



Evidence-Based Training at Finnair

30.11.2022 Juho Sinkkonen NP Crew Training, Finnair



Agenda

- Why and What - The Big Picture
- Main elements of EBT
 - Core competencies
 - Program development: EBT modules
 - Instructors and standardization
- Implementation at Finnair
 - Regulatory framework
 - Finnair roadmap and experiences





Why and What – The Big Picture

Why EBT?



Data Report for
Evidence-Based Training
August 2014





What is EBT: The Principles

- From task-based programs to competencies
- Recognizing and managing unexpected situations
 - Resilience and surprise
- Learning from positive
- Root cause analysis and facilitation
- EBT is data-driven
 - 3 layers of data
 - Data report for Evidence-based training
 - Operator: SMS/operational data + training data
 - Instructor: assessment of pilot competencies and observable behaviours





Main elements of EBT



Main elements of EBT

- Competencies
- Program development
- Instructors





Main elements of EBT: Competencies

Core competencies and observable behaviours

- Application of knowledge
- Application of procedures and compliance with regulations
- Communication
- Aeroplane flight path management – Automation
- Aeroplane flight path management – Manual control
- Leadership and Teamwork
- Problem solving and Decision making
- Situation awareness and management of information
- Workload management

Situation awareness and management of information (SAW)	
Description:	Perceives, comprehends and manages information and anticipates its effect on the operation
OB 7.1	Monitors and assesses the state of the aeroplane and its systems
OB 7.2	Monitors and assesses the aeroplane's energy state, and its anticipated flight path
OB 7.3	Monitors and assesses the general environment as it may affect the operation
OB 7.4	Validates the accuracy of information and checks for gross errors
OB 7.5	Maintains awareness of the people involved in or affected by the operation and their capacity to perform as expected
OB 7.6	Develops effective contingency plans based upon potential risks associated with threats and errors
OB 7.7	Responds to indications of reduced situation awareness

Main elements of EBT: Program Development



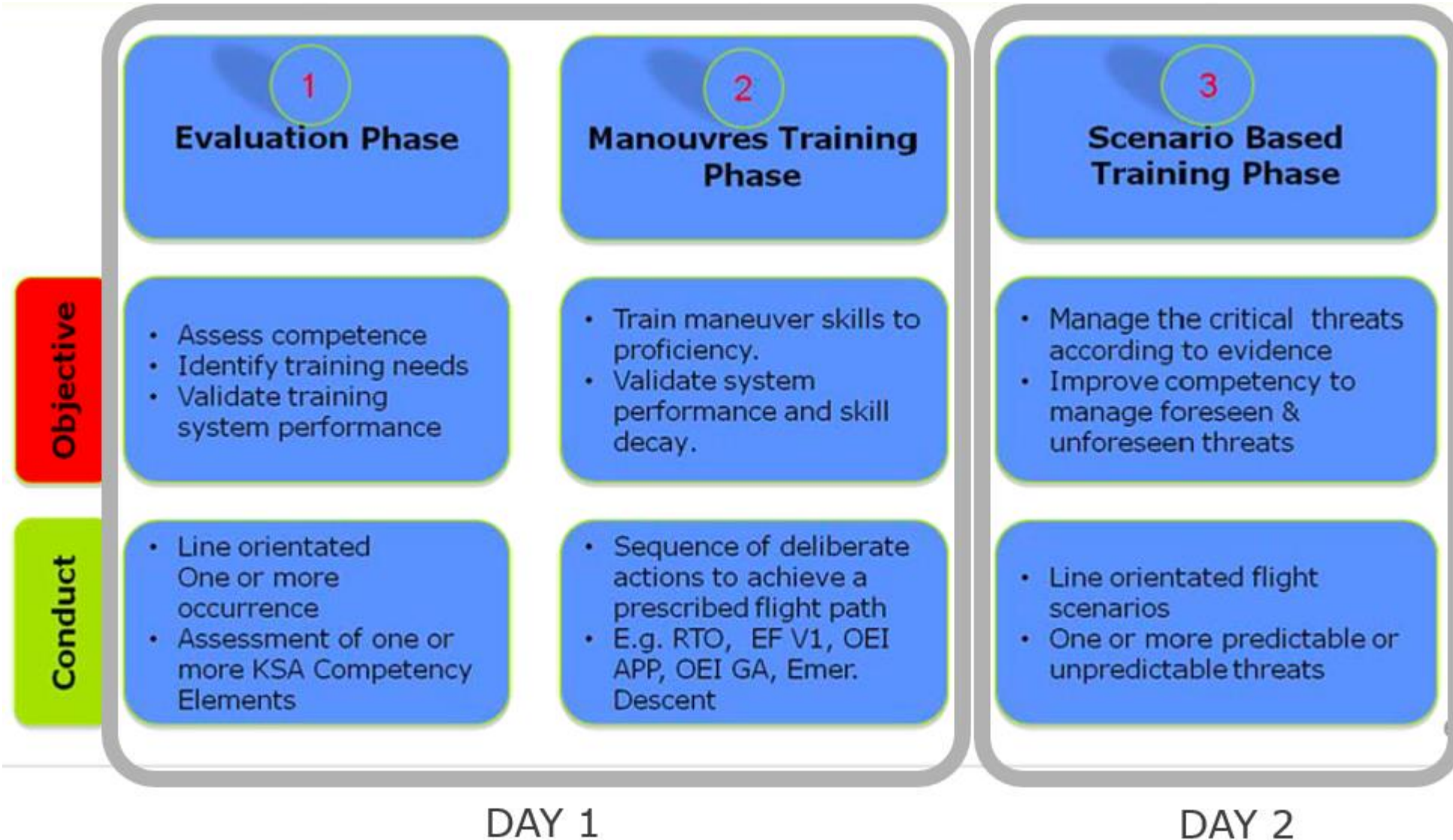
Data-driven process:

- Industry-wide data
 - Framework for EBT program
 - Training topics and example scenarios
- Company-specific data
 - SMS and operational data
 - Choosing and creating the scenarios for evaluation and training
- Competency data of pilots
 - Company-level and fleet/position level
 - Competencies to be highlighted in EBT modules
 - Individual competence data
 - Customized training within an EBT module and possible remedial training

Training topics		2018, 2021		2019, 2022		2020, 2023	
A - during every EBT module		H1	H2	H1	H2	H1	H2
A	Adverse weather	x	x	x	x	x	x
	Automation management	x	x	x	x	x	x
	Competencies non-technical (CRM)	x	x	x	x	x	x
	Compliance	x	x	x	x	x	x
	Go-around management	x	x	x	x	x	x
	Manual aircraft control	x	x	x	x	x	x
	Monitoring and cross checking (ISI)	x	x	x	x	x	x
	Error management (ISI)	x	x	x	x	x	x
	Mismanaged aircraft state (ISI)	x	x	x	x	x	x
	Unstable approach	x	x	x	x	x	x
B - alternating EBT modules							
B	Adverse weather	x		x		x	
	Aircraft system malfunctions (¹ EMER DES)		x		x ¹		x
	Aircraft system management	x		x		x	
	Approach, visibility close to minimum		x		x		x
	Landing	x		x		x	
	Runway or taxiway condition		x		x		x
	Surprise		x		x		x
C	Terrain (¹ EGPWS)	x		x		x ¹	
	Workload, distraction, pressure		x		x		x
C - at least once in the three-year cycle							
C	ATC			x			
	Engine failure				x		
	Fire and smoke management		x				
	Loss of communications					x	
	Managing loading, fuel, performance errors						x
	Navigation			x			
	Operations (QFE operation)				x		
	Type specific (Aircraft handling in ALT and DCT law)						x
	Pilot incapacitation			x			
	Traffic (TCAS RA)	x					
C	Upset recovery		x		x		x
	Upset recovery (ISI)		x		x		x
	Wind shear recovery (Predictive and Reactive)	x					



Main elements: EBT module



- 6 modules within 3 years
- For individual pilot 2 modules within 12 months separated by not less than 3 months

Main elements of EBT - Instructors



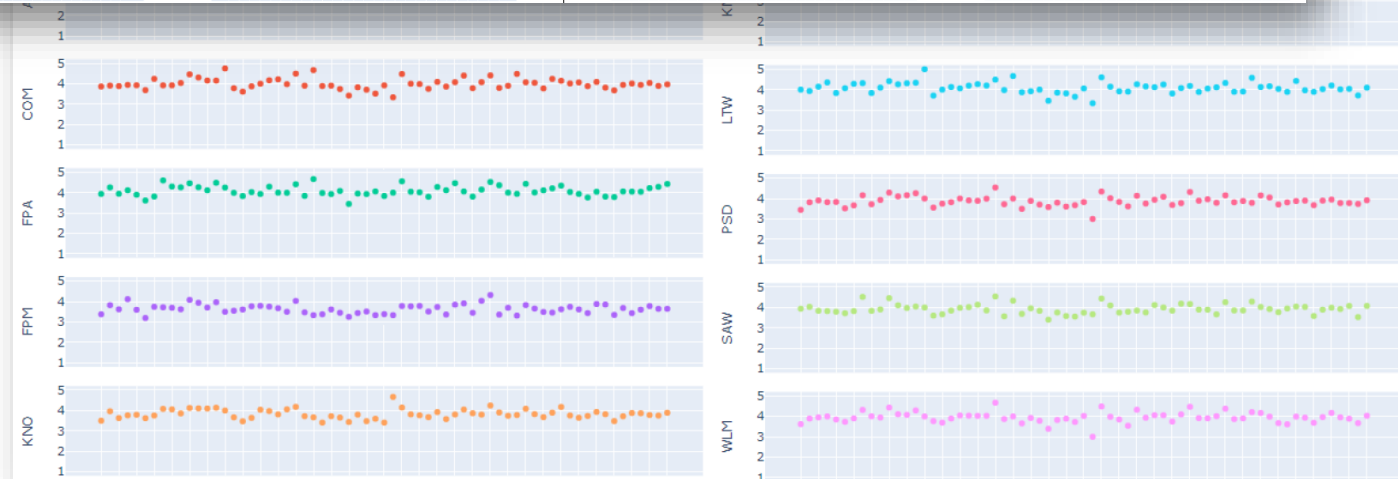
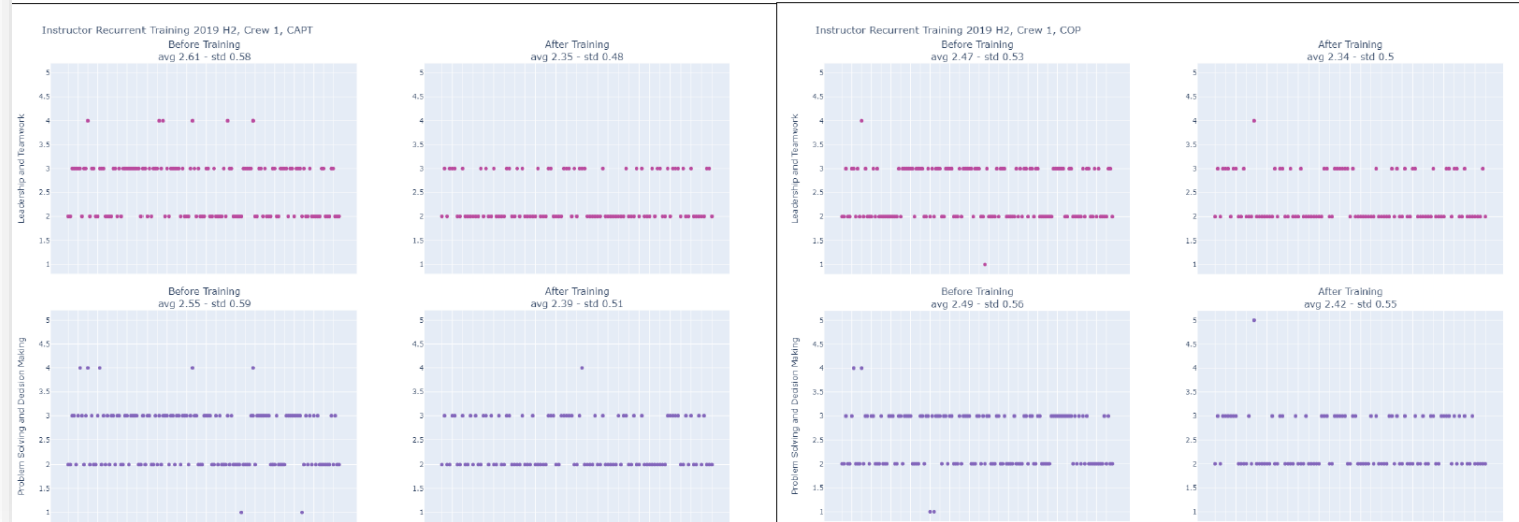
Instructor training

- EBT instructor

Instructor concordance

- Very important element in EBT
- Process for standardization and concordance monitoring required
 - Different ways of complying
 - Concordance in real events
 - Concordance in standardized setting (video analysis for example)
 - Process in the cases of insufficient concordance

Instructor Recurrent Training 2019 H2 Crew 1



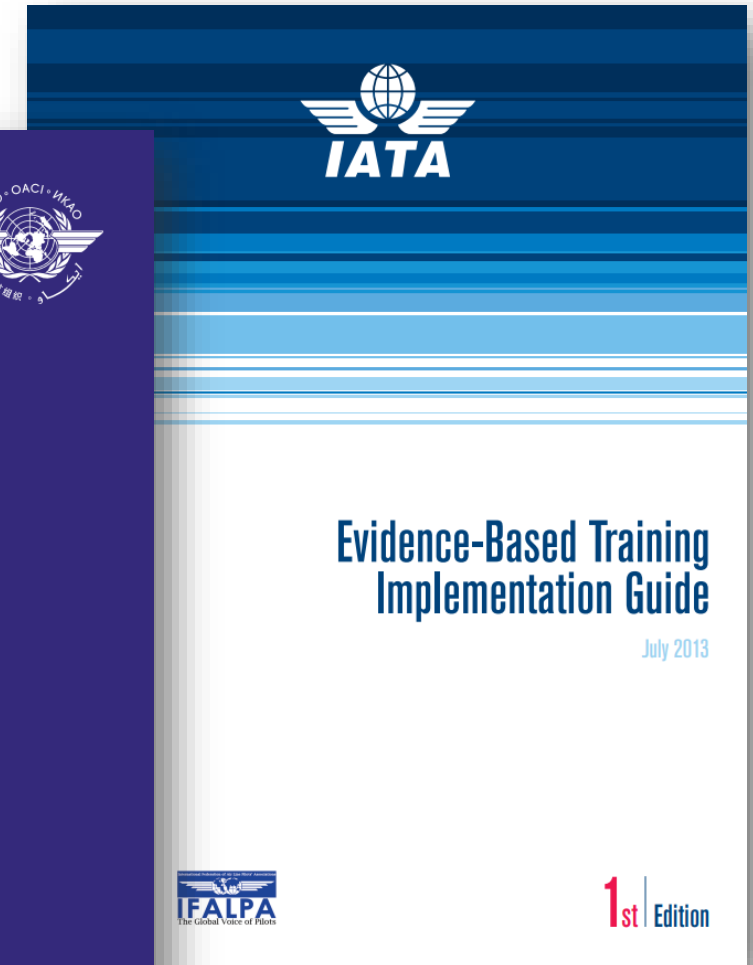
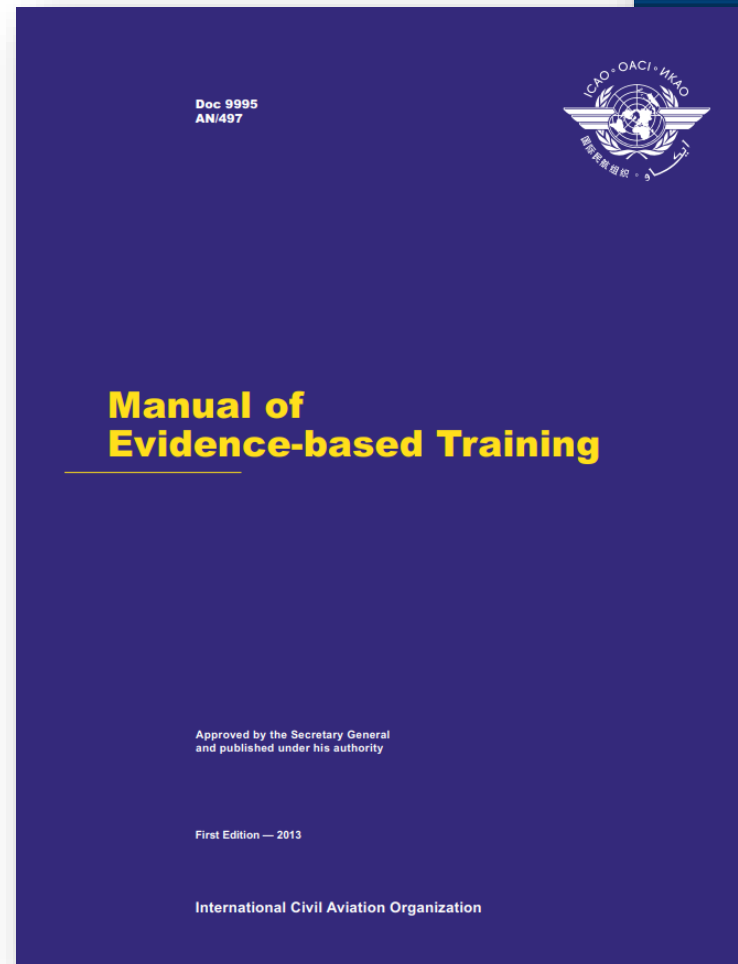


Implementation at Finnair



Regulatory framework

- EBT was developed under the IATA Training and Qualification Initiative (ITQI) launched in 2007
- ICAO Manual of Evidence-based Training (Doc 9995) in 2013
- IATA Evidence-Based Training Implementation Guide July 2013
- EASA EBT regulation Dec 2020
- EASA EBT AMC & GM Mar 2021
- Finnair EBT launch 1.1.2022





Finnair's road to EBT Baseline

- Competencies and grading 1-5 in use from 2014-2015
- EBT Mixed implementation since 1.7.2018
 - Equivalency of malfunctions
 - Instructor concordance
- EBT Baseline launch 1.1.2022
 - 9 months of preparation
 - Close cooperation with Traficom
 - EBT checklist, MoC and EBT Baseline application

Experiences from the first year



- Pilots have been very positive about the change
- Program development takes more time and effort compared to traditional recurrent training
- Instructor standardization requires a lot of attention and is a continuous effort
- Instructor needs new skills and practices: conducting the sessions, grading, feedback using facilitation techniques

EBT Training Captain - Hank da Silva

EBT Training First Officer - Tim Calahan

KNO - Application of Knowledge
Demonstrates knowledge and understanding of relevant information, operating instructions, aircraft systems and the operating environment

0.1 Demonstrates practical and applicable knowledge of limitations and systems and their interaction

0.2 Demonstrates the required knowledge of published operating instructions

0.3 Demonstrates knowledge of the physical environment, the air traffic environment and the operational infrastructure (including air traffic routing airports)

0.4 Demonstrates appropriate knowledge of applicable legislation

0.5 Knows where to source required information

0.6 Demonstrates a positive interest in acquiring knowledge

0.7 Is able to apply knowledge effectively

Not observed

1

2

3

4

5





Thank You.

FINNAIR