



SAFE SKIES.
**SUSTAINABLE
FUTURE.**

ICAO RISK ASSESSMENT SEMINAR FOR
CIVIL AIRCRAFT OPERATIONS NEAR OR
OVER CONFLICT ZONES

Nairobi, Kenya : 23 -25 June 2025



INTERNATIONAL AND REGIONAL CONFLICT ZONE RISK MANAGEMENT PERSPECTIVES

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Presentation Overview

01 Introduction

02 Risks in Conflict Zones

03 Impacts on Airspace Management

04 Regulatory and Compliance Challenges

05 Technological Considerations

06 Crisis Management And Response Mechanisms

07 Strategies for Air Risk Management

- **The airspace has become congested, contested and very competitive**
- **There is an increase in airspace use by a variety of stakeholders**
- **Its more contested in times of conflict**
- **Due to the dynamic political situation across the world, conflict zones persist and change, sometimes suddenly and/or unpredictably, exposing civil aviation to the risk of collateral damage or targeted attack**
- **Military operations can significantly impact airspace management, creating challenges for the safety and efficiency of civilian and military air traffic**

Safety Risks:

- **Potential for mid-air collisions or accidents due to the unpredictable nature of military operations**

Humanitarian Risks:

- **Civilian casualties due to airstrikes or military operations**
- **High levels of violence and insecurity**
- **Breakdown of infrastructure and governance**

Security Risks:

- **Increased threat of terrorism and insurgency**
- **Risk of airstrikes complicates effective delivery air space management**
- **Anti-Aircraft Threats: Surface-to-air missiles and other defences**
- **Cybersecurity: Protecting communication and navigation systems**

- **Restricted Airspace:** Designation of no-fly zones or restricted areas can complicate civilian flight routes
- **Increased Complexity:** The need for real-time coordination between military and civilian air traffic control increases operational complexity
- **No-Fly Zones:** Areas may be designated as no-fly zones to protect airspace from potential missile threats. However, it has a negative impact on other airspace users as they are forced to choose alternative routes which are costly

- **International Law:** Compliance with international aviation regulations can be challenging during military operations
- **National Sovereignty:** Different countries may impose varying regulations on military airspace usage, leading to conflicts

Technological Considerations

- **Surveillance and Monitoring:** Enhanced radar and satellite systems are needed to monitor military activities and ensure safe airspace management
- **Data Sharing:** Effective communication between military and civilian air traffic control is crucial for safety
- **Ballistic Missile Defence (BMD):** Continuous development of advanced technologies to detect and intercept ballistic missiles before they cause an air incident
- **Artificial Intelligence:** Use of AI for predictive analytics in missile trajectory and airspace management

- **Advanced Communication Systems:** Real-time data sharing among agencies to improve operational safety and efficiency
- **Drones and UAVs:** Increased use for surveillance and precision strikes
- **Cyber Capabilities:** Enhancing communication security and operational effectiveness
- **Advanced Weaponry:** Smart munitions that reduce collateral damage

- **Emergency Protocols:** Development of protocols for rapid response to military incursions into civilian airspace
- **Coordination Mechanisms:** Establishing joint operations centres for better communication and coordination
- **Interception Systems:** Deployment of missile defence systems to intercept incoming missiles
- **Crisis Communication:** Establishment of protocols for communication between military and civilian air traffic control during missile threats

- **Early Warning Systems:** Use of radar and satellite systems to detect missile launches and predict trajectories
- **Data Sharing:** Collaboration between nations for timely intelligence sharing to enhance airspace safety
- **Flight Path Adjustments:** Modifications to civilian flight paths to avoid conflict zones or regions with heightened missile activity
- **Passenger Safety Protocols:** Implementation of safety measures for civilian aircraft operating near potential conflict areas

- **Geopolitical Tensions:** Heightened tensions can complicate airspace management and response strategies
- **Technological Limitations:** Gaps in detection and interception capabilities can pose significant risks (especially in developing countries)

- **The military use of airspace poses significant challenges to airspace management, cooperation and technological advancements are essential to effectively manage airspace**
- **Effective risk management in air operations within conflict zones requires a multifaceted approach**
- **Continuous training and adaptation to the evolving nature of conflict are essential**
- **Continuous adaptation and innovations are necessary to address evolving conflict zone airspace risks**



Thank You!