



UPRT Implementation Approach

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Approach

- **Airframe Manufacture Recommended Practices to be followed**
- **Approved Training Program**
- Utilize **accepted and published** training guides:
 - Airplane Upset Recovery Training Aid AURTA
 - FAA Advisory Circular AC 120-109
 - FAA Advisory Circular AC UPRT
 - EASA Rules and SIB



**U.S. Department
of Transportation**
Federal Aviation
Administration

Advisory Circular

Subject: Stall and Stick Pusher Training

Date: 8/6/12

AC No: 120-109

Initiated by: AFS-200

Change:

The information contained in this advisory circular (AC) was developed based on a review of recommended practices developed by major airplane manufacturers, labor organizations, air carriers, training organizations, simulator manufacturers, and industry representative organizations. This AC does not provide guidance for full aerodynamic stall training, which industry and government stakeholders are now developing. Once developed, this AC will be revised to include that guidance.

http://www.faa.gov/documentLibrary/media/Advisory_Circular/AC%20120-109.pdf

A dramatic, dark storm cloud formation with lightning bolts striking, set against a bright blue sky. The clouds are dark and billowing, with a bright light source behind them, creating a silhouette effect. Several lightning bolts are visible, striking down from the clouds. The overall mood is intense and powerful.

UPRT regulations

Process

- ICATEE
 - Created core content of Manual of Aeroplane UPRT
- LOCART
 - Incorporated ICATEE work; collaboration ICAO FAA
- ICAO
 - Published ICAO10011 Manual of Aeroplane UPRT
 - PANS-TRG adjusted
 - Annex 1 & 6 amended to refer to 10011
- FAA
 - PL 111-216
 - AC 120-109 Stall & Stick Pusher Training
 - AC 120-111 UPRT
 - AC 120-109A Stall Recovery Training

EASA RMT 0581 & 0582

- Affected Rules
 - Part-FCL, Part-ORO, Part-ORA, Part ARA, Part ARO
- Taking into account the deliverables of ICAO LOCART WG and ICATEE WG, this rulemaking task reviews the following for initial, type and recurrent training:
 - manual aircraft handling of approach-to-stall & stall recovery (including at high altitude)
 - Training of aircraft configuration laws
 - Recurrent training on flight mechanics
 - Training scenarios including TEM & CRM and the effect of surprise

EASA RMT 0581 & 0582

- Publication date of Agency Accelerated Procedure May 2015 (operator rules, applicable May 2016)
- NPA: late summer 2015
- Comment period until September
- Publication date of OPINION: 2016/Q1
 - meantime, work on GM and AMC
- Publication date of DECISION: 2017/Q1
- ED-D 2015/12/R (04/05/15)

ED Decision 2015/012/R

AMC-GM to Part-ORO (Issue 2 Amdt 2)+ GM to Part-Definitions (Amdt 3) and related docs

Official Publication

Agency Decision Category: *Rulemaking activities*

Acceptable Means of Compliance and Guidance Materials group:

Definitions

Part-ORO

Downloads



ED Decision 2015/012/R



GM to Part-Definitions - Amendment 3 (Annex I to ED Decision 2015/012/R)



AMC and GM to Part-ORO - Issue 2, Amendment 2 (Annex II to ED Decision 2015/012/R)



ED Decision 2015/012/R - Explanatory Note

Read More



RELATED ACCEPTABLE MEANS OF COMPLIANCE AND GUIDANCE MATERIALS:

Acceptable Means of Compliance and Guidance Materials

[GM to Part-Definitions - Amendment 3](#)

Acceptable Means of Compliance and Guidance Materials

[AMC and GM to Part-ORO - Issue 2, Amendment 2](#)

Objectives of EASA Rules

- The objective of upset prevention and recovery training is to help flight crew acquire the required competencies in order to prevent or recover from developing or developed upsets.
- Upset **prevention** training prepares flight crew to avoid incidents whereas...
- upset **recovery** training prepares flight crew to prevent an accident once an upset condition has developed.

AMC 1 & AMC 2

ED-D 2015/12/R
CAT using
Complex Motor-Powered A/C
IAW EC 216/2008

AMC1 + GM ORO
FC 220 & 230

CAT MOPSC > 19

AMC2 + GM ORO
FC 220 & 230

CAT MOPSC < 19

EASA Issues and Amendments

- Priority: Mitigate LOC-I
- Accelerate the processing of the task deliverables
- 12 month transition period **04/05/15** to **04/05/16** to implementing provisions



Upset Prevention Requirements

- AMC1 & AMC2 ORO.FC.220 & 230 provision:
 - Combination of:
 - Academic courses
 - FSTD/Aeroplane training
 - Included in the conversion courses
 - Conducted over a max 3 years period during recurrent training program
 - GM 2 ORO.FC.220 & 230: Prevention exercises

Upset Recovery Requirements

- AMC1 & AMC2 ORO.FC.220 & 230 provision:
 - In an full-flight simulator (FFS) Qualified
 - AMC2 provision recovery training only if FFS available
 - Conducted over a max **3 year** period
 - Completed from each seat in which a pilot's duties require him/her to operate
 - GM 3 ORO.FC.220 & 230: Recovery exercises
 - GM4 ORO.FC.220 & 230: FFS qualification
- Personnel providing Recovery Training
 - Need SFIs /TRIs trained for UPRT
 - Avoid negative training or negative transfer of training
 - GM5 ORO.FC.220 & 230: Standardization of Instructors

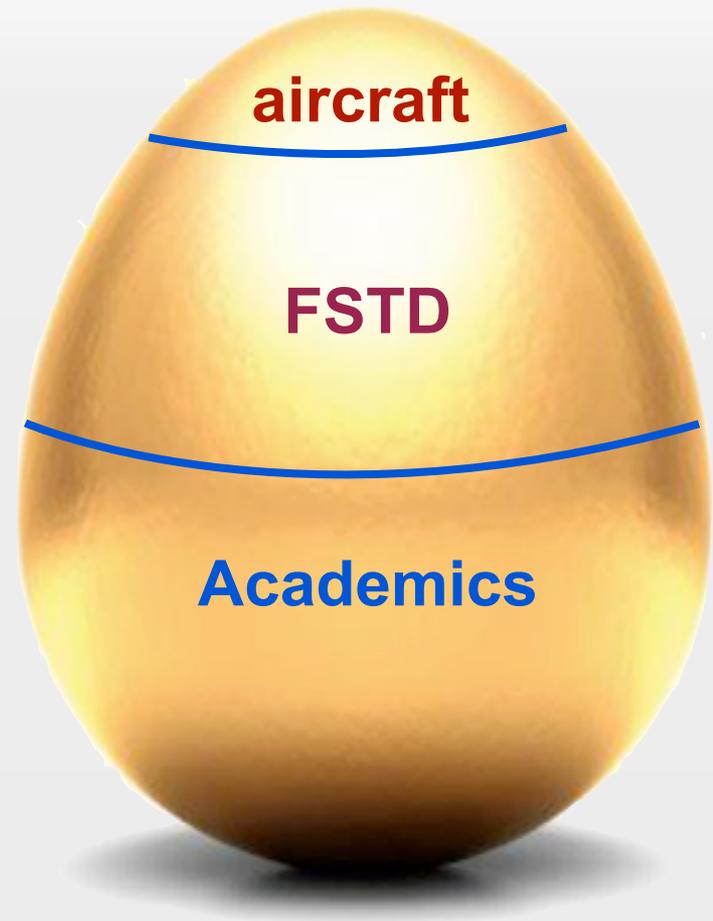
Impact

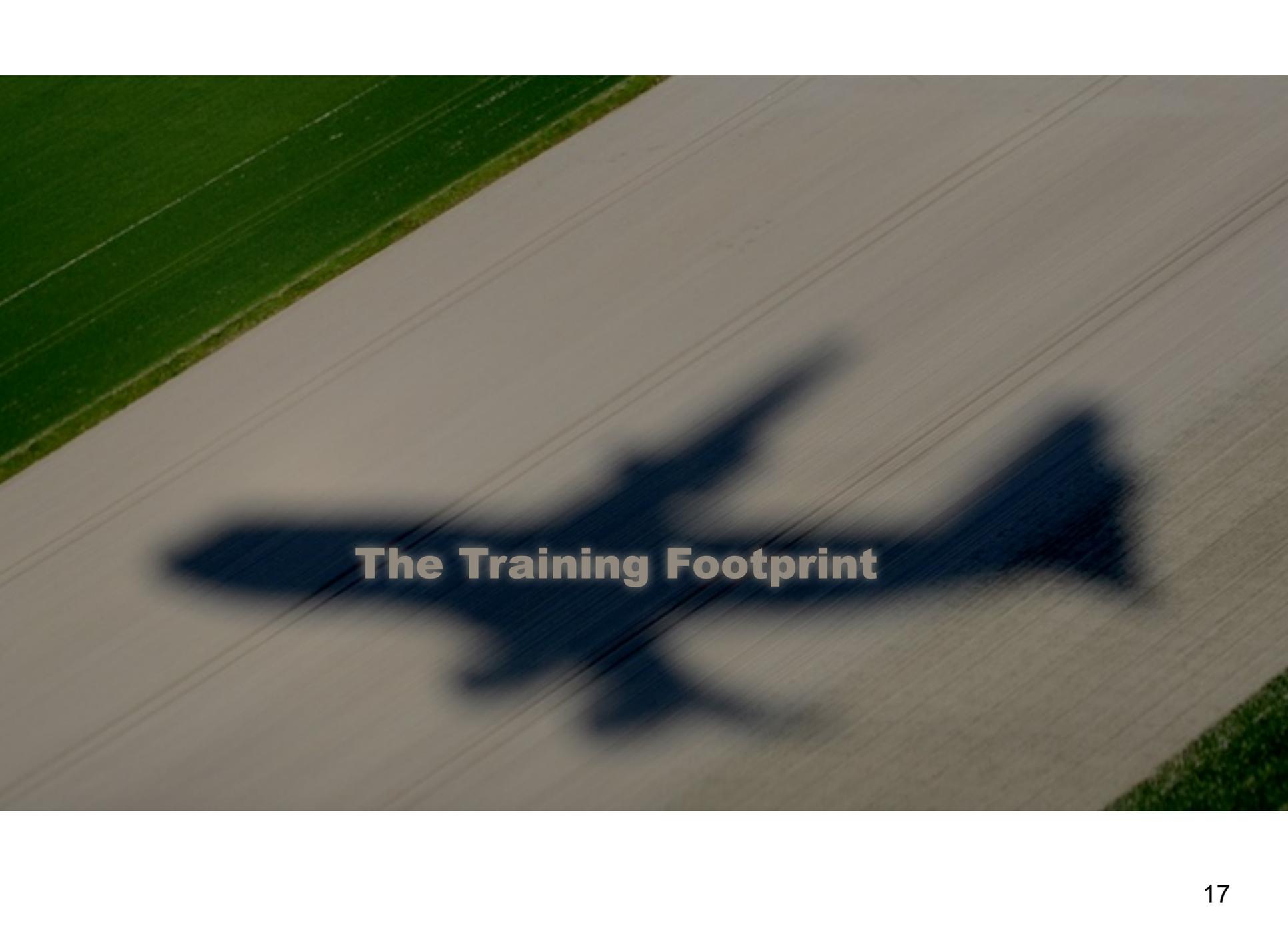
- CAT operators:
 - Amend their Training Syllabi!
 - Include in recurrent programs Theory & Practical Training
 - Include UPRT Provisions
 - Provide additional training to FSTD instructors

Let's simplify the equation!

Developing Integrated UPRT Skills

UPRT Requires Integrated Training Elements



An aerial photograph of a runway. A large, dark shadow of an aircraft is cast across the runway, extending from the bottom left towards the top right. The shadow is positioned over the text 'The Training Footprint'. The runway is a light gray color with visible lane markings. To the left of the runway is a green field, and to the right is a grassy area.

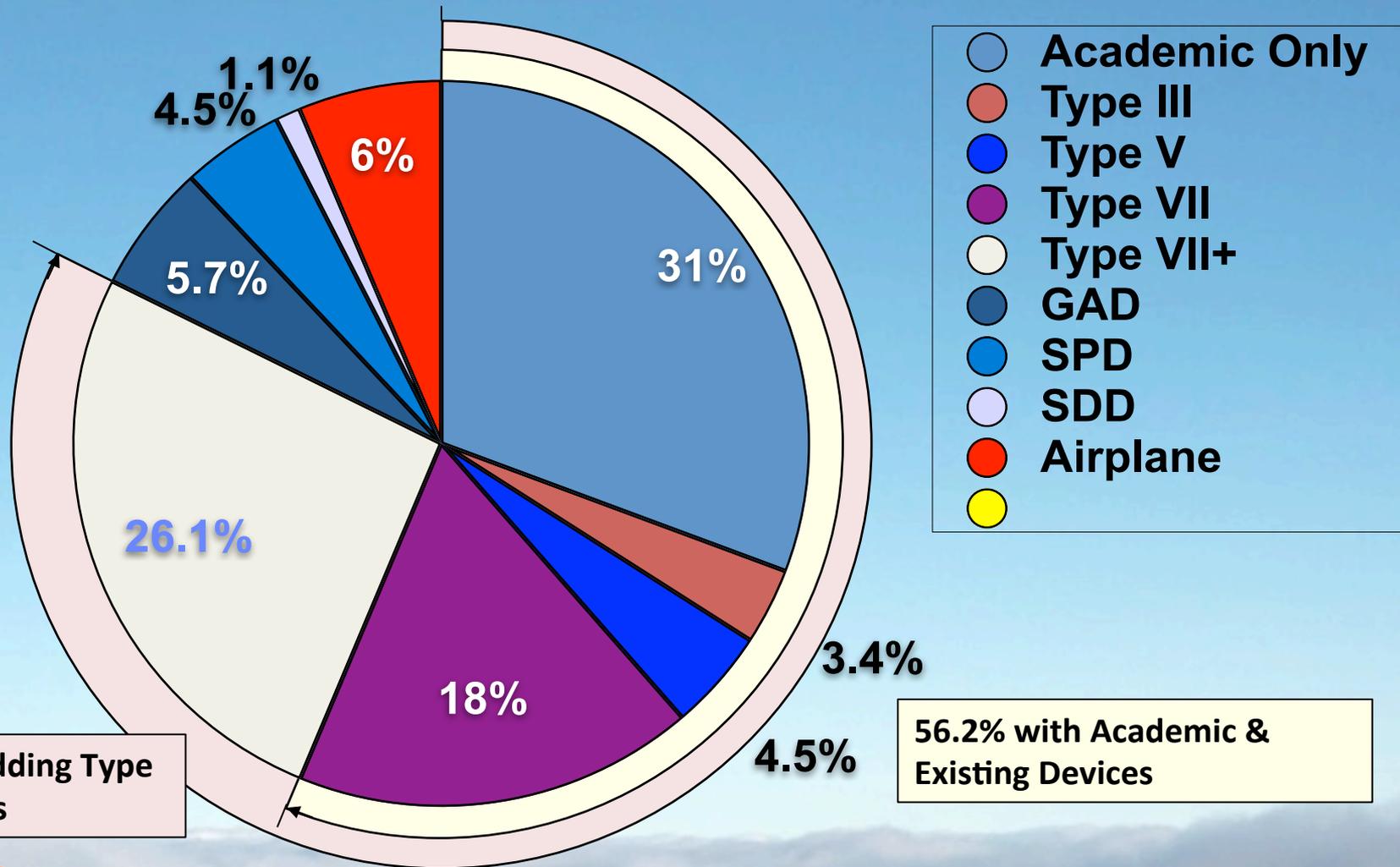
The Training Footprint

The UPRT Elements

- Awareness
- Recognition
- Avoidance
- Recovery



Training Task Distribution by Device Type





AIRPLANE UPSET RECOVERY

Industry Solutions for Large Swept-Wing Turbofan Airplanes Typically Seating More Than 100 Passengers

ABX Air, Inc.

A.M. Carter Associates
(Institute for Simulation & Training)

Air Transport Association

Airbus

Air Line Pilots Association

AirTran Airways

Alaska Airlines, Inc.

All Nippon Airways Co., Ltd.

Allied Pilots Association

Aloha Airlines, Inc.

American Airlines, Inc.

American Trans Air, Inc.

Ansett Australia

Bombardier Aerospace Training Center
(Regional Jet Training Center)

British Airways

Calspan Corporation

Cathay Pacific Airways Limited

Training Aid Revision 2

Cayman Airways, Ltd.

Civil Aviation House

Continental Airlines, Inc.

Delta Air Lines, Inc.

Deutsche Lufthansa AG

EVA Airways Corporation

Federal Aviation Administration

FlightSafety International

Flight Safety Foundation

Hawaiian Airlines

International Air Transport Association

Japan Airlines Co., Ltd.

Lufthansa German Airlines

Midwest Express Airlines, Inc.

National Transportation Safety Board

Northwest Airlines, Inc.

Qantas Airways, Ltd.

SAS Flight Academy

Southwest Airlines

The Boeing Company

Trans World Airlines, Inc.

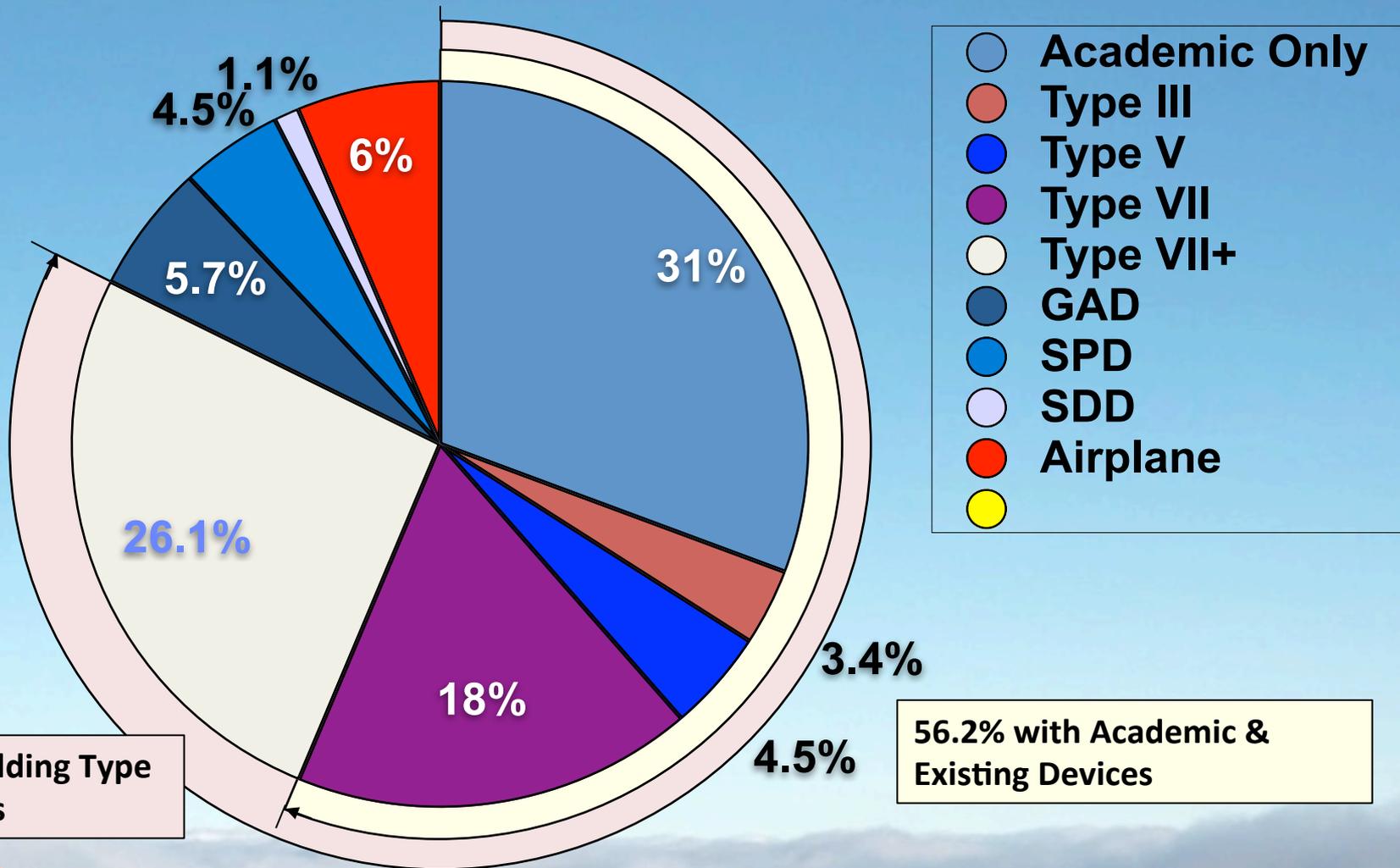
United Air Lines, Inc.

Upset Doomain Training Institute

US Airways, Inc.

Veridian

Training Task Distribution by Device Type



82.3% by adding Type VII+ Devices

56.2% with Academic & Existing Devices

**How do we deal with initial vs
recurrent training?**

Training Needs

- **Two levels of pilots**

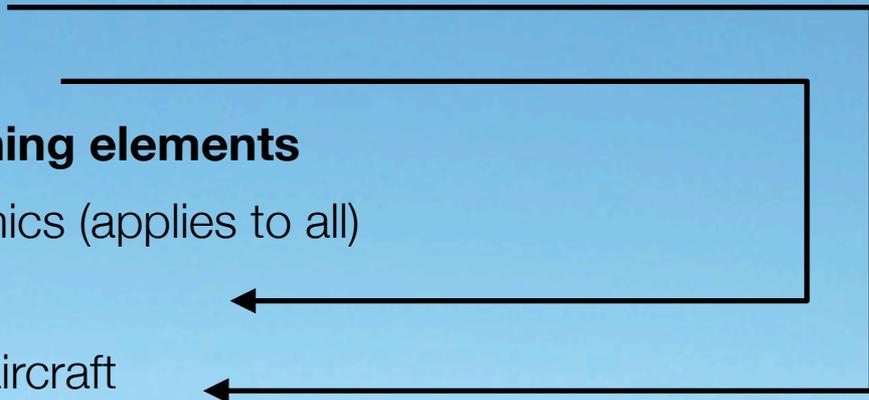
- new
- existing

- **Three training elements**

- academics (applies to all)
- FSTD's
- UPRT aircraft

- **Three outcomes**

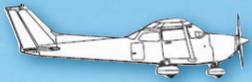
- CPL/MPL
- Type Rating
- Prof Check



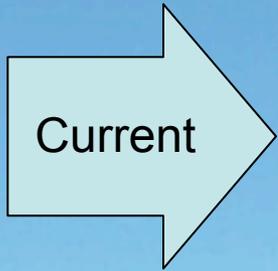
Pilot population



- All-Attitude All-Envelope exposure is essential at **licensing level for new-hire pilots**
- **Existing** pilots to undergo academics and FSTD training, including MOFT/LOFT



Integrated UPRT



airplane

MOFT

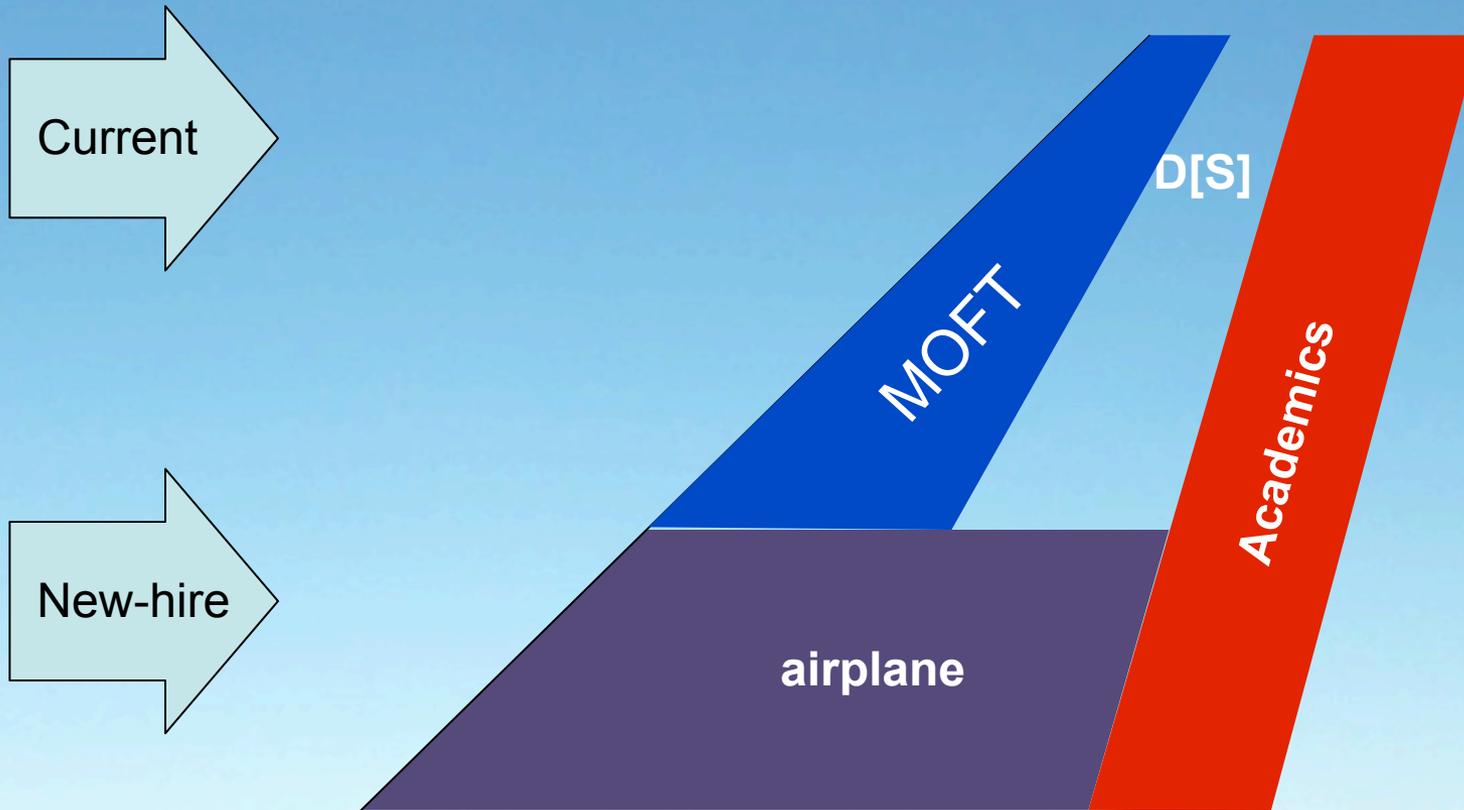
FSTD[S]



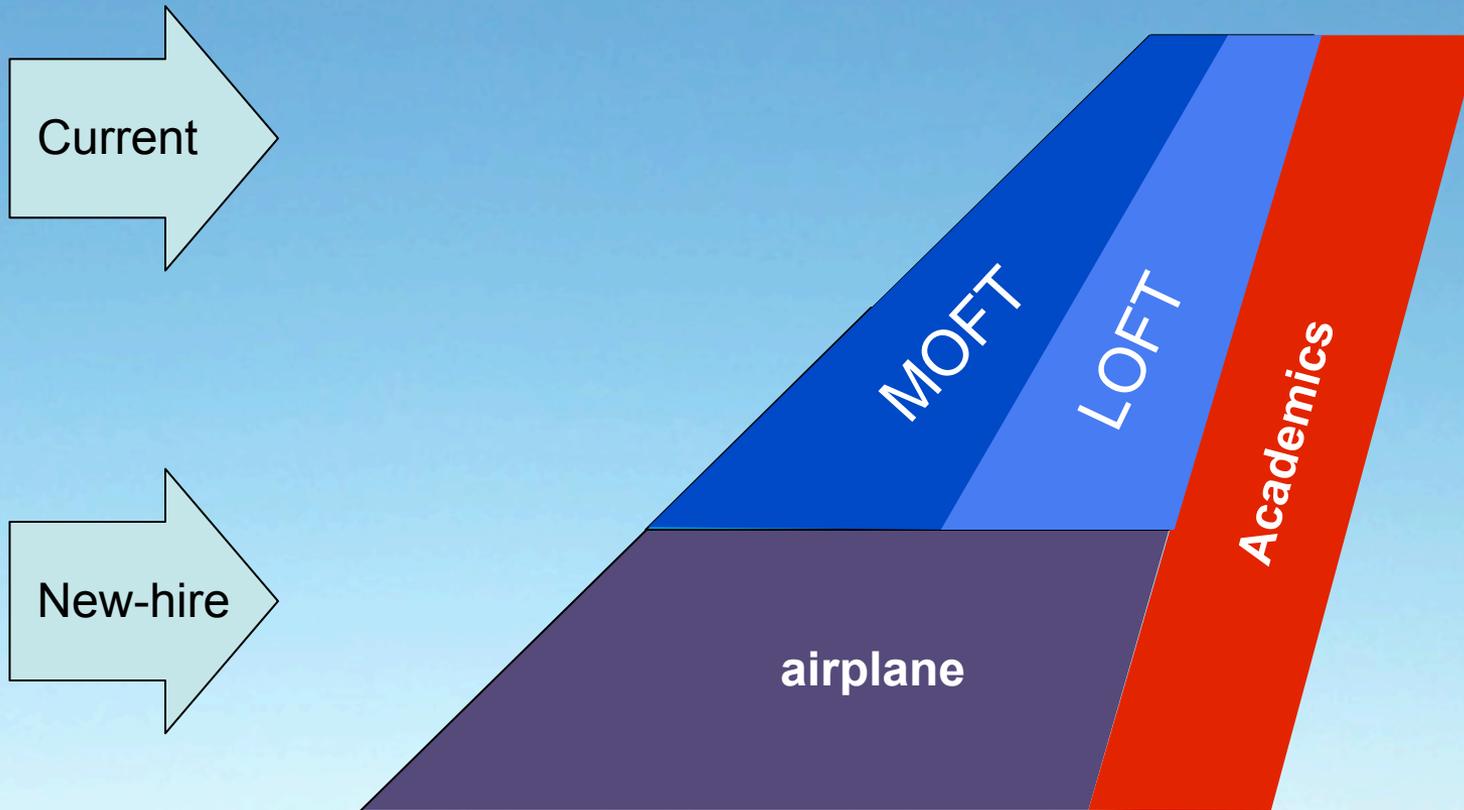
Integrated UPRT



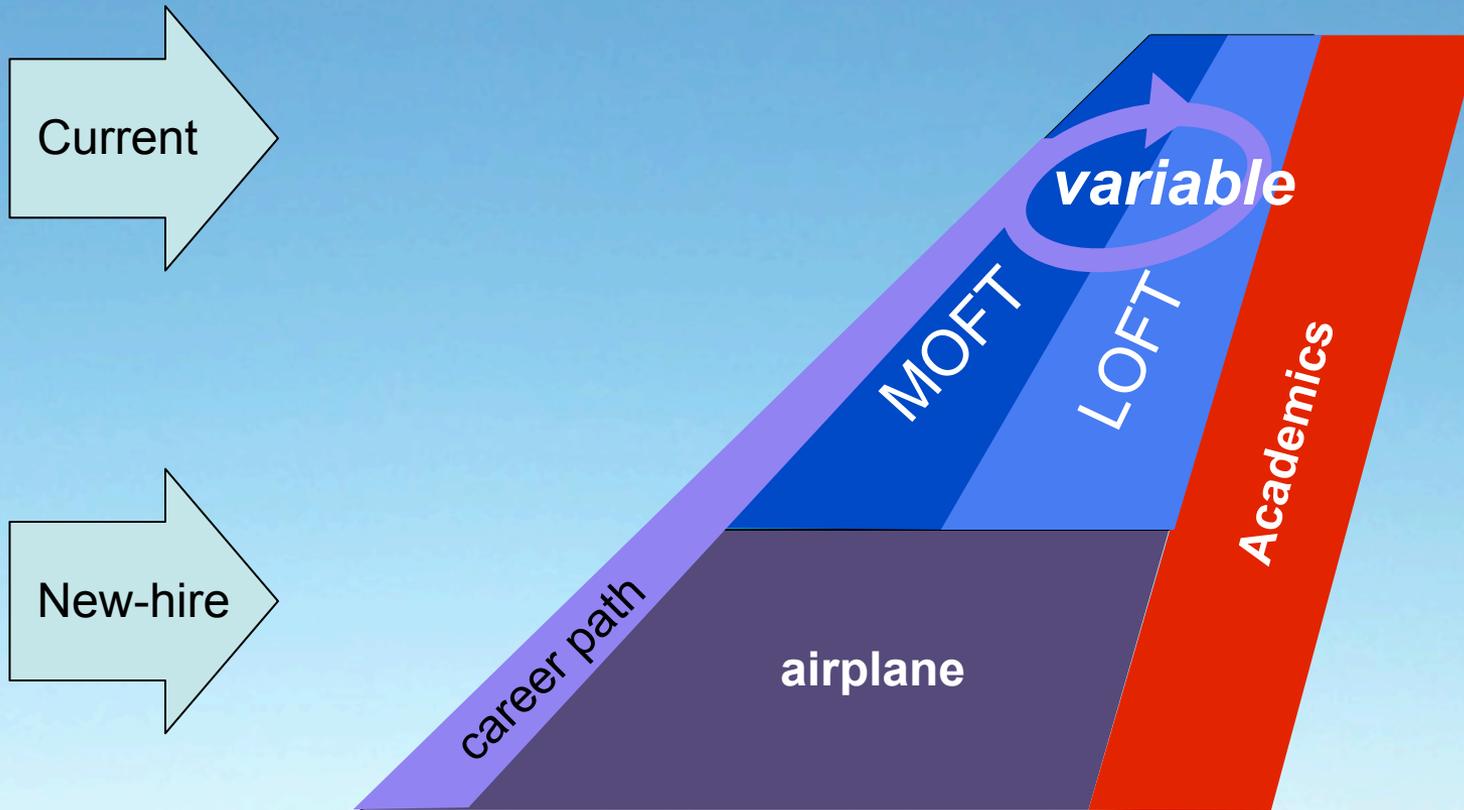
Integrated UPRT



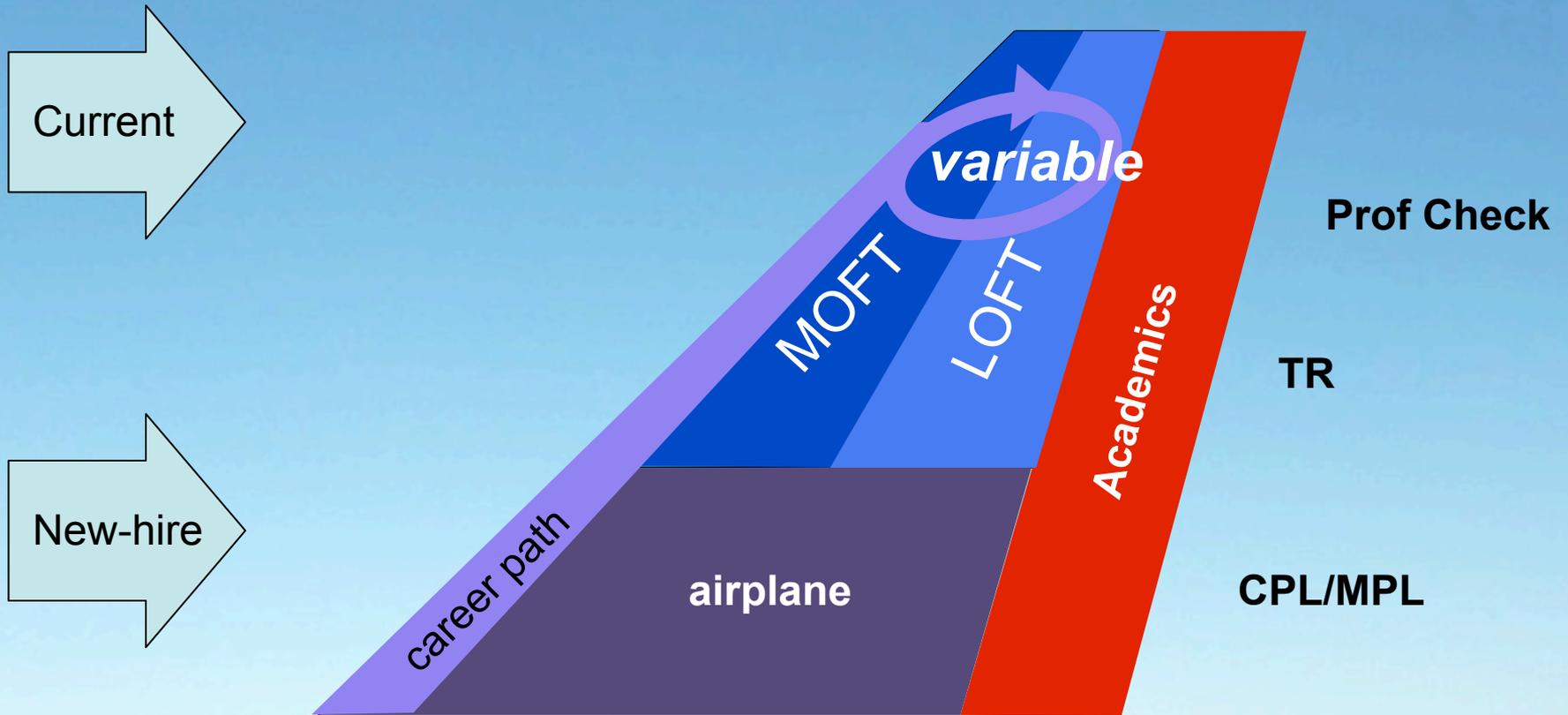
Integrated UPRT



Integrated UPRT



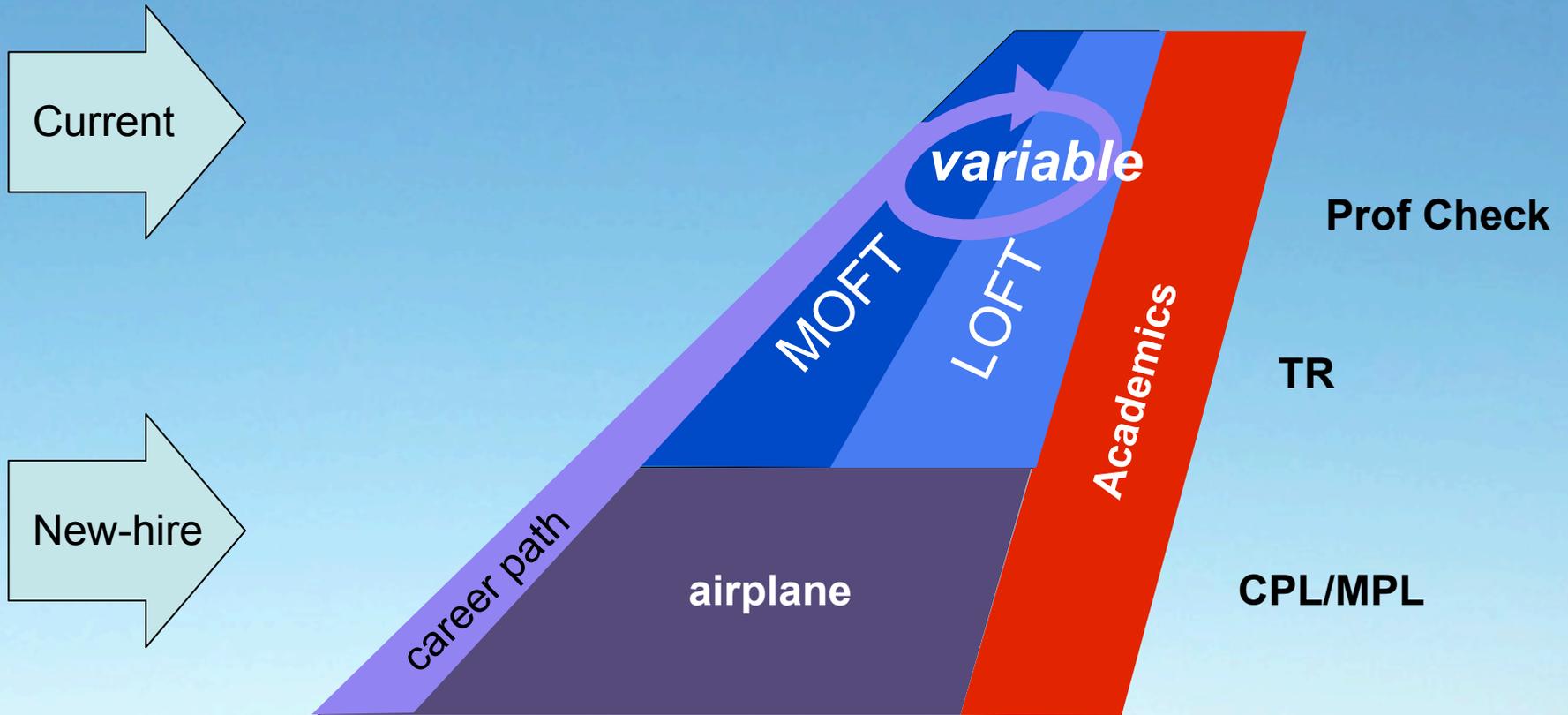
Integrated UPRT



Stabilizing influence on industry



Integrated UPRT



Training Means

- No single platform for UPRT
- ICATEE-recommended minimum best-practice:
 - **academics** for everyone
 - **on-aircraft UPRT** (TTT) at least for senior instructors
 - **on-aircraft UPRT** for new-hires at licensing level
 - **Dedicated UPRT FSTD** session (brief, exercises, de-brief)
 - **UPRT elements** in all training exercises
 - **Repeat UPRT FSTD** session every 3 to 5 years for all