

# NextGen Accomplishments

Presented to:  
Illuminating Engineering Society  
Aviation Lighting Committee  
Government Contacts Subcommittee

By:  
Pamela Whitley, Acting Director for  
NextGen Integration & Implementation

Date: April 19, 2011



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# Delivering Benefits Today & Tomorrow



**\$22B in benefits**

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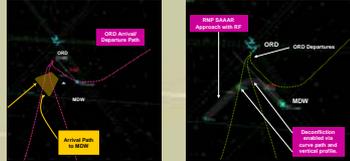
# Incremental Approach to Implementing NextGen Produces Benefits and Builds a Foundation

## Wake Turbulence

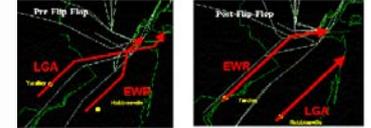


<b>ASDE-X</b>
Airport Surface Detection Equipment-Model X
<b>RNP</b>
Required Navigation Performance
<b>RNAV</b>
Area Navigation
<b>TMA</b>
Traffic Management Advisor

## RNAV/RNP Deconflict



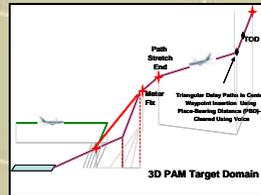
## RNAV/RNP Deconflict



## Surface Management



## 3D PAM



## Tailored Arrivals



## RNAV/RNP Deconflict



## Surface Management

## Surface Management



## 4-D FMS



## Staffed NextGen Tower



## ADS-B in the Gulf



## Tailored Arrivals

## UAS

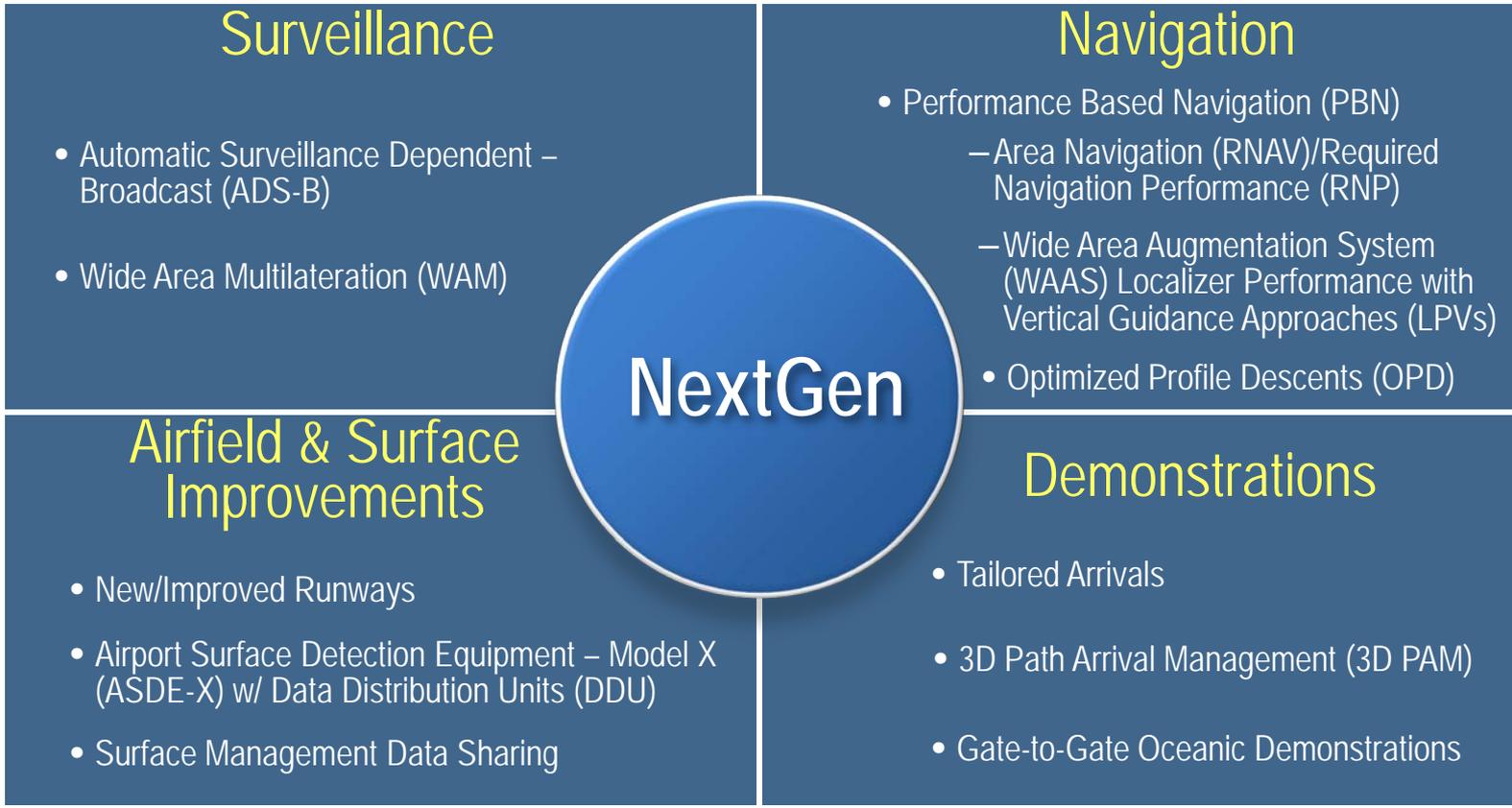


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# Significant progress is already being made...



...as we work with the aviation community toward a common goal



# What Does The System Look Like in 2018?



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## PHASES OF FLIGHT *Mid-Term 2018*

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# Gate-to-Gate Oceanic Demonstrations Illustrate NextGen Value

*Average Fuel Savings 3% - 5% per Flight*



- **Fuel Savings:**  
5,659 gallons
- **Carbon Emissions Reduction:**  
19 tons to date



- **Fuel Savings:**  
27,000 gallons
- **Carbon Emissions Reduction:**  
2 tons per flight (238 tons to date)

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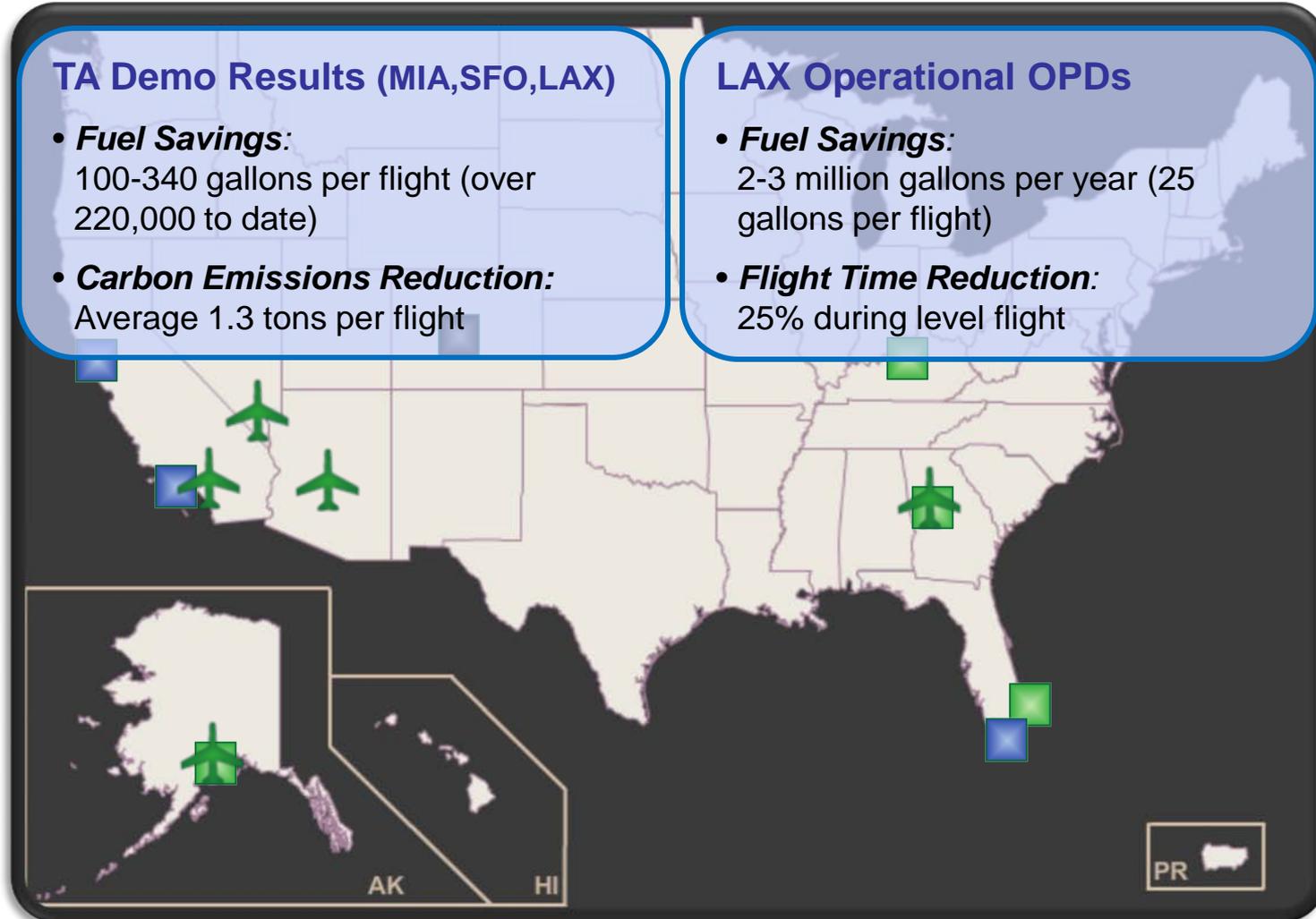
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# Tailored Arrivals (TAs) and Optimized Profile Descents (OPD)

*Will Result in Significant Benefits When Operationalized Nationwide*



3D PAM Demos

OPD Demos

TA Demos

Operational OPD

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Surface Traffic Management

Enhanced Surface Traffic Management

Enhanced Surface Traffic Operations



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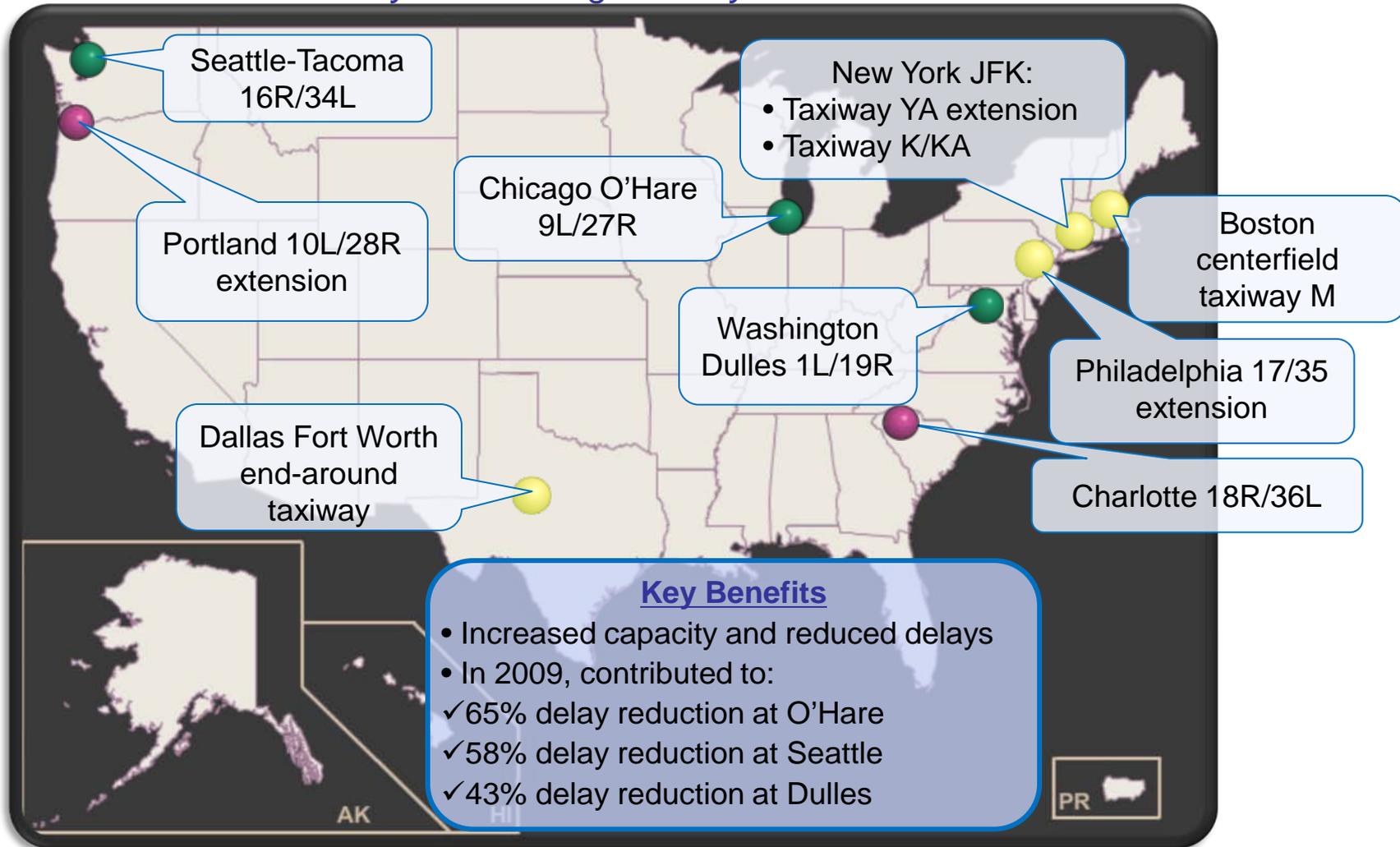
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# Airport Improvements (FY09-FY10)

*Already Contributing to Delay Reduction*



● Completed New Runway    ● Completed Airfield Improvements    ● Planned Runway Improvements

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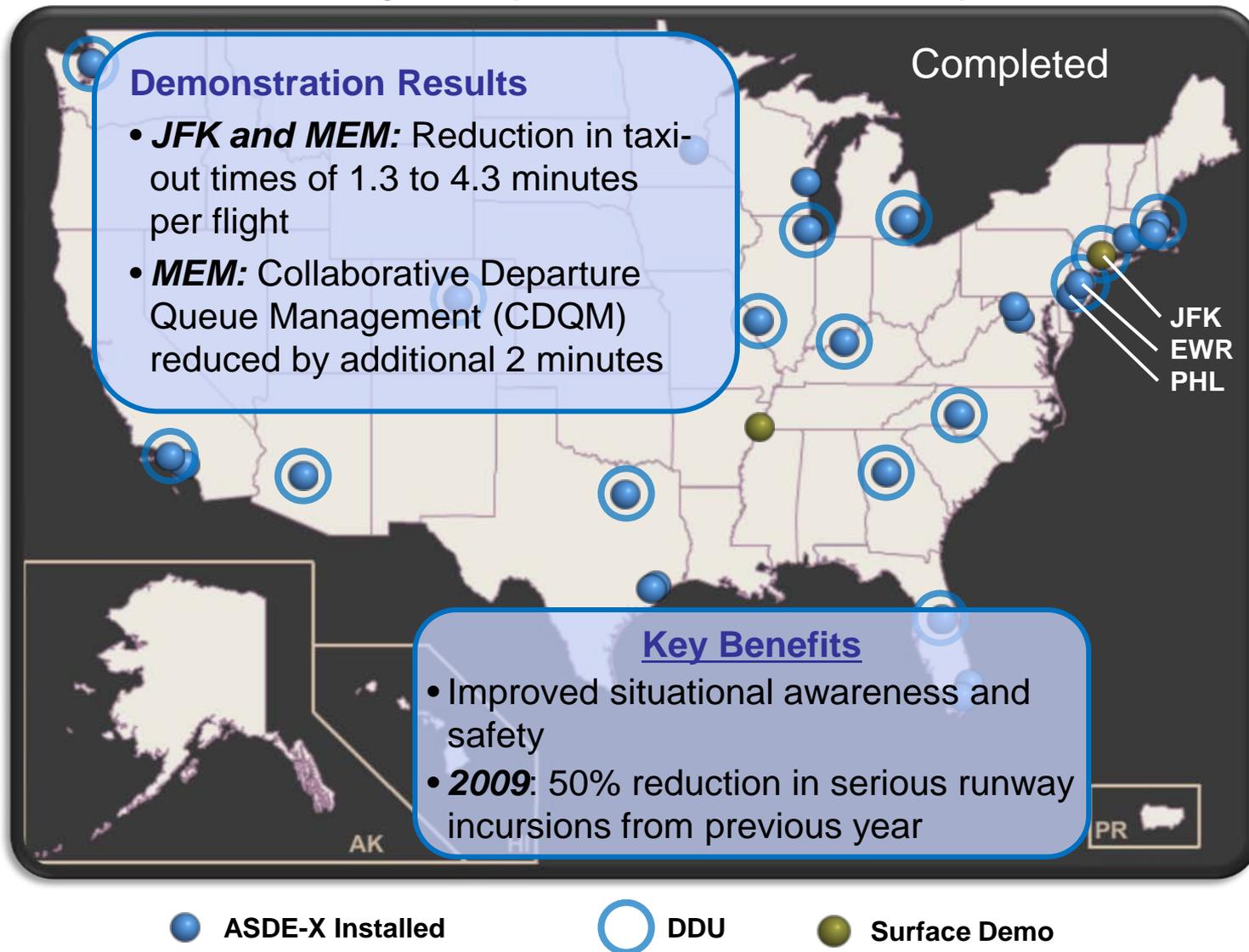
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# Surface Management

Leverage Safety Infrastructure for Efficiency



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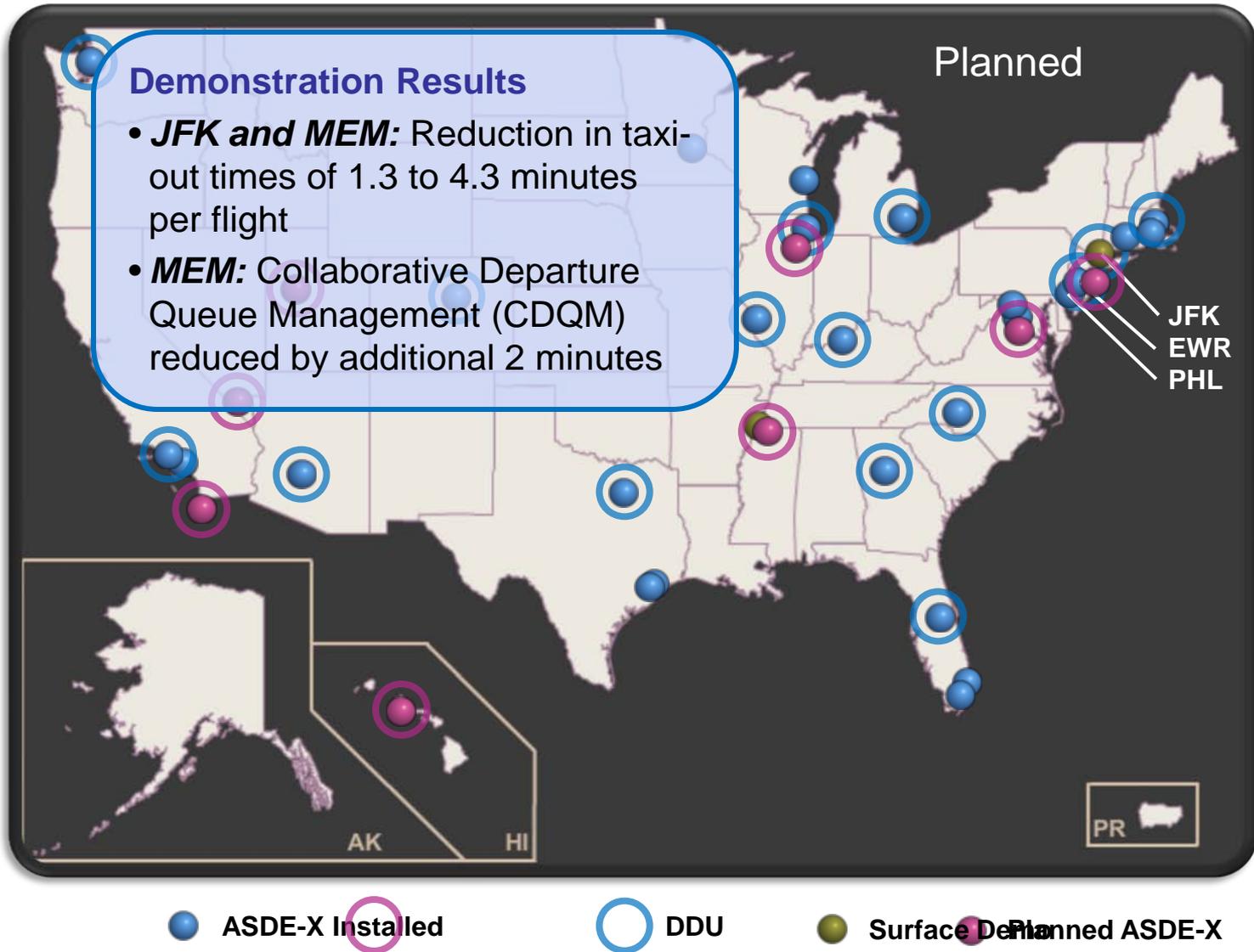
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# Surface Management

## Leverage Safety Infrastructure for Efficiency



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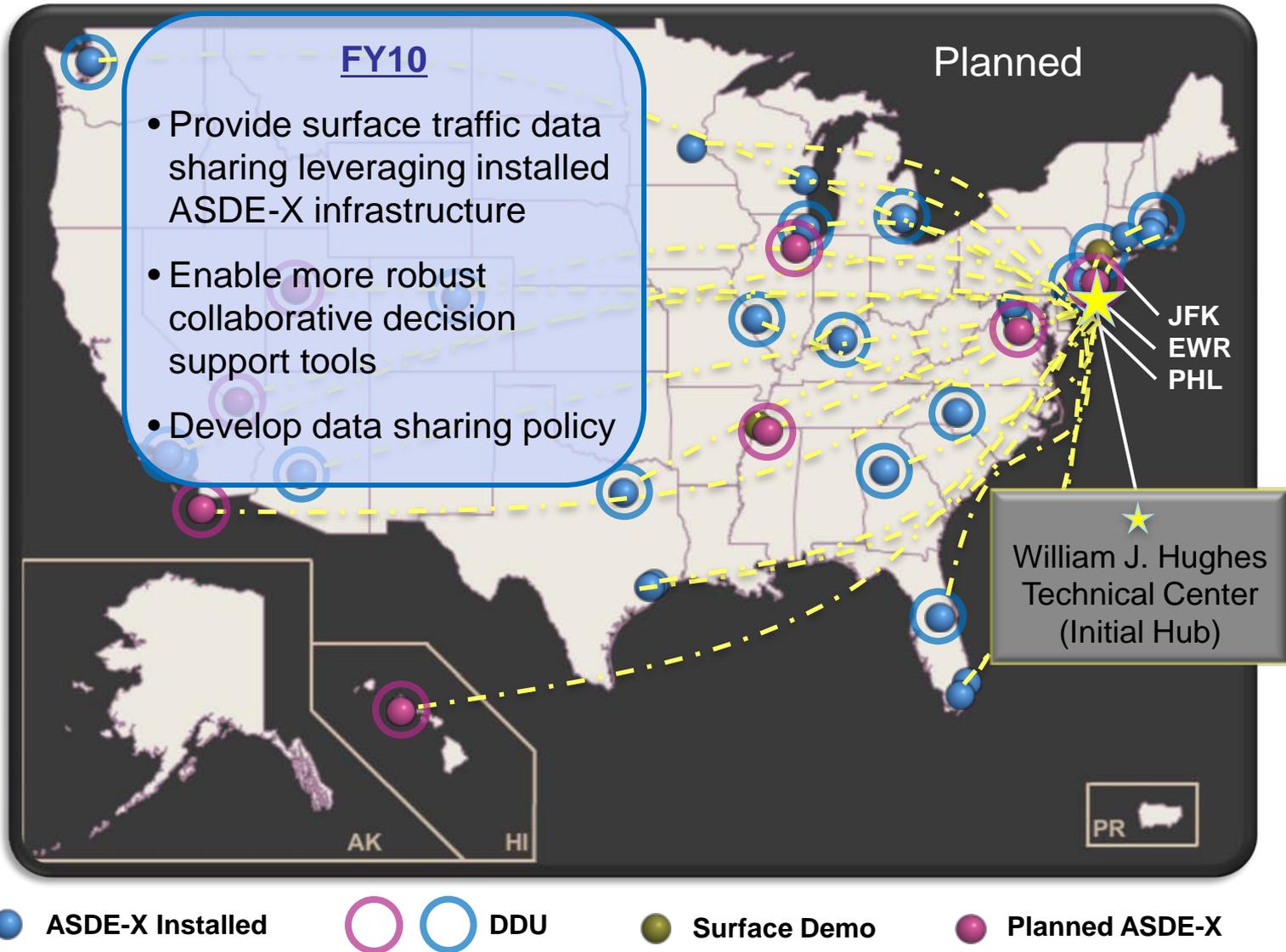
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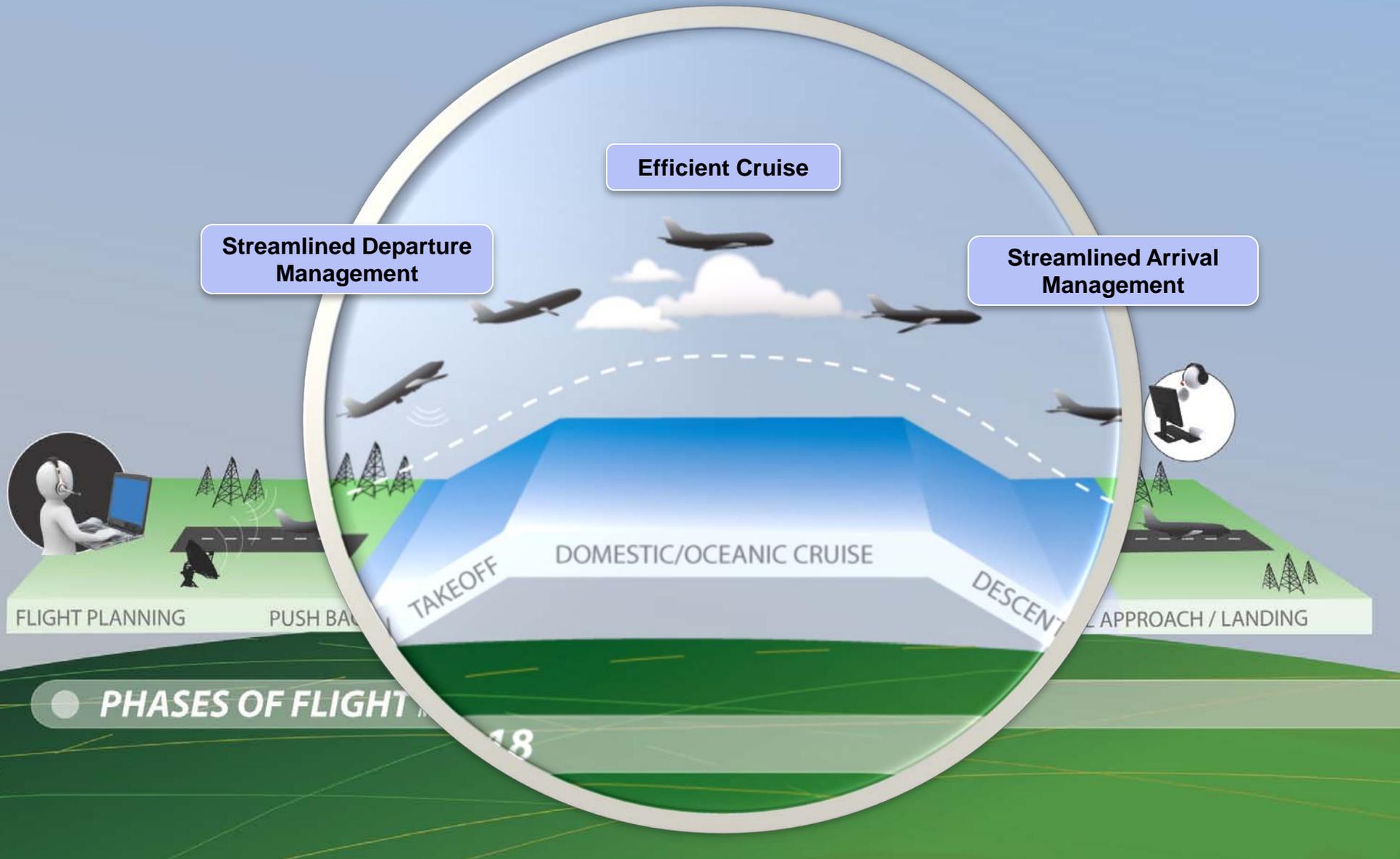


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## Leverage Safety Infrastructure for Efficiency





● PHASES OF FLIGHT

18

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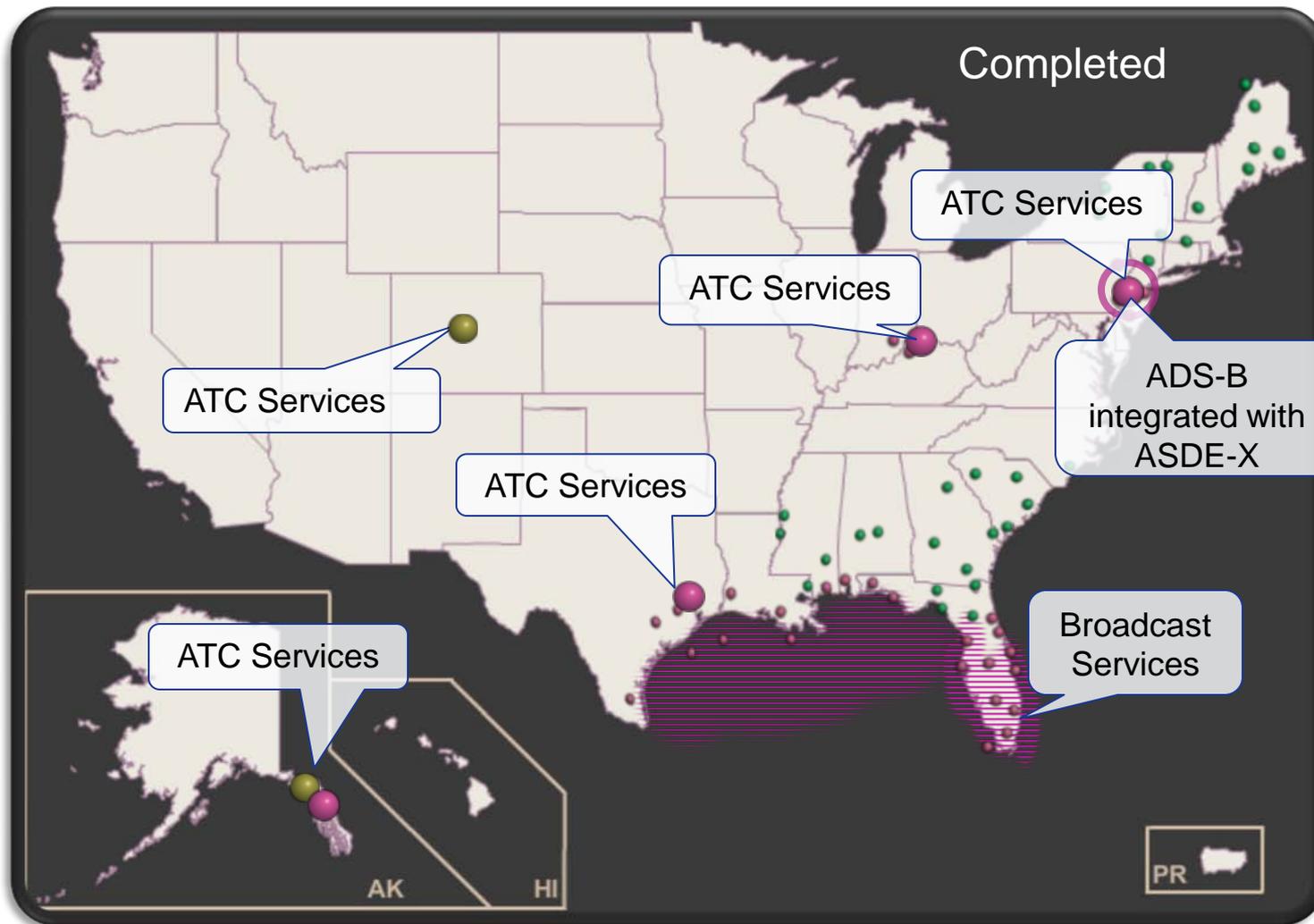
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# Surveillance:

## Automatic Dependent Surveillance-Broadcast (ADS-B) & Wide Area Multilateration (WAM)



-  ADS-B Operational
-  ADS-B integrated with ASDE-X
-  WAM Operational
-  Constructed Ground Stations

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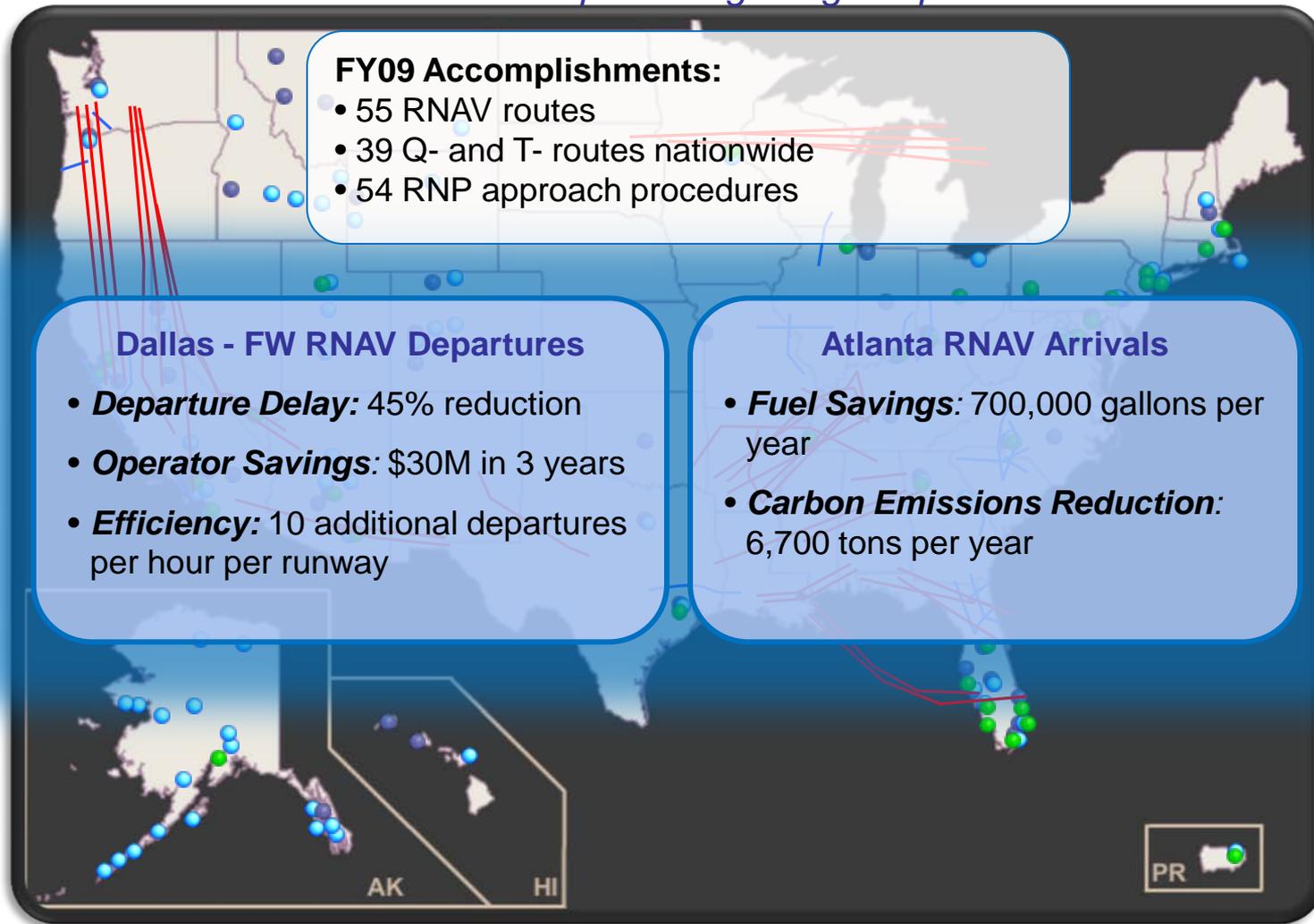


# Performance Based Navigation (PBN)

FY10: Initiate Transition to Metroplex Integrating Airspace and Procedures

Examples

Examples



- RNP
- RNAV SID
- RNAV STAR
- RNAV T Route
- RNAV Q Route

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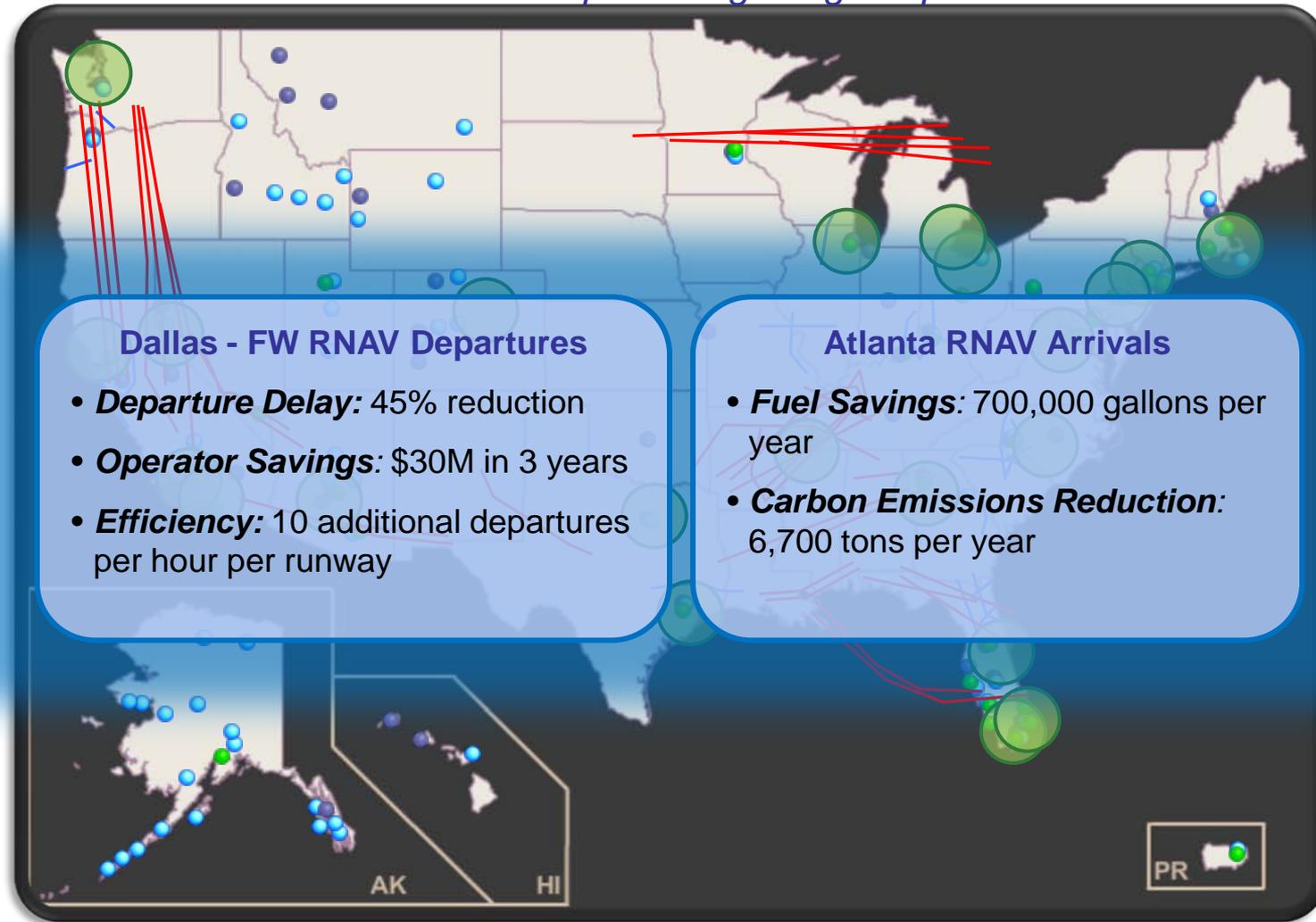


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Examples



Examples

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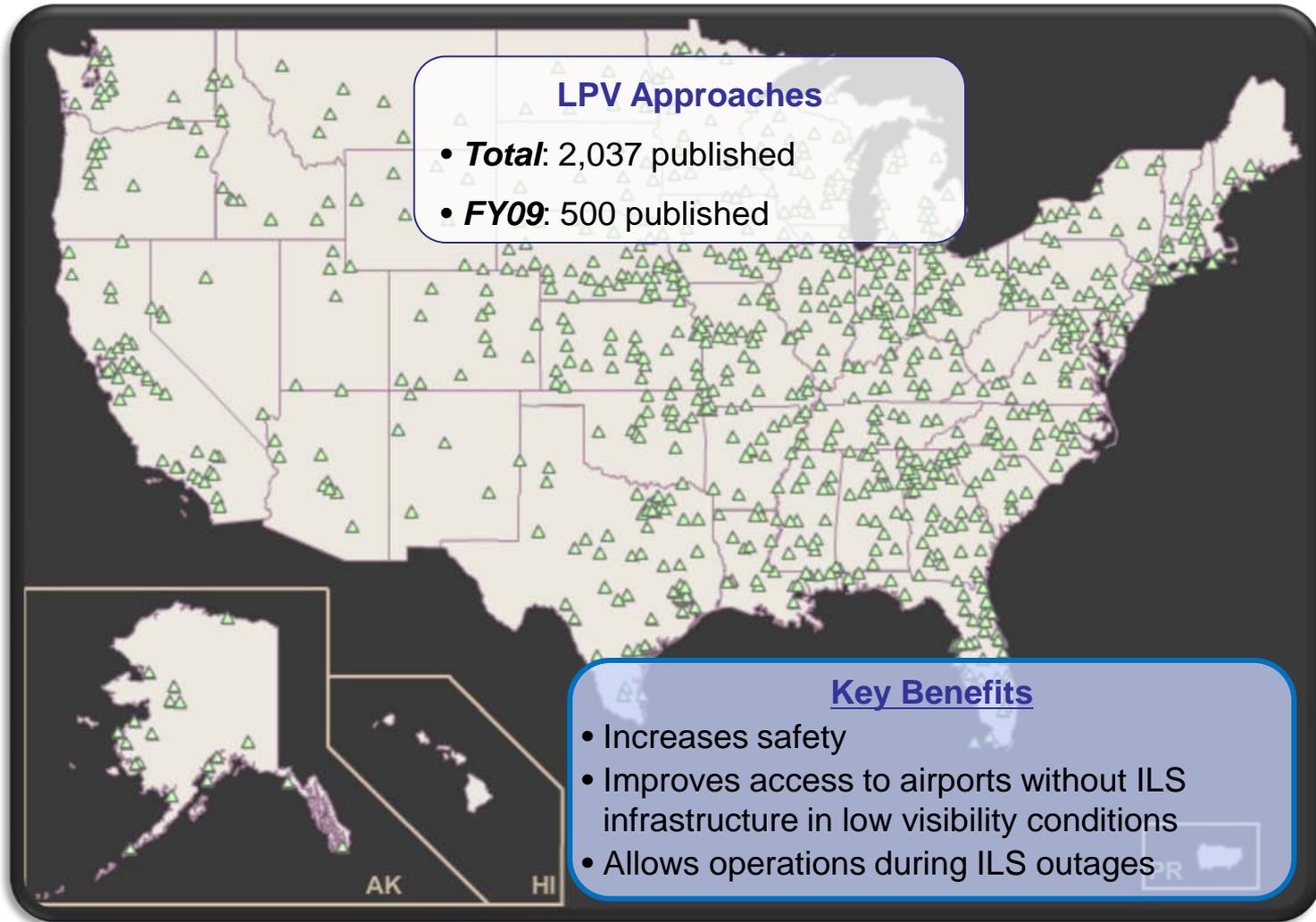
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# WAAS/LPVs

*Facilitates General Aviation Access*



Wide Area Augmentation System (WAAS) Localizer Performance with Vertical Guidance Approaches (LPVs)

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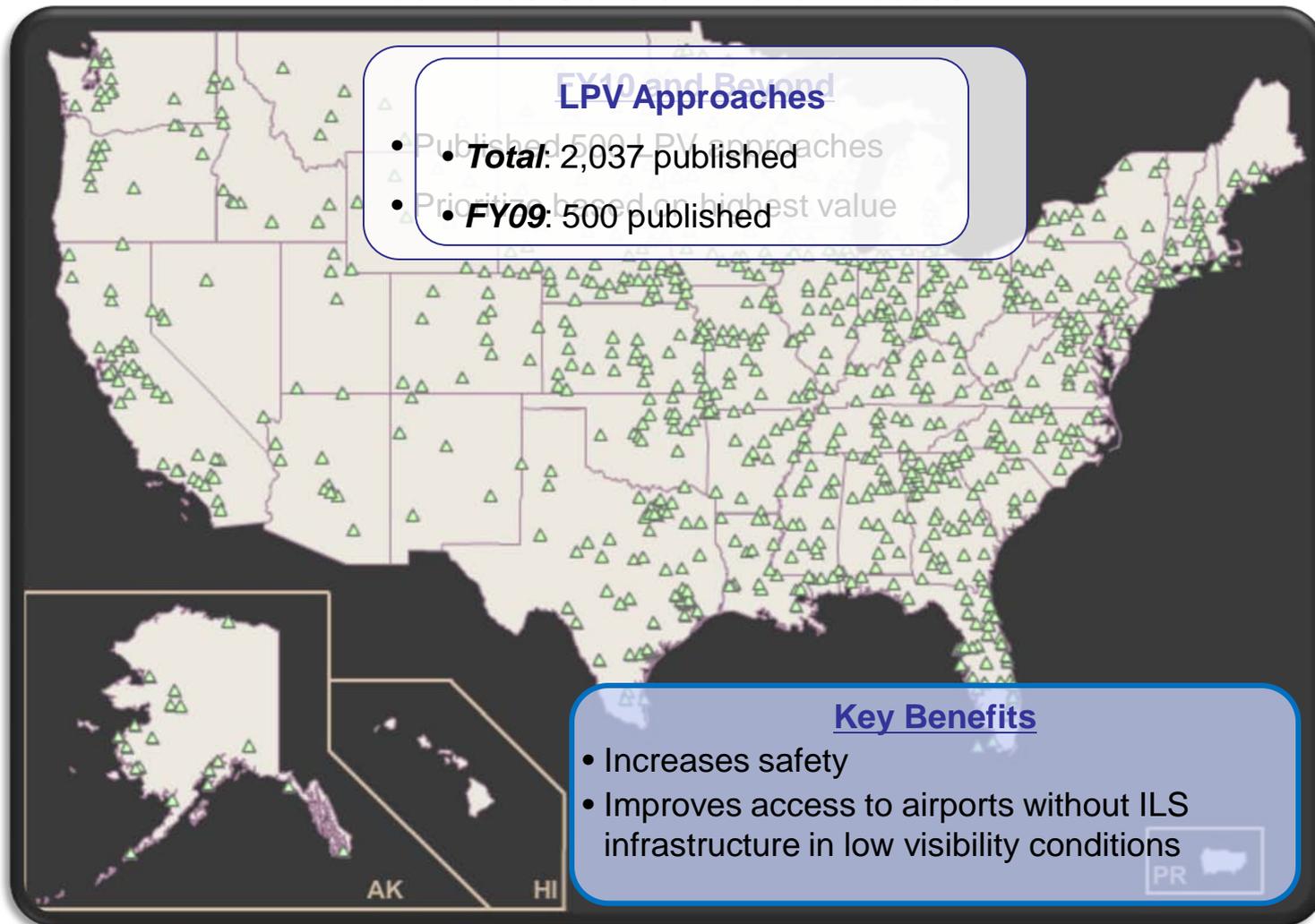
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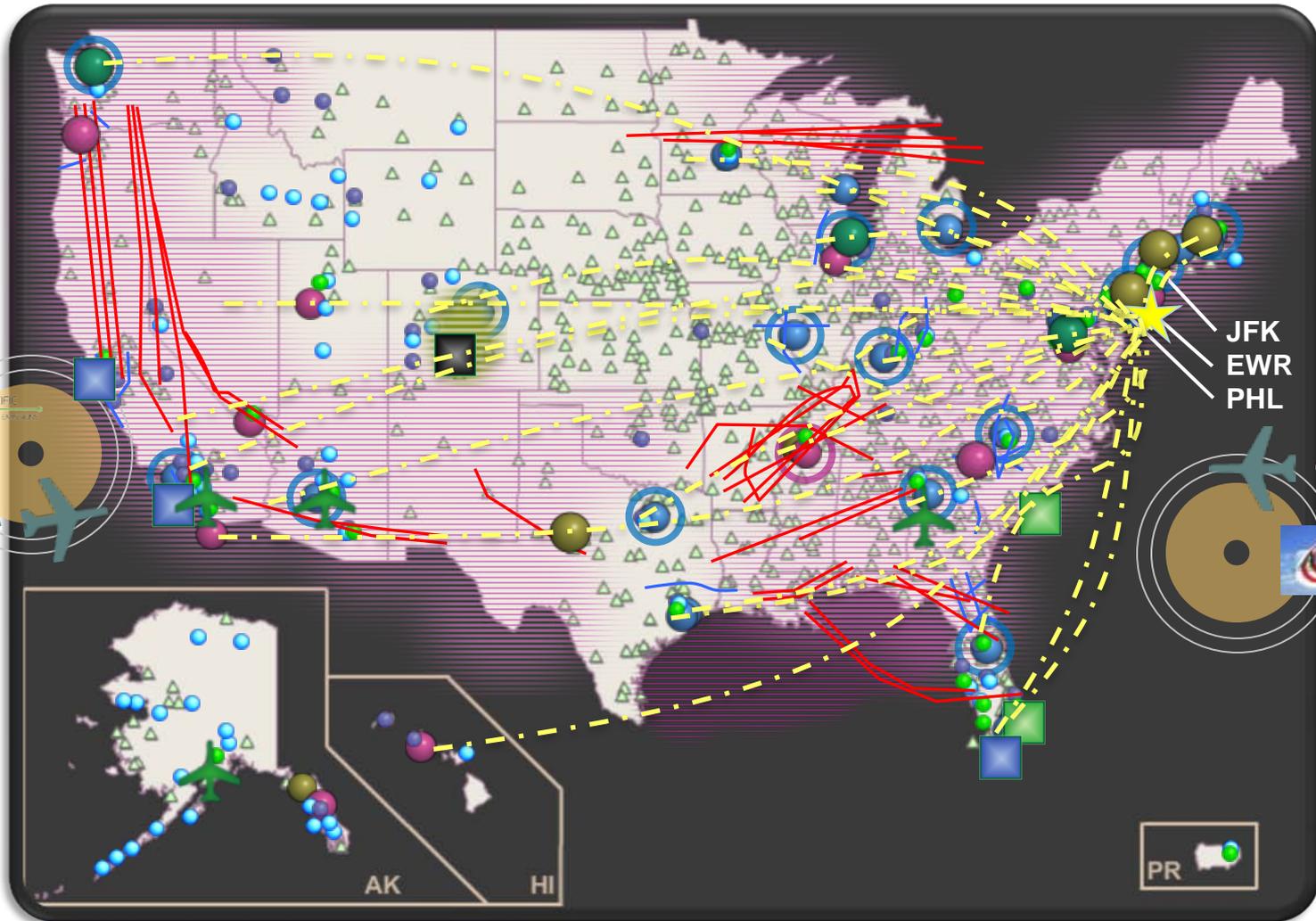
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# NextGen Implementation is Advancing



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