



**International Air Law Treaty Workshop,  
Dar es Salaam , Tanzania  
25 to 27 February 2026**

**Legal Affairs and External Relations Bureau**

**INTERNATIONAL  
CIVIL AVIATION  
ORGANIZATION**





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# Session 3: The evolution of aerial crime - enhancements in the Beijing Instruments of 2010 – dealing with new and emerging threats to civil aviation

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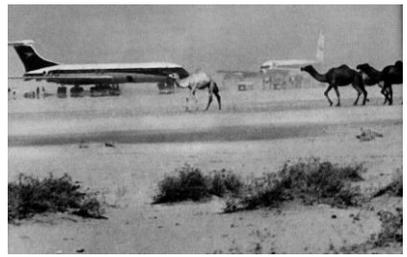
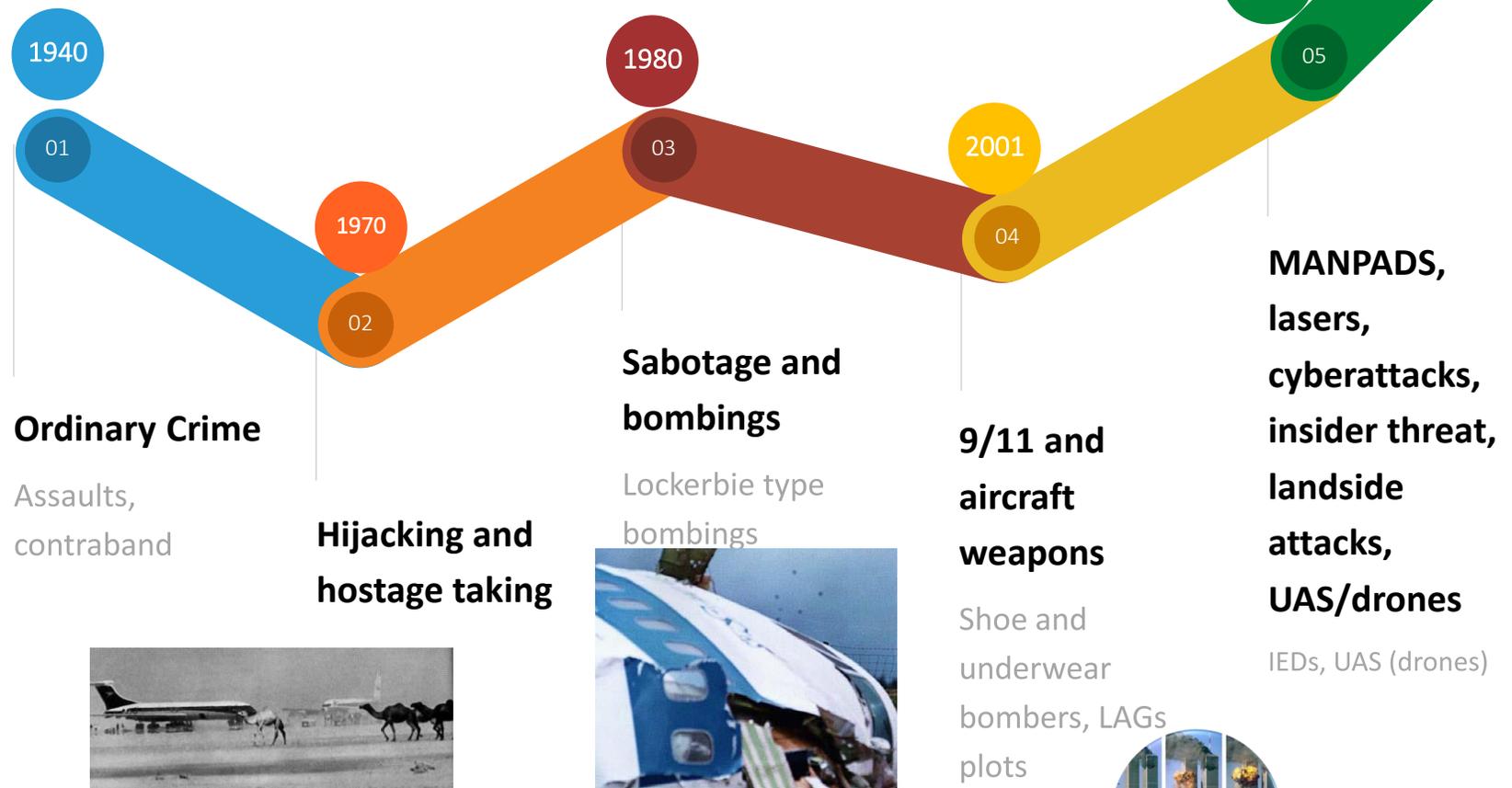
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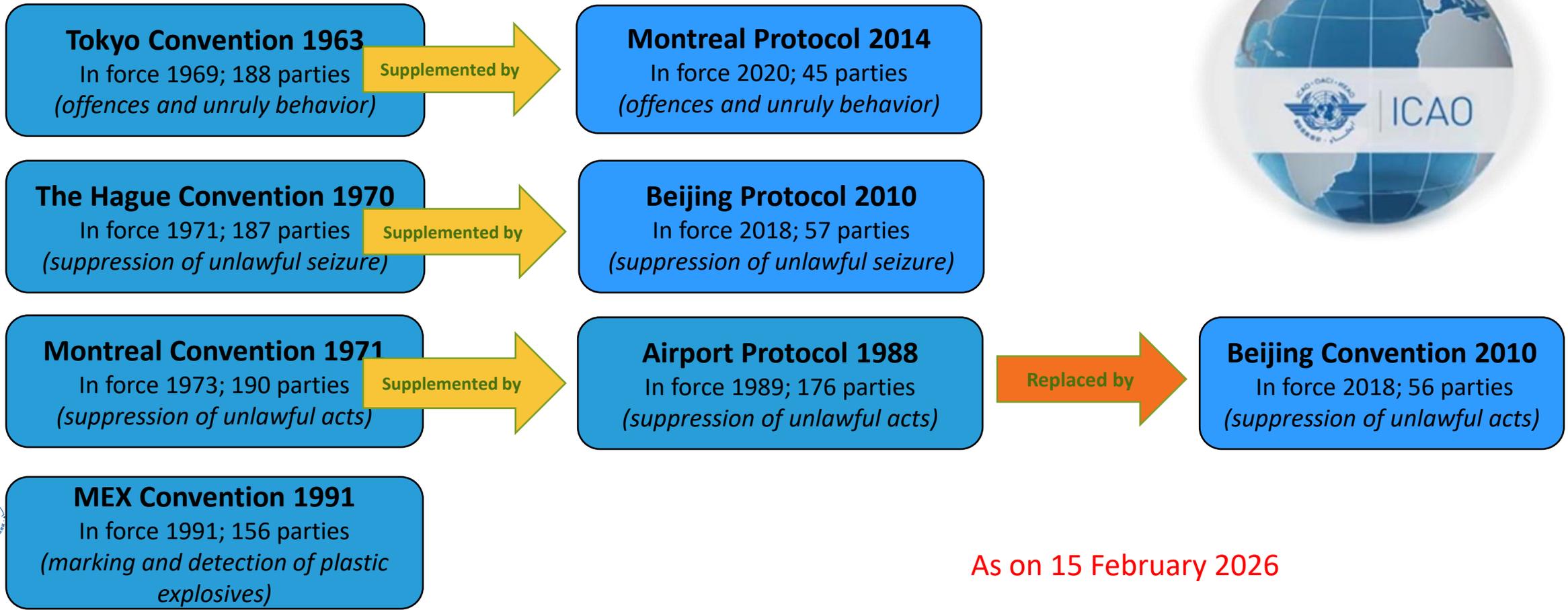


# Milestones in aerial crime and acts of unlawful interference





# Summary of International AVSEC Treaties



# Study on legal measures to cover new and emerging threats



WORKING PAPER



INTERNATIONAL CIVIL AVIATION ORGANIZATION

A35-WP/88  
EX/29  
24/9/04  
English only

A-1

A35-WP/88  
EX/29

## ASSEMBLY — 35TH SESSION

### EXECUTIVE COMMITTEE

- Agenda Item 14: Aviation security
- 14.1: Developments since the 33rd Session of the Assembly

### ICAO AVIATION SECURITY PLAN OF ACTION PROJECT 12 : LEGAL

#### INFORMATION PAPER

#### SUMMARY

This paper presents the study on legal measures to cover the new and emerging threats to civil aviation.

1. The Study on Legal Measures to Cover the New and Emerging Threats to Civil Aviation (English only), prepared by the Secretariat for the Aviation Security Plan of Action, Project 12: Legal, is set out as Appendix to this paper. This study has been referred to in paragraph 3.4.1.1 of A35-WP/49 “Developments since the 33rd Session of the Assembly”.
2. Other language versions will be available at a later stage.

(13 pages)  
A.35.WP.EX29.en.EX29.wpd

## 1. INTRODUCTION

1.1 The ICAO Assembly adopted, in October 2001, Resolution A33-1 – *Declaration on misuse of civil aircraft as weapons of destruction and other terrorist acts involving civil aviation*, which directed the Council and the Secretary General to act urgently to address the new and emerging threats to civil aviation, in particular to review the adequacy of the existing aviation security conventions. Pursuant to this Resolution and recommendations of the High-level, Ministerial Conference on Aviation Security held in February 2002, the Council, in June 2002, approved an ICAO Aviation Security Plan of Action, which contains Project 12 – Legal Aspects. Project 12 mandates a review of existing legal instruments in aviation security so as to identify gaps and inadequacies as to their coverage in relation to the new and emerging threats. This document analyzes the coverage of new and emerging threats in existing aviation security conventions and identifies gaps and inadequacies in these conventions. The study focuses on the panel aspects of unlawful interference against civil aviation. It does not address the issue of liability in relation to unlawful interference. In its conclusion, the document contains preliminary recommendations on how to deal, from a legal point of view, with new and emerging threats to civil aviation.

## 2. DESCRIPTION OF NEW AND EMERGING THREATS

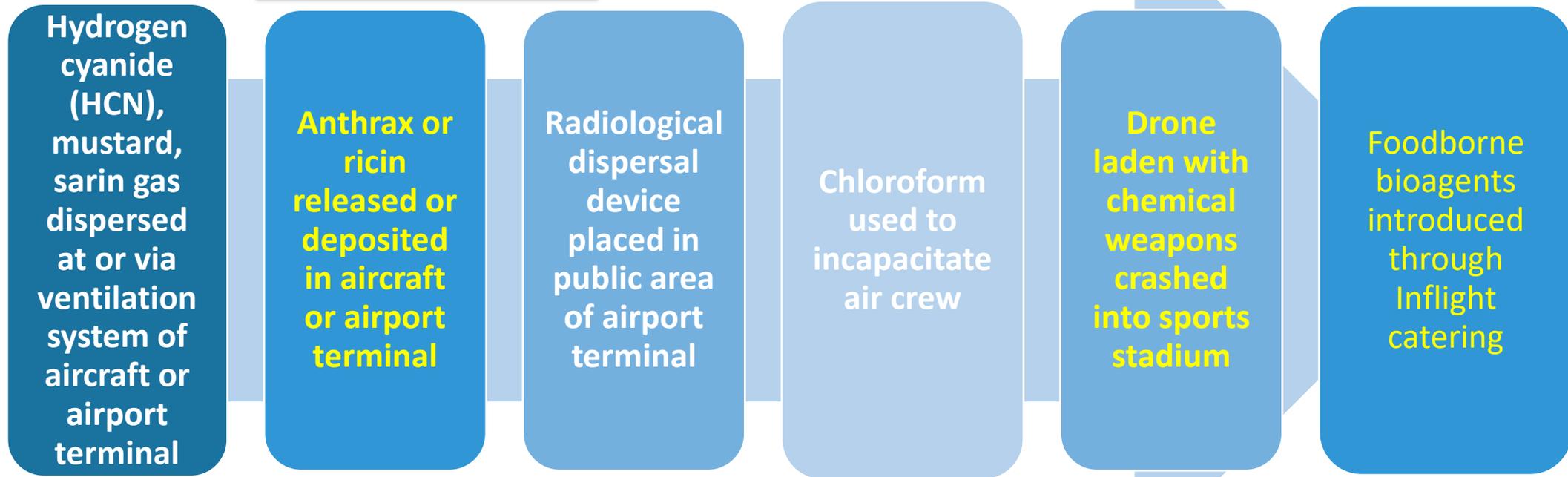
2.1 According to an ICAO study group on new and emerging forms of threat to civil aviation, the term “new threat” refers to acts that make use of methods, actions or objects not previously considered to pose a serious threat to civil aviation. The term “emerging threat” refers to those existing methods, actions or objects that could conceivably be used in an act of unlawful interference which have not yet been employed or documented for use against civil aviation.

2.2 The following threats are the focus of the current study:

- 1) Misuse of aircraft as weapons;
- 2) Suicide attacks in the air and on the ground;
- 3) Electronic attacks using radio transmitters or other means to jam or alter the state of ground or airborne navigation or guidance control systems thereby endangering the safety of persons and aircraft;
- 4) Computer-based attacks which block or alter aeronautical communications or interfere with other aviation operations (e.g. aeronautical data banks) which can endanger the safety of persons and aircraft;
- 5) Chemical and biological attacks against the air travelling public or to disrupt air operations and deny use of aviation facilities by threatening its use;
- 6) Misuse of nuclear or other radioactive materials to endanger persons, contaminate property and deny use of aviation facilities; and
- 7) Attacks by making use of Man-Portable Air Defence Systems (MANPADS).



# “If it can happen ...it will”: Scenarios for BCN attacks on civil aviation



Hydrogen cyanide (HCN), mustard, sarin gas dispersed at or via ventilation system of aircraft or airport terminal

Anthrax or ricin released or deposited in aircraft or airport terminal

Radiological dispersal device placed in public area of airport terminal

Chloroform used to incapacitate air crew

Drone laden with chemical weapons crashed into sports stadium

Foodborne bioagents introduced through Inflight catering

# Timeline



## Legal Study (2002)

Adequacy of existing AvSec Conventions to address new and emerging threats to civil aviation

## Special Sub-Committee (2007-08)

Technical legal drafting concepts applied to identified gaps

## Diplomatic Conference (2010)

Instruments adopted at the conference held in Beijing China, 30 August to 10 September 2010

## Secretariat Study Group (2005)

Criminalisation of threats, apply provisions in recent UN counter-terrorism Conventions

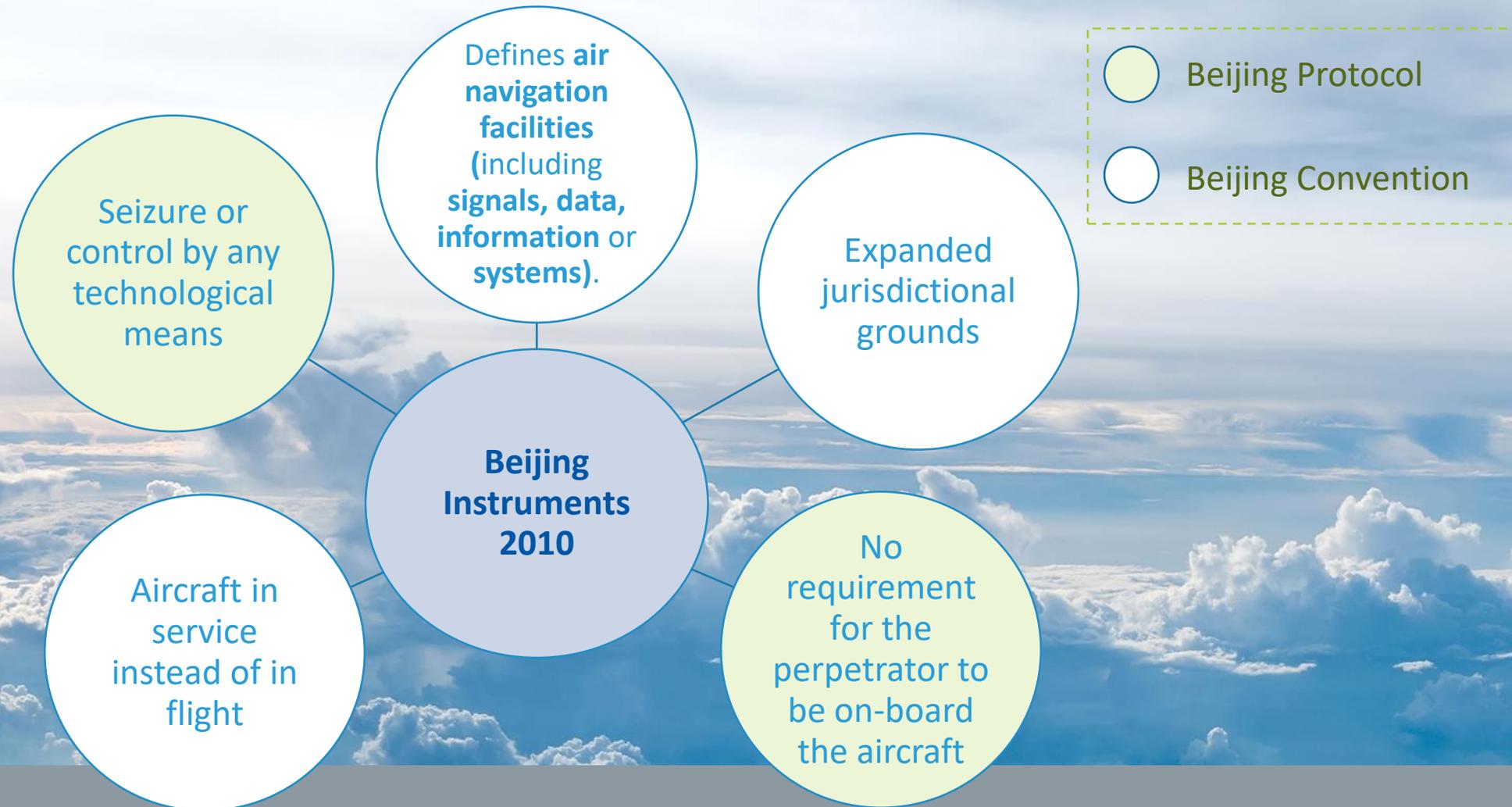
## Legal Committee (2008-2009)

Final draft texts developed at 33<sup>rd</sup> and 34<sup>th</sup> Sessions in Montreal and reported to the ICAO Council

## Entry Into Force (1 January 2018 and 1 July 2018)



# ENHANCEMENTS OF BEIJING INSTRUMENTS 2010



# Cyber Attack Scenario – Air Traffic Control (ATC) and Primary Surveillance Radar (PSR)

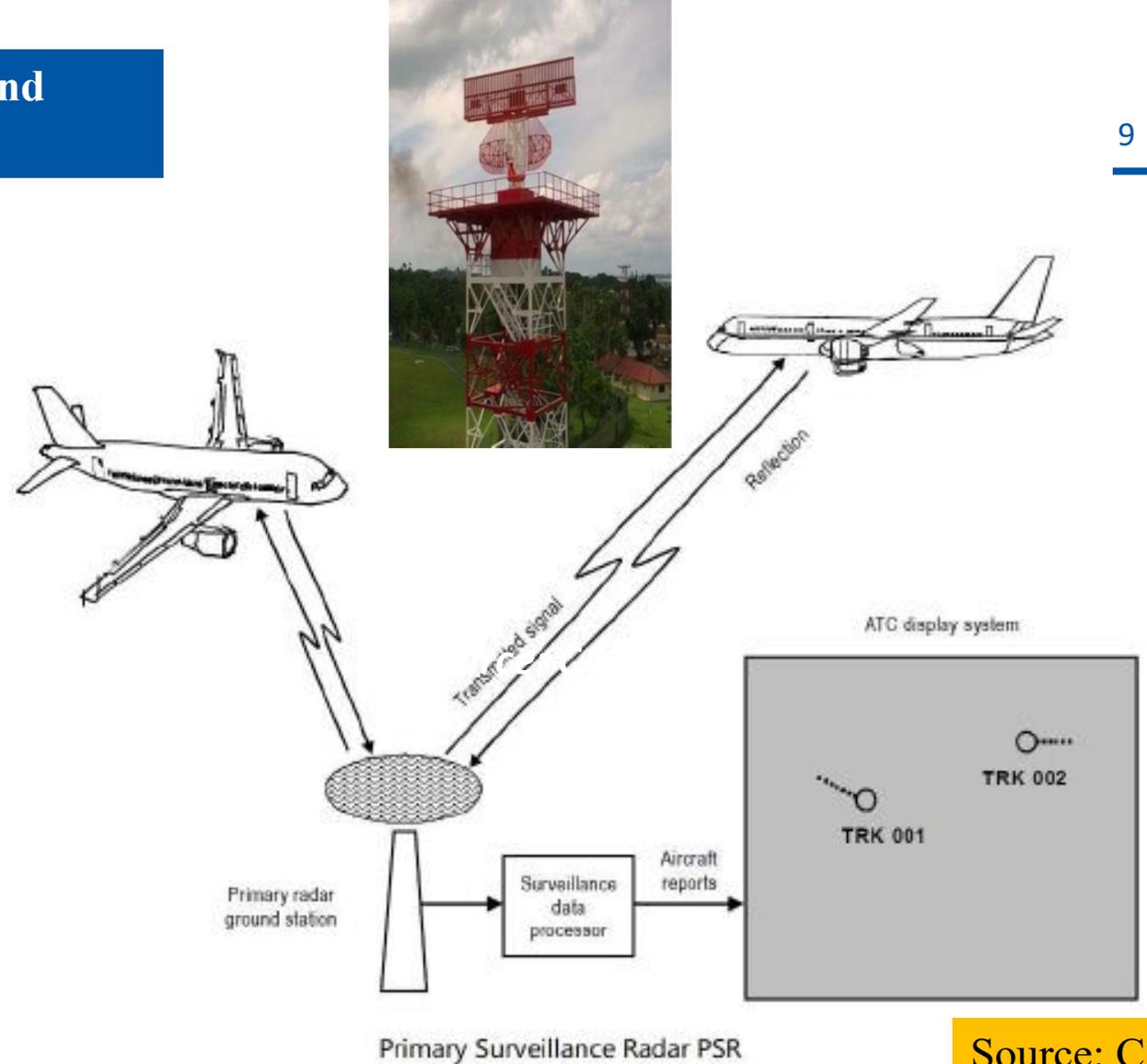
## Article 1 (d) and (e) - Montreal Convention 1971

### Article 1

1. Any person commits an offence if that person unlawfully and intentionally: ...

(d) destroys or damages **air navigation facilities** or interferes with their operation, if any such act is likely to endanger the safety of aircraft in flight;

(e) **communicates information** which he knows to be **false**, thereby endangering the safety of an aircraft in flight.



Source: CAAS



## Beijing Convention 2010:

Article 2, paragraph c):

“Air navigation facilities” include **signals, data, information or systems** necessary for the navigation of aircraft



## Changes to the offence of “Hijacking”

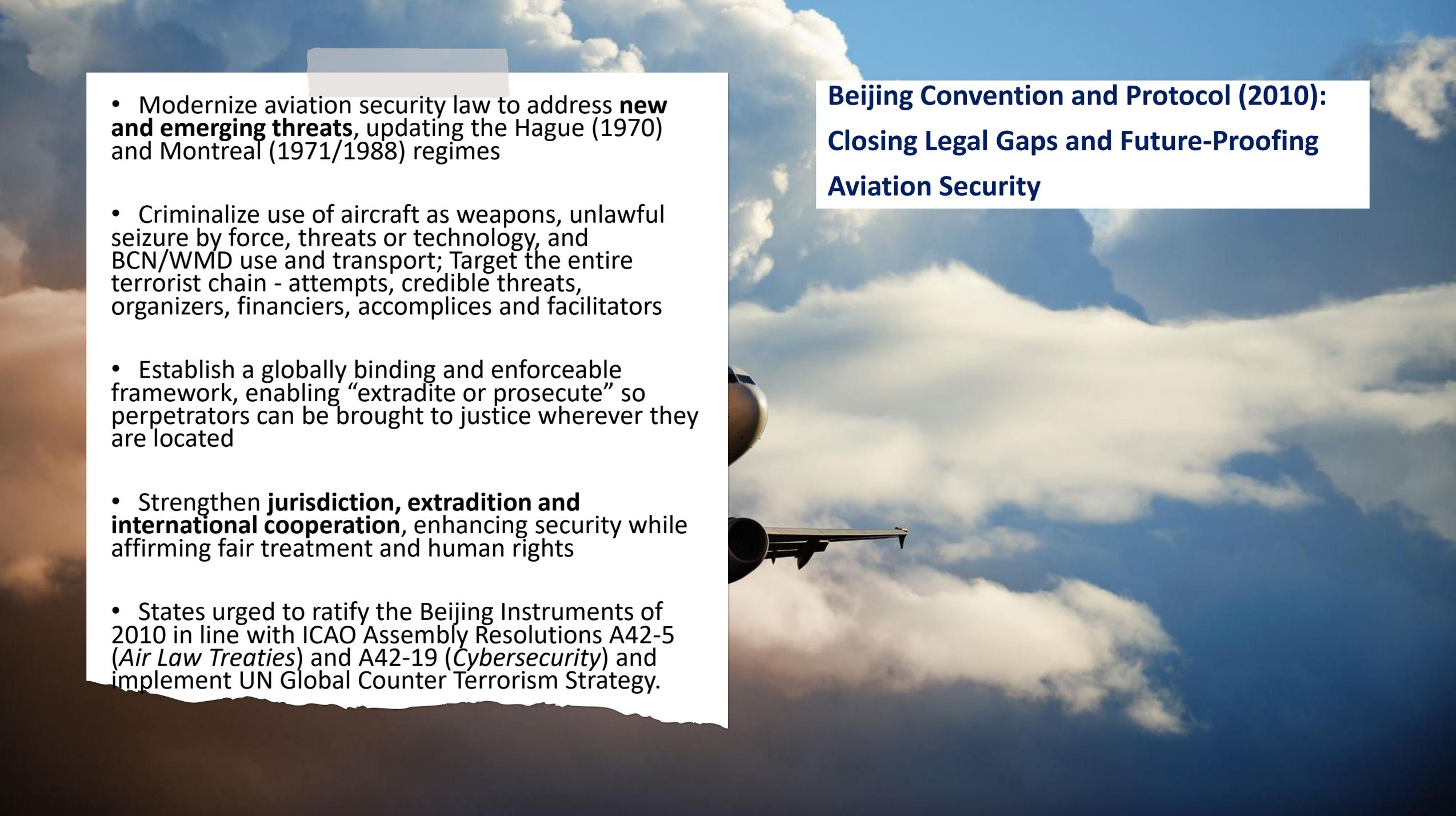
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### HAGUE 1970 (Article 1)

Any person who on board an aircraft in flight: unlawfully, by force or threat thereof, or by any other form of intimidation, seizes, or exercises control of, that aircraft, or attempts to perform any such act, or is an accomplice of a person who performs or attempts to perform any such act commits an offence.

### BEIJING 2010 (Article 1)

Any person ~~who on board an aircraft in flight:~~ commits an offence if that person unlawfully and intentionally, seizes, or exercises control of an aircraft in service by force or threat thereof, or by coercion or by any other form of intimidation, or by any technological means.

- 
- Modernize aviation security law to address **new and emerging threats**, updating the Hague (1970) and Montreal (1971/1988) regimes
  - Criminalize use of aircraft as weapons, unlawful seizure by force, threats or technology, and BCN/WMD use and transport; Target the entire terrorist chain - attempts, credible threats, organizers, financiers, accomplices and facilitators
  - Establish a globally binding and enforceable framework, enabling “extradite or prosecute” so perpetrators can be brought to justice wherever they are located
  - Strengthen **jurisdiction, extradition and international cooperation**, enhancing security while affirming fair treatment and human rights
  - States urged to ratify the Beijing Instruments of 2010 in line with ICAO Assembly Resolutions A42-5 (*Air Law Treaties*) and A42-19 (*Cybersecurity*) and implement UN Global Counter Terrorism Strategy.

## Beijing Convention and Protocol (2010): Closing Legal Gaps and Future-Proofing Aviation Security

# States Parties to the Beijing 2010 Instruments

## Beijing Convention 2010

**56 Parties**

Angola, Bahrain, Benin, Botswana, Burkina Faso, Cabo Verde, China, Congo, Côte d'Ivoire, Cuba, Cyprus, Czech Republic, Dominican Republic, Equatorial Guinea, Eswatini, Finland, France, Gabon, Gambia, Germany, Ghana, Guyana, Honduras, Kazakhstan, Kuwait, Luxembourg, Mali, Malta, Mongolia, Mozambique, Myanmar, Namibia, Netherlands, Oman, Panama, Paraguay, Portugal, Romania, Russian Federation, Rwanda, Saint Kitts and Nevis, Saint Lucia, Seychelles, Sierra Leone, Singapore, Slovakia, Somalia, Sweden, Switzerland, Tunisia, Turkey, Turkmenistan, Uganda, United Arab Emirates, Uruguay.

## Beijing Protocol 2010

**57 Parties**

Angola, Bahrain, Benin, Botswana, Burkina Faso, Cabo Verde, China, Congo, Côte d'Ivoire, Cuba, Cyprus, Czech Republic, Dominican Republic, Equatorial Guinea, Eswatini, Finland, France, Gabon, Gambia, Germany, Ghana, Guyana, Honduras, India, Kazakhstan, Kuwait, Luxembourg, Mali, Malta, Mongolia, Mozambique, Myanmar, Namibia, Netherlands, Oman, Panama, Paraguay, Portugal, Romania, Russian Federation, Rwanda, Saint Lucia, Saint Kitts and Nevis, Saudi Arabia, Seychelles, Sierra Leone, Singapore, Slovakia, Somalia, Sweden, Switzerland, Tunisia, Turkey, Turkmenistan, Uganda, United Arab Emirates, Uruguay.

**Scenario:** A hacker group called CyberJustice coordinated cyberattacks on several aircraft departing from an airport in Country A. The attacks targeted the flight management systems of the aircraft. The attacks involved hacking into the aircraft onboard computers, through the airline's supporting ground networks and data links, and altering the flight parameters, such as the speed, heading, altitude, and fuel consumption. This resulted in unexpected changes in the flight path and performance of the aircraft and eventually disabling its flight control systems. In one case the erratic changes caused an engine on the aircraft to shut down. The pilots were unable to override the hacked systems and had to rely on their manual skills and backup instruments to regain control of the aircraft. Unfortunately, the aircraft crashed while the pilots attempted to land using the remaining engine, with the loss of some lives and substantial damage to the aircraft.



*Following investigation, the cyberattack originating in State B was identified as a proximate cause of the accident. State A demanded that State B hand over the members of the CyberJustice group for prosecution in compliance with the Beijing Convention and Protocol of 2010. While State A has ratified all aviation security instruments the last aviation security treaties ratified by State B was the Hague Convention 1970 and Montreal Convention of 1971.*



***Advise State A on the applicability of existing aviation security treaties to address the attack***



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# Session 3 (Part2): Key Provisions and Implementation of the the Beijing Instruments of 2010

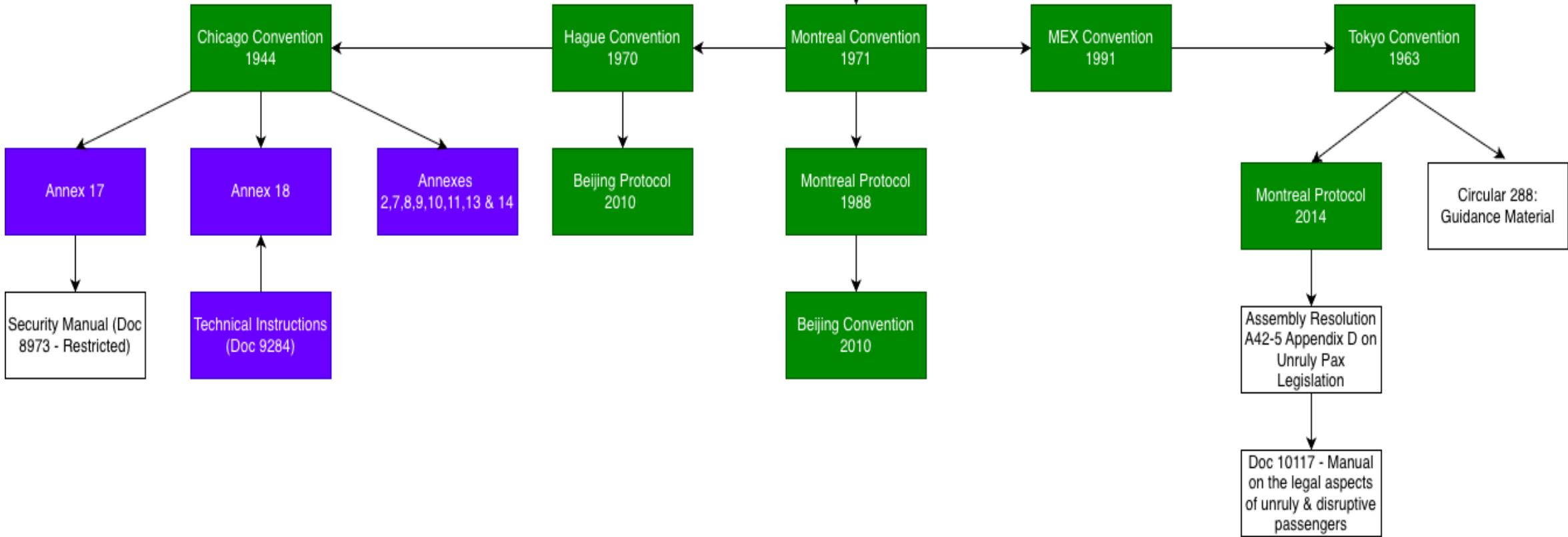
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# International Legal Framework for Aviation Security

## Treaties, Standards and Guidance



# Beijing Instruments 2010: The New Wall Safeguarding Aviation



## Adopted further to 9/11 events

- **Beijing Convention (Article 1):** *replacing Montreal Convention 1971 & Montreal Protocol 1988*
  - aircraft as weapon
  - spread of BCN
  - organisers, directors, financiers, accomplices
  - credible threat
  - transportation of WMDs (BCN, explosives and nuclear material)
- **Beijing Protocol:** *amending Hague Convention 1970* (Art II)
  - Coercion and threats
  - Technological means
  - Organisers, directors, financiers (“bin Laden” acts)

# Beijing Convention 2010 - Criminalisation



Use of civil aircraft  
as a weapon

Using or releasing  
BCN weapons,  
explosives



Transport of BCNs,  
equipment materials  
or technology



Cyber attacks on air  
navigation facilities



Attempts,  
credible threats,  
accomplices,  
organizers,  
directors,  
conspirators,  
contributors



# Beijing Convention - List of Offences

**Article 1 (1)** Use of aircraft as weapon (f); release of BCN weapon from an aircraft, use of BCN weapon on board or against an aircraft, transport of BCN or related material on board (g).

**Article 1 (3)**

Threat of committing any of the offences

**Article 1 (4)**

Attempting organizing or directing, participating, abetting an offence

**Article 1 (5)**

Participating in a criminal association aimed at committing any of the offences

**Article 3**

Obligation to make offences punishable by severe penalties

**Article 5**

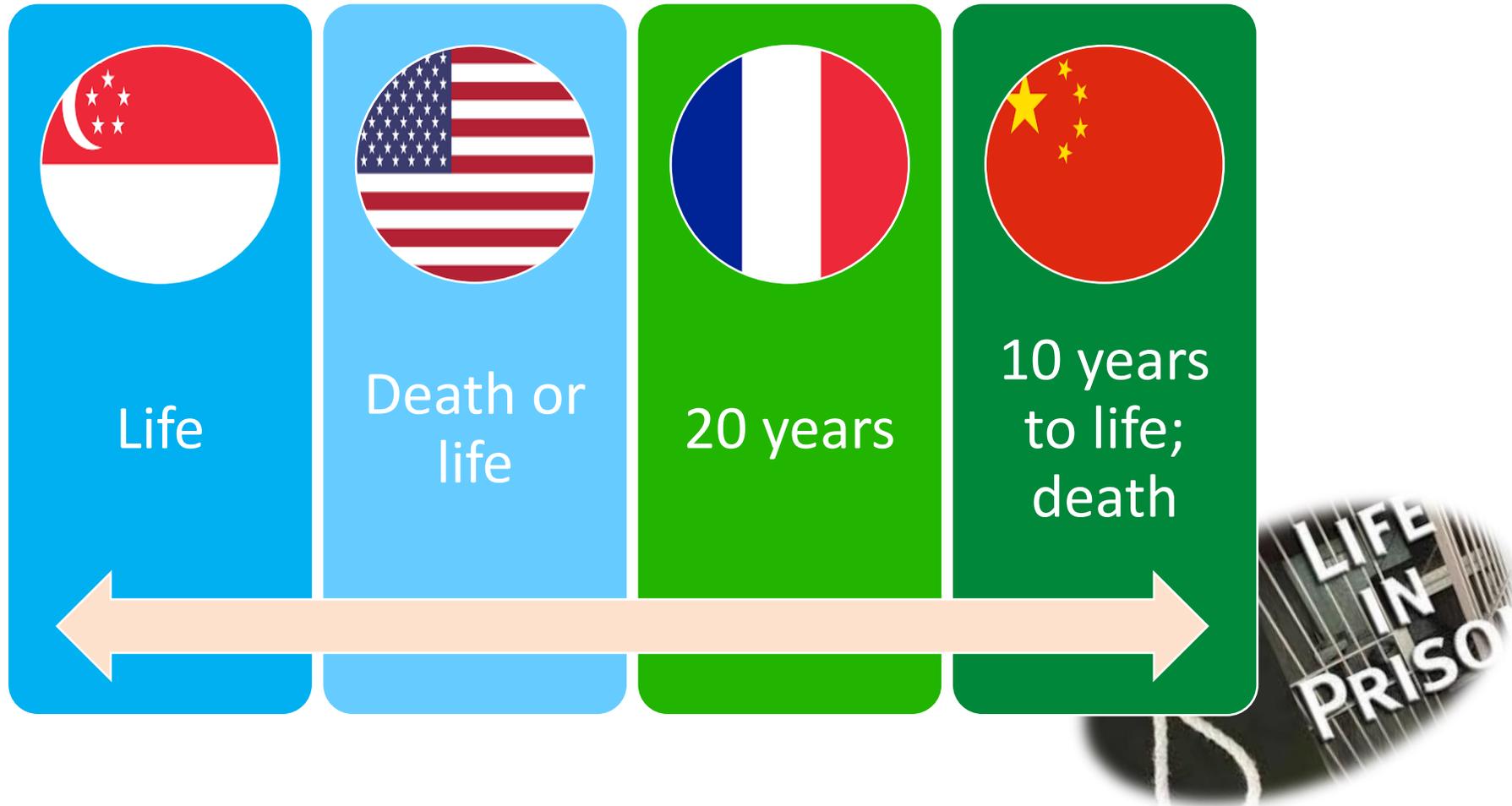
Applies only to civil aircraft , not State aircraft

**Article 8**

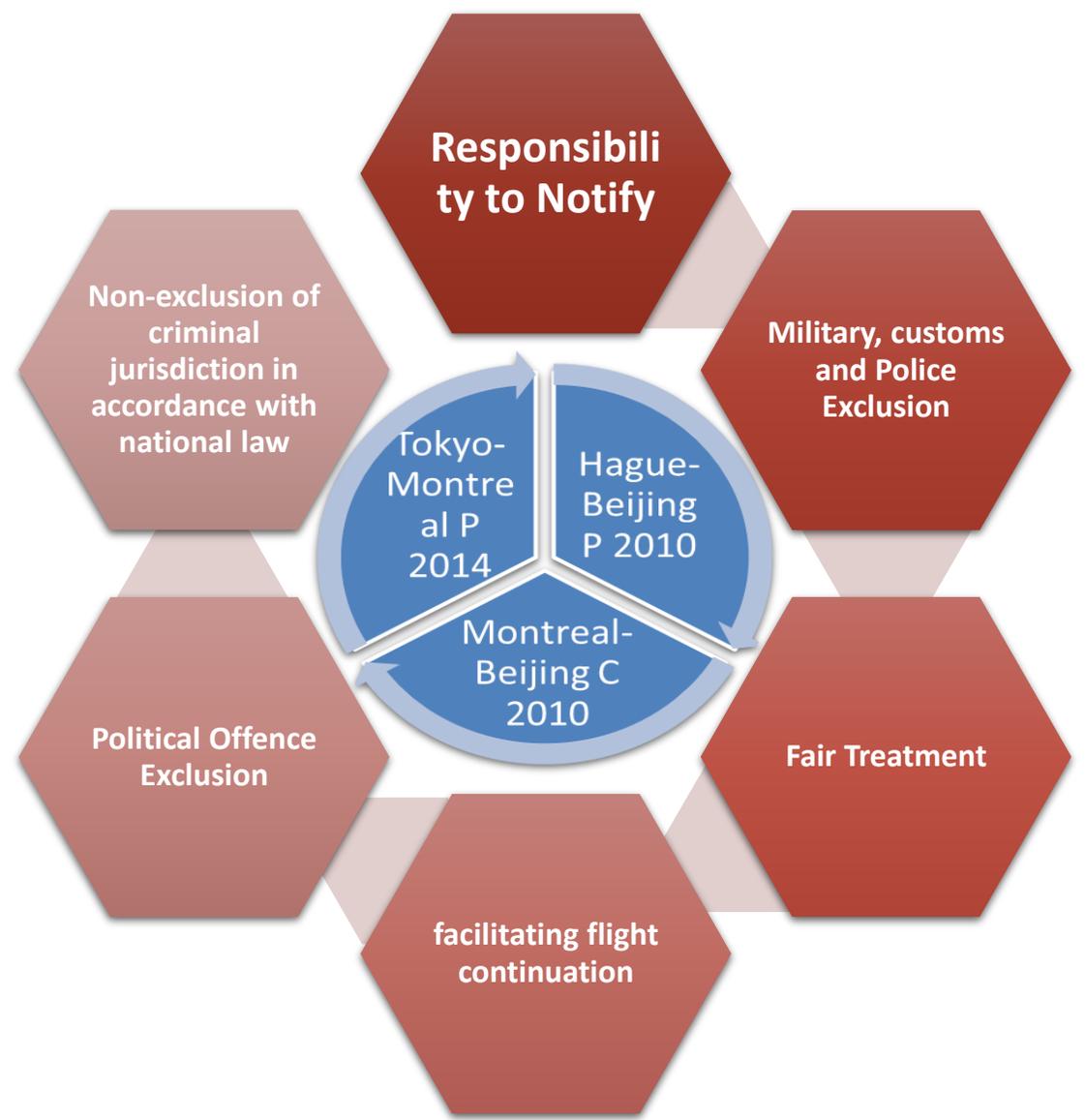
Quasi-universal jurisdiction

# Beijing Convention & Protocol 2010

- “*offences ... punishable by severe penalties*”



# COMMON PROVISIONS OF THE TREATIES



## Article 1

1. Any person commits an offence if that person unlawfully and intentionally: (a) performs an act of violence against a person on board an aircraft in flight if that act is likely to endanger the safety of that aircraft; or (b) destroys an aircraft in service or causes damage to such an aircraft which renders it incapable of flight or which is likely to endanger its safety in flight; or (c) places or causes to be placed on an aircraft in service, by any means whatsoever, a device or substance which is likely to destroy that aircraft, or to cause damage to it which renders it incapable of flight, or to cause damage to it which is likely to endanger its safety in flight; or (d) destroys or damages air navigation facilities or interferes with their operation, if any such act is likely to endanger the safety of aircraft in flight; or (e) communicates information which that person knows to be false, thereby endangering the safety of an aircraft in flight;

## Article 3

Each State Party undertakes to make the offences set forth in Article 1 punishable by severe penalties.



## Domestication of International provisions

Determine  
Scope

Prescribe  
offence

Impose  
penalty

*“Nulla poena sine lege”*



## Endangering the safety of an aircraft in service

6. Any person who —
- (a) destroys or causes damage to an aircraft which is likely to endanger the safety of the aircraft;
  - (b) performs an act of violence against any person on board an aircraft, thereby endangering the safety of an aircraft;
  - (c) takes hostage of any person on board an aircraft;
  - (d) places or causes to be placed any weapon, hazardous device, or substance on an aircraft which is likely to endanger the safety of an aircraft;
  - (e) knowingly communicates false information to a responsible officer, thereby endangering the safety of an aircraft;
  - (f) destroys or damages any air navigation installation or interferes with its operation; thereby endangering the safety of an aircraft;
  - (g) uses an aircraft for the purpose of causing death or bodily injury;
  - (h) uses an aircraft to cause damage to property or the environment; or
  - (i) performs any act which is intended or is likely to endanger the safety of that air navigation installation or aircraft in service or in flight, or renders it incapable of operation or service, **commits an offence and is liable to imprisonment for life.**

# Communicating false information

(3) Any person who communicates to a responsible authority any information which is misleading or deceptive in a material particular, **where the communication endangers or is likely to endanger the safety of an aircraft in service or of any person, commits an offence.**

(4) **It shall be a defence** for a person charged with an offence under subsection (3) or section 6 (e) to prove that —

(a) he or she believed and had reasonable ground to believe that the information was true; or

(b) when he or she communicated the information, he or she was lawfully employed to perform duties which included the communication of information and communicated the information in good faith in the performance of those duties.

(6) Any person who commits an offence under subsections (1), (2) or (3) **is liable to imprisonment for life.**



RESOLUTIONS ADOPTED AT THE 41ST SESSION OF THE ASSEMBLY  
PROVISIONAL EDITION

Resolution A41-1: *Infraction of the Convention on International Civil Aviation by the Republic of Belarus*

Recalling the Decision of the ICAO Council of 27 May 2021 concerning the Incident involving Ryanair Flight FR4978 in Belarus airspace on 23 May 2021;

Having considered the report of the Fact-Finding Investigation Team (FFIT) instituted by the Secretary General pursuant to that decision of the ICAO Council; bearing in mind the provisions and principles of the Convention on International Civil Aviation, while the primary objective of ICAO continues to be that of ensuring the safety and security of international civil aviation worldwide;

Considering the paramount importance of preserving the safety of international civil aviation as enshrined in the Convention on International Civil Aviation and its Annexes;

Noting that the ICAO Council, on 18 July 2022, determined that, based on the facts established by the FFIT, a number of senior officials of the Government of Belarus had knowingly participated or were involved in providing information about a false bomb threat to Ryanair Flight FR4978 leading to its diversion to land at Minsk Airport;

Further noting that the ICAO Council concluded with grave concern, that based on the facts established by the FFIT, the safety of Ryanair Flight FR4978 was endangered when a false bomb threat was communicated to the flight crew, on the instructions of senior government officials of Belarus, and that the actions of the Government of Belarus in committing an act of unlawful interference that deliberately endangered the safety and security of Ryanair Flight FR 4978 and the lives of all those on board, amounted to a flagrant and serious violation of the Convention on International Civil Aviation;

Recalling that the use of civil aviation by any State for any purpose inconsistent with the aims of the Convention on International Civil Aviation would contravene the spirit of the said Convention, its Preamble as well as its Article 4;

Considering that the ICAO Council further decided to submit this matter to the 41st Session of the ICAO Assembly, in accordance with Article 54 k) of the Convention on International Civil Aviation;

The Assembly:

1. Endorses the determination of the ICAO Council that, based on the findings of the FFIT Report, the actions of the Government of Belarus in knowingly participating in or being involved in providing information about a false bomb threat to Ryanair Flight FR4978 leading to its diversion to land at Minsk Airport, and thereby deliberately endangering the safety and security of a commercial passenger aircraft and the lives of all those on board, amounted to the use of civil aviation by Belarus for a purpose inconsistent with the aims of the Convention on International Civil Aviation which is a flagrant and serious violation of its Article 4;

**Beijing Convention Article 1(1) ( e): communicates information which that person knows to be false, thereby endangering the safety of an aircraft in flight**



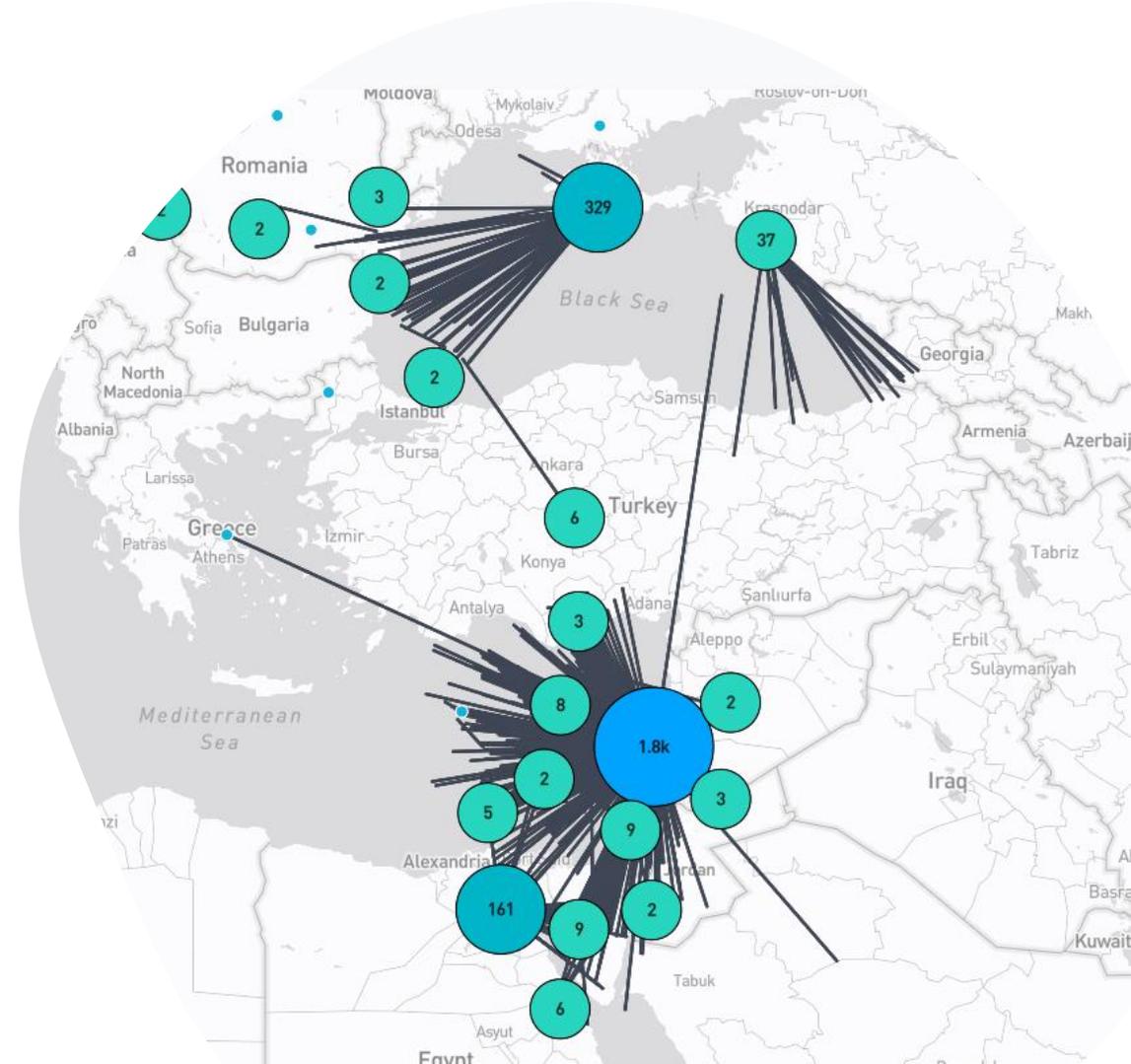
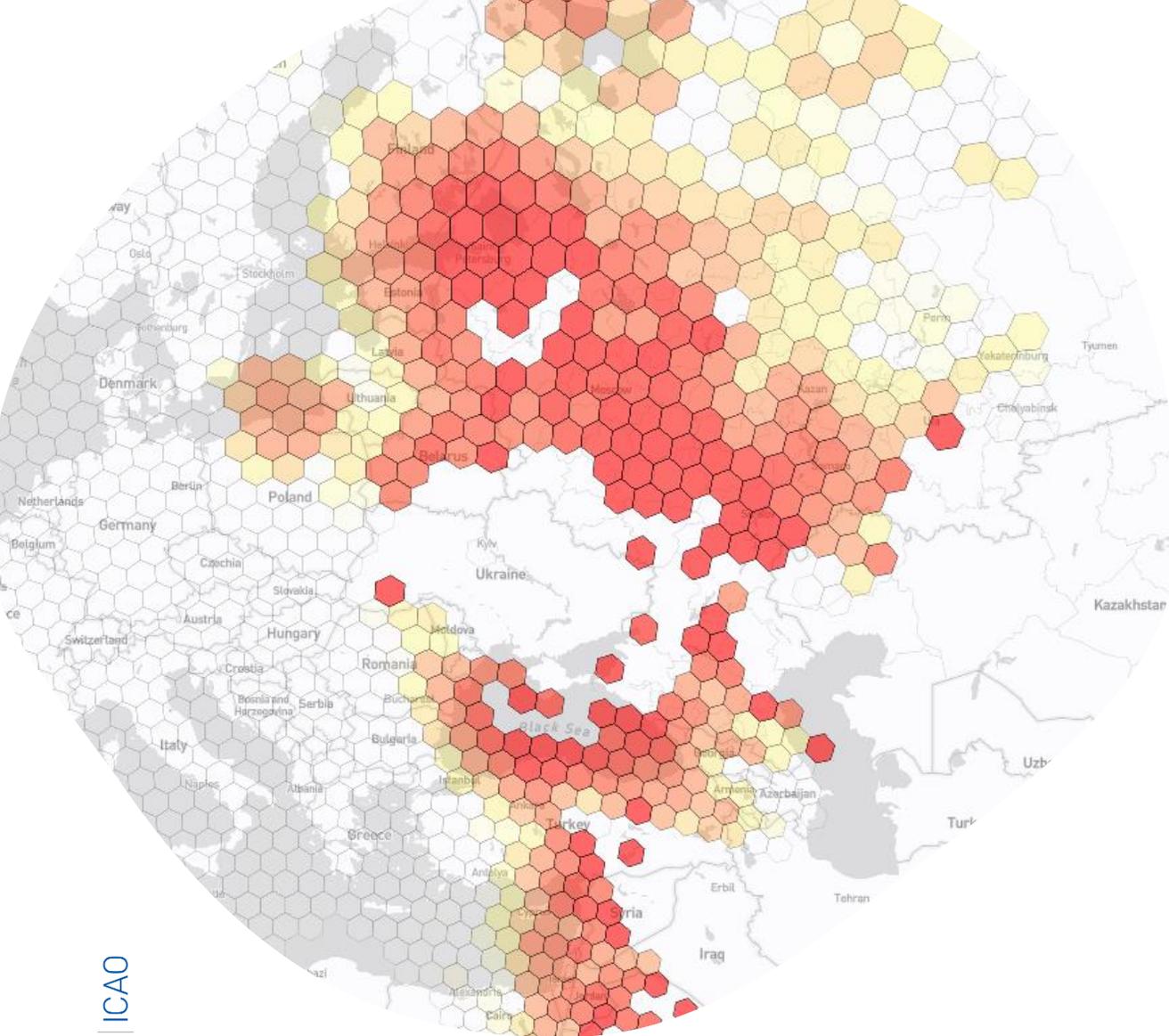
# GNSS Vulnerability

GNSS signals are susceptible to interference, both intentional and unintentional, which can compromise system reliability and accuracy

**Jamming** is Intentional broadcasting of radio signals at GNSS frequencies can disrupt services, posing a significant threat to navigation and timing applications.

**Spoofing** is the broadcast of GNSS-like signals that cause avionics to calculate erroneous positions and provide false guidance. This sophisticated form of interference can be particularly dangerous as it may go undetected by the receiver.

# GNSS Spoofing



**GNSS Jamming:** Areas of potential GPS jamming are indicated by colored hexagons

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# Thank You

