

# Why Certify, for What Purpose, and to What Standards?

ICAO RPAS Symposium 2022

Ailton José de Oliveira Junior

- International agreements
- Demonstration of design aspects to facilitate operational approvals

- Proportionality
- Traditional type certification relies on decades of experience
- Uniqueness and high specialization of design and CONOPS for UAS require new approaches

- New approach for “specific category”: RPAS design authorization
- Introduced in 2017
- Focus small on class 3 (below 25 kg / 55 lb) for BVLOS operation
- For above that limit also included design requirements derived from Part 23 Amdt 64
- Use of MOC material from SDOs (ASTM, RTCA, SAE, EUROCAE)

# Design standard for BVLOS

DESIGN

OPS/ATM

BVLOS operations are safe when conducted in an area authorized by ATC (DECEA).

The presence of other unauthorized aircraft in the area is unlikely.

Operations will only be carried out in segregated airspace.

NOTAM, LOA or other authorization means defined by DECEA.

In the event of other aircraft entering that airspace, there are appropriated mitigations in place.

Means to monitor air traffic in the area.

VHF comms monitoring or other means defined/accepted by DECEA.

RPA conspicuity

External lighting  
(12.5 seconds reaction time)

E94-002A – 5.4.9

It is improbable that a RPA whose design was authorized for BVLOS will leave the authorized flight area.

Navigation system with appropriate performance and reliability.

(Performance: H error: 95% - V error: 99,7%  
Reliability: Dual sources with cross comparison)

E94-002A – 5.4.7

The RPS presents information necessary for the RP to conduct operations in a safe manner.

(Front camera, map with authorized volume and current position, etc.)

E94-002A – 5.4.6

There are appropriate mitigations in case of any equipment or system failure.

Safety analysis  
E94.405(a)(3)

Procedures (AFM)  
E94.405(a)(1)

Emergency recovery  
E94.407(c)

Specific procedures agreed with ATC.



<https://www.gov.br/anac/en/topics/drones>  
ailton.junior@anac.gov.br