
**SPECIFIC OPERATIONS RISK ASSESSMENTS
(SORA) COURSE APPLIED TO UNMANNED AERIAL
VEHICLES**



CHAPTER II:

JOINT AUTHORITIES FOR UNMANNED SYSTEMS REGULATIONS (JARUS)



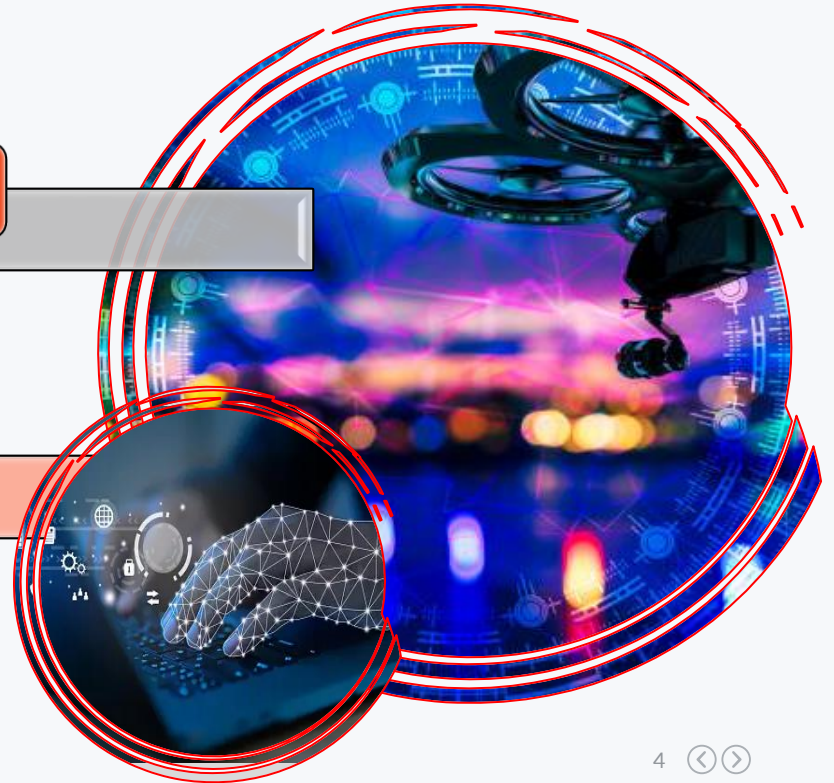
CHAPTER II:
**JOINT AUTHORITIES FOR UNMANNED SYSTEMS
REGULATIONS (JARUS)**

JARUS HISTORICAL BACKGROUND

In 2007, the JARUS initiative (Joint Authorities for Rulemaking of Unmanned Systems) was created

NATIONAL AVIATION AUTHORITIES

REGIONAL AVIATION SAFETY ORGANIZATIONS



JARUS PURPOSE

"Recommend a single set of technical, safety, and operational requirements for all aspects related to the safe operation of remotely piloted aircraft systems"



WG 1 - Flight Crew Licenses



WG 2 - Operations



WG 3 - Airworthiness



WG 4 – Detect and Avoid



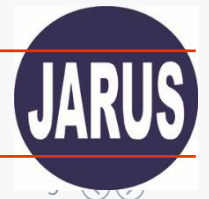
WG 5 – Command, Control and Communications



WG 6 – Risk Management

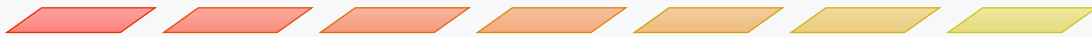


WG 7 - Concept of operations

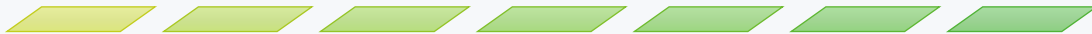


JARUS MOST IMPORTANT INITIATIVES

JAR 03: LICENCES



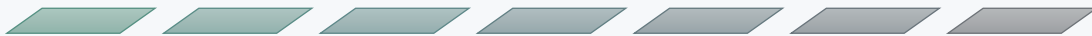
JAR 05: CERTIFICATION STANDARDS



JAR 06: CONCEPT AND NECESSITY RISK MANAGEMENT



JAR 09: CATEGORIZATION



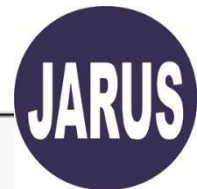
JARUS DOCUMENTATION

WG	Title	Description	Status	Date
GT3	Certification specifications for LURS	Certification specification for light unmanned helicopter systems	Published	10/30/2013
GT5	UAS C2 Enlace RCP	Guidance material to explain the C2 RCP link concept and identify the requirements applicable to the provision of C2 communications	Published	10/10/2014
WG1	FCL Recommendations	The document aims to provide recommendations on uniform licensing and competencies of personnel in the operation of UAS.	Published	09/09/2015



JARUS DOCUMENTATION

WG	Title	Description	Status	Date
GT6 AMC UAS 1309 (package)		Document developed as an integral part of a type certification process. It is a means of complying with an airworthiness requirement 1309.	Published	11/01/2015
GT3	CS-LUAS	Provides recommendations for States to use in their own national legislation, in relation to the Certification Specification for Light Unmanned Aircraft Systems.	Published	12/23/2016



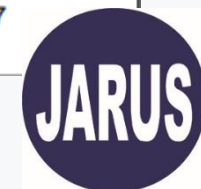
JARUS DOCUMENTATION

WG	Title	Description	Status	Date
GT6	<i>SORA (Package)</i> - Standard Scenarios	<p>The document recommends a risk assessment methodology to establish a sufficient level of confidence that a specific operation can be conducted safely. Accompanying the document is the Executive Summary and Annexes; Annex A - Guidelines on the collection and presentation of system and operation information for a specific UAS operation and, Annex B - Integrity and assurance levels for mitigations used to reduce Intrinsic Terrestrial Risk Classes, Annex C - Strategic Mitigation Collision Risk Assessment, Annex D -</p> <p>Tactical Mitigation Collision Risk Assessment, Annex E - Integrity and assurance levels for Operational Safety Objectives (OSO) and Annex I Glossary of Terms</p>	Published	<p>NEW</p> <p>03/06/2019</p> <p>Annex A and Annex I</p> <p>28/07/2017</p>



JARUS DOCUMENTATION

WG	Title	Description	Status	Date
GT4	Detect and avoid	This document describes methods for deriving design objectives for DAA systems based on airspace requirements.	Internal consultation	
WG7	Operational categorization of UAS	Categorization scheme describing the level of regulatory involvement for different types of UAS and UAS operations.	Published 04/09/2019	
WG1	FCL GM	Guidance material for the Recommendation by JARUS FCL	Published 04/11/2017	



WHAT IS THE RELATIONSHIP WITH SORA?

Their relationship is that one of the most important initiatives of JARUS has been the development of SORA, providing guidelines for assessing the risks associated with a specific drone operation and establishing an appropriate level of confidence that such an operation can be performed safely.



WHAT IS THE RELATIONSHIP WITH SORA?

JARUS DIRECTORS

JARUS Guidelines on Specific Operations Risk Assessment (SORA)

Annex A: Gathering and Reporting System and Operation Information for a Specific UAS Operation

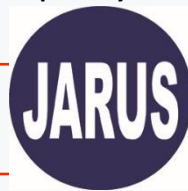
Annex B - Integrity and assurance levels of mitigations used to reduce intrinsic soil risk classes

Annex C - Strategic Mitigation Collision Risk Assessment

Annex D - Collision Risk Assessment of Tactical Mitigations

Annex E - Integrity and assurance levels of Safety Objectives (OSOs)

Annex I - Glossary of terms.



QUESTION TIME!