

# Looking Toward Air Transportation in 2025: Trajectory Based Operations

AIAA/ATIO  
Multi-Disciplinary Analysis and Optimization Conference

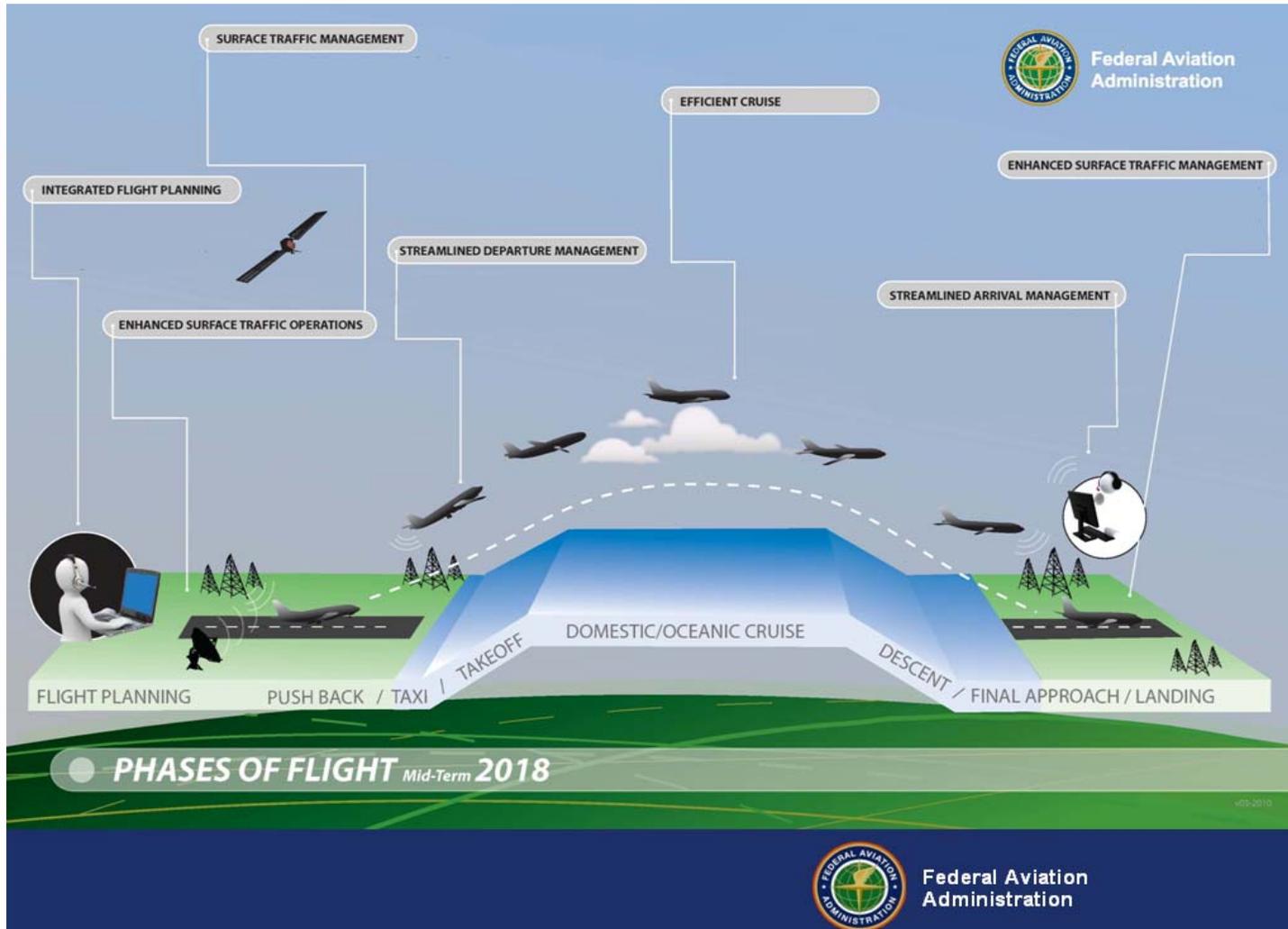
Dr. Karlin Toner  
Director, Joint Planning and Development Office  
September 15, 2010



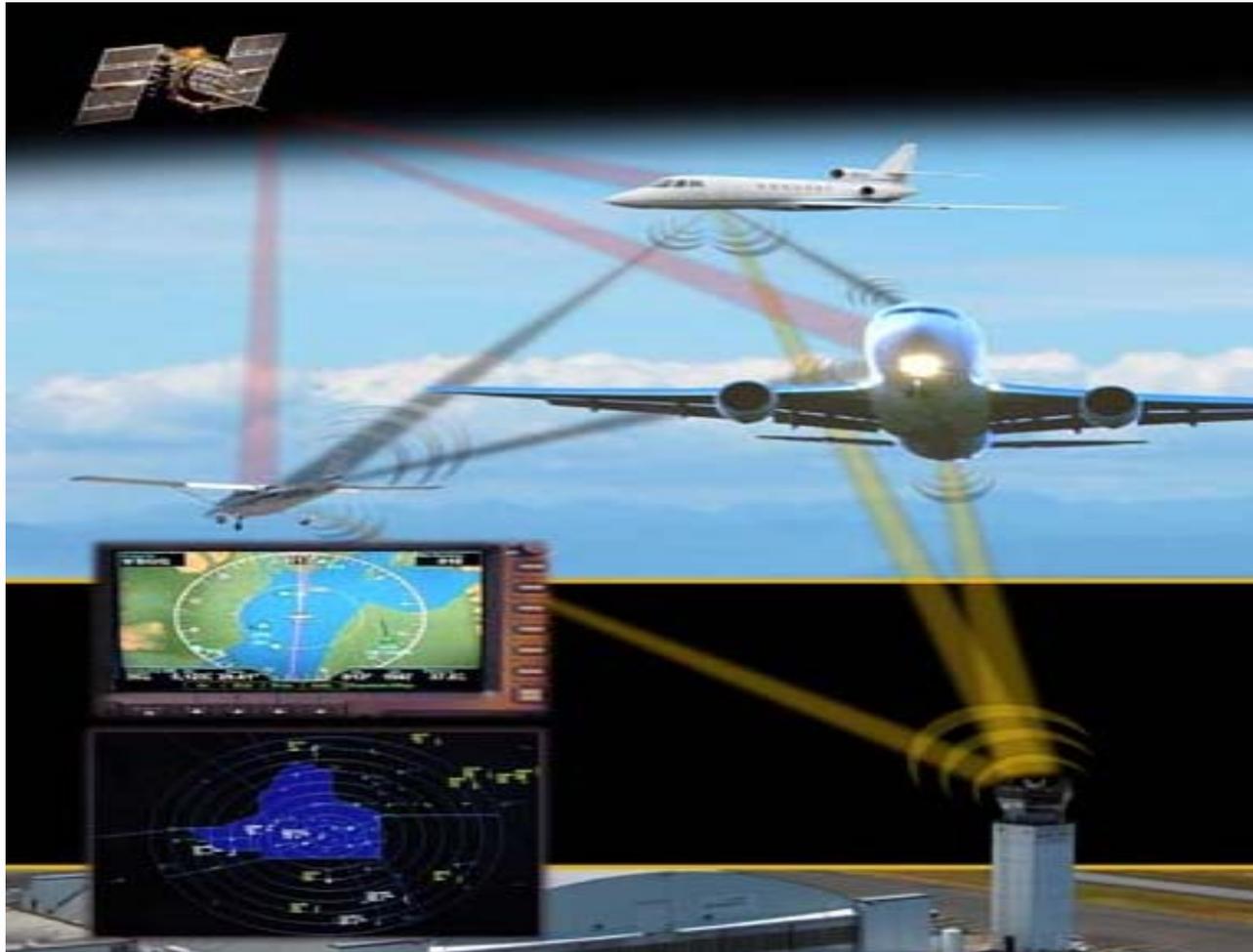
# What is NextGen?



# NextGen in 2018

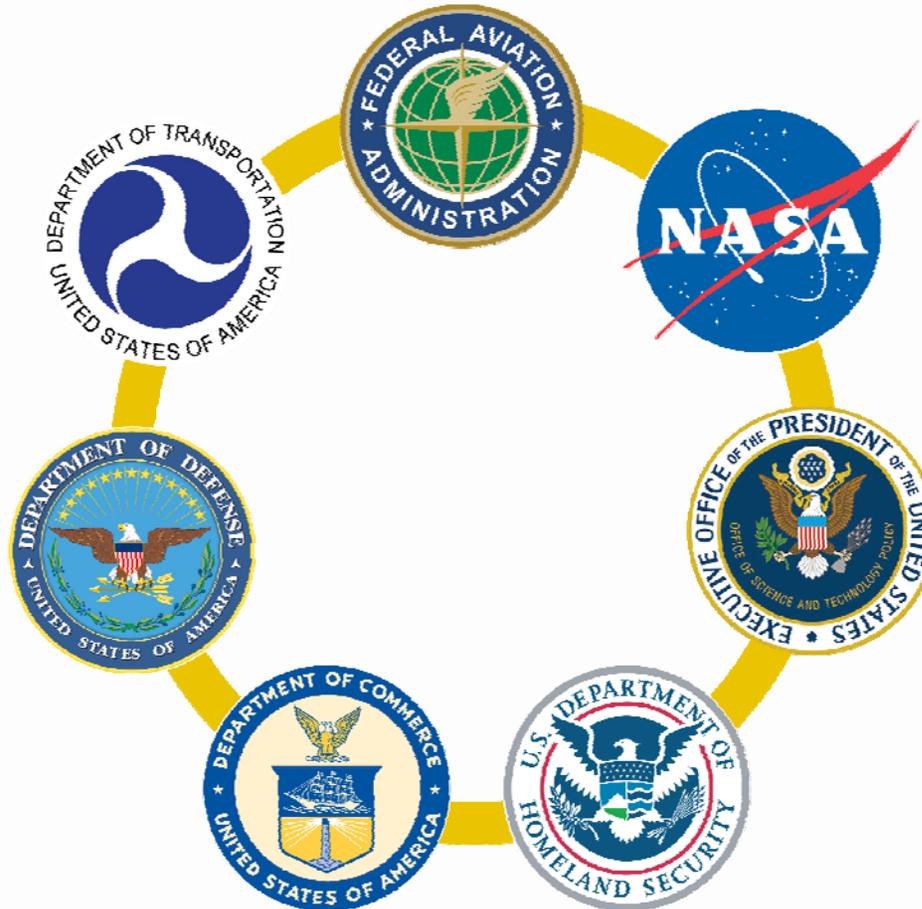


# A Continuous Roll-out of Improvements



Leading to.....Trajectory Based Operations

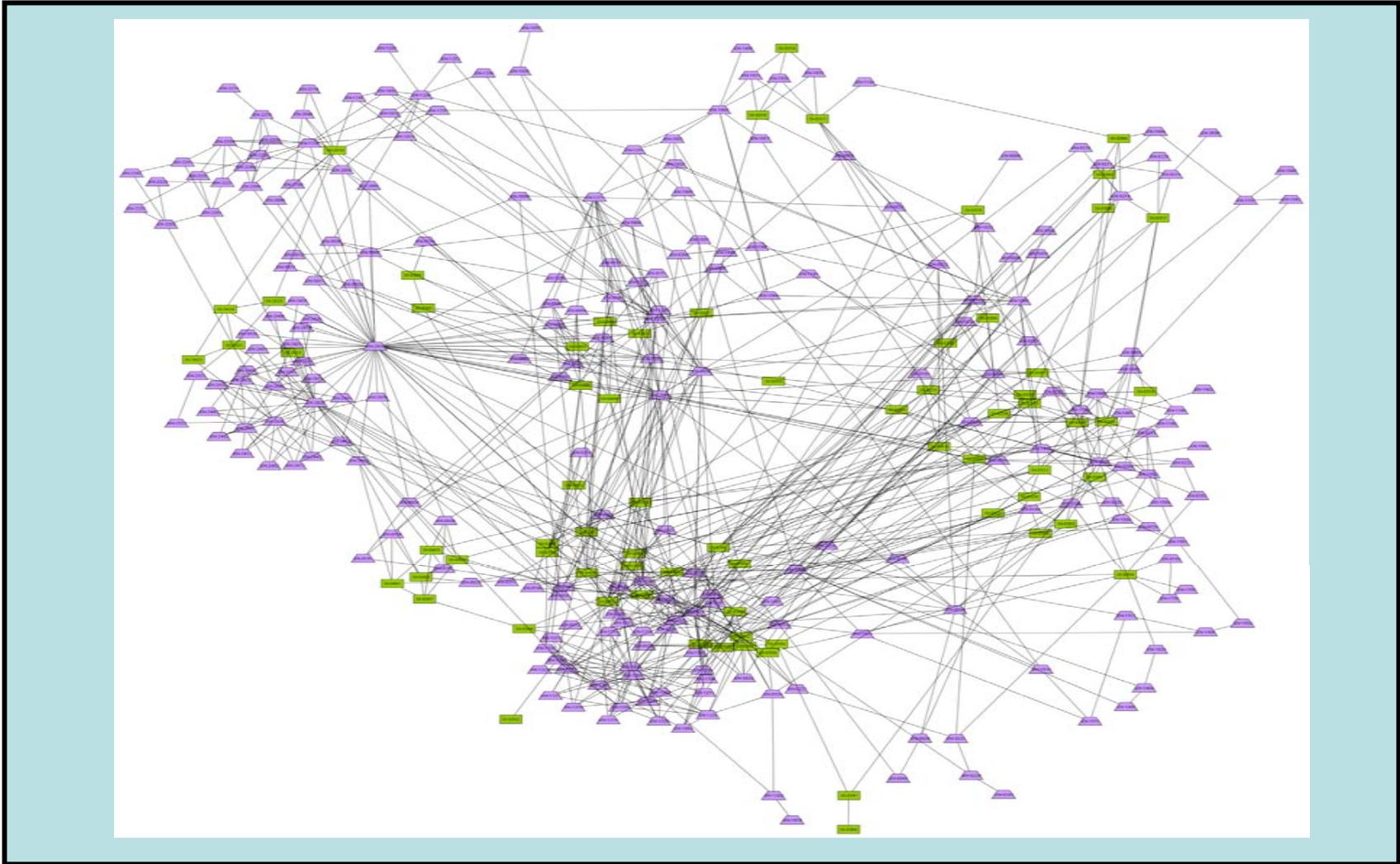
# The Joint Planning and Development Office



# Multi-Agency NextGen Planning



# Many Choices to Meet National Needs



# Evolution of ATC/ATM

## Past

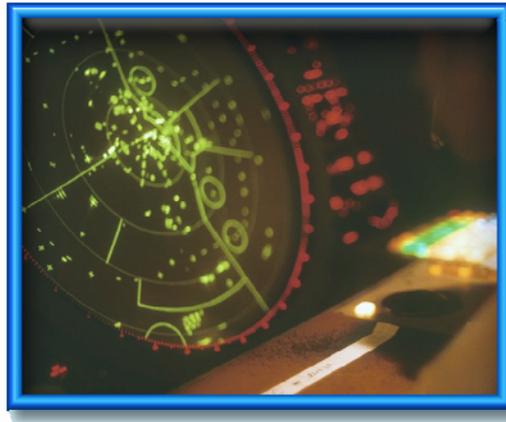
Procedural  
Separation



Estimate  
current and  
future aircraft  
positions

## Present

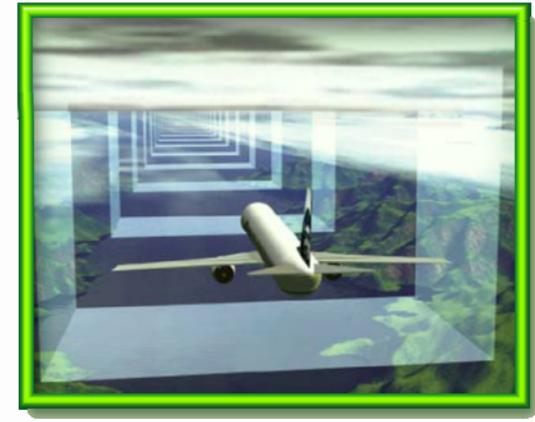
Radar  
Separation



Know current and  
estimate future  
aircraft position

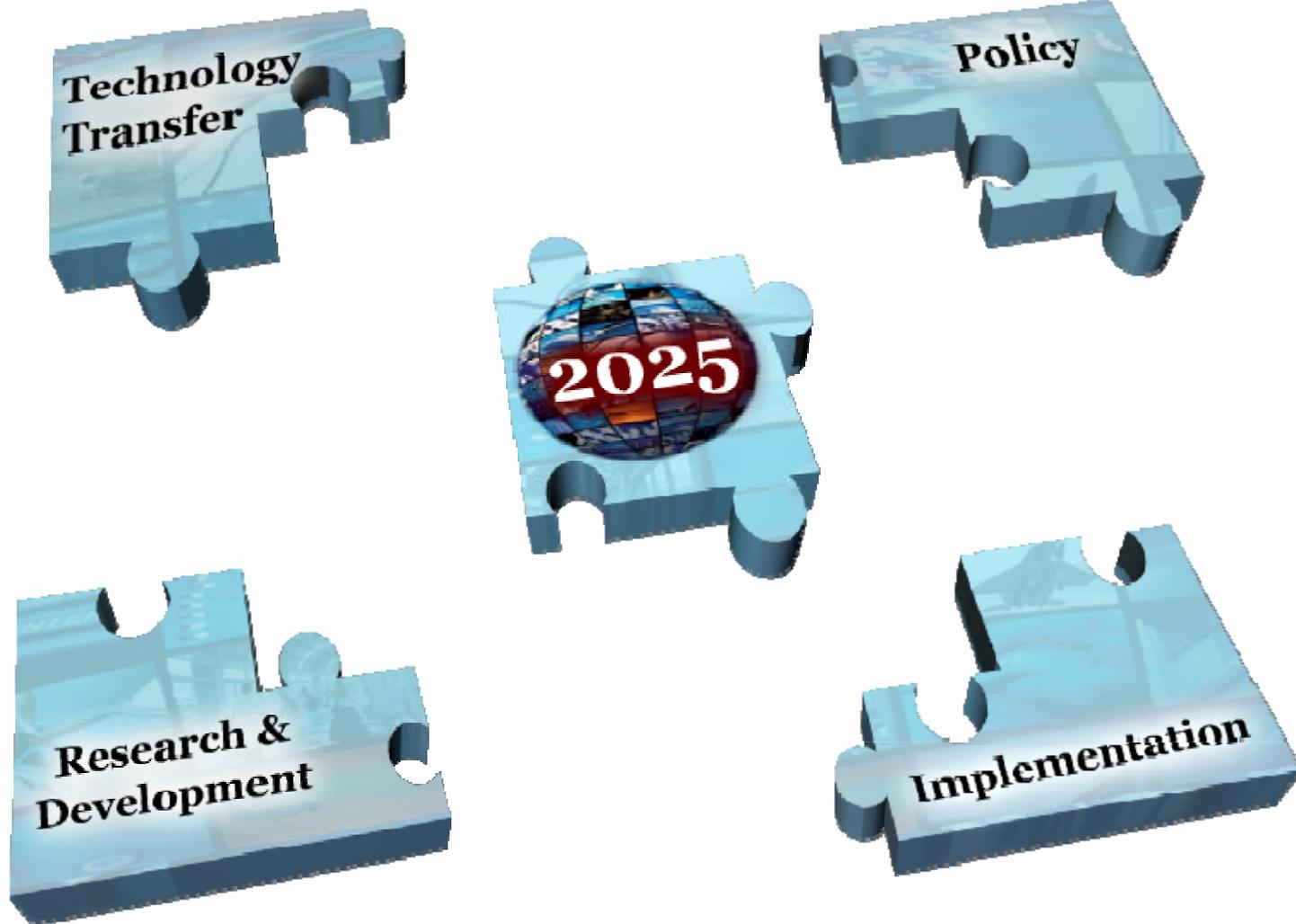
## Future

4-D Trajectory  
Separation

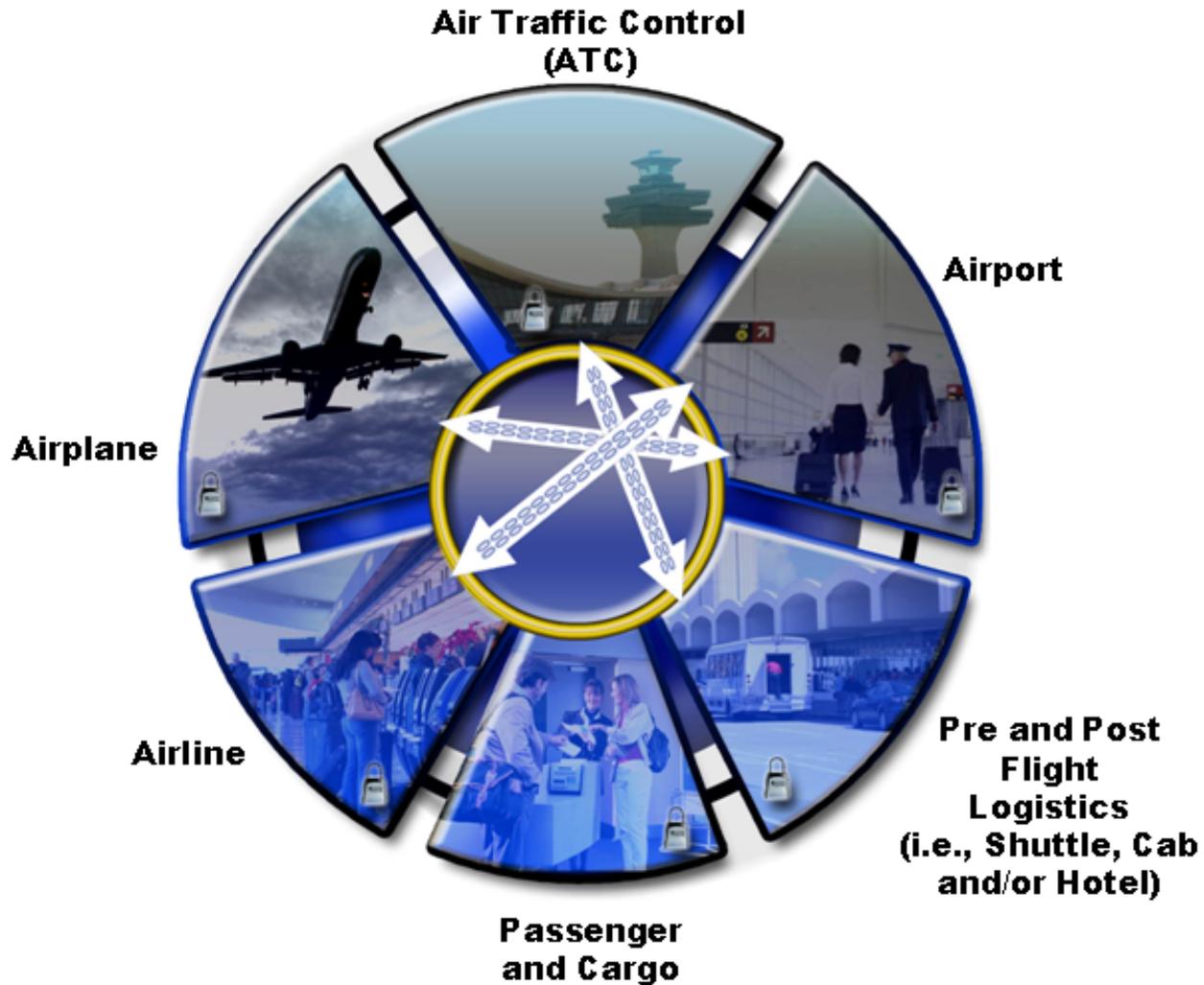


Know  
current and  
know future  
positions

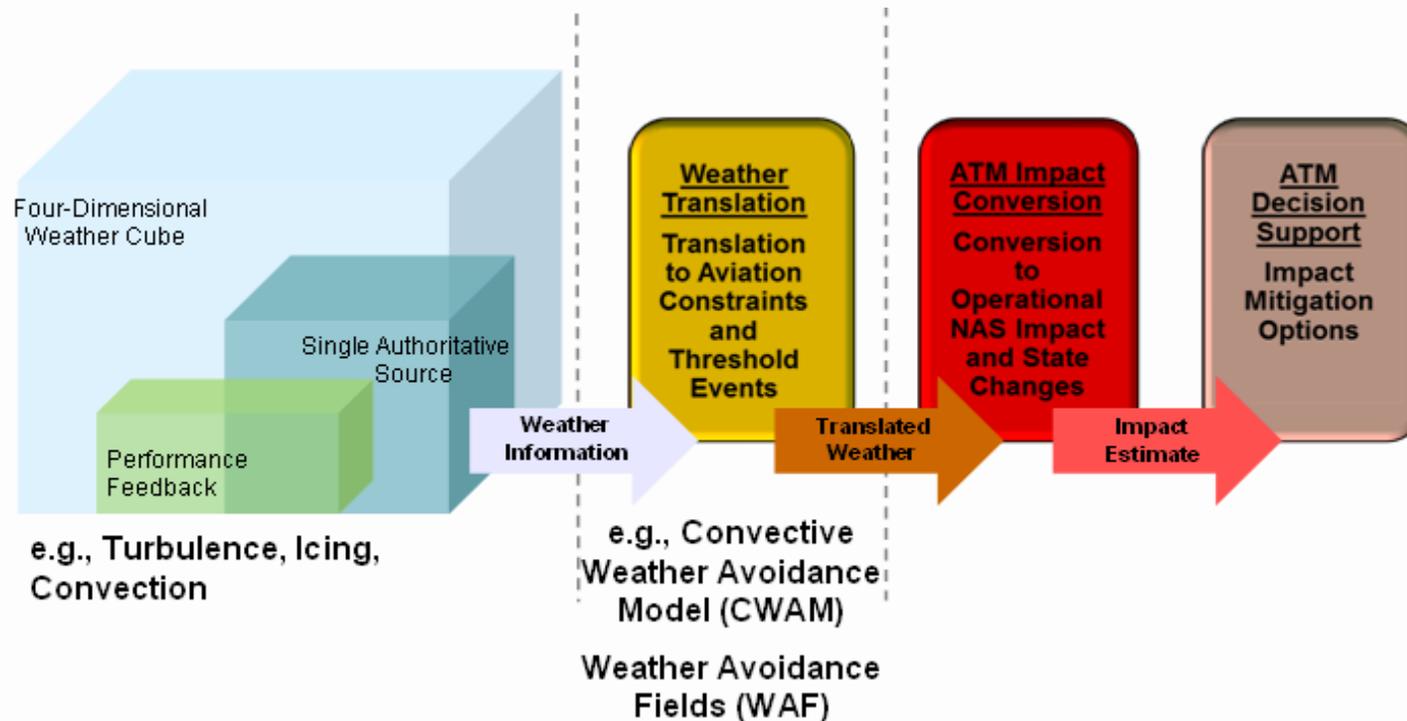
# The Complexities of Getting There



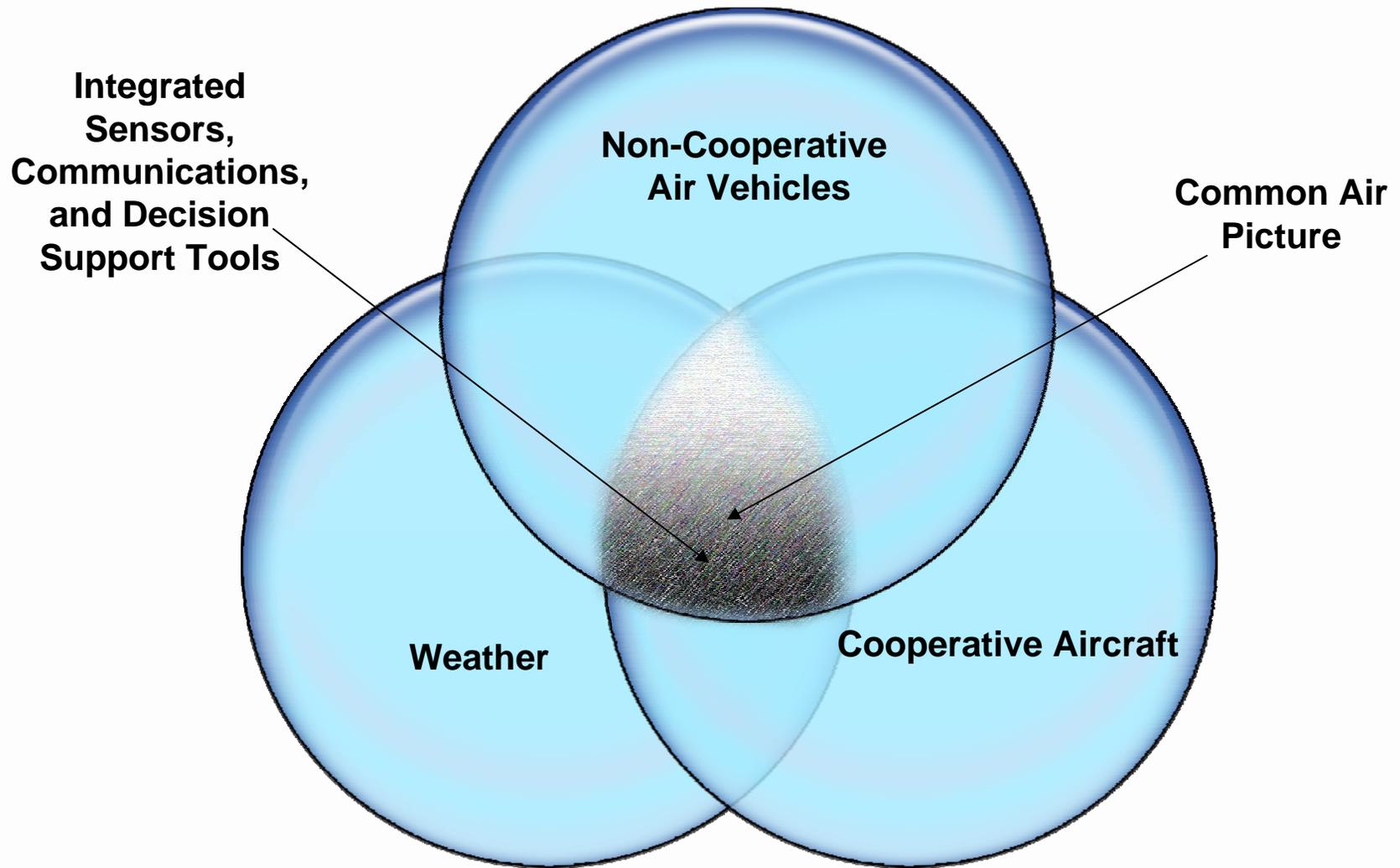
# Information Exchange



# NextGen Weather Integration Concept



# Integrated Surveillance



# Unmanned Aircraft Systems

## UAS

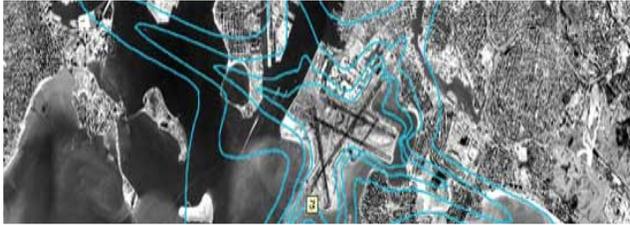


## Manned Aircraft



# Aviation Environmental Issues

## Community Noise Impacts



## Air Quality



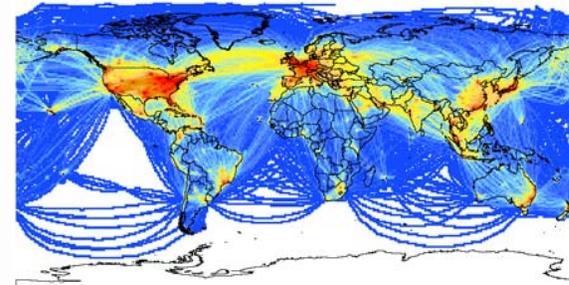
## Water Quality



## Energy



## Global Climate



# Imagine.....

