

# Österreichs UAS Community und die Auswirkungen aktueller EASA-Updates

**Drohnen: Potentiale für die Wirtschaft – Wien, WKO (02.10.2023)**

**Mag. Raoul Fortner**  
**Vorsitzender/Chairman AAD**  
[fortner@aad.or.at](mailto:fortner@aad.or.at)

# AAD – AUSTRIAN ASSOCIATION FOR DRONES

## Der österreichische Drohnenverband

(1) – AAD

# AAD – AUSTRIAN ASSOCIATION FOR DRONES

## Der österreichische Drohnenverband

### Austrian Associations for Drones (AAD)

- Der **erste eigene Verband** für die österreichische Drohnencommunity
- Bietet **Vernetzung, Wissensaustausch** und **Interessensvertretung**
- **Unabhängigkeit** durch Mitgliedsbeitragsfinanzierung, **rd. 30 Mitglieder**
- **Mitglied in internationalen Verbänden (JEDA, UAV-DACH)**
- **Vertretung in internationalen Gremien (EASA, JEDA-Begutachtung)**
- Laufender **Behörden-Dialog in Österreich (BMK, FFG, ACG usw.)**
  
- **Quartalsweise Vernetzungstreffen der UAS-Community in AT**  
(Hersteller/OEMs, zugehörige Operator, Dienstleister, Forschung usw.)
- **Regelmäßiger Newsletter** (meist monatlich) mit aktuellen Infos
- Ab Herbst 2023 auch ein eigenständiges Schulungsprogramm  
**(Start mit EU-Drohnenregularien inklusive SORA-Praxis)**
- Weitere Infos auf **AAD-Webseite** und aktueller auch auf **LinkedIn**



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### Austrian Associations for Drones (AAD)



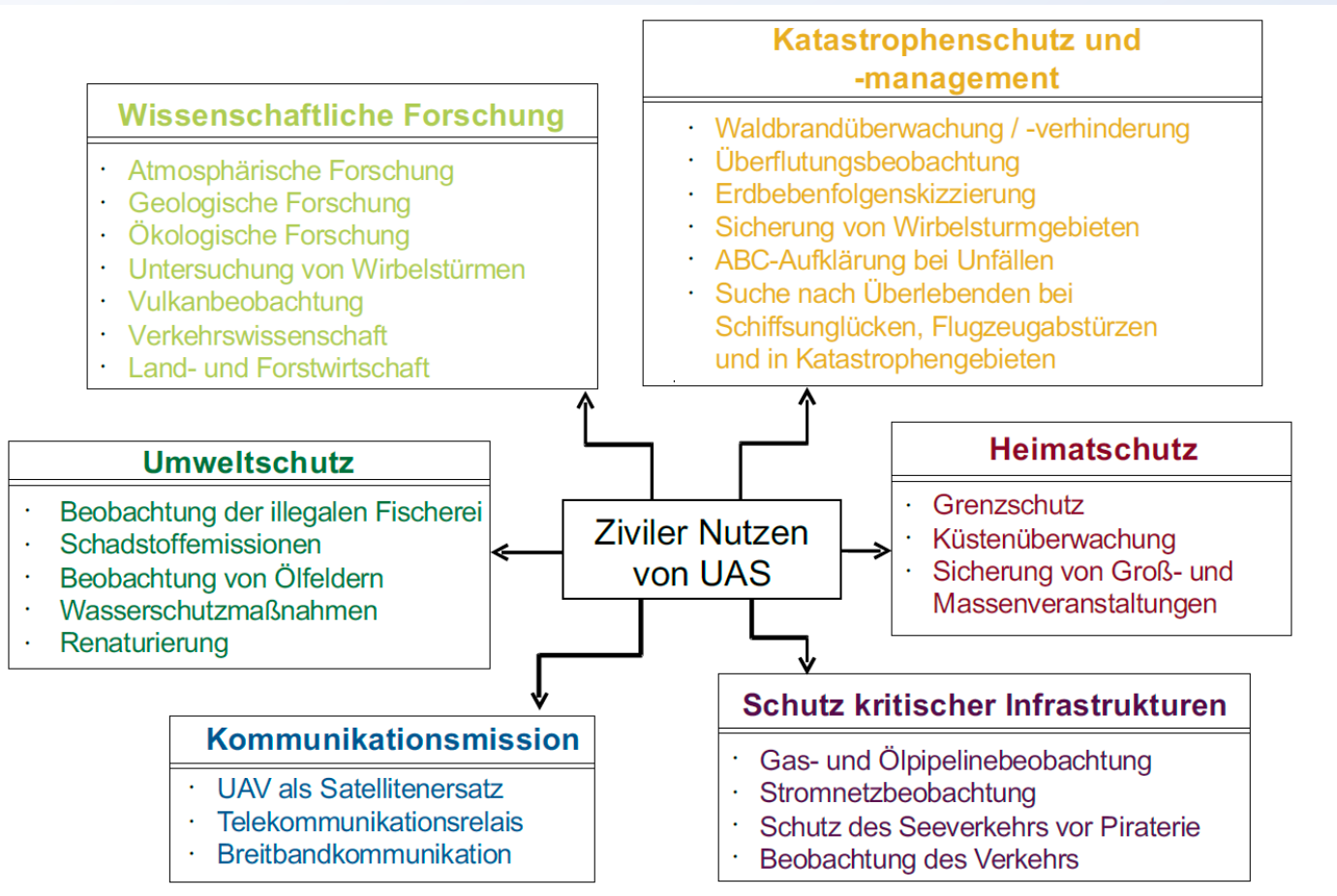
## **(2) – Kompetenzen der österreichischen UAS-Community**



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### Zivile Einsatzbeispiele für UAS-Operations (BIGS – Skrzypietz 2011)



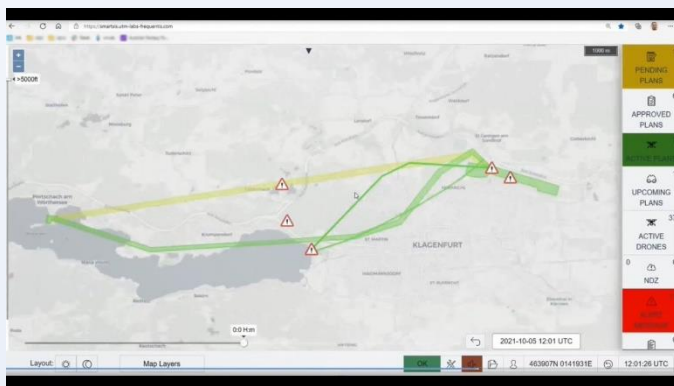
**Substitution** in Luftfahrt  
(Verdrängung z.B. Heli-Ops)

**vs.**

**Ergänzung** in der Luftfahrt  
(gänzlich neue Ops-Felder wie  
UAM, Cargo-Drohnen etc.)

# AAD – AUSTRIAN ASSOCIATION FOR DRONES Der österreichische Drohnenverband

## UAS Industrie & SMEs in Österreich (Auswahl)



### UAS Zulieferer (Auswahl)



### UAS Forschung (Auswahl)



### UAS Tests



## **(3) – Warum Regularien kein „Nebenthema“ sind ...**



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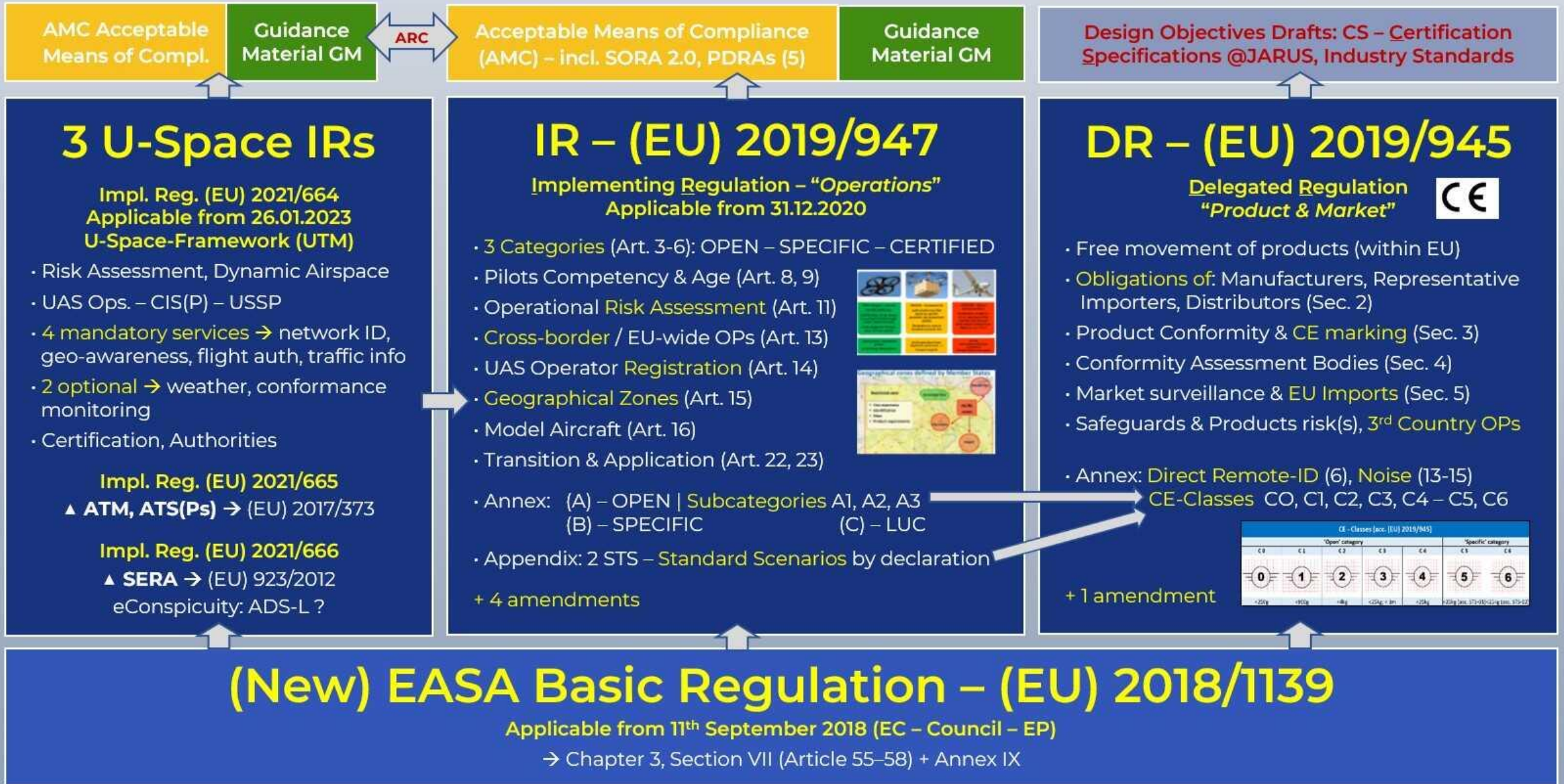
## Der österreichische Drohnenverband

**Regularienfragen sind DAS Hauptthema für viele UAS-Einsätze**  
**Teilweise „moving targets“ mit laufenden Updates & Problemen!**

- Bsp. **§ 18 (5) LVR 2014** → Seit einem Jahr steht hier ALLES in AT!
  - Kein Betrieb 2,5km um Heliports usw.
  - Überschießend! Und keine Lösung in Sicht ...
  - Verwaltungsrechtlich wohl bekämpfbar! Aber Zeit ...
- Bsp. **SORA (Risikoanalyse)** → In der täglichen Umsetzung viel Interpretation
  - National große Unterschied in Umsetzung
  - SORA 2.5 und SORA 3.0 im Anflug ...
- Bsp. **CE-Kennzeichnung** → EU will Start 01.01.2024, viele Fragen offen
- Bsp. **VTOL, Flugtaxis, MDS** → EASA usw. arbeiten laufend an neuen Regeln
- Bsp. **U-Space/UTM** → Sollte heuer starten, aber viele Details offen

## **(4) – Überblick EASA Regularien**

# Fortner's Guide to the EU Drone Regulations "Jungle" (Framework)





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### Operation Categories (Drei Betriebskategorien)



**OPEN category - Low risk**  
**NO-PRE APPROVAL**  
**LIMITATIONS: 25 kg, Visual Line of Sight (VLOS), height <120m, system of zones**  
**3 Sub-categories: fly over, close, far from people**

**SPECIFIC - Increased risk**  
**Authorisation by NAA based on specific operation risk assessment (SORA)**  
**Declaration in case of standard scenario; LUC**

**CERTIFIED - Risk as manned aviation**  
**Certification of UAS [by EASA], approval of the operator and licensed pilot (unless autonomous flight) [by the NAAs]**

*General public / recreational purpose*  
*Model Flying, Photographers*

*BVLOS operations (linear inspections, aerial work, ...)*  
*Transport of goods*

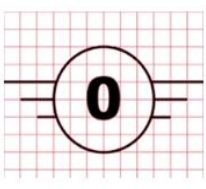
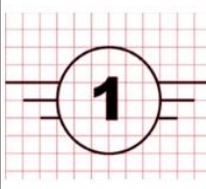
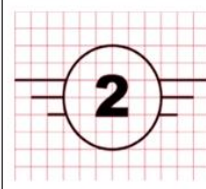
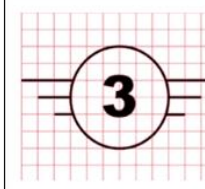
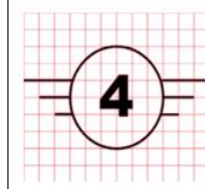
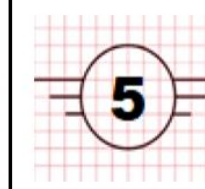
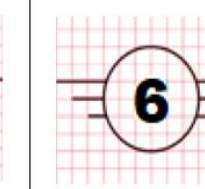
*Air Taxi*  
*International IFR (cargo, passengers)*  
*Package delivery over people*

CE - Classes (acc. (EU) 2019/945)						
'Open' category				'Specific' category		
C 0	C 1	C 2	C 3	C 4	C 5	C 6
<250g	<900g	<4kg	<25kg; < 3m	<25kg	<25kg (acc. STS-01)	<25kg (acc. STS-02)

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### UAS Product Conformity Classes (Drohnenklassen) – Primär „Open“

CE - Classes (acc. (EU) 2019/945)						
'Open' category					'Specific' category	
C 0	C 1	C 2	C 3	C 4	C 5	C 6
						
<250g	<900g	<4kg	<25kg; < 3m	<25kg	<25kg (acc. STS-01)	<25kg (acc. STS-02)

- **Registrierungspflicht** für Operator ab 250g oder 80J bzw. mit Sensorik
- Dann auch **e-identification** (Reg-Nr., Seriennummer, ggf. Position, Heading)
- Dann auch **geo-awareness** (lfd. Updates zu „No-Drone-Zones“ einspielen)
- Gerät muss die Registrierungsnummer auch **physisch** tragen
- Laut EU/EASA soll jedem Gerät ein **EASA-Infoblatt** für Cat. XY beiliegen
- Training, Prüfung und Einsatzgebiet je nach Geräteklasse
- **CE-marking** soll EU-weit einheitlich sein (ab 01. Jänner 2024 verpflichtend?)

# EU 2022/425 (14.03.2022)

→ Open  
→ STS

Hauptgrund:  
Fehlende  
Standards!

## Article 1

Implementing Regulation (EU) 2019/947 is amended as follows:

- (1) in Article 20, '1 January 2023' is replaced by '1 January 2024';
- (2) in Article 22, the introductory wording is replaced by the following:

Open Category: tw. längere Übergangsfrist

'Without prejudice to Article 20, the use of UAS in the 'open' category which do not comply with the requirements of Parts 1 to 5 of the Annex to Commission Delegated Regulation (EU) 2019/945 (\*) shall be allowed for a transitional period ending on 31 December 2023, subject to the following conditions:

(\*) Commission Delegated Regulation (EU) 2019/945 of 12 March 2019 on unmanned aircraft systems and on third-country operators of unmanned aircraft systems (OJ L 152, 11.6.2019, p. 1).;

- (3) in Article 23, paragraphs 2, 3 and 4 are replaced by the following:

Nationale Standard Szenarios länger gültig

2. Article 5(5) shall apply from 1 January 2024.
3. Points UAS.OPEN.060(2)(g) UAS.SPEC.050(1)(l)(i) of the Annex shall apply from 1 July 2022 and point UAS.SPEC.050(1)(l)(ii) of the Annex shall apply from 1 January 2024.
4. Without prejudice to Article 21(1), until 31 December 2023 Member States may accept declarations made by UAS operators in accordance with Article 5(5), based on national standard scenarios or equivalent, if those national scenarios meet the requirements of point UAS.SPEC.020 of the Annex.

Such declarations shall cease to be valid from 1 January 2026.;

## Article 2

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 14 March 2022.



## Fehlende Standards? → EASA verweist auf prEN

# ASD-STAN publishes three new standards for drone operations in the 'open' category

📅 March 23, 2023 📁 Emerging regulations, UAS traffic management news, Urban air mobility

ASD STAN has published three out of the four standards of the series **prEN 4709** to demonstrate compliance with the class mark for drones Classes C0, C1, C2 and C3:

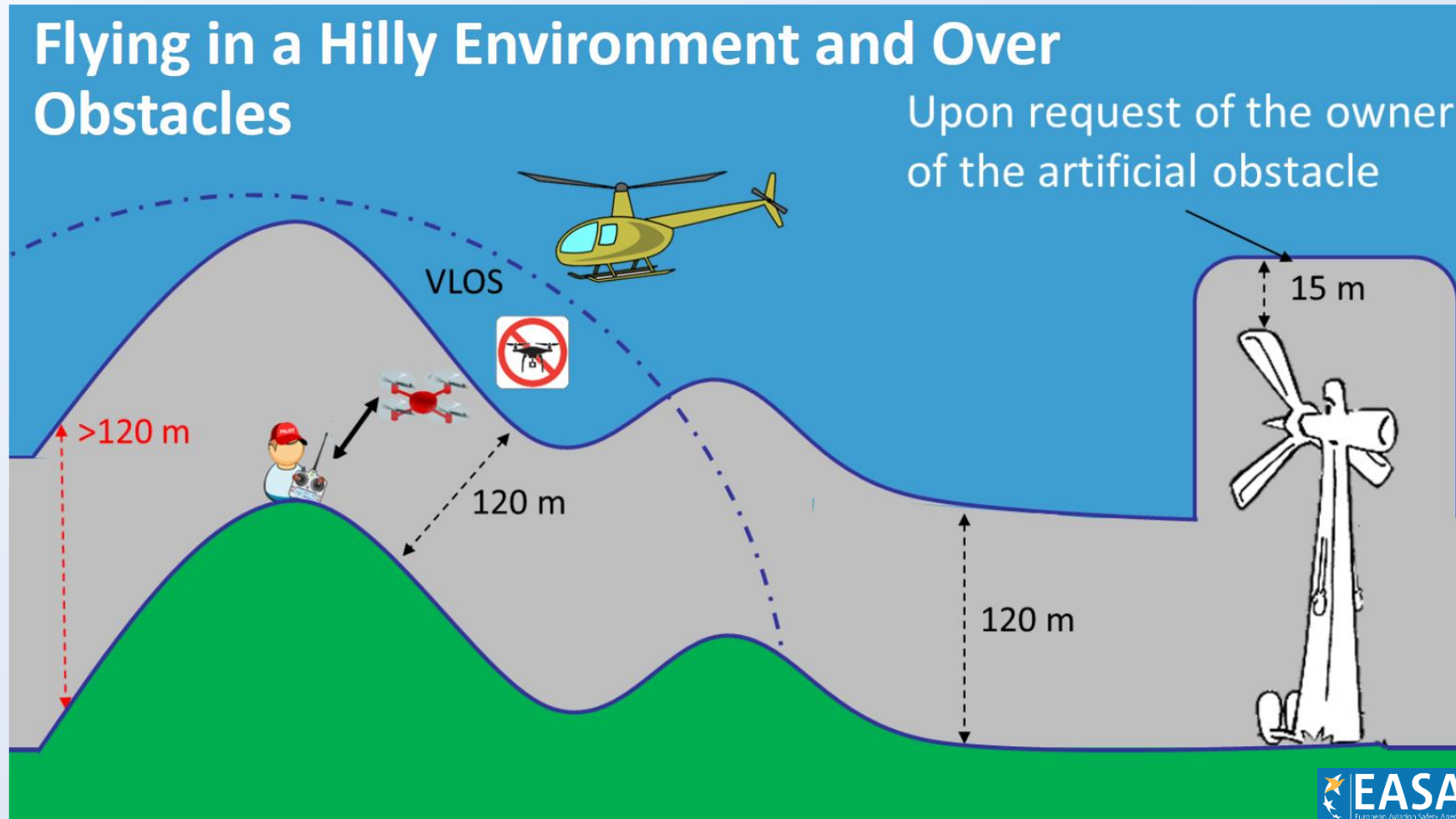
- **Direct remote identification: prEN 4709-002 P1 Corrigendum 1**. This document provides means of compliance with the "Direct Remote Identification" requirements set in Regulation (EU) 2019/945 on Unmanned Aircraft Systems.
- **Geo-awareness: prEN 4709-003 P1**. This document provides means to demonstrate compliance with the "geo-awareness" requirements specified in Part 2 points (13), Part 3 points (15) and Part 4 points (10) of the Commission Delegated Regulation (EU) 2019/945.
- **Green flashing light: prEN 4709-004 P1**. This document will provide means of compliance to cover lighting related requirements for Part 2 to 4 of the Annex to the Commission Delegated Regulation (EU) 2019/945 on unmanned aircraft and on third country UAS operators. The purpose is to be able to verify that an UA is equipped with lights.

The **missing standard is the prEN 4709-001**, related to the other requirements defined by Regulation (EU) 2019/945. It should be published by ASD STAN before this summer.

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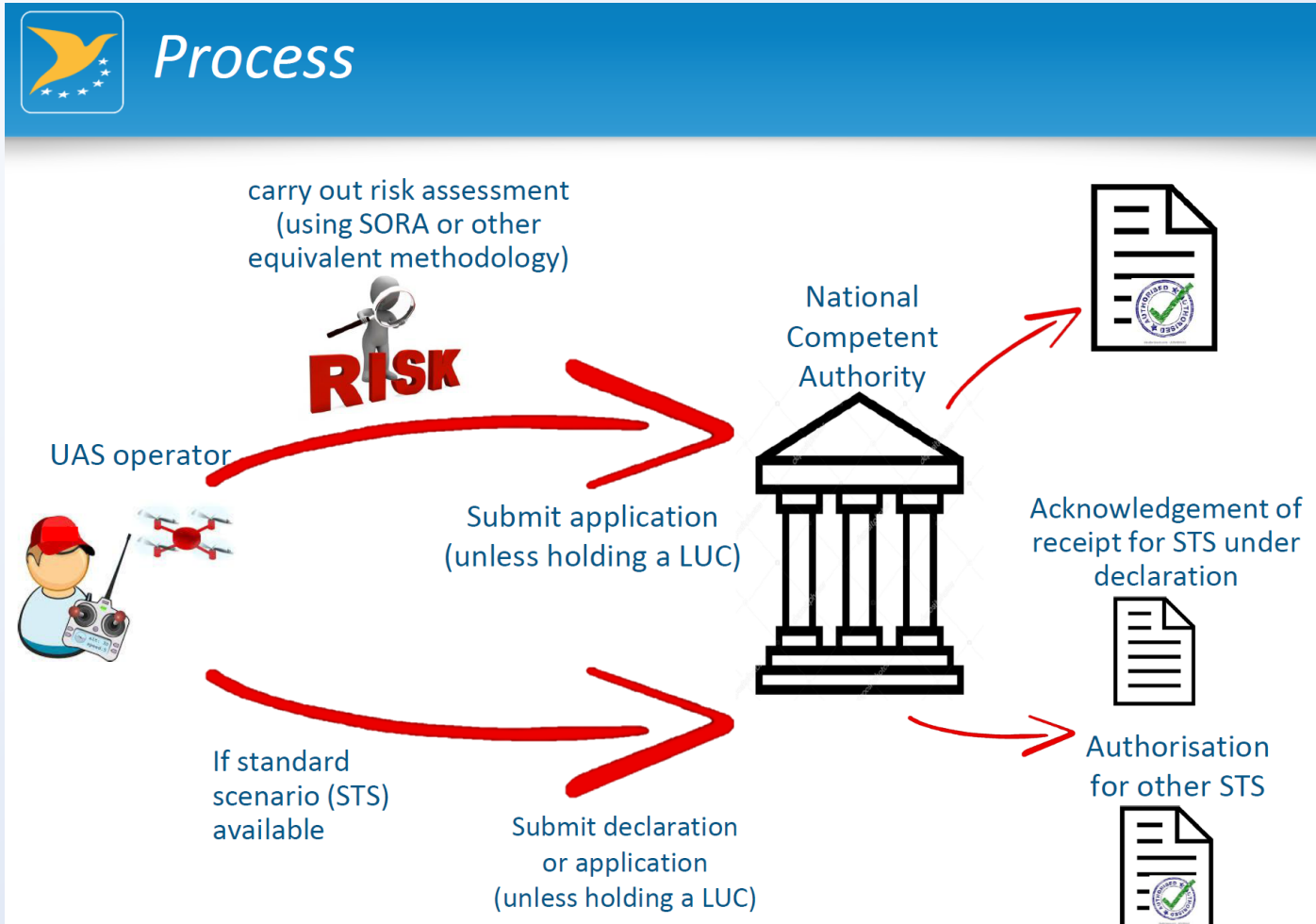
### (1) OPEN CATEGORY – max. 120m AGL



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### (2) SPECIFIC CATEGORY – Risikoanalyse SORA – STS & PDRA – LUC



#### Specific ermöglicht vieles:

- **BVLOS** (ohne Sichtverb.)
- **MTOM über 25kg**
- **Flughöhe über 120m AGL**
- **Über „kritischen“ Gebieten**

#### Zulassung entweder via

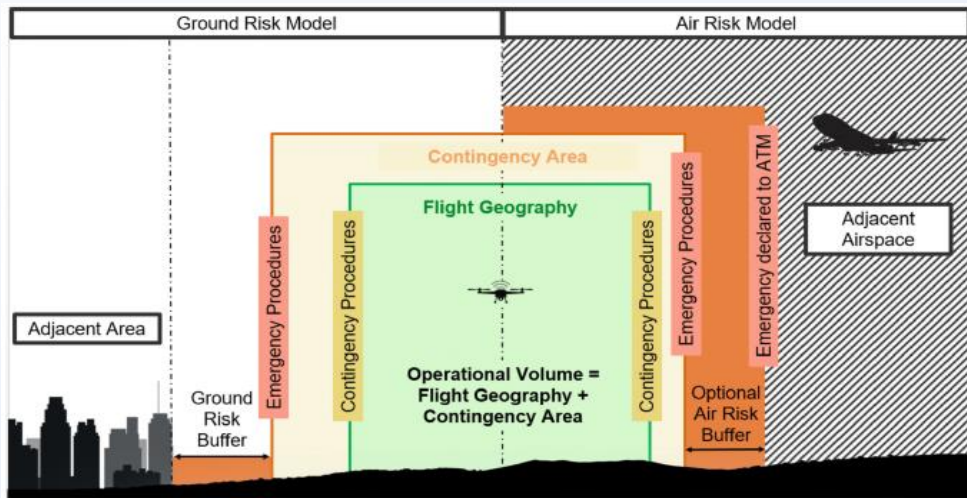
1. **SORA** Vollständige Risikoanalyse (Aufwand!)
2. **STS** – Abkürzung via (Standard Scenario) bzw. **PDRA** (STS ohne CE-Kz.)
3. **LUC** (Light UAS Operator Certificate)



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### Risikoanalyse SORA (Specific Operation Risk Assessment) v. JARUS



### Specific category – Risk assessment



### Operational safety objectives (OSO) and mitigations for a safe and secure flight

### Specific assurance and integrity level (SAIL)

- SAIL I & II: low risk
- SAIL III & IV: medium risk
- SAIL IV & V: high risk

- Flight conditions
- Operational limitations,
- Remote pilot and other personnel competencies
- Technical requirements of the UAS
- Security and privacy



**1. GRC (Ground Risk Class)**  
± Mitigation-Modifiers

**2. ARC (Air Risk Class)**  
± Mitigations (strategic, tactical)  
± Level of Robustness

= **SAIL** level determination  
± **OSO** (Oper. safety objectives)

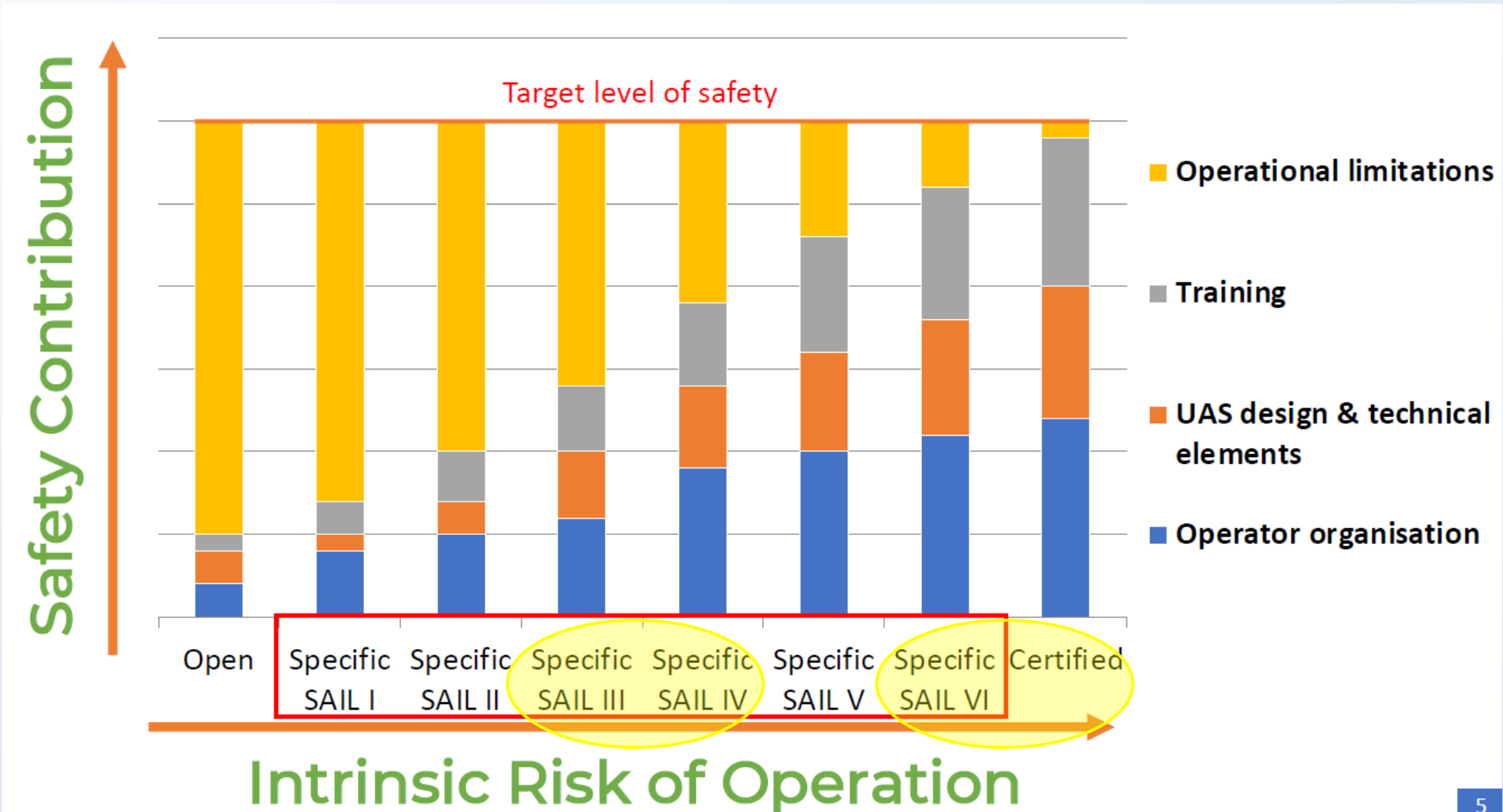
SAIL Determination				
Final GRC	Final ARC			
	a	b	c	d
1	I	II	IV	VI
2	I	II	IV	VI
3	II	II	IV	VI
4	III	III	IV	VI
5	IV	IV	IV	VI
6	V	V	V	VI
7	VI	VI	VI	VI
>7	Category C operation			

**ACG entscheidet dann:**

- Ob **Einsatz möglich** ist
- Unter welchen **Auflagen** (für Gerät und Operation)

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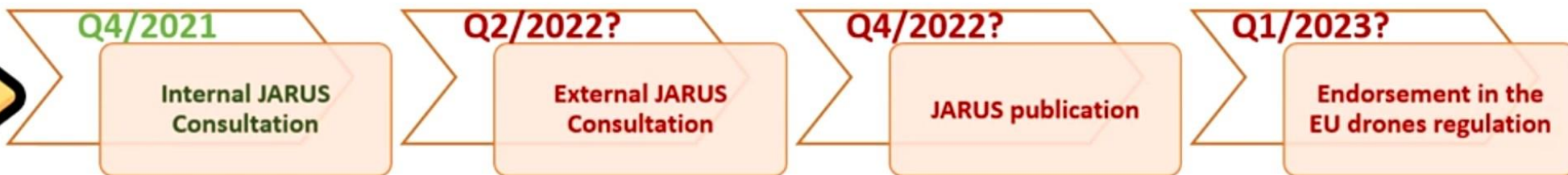
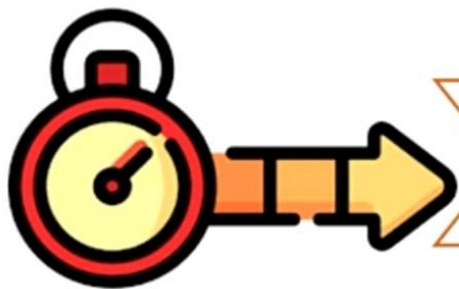


Please note: the chart is only illustrative of the simplified concept, the length of the bars does not represent the actual contribution



# What is next – SORA 2.5


**Main changes:**





# (3) CERTIFIED

## EU 2019/947 – Kategorie CERTIFIED („zertifiziert“) – „in Arbeit“ 😊



European Union Aviation Safety Agency  
**Notice of Proposed Amendment 2022-06**  
 in accordance with Article 6 of MB Decision No 1-2022

**Introduction of a regulatory framework for the operation of drones**  
*Enabling innovative air mobility with manned VTOL-capable aircraft, the initial airworthiness of unmanned aircraft systems subject to certification, and the continuing airworthiness of those unmanned aircraft systems operated in the 'specific' category*

RMT.0230 — SUBTASK C  
**EXECUTIVE SUMMARY**

This Notice of Proposed Amendment (NPA) puts forward the establishment of a comprehensive regulatory framework to address new operational and mobility concepts that are based on innovative technologies, like unmanned aircraft systems (UAS) and aircraft with vertical take-off and landing (VTOL) capability, and foster and promote their acceptance and adoption by European citizens.

This NPA proposes amendments to existing EU aviation regulations and the creation of new ones to address:

- the initial airworthiness of UAS subject to certification in accordance with Article 40 of Commission Delegated Regulation (EU) 2019/945;
- the continuing airworthiness of UAS subject to certification and operated in the 'specific' category; and
- the operational requirements applicable to manned VTOL-capable aircraft.

The specific objectives of the proposed amendments are to:

- ensure a high and uniform level of safety for UAS subject to certification and operated in the 'specific' category and for operations with manned VTOL-capable aircraft;
- enable operators to safely operate manned VTOL-capable aircraft in the single European sky;
- create the conditions for the safe operation of UAS and of manned VTOL-capable aircraft in the U-space airspace;
- promote innovation and development in the field of innovative air mobility while establishing an efficient, proportionate, and well-designed regulatory framework, free of burdensome rules that could hinder the UAS market development;
- harmonise the regulatory framework across the EU Member States by enhancing clarity, filling the gaps, and removing the inconsistencies that are inherent to fragmented regulatory systems;
- foster an operation-centric, proportionate, as well as risk- and performance-based regulatory framework, considering important aspects such as privacy, personal data protection, security, and safety.

**Domain:** Unmanned aircraft systems (UAS) (civil drones)  
**Related rules:** Commission Regulation (EU) No 748/2012; Commission Delegated Regulation (EU) 2019/945  
 Commission Implementing Regulation (EU) 2019/947; Commission Regulation (EU) No 965/2012;  
 Commission Regulation (EU) No 1178/2011; Commission Implementing Regulation (EU) No 923/2012


**Affected stakeholders:** Drone and VTOL-capable aircraft operators; competent authorities (CAs); flight crews; maintenance organisations; continuing airworthiness management organisations (CAMOs); drone and VTOL-capable aircraft manufacturers; other airspace users; air traffic management/air navigation services (ATM/ANS) providers and other ATM network functions; air traffic services (ATS) personnel; aerodromes; general public

**Driver:** Safety  
**Rulemaking group:** No, but expert groups  
**Impact assessment:** Yes  
**Rulemaking Procedure:** Public consultation

EASA rulemaking procedure milestones

Start	Public consultation	Proposal to the Commission	Adoption by the Commission	Decision
Terms of Reference	NPA 2022-06	EASA Opinion	Implementing/Delegated act	Certification Specifications, Acceptable Means of Compliance, Guidance Material
22.4.2021	30.6.2022	2023/Q1	2023/Q4	n/a

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## “Certified” category

Implementing rules included in existing rules for manned aviation

Drone and components

Type Certificates (Full / Restricted)

Certificates of Airworthiness

European Technical Standard Order Approvals (ETSO) (option)

Organisations

Design Organisation Approval

Production Organisation Approval

Maintenance Organisation Approval

Training Organisation Approval

Personnel

Licensed pilot

Remote Operator Certificate (ROC)

Certification Specifications

Safety Objectives

Complemented by Technical Standards

Standard for Operational aspects

Standard for Licencing aspects

# EU 2019/947 – Kategorie CERTIFIED („zertifiziert“) – „in Arbeit“ 😊

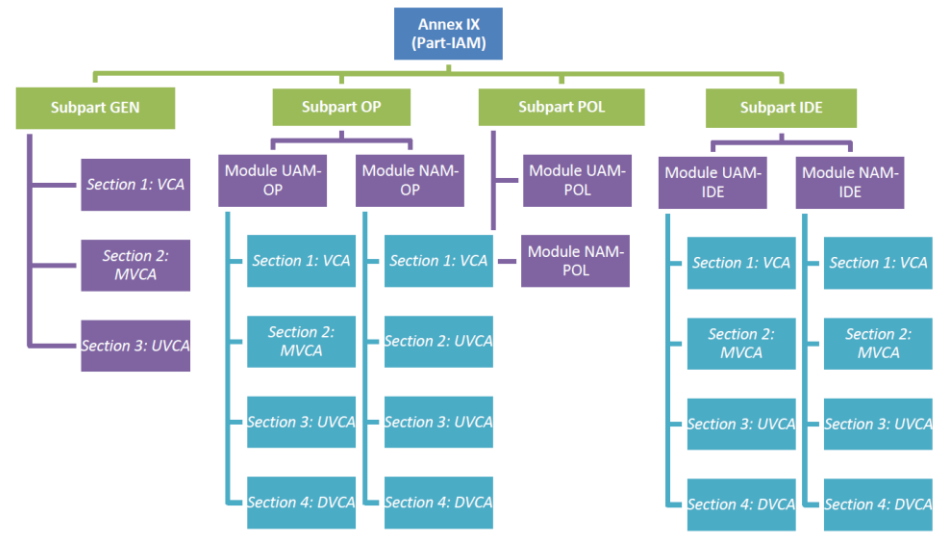
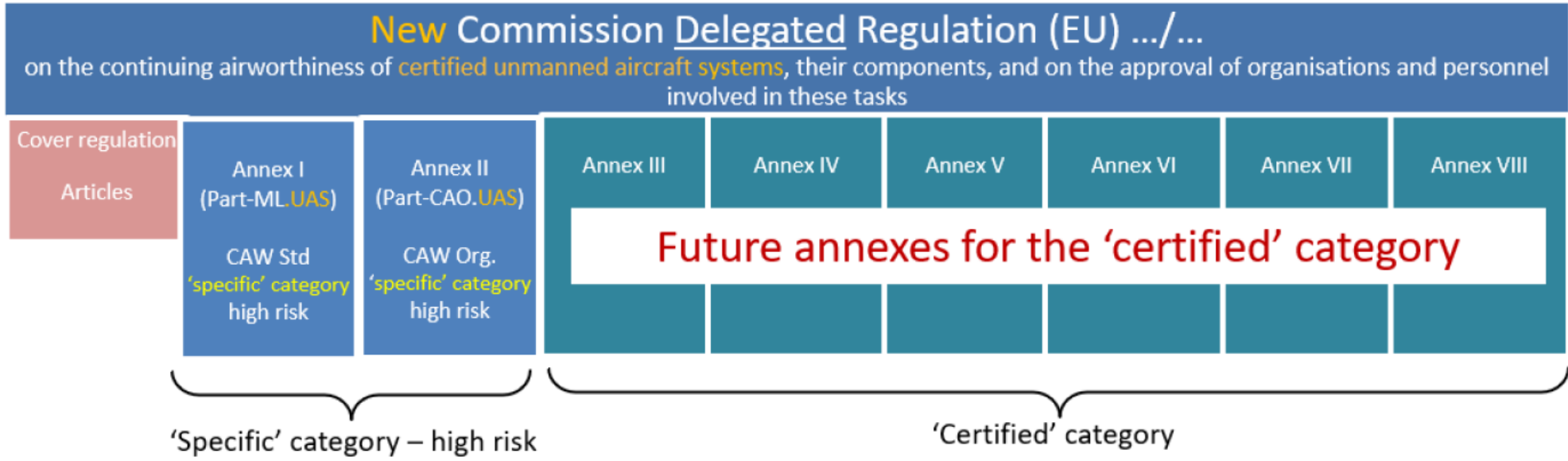
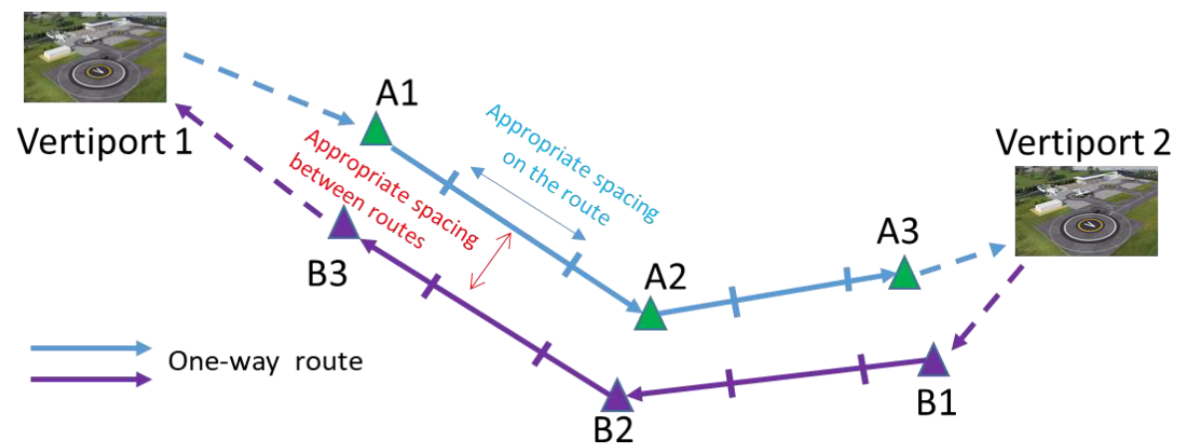


Figure 10 — Predetermined VFR routes for operations with VTOL-capable aircraft

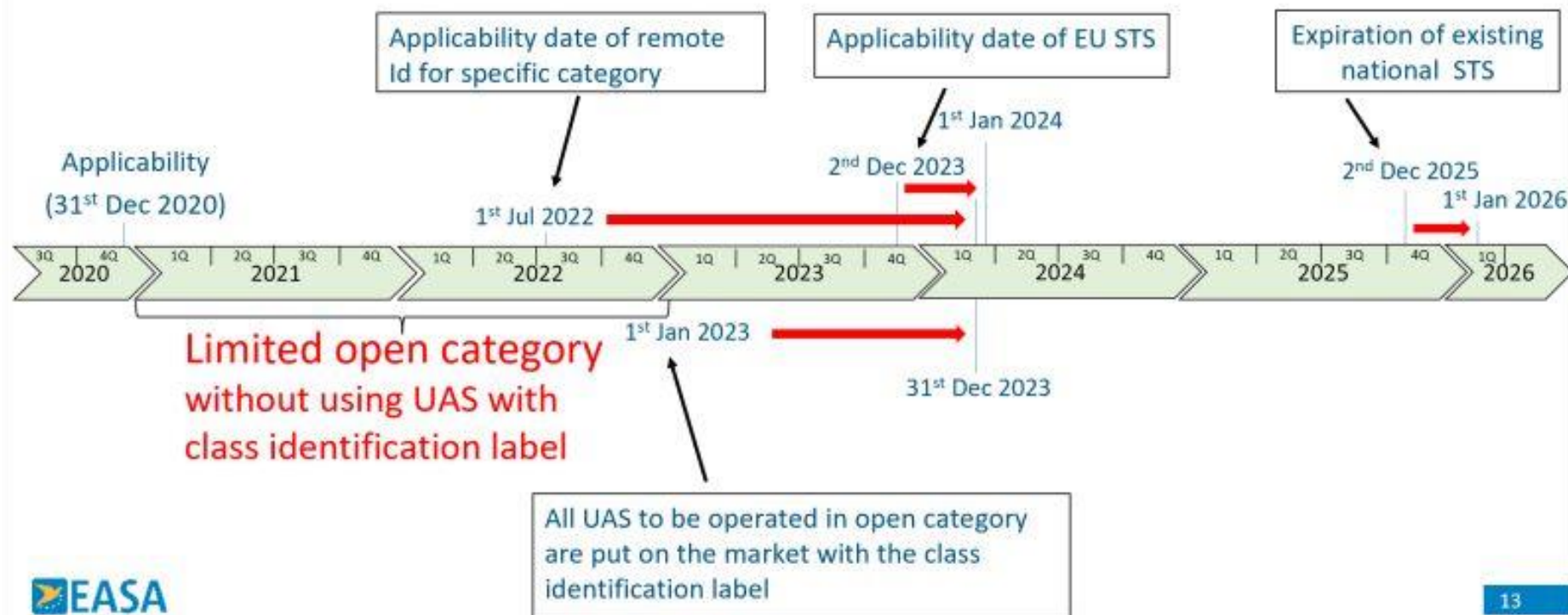


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### EU 2019/947 – Übergangsfristen „Transition“ (Art. 22)

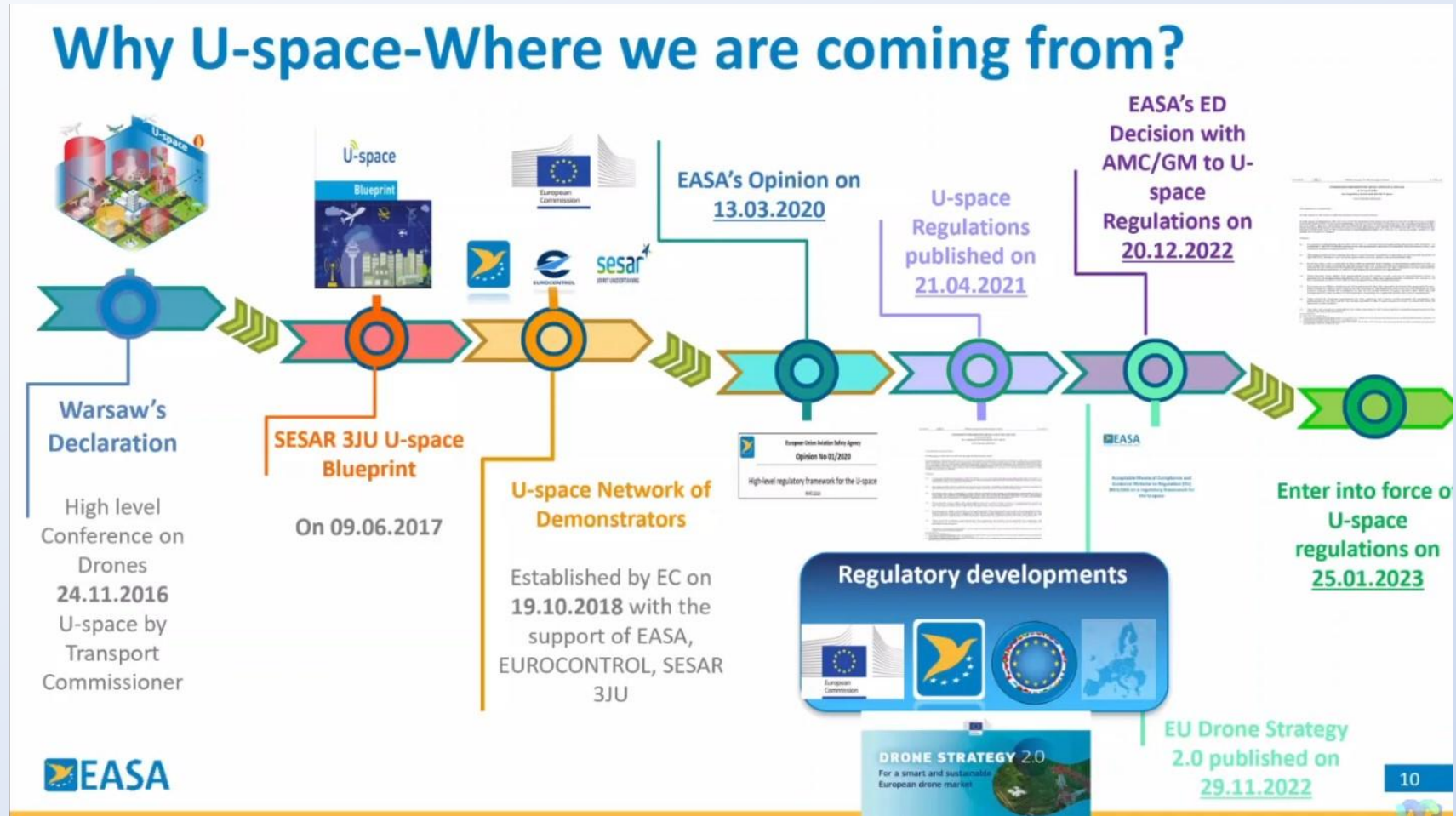
#### Regulation 2019/947 – Proposed new timeline





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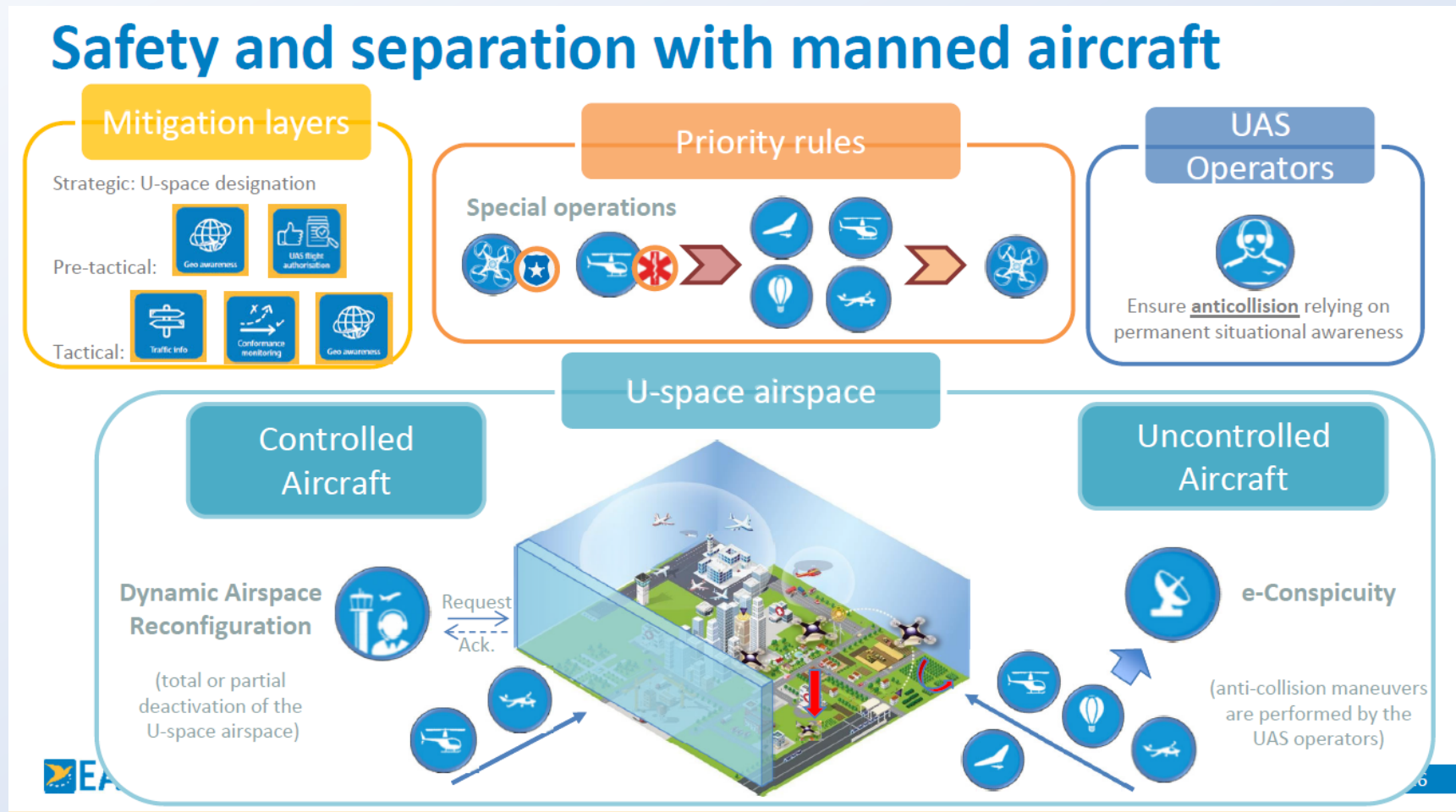
## U-Space (Zusammenspiel bemannt $\leftrightarrow$ unbemannt im Luftraum)



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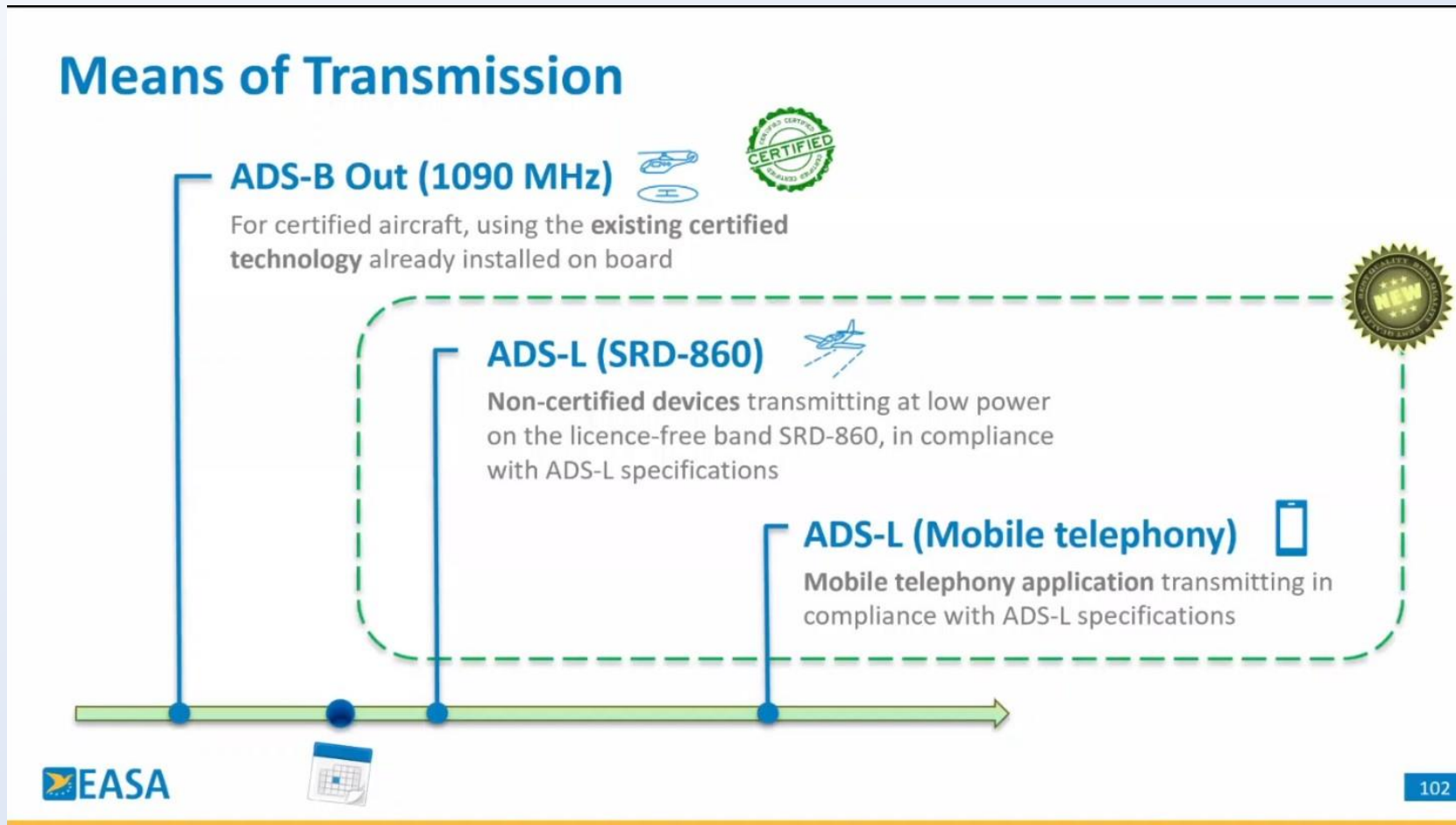
### U-Space (Zusammenspiel bemannt ↔ unbemannt im Luftraum)



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### U-Space (Neue Regeln für „Sichtbarkeit“ bemannter Luftfahrt)

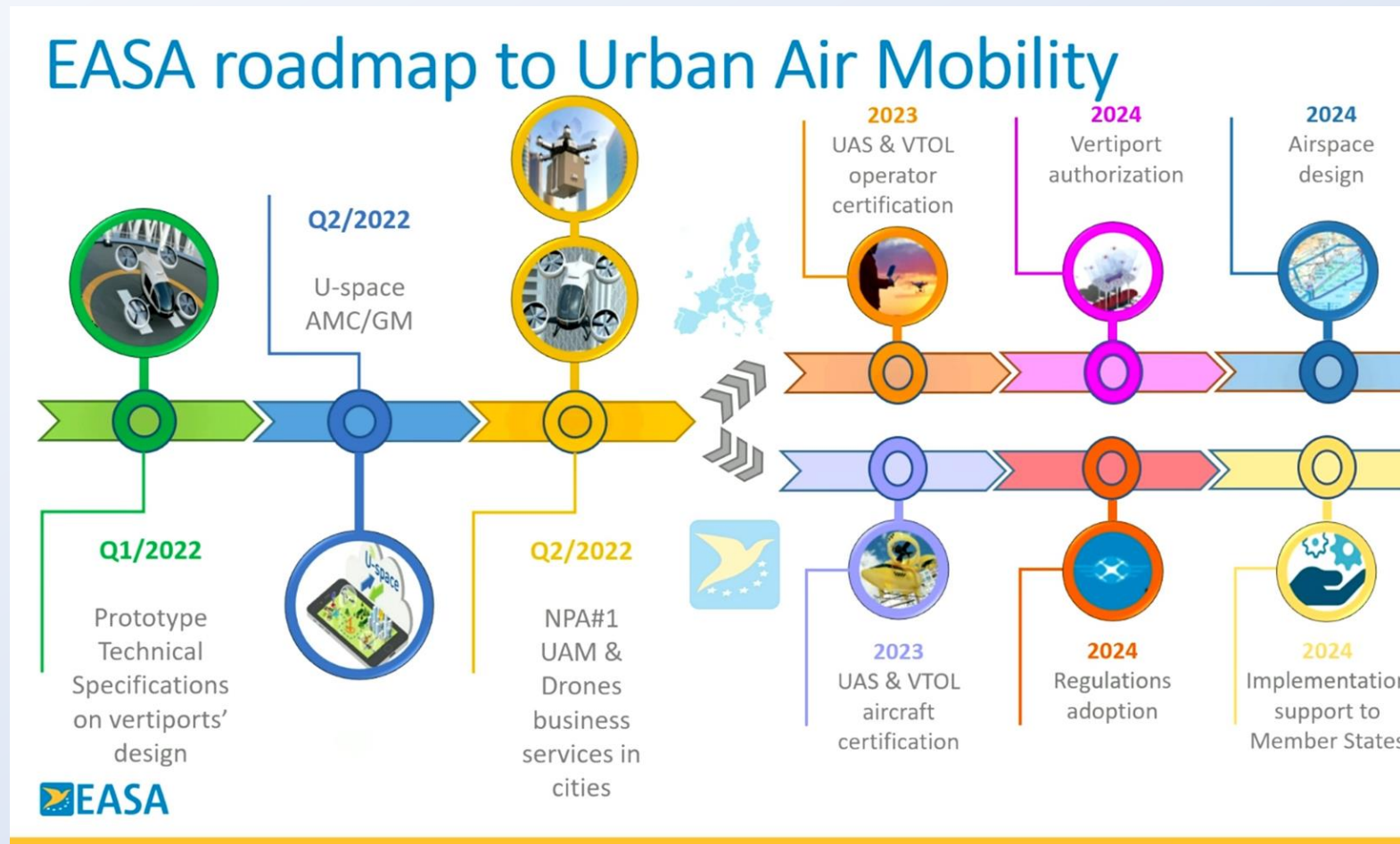




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### UAM (Urban Air Mobility) weiter hinter Zeitplan ...



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**Vielen Dank für Ihre Aufmerksamkeit!**

**Weitere Fragen? ... Contact us!**



# AUSTRIAN ASSOCIATION FOR DRONES

**AAD – Austrian Association for Drones**  
**Der österreichische Drohnenverband**  
**Bauernmarkt 6/11 – 1010 Wien**  
**[info@aad.or.at](mailto:info@aad.or.at) – [www.aad.or.at](http://www.aad.or.at)**  
**+43 1 533 09 73**

**Mag. Raoul Fortner**  
**Vorsitzender/Chairman**  
**[fortner@aad.or.at](mailto:fortner@aad.or.at)**  
**+43 1 533 09 73 – 13**  
**+43 676 – 31 33 7 41**