

Introduction to EBT

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Flight Plan

What

Why

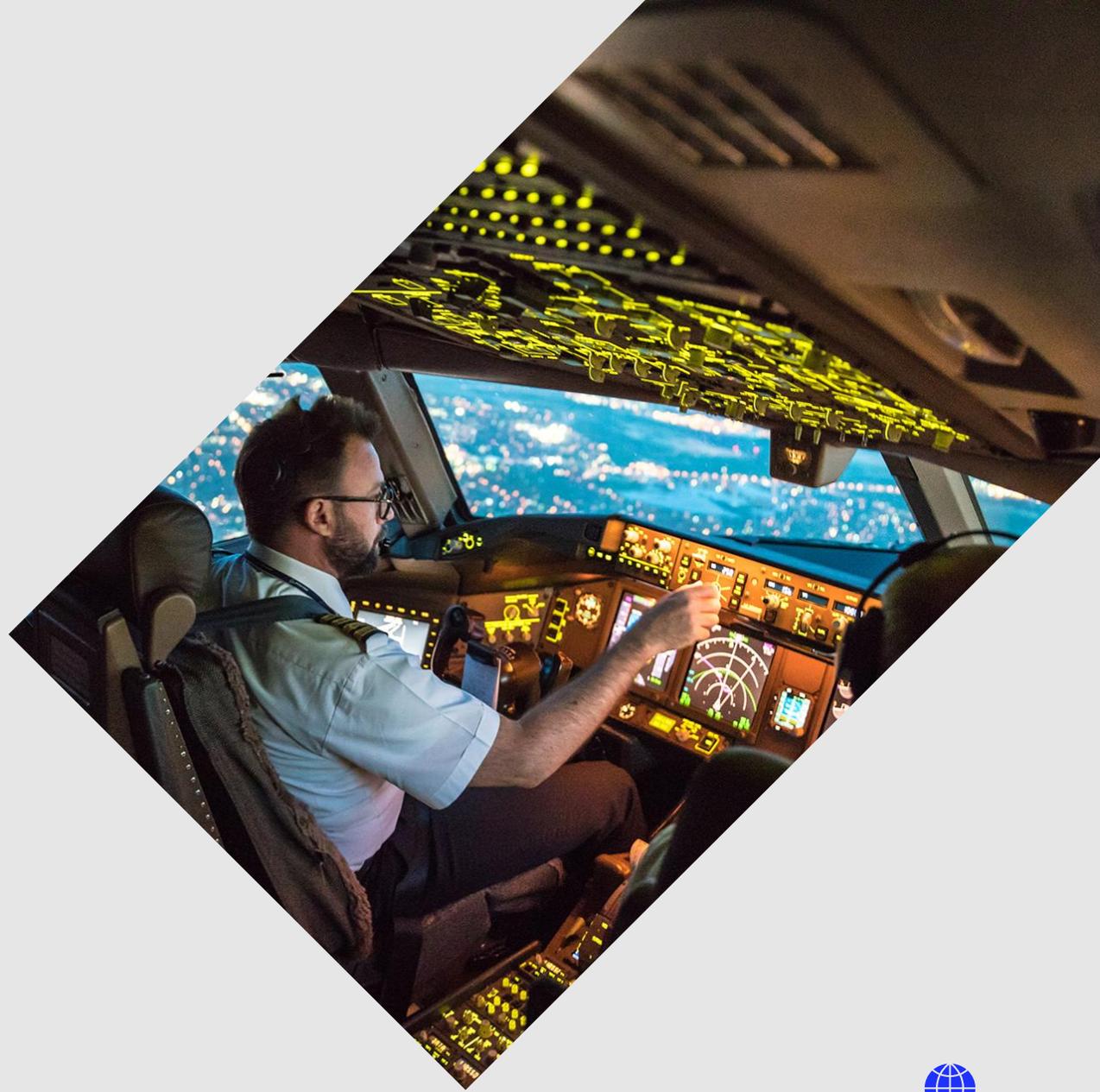
How

Future



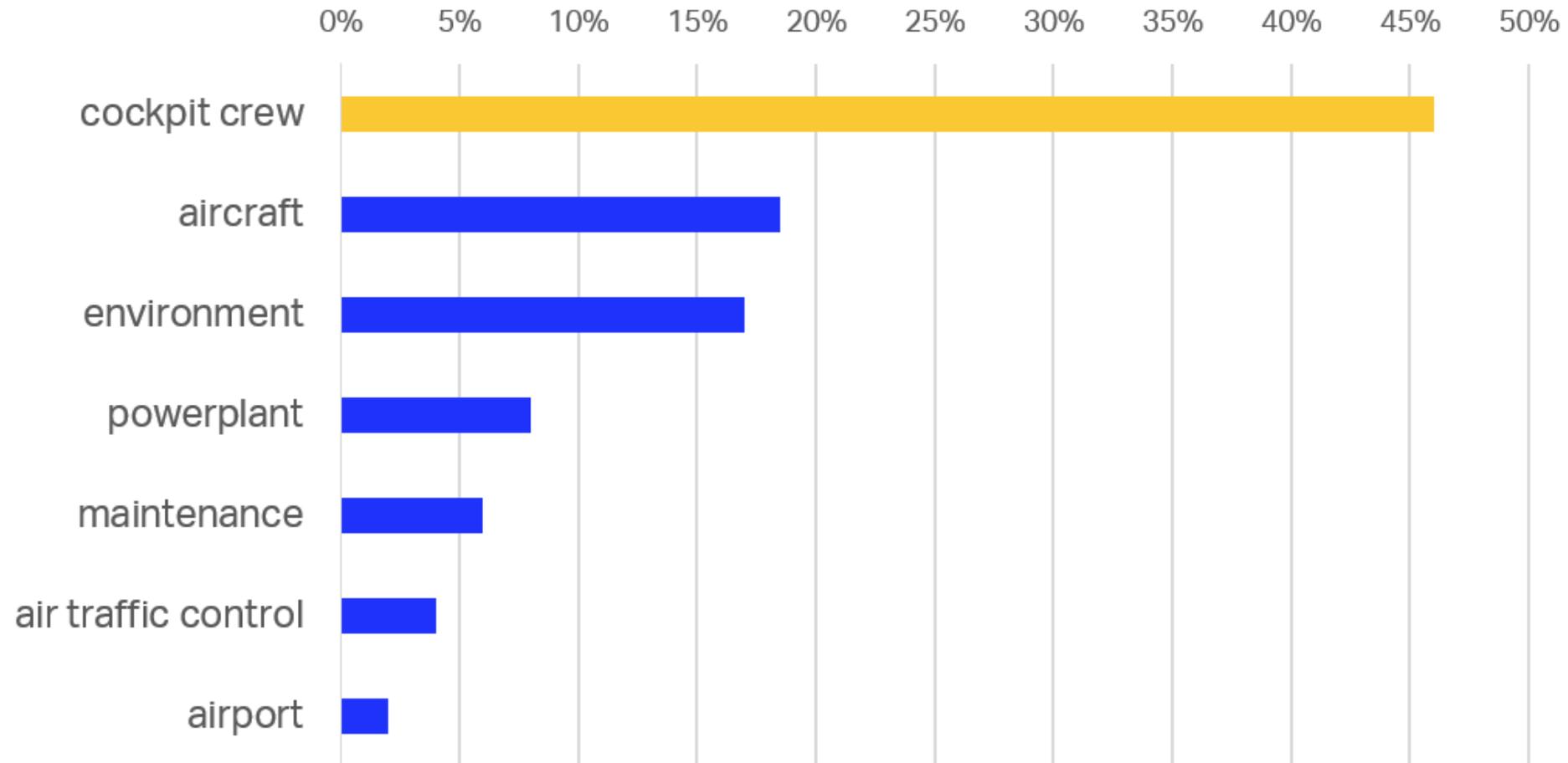
What is EBT

The aim of an EBT program is to identify, develop and evaluate the **competencies** required by pilots to **operate safely**, effectively and efficiently in a commercial air transport environment, by managing the **most relevant threats and errors**, based on evidence collected in operations and training.

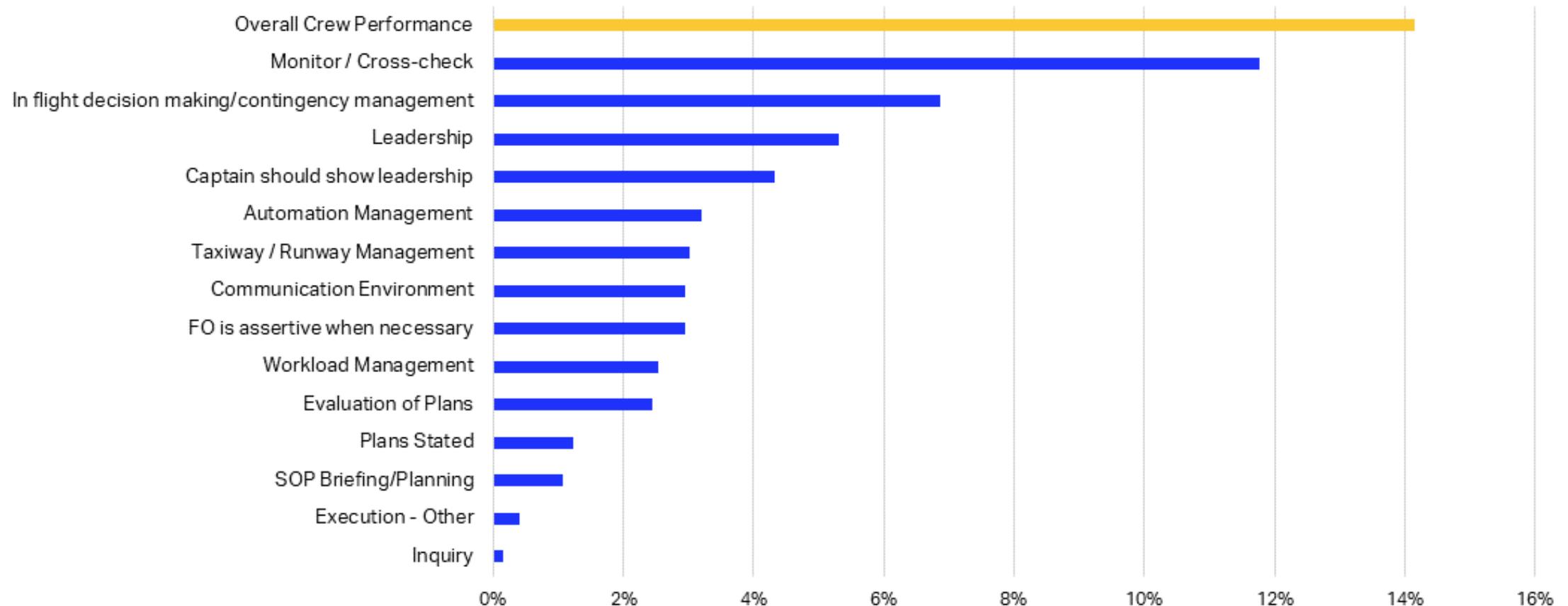


Why EBT?

Breakdown of primary contributing factor for accidents in the aviation sector over a time span of 15 years



And more recently?



Source IATA GADM accidents since 2005





What aircraft have you flown?





Aircraft Systems

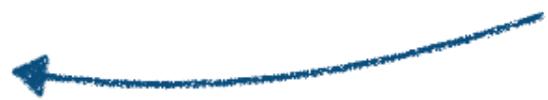
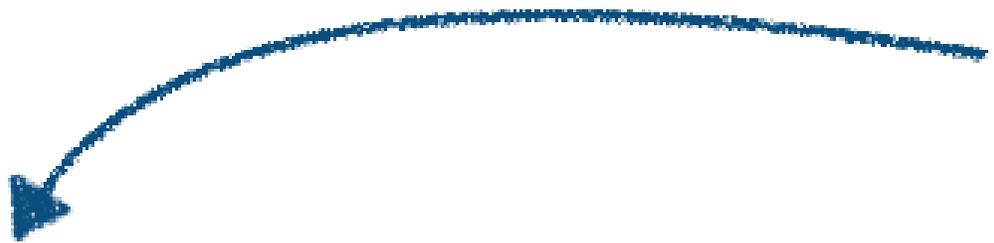
Operational Environment

Operational complexity

Aircraft Systems

Operational Environment

Operational complexity



How EBT



EASA
European Aviation Safety Agency

European Aviation Safety Agency

Notice of Proposed Amendment 2018-07(A) Update of ORO.FC — evidence-based training subtask

RMT.0599

EXECUTIVE SUMMARY

The European Aviation Safety Agency (EASA) identified the need to ensure that aviation personnel have the right competencies and training methods to cope with new challenges. This is one of the most significant systemic issues in the European Plan for Aviation Safety (EPAS) 2018-2022.

The objective of this notice of proposed amendment (NPA) is to update the flight crew training requirements to improve pilot competencies. At the same time, it provides additional efficiency in the field of flight crew training and achieves a smooth transition to competency-based training.

The International Civil Aviation Organization (ICAO), in a joint effort with the International Air Transport Association (IATA), the International Federation of Air Line Pilots' Associations (IFALPA) and other industry partners, developed a new paradigm for competency-based recurrent assessment and training of flight crew, which is based on evidence (evidence-based training (EBT)). The EBT project is a global safety initiative whose objective is to determine the relevance of existing pilot training according to aircraft generation. The EBT methodology identifies areas for improvement and allows the re-prioritisation of training topics. EBT is intended to enhance the confidence and capability of flight crews to operate the aircraft in all flight regimes and to be able to recognise and manage unexpected situations.

GM1 ORO.FC...

How EBT?

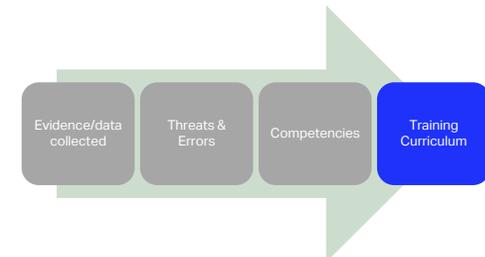
Data collection
Evidence

Threats and
Errors

Competencies

Curriculum

EBT Training Curriculum



Assessment and training topic	Frequency	Flight phase for activation	Description (include type of topic, being threat, error or focus)	Desired outcome (includes performance criteria OR training outcome)	Example scenario elements	Competency map										
						Application of procedures	Communication	Flight path management, automation	Flight path management, manual control	Leadership and teamwork	Problem solving and decision making	Situation awareness	Workload management			
Evaluation and scenario-based training phases Adverse wind	B	TO	Adverse wind/crosswind. This includes tailwind but not ATC mis-reporting of the actual wind	Recognize adverse wind conditions Observe limitations Apply appropriate procedures Maintain directional control and safe flight path	Take-off with different crosswind/tailwind/gust conditions Take-off with unreported tailwind Crosswinds with or without strong gusts on take-off Increasing tailwind on final (not reported) Approach and landing in demanding weather conditions, e.g. turbulence, up and downdrafts, gusts and crosswind including shifting wind directions Adverse wind scenario resulting in increasing tailwind below DA (not reported) Adverse wind scenario including strong gusts and/or crosswind out of limits below DA (not reported) Adverse wind scenario including strong gusts and/or crosswind out of limits below 15 m (50 ft) (not reported) Crosswind with or without strong gusts on approach, final and landing (within and beyond limits)											
		TO					x			x						
		TO					x		x							
		APP					x	x			x	x				
		APP							x		x	x				
		APP					x		x		x					
		APP					x		x		x					
		APP					x		x		x					
		LDG					x		x		x					



EBT topics: characteristics & frequencies

A

- Adverse Weather
- Automation management
- Competencies non-technical (CRM)
- Compliance
- Error management
- Go-around management
- Manual aircraft control
- Mismanaged aircraft state
- Monitoring & cross-checking
- Unstable approach

B

- Adverse wind
- Aircraft system malfunctions
- Aircraft system management
- Approach, visibility close to minimum
- Landing
- Runway or taxiway condition
- Surprise
- Terrain
- Workload, distraction, pressure

C

- ATC
- Engine failure
- Fire and Smoke management
- Loss of communications
- Managing loading, fuel, perf errors
- Navigation
- Operations or type specific
- Pilot incapacitation
- Traffic
- Upset recovery
- Windshear recovery

EBT module overview

Session 1

Pilot competencies assessment

Briefing

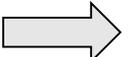


Facilitative debrief

Session 2

Pilot competencies development

Tailored Briefing



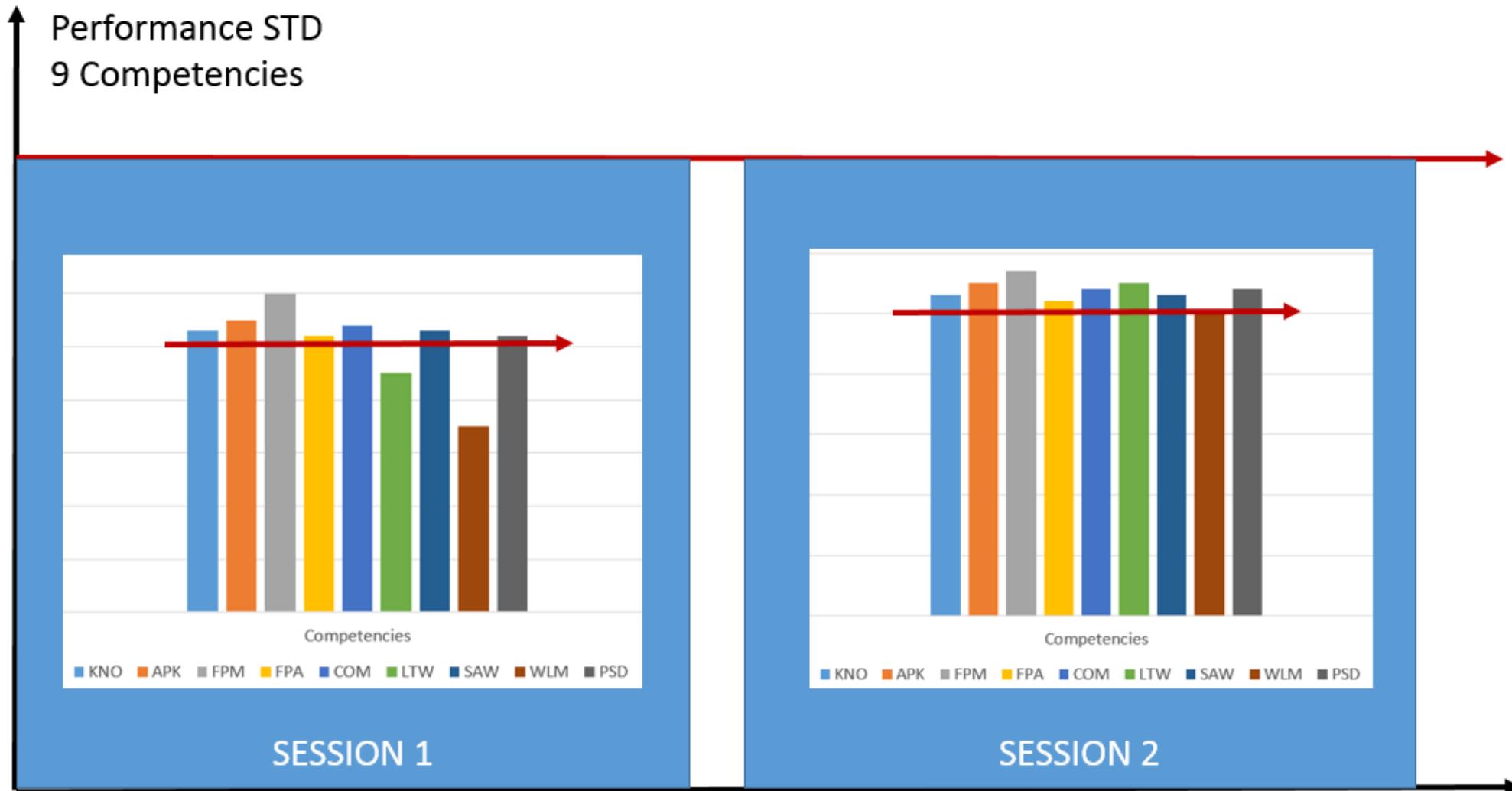
Facilitative debrief



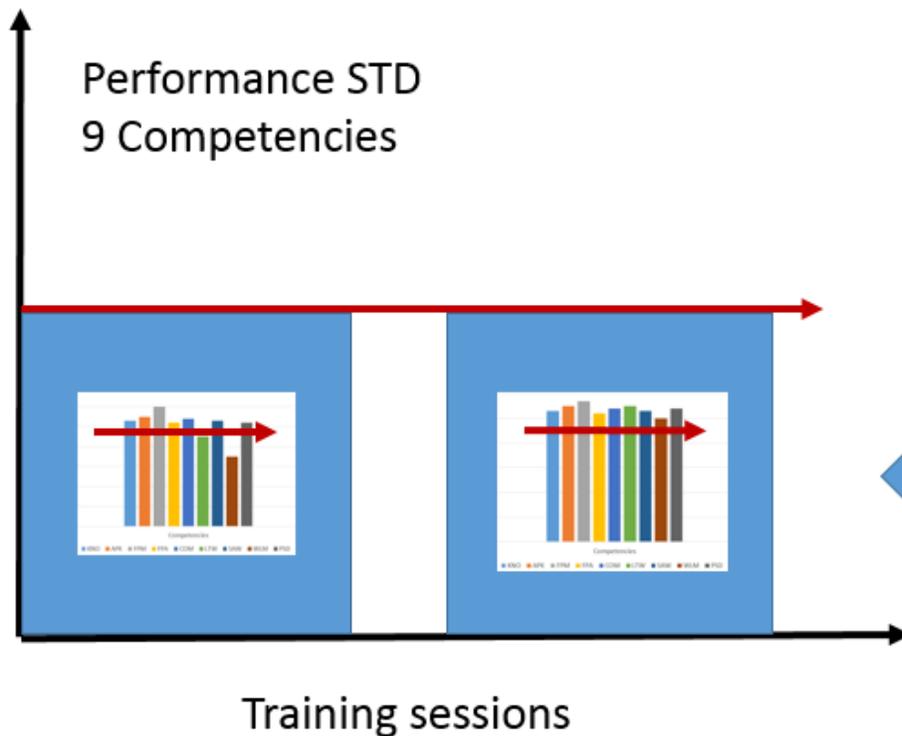
Grading



EBT Measurement of the pilot performance



IATA Instructor competencies



Acronyms	Instructor Evaluator Competencies
IEC 1	Pilot competencies
IEC 2	Management of the learning environment
IEC 3	Instruction
IEC 4	Interaction
IEC 5	Assessment and Evaluation



Guidance Material for Instructor
and Evaluator Training

EBT Instructor Standardization

IE Competencies				
IEC1	IEC2	IEC3	IEC4	IEC5
Pilot competencies	Management of the learning environment	Instruction	Interaction with the trainees	Assessment and Evaluation
TA	TA	TA-SE	TA-SE	TA-SE

TA: Means competencies trained and assessed

SE: Means competencies requiring special emphasis during training



EBT Future DATA REPORT 2nd Edition

- Accident - Incident Study
- Training Criticality Survey (TCS)
- LOSA reports
- Manual handling study
- Training data workshops
- ...

TCS:

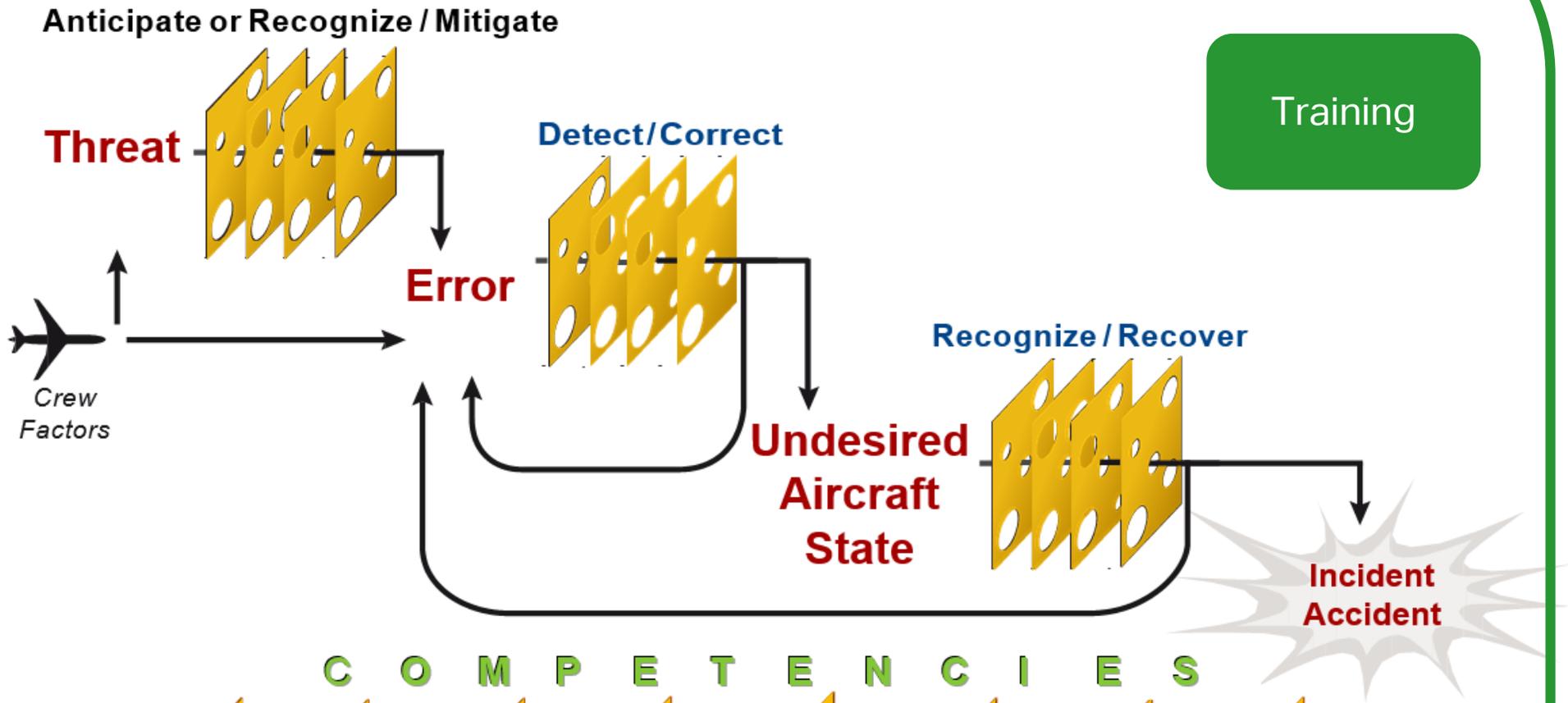
European airlines participation needed!

<https://www.surveymonkey.com/r/NSG6L7Z>

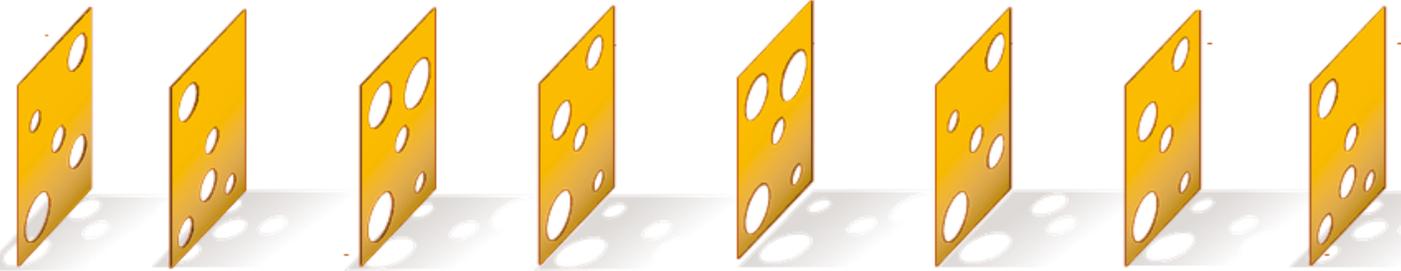


Threat and Error Management (TEM)

Operations



C O M P E T E N C I E S



The Competencies are the Individual and Team Counter Measures



Thank you

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