Session 5

Historical context: aviation incidents related to conflict zones and lessons learnt

ICAO

SAFER SKIES
CONSULTATIVE COMMITTEE

Session 5

OUTLINE

AIM

Explain historical events that led to ICAO developing guidance documents on risk to civil aviation operations associated with conflict zone

MOTIVATION

To gain better understanding of why proactive mitigation planning is key to increasing safety of aviation operations

OUTLINE

- Before 2014
- 2014 to 2020
- Since 2020

EVENTS PRIOR TO 2014

HISTORICAL CONTEXT

EVENTS PRIOR TO 2014

August 1, 1981
Shoot down of C47, over Mozambique

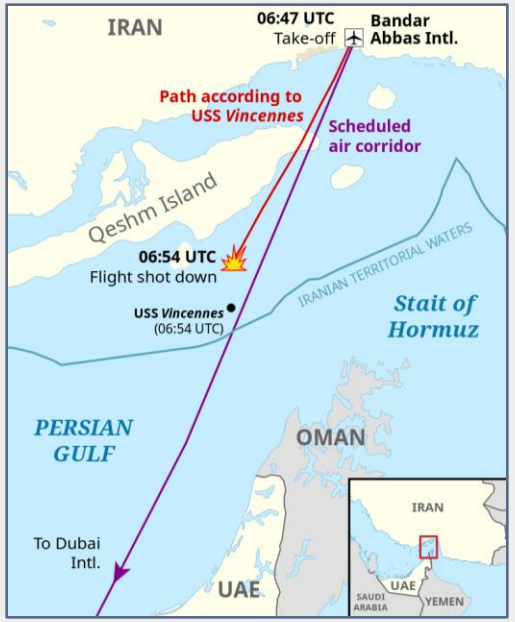
- Hit by two surface-to-air SA-7 missiles by State actor while in flight
- All six occupants were killed
- **Misidentification**

September 1, 1983
Shoot down of Boeing 747 Korean Airlines Flight 007, over USSR

- State MiG-23 fighters sent to intercept and shot two K-8 air-to-air missiles after deviating into Soviet airspace
- All 269 passengers and crew were killed
- **Navigation Error**

HISTORICAL CONTEXT

EVENTS PRIOR TO 2014



July 3, 1988
Shoot down of Airbus A300 Iran Air flight 655, Iran

- Hit by two SAM missiles while in flight, shot from a foreign warship
- All 290 people on board were killed
- **Weapons operator misidentification**

September 29, 1998
Antonov An-24 Lionair Flight 602, Sri Lanka

- Shot down by a non-State actor using a man-portable surface-to-air missile
- All 55 people on board were killed
- **Deliberate action**

HISTORICAL CONTEXT

EVENTS PRIOR TO 2014

August 29, 1999

Shoot down of Learjet 35A Corporate Jets, Ethiopia

- Shot down by a State actor after straying into a no-fly zone.
- Both crew on board were killed.
- **Air navigation error/misidentification**

October 4, 2001

Shoot down of TU-154 Siberia Airlines Flight 1812, Black Sea

- Shot down by a 5V28 surface-to-air missile that missed its intended target during a military exercise.
- All 78 people on board were killed.
- **Weapon acquisition error**

EVENTS FROM 2014 – 2020

MALAYSIA AIRLINES FLIGHT 17

HISTORICAL CONTEXT

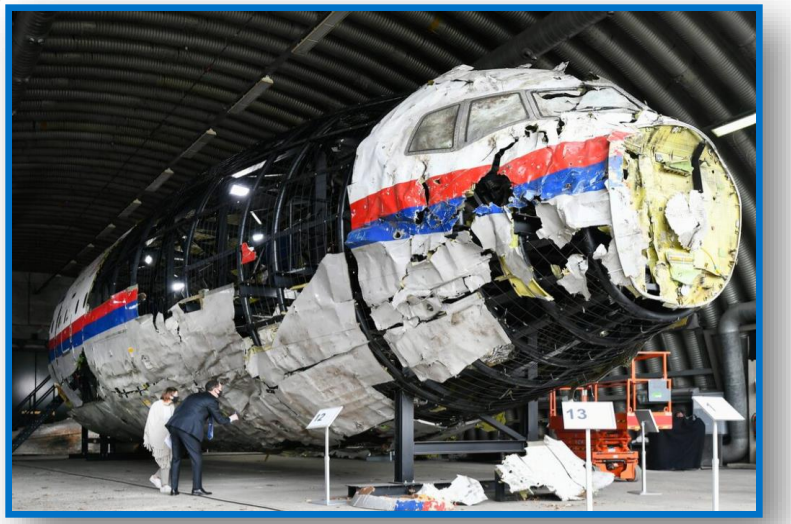
MALAYSIA AIRLINES FLIGHT 17

July 17, 2014

The Downing of Boeing 777 Malaysia Airlines Flight 17 (MH17), Ukraine

WHAT HAPPENED?

- Surface-to-air missile launched at aircraft while in flight over an area of hostilities
- All 298 occupants were killed
- **Deliberate action**



"None of the parties involved adequately identified the risks to civil aviation brought about by the armed conflict in the eastern part of Ukraine"

Dutch Safety Board – Investigation report

HISTORICAL CONTEXT

MALAYSIA AIRLINES FLIGHT 17

RESPONSES TO THE DOWNING OF MH17

International Civil Aviation Organization (ICAO)	
2014	International Civil Aviation Organization (ICAO), Airports Council International (ACI), the Civil Air Navigation Services Organization (CANSO) and the International Air Transport Association (IATA) joint statement
2014	Task Force on Risks to Civil Aviation arising from Conflict Zones
2015-2017	Conflict Zone Information Repository (CZIR)
2016	Civil Aircraft Operations Over Conflict Zones (first edition of Doc 10084 - Restricted)
2018	Doc 10084, 2nd edition, renamed Risk Assessment Manual for Civil Aircraft Operations over or near Conflict Zones (non-restricted)
2015, 2018, 2020	Annex 17 information sharing updates
2020	Amendments to Annex 6, 11 and 15 and Doc 10088 (civil/military de-confliction)
2022	Safety linked in Annex 17 update

HISTORICAL CONTEXT

MALAYSIA AIRLINES FLIGHT 17

RESPONSES TO THE DOWNING OF MH17 (Continued)

State	
2014-2015	Dutch Safety Board – MH17 Final Investigation Report
2016	United Nations Security Council Resolution 2309 calling for all States to ensure protection against interference for all citizens in their territory at any given time
2019	Dutch Safety Board follow-up report on the MH17 safety recommendations
2019	Establishment of the Expert Group Risk Information overflying Conflict Zones (EGRICZ)
Industry	
2015	IATA Operational Safety Audit (IOSA) - flight dispatch planning now includes security risk assessment from conflict zones (+400 airlines on the IOSA registry)

EVENTS SINCE 2020

UKRAINE INTERNATIONAL AIRLINES FLIGHT 752

HISTORICAL CONTEXT

UKRAINE INTERNATIONAL AIRLINES FLIGHT 752

January 8, 2020

The Downing of Boeing 737 Ukraine International Airlines flight 752 (PS752), Iran

WHAT HAPPENED?

- Two surface-to-air missiles hit flight PS752 during a period of heightened tensions
- All 176 passengers and crew were killed
- **Airspace control**

"The mitigating measures and defense layers in risk management proved to be ineffective due to the occurrence of an unanticipated error in threat identifications, and ultimately failed to protect the flight safety against the threats caused by the alertness of defense forces"

The Aircraft Accident Investigation Board of the Islamic Republic of Iran – Flight PS752 Accident Investigation Final Report

HISTORICAL CONTEXT

UKRAINE INTERNATIONAL AIRLINES FLIGHT 752

RESPONSES TO THE DOWNING OF PS752

A Collaborative Response	
2020	Safer Skies Initiative launched by Canada
2020	Safer Skies Consultative Committee (SSCC)
2020, 2022, 2023	Safer Skies Forums
2021	ICAO Gap Analysis
2021	Dutch Safety Board report *Safe flight routes – Responses to escalating conflicts*
2022	ICAO 41st General Assembly – Safer Skies Consultative Committee (SSCC) working paper recommending the review of Doc 10084
2023	Publication of Doc 10084 Risk Assessment Manual for Civil Aircraft Operations Over or Near Conflict Zones , 3rd edition
2024, 2025	Joint SSCC/ICAO Regional Awareness Seminars

HISTORICAL CONTEXT

AZERBAIJAN AIRLINES FLIGHT 8243

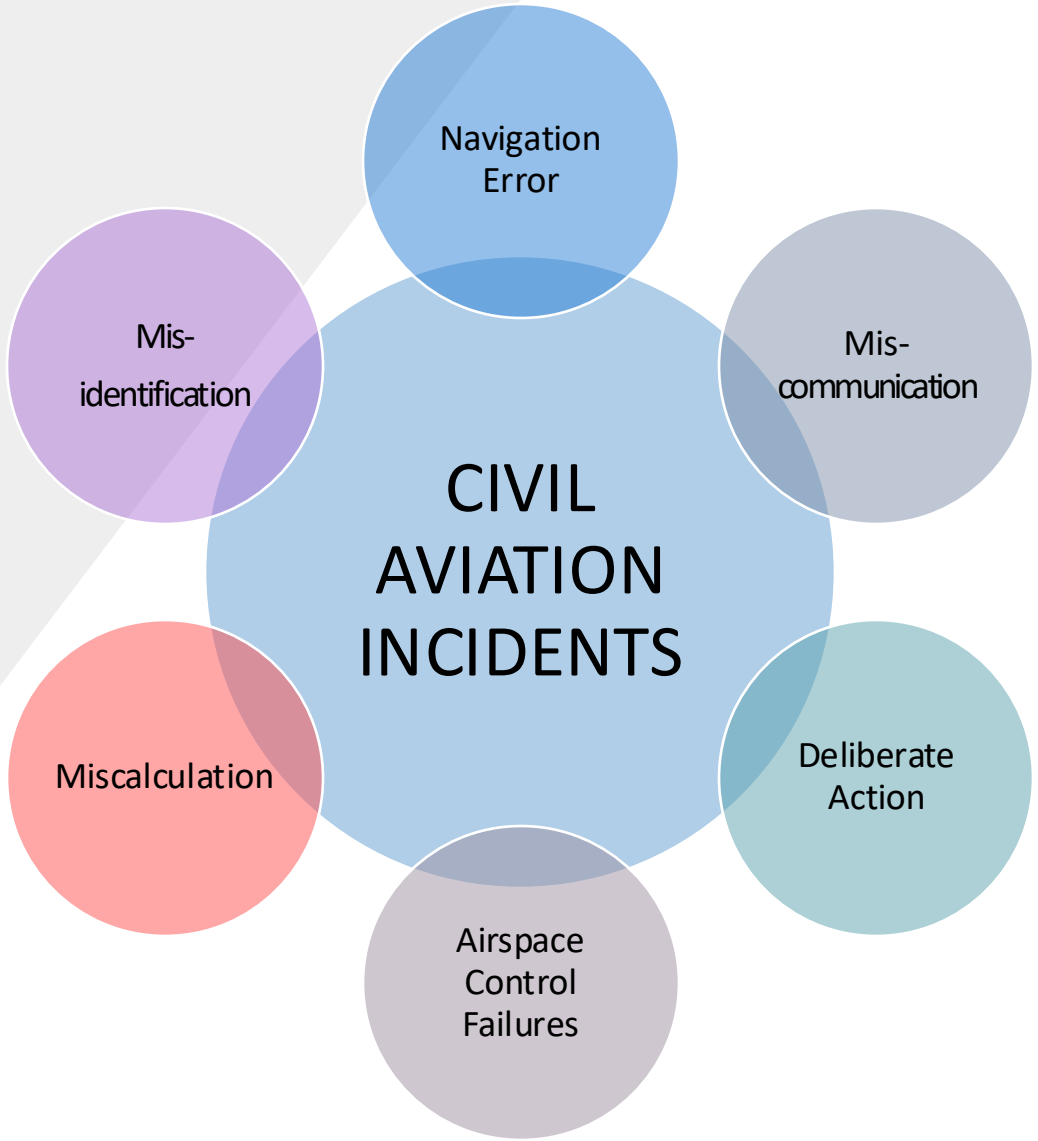
December 25, 2024

The Downing of the Embraer 190 operating the Azerbaijan Airlines, during the aircraft's approach to Grozny

WHAT HAPPENED?

- All 176 passengers and crew were killed
- J2-8243 – Preliminary report
  - ✓ Damage appears to be from anti-aviation weaponry
  - ✓ GNSS interference
  - ✓ Drone incursion

HISTORICAL CONTEXT

QUESTIONS / DISCUSSION POINTS

Can you identify any parallels between those incidents and scenarios you've experienced in your professional capacities?