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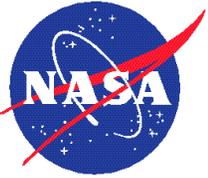
# **VAMS TIM**

## **Breakout Session #3 - Guidelines**

**Group 1**

**Joseph Del Bazo, Facilitator**

**May 23, 2002**



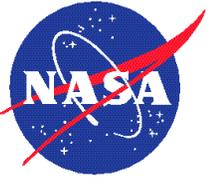
# *Guidelines*

## *Questions to Consider*

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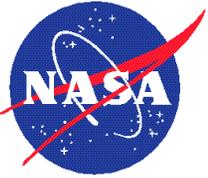
- 1. Can we achieve greater clarity on the descriptions of the guideline elements?**
- 2. Are the concept guidelines sufficient and necessary to meet project goals?**



# ***1. Can we achieve greater clarity on the descriptions of the guideline elements?***



- ✓ **Yes, but we suggest a change in the order**
  - **Area 1**
    - **Issues and operating domain (concept specific)**
    - **Quantitative goals**
  - **Area 2**
    - **Core ideas**
    - **Assumptions**
  - **Area 3**
    - **Functions**
    - **Performance**
    - **Human factors**
      - **Roles and responsibilities of humans and machines**
      - **User interfaces**
    - **System integrity and redundancy**



# 1. *Can we achieve greater clarity on the descriptions of the guideline elements?* *(Continued)*

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v Yes, but we suggest a change in the order (Continued)

— Area 4

- Architecture
- Technology requirements
- Challenges
- Transition plan
  - Roadmaps

— Area 5 – NAS Operational Risks

- Security
- Safety

— Area 6

- Benefits/Metrics
  - Cost/Metrics
  - Conceptual competitors
-



## ***2. Are the concept guidelines sufficient and necessary to meet project goals?***



### **v Project goals:**

- Develop a blended unified concept at end of phase four**

### **v Guidelines may be adequate**

- Not enough information to trade off parameters**
- Concepts address different aspects of NAS**
- Individual concepts may employ different scenarios and/or metrics**
- Mapping concepts to GFI helps but will not ensure blending**
- Difficult to fit concepts to GFI top level model**



## *Concept Grading Guidelines and Procedures*



- 1. Does the concept grading guidelines and procedures provide the necessary feedback to the concept development process?**
- 2. What clarifications are necessary?**



1. ***Does the concept grading guidelines and procedures provide the necessary feedback to the concept development process?***
- 



v **Yes**



## *2. What clarifications are necessary?*

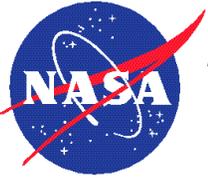
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v **Nothin'**



- 1. Can the GFI model of ATM functions be improved to account for major paradigm shifts in the operation of the ATM?**
- 2. Is the GFI model sufficient to blend, model and analyze and assess the current collection of concepts? What more is needed?**



*1. Can the GFI model of ATM functions be improved to account for major paradigm shifts in the operation of the ATM?*



- 
- v Cannot answer until after we know what the paradigm shifts are going to occur**



**2. Is the GFI model sufficient to blend, model and analyze  
and assess the current collection of concepts?  
What more is needed?**



**v No**

- Not domain specific
- Concepts do not always map cleanly/clearly into it
- Need lower level models (May be more difficult to map)
- Already busy
- Does not describe the operational concepts behind concept
- Does not help present/explain/describe concept
- After the concept is developed, you could organize it this way
  - Helps simulation but does not help define concept
- Will not help blend

**v More is needed**

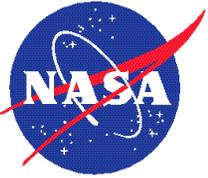
- After year one we will have a better idea how to schematically communicate ideas in a common framework



## *Three Most Important Points*



- ✓ **Better outline of operational guidelines (reordered)**
- ✓ **Cannot determine if concept description per guidelines is adequate for blending until after year one**
- ✓ **After year one we will have a better idea how to schematically communicate ideas in a common framework**



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# **VAMS TIM**

## **Breakout Session #3 - Guidelines**

**Group 2**

**Kevin Corker, Facilitator**

**May 23, 2002**



# Can the GFI model of ATM functions be improved to account for major paradigm shifts in the operation of the ATM?



## LACKS:

- ✓ Airports as a dedicated aggregate
- ✓ Domains of transportation system
- ✓ Utility increase with intermodal considerations (Transportation System – Air, ground, quantum)
- ✓ Passenger/Payload missing from model
- ✓ Higher Level of Abstraction for Information Function
  
- ✓ Allocation
- ✓ Quantification
- ✓ Demand Function



# OPCON Compatibility by function (high level)

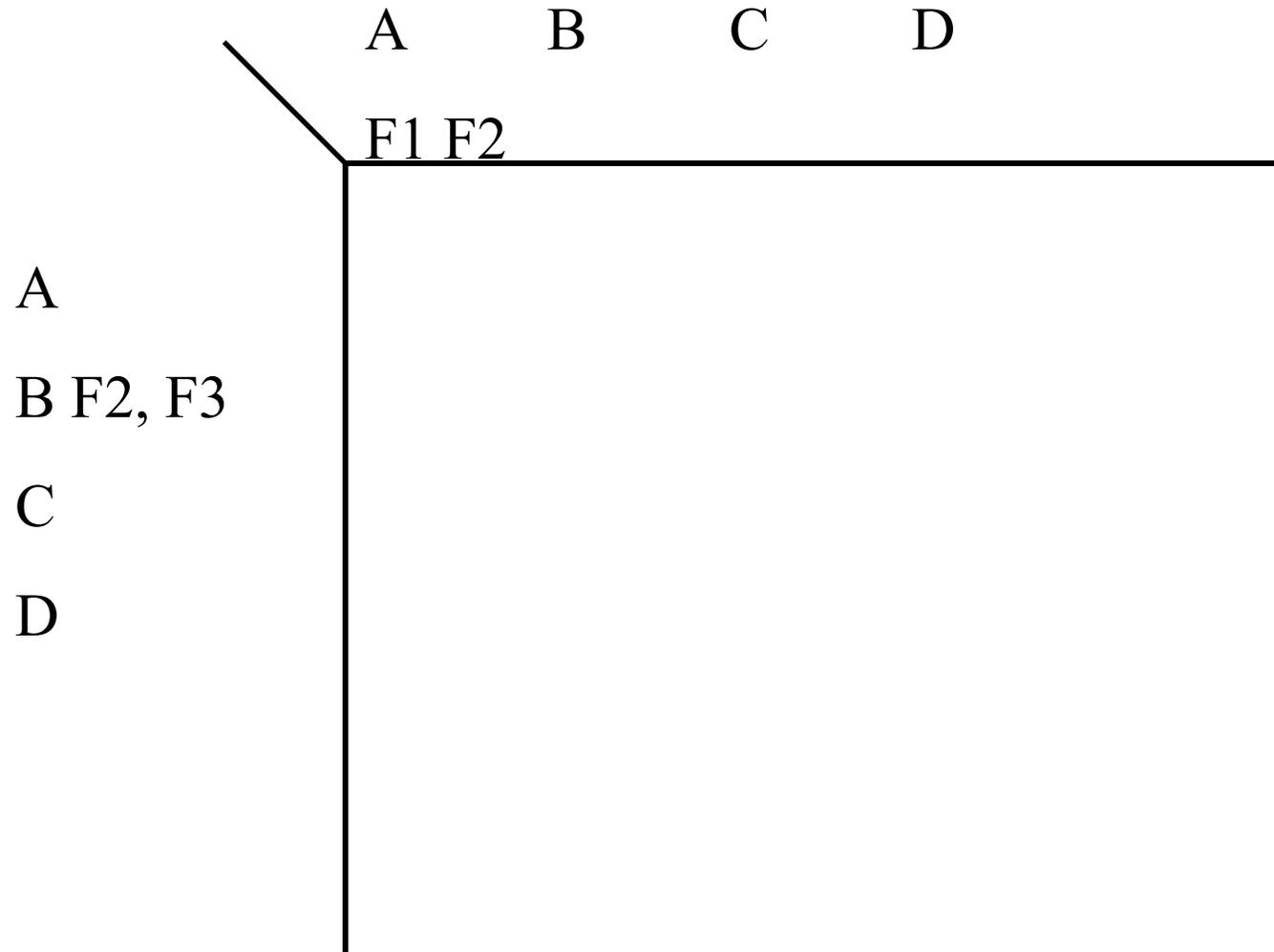


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	A	B	C	D
A				
B				
C				
D				



# OPCON Compatibility by function (Low level)





**Is the GFI model sufficient to blend, model and analyze and assess the current collection of concepts? What more is needed?**

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**v Yes, but needs further decomposition**

**Matrix/Vector Compatibility within each function**

**Differentiate tools from OPCONs to support cross OPCON evaluation**



**Does the concept grading guidelines and procedures provide the necessary feedback to the concept development process? What needs to be clarified?**

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**Set of standards for grading needed to level the playing field**

- ✓ **Combination of criteria to assessment**
  - **WHAT IS THE PROCESS, WHAT FORM IS THE FUNCTION, Is there weighting ?**

- ✓ **Needs clarification**
  - ✓ **Practical**
  - ✓ **Definable**
  - ✓ **Self- Diagnostic**
  - ✓ **Constructible**
  - ✓ **Documented**
  - ✓ **Revolutionary**
  - ✓ **Accurate**
  - ✓ **Compatible**
  - ✓ **Model-able**

- ✓
- ✓



## Evaluation Criteria (cont.)



- ✓ **Should not be on list as applicable to an OPCON**
- ✓ **Constructible**
- ✓ **Compatible (with what ???)**
- ✓ **Accuracy**



# Is the concept guideline necessary and sufficient to achieve the project goals?

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- ✓ **Lacks explicitly defined compatibility link**
- ✓ **Goodness may subsume costs & Benefits**



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# **VAMS TIM**

## **Breakout Session #3 - Guidelines**

**Group 3**

**Earl Van Landingham, Facilitator**

**May 23, 2002**



# Group 3 Agenda, 6 Questions in 3 Categories

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## ✓ Guidelines:

- Can we achieve greater clarity on the descriptions of the guideline elements
- Are the concept guidelines sufficient and necessary to meet project goals?

## ✓ Concept Grading Guidelines and Procedures:

- Does the concept grading guidelines and procedures provide the necessary feedback to the concept development process?
- What clarifications are necessary?

## ✓ GFI Model of ATM Functions:

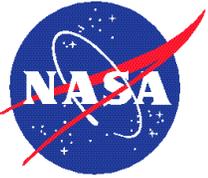
- Can the GFI model of ATM functions be improved to account for major paradigm shifts in the operation of the ATM?
- Is the GFI model sufficient to blend, model and analyze and assess the current collection of concepts? What more is needed?



# Guidelines



- ✓ **Can we achieve greater clarity on the descriptions of the guideline elements**
  - **Probably**
  - **Functions in element (area) 2 for the top-level description isn't followed through in the detail area (element 3)**
  - **GFI functional model too constraining**
  - **Need better set of definitions (VAMS Terminology)**
    - **Sector overload, capacity, throughput, demand, delay, etc.**
    - **In element (area) 6, Conceptual Competitors is another term that needs clarification**
      - **is this like the price of fuel going so high or some breakthrough in telecommuting lowing the demand for flying?**
      - **What is NASA's intent for the information on the "conceptual competitors"?**



# Guidelines



- v Are the concept guidelines sufficient and necessary to meet project goals?**
  - Yes, they're necessary. For now, they're sufficient, but this needs to be reviewed as project evolves.**
  - Need editing of guideline elements for priority**
    - Group feels that the importance of political, legal aspects should be higher**
    - Area 3 "Human Factors" should be "Human Performance"**
    - Area 4 "Architecture" should be lower**
    - Area 6 "Conceptual Competitors" should probably be lower. Maybe this should be Area 1, "Issues"**
    - Prioritization should be a "living" attribute through life of program**



# Concept Grading Guidelines and Procedures

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- ✓ **Does the concept grading guidelines and procedures provide the necessary feedback to the concept development process?**
  - Maybe, with the clarifications, below
- ✓ **What clarifications are necessary?**
  - We assume that these are the evaluation criteria on p3 of handouts
    - Need more explicit mapping of concept guidelines to the evaluation criteria
    - Need definition of criteria



# GFI Model of ATM Functions



- ✓ **Can the GFI model of ATM functions be improved to account for major paradigm shifts in the operation of the ATM?**
  - Yes
  - Seems disconnected from VAST architecture
    - Should we drive deeper in GFI model or VAST architecture?
    - Need better understanding of VAST architecture
    - Is there a plan for convergence?
  - Model needs to accommodate drawing of domain boundaries
- ✓ **Is the GFI model sufficient to blend, model and analyze and assess the current collection of concepts? What more is needed?**
  - Need a hierarchically decomposed model with more details
  - Blending needs other things, too.
    - Common scenario definitions
    - Comparison of assumptions
    - Analysis of incompatibilities, unions, intersections, and synergisms