



# UAE Regulatory Developments (Airspace and Enterprise Architecture)

*Presented by*

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# BACKGROUND - UAE GCAA



- **1991 – UAE Publish UAE civil Aviation Law**
- **1996 - The General Civil Aviation Authority was created**
- **2007 – ICAO USOAP Audit – 51%**
- **2010 – Start of Digitization with first E-Services**
- **2014 – ICAO USOAP Audit – 98.86%**
- **2015 – Adoption of emerging technologies (Air Taxi, Space Flight, Drones etc.)**
- **2017 – Adopt EASA regulatory framework – Global Harmonization**
- **2020**
  - ❖ **UAE ASSP recognized as world class by ICAO**
  - ❖ **Adjust regulatory regime to support Aviation Entities – COVID 19**
  - ❖ **Provide Global collaboration and support for best practices in aviation**

# GCAA REGULATIONS

- UAE Civil Aviation Law
- Hard Rule – Regulations
- Stand Alone Guidance Material (GM)
- Stand Alone Acceptable Means of Compliance (AMC)
- Temporary Revisions in support of Regulations
- Safety Decisions in support of Regulations
- Safety Alerts highlighting pressing safety issues
- Supporting Documents
  - Airspace Policy
  - ATM Strategic Plan (ATM)
  - Integrated Airspace Master Plan (Airspace)
  - UAE Infrastructure Architecture Plan (CNS)
  - PBN Plan (NAV)
  - Information Bulletins





# GCAA Regulatory Development Process



Develop plan and timelines



Benchmark and research (Best Practices.Industry)



Establish Technical work groups



Regulatory Frameworks - DRAFT



Peer and Industry review



Awareness and Social Media Plan



Publish Regulation



Implement Regulation



Post Implementation review and amendments



# UAE AIR SPACE POLICY



The ASP provides guidance to the Authority, as the airspace regulator, and to the ATM stakeholders on the management of airspace as a national resource.

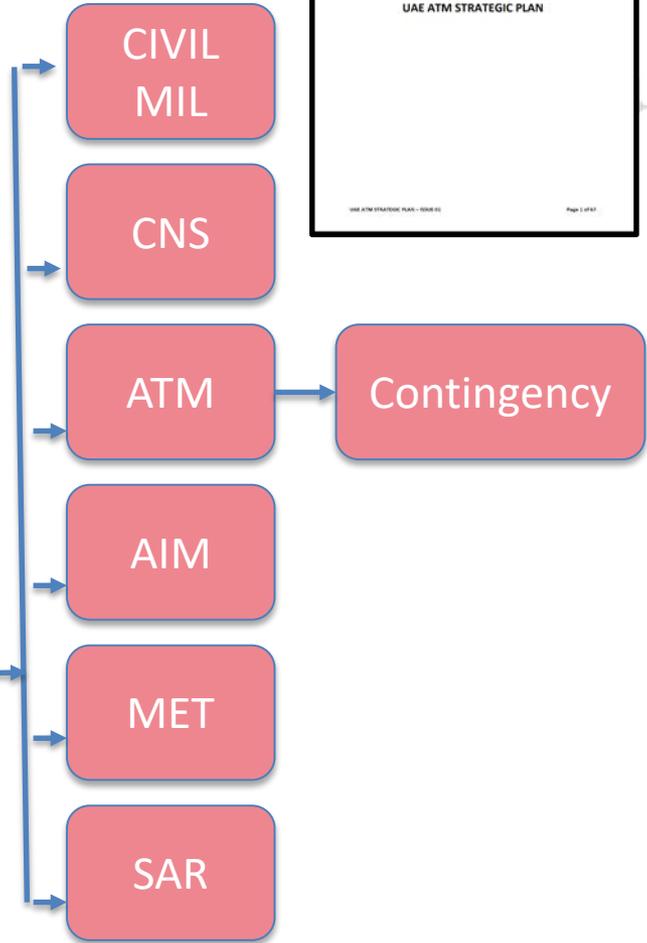
- OBJECTIVES
- Support for ICAO's Global Air Traffic Management (ATM) Operational Concept and use of ICAO airspace classifications;
- The adoption of the ICAO Aviation System Block Upgrade (ASBU) program;
- Enhanced ATM services for international aerodromes served by air services, as determined by the Authority; and
- Effective cooperation between the Authority and all ATM stakeholders.



# UAE ATM STRATEGIC PLAN



- UAE AIRSPACE POLICY
- GANP & ASBU
- UAE AIRSPACE OPTIMISATION PROGRAM
- DEMAND & CAPACITY FORECASTING
- Supporting Strategies



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## National Air Space Advisory Committee

The NASAC provides an industry-wide representative forum for all ATM users where comments, suggestions and requirements of the ATM community are included into the development and implementation of the GCAA approved integrated airspace plan.

The primary functions of the NASAC is to:

- Recommend airspace improvement initiatives to the GCAA Management;
- To provide a forum to Industry for the planning of a safe and efficient national airspace concept;
- utilising a performance based approach measuring safety, capacity, cost effectiveness, efficiency and environmental impact.

The prime objective of the NASAC is to provide an effective platform to foster a collaborative airspace management process involving all aviation stakeholders.



# NATIONAL AIR SPACE ADVISORY COMMITTEE



ICAO GLOBAL ATM OPERATIONAL CONCEPT

MIDANPIRG

GANP DOC 9750

NASAC

ASBU

GCAA BOARD

DG GCAA

- Regulator
- ANSPs
- Operators
- Airports
- NCM

ADVISORY





## AIRSPACE AND SYSTEMS APPROVALS



- ✓ **CNS Equipment Approval Process (E-Service)**
- ✓ **Operational Procedures & Letters of Approval (LOA)**
- ✓ **Safety & Hazard/Risk Management**
- ✓ **Unit Training Plans**
- ✓ **Regulatory Review & Approval at Authority Level**

**OPERATIONAL**

- ✓ **Airspace Approval Process (E-Service)**
- ✓ **Changes endorsed at each Unit Level**
- ✓ **Approval Applications at Project Level**
- ✓ **Regulatory Review & Approval at Authority Level (Concept & Designs)**

**AIRSPACE & FLIGHT  
PROCEDURES/ROUTES/SID/STAR**

*Note: Essential for regulatory involvement from the start*



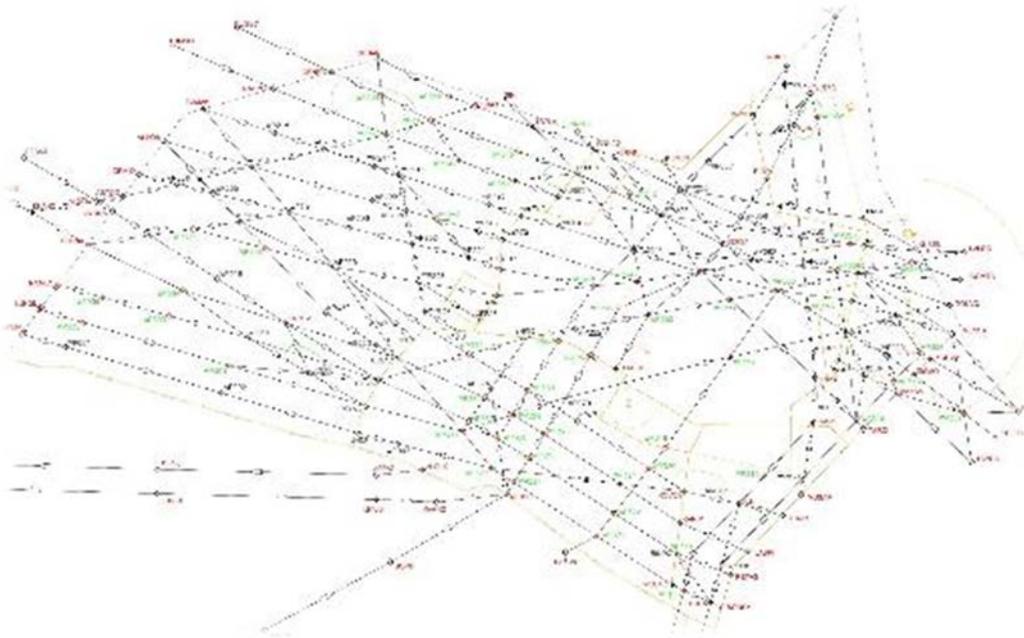
## UAE AIRSPACE OPTIMIZATION PROJECT

*Phase 1*  
**The UAE Airspace Study**  
*(Completed 2013)*

*Phase 2*  
**The ATM System Design**  
*(Completed 2015)*

*Phase 3*  
**Implementation**  
*(ARP-3 Completed 2017)*

*Phase 4*  
**Post Implementation  
Review**  
*(2018)*





## AIRSPACE OPTIMIZATION PROJECT OBJECTIVE

- Develop a scalable ATM system in the UAE that is:
  - ❖ Performance-based,
  - ❖ Addresses ATM community expectations,
  - ❖ Cost-efficient,
  - ❖ Environmentally sustainable and
  - ❖ Globally harmonized.





## PURPOSE



The main purpose of the project is to enhance the UAE Airspace, ATM procedures and structures.

- Increase UAE Airspace Capacity to meet the forecasted demand
- Increase access to all UAE airports
- Improve Airspace safety and efficiency
- Reduce the Environmental Impact of the increasing traffic through the provision of more efficient ATM operations.





## BENEFITS

- Capability to safely meet the capacity requirements for the forecasted 2020 and beyond traffic demand
- Increase access to all UAE airports
- Improve Airspace safety and efficiency
- Deliver environmental efficiency and fuel savings of over \$10m to the airlines customers within the first year after implementation.
- Annual fuel savings further translate to around 100,000 Mt of CO<sup>2</sup>





## RECOMMENDATIONS FROM NASAC

### UAE EQUIPMENT MANDATES

#### Mandate RNAV-1 with GNSS

Due to the limited ground based navigation infrastructure in the UAE, GNSS is the only sensor available to meet the RNAV-1 navigation specification.

Commercial operators of aircraft above 5700 kg shall not operate a airplane under IFR after 07 December 2017 unless it is equipped with GNSS equipment having the capabilities set out in AMC OPS 1.653: GNSS

#### Mandate SSR Transponders

SSR Transponders having the capabilities set out in AMC OPS 1.866 are mandatory from 7 December 2017

#### Mandate ADS-B OUT from 1st January 2020





## LESSONS LEARNED



### Airspace Implementation Project

- Regulator must be fully involved in airspace change projects from inception.
- Dedicated project management team must be assigned
- Beware of project creep (Focus on the purpose of the project)

### Equipment Mandates

- Early involvement from operators
- Allow sufficient time for retrofits and compliance
- Policy on exemptions (There will be requests)



# Thank you

