

THE STATE OF UAS AND UAM CERTIFICATION GUIDE

Navigate the complexities of the advanced air mobility industry's regulatory landscape.



Honeywell

STATE OF UAS AND UAM CERTIFICATION

EXAMPLE USE CASE	US			EU	
	AIRCRAFT TYPE CERTIFICATION	OPERATIONAL CERTIFICATION	FAA REAUTHORIZATION	AIRCRAFT TYPE CERTIFICATION	OPERATIONAL CERT.
BVLOS Inspection Drone under 55 lbs.	Not needed when falls under Part 107	Part 107 with Operational Risk Assessment (ORA) and BVLOS waiver. ARC recommends operation without waiver.	Sec 908 directs FAA to improve the waiver approval process (Performance and risk-based approach), Standardizing applications, using previous waivers as reference for new approvals	Open category, PDRA, SORA and "competent authority" approval	
BVLOS Small Delivery Drone (less than ~25000 ft-lb of kinetic energy)	Type certification. Defined in AIR 600 memo	If type certified, then Part 135 with exemption/waivers. ARC recommends operation without waiver.	Sec. 930 directs FAA to publish NPRM within 4 Months to establish PBR for UAS BVLOS operations. The proposed approval process for UA and associated elements should not mandate Type Certification if UA parameters and operations are within limit. Sec 931 directs FAA to develop the risk assessment methodology.	PDRA, design verification for medium risk under specific category (SAIL IV), type certification for higher risk under specific category (SAIL V, VI) and "competent authority" approval	
Autonomous middle mile cargo (more than 25000 ft-lb kinetic energy)	Part 21.17(b) for aircraft segment. Ground segment undefined.	If type certified, then Part 135 with exemption/waivers. ARC recommends operation without waiver.	Sec. 930 directs FAA to publish NPRM within 4 Months to establish PBR for UAS BVLOS operations. The proposed approval process for UA and associated elements should not mandate Type Certification if UA parameters and operations are within limit. Sec 931 directs FAA to develop the risk assessment methodology.	Design verification for medium risk under specific category (SAIL IV), type certification for higher risk under specific category (SAIL V, VI), type certified via Opinion No 03/2023 under certified category	SORA up to SAIL 6 Undefined for certified category
Piloted UAM	Part 21.17(b) Draft AC 21.17-04 Safety Objective based on draft policy PS-AIR-21.17-01 Global harmonization/ Transferability effort ongoing	Final SFAR Released	Sec. 955 directs FAA to publish SFAR within 7 months including practical path for pilot training requirements and performance-based energy reserve. Sec. 955 also direct FAA to work towards harmonized rule with those CAA with bilateral safety agreement during final rule making activity.	SC-VTOL.(Easy access rules) Global harmonization/ Transferability effort ongoing	Opinion No 03/2023 MOC NPA 2024-01
Autonomous UAM and passenger aircraft	Part 21.17(b) for aircraft segment. Ground segment undefined.	Undefined	Sec 955 (d)(2)(B) directs FAA to consider and plan for unmanned and remotely piloted powered-lift aircraft and associated elements using PBR during final rule making activity.	Type cert via Opinion No 03/2023. Aircraft segment by existing regulations or SC-VTOL	Undefined
Artificial Intelligence Roadmap	FAA releases first AI roadmap to establish the guidance for assuring safety of AI in aviation		Sec 1024 Directs FAA to review current and planned artificial intelligence and machine learning technology to improve airport efficiency and safety.	EASA published the AI Roadmap 2.0. Roadmap provides a timeline for AI adoption phases.	

BVLOS: Beyond visual line of sight
 ORA: Operational risk assessment
 ARC: Aviation rule making committee
 PDRA: Predefined risk assessment
 PBR: Performance based regulations
 CAA: Civil aviation authorities
 MOC: Means of compliance

Disclaimer:
 The information presented constitutes forward-looking statements regarding the subject matter. Any forward-looking statements represent our current judgment and are subject to risks and uncertainties that could cause actual results to differ materially.
 The information is provided "as-is" and without warranty.



Source Documents

DOCUMENT	CONTENT
SC-VTOL Issue 2	Defines the special condition certification regulations for eVTOL
Easy Access Rules for small category VCA (SC-VTOL + MOC)	EASA developed Easy Access Rules to consolidate special conditions and means of compliance in a single document.
NPA 2022-06 (EASA NPRM - Introduction of a regulatory framework for the operation of drones) (Document is in public review)	Proposes 3 major items: <ul style="list-style-type: none"> • Initial airworthiness of UAS subject to certification • Continuing airworthiness of the UAS in specific category (SAIL V, VI) • The operational requirements applicable to manned VTOL-capable aircraft
Opinion No 03/2023 : After review of comments during NPA 2022-06 comment period, EASA developed this opinion and the draft regulations	<ul style="list-style-type: none"> • Proposes amendments to existing EU aviation regulations: • Initial airworthiness of UAS subject to certification • Continuing airworthiness of the UAS in specific category (SAIL V, VI) • Operational requirements applicable to manned VTOL-capable aircraft
NPA 2024-01	This NPA proposes amendments to existing AMC and GM and introduces new ones to demonstrate compliance with operational requirements for manned VTOL-capable aircraft (VCA)
Specific Operations Risk Assessment (SORA)	<ul style="list-style-type: none"> • Defines risk assessment framework for UAS, • Provides direction to identify ground risk, air risk and specific assurance and integrity level (SAIL)
Integrity and Assurance Levels for the Operation Safety Objectives (OSO)	Defines operation safety objective (OSO) based on the SAIL number
Standard Practice for Operational Risk Assessment (ORA) of Small Unmanned Aircraft Systems (sUAS)	Provides guidance on preparing operational risk assessments for sUAS (aircraft under 55 lb.) design
Memorandum AIR600-21-AIR-600-PM01	Defines FAA approach to type certification of low risk unmanned aircraft. This includes certification of UA and the specification of associated elements (ground station)
UAS BVLOS ARC Final Report	Provides recommendation for UAS to operate BVLOS without waivers or exemptions
Design Verification Report	Defines EASA process for UAS design verification under SORA
DVR_Guidelines_Issue_2_0	Provides guidelines for the design verification report applicable for specific category SAIL IV operations, mitigation means linked with design and verification of 'enhanced containment'
SC Light-UAS Medium Risk	Provides special condition light unmanned aircraft system for medium risk (SAIL III and SAIL IV)
SC Light-UAS High Risk	Provides special condition light unmanned aircraft system for high risk (SAIL V and SAIL VI)
Predefined Risk Assessment (PDRA)	Provides predefined risk assessment carried out by EASA. Operation still requires authorization, but process can be simpler.
Final Special Federal Aviation Regulation (SFAR)	Provides final (for 10 years) pilot certification and operational rules for Power- Lift aircraft
Draft AC 21.17-04	This advisory circular (AC) provides guidance for the type, production, and airworthiness certification of powered lift.
FAA Reauthorization Act Of 2024 (H.R. 3935) – Full Text	Provides detailed FAA reauthorization act of 2024
FAA Reauthorization Act Of 2024 (H.R. 3935) – Summary	Provides section-by-section summary of FAA reauthorization act of 2024
Policy PS-AIR-21.17-01	This policy establishes a safety continuum for the certification of powered lift.
FAA Roadmap for AI Safety Assurance	Roadmap provides timeline for establishing the guidance for assuring safety of AI in aviation. Includes establishing DAL C learned AI assurance by 2025 and DAL A by 2026.
EASA AI Roadmap 2.0	Provides a timeline for AI adoption phases includes: <ul style="list-style-type: none"> Phase I: Exploration and first guidance development Phase II: AI/ML framework consolidation Phase III: Pushing barriers

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