

# Advanced ADS-B Applications

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FAA MOIE



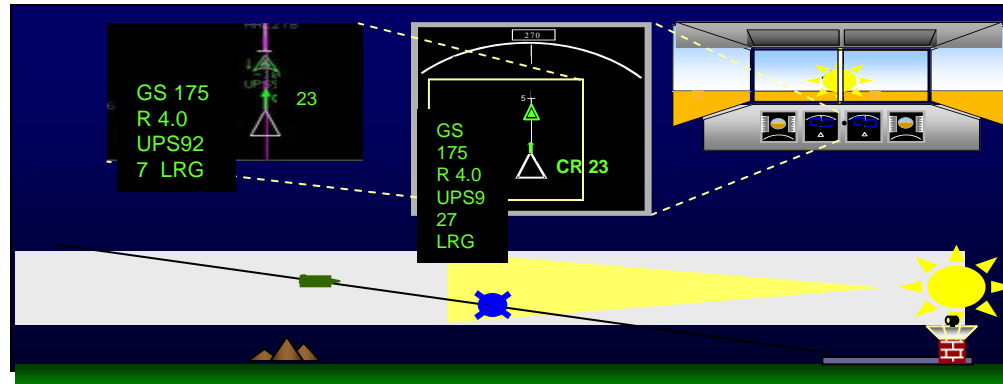
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# Problem

- **What is the overall “promise” of ADS-B and what are the “tall poles” – i.e., the main issues to be addressed?**
- **What is the next set of ADS-B applications, beyond those currently under development or deployment, that provide the most promise to users or providers?**

# Background

CDTI  
Assisted  
Visual  
Separation



Enhanced  
situation  
awareness

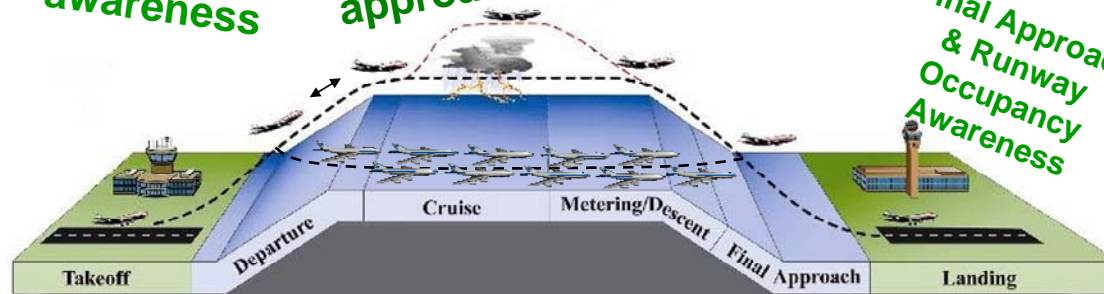
Enhanced  
visual  
approaches

Oceanic in-  
trail  
procedures

Merging  
and  
spacing

Final Approach  
& Runway  
Occupancy  
Awareness

Airport  
Surface  
Situation  
Awareness



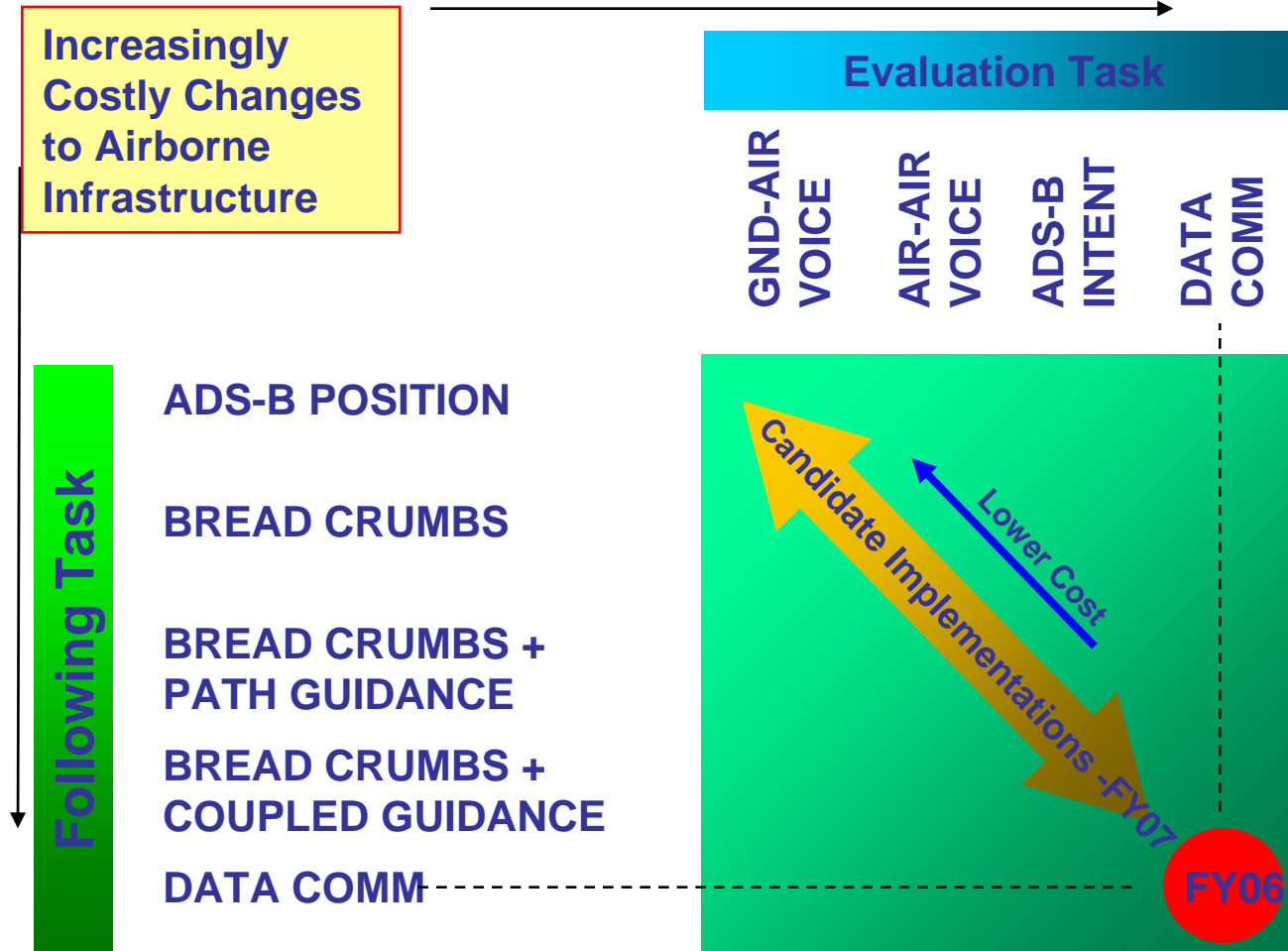
Approaches to Relieve Pressure Due to Weather

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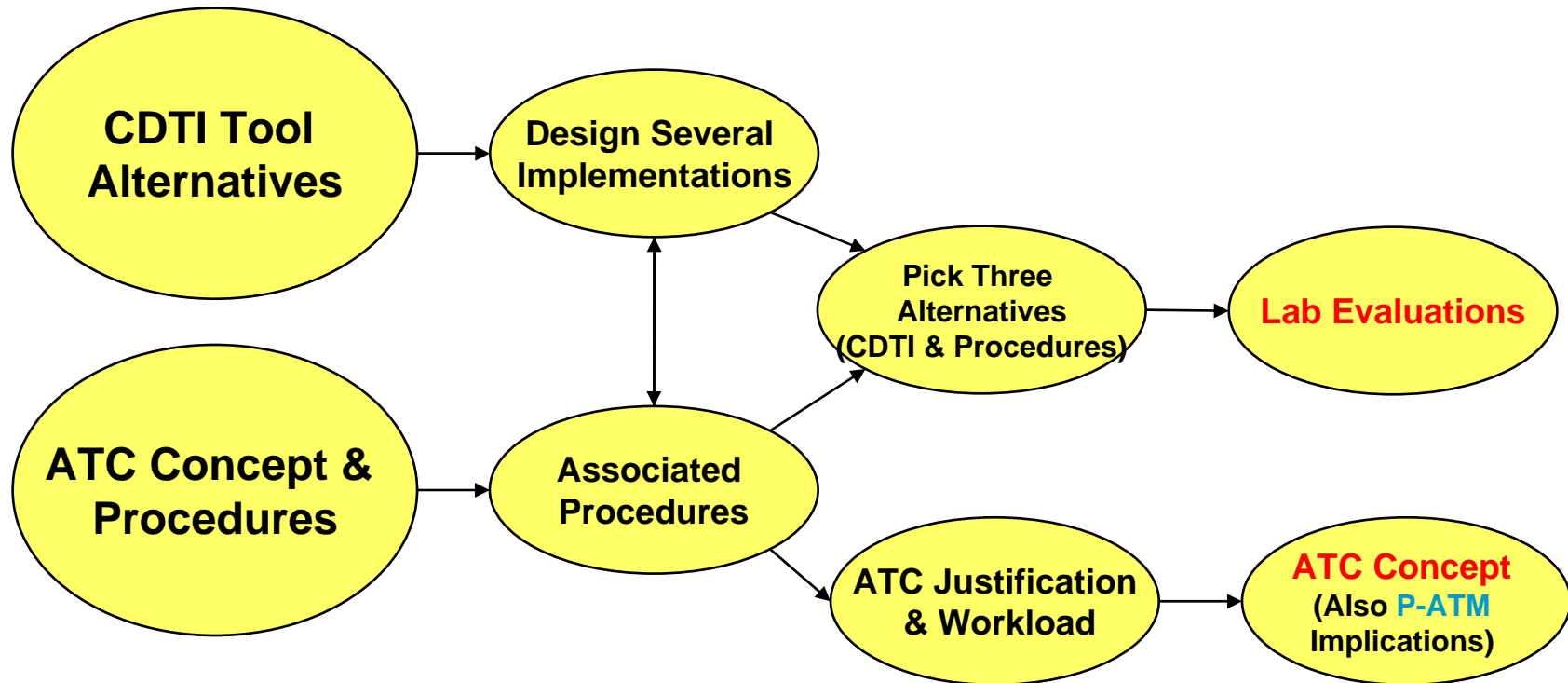
# Objective

Pick a cost-effective solution for weather avoidance



# Activities

## Cockpit tools for avoiding weather



## Self-Separated High-Density Corridors



# Highlight

## Wx Avoidance: Higher-Tech Option



The crew of **leading aircraft** graphically defines a route around severe weather & downlinks request to ATC; ATC approves and issues amended clearance & “follow” instruction to trailer



The crew of the **trailing aircraft** evaluates and accepts the amended route clearance.



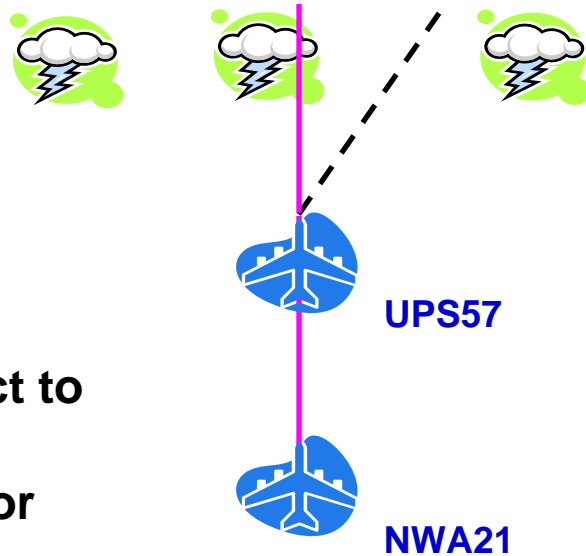
The crew of the **trailing aircraft** elects to execute an offset from the amended route to suit its comfort level for avoiding severe weather.

# Highlight

## Wx Avoidance: Lower-Tech Option



“NWA21, expect to follow UPS57”  
“UPS57, monitor air-to-air frequency”



Lead requests deviation; ATC approves and updates probes and routes; crews coordinate; trailer follows



Manual following task using heading bug and CDTI speed guidance

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# Impacts

- **Capture knowledge of what user missions can be met through information in the cockpit as a function of cost**
- **Help define the evolution of ADS-B applications and corresponding R&D**
- **Encourage implementation by providers and users by illustrating its operational feasibility and benefits**

# Future Plans

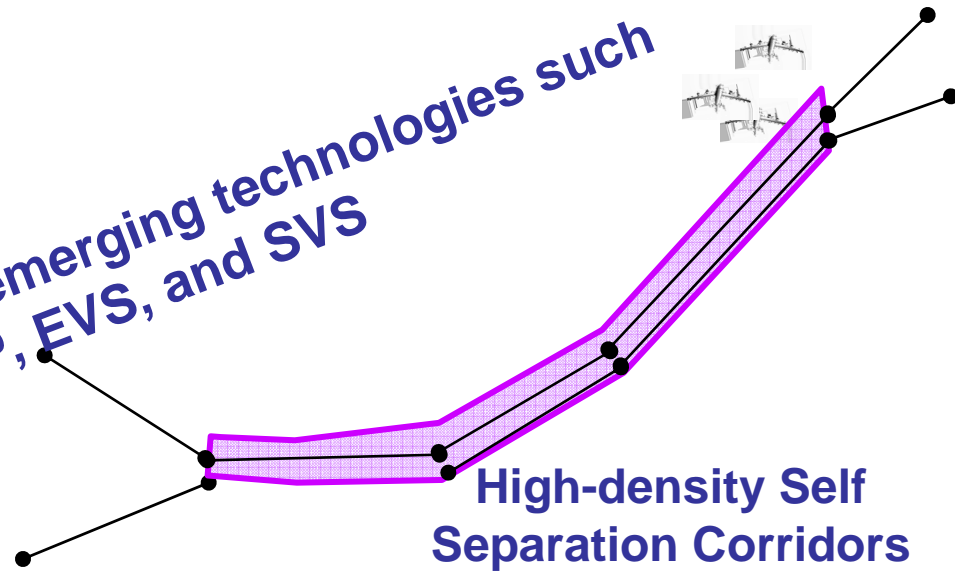
Controller productivity improvements



Visual-like operations in all weather conditions



Integrate with other emerging technologies such as RNP, EVS, and SVS



High-density Self Separation Corridors

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