EUROCAE Symposium & 54th General Assembly

EUROCAE

London, 27-28 April 2017

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EUROCAE Symposium

SESSION 3: UAS – REGULATORY PERSPECTIVE

Moderator: Paul RAVENHILL, Think Research

Speakers: Richard MACFARLANE, ICAO
Yves MORIER, EASA
Lorenzo MURZILLI, FOCA
Manfred MOHR, IATA

EUROCAE Symposium

Paul RAVENHILL
Think Research

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Richard MACFARLANE
ICAO

ICAO UNITING AVIATION

UAS – An ICAO Perspective

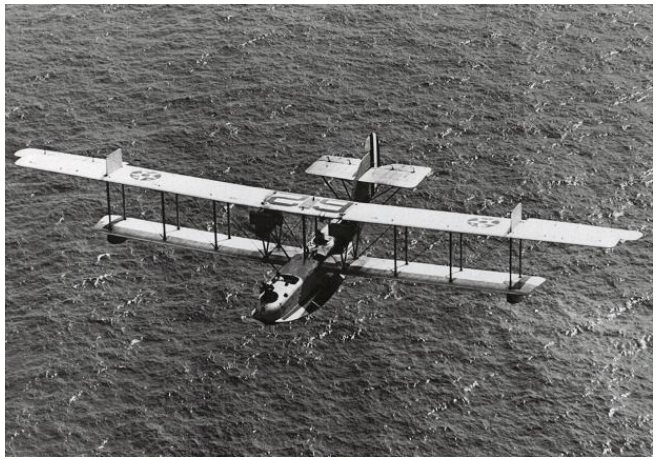
Richard Macfarlane

Deputy Director for Air Navigation Capacity and Efficiency,
Air Navigation Bureau, International Civil Aviation Organization (ICAO)

[illegible] Annual Symposium &
54th General Assembly
27 – 28 April 2017, London

Unmanned Aviation

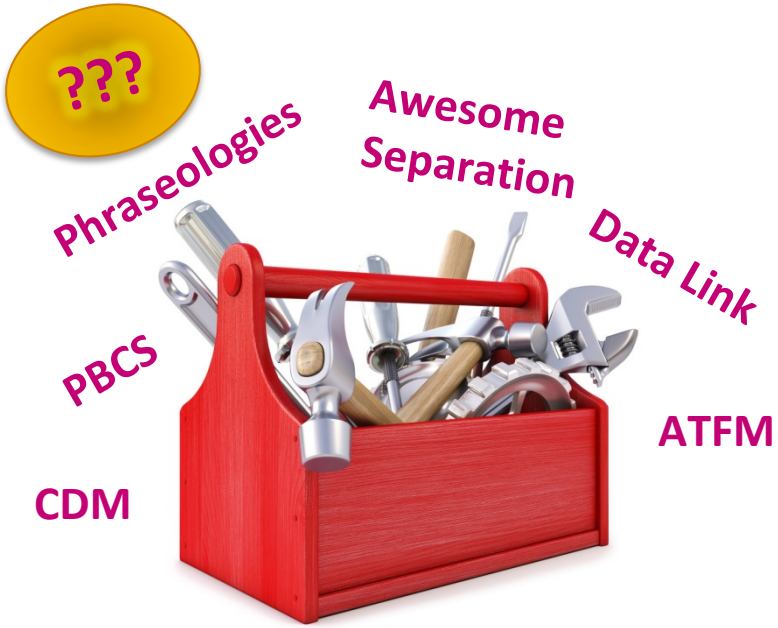
- **A historical perspective**
  - Unmanned aviation has been around as long as aviation, itself
- **Sudden and dramatic growth**
  - Challenges regulators and airspace users alike
- **Not all are equal**
  - Diversity in size, capability and use
  - Categorize UAS and establish pertinent framework for each



F5-L Seaplane (1924)

How can we allow the predicted growth?

- ***Innovation*** **starts on the flight deck, at the control position and on the tarmac**
  - People using the tools are the first to know how they can be improved



UAS Delivery Services Drive ATM Rethink

Could UAS spark ATM revolution?

Delivery drone "controllers" will primarily use automation to manage numerous vehicles flying to and from distribution centers and customers at 200-400 ft. above the ground, depicted here in a concept for the Amazon Prime Air service. Credit: Amazon Prime Air

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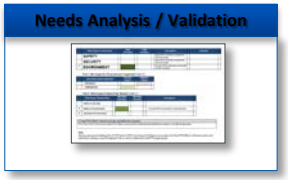
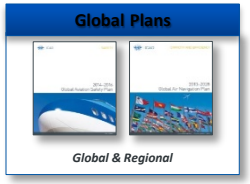
We need to balance
economic potential
and safety

EMPOWER *Stakeholders*

DELIVER *Measurable Results*



ANTICIPATE
the needs



COLLABORATE
on global priorities

RECALIBRATE
to performance standards

FACILITATE
State implementation

COMMUNICATE
progress

VALIDATE
results

RPAS: Safety and Efficiency

- **RPAS Panel**
  - Developing the regulatory framework for RPAS to conduct IFR operations in controlled non-segregated airspace/aerodromes
  - Alongside manned aircraft, as a predictable, cooperative airspace user:
    - With fundamentals of airworthiness, operations and licensing as pre-requisites to airspace integration
    - Meets all the standard equipment and capability requirements for the airspace/procedures
    - Must 'fit in' without requiring other airspace users or providers to equip

- **Other ANB Panels supporting on technical matters**

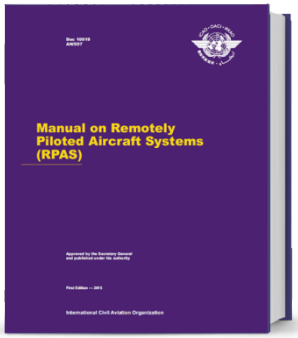
FSMP (Spectrum)	**FLTOPSP FLIREC-WG** (OPS and Flight Recorders)	**AIGP** (Accident Investigation)	**ATMOPSP** (ATM Operations)	**AIRP** (Airworthiness)	**CP** (Communications)	**SP** (Surveillance)	**SASP** (Separation)	**SMP** (Safety Management)

Education is Essential

- **Information on RPAS and other UAS**
  - Regulators - what and how to regulate
  - Industry, including manufacturers
  - Service providers
  - Operators and other airspace users
  - General public
- **General information is needed for each group**
  - Targeted information on how to operate safely
  - Where/why other areas are dangerous

RPAS and Other UAS Guidance

- **Guidance**
  - **RPAS Manual -** Guidance Material



  - **ICAO UAS Toolkit** – for small UAS, accessible at: http://icao.int/rpas

How can we allow the predicted growth?

- **UAS stakeholders as *catalysts of innovation* and *agents of change***
  - Lead the change for creating innovative solutions
  - Every aviation professional as a *'safety authority'*

New Methodology: Small UAS

- **Small unmanned aircraft (< 25 kg) pose a serious difficulty for States' civil aviation authorities**
- **A39 Recommendation: Regulate small UAS on a domestic scale**
  - **Challenge**: Generally outside of ICAO's remit, and does not fit well in the system of SARPs and PANS (i.e. International context)
  - **Need**: New working methods involving non-traditional provisions, at the speed of industry development, to harmonize domestic regulations globally
    - If not possible, then ensure interoperability

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EUROCAE Symposium

Yves MORIER
EASA

EASA
European Aviation Safety Agency

Unmanned Aircraft: Regulatory Framework in the EU

EASA team presented by Y Morier
EUROCAE Symposium
27-28 April 2017

Your safety is our mission.

An agency of the European Union

TE.GEN.00409-001

Unmanned aircraft system (UAS): the past and the present

- UAS exist since 1930: mostly military
- Exponential development since 2010 : arrival of Multi-copters
- Development of civil UAS (operations; technologies) is world wide
- Many actors do not come from the manned aviation community
- Great variety of UAS masses, sizes; configurations, modes of propulsion and command and control.
- A UAS is a data collector and can transport light goods
- Member States have taken action but rules are not harmonised
- In light of the above, following actions were taken:
  - Draft revised Basic Regulation envisages that all UAS are under EU competence
  - Regulatory concept: Operation centric; proportionate, performance and risk based

Overview of NPA (I): principles

European Aviation Safety Agency

'Prototype' Commission Regulation on Unmanned Aircraft Operations

22 August 2016

Legal notice: This document presents a 'prototype' regulation for to the operation of unmanned aircraft in the 'open' and 'specific' categories. Its sole purpose is to inform and consult stakeholders in view of the ongoing negotiations with the Parliament and the Council on the review of Regulation (EC) No 216/2008 and in view of giving indications on the possible direction that EASA will take on its implementation, after appropriate consultation, in a notice of proposed amendment (NPA) planned for the end of 2016. It represents the current views of EASA; however, it does not constitute any formal commitment on behalf of EASA nor of the European Commission.

Article 1 and 2: Scope and definition

Article 3: Principles

Article 4: Open category
Article 5: Specific category
Article 6, 7: Competent Authority (Aviation)
Article 8: Market surveillance Authority
Article 9: Exchange of Safety Information
Article 10: Third Country UAS operators
Article 11: Means of Compliance
Article 12: Airspace Areas and Special Zones for UA Operations
Article 13: Exchange of information and safety measures
Article 14: UAS operations conducted in the framework of model clubs and associations
Article 15: Applicability
Article 16: Entry into Force and applicability

- Operator responsible for its safe operation
- Registration of operators, except when operating a "toy"
- e-identification
- geo-fencing

Overview of NPA: open and specific categories

EASA

European Aviation Safety Agency

'Prototype' Commission Regulation on Unmanned Aircraft Operations

22 August 2016

Legal notice: This document presents a 'prototype' regulation for to the operation of unmanned aircraft in the 'open' and 'specific' categories. Its sole purpose is to inform and consult stakeholders in view of the ongoing negotiations with the Parliament and the Council on the review of Regulation (EC) No 216/2008 and in view of giving indications on the possible direction that EASA will take on its implementation, after appropriate consultation, in a notice of proposed amendment (NPA) planned for the end of 2016. It represents the current views of EASA; however, it does not constitute any formal commitment on behalf of EASA nor of the European Commission.

Article 1 and 2: Scope and definition

Article 3 Principles

Article 4: Open Category → Subpart A

Article 5: Specific Category → Subpart B

Subcategories → No pre authorisation required

Risk Assessment
Standard Scenarios
Mutual Recognition
LUC

Low risk → Declaration

High risk → Authorisation

Article 6,7: Competent Authority (Aviation)

Article 8: Market surveillance Authority

Article 9: Exchange of Safety Information

Article 10: Third country UAS operator

Article 11: Means of Compliance

Article 12: Airspace Areas and Special Zones for UA Operations

Article 13: Exchange of safety information and safety measures

Article 14: UAS operations conducted in the framework of model clubs and associations

Article 15: Applicability

Article 16: Entry into Force and application

Light Operator Certificate: Privileges to self authorise operations in specific category (Subpart C)

Overview of NPA: flexibility for Member States

EASA

European Aviation Safety Agency

'Prototype' Commission Regulation on Unmanned Aircraft Operations

22 August 2016

Legal notice: This document presents a 'prototype' regulation for to the operation of unmanned aircraft in the 'open' and 'specific' categories. Its sole purpose is to inform and consult stakeholders in view of the ongoing negotiations with the Parliament and the Council on the review of Regulation (EC) No 216/2008 and in view of giving indications on the possible direction that EASA will take on its implementation, after appropriate consultation, in a notice of proposed amendment (NPA) planned for the end of 2016. It represents the current views of EASA; however, it does not constitute any formal commitment on behalf of EASA nor of the European Commission.

PROTOTYPE

Article 1 and 2: Scope and definition

Article 3: Principles

Article 4: Open Category

Article 5: Specific Category

Article 6,7: Competent Authority

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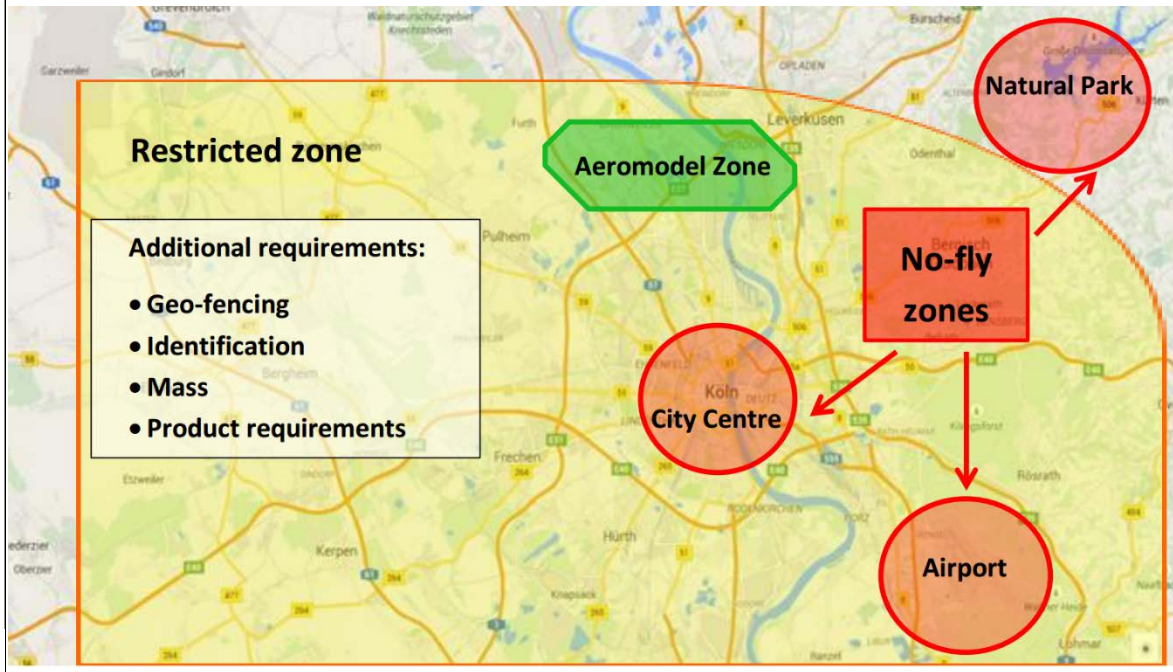


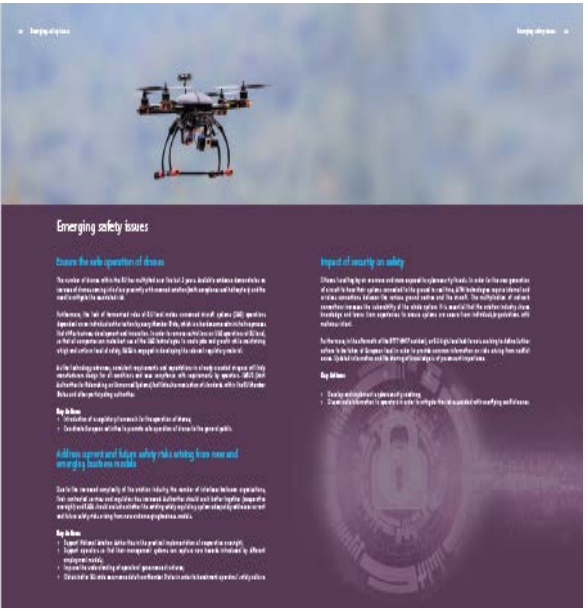
Defined by Member States

Planned regulatory work

- Categories open and specific
  - Work on NPA prepared by technical Opinion (2015) and Prototype regulation (2016) and more recently an Expert Group
  - Publication in the coming days for a 3 months consultation
    - Workshop scheduled on July 5
  - Opinion: end 2017
  - Adoption of regulation depending on adoption of the Draft BR
- Category certified:
  - Lower priority than rulemaking for Open and Specific
  - Started work in 2017
  - Estimate completion date Q4 2018: two possible approaches:
    - Set of NPA affecting many rules
    - Stand-alone rule

Safety Promotion: Fundamental for UAS

- Planned actions in the European Plan for Aviation Safety:
  - Single Europe campaign with shared materials
  - Individual national campaigns with tailored material
  - Gathering best practices among the ECAC Member States (MS)
- Poster and clip posted on EASA civil drone web-page
- Multi lingual portal DRONERULES launched by DG-GROW:



Other activities (I)

- Certification: several on-going projects:
  - Today EASA Policy E.Y01301 provides guidance to Part 21 Subpart B (Type Certificates and Restricted Type Certificates):
  - It is recognized from the outset that some special conditions (SC) will be required to address the unique characteristics of UAS
- International cooperation:
  - Active participation in ICAO RPAS panel
  - Active participation in JARUS (Joint Authorities for the rulemaking of Unmanned aircraft System)
  - Direct contacts with FAA
- Contacts with Standardisation Bodies:
  - E.g. ASD-STAN; ASTM, EUROCAE; SAE
  - EUROCAE: participation in WG 105

Other activities (II)

- Research:
  - Review of SJU reports on their 9 RPAS demonstrations
  - Support to SESAR Joint Undertaking in the selection for contractors for their call for exploratory research Horizon 2020.
  - Support to EDA in their study on remote pilot station (2017)
  - Contract with QinetiQ to define a research programme for drone impacts on aircraft: Available July 2017
- Cooperation with EC and SJU on the work on U-Space
  - U-Space (UAS traffic management) should be a reality by 2019
  - Blueprint available mid-May: set of services in a given area; not only for very low level; ; high level of digitalisation and automation; step by step approach
  - adoption by end of the year as part of a revision for UAS of the ATM master plan
  - Interface with NPA: List of gaps/ differences established
  - NPA and blueprint consistent for 2019

EASA
European Aviation Safety Agency

Questions and comments are welcome

EASA documents on UAS available at

http://www.easa.europa.eu/easa-and-you/civil-drones-rpas

Your safety is our mission.

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EUROCAE Symposium

Lorenzo MURZILLI
FOCA

JOINT AUTHORITIES FOR RULEMAKING OF UNMANNED SYSTEMS

Lorenzo Murzilli
JARUS WG-6 Team Leader

EUROCAE Symposium
27-28 April 2017

JARUS

Joint Authorities for Rulemaking of Unmanned Systems

AGENDA

- JARUS Purpose
- JARUS Members
- Stakeholder Consultation Body (SCB)
- Working Groups
- JARUS Deliverables
- Upcoming activities

JARUS PURPOSE

JARUS is a group of experts from 50 countries, representing NAAs, regional authorities, as well EASA and EUROCONTROL.

JARUS members collaborate to recommend a single set of technical, safety and operational requirements for the certification and safe integration of UAS into airspace and at aerodromes.

The Industry is represented through the Stakeholder Consultation Body (SCB).

JARUS MEMBERS

1. Australia
2. Austria
3. Belgium
4. Brazil
5. Canada
6. China
7. Colombia
8. Croatia
9. Czech Republic
10. Denmark
11. EASA
12. Eurocontrol
13. Estonia
14. Finland
15. France
16. Georgia
17. Germany
18. Greece
19. Ireland
20. India
21. Israel
22. Italy
23. Jamaica
24. Japan
25. Kenya
26. Latvia
27. Luxembourg
28. Malaysia
29. Malta
30. Netherlands
31. Norway
32. Poland
33. Portugal
34. Qatar
35. Republic of Korea
36. Republic of Macedonia
37. Republic of Serbia
38. Romania
39. Russia
40. Singapore
41. Slovakia
42. Slovenia
43. South Africa
44. Spain
45. Sweden
46. Switzerland
47. Thailand
48. Trinidad & Tobago
49. Turkey
50. United Arab Emirates
51. United Kingdom
52. United States of America

STAKEHOLDER CONSULTATION BODY (SCB)

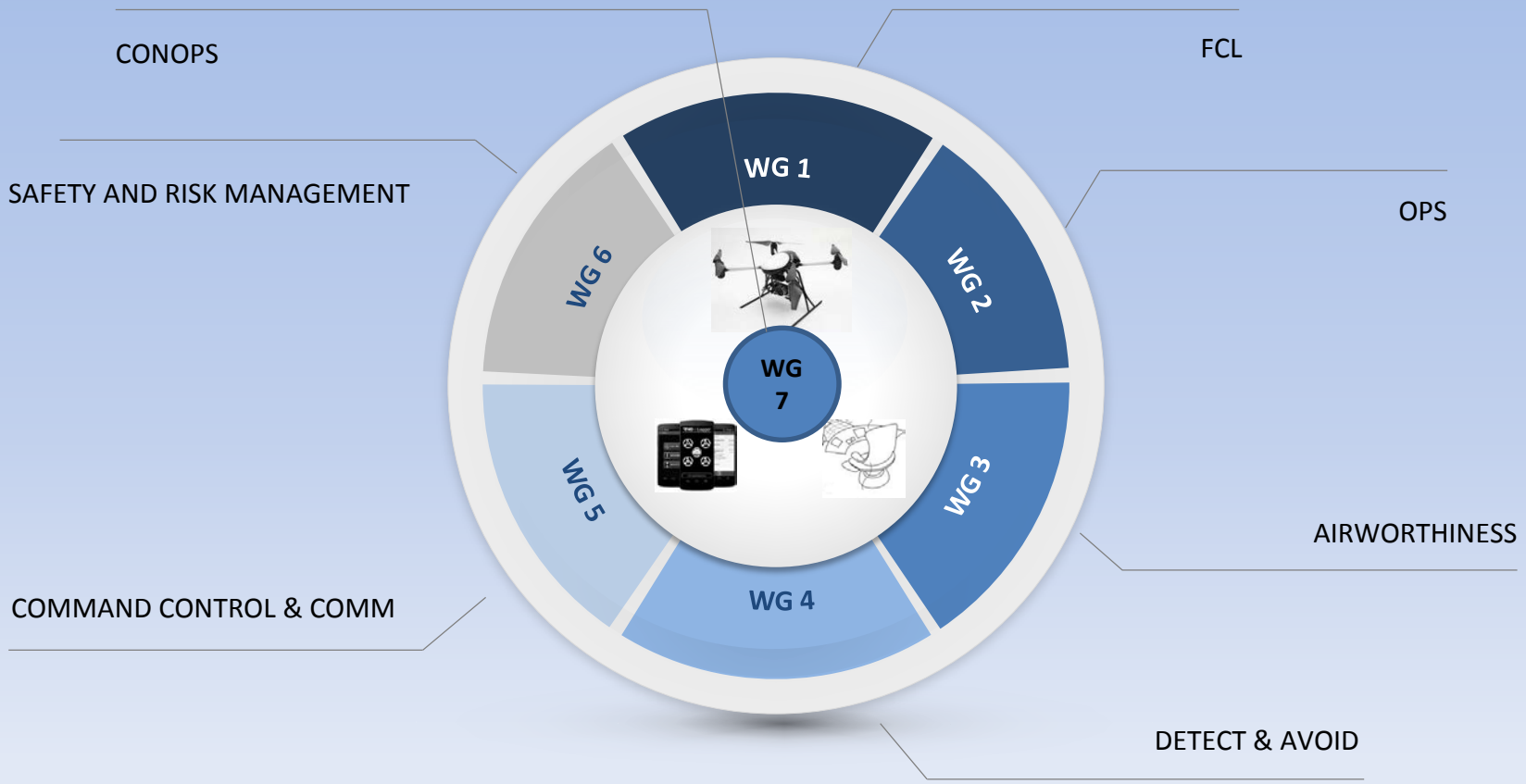
At the end of 2015, the SCB was established representing the Industry

- Aircraft Manufacturers (AIA and ASD)
- Unmanned System Industry (AUVSI, UVSI and small UAV Coalition)
- ANSPs (CANSO and COCESNA)
- Standardization Bodies (EUROCAE and RTCA)
- Operators and Pilots (IAOPA, IBAC, IFALPA, IFATCA, IATA)

Since 2016 representatives from these organisations join the JARUS Plenary Meetings.

Experts from the SCB have been contributing to the JARUS Working Groups efforts.

WORKING GROUPS STRUCTURE



WORKING GROUPS (WGs) – 1/2

WG 1 – Flight Crew Licensing (FCL)

- Requirements for licensing and competencies in RPAS activities
- Pilot licensing and training

WG 2 – Operations

- Operational requirements for access to airspace
- Organizational requirements for RPAS operations

WG 3 – Airworthiness

- UAS certification & airworthiness provisions/specifications for:
  - ✓ *Rotary wing, Light Unmanned Rotocraft System (CS-LURS)*
  - ✓ *Fixed wing, Light Unmanned Aeroplane System (CS-LUAS)*
  - ✓ *Very light UAS (VLUAS)*
  - ✓ *Airships, free/tethered balloons*

WG 4 – Detect and Avoid

- Define performance provisions (operational/technical)
- Establish safety objectives for the risk of collisions

WORKING GROUPS (WGs) – 2/2

WG 5 – Command, Control & Communications

- Establish performance provisions (operational & technical) for C2

WG 6 – Safety and Risk Management

- Create a methodology to assess the risks of «specific» RPAS operations and evaluate relevant mitigations
- Define top level RPAS airworthiness, system safety objectives and guidance material (known as AMC RPAS.1309)
- Establish UAS recommendations & conclusions on UAS failure classifications in terms of severity definition and probability requirements.

WG 7 – Concept of Operations (CONOPS)

- Develop a classification scheme for RPAS
- Considerations for RPS Certification, C2 & signal relay and launch and recovery equipment

JARUS DELIVERABLES

- JARUS deliverables/products are recommended certification specifications and operational provisions made available to interested parties such as ICAO, NAAs and regional authorities for their consideration and use.
- JARUS does NOT develop law or mandatory standards.
- NAAs and regional authorities decide how to use the harmonized provisions from JARUS.
- Before publication the recommendations are also undergoing external consultation.
- JARUS Deliverable are available at **http://jarus-rpas.org**

JARUS DELIVERABLES – OVERVIEW 2013-2017

- CS-LURS (Certification Specification for Light Unmanned Rotorcraft Systems) – *October 2013*
- RPAS C2 Link (required Communication Performance concept) – *October 2014*
- FCL (Flight Crew Licensing) Recommendations – *September 2015*
- AMC (Acceptable Means of Compliance) RPAS 1309 – *November 2015*
- RPAS "Required C2 Performance (RLP) concept" – *May 2016*
- Recommendations on the use of Controller Pilot data Link Communications (CPDLC) – *June 2016*
- CS - LUAS (Certification Specification for Light Unmanned Aircraft Systems) – *December 2016*
- Guidance Material to FCL Recommendations – *April 2017*

http://jarus-rpas.org/publications

UPCOMING ACTIVITIES

By 2017

SORA - Specific Operations Risk Assessment

A risk assessment methodology to establish a sufficient level of confidence that a specific operation can be conducted safely (WG-6)

Currently under development

- OPS Cat A & B (WG-2)
- Design Objectives for Cat C Operations (WG-4)
- RPAS C2 Link CONOPS (WG-5)
- RPAS Operational Categorization (WG-7)

More information at:
http://www.jarus-rpas.org/who-we-are

Questions ?

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http://jarus-rpas.org/

EUROCAE Symposium

Manfred MOHR
IATA

EUROCAE
Unmanned Air Vehicle (UAV or UAS) the regulatory perspective

Manfred Mohr, Madrid – IATA Assistant Director, Europe

mohrm@iata.org

27-28th April 2017, London

*How and where would UAV "drones" change the freight and airline business? What are opportunities & risks (safety, security, **regulation** etc.)?*

* A drone is a male bee that is the product of an unfertilized egg. Unlike the female worker bee, drones do not have stingers and do not gather nectar and pollen. A drone's primary role is to mate with a fertile queen.

27-28th April 2017, London

IATA's Mission and Vision (ATM & UTM)

Our mission is to represent, lead and serve the airline industry.

Continuously Improve Aviation Safety

IATA's Six-Point Safety Strategy covers the key safety areas (including UAV/UAS)

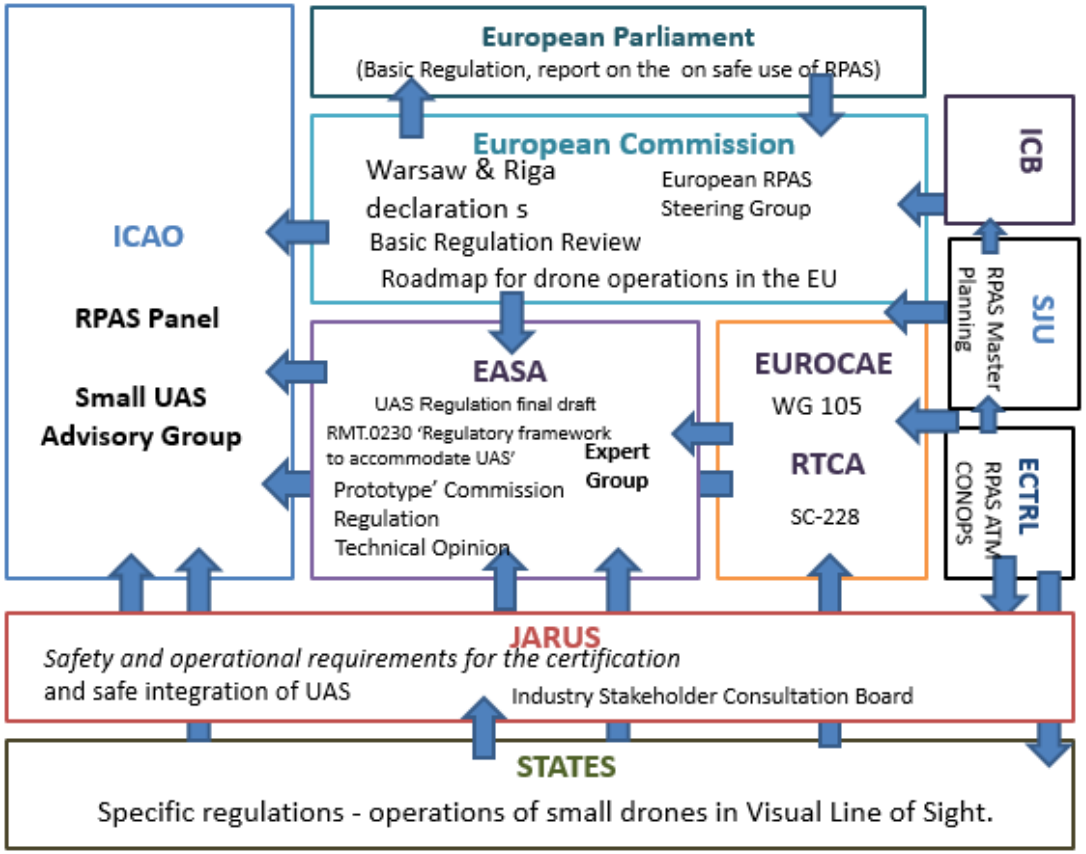
REDUCE OPERATIONAL RISK	ENHANCE QUALITY AND COMPLIANCE	ADVOCATE FOR IMPROVED AVIATION INFRASTRUCTURE	SUPPORT CONSISTENT IMPLEMENTATION OF SMS	SUPPORT EFFECTIVE RECRUITMENT AND TRAINING	IDENTIFY AND ADDRESS EMERGING SAFETY ISSUES

What kind of vehicles are unmanned

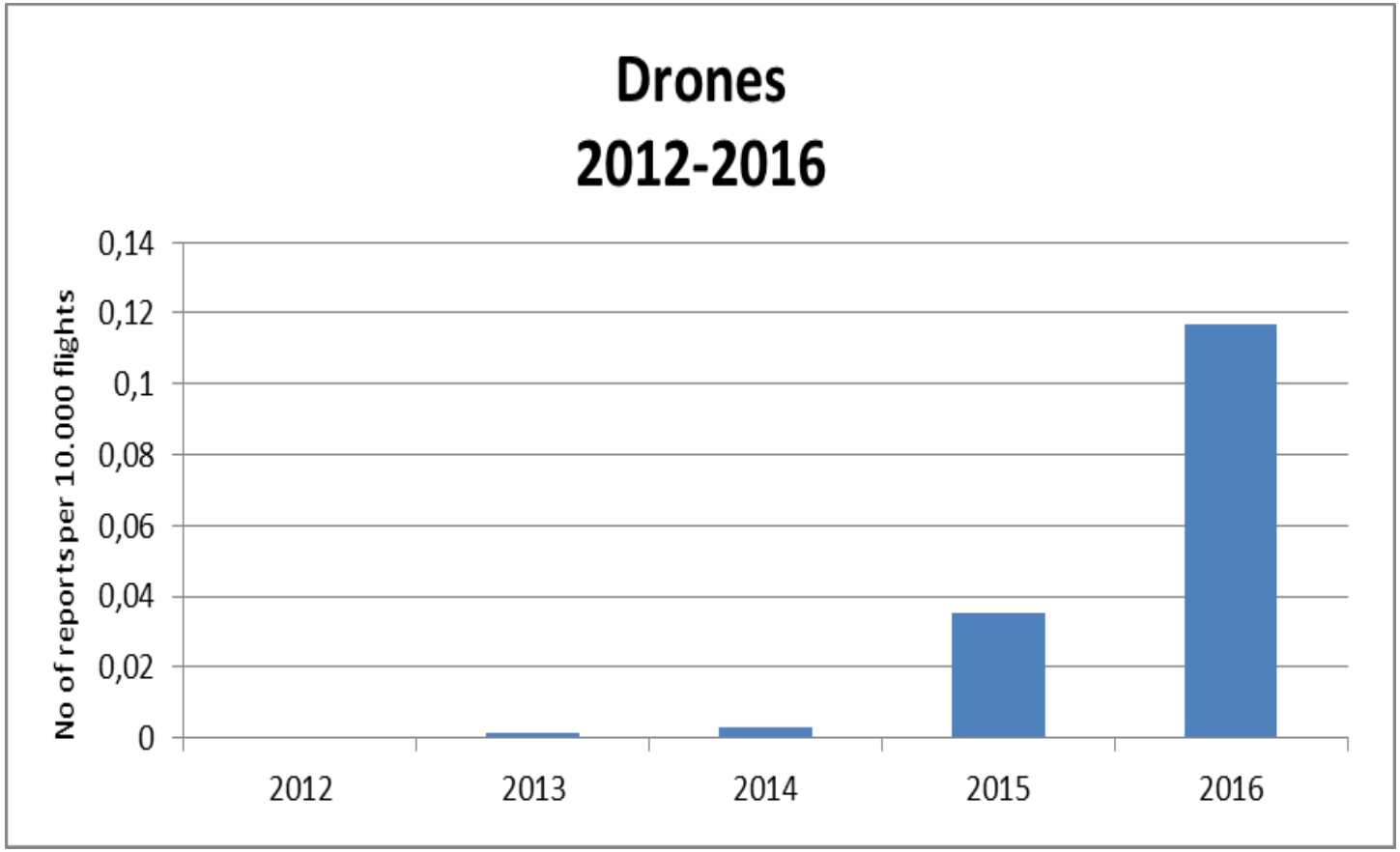
Name	Abbreviation	Description
Unmanned Aircraft	UA	An aircraft which is intended to be operated with no pilot on board
Remotely Piloted Aircraft	RPA	An aircraft where the flying pilot is not on board (subset of UA)
Unmanned Aircraft System	UAS	An aircraft and its associated elements which are operated with no pilot on board
Remotely Piloted Aircraft System	RPAS	A set of configurable elements consisting of a remotely-piloted aircraft, its associated remote pilot station(s), the required command and control links and any other system elements as may be required, at any point during flight operation

Under ICAO terminology:
RPAS are a subset of unmanned aircraft, as set out in the table above.

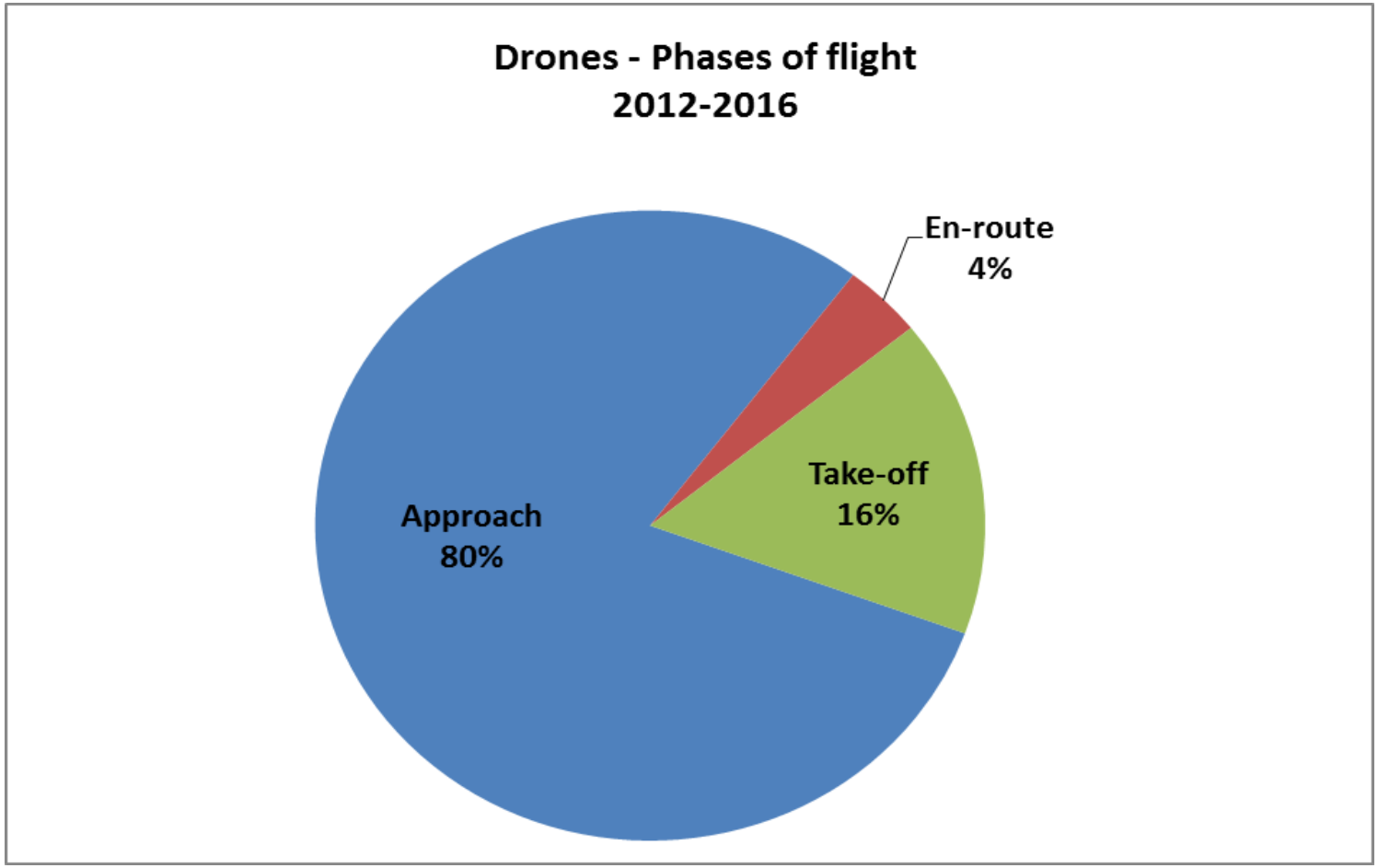
The RPAS landscape & its complexity



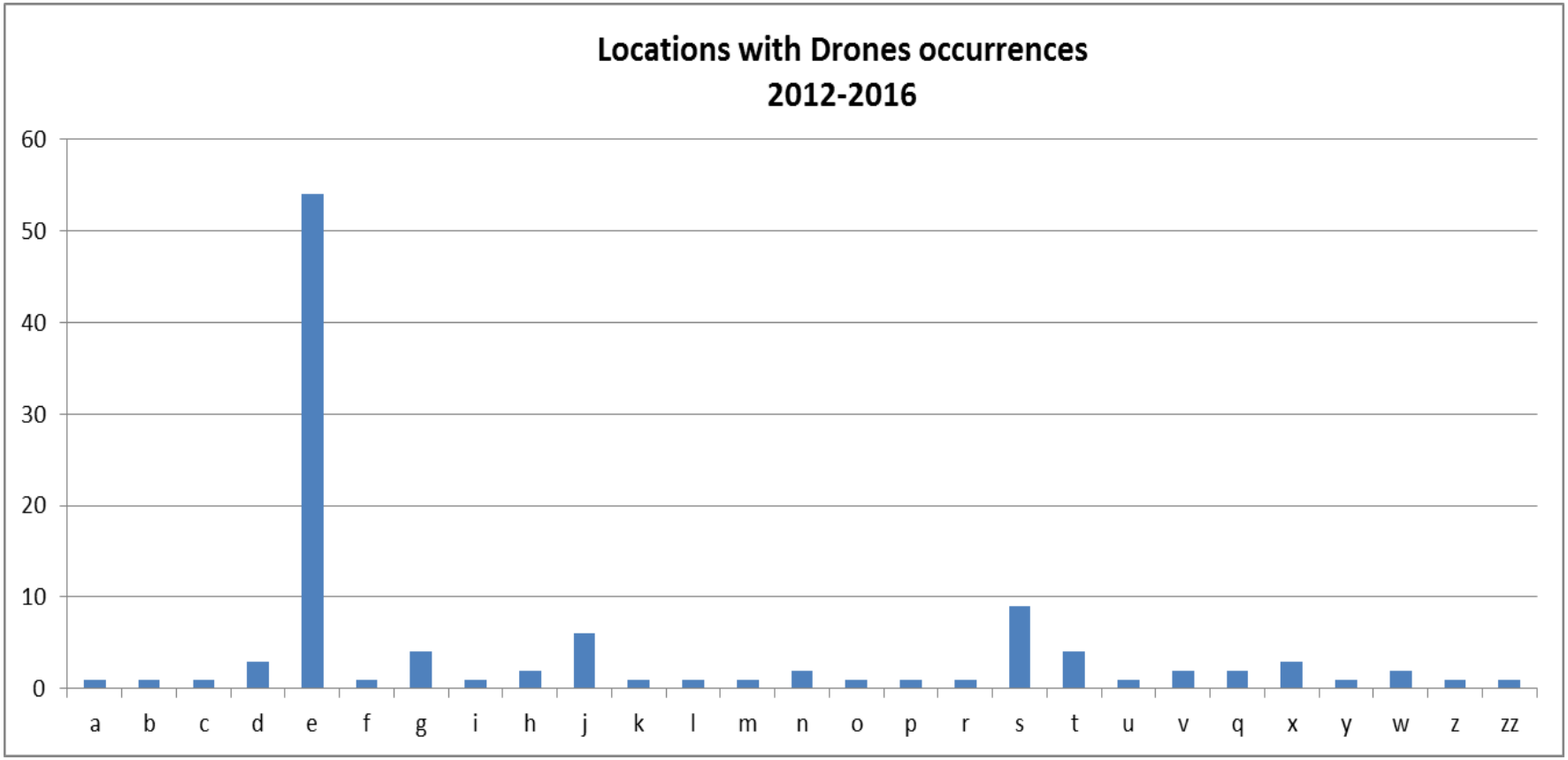
UAV observations in Europe 2012-16



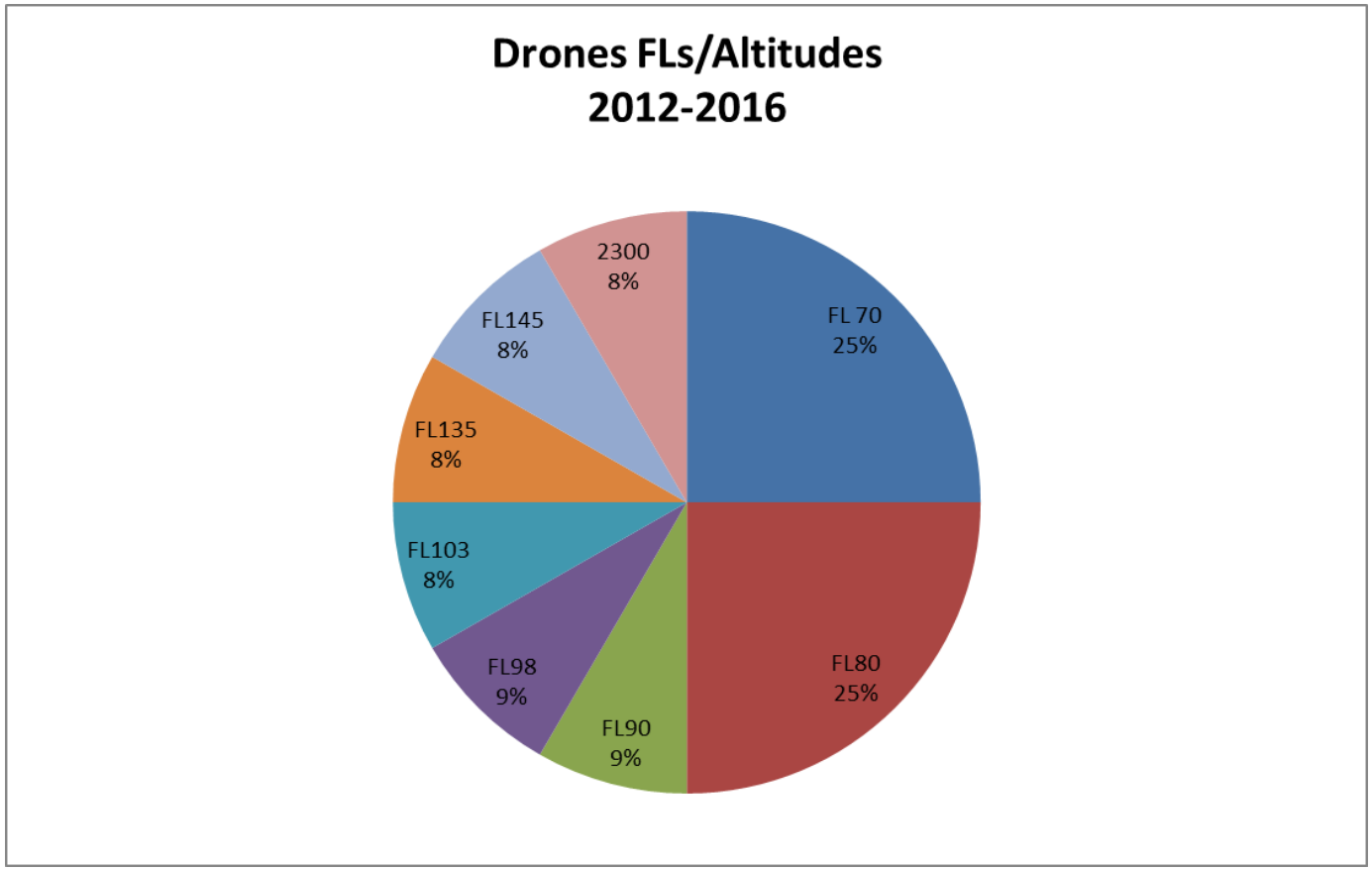
UAV Observations per Phases of Flight



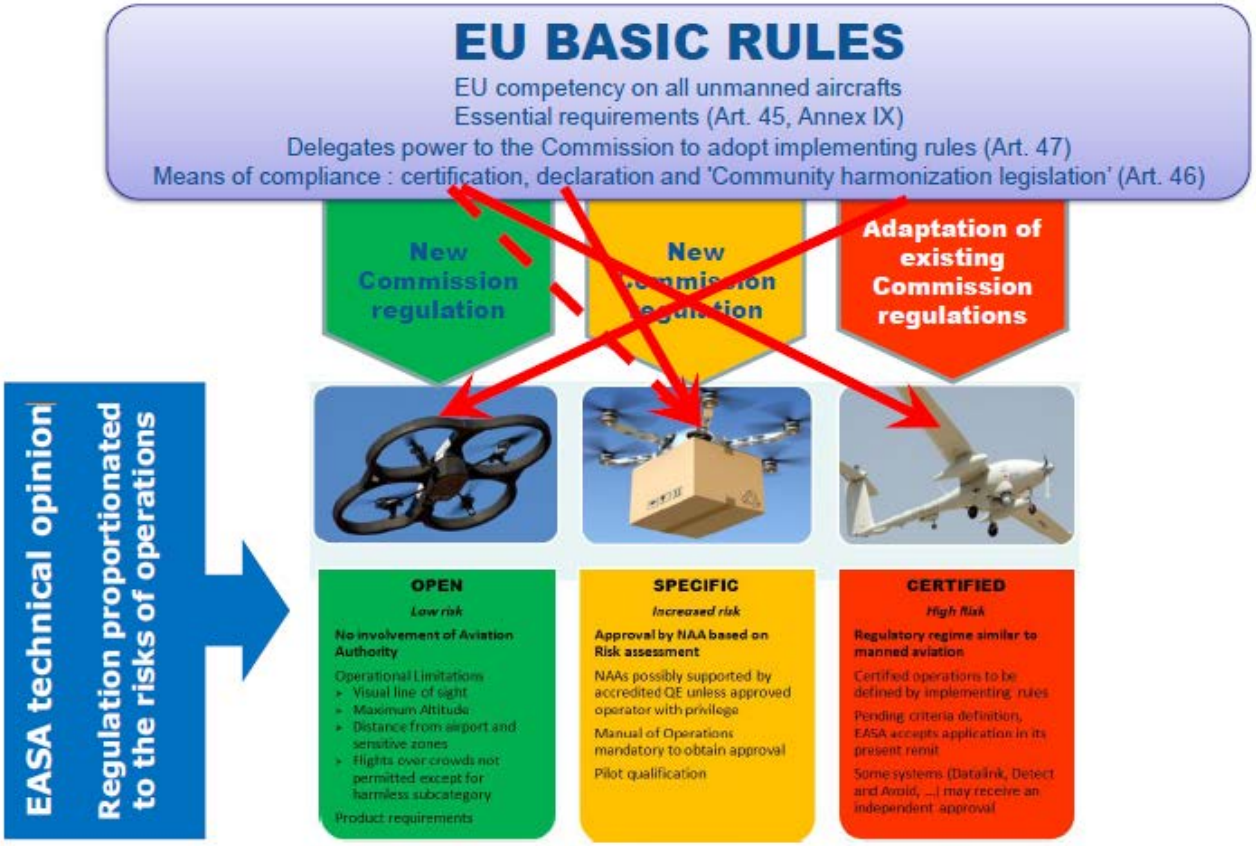
UAV Observations per Locations in the ECAC core area (alphabetic order)



UAV Observations per Altitude



The three main categories - old with update



The three main categories (proposal)

- Three categories will be established for the operation of drones:
- ‘Open’ category (low risk): safety is ensured through operations limitations, compliance with industry standards, and the requirement to have certain functionalities and a minimum set of operational rules. Enforcement mainly by the police. * Details see next Page…
- ‘Specific category’ (medium risk): authorisation by an NAA possibly assisted by a Qualified Entity (QE) following a risk assessment performed by the operator. A manual of operations lists the risk mitigation measures.
- ‘Certified’ category (higher risk): requirements comparable to those for manned aviation. Oversight by NAA (issue of licences and approval of maintenance, operations, training, ATM/ANS and aerodromes organisations)
-

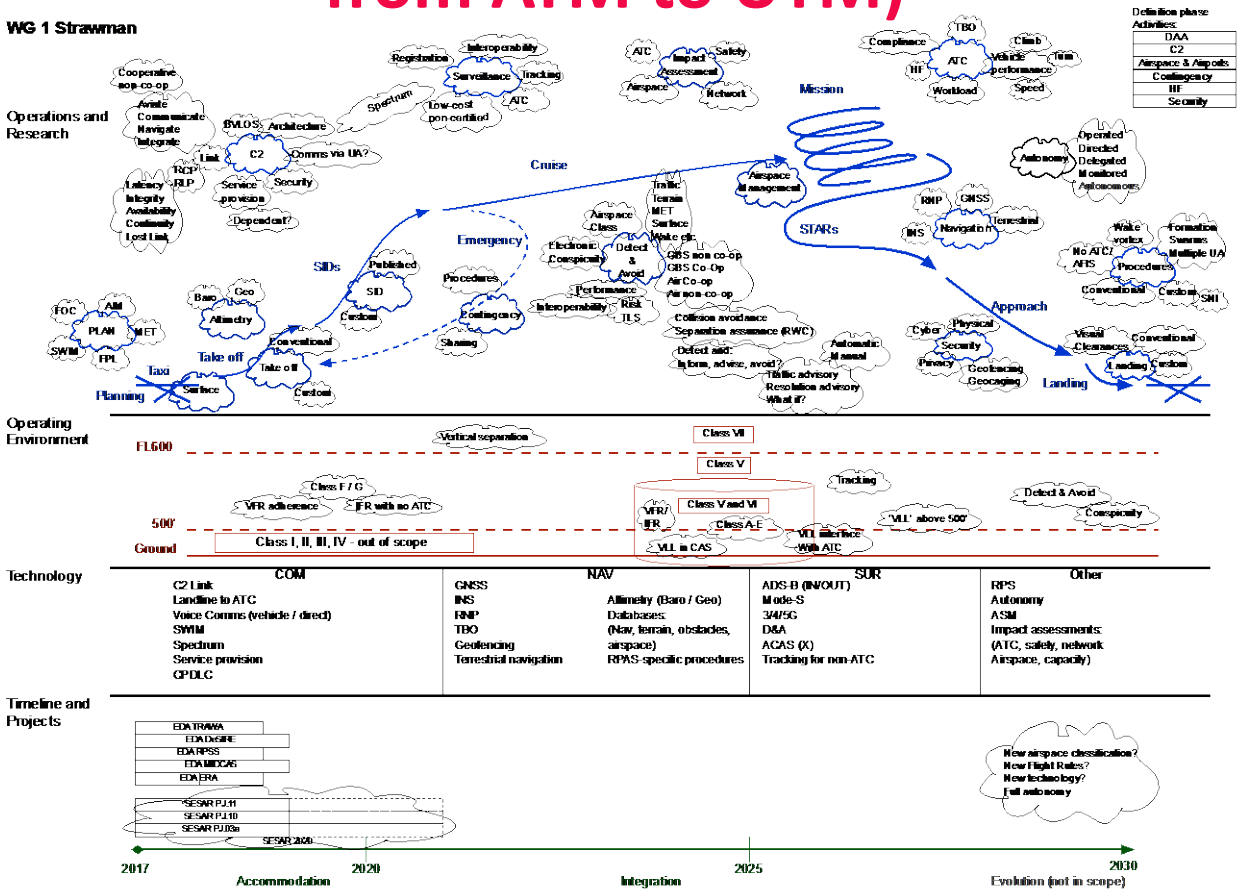
IATA

Compromise proposal for open category (new proposal by EASA)

Category	Class	Mass	Distance from people	Height	Pilot Competence	Age	Main Tech req (CE mark)	Register	Identification & Geofencing
A1 Fly over people	Home built	<250g	Fly over uninvolved people (not over assemblies of persons)	<50m	Leaflet	//	//	NO if without camera >5MP or audio sens	NO
	C0						Toy regulation or no sharp edges		
	C1	<80Jole or 900 g		<50m	Leaflet	14/ sup	Kinetic energy, no sharp edges, selectable height limit	Only operator	If required by the zone of ops
				<120m *	Leaflet + Online training with a test				
A2 Fly close to people	C2	900g-4kg	intentionally in proximity but at a safe distance from uninvolved persons (in AMC >20m or 50m)	<120m *	Leaflet + Certificate of competence (Theory). Exam in approved centre	16/ sup	Mechanical strength, loss link management, selectable height limit	Operator and UA	yes
A3 Fly far from people	C3	<25 kg	in area where pilot reasonably expects that no uninvolved person will be in the visual range	<120m *	Leaflet + Online training with a test	16/ sup	loss link management, selectable height limit	Operator and UA	If required by the zone of ops
	Home built						//		

* Or 50m higher than an obstacle on request of the owner of object

The Strawman Group WG1 SJU (ongoing way from ATM to UTM)

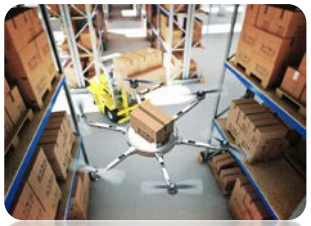


Risks Associated with RPAS

Key areas that pose a concern

- Safety risks
- Security risks
- Efficiency risks
- Impact on Aviation Spectrum
- Lack of effective and harmonized Regulations

But there are also business opportunities…



Logistics solutions & Enhanced Cargo Operations

- Small parcel delivery (last mile delivery)
- Warehouse sorting
- Futuristic look to commercial air transport of cargo

Enhanced airport Operations

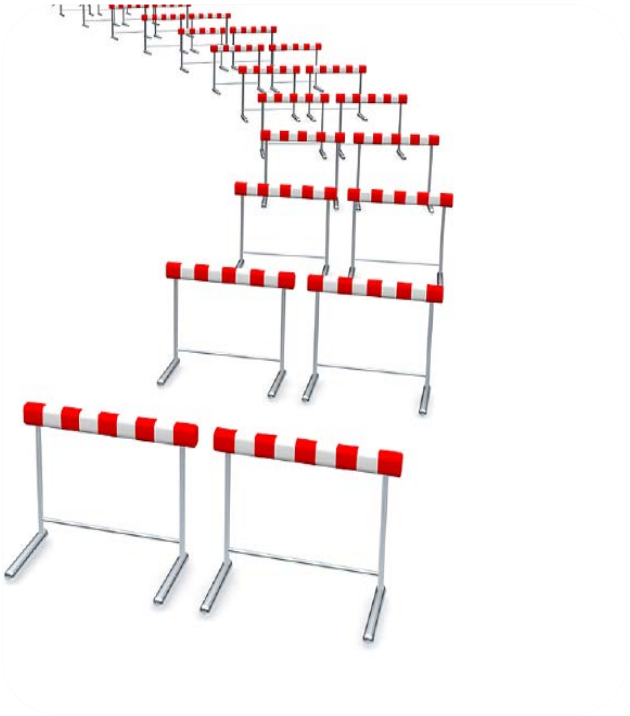
- Ramp inspection
- Infrastructure surveillance

Humanitarian Aid

- Delivery of medical supplies to remote areas

Our approach to ensure the safe and efficient integration of RPAS

To enable manned and unmanned vehicles to safely and efficiently co-exist, IATA has been working on a number of activities and initiatives, globally and specifically within Europe.



Awareness & Education

Safety Awareness for Users of Remotely Piloted Aircraft (RPA) in Close Vicinity of Airports
IATA, ACI, IFALPA
February 2016

I. **Background:**

1.1 Remotely Piloted Aircraft (RPA), commonly known as drones, are increasingly being used, for commercial and recreational purposes.

1.2 There has been a very large increase in reports from all regions of the world of instances in which drones have been observed being flown dangerously close to aircraft and airports.

1.3 A review of 856 safety reports was carried out, to analyze the safety risks associated with drones. [1]

- The analysis showed a significant increase in the monthly number of reported drone encounters.
- There was no correlation between the distance from the airport or the altitude of the drone and the likelihood of a near collision. Therefore, risk of collision with aircraft is at all altitudes and locations.
- The drones encountered were primarily small in size (less than 6 feet in length/diameter).
- Reports were not limited to recreational drones.

II. **Safety Risks:**

Flying a drone in the close vicinity of an airport or an aircraft can pose a serious risk to the safety of those on board the aircraft. In the event of a collision or near-collision between the drone and the aircraft, the resulting accident could cause loss of life.

- Educational videos
- Joint Statement with IFALPA & ACI
- Promotion & advocacy
- Partnerships with other awareness campaigns

KNOW BEFORE YOU FLY

Engagement with ICAO, regulators, and key stakeholders

Joint call to safely integrate Drones / UAS into Europe's Airspace (5th of Sep)

September 2016

Joint call to safely integrate Drones / UAS into Europe's Airspace

The Signatories of the Statement want to support the effort of the European regulator to produce a robust harmonized EU-wide regulatory safety framework for drones. At the same time, in this Joint Statement, the sector parties A4E, ACI EUROPE, ATCEUC, CANSO, EBAA, ECA, EHA, EHAC, ERAA, ETF, IACA, IAOPA, IATA, IFALPA, IFATCA, and IFATSEA express their serious concern about the safety of manned aircraft in controlled and uncontrolled airspace.

We are *"One"*: ATM & UTM

1. Extensive public awareness campaign
2. Registration of all drones
3. Mandatory training and certificate/license
4. Technical Performance Limitations
5. In-depth research into the impact of collisions between drones and manned aircraft
6. Integration of recreational drones into national Model Aircraft Flying Regulations
7. Increase in the effectiveness of enforcement

Working with ICAO

- A Working Paper was submitted to the ICAO 39th General Assembly
- On-going work to finalize ICAO's ConOps on RPAS IFR Operations
- Support the work of ICAO's Small UAS Advisory Group (UAS)
- A new Version is available:

ICAO OPC CONOPS (IATA DRAFT)

- Access to the airspace remains available to all, providing each aircraft is capable to meet the pertinent conditions, regulations, processes and equipage defined for that airspace;
- New types of operations may need additional or alternative considerations, conditions, regulations, processes and operating procedures; the objective should be to add only the minimum necessary to achieve safe operation;
- The RPA has the functional capability to meet the established normal and contingency operating procedures for the class of airspace, aerodrome etc. when such procedures are available;
- The flight operation does not unduly impede or impair other airspace users, service providers (such as air traffic management [ATM], aerodromes etc.) or the safety of third parties on the ground and their property etc.;
- The RPAS must operate in accordance with the Rules of the Air;
- The RPAS must meet the applicable certification/registration/approval requirements;
- The operator must meet the applicable certification/approval requirements; and
- The remote pilot must be competent, licensed and capable to discharge the responsibility for safe flight.

Future Air Traffic Management Architecture and Technology

- Support the development of a UAS Traffic Management Concept.
- Involvement in concepts of operations for the introduction of new technologies, for example sense and avoid.
- Develop a position on user charges for RPAS (including small UAS).
- Develop a a position for aviation spectrum use by RPAS (including (small) sUAS).

Seamless Operations

- Develop a strategy & working guidelines for;
- Enhanced cargo operations using drones, including warehouse sorting and last mile delivery
- Enhanced airport operations using drones, including ramp inspection and infrastructure surveillance

What is IATA doing?

- Representing IATA and the Airlines
- ICAO RPAS Panel – SARPS development (Dragos Munteanu, SFO)
- JARUS Industry Stakeholder Consultation Board – Still kicking the tires (Next meeting in Madrid/April - Rob Eagles HQ YMQ)
- SESAR 2020 RPAS Definition Phase (WG1, MM)
- ICAO sUAS Advisory Group (Dragos Munteanu, SFO)
- Member of the EUROCAE WG105 (MM)
- IATA is leading efforts to be progressive in emergency management of RPAS
- Finalising RPAS position paper regarding ANSP concerns about the proliferation of small UAS
- Developing training materials on general RPAS operations
- Updating IATA Airlines and Members Considerations for RPAS Operations Publication
- Providing inputs to EASA (e.g. Prototype Rule,…etc. MM)
- Producing two educational Videos from HQ YMQ

Thank you


Our vision
To be the force for value creation and innovation driving a safe, secure and profitable air transport industry that sustainably connects and enriches our world
What do we want to be?
the force for
VALUE
creation and
INNOVATION
What do we strive to do?
DRIVE
a safe, secure and profitable air transport industry
What will we achieve?
an industry that sustainably
CONNECTS & ENRICHES
our world
Our values
Put our people first
Deliver results with speed
Think innovation
Embrace change
Work as a team
Use cultural intelligence
Act with integrity
Be a leader

Back up slides Europe (IATA Videos):

- https://www.youtube.com/watch?v=8ZUqRDtDBwE
- https://intranet.iata.org/divisions/sfo/infrastructure/_layouts/15/ng/ActivityStream.aspx/id/BCC9E61BDC938525299BDF00CD1C3D21/Post?/Lists/PublishedFeed

EUROCAE Symposium

SESSION 3: UAS – REGULATORY PERSPECTIVE

Moderator: Paul RAVENHILL, Think Research

Speakers: Richard MACFARLANE, ICAO
Yves MORIER, EASA
Lorenzo MURZILLI, FOCA
Manfred MOHR, IATA

Coffee Break

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