conference**

Principal Investigators

Leonard Kirk



Gary Ullrich



Massoud Bazargan - Wx

Dave Esser - FDM

Alan Stolzer



Many researchers from these universities and others as the project continues to develop

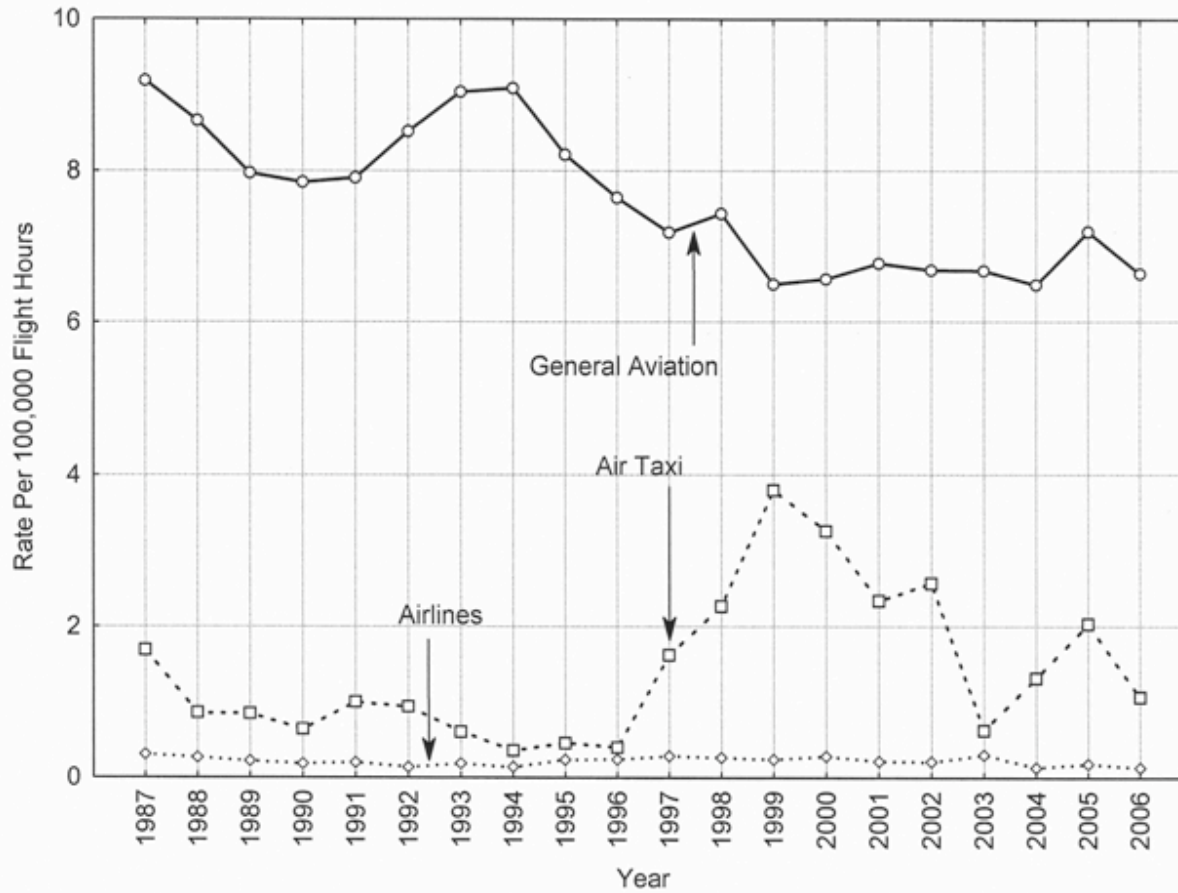
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What is ASIAs?

A collaborative government and industry initiative on data sharing & analysis to proactively discover safety concerns before accidents or incidents occur, leading to timely mitigation and prevention.



Reasons to Include GA



Comparison of Accident Rates Per 100,000 Flight Hours Among Airlines (14 CFR 121, Scheduled), Air Taxi (14 CFR 135, Scheduled), and General Aviation in the U.S. from 1987 to 2006

More Reasons to Include GA

- ❑ GA operations affect the traveling public
- ❑ GA is very diverse – its safety risks need to be better understood
- ❑ Airline safety studies often involve GA operations – TCAS events, runway incursions, etc.
- ❑ Some GA operations have high visibility coupled with poor safety records, such as rotary wing medivac



Still More Reasons...

- GA is a major part of the aviation industry
 - ▣ Over 200K a/c and nearly 30M flight hours per year
- VLJs add new complexities and risk
- UAVs add new complexities and risk



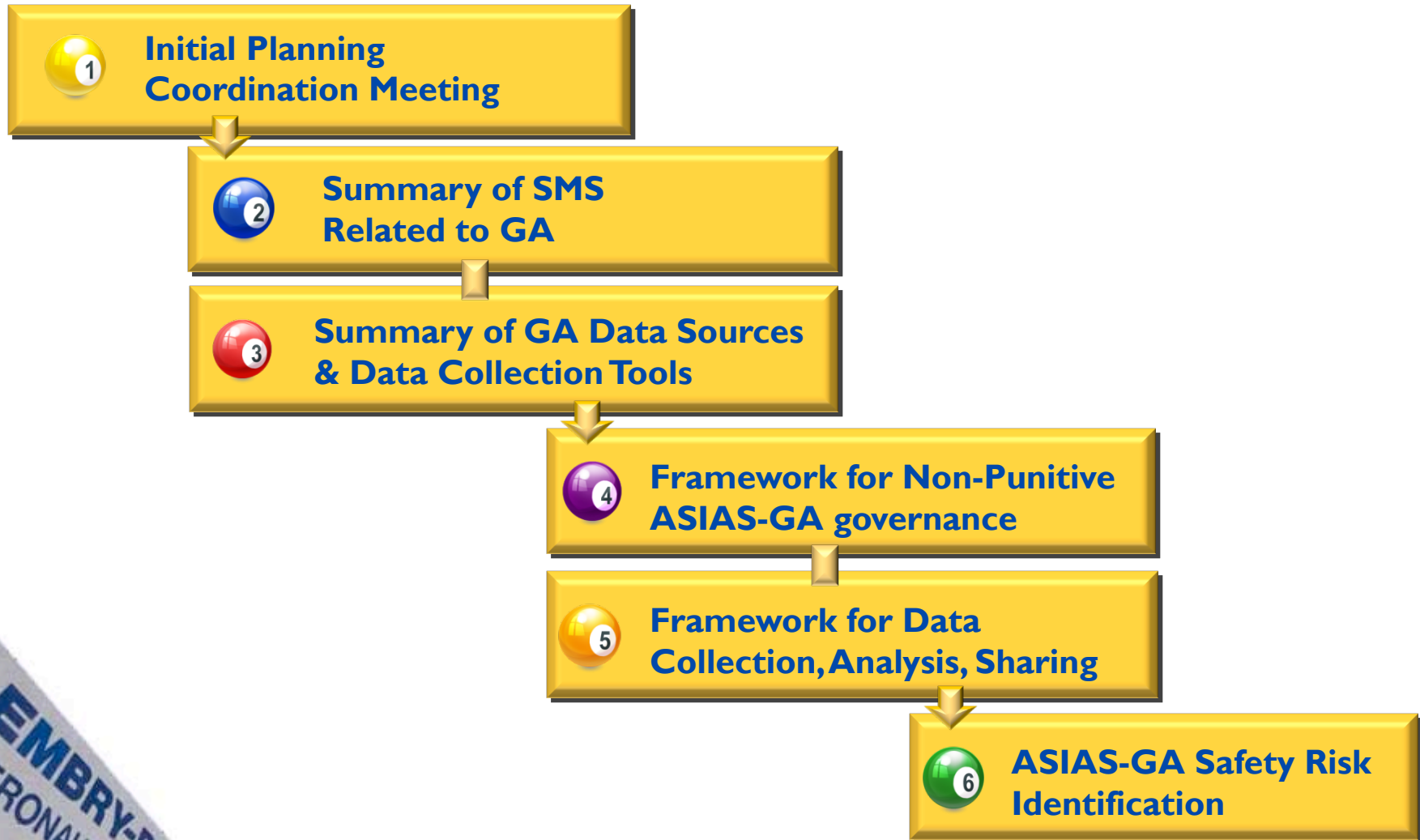
Just as in commercial operations we need safety information for GA in order to support the SMS program

Research Objective



Under the umbrella of
Safety Management Systems,
investigate the development of
an ASIAS system for GA

Task List





Summary of SMS Related to GA



Activities	Date
<u>SMS background and history</u>	September 2009
Summary of SMS resources (<u>sources</u>) (core docs)	
<u>Major SMS Efforts in Aviation – identify and describe</u>	
Major Efforts in Alaska – identify and describe	
Major Efforts in other industries – identify and describe	
Synthesize / Summarize	
Analysis of ASIAs Roadmap	



Summary of GA Data Sources & Data Collection Tools



Activities	Date
Identify and describe <i>current</i> data sources and data collection tools that could be made available to ASIAS	September 2009
Identify and describe <i>potential</i> data sources and data collection tools that could be made available to ASIAS	
Identify the potential benefit of using each data source	
Describe how the data source can be fused with other sources to provide a system safety assessment for the GA community	
Relate data sources and tools to various GA operations identified in this task	





Varia

- Forming a working group for this project, to include the PI's, researchers, MITRE ASIAs researchers, GAMA, AOPA – regular conf calls
- Established a project website (UND) for threaded discussions and exchange documents
- References/resources are being logged into [RefWorks](#) for greater utility



All References

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- Ref ID: 20 Magazine Article (Electronic) Reference 1 of 51  Last Imported [View](#) [Edit](#)
Title: A steady approach
Authors:
Source: [Flight International](#), 2008
- Ref ID: 13 Conference Proceedings Reference 2 of 51  Safety Management Systems (Aviation) [View](#) [Edit](#)
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Authors: [Adrian,Nicole](#)
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Authors: [Blount,E.M.](#); [Chung,V.I.](#)
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- Ref ID: 22 Journal Article (Electronic) Reference 5 of 51  Last Imported [View](#) [Edit](#)
Title: Impediments to and Methods for Evaluating Safety Management Systems

Significant Challenges

□ Data

- We need risk information – if not from FDM or ASAP, where will it come from?
 - The high-degree of segregation of GA may compel us to focus on select sectors first
- Data Management Plan
 - Data set integration
 - Data standardization
 - Data quality
 - Taxonomy



Significant Challenges

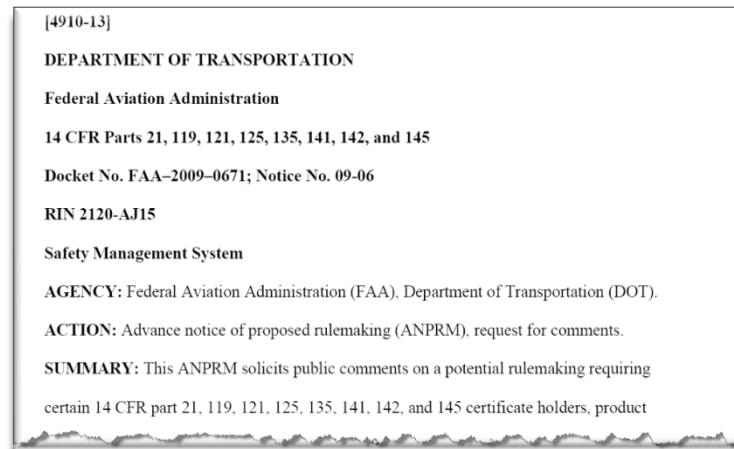
□ Governance

- Representation in studies
- Subject matter expertise
- Oversee studies (to ensure de-identification)



Brief SMS Update

- ANPRM released on July 23, 2009
- Provides definition of SMS, 4-pillars, reference to guidance material (i.e., AC 120-92, Order 8000.367)
- Presents a series of survey questions
- Comment period ends October 21, 2009



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