



**EASA**  
European Aviation Safety Agency

# Defence and Security Challenges for Aviation Safety

**Patrick KY**  
**Executive Director**  
**European Aviation Safety Agency (EASA)**

**EP SEDE Sub-Committee Meeting**  
**Brussels, 13 07 2016**

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TE.GEN.00409-001



# EASA at a glance

***‘Our mission is to ensure the EU citizens  
safe air travel in Europe and worldwide’***



# Facts and figures

Established  
**2002**

***10 years+**  
in operation*

**800+**

aviation experts  
& administrators



Headquarters in  
**Cologne**  
Office in  
**Brussels**

**32** EASA member states  
= **28 + 4**

EU + Switzerland, Norway  
Iceland, Liechtenstein



# Civil-Military cooperation: EASA support to EU Defence industry

- The defence domain is suffering from **scarce resources** while facing higher **technological challenges**. There is a need to properly **exploit the civil-military synergies**.
- Civil and Military aircraft operate from the same airports and use the same airspace. **80-90 % of a military (transport) aircraft design can be shared with civil aircraft**.
- **Certification** is a **key enabler** of industrial growth, competitiveness and cooperation for the European defence.
- **The lack of common certification of military aircraft is adding 50% to the development time and 20% to the costs.**



# EASA single certification system: Added value

- **EASA regulatory system** including **common certification in all MS** ensures an **internal market and a level playing field**, using intensively **worldwide standards**.
- EASA has already certified the civil configuration of military or dual use products, e.g. **Airbus 400M**, the **Multi Role Tanker Transport** (MRTT), AWACS modifications, a wide range of helicopters and also Drones.
- EASA has also started **discussions with Military Airworthiness Authorities** to optimise synergies and cooperations.



# EU Security standards in Aviation

- **Security measures** have an impact on **safety** (and vice versa).
- The theoretical and operational boundaries between the two domains create silos in all organisations. **95% of civil aviation authorities are responsible for aviation safety and security.**
- It is important to achieve **synergies between the two sectors** (e.g. risk-based methodologies, performance based regulations) and to **assign clear responsibilities on common topics.**
- The need for concrete actions at EU level has been identified in certain domains: **Regional Conflict Zones (RCZ)** and **cyber-security.**



# Follow-up MH 17 crash in Ukraine



## European High Level Task Force (HLTF) on Conflict Zones

- Aim to identify high level actions so that European stakeholders can respond effectively to risks associated with conflict zones or armed insurgency.
- Final Report handed over to Commissioner Bulc on 17 March 2016.
- Output of the HLTF presented to TRAN committee and Dutch EU Presidency and discussed in the Council in June.



# Task Force Participants

- **European Commission:**
  - ✓ DG MOVE and DG HOME
- **EU External Action Service (EEAS):**
  - ✓ EU Military Staff,
  - ✓ EU Intelligence and Situation Centre (INTCEN)
- **Member States:**
  - ✓ Intelligence Agencies
  - ✓ Civil Aviation Authorities
- **Airlines**
- **EASA**

*The task Force was chaired by R. Benjamin, ex Secretary General of ICAO (until 07/15)*





# Content of discussions

- **The situation of Member States is very diverse:**
  - A few have access to a wide scope of intelligence information and have dedicated aviation risk assessment teams;
  - A few have the legal power to prohibit 'their' airlines from flying into a third country airspace;
  - The vast majority do not have this power, unless it is triggered by a recognised body action/ recommendation.
  
- **The risk is not the same for all 'flag carriers':**
  - But there is a comparable minimum threat level to all EU carriers and passengers: additional nationality-related risks are on top of it;
  - The notion of a 'national' carrier does not prevail anymore, except in symbolic terms.



# Topics discussed

- **Can all EU Member States work together to build a common agreed risk assessment ?.**
- **Who should disseminate the information, and how ?.**
- **Who is accountable for what ?.**
- **Can we define an 'emergency' procedure ?.**



# Actions

## ➤ **Member States**

- ✓ Set up national systems to assess aviation risks;
- ✓ Share information to develop a common EU risk assessment;
- ✓ Enable the timely sharing of information on emergencies.

## ➤ **European Commission**

- ✓ Develop a Common EU Risk Assessment mechanism, under the auspices of DG HOME.

## ➤ **Operators**

- ✓ Make use of available information and recommendation to perform their own risk assessment and take operational decisions;
- ✓ Share risk assessment information with national authorities and the RCZ Network.

## ➤ **EASA**

- ✓ Publish information and recommendations based on common EU risk assessment;
- ✓ Take into account the needs for both consultation and timely dissemination of information

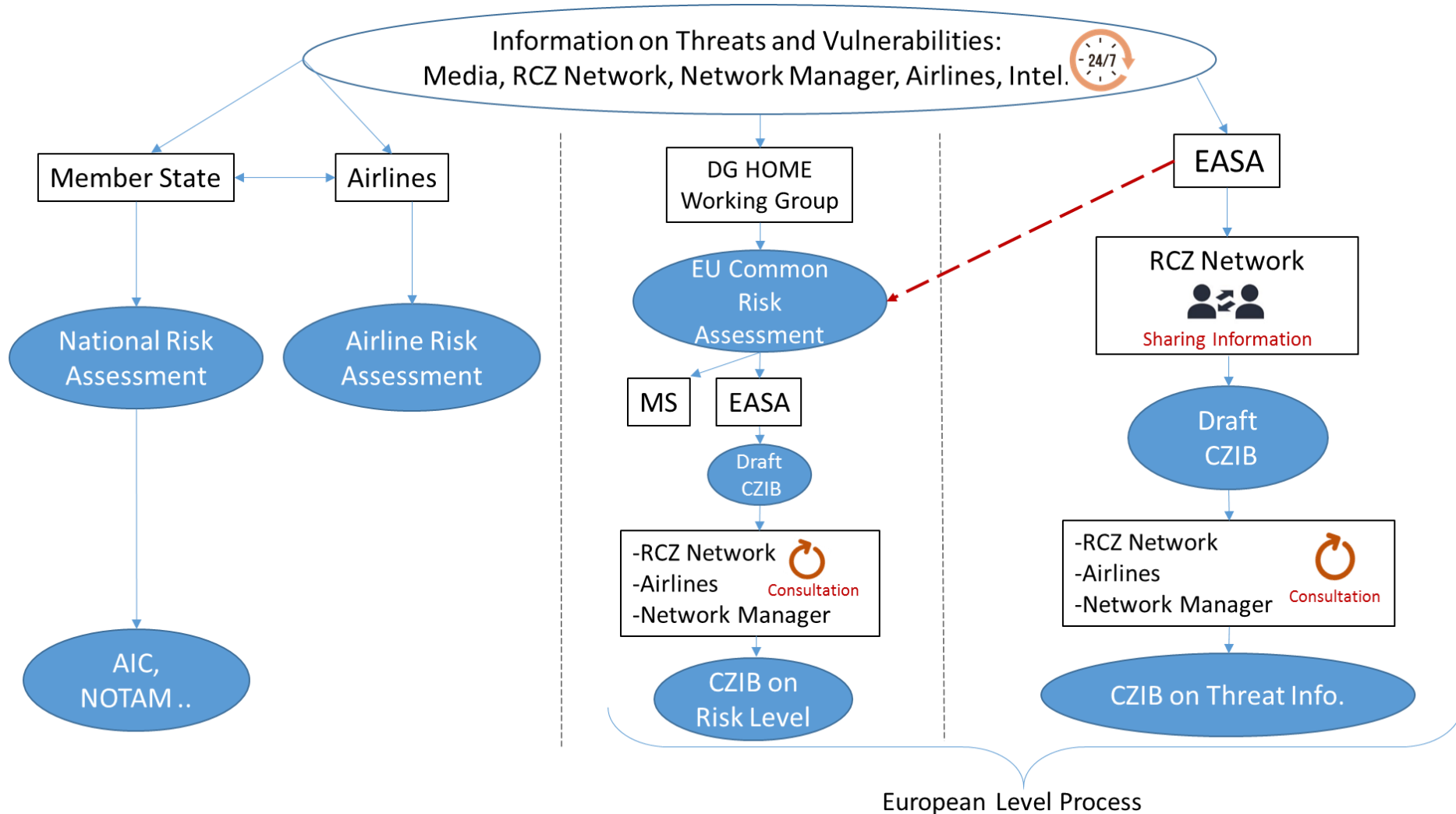


# EASA Implementation

- Full implementation started in June 2016:
  - ✓ Set-up of a **mechanism to inform citizens and airlines** from all MS using existing tools: EASA Safety Information Bulletins (**EASA CZIBs**).
  - ✓ Set-up of a quick reaction mechanism in case of emergencies: **Regional Conflict Zone Alerting System** (RCZ Process) with a RCZ Network (EC, EASA, MS Focal Points).
  - ✓ **Risk assessment:** Regular DG HOME working group meetings (min. 4 times a year). Risk assessments (last meeting 29th June) to be published through the corresponding EASA CZIB (probably in July).



# RCZ Alerting System





# Cybersecurity Strategy for Aviation

- **Cyber-threats** to civil aviation are becoming **more frequent and sophisticated** every day: critical assets are at risk.
- EASA held a **Cybersecurity Conference**:
  - May 2015 in Brussels;
  - With 120 invited participants from EU Institutions, Member State CAA's, Industry (Airports, ANSPs, Manufacturers, etc.).
- European Commission and Member States mandated **EASA to develop an Action Plan** to:
  - Develop a coordinated defense against cyber-threats;
  - Minimize duplication and remove loopholes in regulation;
  - Approved at an EC Inter-Service Cybersecurity meeting.



# EASA Cybersecurity Roadmap

## Objectives:

- **Increase Awareness/Knowledge** of the Cyber Risk Picture (Threats, Impacts):  
Anticipate possible risk evolution;
- **Readiness/Resilience** of aviation information systems (contingency);
- Assure **Reactiveness** upon detection of cyber attacks and **swift recovery**;
- **Cybersecurity Promotion**: permanent adaptation/improvement/communication.

## Enablers:

- **EU Centre for Cybersecurity in Aviation (ECCSA)**
- **Cross-domain Regulatory Oversight:**
  - ✓ Level playing field for all aviation stakeholders
  - ✓ Integration cybersecurity in safety Management Systems
- **Research& Studies**: identification of technological trends and needs
- **Cooperation with Industry**: development of standards by industry + states



# EU Centre for Cyber-Security in Aviation

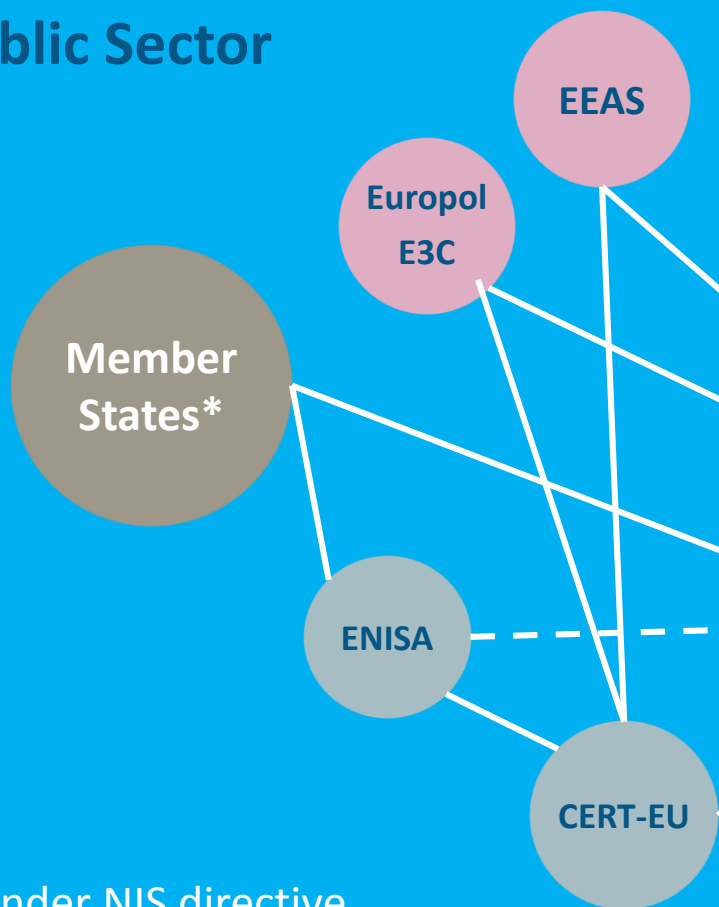
- ECCSA provides the **risk landscape**:
  - ✓ Prevention of and response to attacks;
  - ✓ Evaluation of risks;
  - ✓ Development of strategic responses;
  - ✓ In partnership with Industry and EU Institutions.
  
- EASA in **collaboration with the EU Computer Emergency Response Team (CERT-EU)**:
  - ✓ EASA organises sectorial responses;
  - ✓ CERT-EU to provide the underlying infrastructure and EASA sector-relevant intelligence;
  - ✓ Liaise and coordinate with National Information Security Agencies;
  - ✓ Liaise with Industry Cyber platforms.
  
- System **“Go-Live”** planned by **end of 2017**.





# EU Aviation Cybersecurity Landscape

## Public Sector



\* Under NIS directive

## Aviation Sector





# Revision of EASA Basic Regulation (BR)

- **Time for action:** ongoing revision of EASA BR to properly address **defence and security challenges** affecting aviation and the safety of EU citizens, as well as to meet **industry needs and expectations**.
- Need for a **solid legal basis in the EASA BR and its timely adoption**, to ensure:
  - ✓ Timely adoption of the drones regulatory framework;
  - ✓ The possibility for EASA to determine corrective actions in case of safety-related security threats;
  - ✓ A reinforced cooperation MS-EC-EASA-Operators to achieve the sharing of information/intelligence on existing or imminent threats.
- **EP support is crucial to establish a solid legal framework ensuring the appropriate level of safety and security protection for the EU Citizens.**



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for  
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# Integration of DRONES in the civil airspace: EASA capabilities

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# Challenges

- Drones **marketplace expanding swiftly** in Europe and Worldwide representing a real opportunity:
  - To foster **job-creation, innovation and economic growth**;
  - To create **new capabilities for military and public safety/security authorities** to face among others safety/security (terrorist) threats.
- Growth of drone industry relies on drones capacity to **safely operate in non-segregated airspace**.
- To achieve this integration, military Drones need to be equipped with similar/dual-use systems (interoperability) **certified according to safety-security civil standards** (e.g.: radio, transponder, navigation, see and avoid) and be capable to **comply with civil operational rules and procedures** (e.g.: civil air traffic management).



# EASA certification capabilities

- **Robust civil certification** is needed to support safe, effective and efficient military drones operations in civil airspace.
- EASA has acquired an important level of expertise on the **certification of (dual-use) drones**.
- EASA is currently involved in the certification of the **Atlante drone** (Airbus). Future dual-use projects: **HAPS** and the **European MALE 2020 programme** in cooperation with OCCAR, MS (DE, FR, ES, IT) and industry (Airbus, Dassault and Leonardo).



# EASA Operation Centric Approach



## OPEN

Low risk  
No involvement of Aviation Authority  
Limitations (Visual line of sight, Maximum Altitude, distance from airport and sensitive zones)  
Flights over crowds not permitted except for harmless subcategory



## SPECIFIC

Increased risk  
Approval based on Specific Operation Risk assessment (SORA)  
Approved by NAA possibly supported by accredited QE unless approved operator with privilege  
Manual of Operations mandatory to obtain approval



## CERTIFIED

Regulatory regime similar to manned aviation  
Certified operations to be defined by implementing rules  
Pending criteria definition, EASA accepts application in its present remit  
Some systems (Datalink, Detect and Avoid, ...) may receive an independent approval



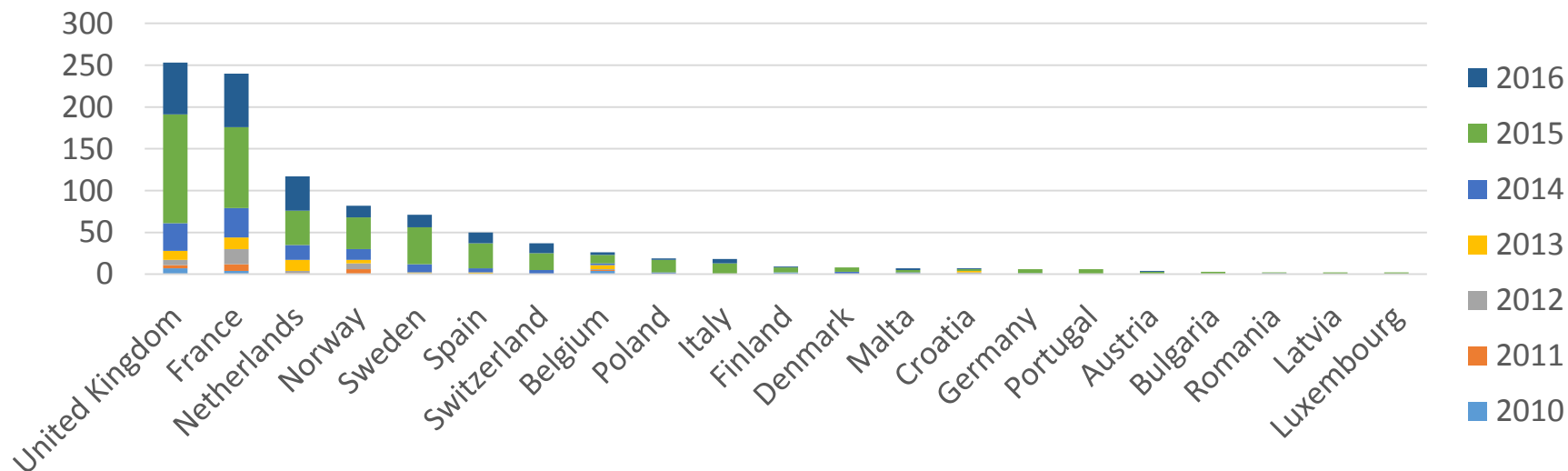
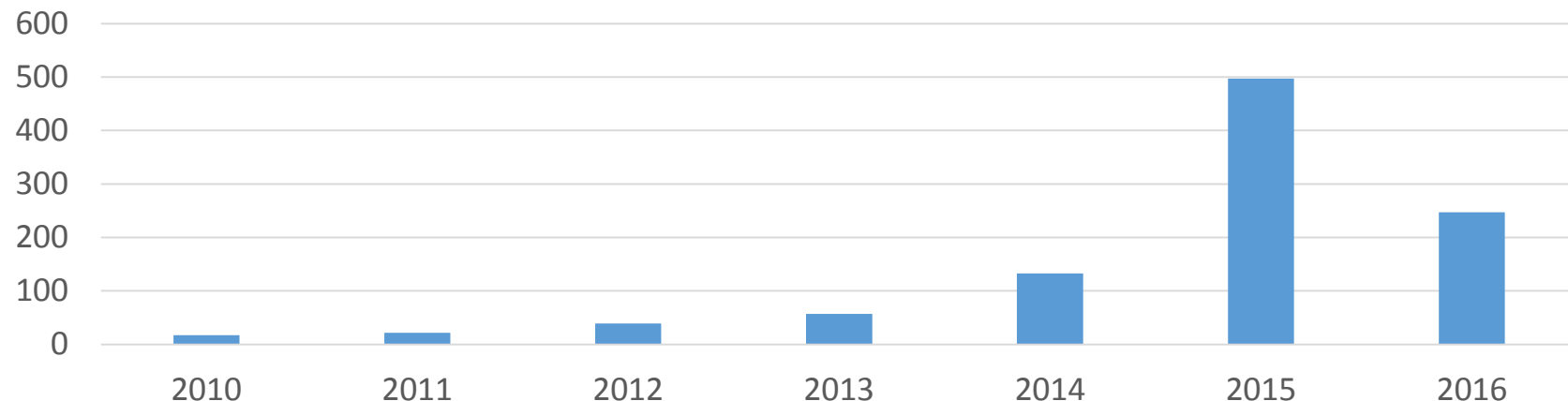
# EASA prototype rules

- **Common rules** have to be in place in a **timely manner** to cope with industry needs allowing growth and competitiveness.
- EASA is already producing regulatory guidance i.e. prototype rules to **allow MS and industry to anticipate the future common regulatory framework** and prepare the formal rulemaking process upon adoption of the new EASA Basic Regulation.
- **Scope:** safety, operations, airworthiness and product legislation.
- Prototype rules also address **security**, privacy and data protection.
- **Publication:** End July 2016.





# Reported Drones Occurrences per Year + MS





# Safety risks involving drone operations

- EASA has established in April 2016 a **Task Force (TF)** to analyse this kind of risks and the possible mitigation measures.
- **Main purpose:** To produce a set of recommendations on **geo-limitation** and related aspects (e.g. drone performance limitations, data sources, standards, identification) and its implementation.
- **Scope:** risk of conflict (potentially leading to a collision) between drones of the open category (**small drones**) and manned aircraft (**transport airplanes**). **Major airports** are the main “geo-limited” zones being considered.
- The use of this kind of drones could also represent a **security threat** and be used for terrorist attacks. The recommendations of the TF could also be applied to this kind of threats.



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