

# UIC DRONE4RAIL WORKSHOP

## EU Drone Regulation

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11 May 2022



**Your safety is our mission.**

Established  
**2002**

*17 years*  
*in operation*

**800+**

aviation experts  
& administrators



Headquarters in  
**Cologne**



Office in  
**Brussels**

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

EU + Switzerland, Norway  
Iceland, Liechtenstein



# The drone regulation: operation centric approach

Open category	Specific category	Certified category
	 	  

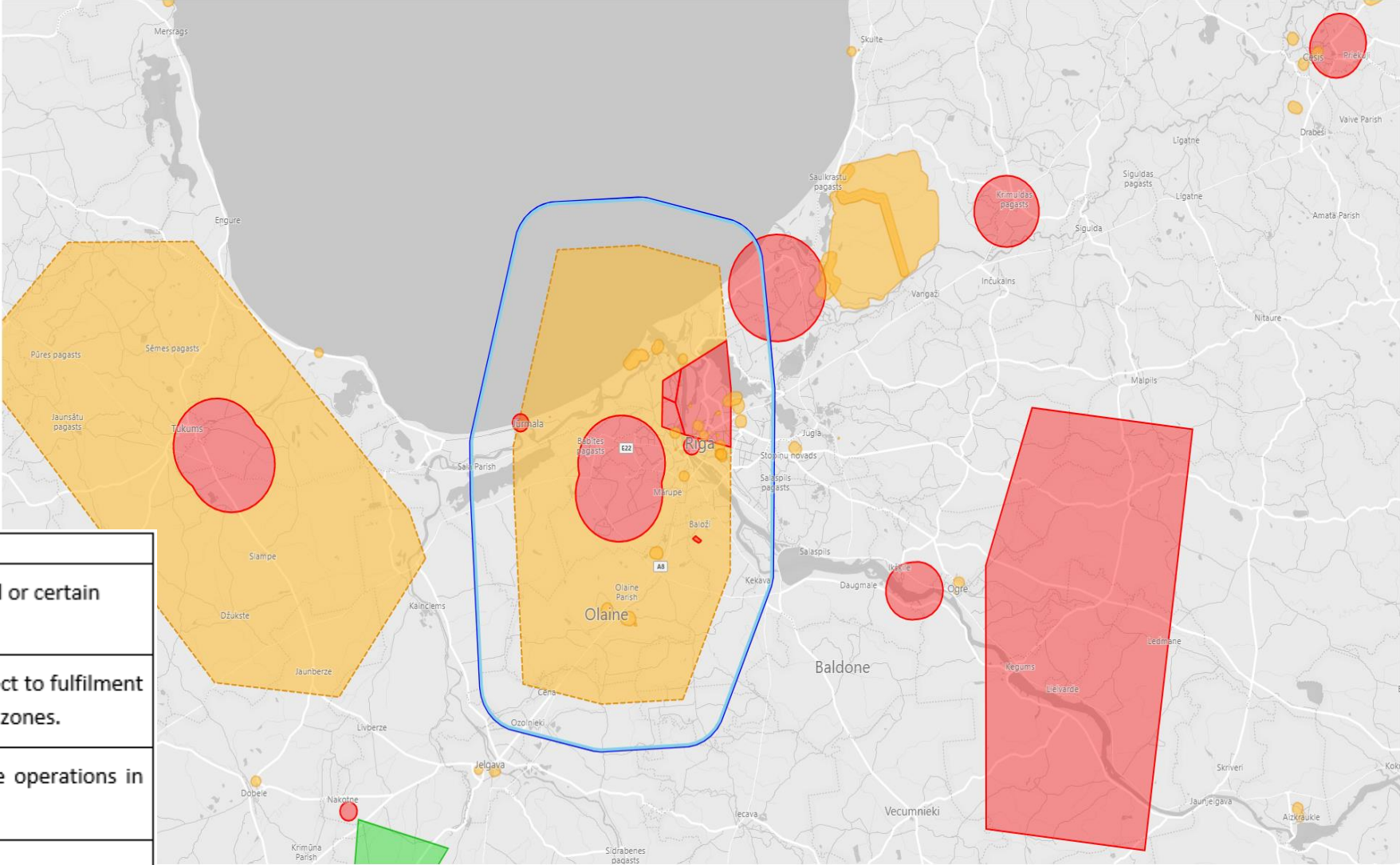
[Regulation \(EU\) 2019/945](#) (technical requirements and third country operations)





[Regulation \(EU\) 2019/947](#) (registration and operational requirements)

Applicable since 31 Dec 2020



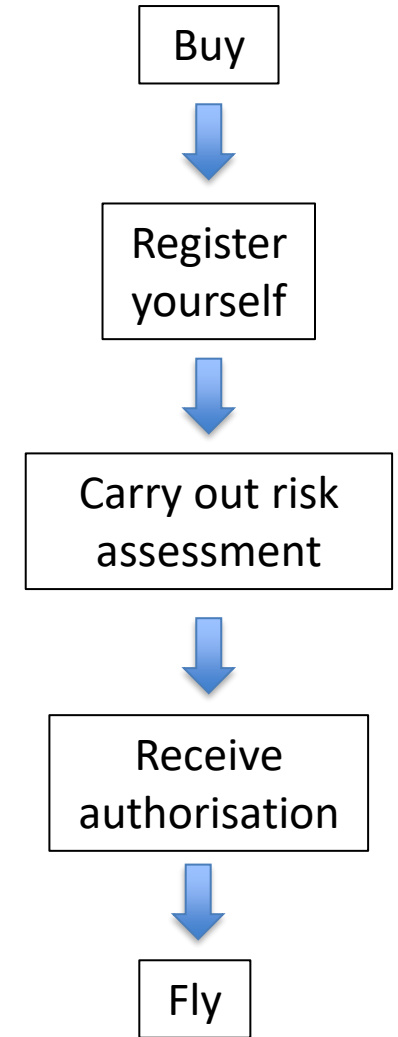
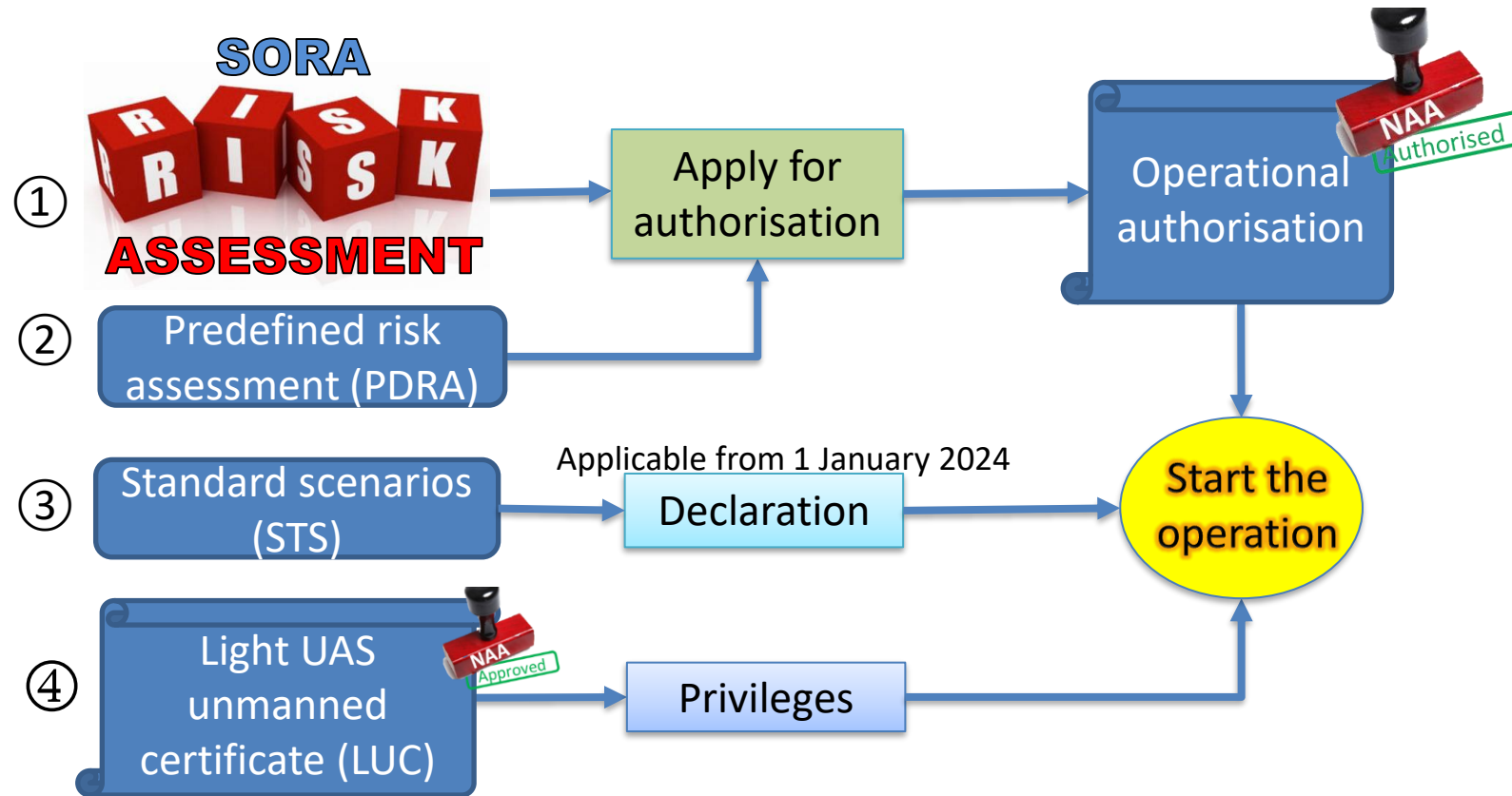
# Geographical zones published by Member States



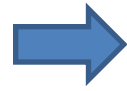
COLOR CODE	MEANING
	Flights are prohibited for operations in all or certain classes.
	UAS operations are limited and are subject to fulfilment of set of conditions imposed for relevant zones.
	UAS geographical zones, which facilitate operations in the "OPEN" category
	U-Space airspace

# Specific category

Requirements based on the risk assessment performed by the UAS operator



# Application process

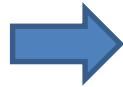


All 9 SORA steps

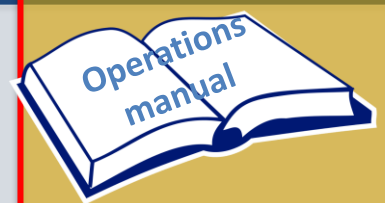
**SORA STEP #10:**  
Comprehensive safety portfolio  
(operation manual + compliance evidences)

Description of the operation

PDRA



topic	Level of Assurance	PDRA provision	Compliance	Assurance
Level of human intervention	Low	1.1 No autonomous operations: the remote pilot should have the ability to maintain control of the UA, except in case of loss of the command and control (C2) link.	N/A	I declare that the UAS always allow the remote pilot to take control of the UA
	low	1.2 The remote pilot should operate only one UA at a time.	Operation manual at para xx indicates that remote pilot operates only one UA at a time	I declare....
	medium	1.3 The remote pilot should not operate from a moving vehicle.	Operation manual at para xx indicates that remote pilot cannot operate from a moving vehicle	I declare...., evidence can be found in appendix y to this document
	mow	1.4 The remote pilot should not hand over the control of the UA to another command unit.	...	I declare....
UA range limit	Low	1.5 <b>Launch/recovery:</b> at VLOS distance from the remote pilot, if not operating from a safe prepared area. <i>Note: 'safe prepared area' means a controlled ground area that is suitable for the safe launch/recovery of the UA.</i>	.....	I declare....
	Low	1.6 <b>In flight:</b> 1.6.1 <b>If no AOs are employed:</b> the UA is not operated further than 1 km (or other distance defined by the competent authority) from the remote pilot. <i>Note: The remote pilot's workload should allow the remote pilot to continuously scan the airspace.</i>	N/A: AOs are employed	I declare....
	medium	1.6.2 <b>If AOs are employed:</b> the range is not limited as long as the UA is not operated further than 1 km (unless a different distance is defined by the competent authority) from the AO who is nearest to the UA.	Operation manual at para xx provides AO procedures	I declare that the procedures have been developed according to standards xx...., evidence can be found in appendix y to this document



# Requirements in the specific category

Low intrinsic risk

Medium intrinsic risk

High intrinsic risk



CE

Or declaration



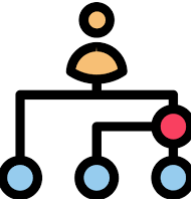
or declaration



Part 21

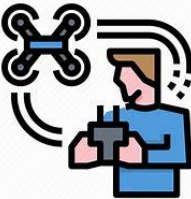
Ops Certificate (including continuing airworthiness org.) or flight tests organisation. LUC is an option.

Organisation:



Development of Ops procedures

Organisation appropriate for intended ops.



Self declared training

Training syllabus available

Training provided by third party (e.g. training organisation)

# List of published PDRAs

PDRA Ref	UAS Characteristics	Main Ops characteristics	Typical ops
PDRA-S01 <i>AMC4 Article 11</i>	MTOM=25 kg Max dimension 3m	<ul style="list-style-type: none"> <li>✓ VLOS;</li> <li>✓ Controlled ground area also over populated area;</li> <li>✓ Controlled or uncontrolled airspace less than 150m AGL;</li> </ul>	Agricultural works, short range cargo ops
PDRA-S02 <i>AMC5 Article 11</i>	MTOM=25 kg Max dim 3m	<ul style="list-style-type: none"> <li>✓ BVLOS up to 1km or 2km with AO;</li> <li>✓ Controlled ground area over sparsely populated area;</li> <li>✓ Controlled or uncontrolled airspace less than 150m AGL;</li> </ul>	Surveillance, agricultural works, short range cargo ops
PDRA-G01 <i>AMC2 Article 11</i>	Max dim 3m	<ul style="list-style-type: none"> <li>✓ BVLOS with Aerial Obs;</li> <li>✓ over sparsely populated area;</li> <li>✓ Uncontrolled airspace less than 150m AGL;</li> </ul>	Surveillance, long range cargo ops
PDRA-G02 <i>AMC3 Article 11</i>	Max dim 3m	<ul style="list-style-type: none"> <li>✓ BVLOS;</li> <li>✓ over sparsely populated area;</li> <li>✓ Segregated airspace (Height of segregated airspace).</li> </ul>	All range of ops
PDRA-G03 <i>AMC6 Article 11</i>	Max dim 3m	<ul style="list-style-type: none"> <li>✓ BVLOS;</li> <li>✓ over sparsely populated area;</li> <li>✓ Max height of 30m or within 15m from obstacles</li> </ul>	Linear inspections, agricultural works



# List of PDRAs under development



JARUS Ref	UAS Charact.	Main Ops characteristics	Typical ops	Status
PDRA-05	Max dim 3m	<ul style="list-style-type: none"> <li>✓ BVLOS;</li> <li>✓ over sparsely populated area;</li> <li>✓ in airspace where at least 50% of manned a/c can be detected, less than 120m AGL</li> </ul>	All range of ops	<b>Mature draft available</b>
PDRA-06	Max dim 8m	<ul style="list-style-type: none"> <li>✓ VLOS;</li> <li>✓ Over controlled ground area;</li> <li>✓ in airspace where at least 50% of manned a/c can be detected, less than 120m AGL</li> </ul>	Testing of prototype UAS	<b>Under preparation</b>
PDRA-07	Max dim 3m	<ul style="list-style-type: none"> <li>✓ BVLOS;</li> <li>✓ Over controlled ground area;</li> <li>✓ Airport environment</li> </ul>	Airport/runway inspections	<b>Under preparation</b>
PDRA-08	Max dim 1m	<ul style="list-style-type: none"> <li>✓ VLOS with aerial obs;</li> <li>✓ Over controlled ground area;</li> <li>✓ Segregated airspace;</li> </ul>	Swarming	<b>Under preparation</b>

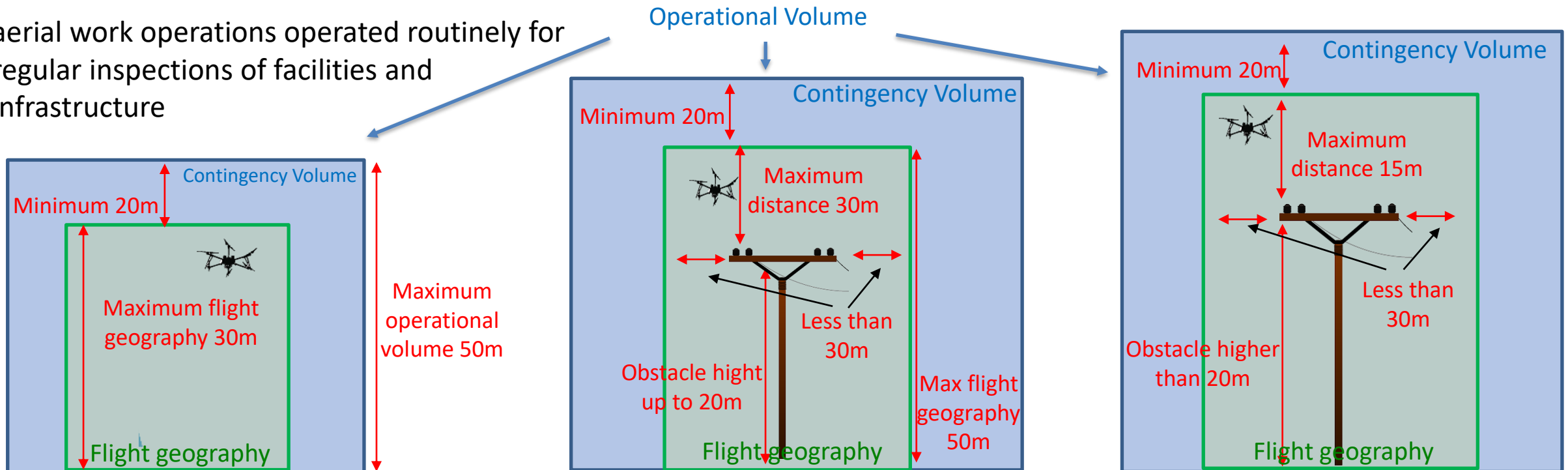
# Predefined risk assessment PDRA G-03

AMC6 to Article 11 to Regulation 2019/947

- BVLOS, in the range of the direct C2 link (radio line of sight)
- Controlled or uncontrolled airspace
- below 30m or close to obstacles over sparsely populated area
- with a UAS max dimension <3m, meeting the technical requirements defined in the PDRA



aerial work operations operated routinely for regular inspections of facilities and infrastructure



# The U-space

Applicability date 26 January 2023

Airspace where some services are provided.



## U-space airspace

Mandatory  
services

Network  
identification

Geo-awareness

Traffic information

UAS Flight  
authorisation

'Optional'  
service

Monitoring  
service

Weather  
service



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