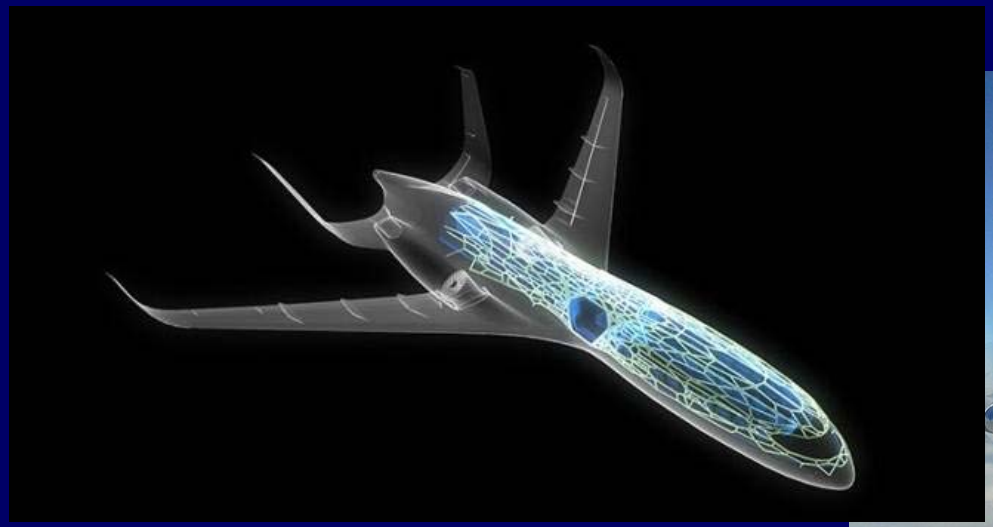
Regulatory Path To Enable ODM



Presentation to: NASA ODM Workshop
By: Wes Ryan, Manager ACE-114
Date: March, 2016

Objective

- Discuss Risk-Based Certification
- Outline our Regulatory Structure for Future

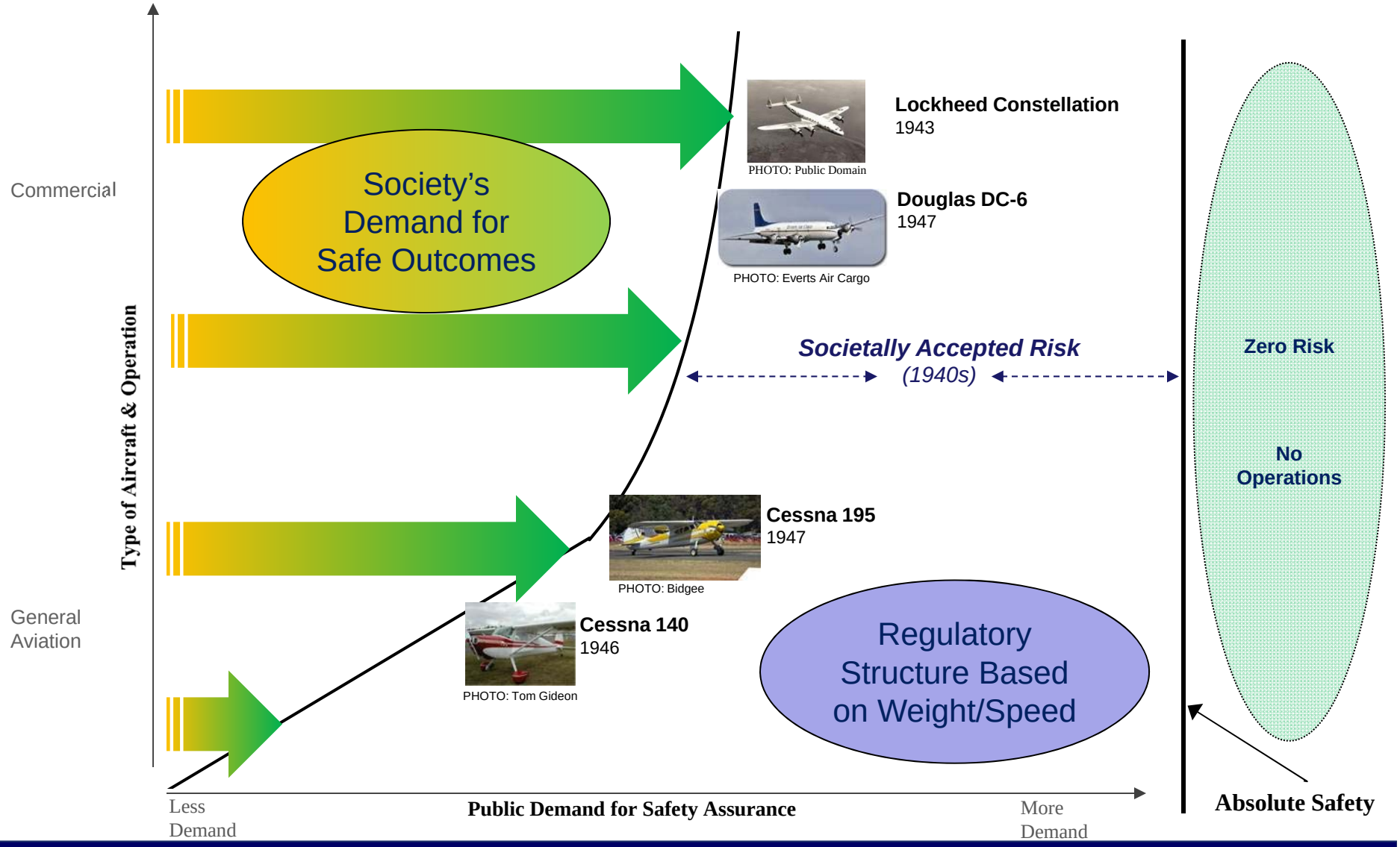
Past Successes

- AGATE Started New Ideas That Became Reality
- Moving Map GPS, Synthetic Vision, ADSB, etc.
- “Unimaginable” Benefits for GA
- UAS = next prototyping space

Our Present Opportunity

- Look Ahead to part 23 in 5-20+ Yrs
- Encourage New, Safer Designs While Reducing Cert Cost
- Improving Access - Reduced Need for Training/Skill - Virtual CoPilot
- Transform entry level GA airplanes & transportation for 21st century
- Personalized Recreational & Transportation, but at a Faster Pace – Prototype in UAS Industry
- Risk Based Decisions & Performance Driven Requirements

Society's Expectations – Circa 1945



Today's Risk Based Continuum


•Part 25 Transport Category Passenger Aircraft


•Large Part 25 Business Jets


•Part 23 Commuter Aircraft


•Part 23 Business Jets


•Part 23 Light Jets, Twins


•Part 23 Single Engine


•Light Sport Aircraft


•Amateur Built


•Models


•Toys

Society's Demand for Safe Outcomes

Societally Accepted Risk & Desire for Low Cost

Zero Risk

No Operations

No Innovation

Absolute Safety

Less Demand

Public Demand for Safety Assurance

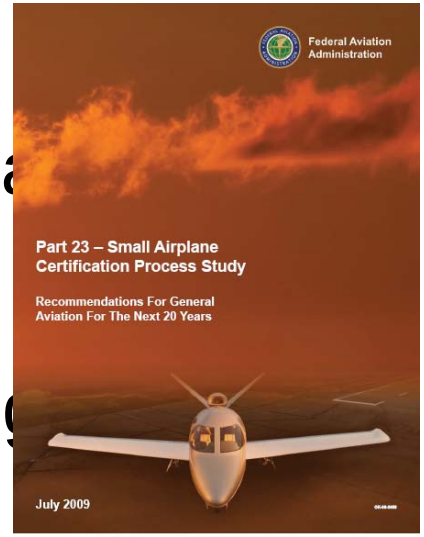
More Demand

Level Of Certification Rigor & Oversight

Improving our Regulatory Structure

Updating to Respond to Changing Industry

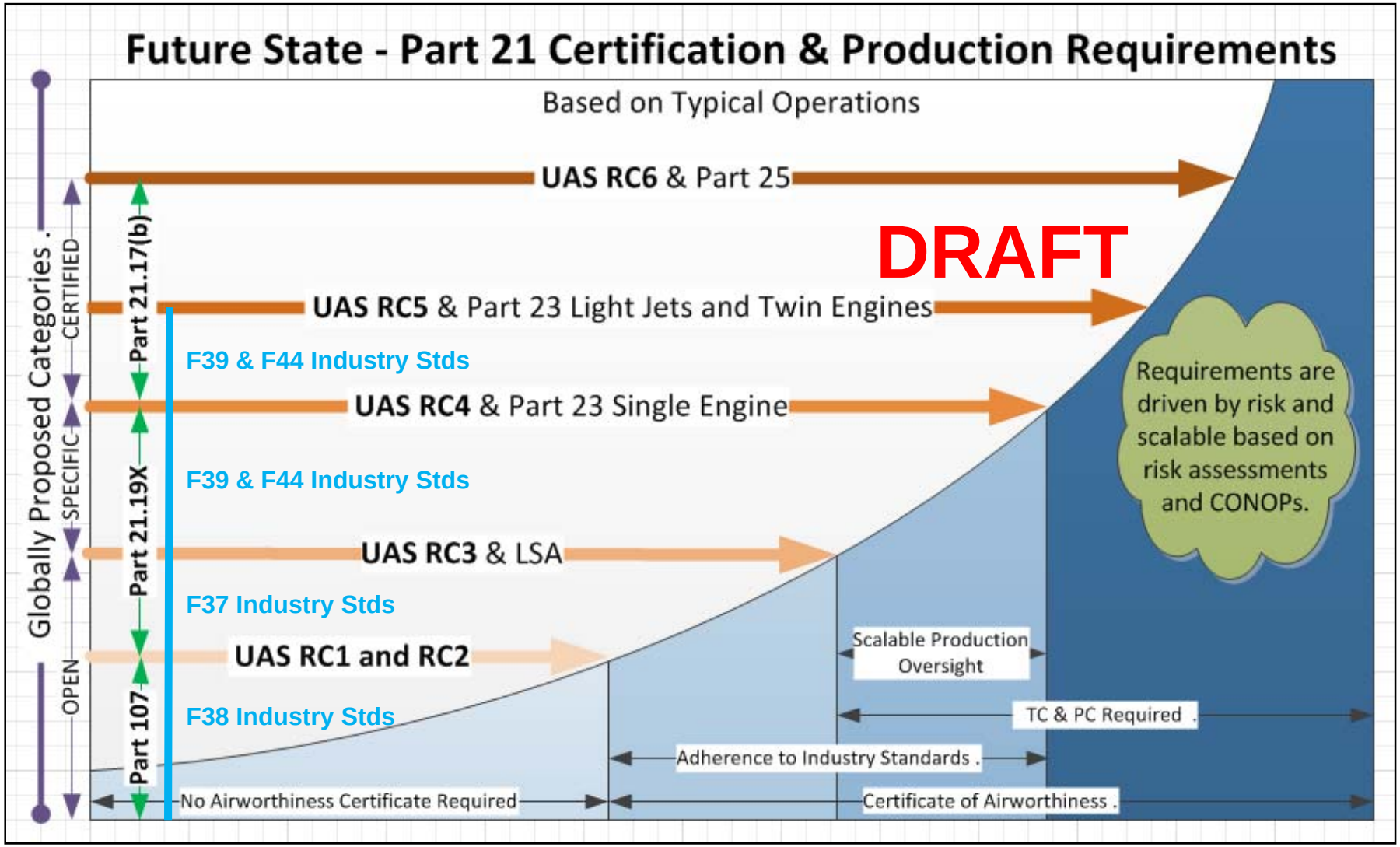
- 2007- FAA commissioned a certification process study for normal, utility, acrobatic, and commuter category airplanes (Part 23 aircraft).
- Evaluate adequacy of the current airworthiness standards throughout a sma airplane's service life while anticipating future requirements.
- Recommended Part 23 re-organize using both safety-focused CFR requirements accompanied with government / industry standards



Performance Based Regs

- Revise CFR to eliminate weight & propulsion divisions
- Apply FAA Resources to New & Novel, High Risk Certification
- Address Remaining Root Causes of GA Fatalities
- Utilize Industry Standards

Resulting Regulatory Continuum



Seek to Address Fatal Accident Rates

Annual Average from 2005 through 2009

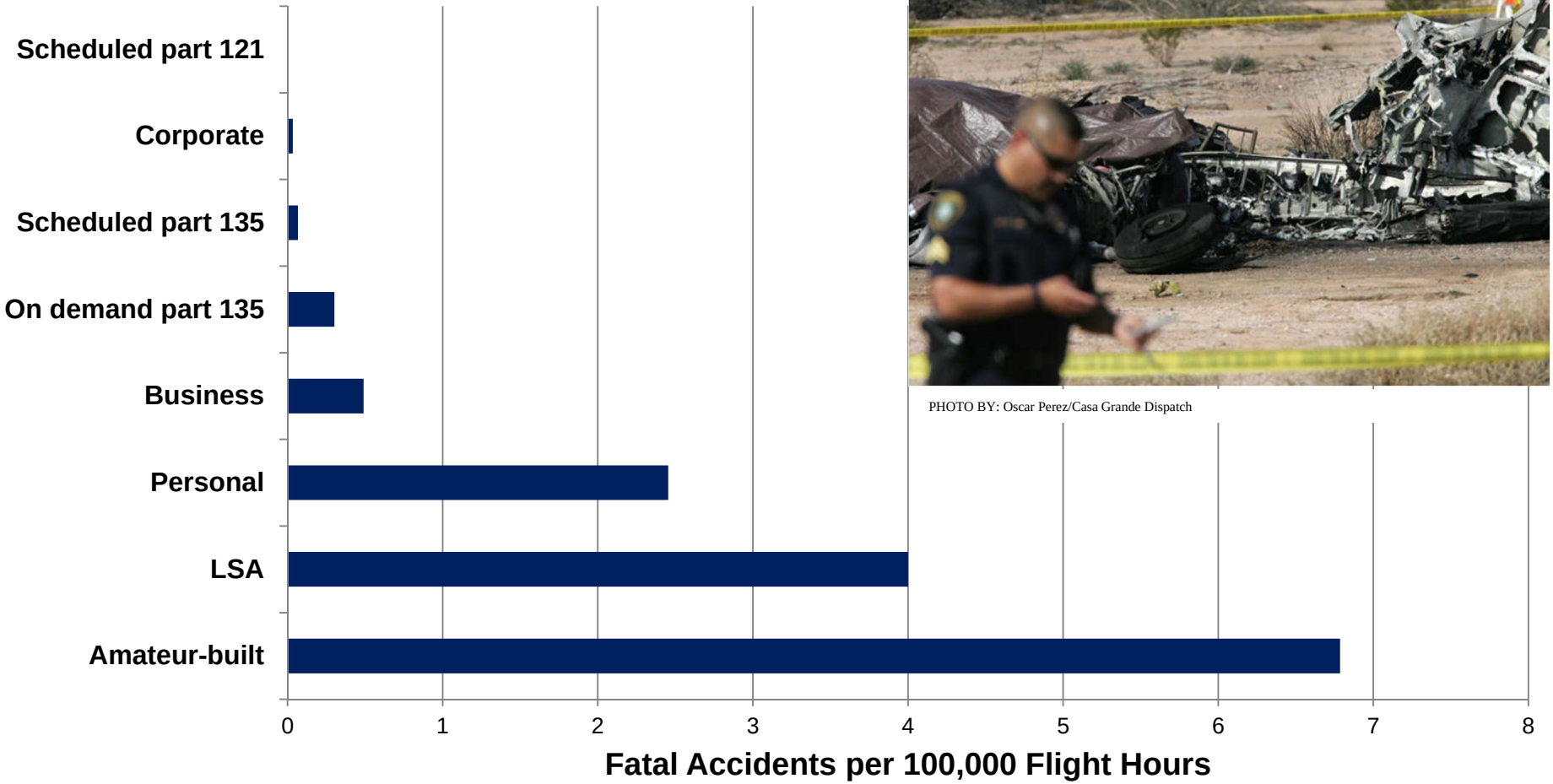
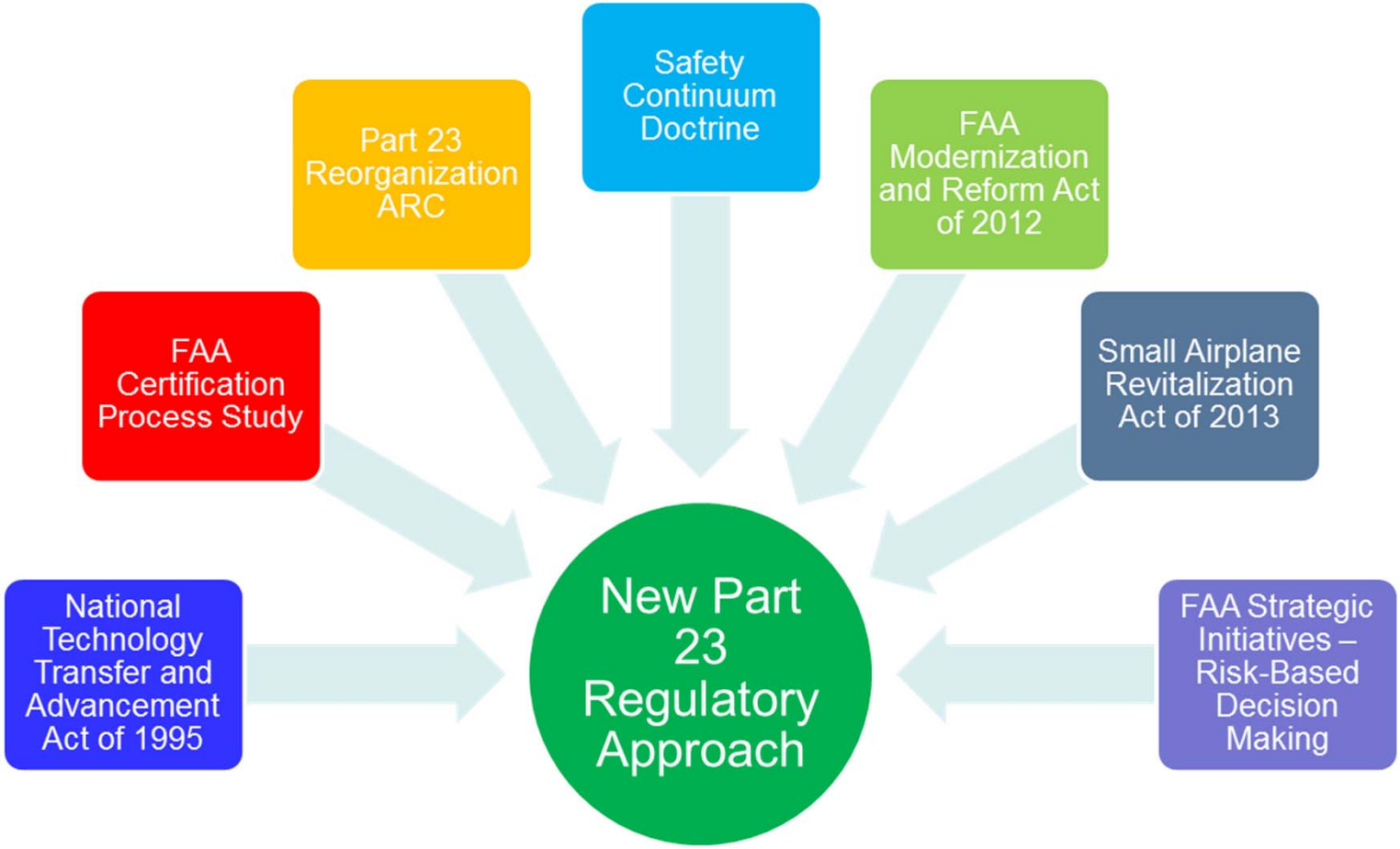


PHOTO BY: Oscar Perez/Casa Grande Dispatch

Factors Influencing the Reorganization



Summary

- The FAA led the global initiative to redefine small airplane airworthiness standards with significant industry and international support for this effort.
- The teams are maturing the NPRM and an Implementation Plan.
- Performance based standards ENABLE innovation in a cost effective manner by
- Facilitating the implementation of technologies to improve safety; an
- Removing barriers, such as for electric propulsion.
- The use of industry standards provide agility and streamline the type certification process.

Build The Path

- **Partnerships**
- **R&D Collaboration**
- **Prototyping in UAS**
- **Leverage UAS Tech**
  - Controls
  - Air Traffic Integration
  - Sensors/Motors/Batteries/Etc.


ICON

Thank You

Contact Information

Wes Ryan
ACE-114 | Small Airplane Directorate
816.329.4127
wes.ryan@faa.gov