EBT - Evidence-Based Training

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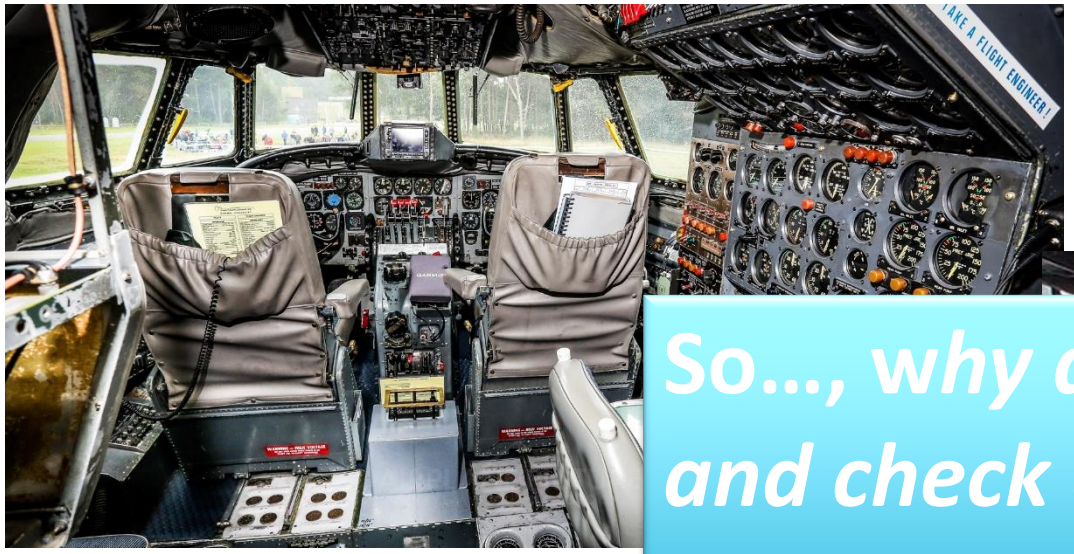
Do these aircrafts look the same?…



Constellation Lockheed C-121C Super

Airbus 350 XWB

So…, why do we train and check our pilots in the same way?

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C
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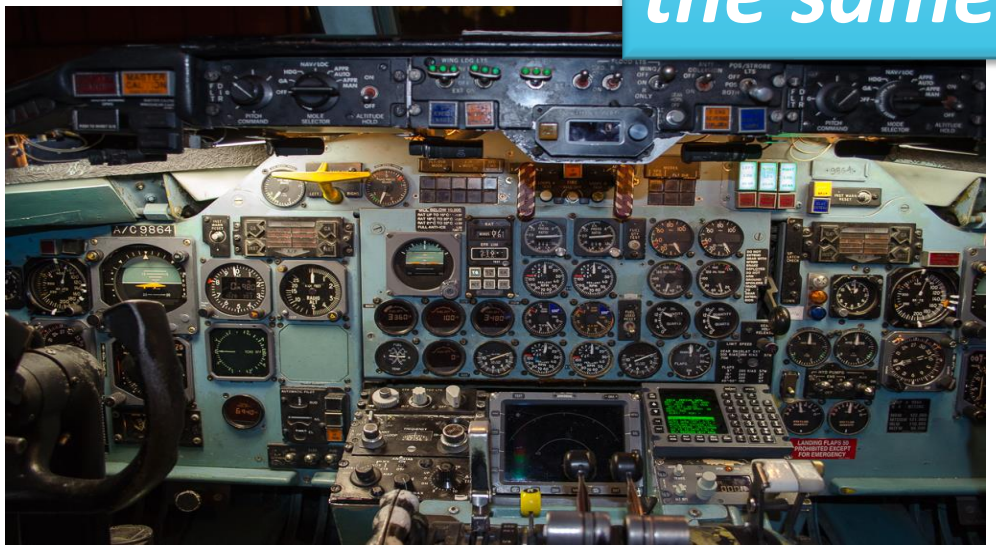
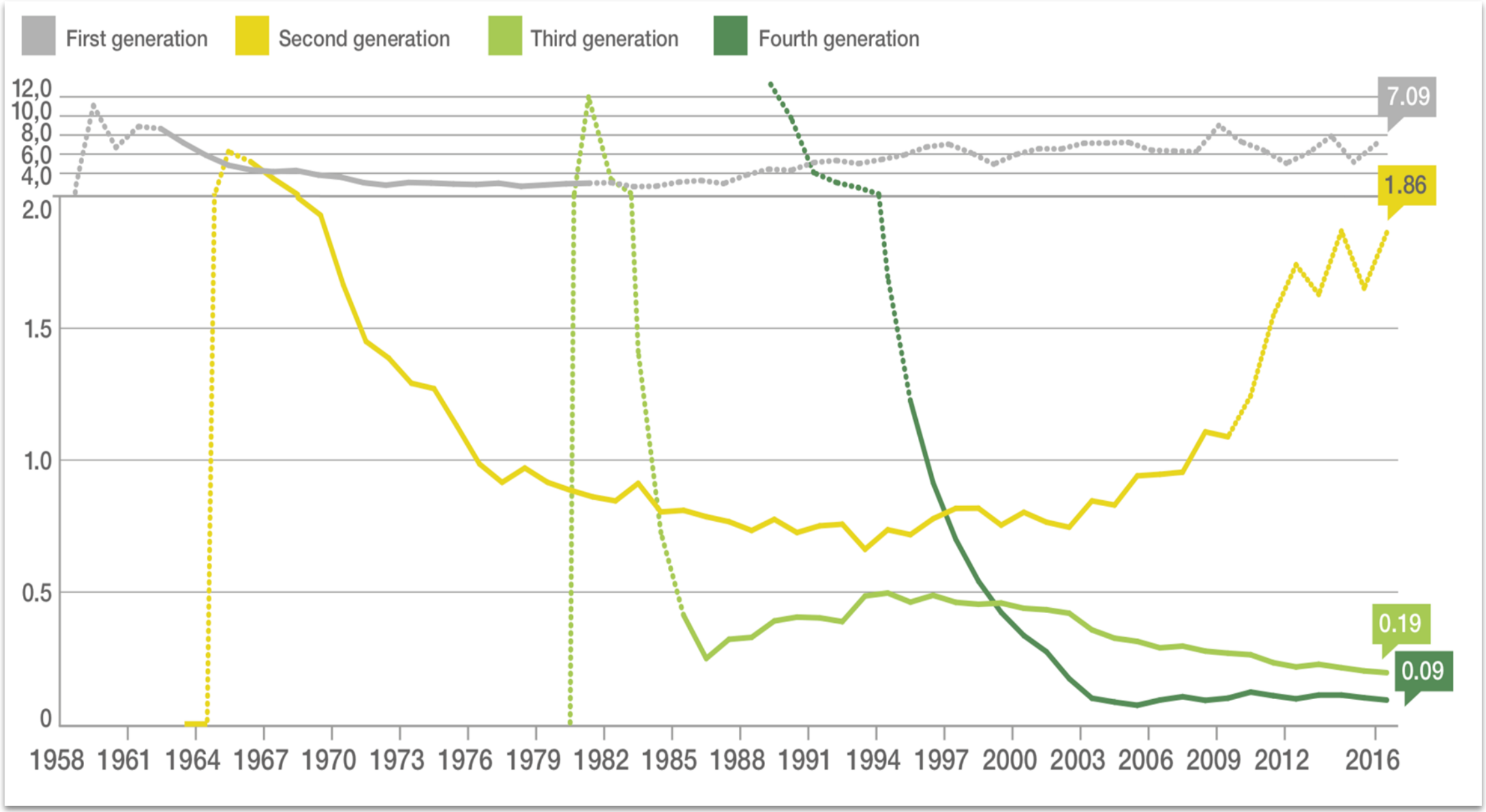


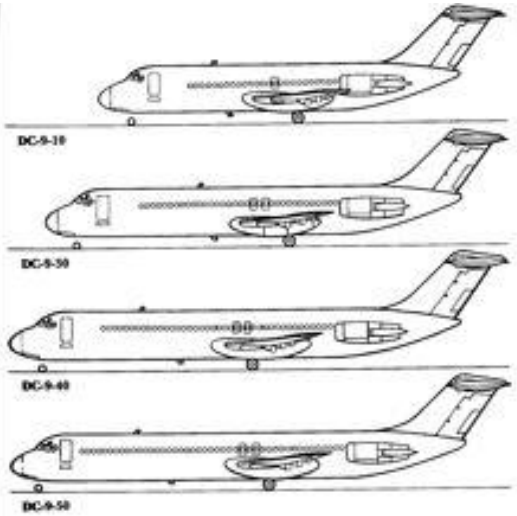
6 6.1*	Simulated asymmetric flight (This section may be combined with Sections 1 through 5.) Simulated engine failure during take-off (at a safe altitude unless carried out in an FFS or an FNPT II)			P---->	---->X		M			
6.2*	Asymmetric approach around	2.5 2.5.1*	Take-offs with simulated engine failure: shortly after reaching V2	P---->	---->					
6.3*	Asymmetric approach stop landing		(In aeroplanes which are not certificated as transport category or commuter category aeroplanes, the engine failure shall not be simulated until reaching a minimum height of 500 ft above the runway end. In aeroplanes having the same performance as a transport category aeroplane regardin take-off mass and density altitude, the instructor may simulate the engine failure shortly after reaching V2)							
6.4	ATC liaison – compliar procedures									
				5.4.	Traffic pattern and landing without extended or with partly extended flaps and slats	P---->	---->			
				5.5.	Landing with critical engine simulated inoperative	P---->	---->		M	
		2.5.2*	between V1 and V2	5.6.	Landing with two engines inoperative: – aeroplanes with three engines: the centre engine and one outboard engine as far as practicable according to data of the AFM; and – aeroplanes with four engines: two engines at one side	P	X		M FFS only (skill test only)	

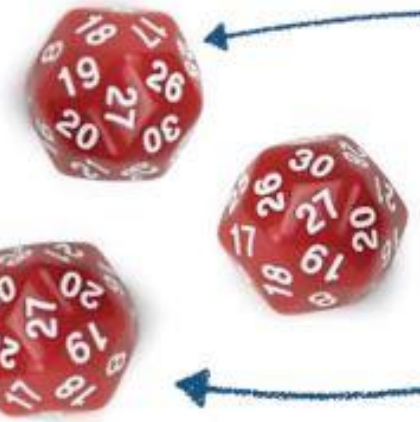
15 January, 2009
Airbus-320-214
DUAL ENG FAILURE

- Experience crew
- 4th day together
- 3rd flight of the day
- Afternoon (day light)
- Good weather conditions
- Domestic flight


First generation
Second generation
Third generation
Fourth generation
12,0
10,0
8,0
6,0
4,0
2.0
1.5
1.0
0.5
0
7.09
1.86
0.19
0.09
1958 1961 1964 1967 1970 1973 1976 1979 1982 1985 1988 1991 1994 1997 2000 2003 2006 2009 2012 2016

·System
·Environment
·Operation
·Repetitive & foreseeable
·Evidence
·What we know





- System
- Environment
- Operation

- Repetitive & foreseeable
- Evidence
- What we know

•System

•Environment

•Operation

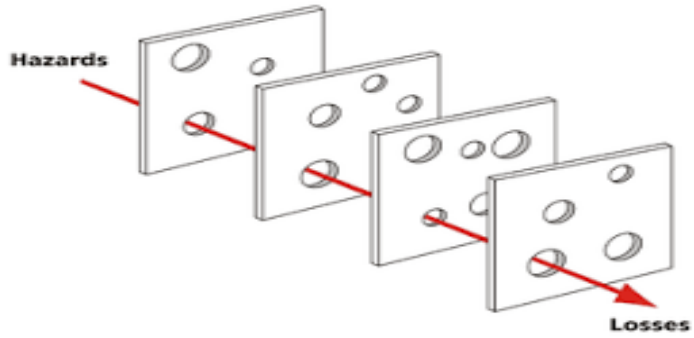
•Unique & unforeseeable

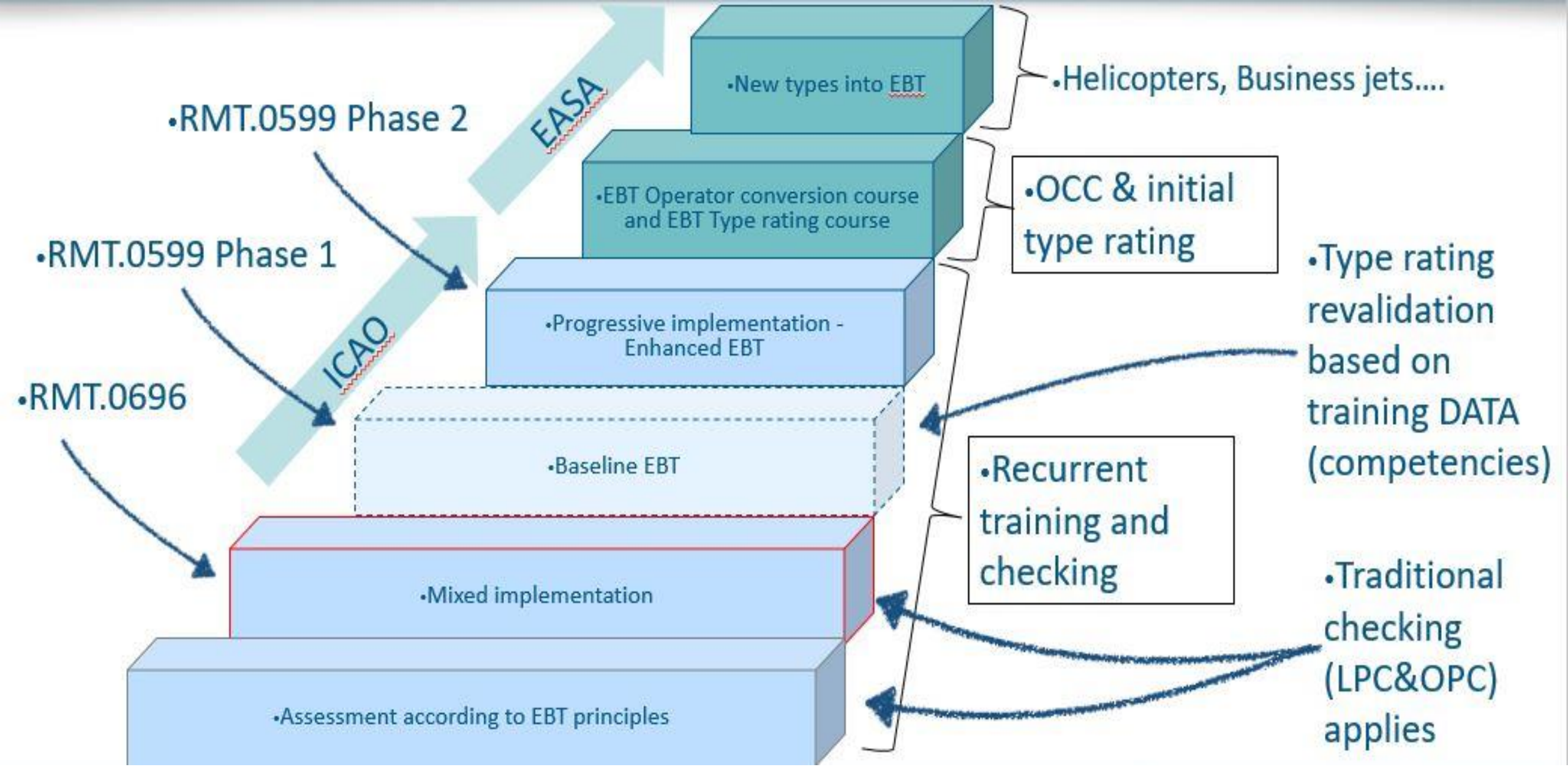
•No Evidence

•We don't know

Why and What is Evidence Based Training (EBT)

- → Flight crew need to be trained for **today's operational risks**
  - → Account for technological innovations and changing operational environment
  - → More emphasis on non-technical human factors
  - → Improve efficiency and effectiveness of training
- → EBT enables a data-driven training system
  - → Continuous standardised training data needed
  - → 'Just culture' and data protection ensured




•RMT.0599 Phase 2
EASA
•RMT.0599 Phase 1
ICAO
•RMT.0696
•New types into EBT
•EBT Operator conversion course and EBT Type rating course
•Progressive implementation - Enhanced EBT
•Baseline EBT
•Mixed implementation
•Assessment according to EBT principles
•Helicopters, Business jets….
•OCC & initial type rating
•Type rating revalidation based on training DATA (competencies)
•Recurrent training and checking
•Traditional checking (LPC&OPC) applies

World wide DATA report

Regulator

Generic program:
Training topics frequency A,B,C (6months,1,3 years).

Operator's EBT program (airline specific)

Operator

Operators' data (training, SMS etc)

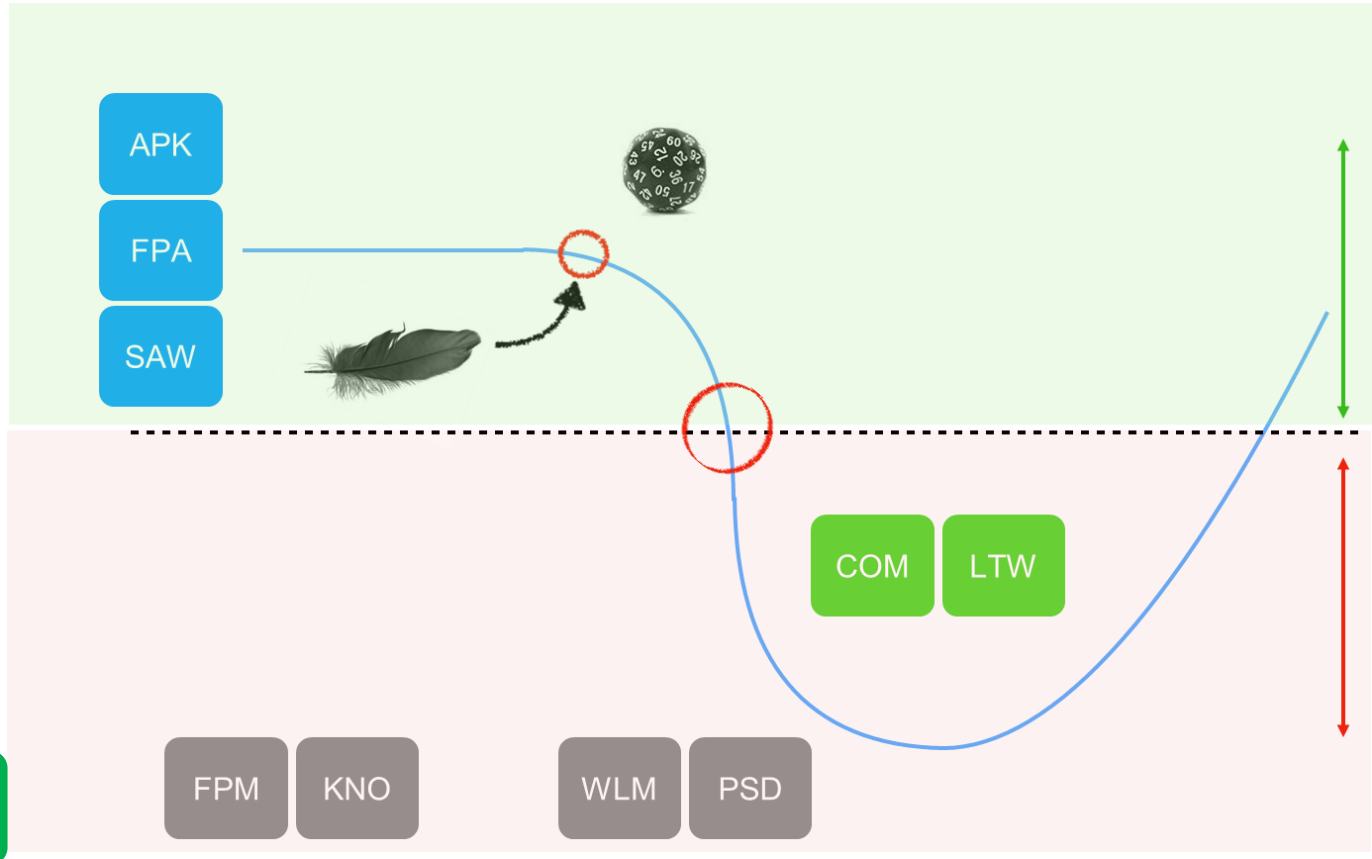
Evaluation FSTD session

instructor

Training adapted to a particular crew

EBT programme
INSTRUCTORS
EBT competencies
Technical
Procedural
Manual handling
Knowledge
Automation
Application of procedures
Decision making
Communication
Workload management
leadership and teamwork
Situation awarness
Crew (human factor)

•Resilience Tool Kit



Operator's EBT programme

- Training data:
  - 9 competencies
  - Grading 1 to 5
- by standardised instructors (concordance)

- Operational data: to contextualised the example scenario elements:
  - SMS
  - FDM…etc.

EBT programme

- Generic program: Training topics. ICAO Appendix II Doc9995 or EASA Appendix II to Part-ORO

- Follow the official documentation of your regulator (CAAs), ICAO, and EASA.
- The use of private consultants other than IATA or others public entities are not recommended.
- EBT is a worldwide global initiative that-was created and developed by many public organisations. No single organisation or person can claim the original idea or ownership of EBT and its principles.
- EBT is long journey: 1-2 years of EBT principles and 2-3 of EBT mixed.

- **Primary documentation**

- EASA EBT checklist: https://www.easa.europa.eu/sites/default/files/dfu/EBT%20Checklist%20V2.0.pdf
- ED Decision 2015/027/R Implementation of evidence-based training (EBT) within the European regulatory framework https://www.easa.europa.eu/document-library/agency-decisions/ed-decision-2015027r. It includes:
  - Annex I to ED decision 2015/027/R: GM1 ORO.FC.230 (a); (b); (f). Recurrent training and checking to Part-ORO – Issue 2, Amendment 4; and
  - Explanatory Note to the ED Decision 2015/027/R.
- EASA Notice of proposed of Amendment 2018-07(B): https://www.easa.europa.eu/sites/default/files/dfu/NPA%202018-07%28B%29.pdf
- ICAO Doc 9995 AN/497 Manual of Evidence-based Training First Edition – 2013.

- **For info:**

- ToR RMT.0696 Implementation of Evidence-Based Training within the European regulatory framework https://www.easa.europa.eu/document-library/terms-of-reference-and-group-compositions/tor-rmt0696.
- ToR (+ Concept Paper) RMT.0599 Evidence-based and competency-based training https://www.easa.europa.eu/document-library/terms-of-reference-and-group-compositions/tor-concept-paper-rmt0599.
- IATA Data Report for Evidence-Based Training August 2014 1st edition.
- ICAO PANS Training DOC 9868.
- IATA Evidence-Based Training Implementation Guide July 2013.

EASA
European Union Aviation Safety Agency

Thank you

easa.europa.eu/connect

Your safety is our mission.

An Agency of the European Union