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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.**

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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**

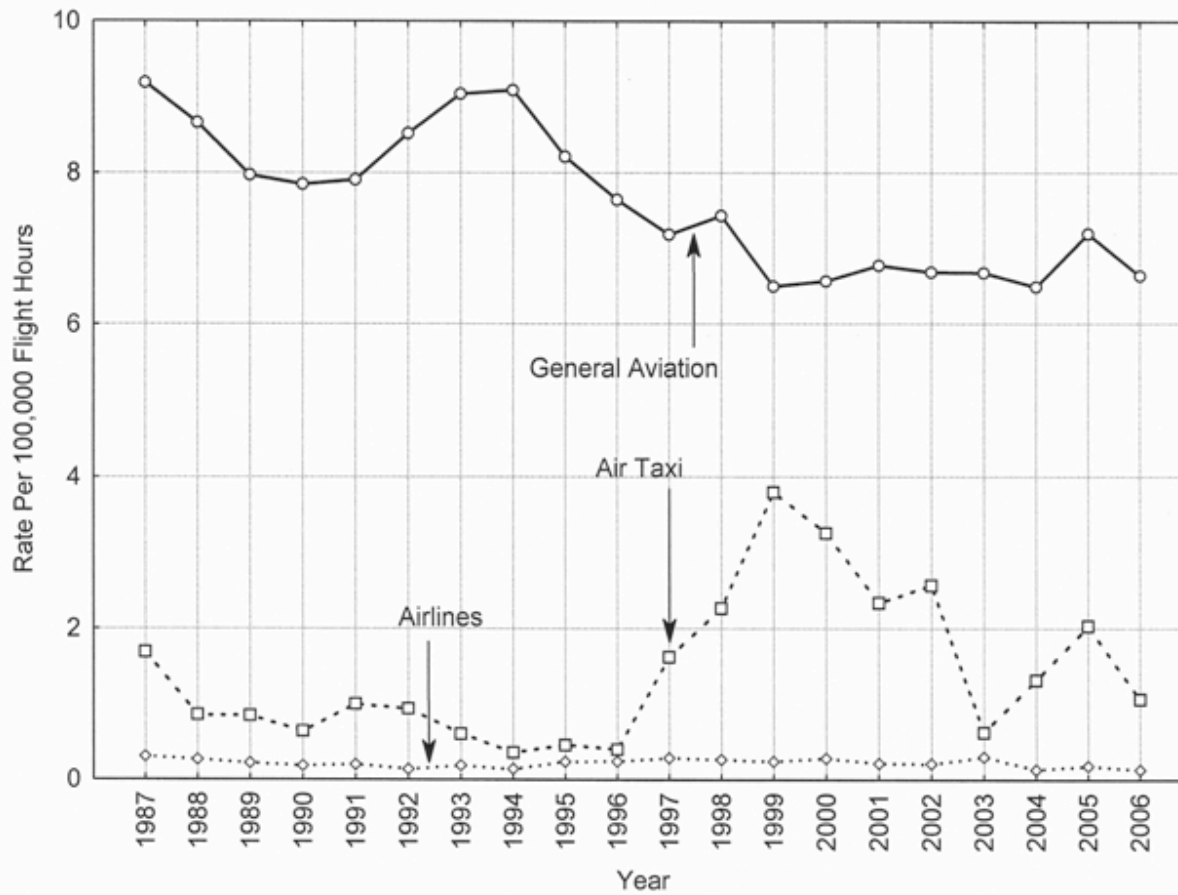
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# What is ASIAs?

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*

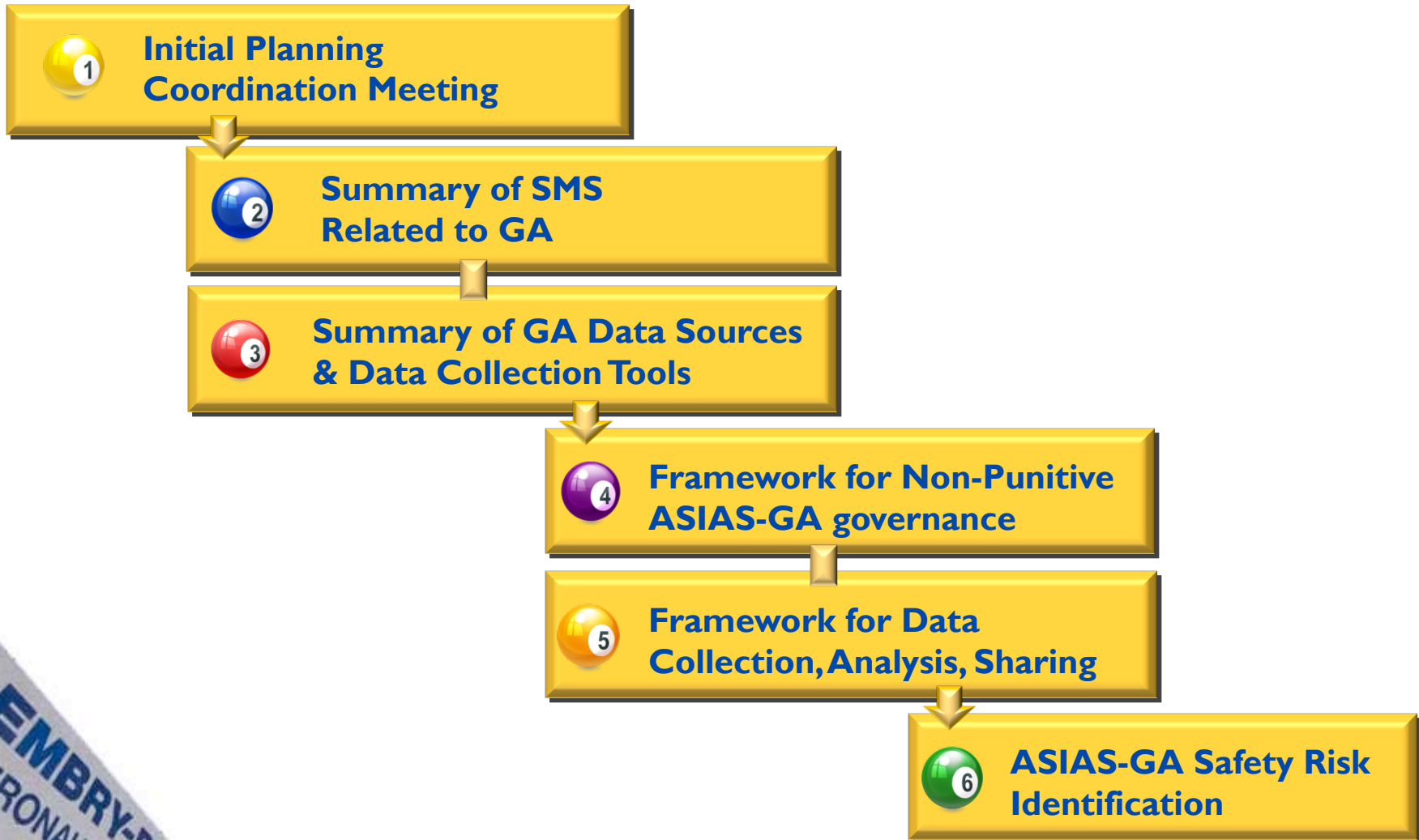
# Research Objective



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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| Authors: <a href="#">Blount,E.M.</a> ; <a href="#">Chung,V.I.</a>  |   |  |   |
| Source: <a href="#">Collection of Technical Papers - AIAA Modeling and Simulation Technologies Conference, 2006</a> , 2006, 1, 657-666   |   |  |   |
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# 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

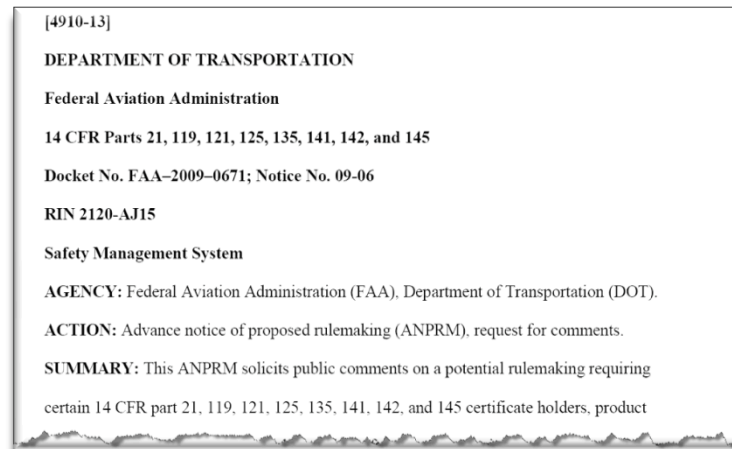
## □ Governance

- 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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