Crewmember Training
Shift focus on what really matters

maintain

Advanced Qualification Program (AQP)

Competency Based Training & Assessment (CBTA)

Resilience Engineering

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WATS – Orlando, FL

Crewmember Training

Acronym OVERLOAD!

SAM

PEERs

RESILIENCE

CBT

CBTA

ISD

N&O

AQP

LLAMA

MPL

ADDIE

KIRKPATRIC

ATQP

PHILLIPS

AGILE

EBT

Crewmember Training
A lot to consider…
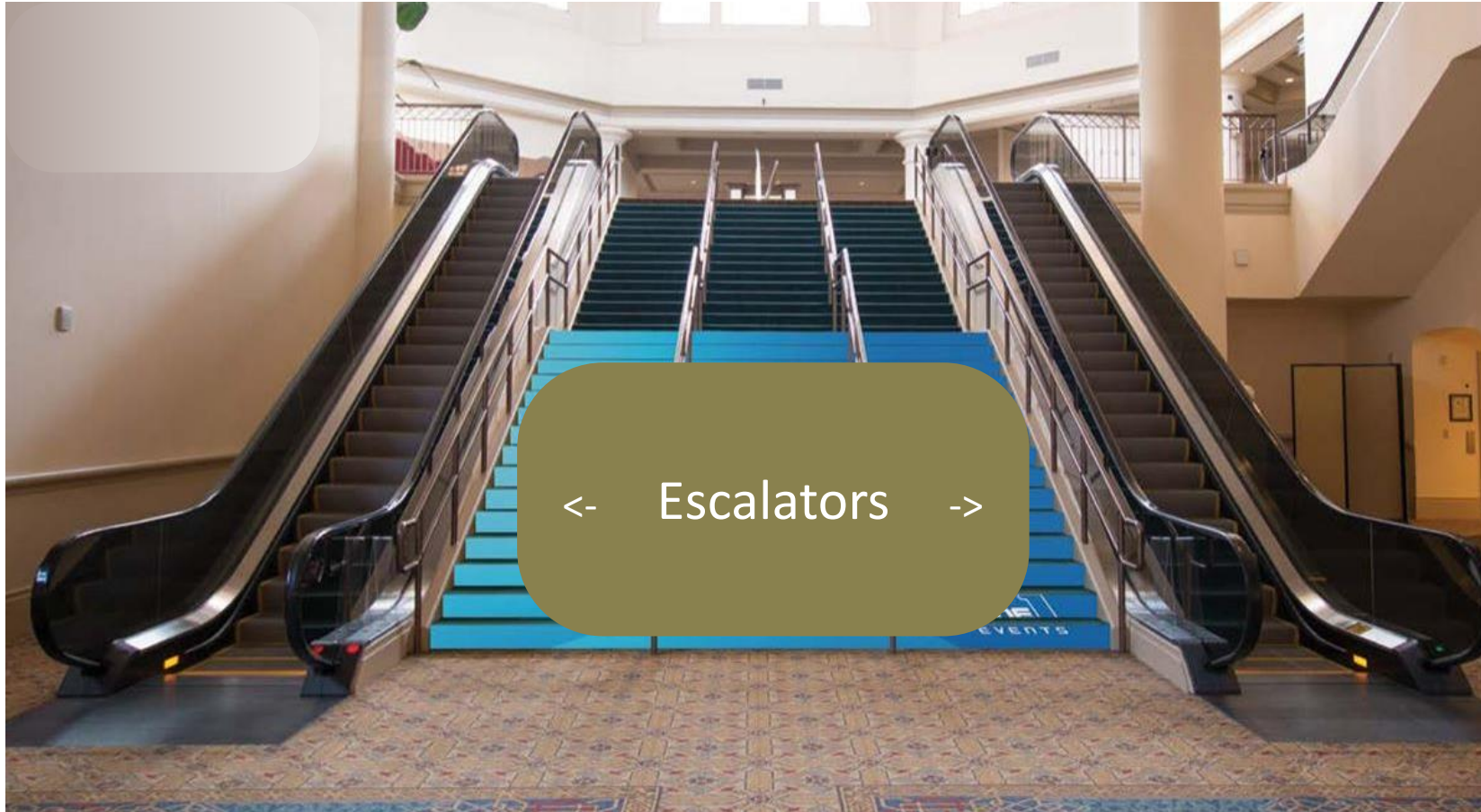
Actually, we are doing pretty good…

Thank you, Halldale!

Crewmember Training
A lot to consider...

Crewmember Training

A lot to consider…

<- Escalators ->

Crewmember Training
A lot to consider...

Over 30 escalator and elevator *Fatalities* in 2022

Over 17,000 Serious Injuries

- Source: U.S. Bureau of Labor Statistics and the Consumer Product Safety Commission

Crewmember Training

A lot to consider…

42,915 *Automobile Fatalities* in 2021

- (est.) National Highway Traffic Safety Administration (NHTSA)

Crewmember Training
A lot to consider…

We are doing pretty good!

…because crew ***training*** has evolved.

Crewmember Training
Milestones to Safety

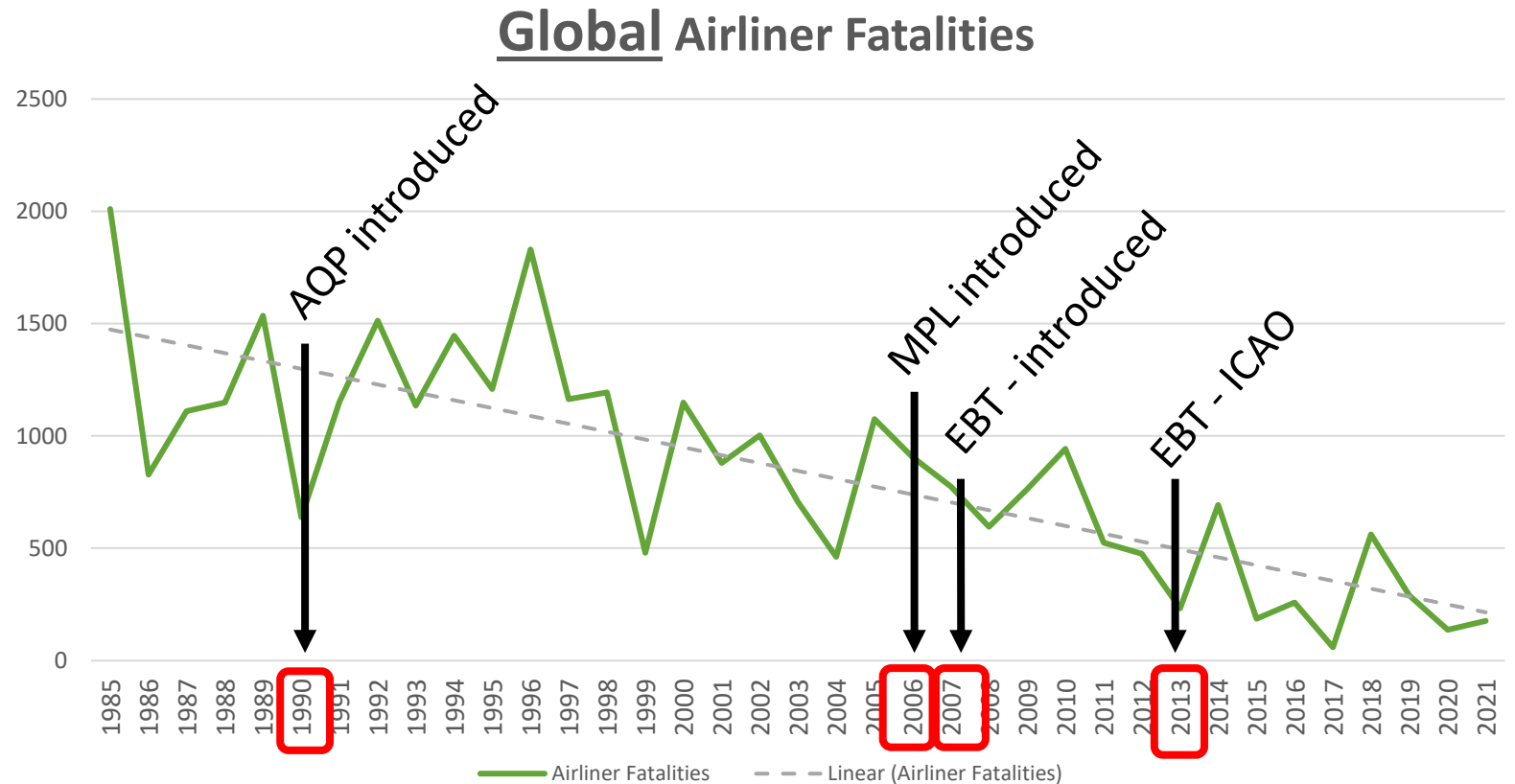1950's-60's – Systems Approach to Training (i.e., ISD)

1970's – Competency Based Training Principles Introduced

1990 – AQP Introduced

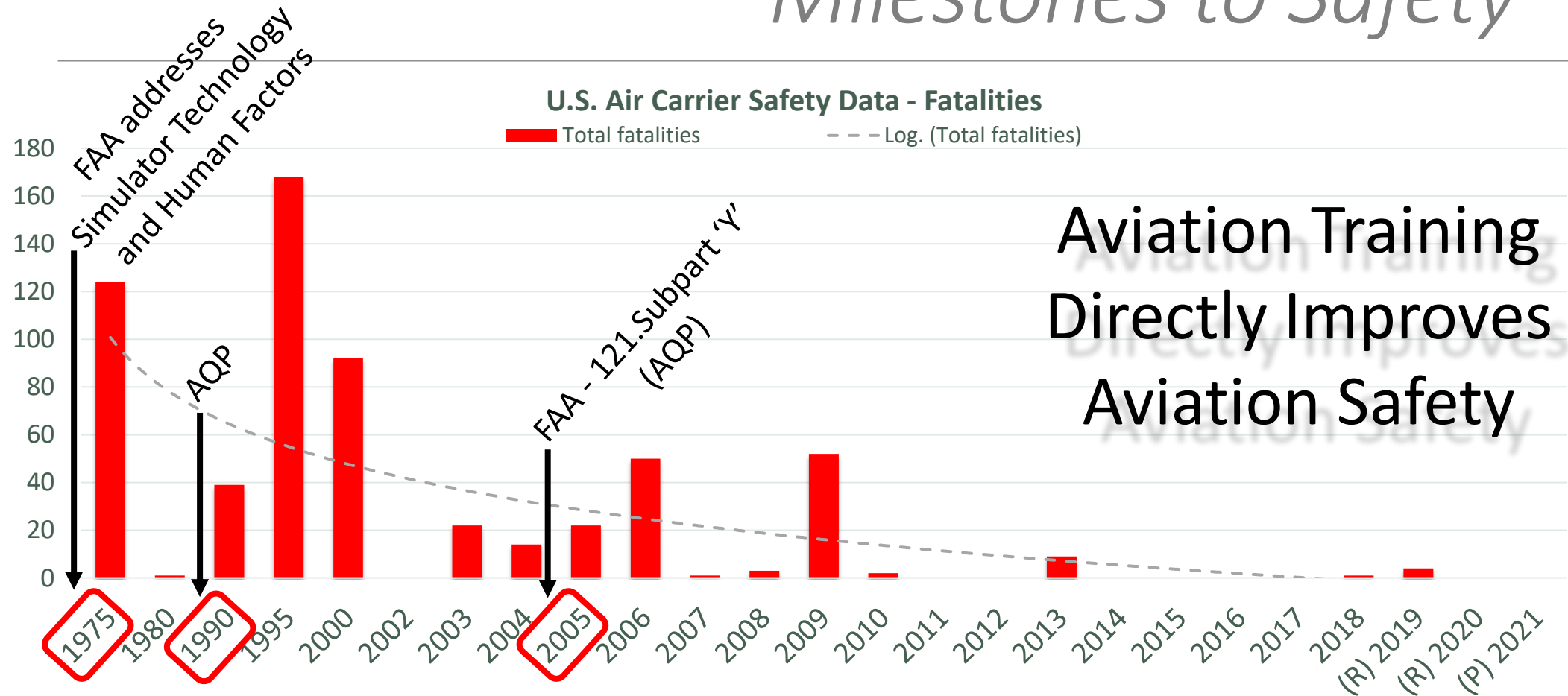2006 – MPL Introduced

2007 – EBT Introduced

2012 – EBT Endorsed by ICAO

Global Airliner Fatalities

AQP introduced

MPL introduced

EBT - introduced

EBT - ICAO

Airliner Fatalities — — Linear (Airliner Fatalities)

Source: Flight Safety Foundation

Crewmember Training
Milestones to Safety

U.S. Air Carrier Safety Data - Fatalities

Total fatalities — — — Log. (Total fatalities)

FAA addresses Simulator Technology and Human Factors

AQP

FAA - 121.Subpart 'Y' (AQP)

Aviation Training Directly Improves Aviation Safety

1975, 1980, 1990, 1995, 2000, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, (R) 2019, (R) 2020, (P) 2021

Note: 9/11 attacks data omitted

Source: U.S. Department of Transportation (DOT)

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Crewmember Training
Evolved Training

Assessments…

Crewmember Training
Evolved Training

Tasks...

| CFR Reference	Flight Attendant Training Regulatory Comparison Chart **14 CFR Part 121.417 - Crewmember Emergency Training** Regulatory Reference	FA Initial & Transition Qualification	FA Transition Qualification Curriculum	FA Continuing Qualification	Requalification Requirement
121.417. c.2.i.A	(A) Each type of emergency exit in the normal and emergency modes, including the actions and forces required in the deployment of the emergency evacuation slides	Reserved	TBD	CBT, PV	Required
121.417. c.2.i.B	(B) Each type of installed hand fire extinguisher				
121.417. c.2.i.C	C) Each type of emergency oxygen system to include protective breathing equipment	Reserved	TBD	CBT, PV	Required
121.417. c.2.i.D	(D) Donning, use and inflation of individual flotation means, if applicable	Reserved	TBD	CBT, PV	Required
121.417. c.2.i.E	(E) Ditching, if applicable, including, but not limited to, as appropriate:	Reserved	TBD	CBT, PV	Required
121.417. c.2.i.E.1	1. Cockpit preparation and procedures	Reserved	TBD	CBT, PV	Required
121.417. c.2.i.E.2	2. Crew coordination	Reserved	TBD	CBT, PV	Required
121.417. c.2.i.E.3	3. Passenger briefing and cabin preparation	Reserved	TBD	CBT, TTP	Required
121.417. c.2.i.E.4	4. Donning and inflation of life preservers	Reserved	TBD	CBT, TTP	Required
121.417. c.2.i.E.5	5. Use of life lines	Reserved	TBD	SPOT, TTP	Required
121.417. c.2.i.E.6	6. Boarding of passengers and crew into raft or a slide/raft pack	Reserved	TBD	CBT, PV	Required
121.417.c.2.ii	(ii) Observe the following drills:	Reserved	TBD	N/A	N/A
121.417.c.2.ii.A	(A) Removal from the airplane (or training device) and inflation of each type of life raft, if applicable;	Reserved	TBD	N/A	N/A

Crewmember Training
Evolved Training

Competencies…

Procedures
Knowledge
Communication
Situational Awareness
Leadership/Teamwork
Decision Making
Workload Management
Technical – Manual Operation
Technical - Systems

Crewmember Training
Tasks vs. Competency

Hmmm...
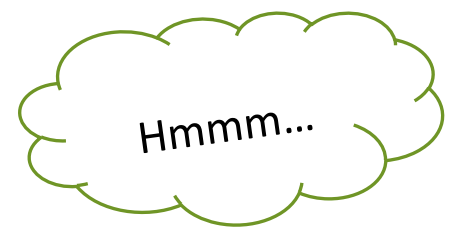
AQP - to - CBTA
Competency-Based Training & Assessment

Question:
  Is AQP a *task*-based program, or *competency*-based program?

Answer:
  Yes.

          (but there is a caveat...)

Crewmember Training
Tasks vs. Competency

Most important feature of AQP:
FLEXIBILITY to INNOVATE!   (*"cherry-pick"*)

Innovation – requires out-of-the-box thinking

(a willingness to explore)

Crewmember Training
Tasks vs. Competency

Training Under AQP

Cabin Crew: Ten (10) airlines* (all U.S. majors and many regionals/LCC)

* By end of 2023

Pilots: Nearly all U.S. airlines (in 121) are training under AQP – 90% Pilots

But *Competency-Based* training within AQP is not automatic...

Crewmember Training
Tasks vs. Competency

AQP is not the end-product – it is the ***framework***

"AQP is a systematic methodology <u>for developing the content</u> of (the) training program."

- FAA AC 120-54a

Crewmember Training
Tasks vs. Competency

AQP Data → Program

Uses historical data based on previous outcome performance

CBTA Data → Individual

AQP

CBTA

The FAA invites AQP to embed *measurable* competencies …but must be designed and implemented by the carrier

Crewmember Training
Task vs. Competency

"The methods and procedures in this AC describe one acceptable means of __compliance__. Alternate means are encouraged and will be evaluated on their merit."

- FAA AC 120-54a

Crewmember Training
Compliance vs. Competency

*"The methods and procedures in this AC describe one acceptable means of **compliance**. Alternate means are encouraged and will be evaluated on their merit."*

- FAA AC 120-54a

Crewmember Training
Compliance vs. Competency

The FAA recognizes Competency Based Training

In the ICAO space, there is CBTA and EBT. In the U.S. we have AQP.
Both are competency-based programs.

- *FAA Nov 2022*

However… AQP measures and checks against your
Regulatory Compliance Chart to meet *compliance*.

§121 directs to CRM – but does not define *standards* of competencies.
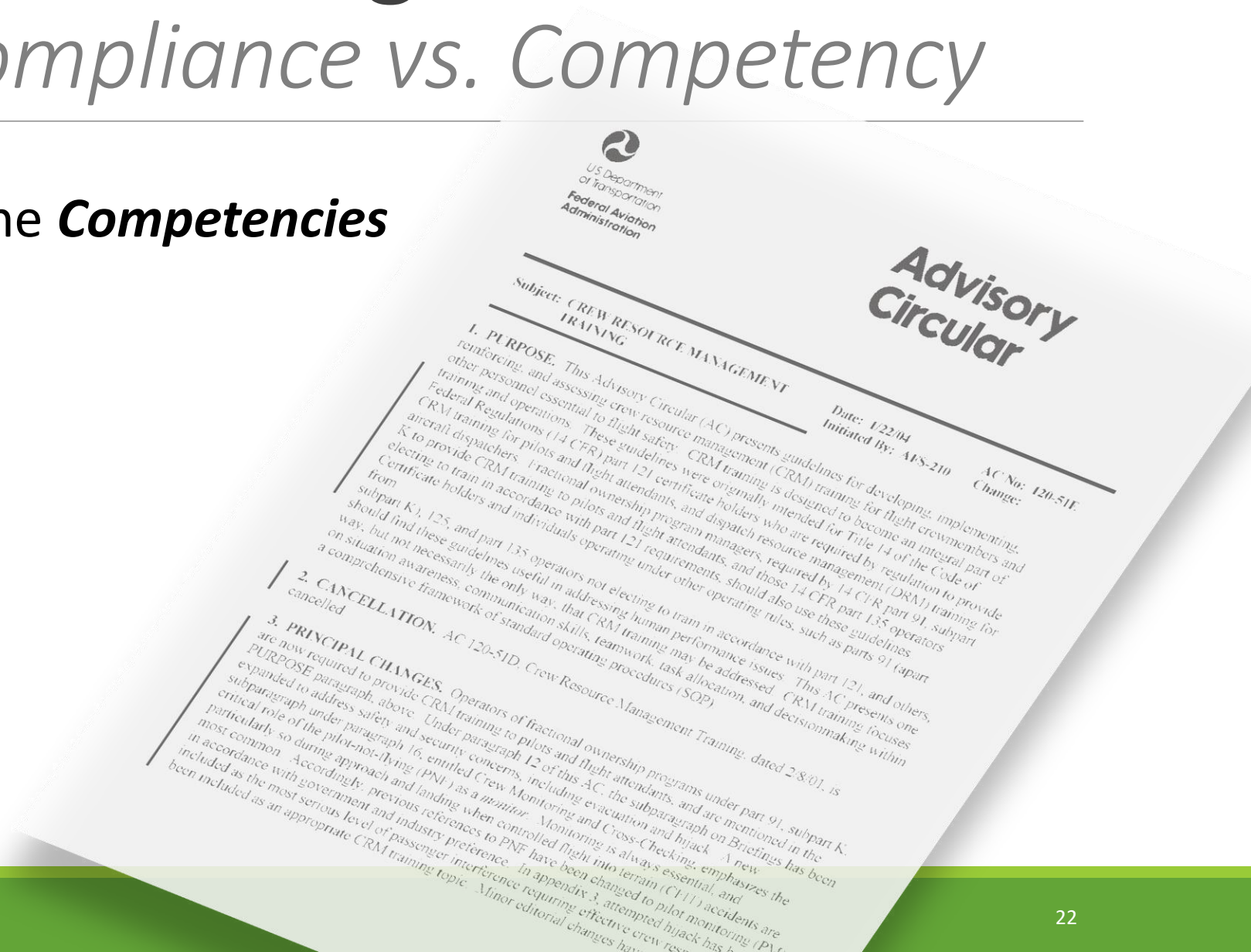
[Hint: *You need to build them*.]

Crewmember Training
Compliance vs. Competency

FAA guidance does not define **Competencies**

That's up to you!

Crewmember Training
Compliance vs. Competency

Measure the **Competencies**…

Professionalism
Procedures
Knowledge
Communication
Situational Awareness
Leadership/Teamwork
Decision Making
Workload Management
Technical – Manual Operation
Technical - Systems
Interactive/Service

CABIN Crewmember Core Competencies - and Behavioral Indicators

Professionalism
Possess and demonstrate **Mastery** of the job function Skills, Knowledge, and Attitudes through learned and experienced practice - i.e., what you do
Possess and demonstrate **Conduct** of the job function using positive and productive interpersonal skills and behaviors - i.e., how you interact
Possess and demonstrate **Brand Projection** ancillary to the job function - i.e., how you appear, maintain, and deliver - the applicable brand of the company, job

Interactive/Service
Ability to identify and consider availability of all practical **resources**; including materials, information, and uses CRM to provide the best possible service, as appropri
Demonstrates creativity and problem solving to provide reasonable service and comfort **solutions** for passengers and crew
Demonstrate conduct in a positive **attitude** and mannor appropriate to the situation
Demonstrate conduct with **elegance and poise** as defined by the organization
Ability to identify and demonstrate conduct with appropriate alacrity and **urgency** when neccessary

Resilience Engineering
Demonstrates sufficient **Adaptive Capacity** to apply the necessary competencies to operate within the expected and unexpected range of desired and undesired varian
Recognize actual or potential variances
Resist, Predict, or Proact to imminent undesired (and/or unexpected) variances
React to occurring, desired or undesired (and/or unexpected) variances
Reconstruct behavior and actions to stablize, maintain, and improve safe operations during or following the unexpected or undesired variances

Application of Procedures
Follow SOPs unless a higher degree of safety dictates otherwise
Identifies and applies all operating instructions in a timely manner
Correctly uses aircraft systems, controls, and instruments
Safely manages the aircraft equipment to achieve best value for the operation, including the environment, passenger comfort, cabin and crew operations, and punctuality
Identifies the source of operating instructions

Communication
Knows what, how, where, when, how much, and with whom he/she needs to communicate
Ensures that the recipient is ready and able to receive the information
Conveys messages and information clearly, accurately, timely, and adequately
Confirms that the recipient correctly understands important information
Listens actively, patiently, and demonstrates understanding when receiving information
Asks relevant and effective questions, and offers suggestions
Uses appropriate body language, eye contact, and tone, and correctly interprets non-verbal communication of others
Is receptive to other people's views and is willing to compromise

Leadership & Teamwork
Understands and agrees with the crew's roles and objectives
Is approachable, enthusiastic, motivating and considerate of
Uses initiative, gives direction and tel
Anticipates oth

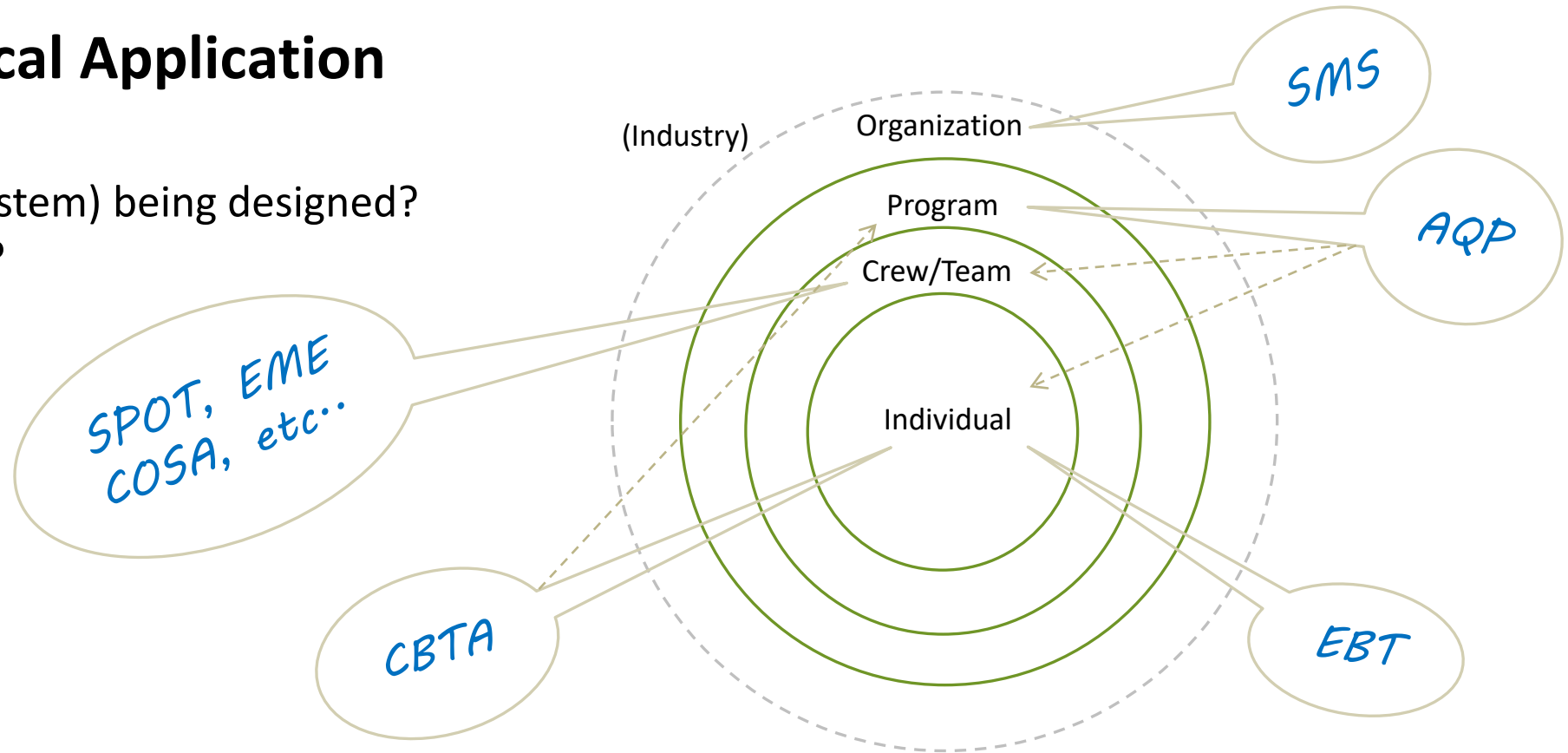# Crewmember Training
Focus on what really matters

Sphere of Practical Application

How is the program (system) being designed?
Who does it apply to...?

Examples...

SMS

AQP

(Industry)   Organization

Program

Crew/Team

Individual

SPOT, EME COSA, etc..

CBTA

EBT

Crewmember Training
Focus on what really matters

AQP is a blank canvas...

Your AQP
Here

➢ No specific FAA guidance for Competency – ('CBTA')
➢ But...the *Intention* of Competency is there

AQP can (and should) be purposefully designed to become a CBTA program.

Crewmember Training
Focus on what really matters

RESILIENCE ENGINEERING

Applying Adaptive Capacity

Crewmember Training
Focus on what really matters

Resilience – is a *Competency*

Behavioral
Indicators

Ability to develop and augment Adaptive Capacity

Ability to apply necessary and applicable Competencies

Crewmember Training
Focus on what really matters

Resilience Engineering – is an <u>*Action*</u>

Behavioral Indicators

Recognize – *learn, monitor*

Resist – *avoid the undesired condition*

Recover - *react and stabilize to safety*

Reconstruct – *return to 'normal' – or adjust*
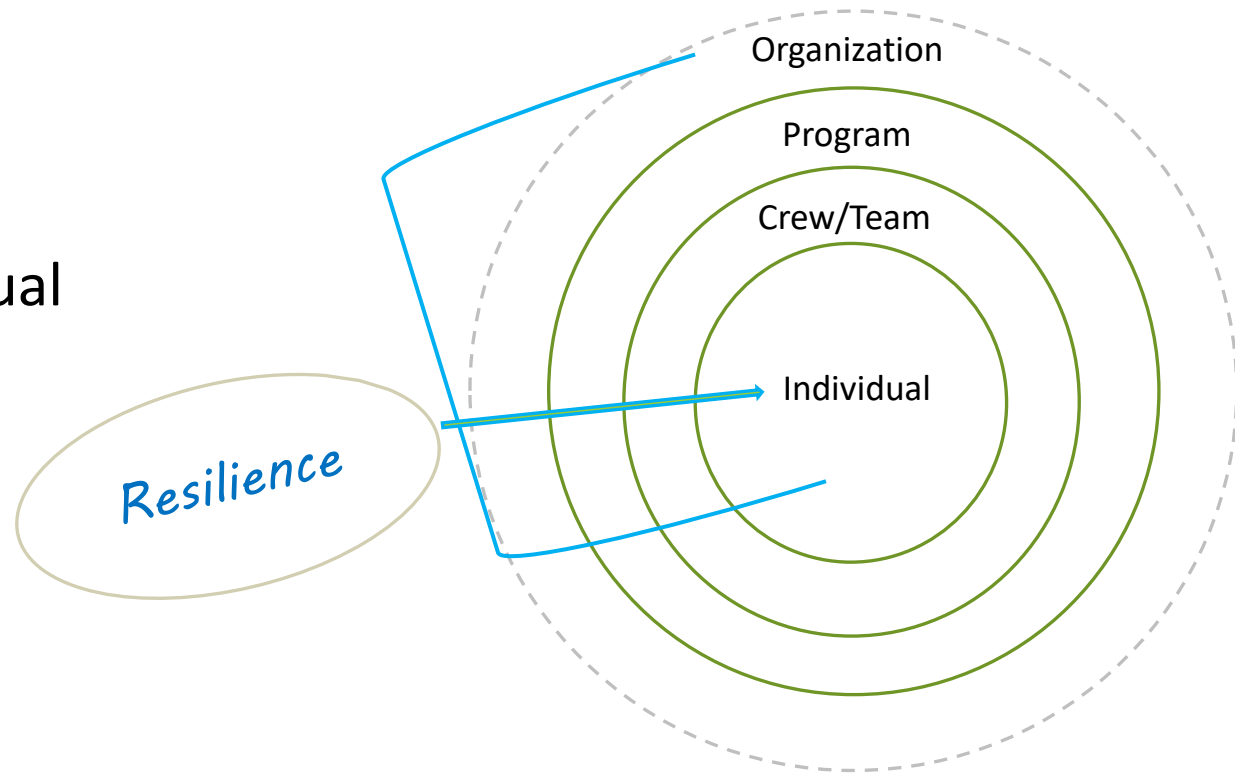
Crewmember Training
Focus on what really matters

Sphere of Practical Application

Resilience Engineering

May apply to the Individual
May apply to the System

Organization

Program

Crew/Team

Individual

Resilience

Crewmember Training
Focus on what really matters

Crewmember - Operational Resilience

Demonstrate sufficient **Adaptive Capacity**,
to apply the necessary competencies,
to operate safely within an expected and unexpected range,
of desired and undesired variances.

Crewmember Training
Focus on what really matters

How do we *measure* Resilience as a Competency?

And how do we integrate Resilience…?

Design:
- ➤ *Resilience as a 'Competency'*
- ➤ *Include 'Behavioral Indicators'* - *i.e., Enabling Objectives (EOs)*
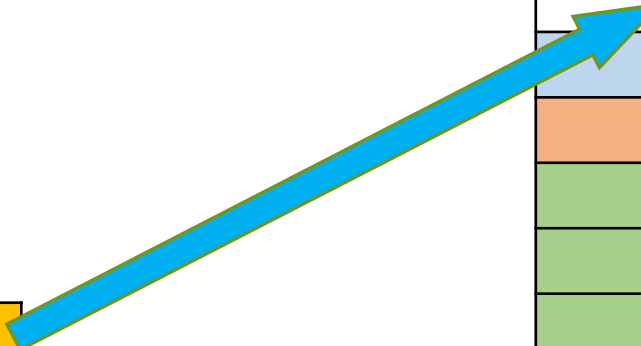
Crewmember Training
Focus on what really matters

Crewmember
Core Competencies

Resilience Engineering
Professionalism
Interactive/Service

Core Competencies
Procedures
Knowledge
Communication
Situational Awareness
Leadership/Teamwork
Decision Making
Workload Management
Technical – Manual Operation
Technical - Systems

Crewmember Training
Focus on what really matters

Resilience Engineering

JTA - Crew Competencies
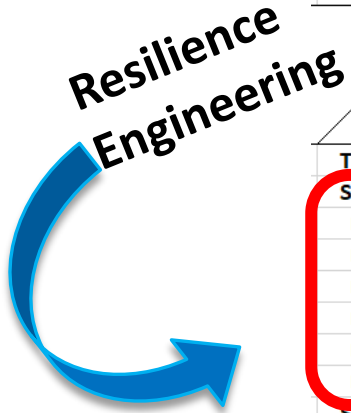
Expanded Crew Core Competencies and Behavioral Indicators

Type	Job Function ID	TPO	SPO	BI	JTA ID	Rsn Code	Description
TPO	12	4			12.4		Crewmember Core Competencies - and Behavioral Indicators
SPO	12	4	1		12.4.1		Resilience Engineering
BI	12	4	1	1	12.4.1.1	RA	Demonstrates sufficient Adaptive Capacity to apply the necessary competencies to operate within the expected and unexpected range of desired and undesired variances
BI	12	4	1	2	12.4.1.2	RR	Recognize actual or potential variances
BI	12	4	1	3	12.4.1.3	RP	Resist, Predict, or Proact to imminent or undesired variances
BI	12	4	1	4	12.4.1.4	RO	React to occurring, desired or undesired variances
BI	12	4	1	5	12.4.1.5	RS	Reconstruct behavior and actions to stablize, maintain, and improve safe operations during unexpected or undesired variances
BI	12	4	1	6	12.4.1.6		[reserved]
SPO	12	4	2		12.4.2		Professionalism
BI	12	4	2	1	12.4.2.1	PM	Possess and demonstrate **Mastery** of the job function Skills, Knowledge, and Attitudes through learned and experienced practice - i.e., what you do
BI	12	4	2	2	12.4.2.2	PC	Possess and demonstrate **Conduct** of the job function using positive and productive interpersonal skills and behaviors - i.e., how you interact
BI	12	4	2	3	12.4.2.3	PB	Possess and demonstrate **Brand Projection** ancillary to the job function - i.e., how you apprear, maintain, and deliver - the applicable brand of the company, job, and industry
BI	12	4	2	4	12.4.2.4		[reserved]
SPO	12	4	3		12.4.3		Application of Procedures
BI	12	4	3	1	12.4.3.1	P	Follow SOPs unless a higher degree of safety dictates otherwise
BI	12	4	3	2	12.4.3.2	P	Identifies and applies all operating instructions in a timely manner
BI	12	4	3	3	12.4.3.3	P	Correctly uses aircraft systems, controls, and instruments
BI	12	4	3	4	12.4.3.4	P	Safely manages the aircraft to achieve best value for the operation, including fuel, the environment, passenger comfort, and punctuality
BI	12	4	3	5	12.4.3.5	P	Identifies the source of operating instructions
SPO	12	4	4		12.4.4		Knowledge
BI	12	4	4	1	12.4.4.1	K	Demonstrates practical and applicable knowledge of limitations and systems and their interaction
BI	12	4	4	2	12.4.4.2	K	Demonstrates required knowledge of published operating instructions
BI	12	4	4	3	12.4.4.3	K	Demonstrates knowledge of the physical environment and the air traffic environment, including routings, weather, airports, and the operational infrastructure
BI	12	4	4	4	12.4.4.4	K	Demonstrates appropriate knowledge of applicable legislation
BI	12	4	4	5	12.4.4.5	K	Knows where to source required information

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Crewmember Training
Focus to what really matters

Achieve *COMPETENCE* – beyond compliance…

➢ The program itself must go beyond hiring and training crewmembers to simply achieve certification to fly the line.

➢ Crewmembers must be trained to a level where they can perform beyond the regulatory standards to *apply* their core competencies.

➢ Crewmembers must be able to expand their adaptive capacity of resilience - during desired and undesired situations.

Crewmember Training

Shift focus to what really matters

maintain

Thank You!

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