



EASA

European Aviation Safety Agency

RPAS - EASA update

**ICAO RPAS symposium
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LUC TYTGAT, EASA Strategy and Safety Management Director

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Present EASA remit to set the scene

- The Agency is competent for drones with an MTOM above 150 kg (annex II (i)) that are not used for:
 - Military, customs, police, search and rescue, firefighting, coastguard or similar activity or services (article 2 basic regulation)
 - Specifically designed or modified for research, experimental or scientific purpose to be produced in very limited numbers
- Interim solution (Policy E.Y013-01):
 - Used by the Agency's staff when certificating UAS.
 - A first step in the development of comprehensive civil UAS regulation
 - May be regarded as providing guidance to Part-21



Industrial and Societal context

- Fast developing activity in particular small UAS with multiple applications: In EASA countries:
 - 2495 operators, 114 RPAS manufacturers. Very small to small RPAS with a maximum take-off mass below 150kg.
 - 16 Countries have national rules, 11 are preparing rules but they are not harmonised
- Wide range of machines from micro RPAS to High Altitude Long Endurance, rotorcraft, airships
- Use of new technologies (e.g. high level of automation, sense and avoid, electrical propulsion, unusual configurations, cooperative operations)
- Quite often developed by SME and universities
- Adapted regulations to be developed in an international context (JARUS/ICAO)
- Technology may have spin-off for other aviation applications notably GA
- Public generally favourable to drones however concerns about safety security and privacy



Recent decisions in Europe (I)

Commission communication 407/2014

- Performance based approach
- Use of JARUS
- Role of EASA



Recent decisions in Europe (II)

- Conclusions of the EU Council of Transport Ministers on:
 - (1) overall objective of integration of RPAS into the aviation system;
 - consensus that RPAS need to be integrated in the European airspace
 - (2) substance of the future regulation and how to keep rules proportionate to risk; and
 - All interventions favoured a common level playing field with harmonized rules
 - (3) safety, security, privacy and data protection challenges.
 - concerns of citizens with regard to these issues are very important – but can be managed within the existing regulatory framework at the national level



Recent decisions in Europe (III)

- General mandate to EASA
 - Draft Impact Assessment on RPAS integration
 - Draft amendments to the Basic regulation in order to enable future specific rulemaking on RPAS
 - EASA to develop a Concept of Operations reflecting a proportionate and risk based approach to regulation



Recent decisions in Europe (IV)

➤ Outline of Riga Summit

- Drones need to be treated as a new type of aircraft with proportionate rules based on the risk of each operation
- EU rules need to be developed now
- Technologies and standards to be developed for full integration in European Airspace
- Public acceptance is key to the growth of drones services
- The operator of a drone is responsible for its use



The EASA Concept of Operations - General

- Regulatory concept: proportionate, progressive, risk based, high level rules complemented by Industry Standards
- Operations centric
- EU rules to cover all drones; implementation depends of the level of risk
- Commercial and non-commercial treated in the same manner
- 3 categories: OPEN, SPECIFIC and CERTIFIED



Concept of Operations – categories



OPEN:

Low risk
Without involvement of Aviation Authority
Limitations (Visual line of sight, Maximum Altitude, distance from airport and sensitive zones)
Flight over Populated area is possible if:
No overflying of crowds
Industry standards (Case of toy of less than 500g)



SPECIFIC

Increased risk
Safety risk assessment
Approved by NAA possibly supported by Qualified Entities unless approved operator with privilege
Operation Authorisation with operations manual
Concept of accredited body
Airworthiness of drone and competence of staff based on risk assessment

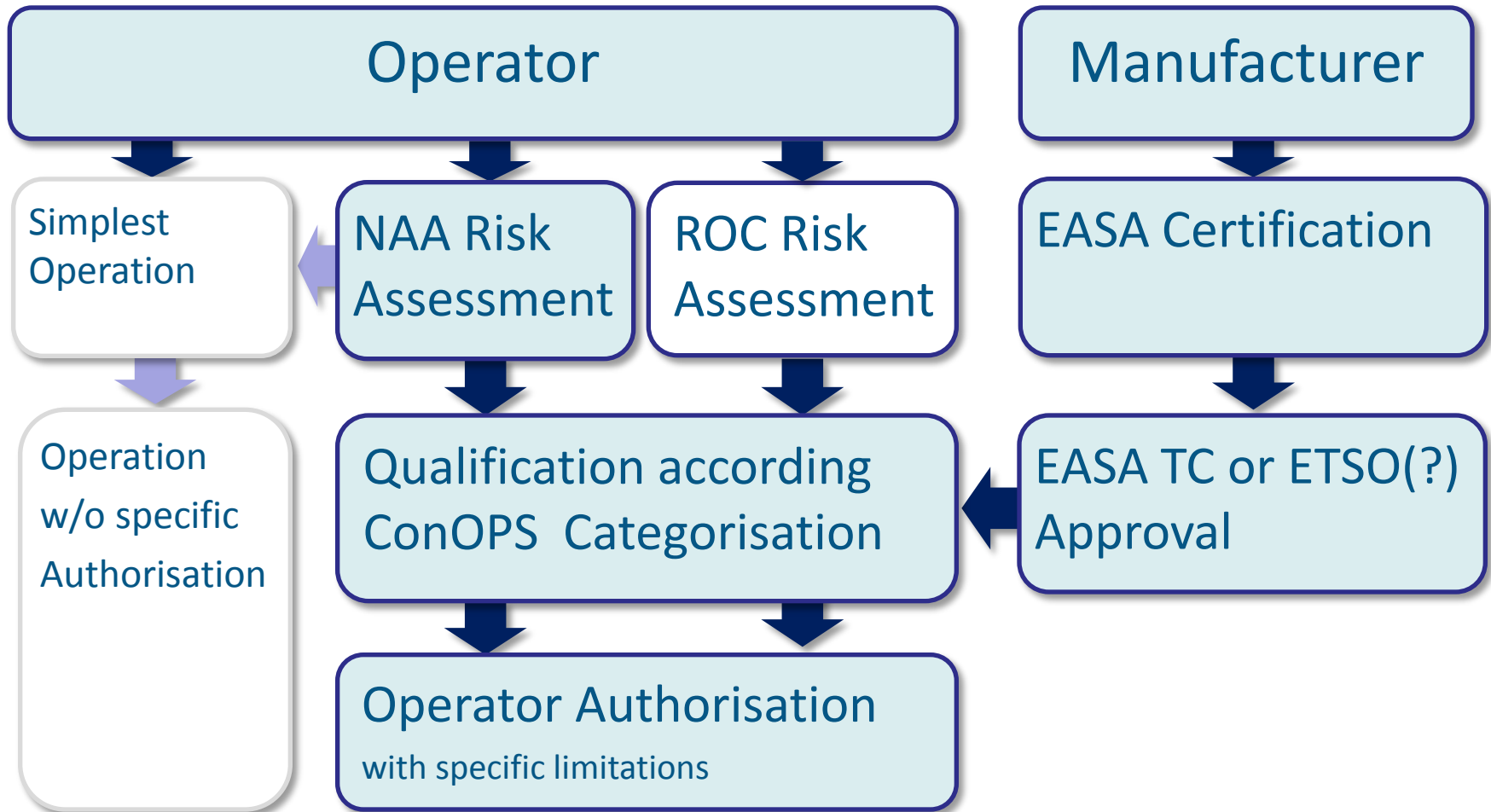


CERTIFIED

Comparable to manned aviation
Limit between specific and certified is not yet defined
Pending criteria is defined, EASA accept application in its present remit
TC, C of A, Noise certificate, Approved Organisations, licences (Case of small drones)
Command and Control and Detect & Avoid can receive an independent approval

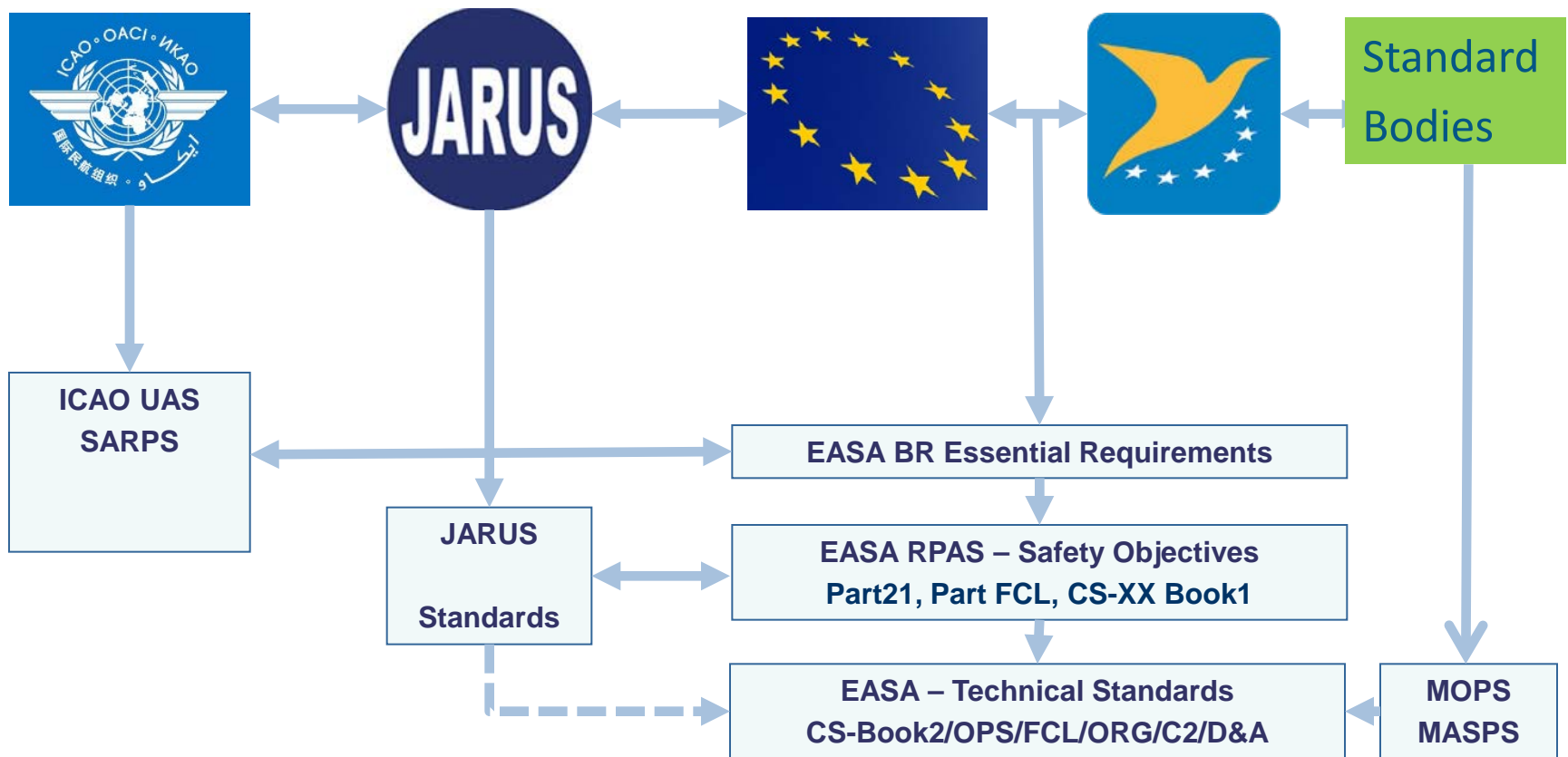


Concept of Operations - Operator Authorisation





Organisation of work - General





Organisation of work - JARUS Members

- Australia
- Austria
- Belgium
- Brazil
- Canada
- Czech Republic
- Colombia
- Denmark
- EASA
- Eurocontrol
- Finland
- France
- Germany
- Great Britain
- Greece
- Ireland
- Israel
- Italy
- Malta
- Netherlands
- Norway
- Poland
- Russia
- South Africa
- Spain
- Sweden
- Switzerland
- United States of America



Organisation of work - JARUS Organisation

- Chairmanship/ Vice Chairmanship: EASA/FAA
- Secretariat provided by EUROCONTROL and FAA
- JARUS working groups:
 - WG 1: Licencing and OPS: JARUS-FCL in preparation
 - WG 2: Organisations : group is reviewing comments received
 - WG 3: Airworthiness: CS-LURS published
 - WG 4: Detect and Avoid
 - WG 5: Command and Control: CPDLC was consulted this summer
 - WG 6: AMC 1309: consultation led to many comments
 - WG 7: Categorisation/ proportionality: proposals for classification of RPAS expected by Q1/15



Organisation of work EU implementation coordination group

➤ Scope:

- Better organize and synchronize the efforts in Europe regarding the implementation of the Concept of operations and overall RPAS integration

➤ Present membership:

- EC (MOVE and GROWTH), EUROCONTROL, EASA, JARUS, SESAR, EDA, EUROCAE, Industry, UVS



Organisation of work - SESAR R&D

Definition phase for RPAS

Research of key missing technologies

Support feasibility of concept

Preparation of regulatory framework

Transfer of valid concept to community



Challenges

- Re-focus JARUS and organise Industry and Military participation in JARUS
- Availability of budget and resources
- Need to obtain buy in from all involved parties
- Strong expectations from stakeholders and applicants
- New problems like privacy, cyber-security, enforcement, data from military partners, ...





Action Plan for EASA

- Draft text for the Basic regulation
- Draft impact assessment
- Stakeholder consultations in June 2015
 - Regulatory Framework: based on paper concept of operation and including reporting scheme, identification and “geo-fencing”.
 - Concrete regulatory measures for low risk operations (Open category), based on best practices from Member States.
- Propose a position to the Commission in December 2015
 - Regulatory framework
 - Concrete regulatory measures for low risk operation
- Observatory
- Engage in JARUS and ICAO
- Coordination with FAA



- 2 applications are being handled now (one fixed wing, one rotorcraft), 6 in the pipeline
- Using the Policy E.Y013-01
- Approach will evolve with implementation of the Concept of Operations



Roadmap

.03/2015

- ICAO symposium
- Update internal planning
- Prepare EU/US conference

.05/2015

- Work on ConOps and Open category
- Prepare ICAO panel

.09/2015

- Re-organisation of JARUS

.12/2015

- Propose regulatory framework to EC
- Regulatory proposal for low risk operations
- ICAO RPAS panel

.04/2015

- Draft Basic Regulation
- Attend JARUS plenary
- Define cooperation with FAA

.06/2015

- RPAS session at EU/US annual conference
- Consult on CONOPS
- Impact assessment policy options
- ICAO RPAS panel
- Propose regulatory scheme for open category

.11/2015

- Review standardisation bodies



EASA
European Aviation Safety Agency

Thank You for your attention

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➤ Useful links:

➤ Riga declaration:

➤ https://eu2015.lv/images/news/2016_03_06_RPAS_Riga_Declaration.pdf

➤ EASA Concept of Operations:

➤ <http://easa.europa.eu/system/files/dfu/EASA%20Concept%20of%20Operations%2012-03-2015.pdf>