MIDANPIRG/23
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CAIRO - EGYPT

14 -18 JUNE 2026

Lessons Learned from Managing Airspace Operations During Regional Geopolitical Disruptions

Operational Resilience, Capacity Management, and Regional Coordination

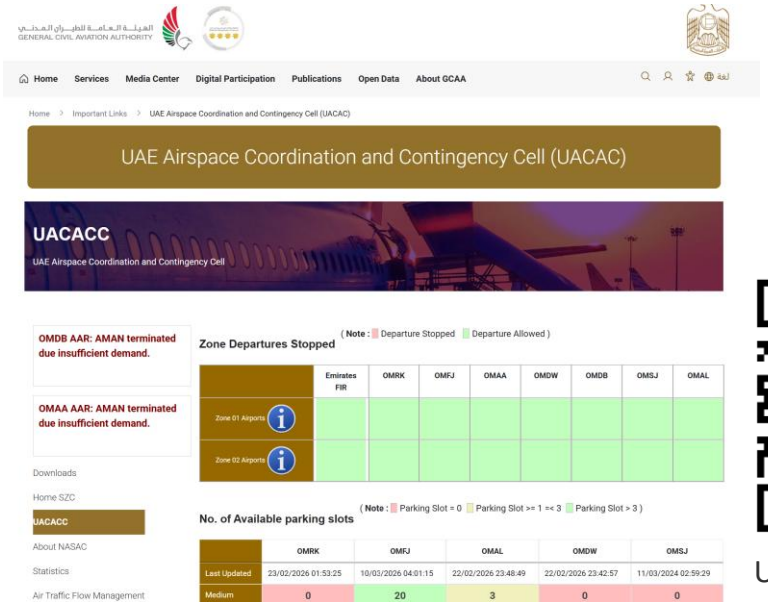
Presentation Overview

- ❑ Context & Pre-Contingency Preparedness
- ❑ Airspace Closure & Capacity Constraints
- ❑ The Phased Contingency Strategy
- ❑ Route Evolution & Civil-Military Coordination
- ❑ Data-Driven Operations & Sector Redesign
- ❑ Recovery Trajectory & Regional Leadership
- ❑ Key Lessons Learned & Strategic Recommendations

The Geopolitical Context & Preparedness

The Geopolitical Context

- Building on crucial lessons learned from the previous June 2025 disruptions.
- Proactive engagement and scenario planning conducted with adjacent units well before February 2026.

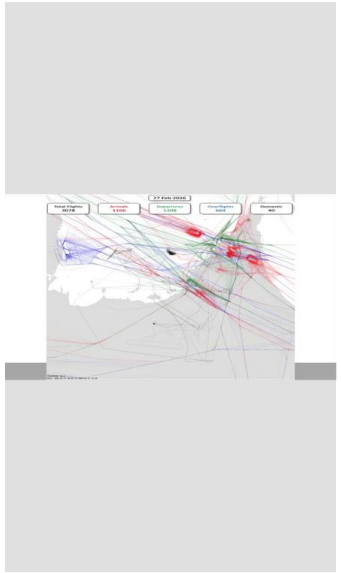
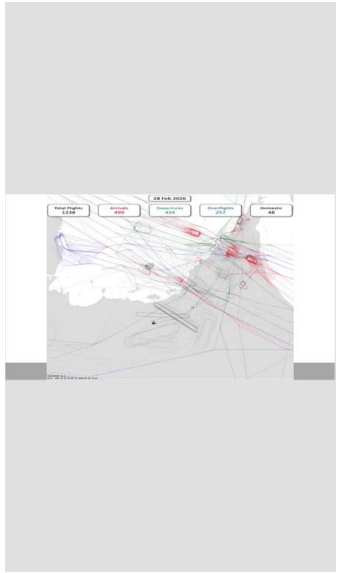
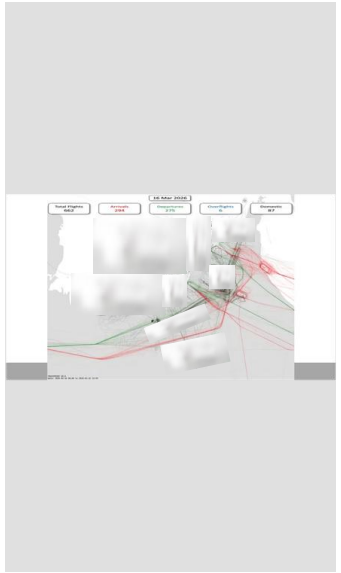
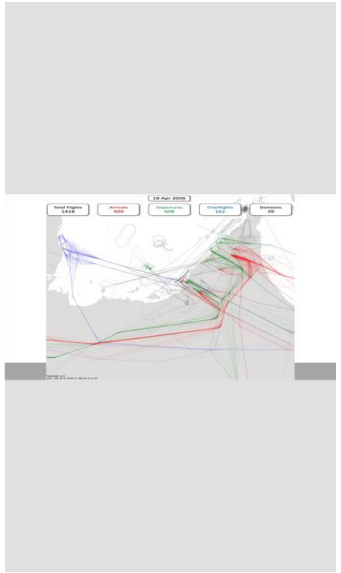


Pre-Contingency Preparedness

- Early notifications dispatched to stakeholders advising heightened vigilance.
- UAE Airspace Coordination and Contingency Cell (UACACC) activated as the primary platform for real-time operational information.
- Stakeholders actively refreshed on ESCAT procedures (eAIC 03/2023).
- Fleet status information collected proactively to anticipate changes

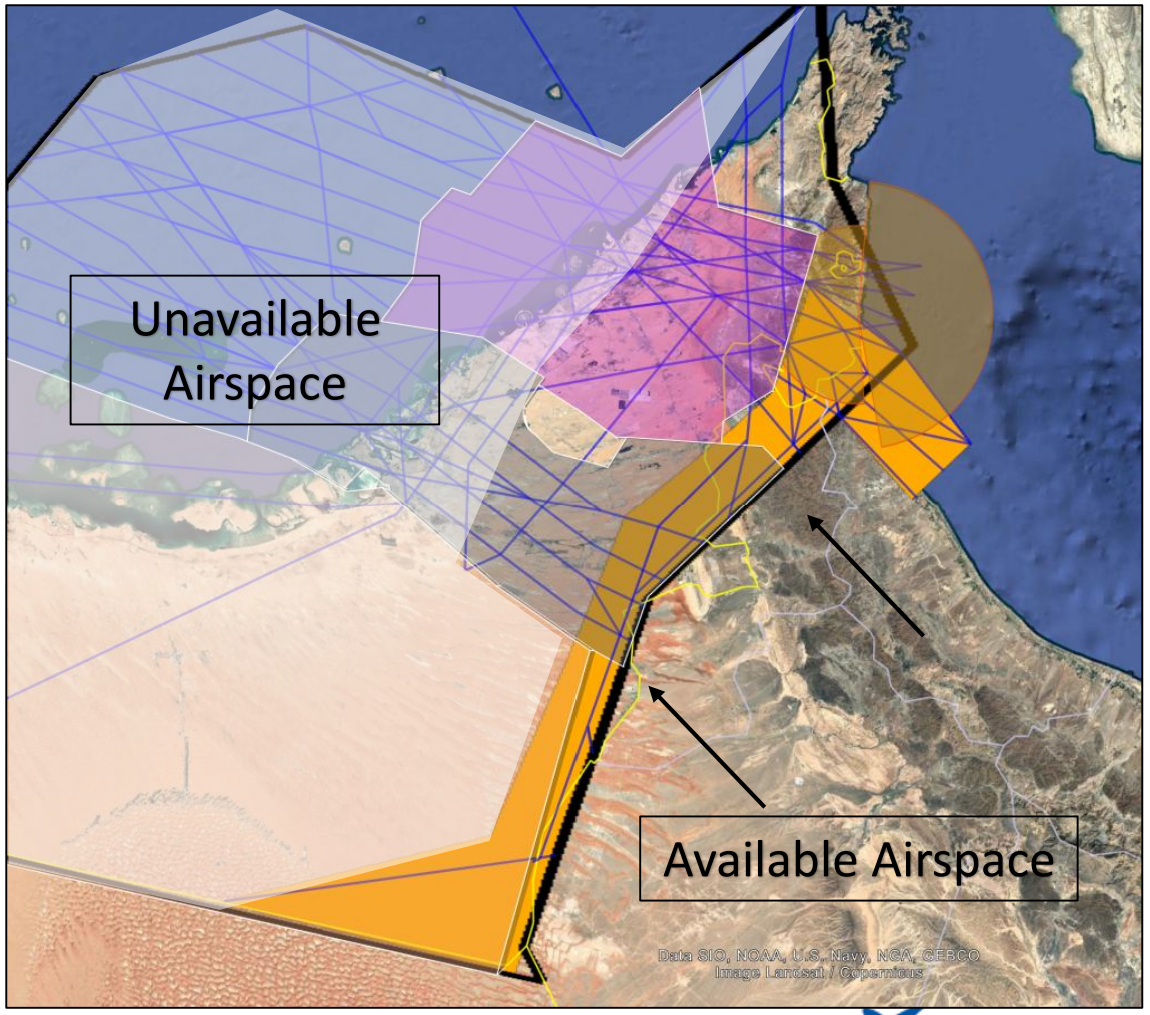
UACACC: https://www.gcaa.gov.ae/en/szc/uacacc

The Airspace Closure & Recovery Sequence

27 Feb	28 Feb	01 Mar	16 Mar	19 Apr
Normal operations (3,078 flights)	Immediate impact (1,238 flights, 60% drop)	Near-zero hour / ESCAT Active (29 flights, 0 overflights)	Contingency routes active (662 flights)	Recovery & Overflights return (1,418 flights)
				

Operating Under Severe Constraints

- During the peak contingency, only **11% to 15%** of the total FIR area was available for operations.
- In the first days, despite this severe limitation, the Emirates FIR successfully handled approximately **33%** of its normal traffic volume in the first days .
- This highlights the extraordinary efficiency of the civil-military coordination and pre-planned contingency routes.



The Phased Contingency Strategy

Phase 1: Immediate Response

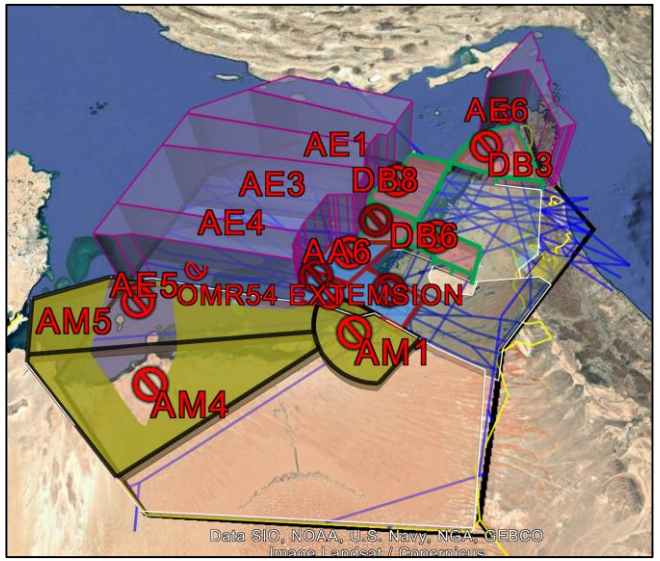
Immediate activation of ESCAT procedures. Severe restriction of airspace to ensure absolute safety during the initial shock of adjacent FIR closures.

Phase 2: Managed Capacity

Implementation of dynamic interval spacing and dynamic flow measures. Opening of restricted corridors based on continuous military threat assessments.

Phase 3: Network Recovery

Gradual expansion of routing options, introduction of contingency holds, and the structured return of overflying traffic as situation stabilized.



Civil-Military Coordination: The Backbone

"Flow measures were dynamic and relied on very close & constant civil-military coordination, escalated or de-escalated depending on military assessments."

- ❑ Constant, close coordination with the Ministry of Defence was the foundation of the response.
- ❑ Route designs were adapted dynamically to military constraints and real-time threat assessments.
- ❑ Safe corridors were identified and maintained between areas of heavy military activity.
- ❑ This coordination enabled continued, albeit restricted, operations while preserving absolute safety.

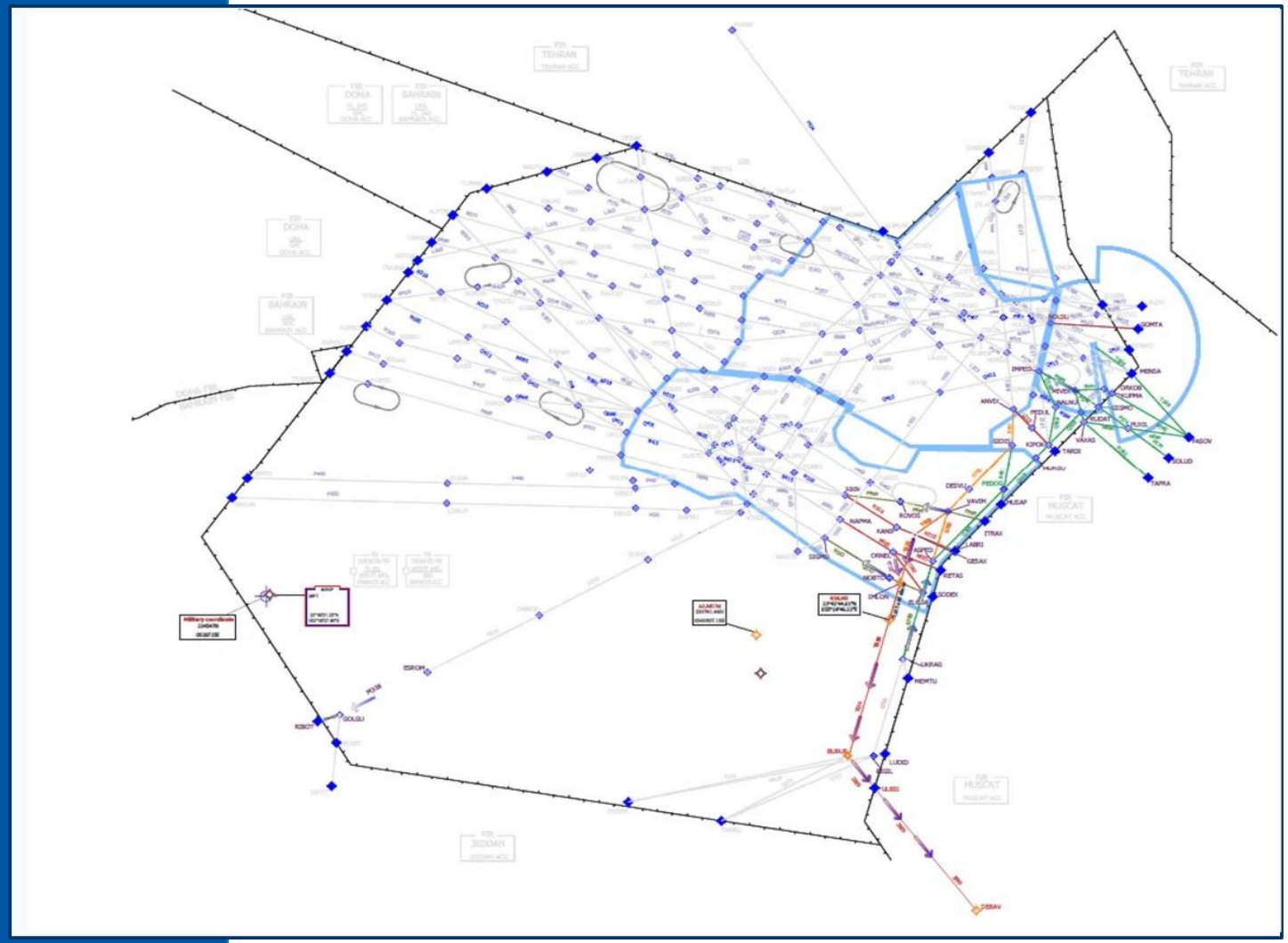
Routes Evolution

The Initial Corridor

Immediate Adaptation: The first response required shifting the majority of traffic to a narrow corridor in the East and South East of the FIR.

New Connectivity: Rapid design of new waypoints and routes to safely connect with the adjacent FIRs' network.

Learning from the Past: The threat profile differed significantly from June 2025, requiring entirely new designs rather than reusing old contingency routes.



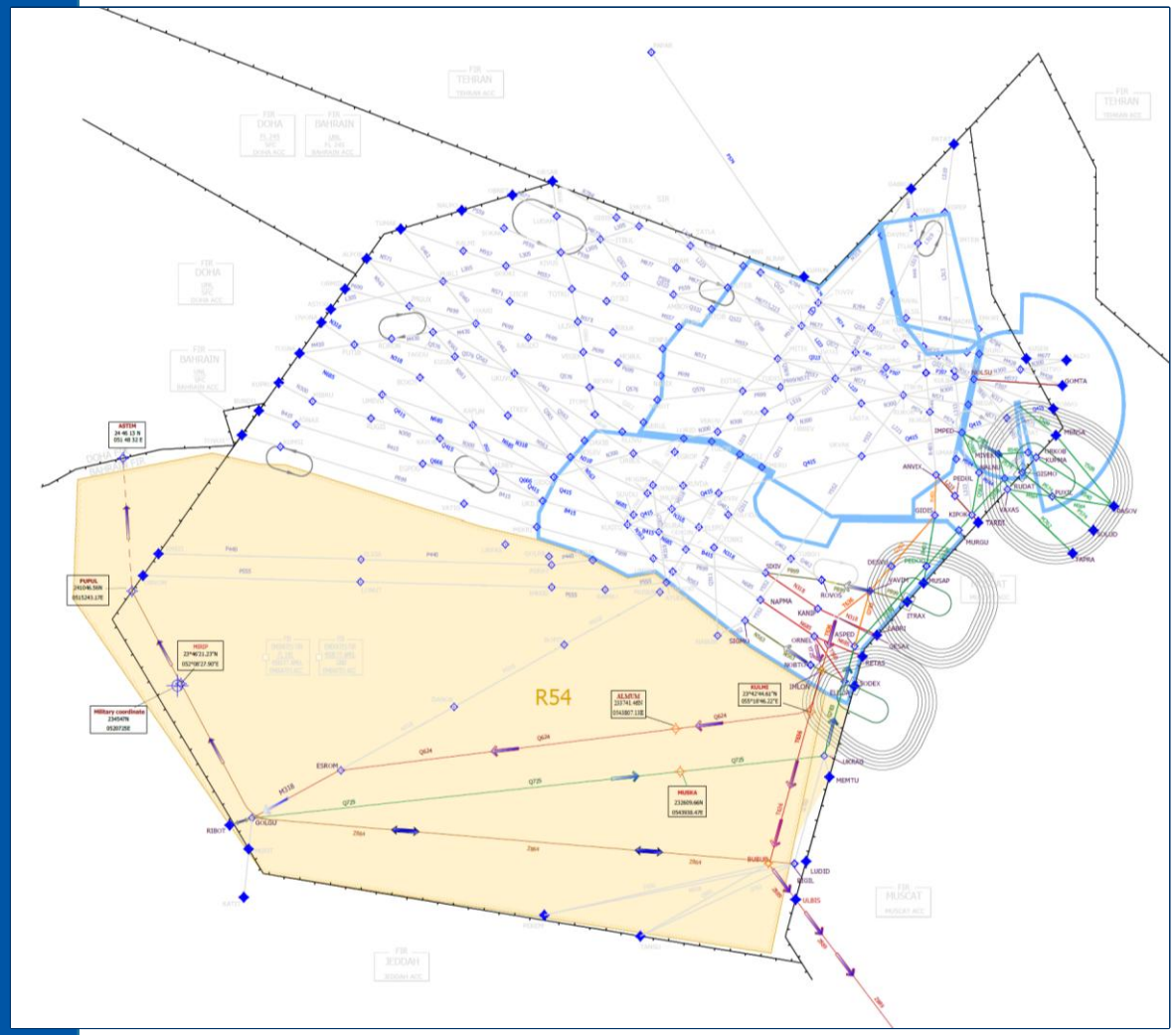
Routes Evolution

Network Maturity

Expanding Capacity: As the situation stabilized, the network grew to allow more routing options based on continuous threat assessments.

Regional Support: Additional routes were created specifically to generate flying opportunities for other countries, such as Qatar.

Safe Holding: Crucially, new contingency holds were designed to provide safe areas for aircraft to hold during sudden threats or temporary closures.



Traffic Daily Plan (TDP) Portal

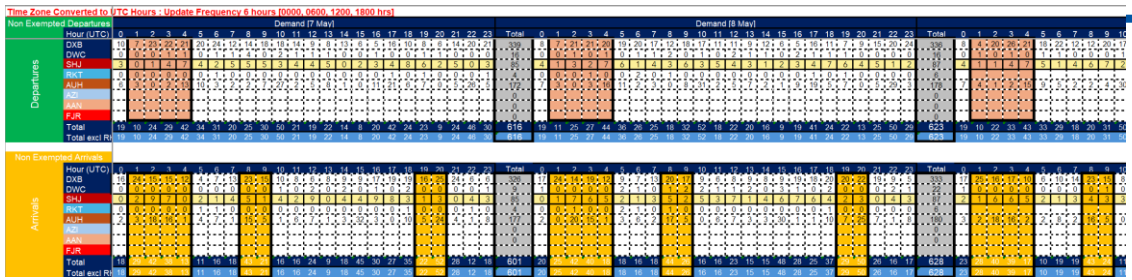
National Platform: 24/7 live portal for AOCCs & ANSPs (UAE Slot Planning Group).

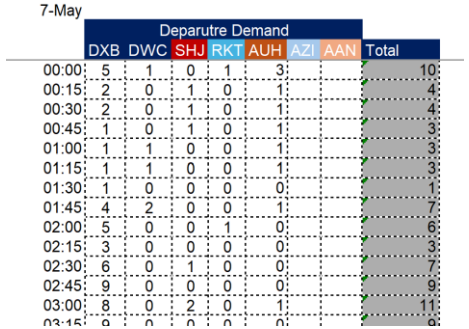
Transparency: 5-day horizon view for planning across airports & the Emirates FIR.

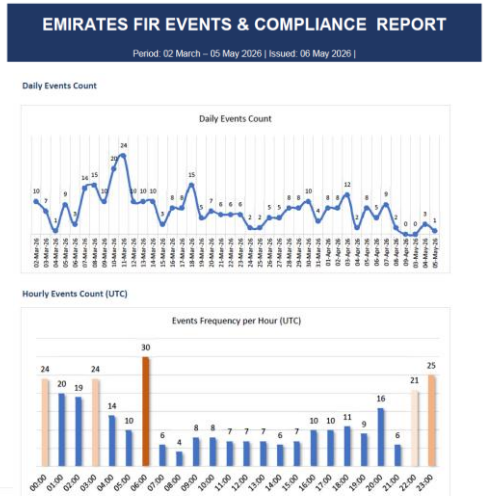
Granular Control: Hour divided into 15-minute intervals to manage congestion, control surge of traffic, and maintain airspace stability in peak periods

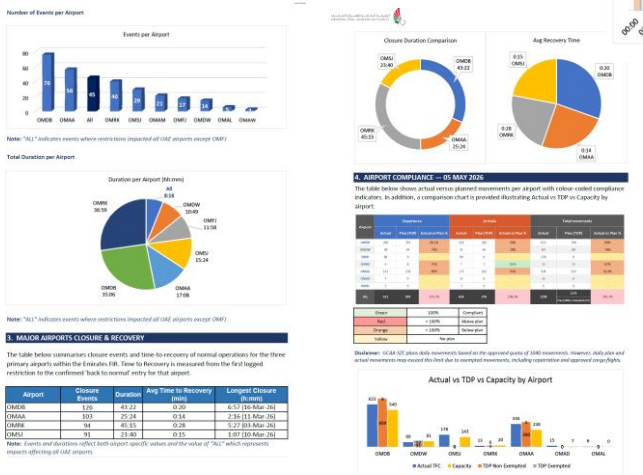
Supply Chain Protection: Maintain cargo flight continuity during quiet periods.

Monitoring & Compliance: Monitoring tool to ensure adherence to slots, compliance with flow measures, and post-analysis efforts









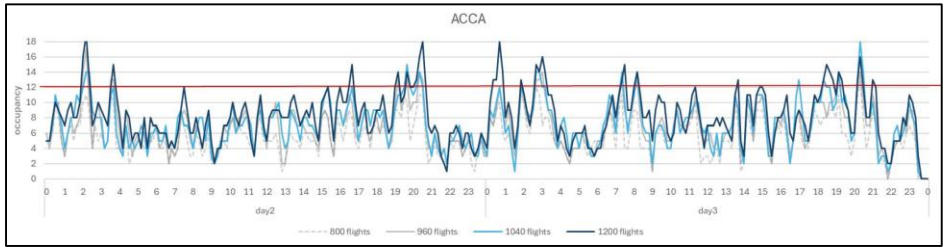
Data-Driven Operations & Fast-Time Simulation

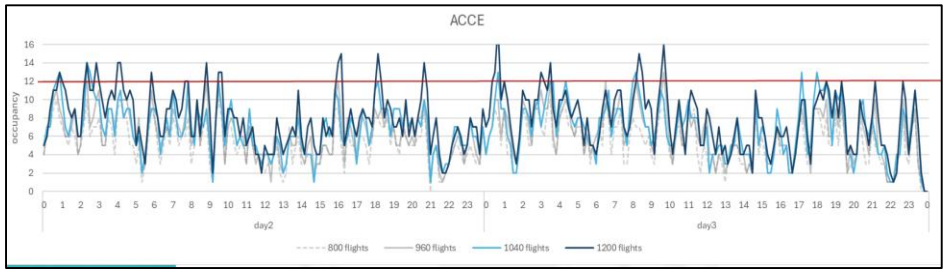
Capacity Ceiling/sector Identified: Fast-time simulations revealed a hard capacity constraints under the restricted airspace configuration.

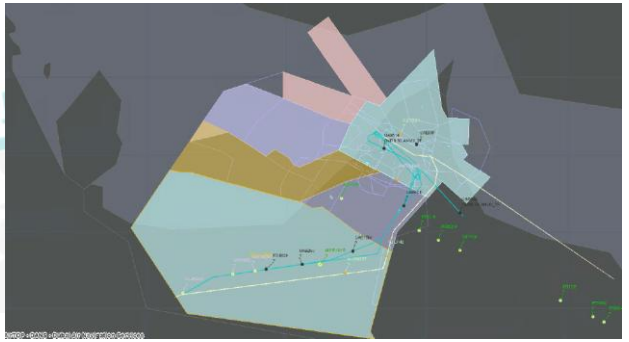
Workload vs Occupancy: Controller workload exceeded what standard occupancy metrics indicated due to extreme traffic complexity (crossing flows, multi-airport interactions).

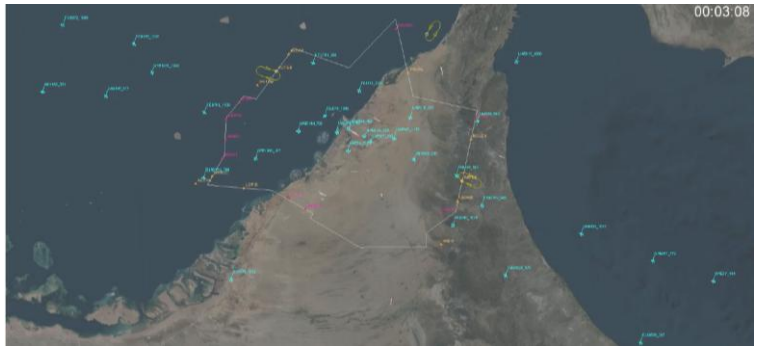
Hourly Demand Management: Detailed Demand vs Capacity Assessments were used to tackle traffic down to the hour, preventing sector overloads.

Safety Validation: New contingency routes were rigorously tested in simulators to ensure fly-ability and preserve ATCO wellness before live deployment.







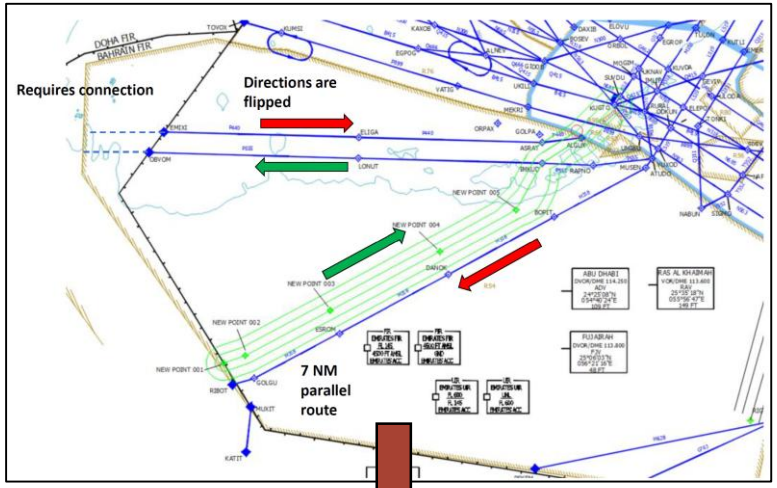


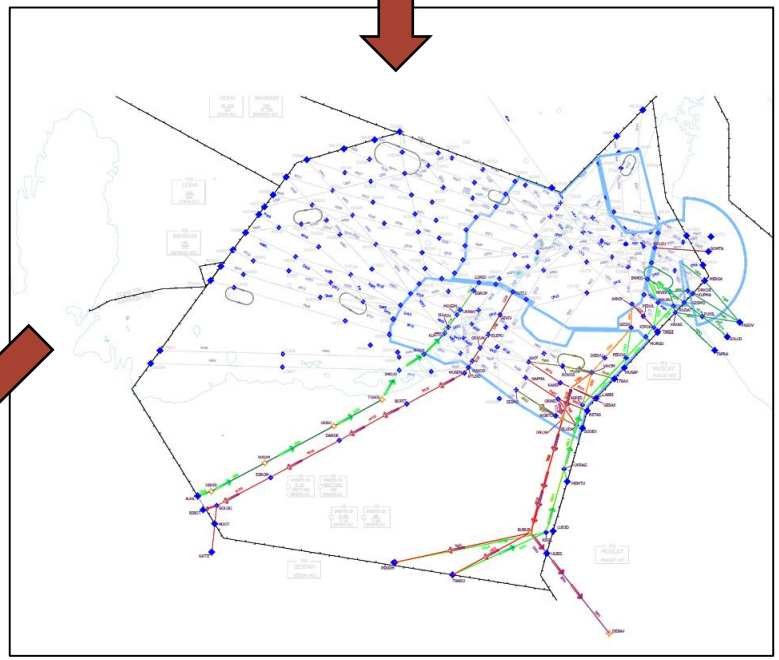
Strategic Re-designed Network & Sectors

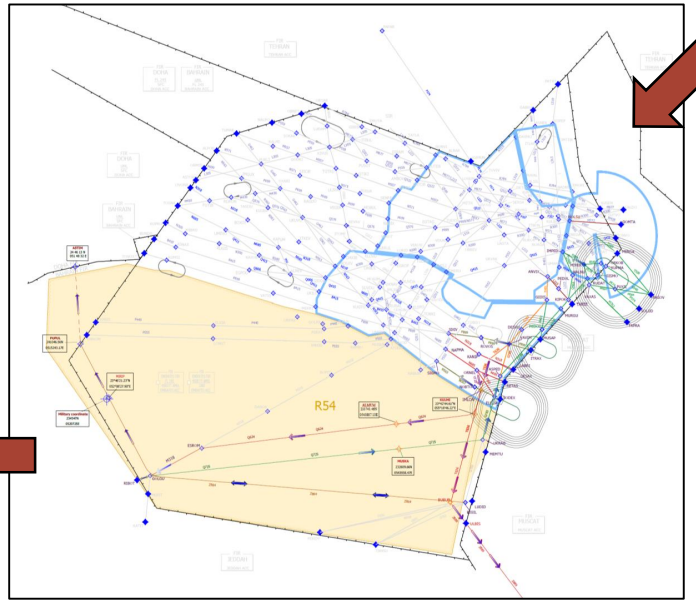
Structural Intervention: Airspace configuration required immediate structural changes to handle demand safely.

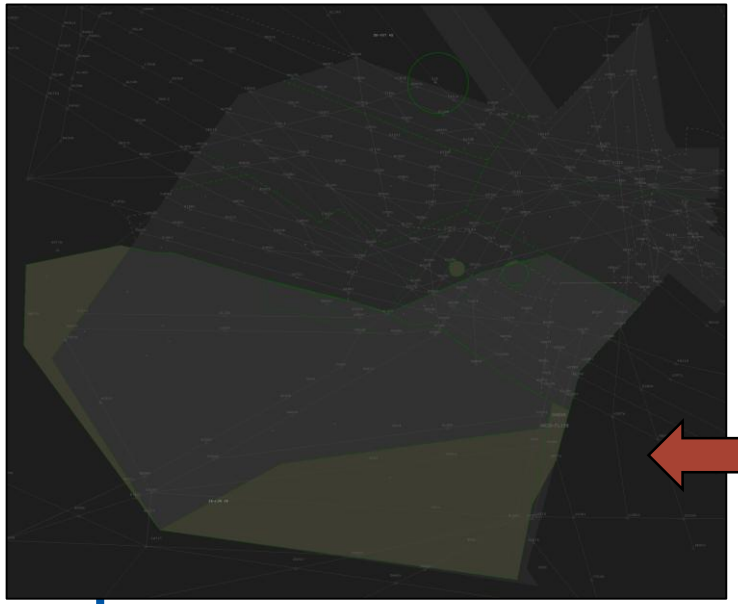
Workforce Reallocation: Personnel from inactive western/northern sectors were shifted to support congested eastern sectors.

ATCO Wellness: Redesign primarily aimed to ensure safety and relieve stress from controllers managing unprecedented complexity.









Recovery Trajectory

Structured Growth

From a near-standstill in early March, traffic was methodically scaled up as confidence and capacity grew.

Return of Overflights:

A critical milestone was the safe reintroduction of overflying traffic, reconnecting the region globally.

Airport Resilience:

Traffic distribution ensured aviation continued across all airports, utilizing alternative airports when specific threats arose.

Key Principles

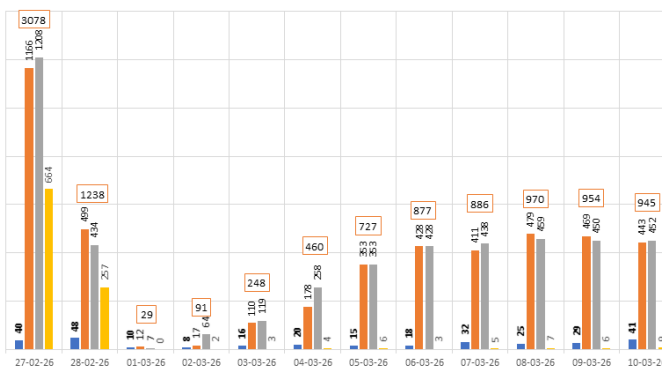
Dynamic Flow measures ☑

constant civil-military coordination ☑

Real-time assessments ☑

Stakeholder engagement ☑

March 2026



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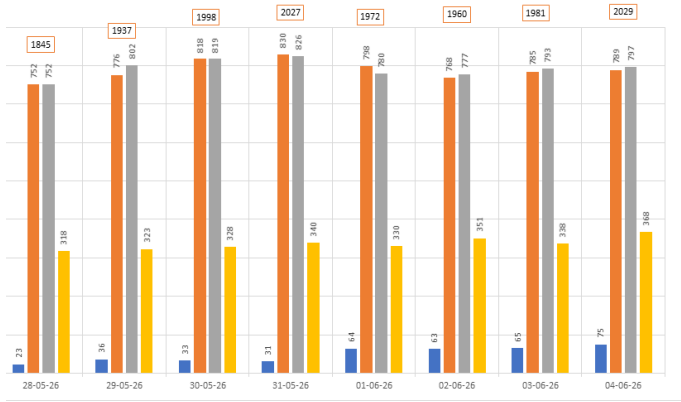

Regional Coordination & Cooperation

"Initiatives to open routes over the Arabian Gulf went beyond-border to provide assistance to States not directly connected with us."

✓ **MID Contingency Cell**	❑ Leveraged this platform to facilitate regional efforts, turning them into reality with unified NOTAMs and procedures.
✓ **GCC Contingency Cell**	❑ We took the lead in encouraging and coordinating the opening of new routes over the Arabian Gulf to bypass conflict zones.
✓ **Arabian Gulf Corridors**	❑ Proactively provided advice and strategic assistance to non-adjacent states struggling with the network disruptions.
✓ **Extended Assistance**	

Lessons Learned

Key Lessons Learned

Stakeholders Collaboration :	The need to have multiple levels of collaboration with the stakeholders in a systematic manner is vital
Civil-Military Synergy:	Absolute trust and continuous communication with military partners is the single point of failure or success.
Data is King:	Granular, 15-minute interval data and fast-time simulations prevented catastrophic sector overloads.
Permanent Civil-Military Cell:	Establish a permanent, integrated airspace management cell rather than an ad-hoc contingency group.
Systematize the TDP:	Upgrade the Traffic Daily Plan into a permanent, automated regional slot management tool.
Pre-Emptive Sector Design:	Maintain pre-validated "crisis sectorization" plans ready for immediate deployment.

Strategic Recommendation

INSTITUTIONALIZE CIVIL-MILITARY CELLS

Transition the temporary joint coordination cells into permanent, 24/7 integrated civil-military airspace management units to ensure immediate readiness.

MODULAR AIRSPACE ARCHITECTURE

Develop and pre-validate dynamic sector configurations and contingency holds that can be rapidly deployed to handle sudden capacity shifts.

REGIONAL CONTINGENCY PLAYBOOK

Formalize the successful Arabian Gulf routing strategies and cross-border assistance models into a binding, standardized regional framework.

PREDICTIVE ATFM INTEGRATION

Upgrade the Traffic Daily Plan (TDP) portal into a permanent, predictive flow management tool linked directly with adjacent FIRs and stakeholders.

Ensure airspace contingency routes, procedures, and associated measures are pre-coordinated, published in the AIP, and maintained in a state of readiness for rapid deployment whenever operational conditions require

QUESTIONS & DISCUSSION

Special thanks to our ATCOs, Military Partners, Adjacent FIRs, and Airspace Users for their unwavering cooperation, professionalism, and resilience during the contingency operations.

CIVIL-MILITARY COORDINATION

ATCO RESILIENCE

STAKEHOLDER COLLABORATION

REGIONAL LEADERSHIP

Thank You