



Under the High Patronage of  
the Custodian of the Two Holy Mosques  
**King Salman Bin Abdulaziz Al Saud**



# GMA RIYADH



**Global Ministerial Aviation Summit**  
**المؤتمر الوزاري العالمي للطيران المدني**



برعاية كريمة من خادم الحرمين الشريفين  
الملك سلمان بن عبد العزيز آل سعود

Under the High Patronage of The Custodian of The Two Holy Mosques  
King Salman Bin Abdulaziz Al Saud

29 - 31 AUG 2016

The Ritz-Carlton - Riyadh,  
Kingdom of Saudi Arabia

٢٩ - ٣١ أغسطس ٢٠١٦

الريتز كارلتون - الرياض،  
المملكة العربية السعودية

**GMA RIYADH**



**Global Ministerial Aviation Summit  
المؤتمر الوزاري العالمي للطيران المدني**

[www.gmasummit-riyadh.net](http://www.gmasummit-riyadh.net) • [info@gmasummit-riyadh.net](mailto:info@gmasummit-riyadh.net)

Under the Theme "SAFETY & SECURITY"

تحت شعار "الأمن والسلامة"

# ATS Route Network Optimization Project



**Rashad Karaky**  
**Senior Manager**  
**AACO**



# Why it is needed?

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## Analogy

### Land Transport Systems: 1970 vs. 2016

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Requirement

Develop Equipment to Enhance:

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Safety

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Accessibility / Speed

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Handling / Maneuvering

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Comfort

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Environmental Footprint



# Why it is needed?



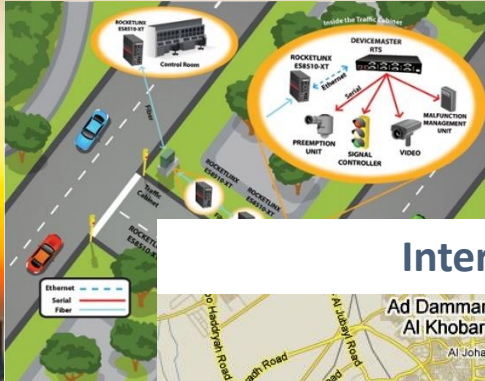


# Why it is needed?



# Why it is needed?

## Tracking & Surveillance



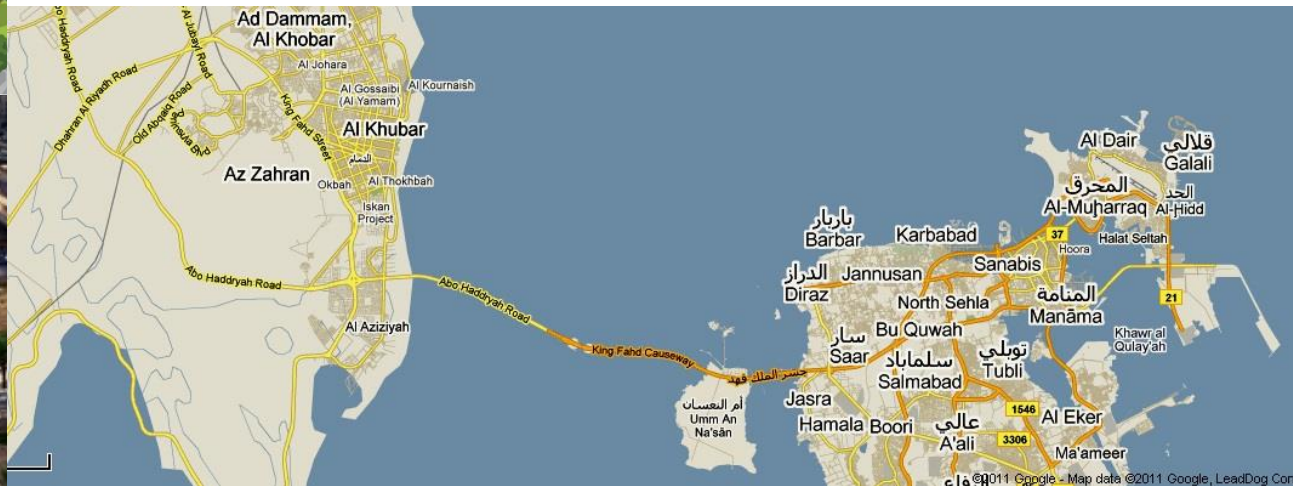
## Human Resources



## Traffic Mgmt. System



## Inter-State Facilitation of Traffic Movement



## Roads

## tions

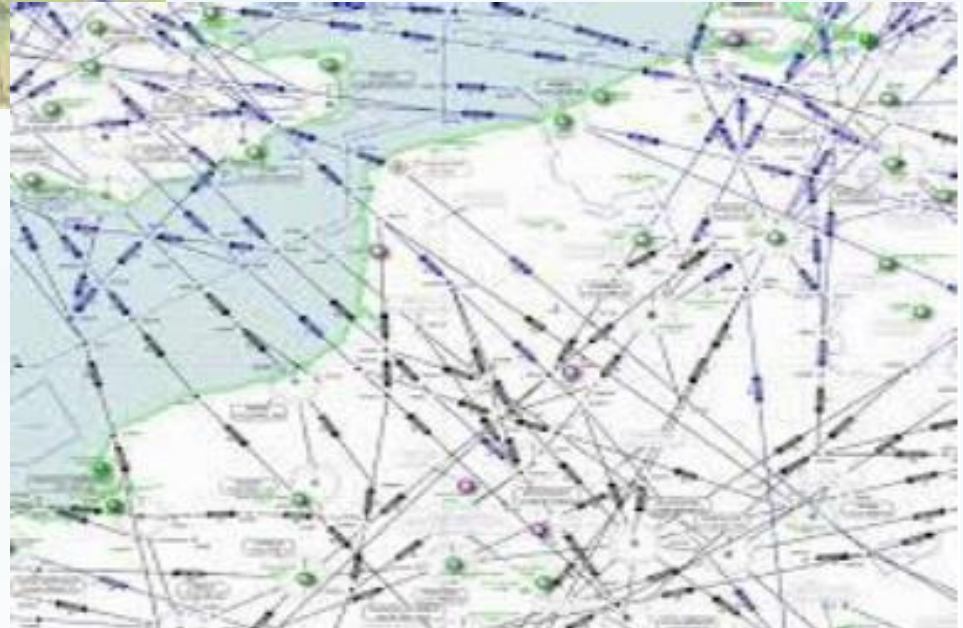
RULES  
REGULATIONS



# Why it is needed?



# Why it is needed?

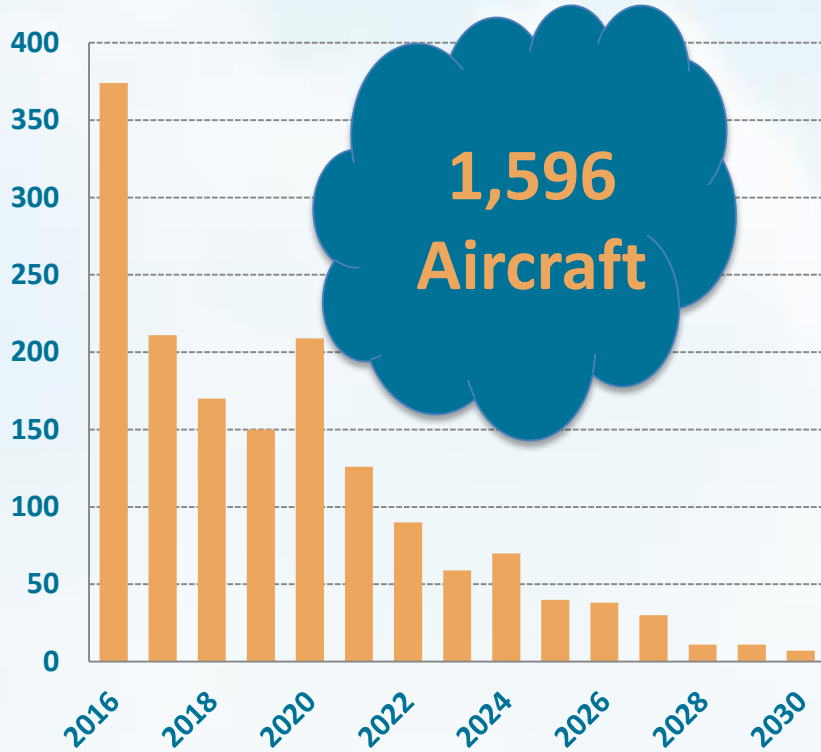






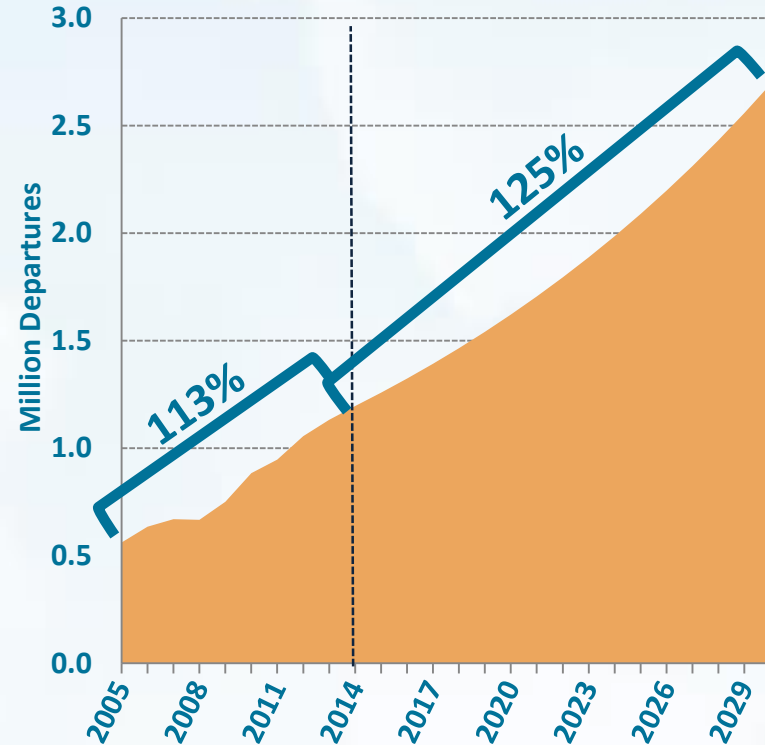
# Why it is needed?

**Arab Airlines' Aircraft  
Deliveries As at 28 March 2016**



Source: ACAS, AACO

**Middle East Aircraft  
Movements & Growth**

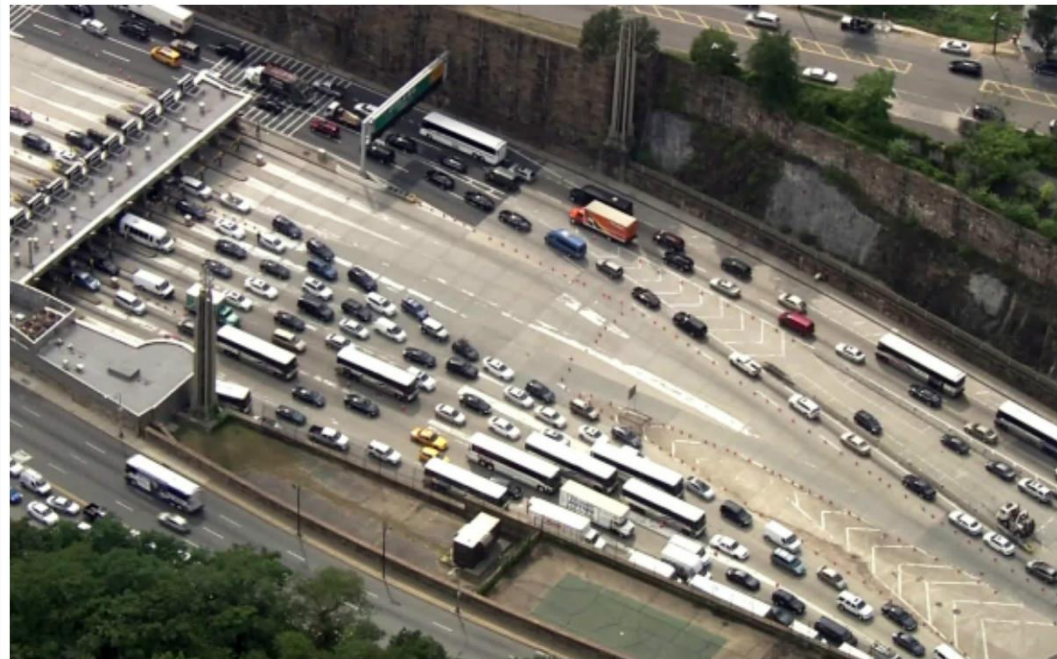


Source: ICAO



# Why it is needed?

- The Region is **Running Out of Airspace Capacity**, Leading to:
  - **Serious Safety Concerns** for Civil Aviation
  - An Increase on the **Environmental Footprint** of Aviation
  - Risk on the Growth of Civil Aviation and Its **Contribution to National Economies**
- The need to **Enhance Inter-State Coordination** to Ensure **Seamless Operations** and Optimal Benefit from Individual Development Projects



# Scope

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- ARNOP is a Project that will Address the Following Issues:
  - **Increased Safety Risks** through the **Current Existence** of Highly Congested **Bottlenecks** and Choke Points in the Region.
  - Longer Routes Mean Higher Fuel Burn which **Increases** the Amount of **Aircraft Emissions** as well as **Costs** on Airlines.
  - Overload on **Air Traffic Controllers** which Leads to **Inefficient Use** of Controller Resources.
  - Very Limited **Route Options** to Support **Contingency Planning** and/or **Responding to Emergency Situations**.



# How?

- In order to Deliver, ARNOP will Address:
  - **Enhancing the Regional Route Network** through the Implementation of Concepts that **Increase Airspace Capacity and Efficiency**; including **New Airspace Design & Management** Concepts and through **Civil-Military Collaboration**.
  - **Fostering Collaboration** between States to Deliver a **Seamless Air Traffic Management** Provisions in the Region, and which will include looking into the different arms of airspace infrastructure:
    - Systems
    - Regulations
    - Human Resources
  - **Coordinate and Streamline** National Projects within a **Regional Framework** so that National Projects Deliver the **Optimal Benefits** to Civil Aviation

# Benefits

- **Enhance the Safety** of Air Operations.
- **Enhance the Environmental Footprint** of Civil Aviation in the Region and Support the **Implementation of Environmental State Action Plans**.
- **Support Traffic Growth** To/From and Through the Region.
- **Enhance the Region's Contingency Planning** Activities and Ability to **Mitigate the Impact of Crises** on Traffic Flows.
- Enhance the **Competitiveness** of the Region for **Overflying Traffic**.
- **Futureproof** the **Region's Airspace** through Utilizing New Airspace Design & Management Concepts.
- Increase the **Efficiency of Air Traffic Controller Resources** and Allow **Better Planning of Formation/Training** Investments.



# Action Plan

Regional Airspace  
Study

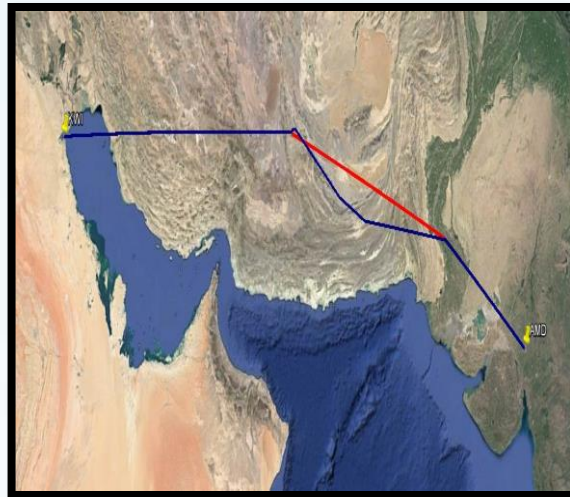
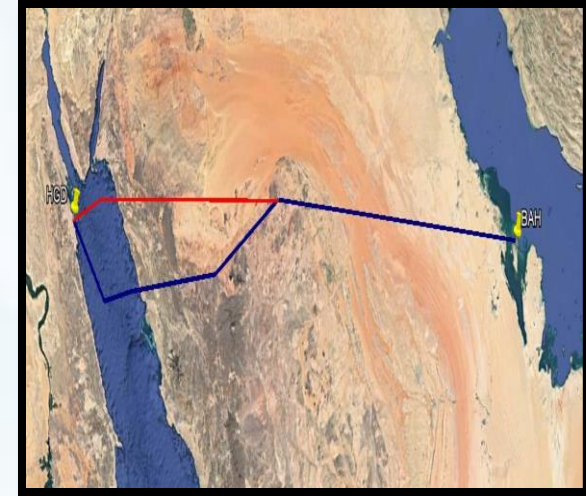
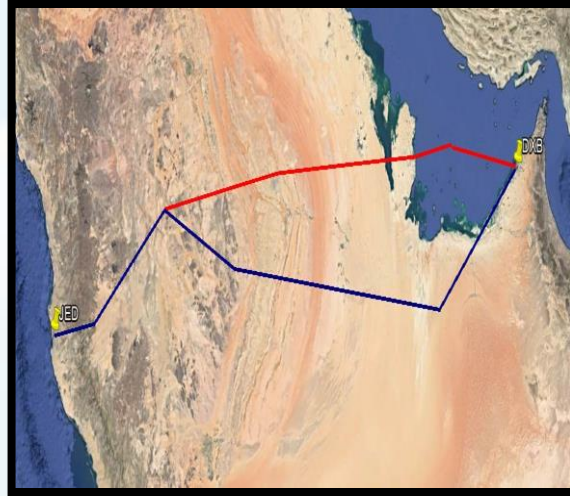
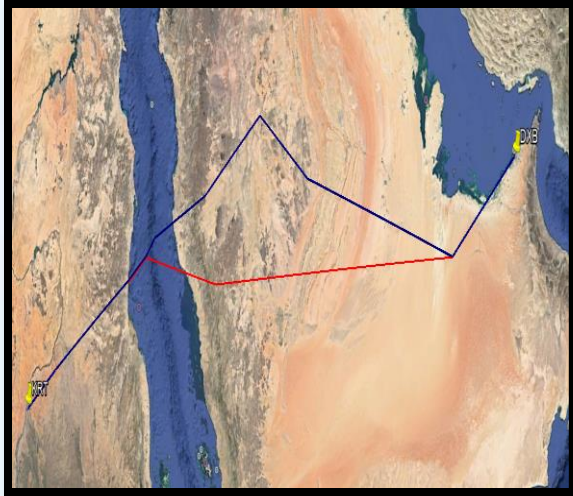
Implementation  
Phase



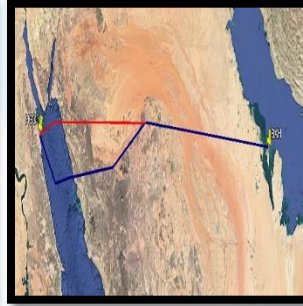
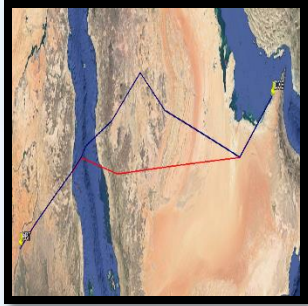
November 2016

Quick Wins

# Quick Wins & Savings



# Savings



## Estimated Savings Per Flight

- 47 Minutes of Flight Time
- 17 Tons of CO<sub>2</sub> Emissions



## Estimated Savings Per YEAR

- 300,000 Minutes of Flight Time
- 137 Thousand Tons of CO<sub>2</sub> Emissions

## Estimated Savings of ARNOP per YEAR Over Current Situation

- 2.7 Million Minutes of Flight Time
- 35 Million Tons of CO<sub>2</sub> Emissions



# Stakeholders and Next Steps



# Conclusion



**States and stakeholders are encouraged to Support ARNOP through providing the Political and Financial Resources required to Initiate the Implementation Phase of the Project.**

# Questions & Answers

