

Certification of UAS



Federal Aviation
Administration

A Risk-Based Approach



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Federal Aviation
Administration

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Aircraft Certification Service (AIR)

- Development of Standards and Policy
- Certification and Production of aircraft, engines, propellers, aircraft parts and appliances;
- Continued operational safety (COS) management



AIR Organization

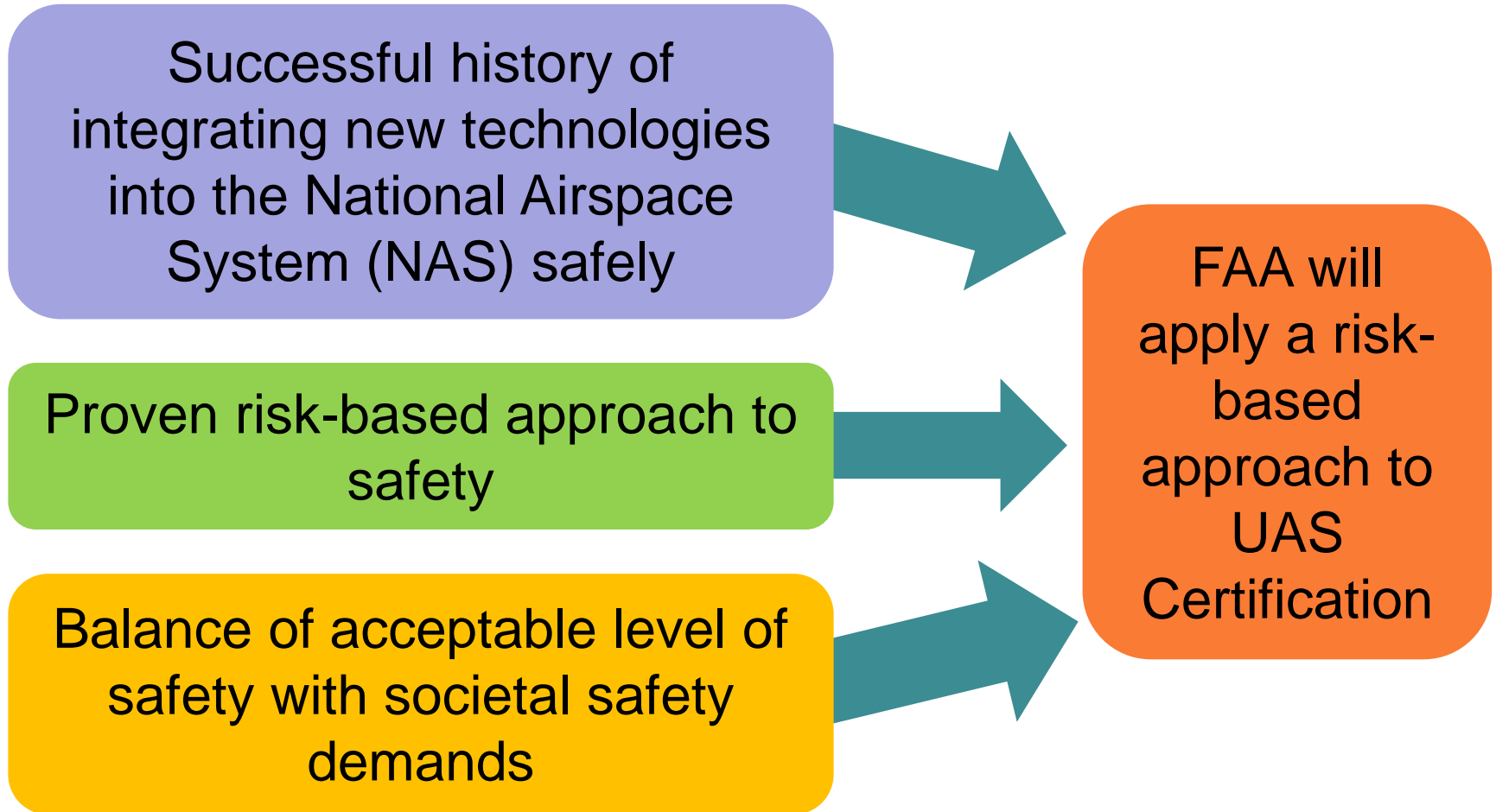


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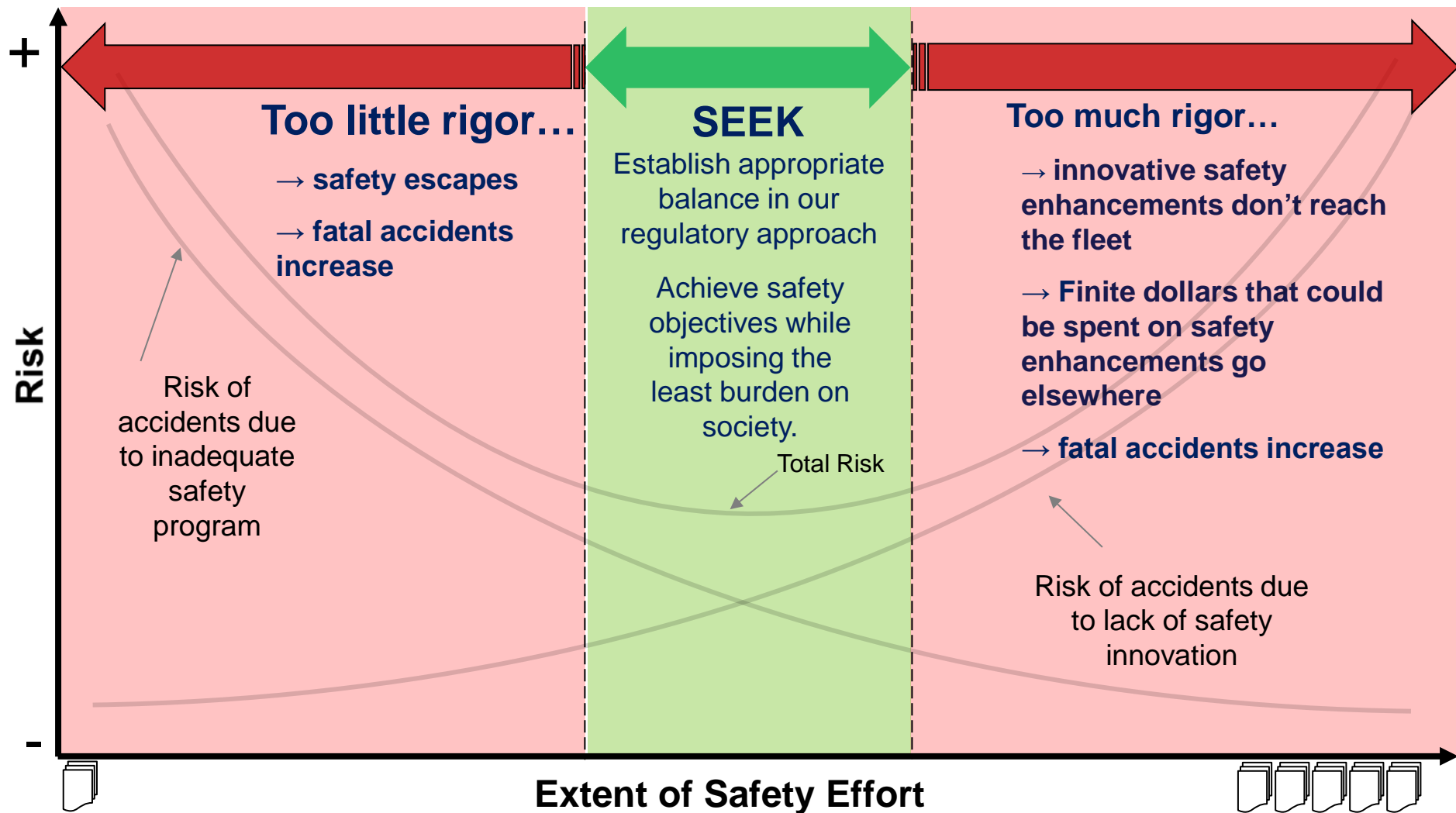
FAA UAS SYMPOSIUM

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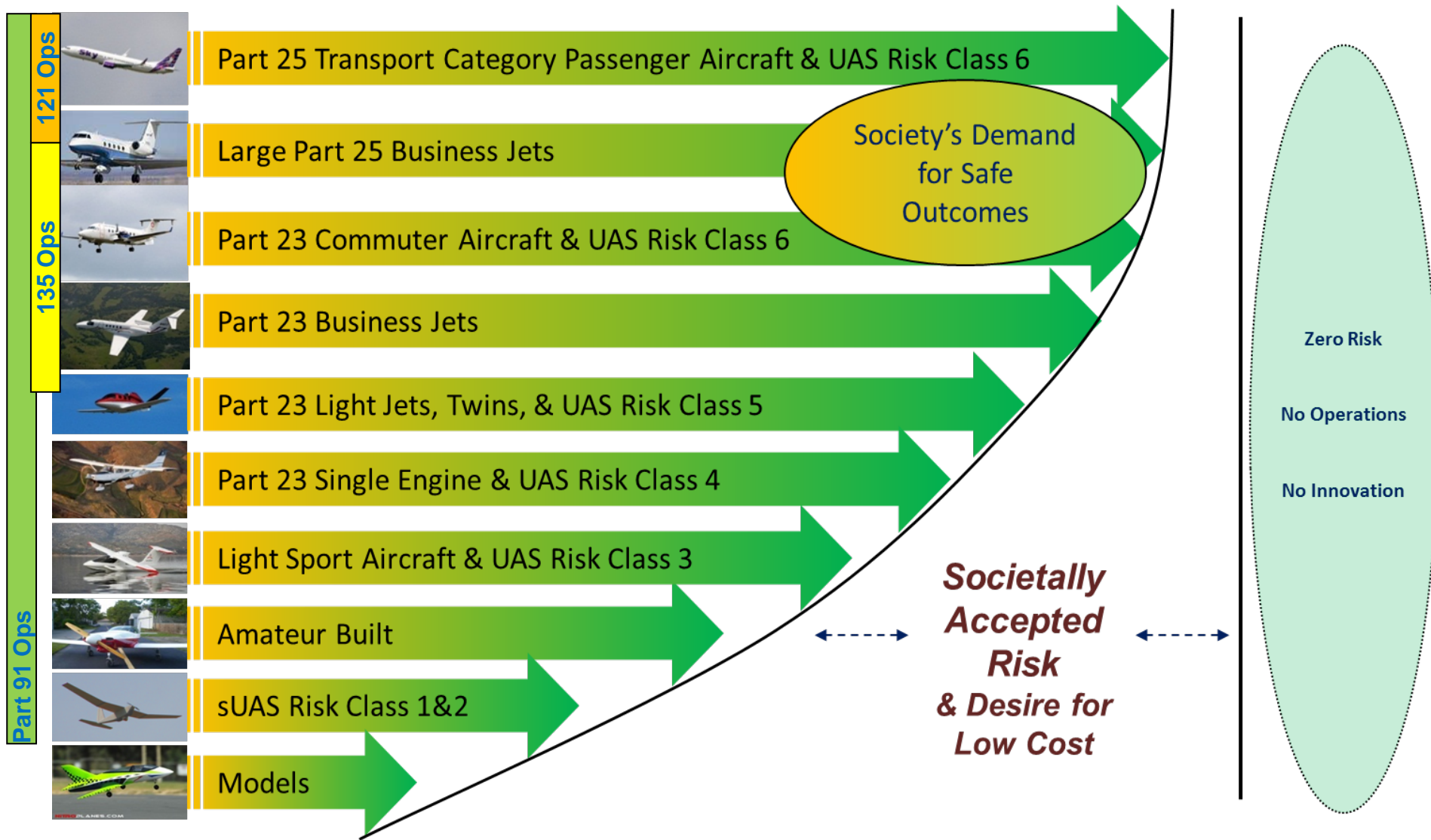
UAS Safety – From Experience



System Safety – The Safety Continuum



Applying Our Safety Continuum



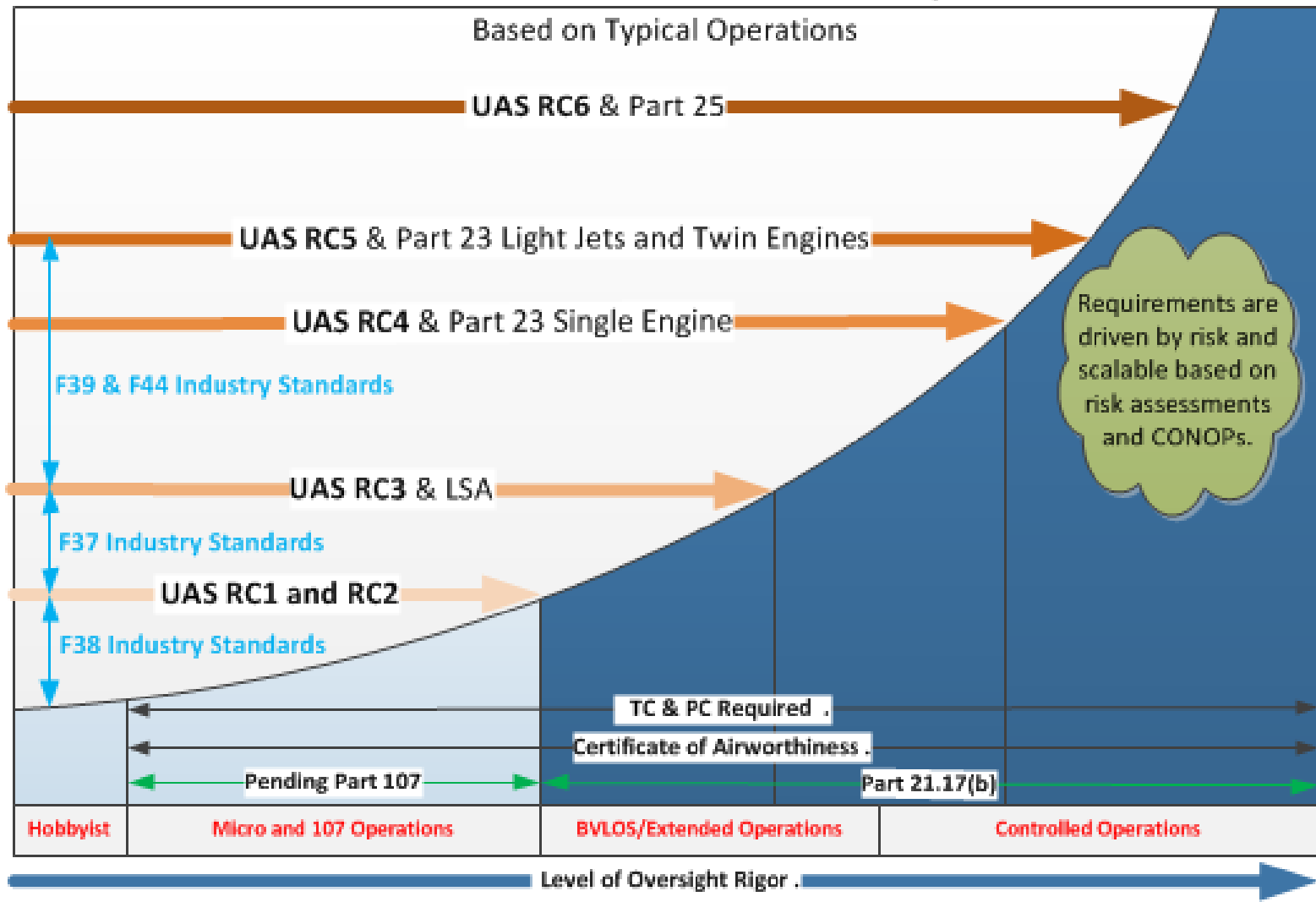
Level Of Cert Rigor

SIUM

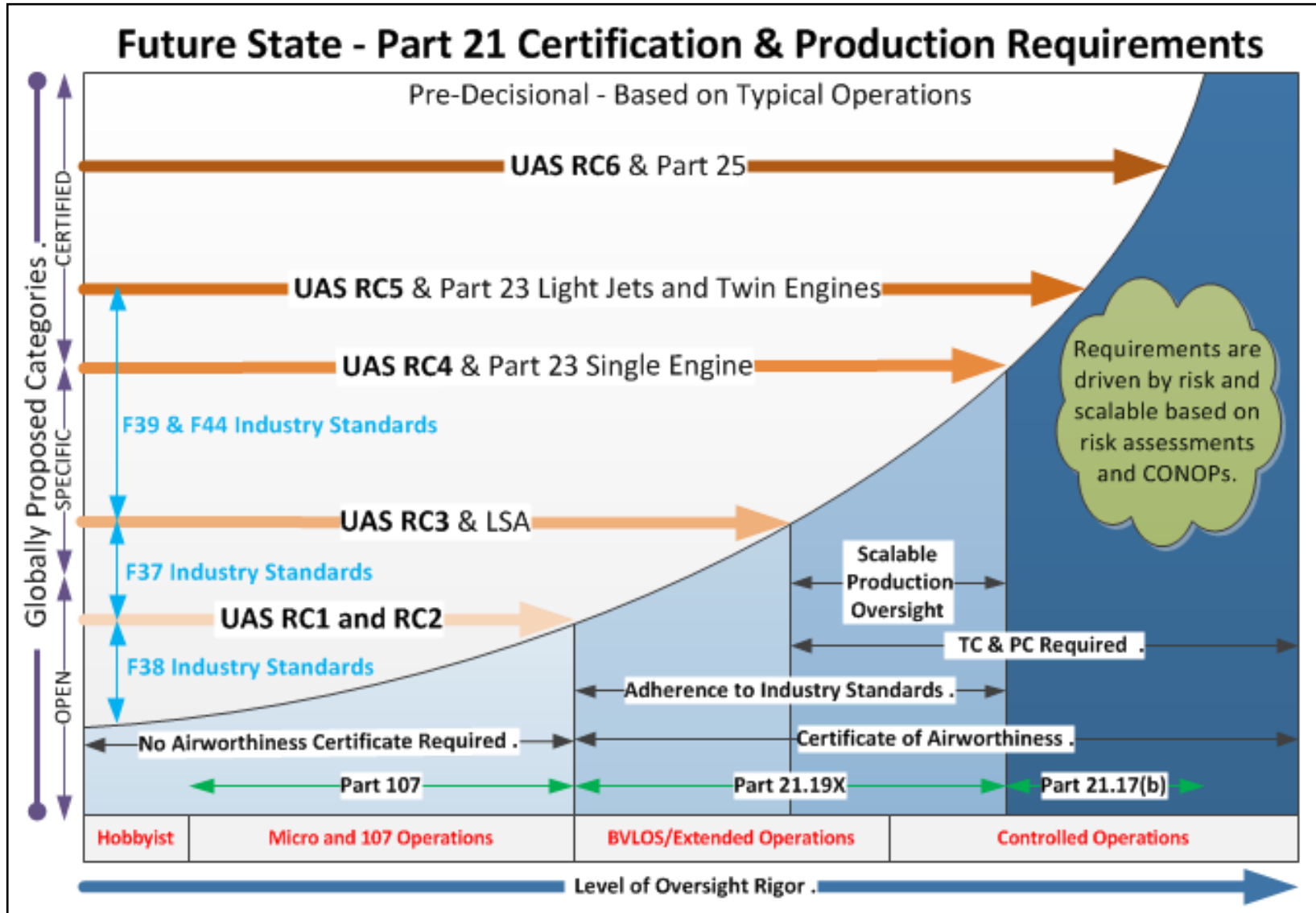
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Existing Regulatory Framework

Part 21 Certification & Production Requirements



Future Regulatory Continuum



Scalable Production Oversight

- **Establish production certificate (PC) risk categories similar to the type certificate (TC) risk classes**
 - Current resources will not accommodate PCs for all UAS
 - Scalable approach allows the dedication of FAA resources where the risk is highest



Strategic Goal, Risk-Based Certification

Rising to the Challenge

- **Creating Our Regulatory Continuum Now**

- Working pathfinders and 13 projects under the current regulatory structure
- International Collaboration - ICAO, EASA, etc.

- **Ready for the Future**

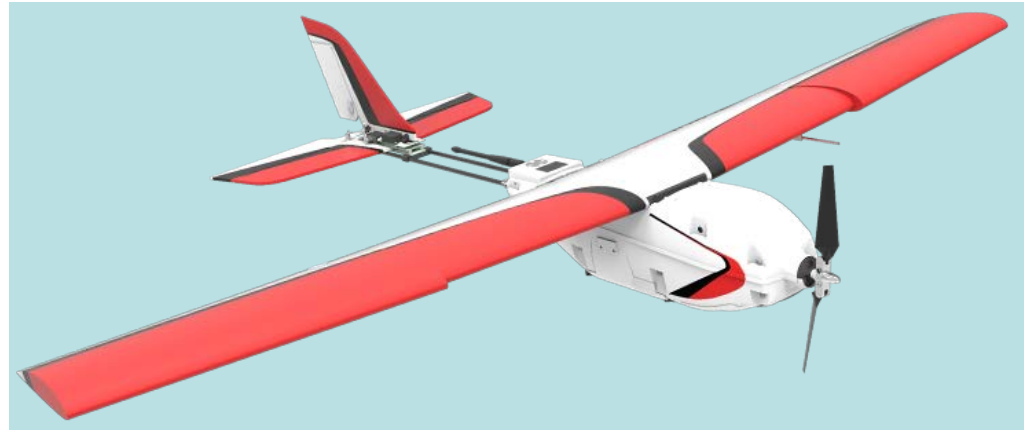
- Our certification projects inform future rule changes
- Considering further changes for low and medium risk UAS

- **Importance of Industry Engagement**

- Engage **EARLY** and **OFTEN** about new technologies
- Upfront involvement will help the FAA determine the certification basis and get out of the critical path to certification

<https://www.faa.gov/uas/>





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FAA UAS SYMPOSIUM

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Type Certification AC Covers Near, Mid, & Far Term

1-3 Year

**Few Design
Requirements**

**Highly Limited
Operations**

**Specific
CONOPS**

**Highly Limited
TC**

3-5 Year

**More Design
Requirements**

**Well Defined
Operations**

**More Flexible
CONOPS**

**Somewhat
Limited TC**

5-10 Year

**Highest Design
Integrity**

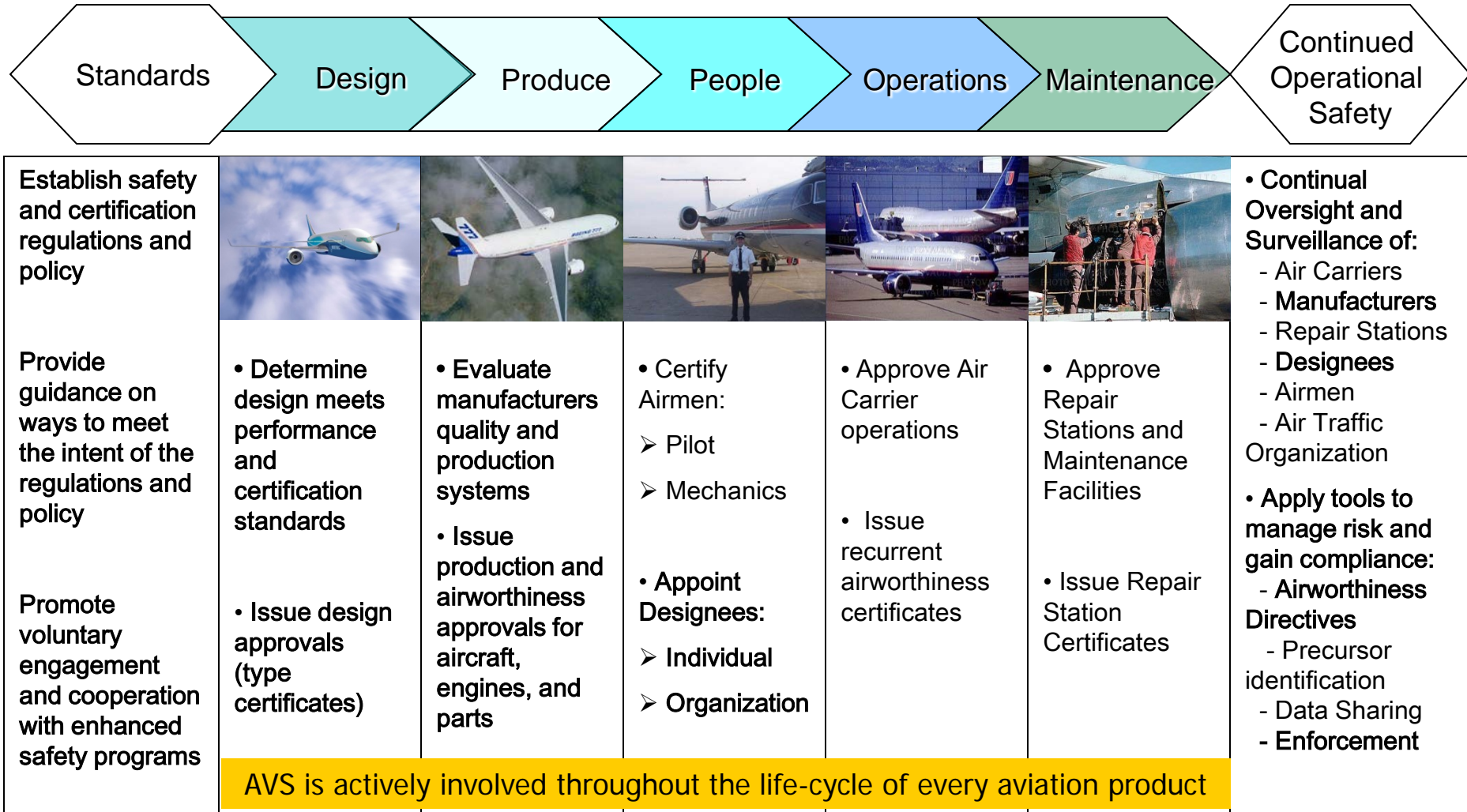
**Integrated
Operations**

**Multiple
CONOPS**

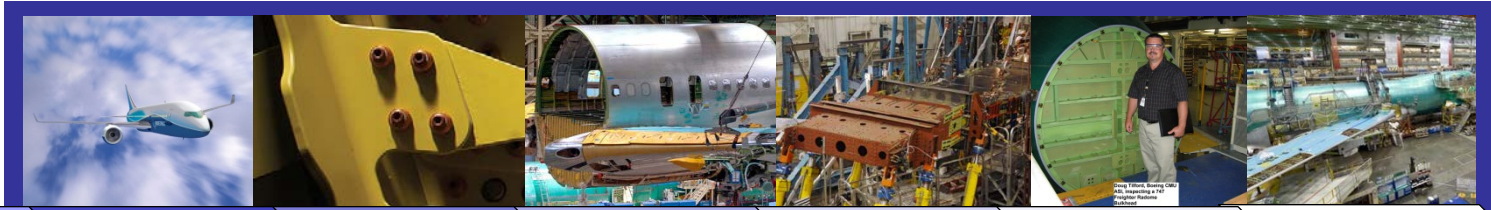
Typical TC



Aviation Lifecycle



Design and Production Approval



Familiarization Briefings

Application for TC/ATC/STC

Certification Project Notification

Application for Production Certificate

Preliminary Type Certification Board

Preliminary District Office Audit

Production Certification Board

Issue papers

Certification Basis

Equivalent Safety Findings

Special conditions

Exemptions

Define Requirements

Certification plans

Airplane-level compliance findings

Detail-level compliance findings

Conformity Inspections

Find Compliance

Type Inspection Authorization &
Conformity Inspection

Safety Review Board

Flight Tests

Final Type Certification Board

Issue Type Certificate

Final Production Certification Board

Issue Production Certificate



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