LEARNING EFFECT?

COMPETENCE BASED TRAINING?

TECHNICAL TRAINING
– *"Not just a Tick Mark"*

Scenario-Based Training into the

Maintenance Environment

BY

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SIMULATIONS?

ASSESSMENT OF SKILLS

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Agenda:
A Short Introduction

- Active Learning

- Scenario-Based Training

- Benefits

- Way Forward

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"Tell me and I forget,
teach me and I may
remember,
involve me and I learn"

- Benjamin Franklin

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Human Error Management Strategies

- **Understanding the nature and extent of error or risk**

- **Changing the conditions that induce the error**

- **Determining the behaviours that prevent or mitigate error**

Who is at risk?

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What are Human Factors

What is really happening

What I think is really happening

COMMUNICATION

SENSES

REALITY

PERCEPTION OF REALITY
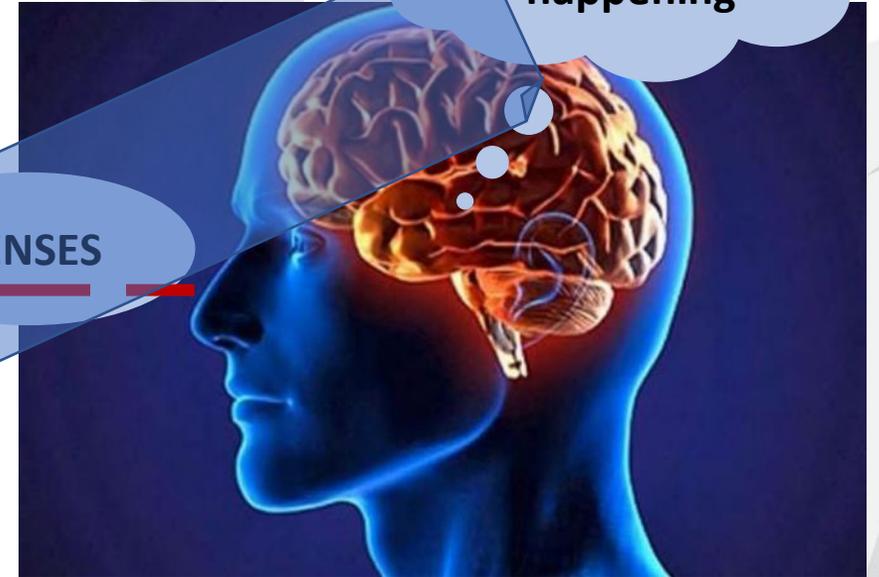
SITUATIONAL AWARENESS

INFORMATION PROCESSING

UNDERSTANDING

STARTLE EFFECT

RESILIENCE

STRESS

ASSERTIVENESS

TEAMWORK

We make decisions based on our PERCEPTION of Reality

"*Education is NOT the learning of facts,*

It is the training of the mind to THINK!"

Albert Einstein

ACTIVE LEARNING

INTERACTIVE LEARNING of SKILLS

- Learning by Doing in a Simulated Reality

- It is **SAFE** and there is **No Risks**

- Individual learning of Skills → in a

  dynamic social environment

- Observation of Behaviours

- Easy Assessment of Non-Technical Skills

COMPETENCY-BASED TRAINING and ASSESSMENT

Scenarios for Training and Assessments must be:

Realistic – a simulation of reality

Simple – simple presentation of complex problems

Precise – clear and precise learning objective

Well designed – focus on the *learning*, not technology

**Measureable** for the learning effect – Assessment

ANALOQUE or DIGITAL?

BONUS: Assessment of Non-technical Skills

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ATTITUDE

ABILITY
or
COMPETENCE

KNOW WHY

COMMITMENT
PROFESSIONALISM

PURPOSE
DISCIPLINE

BEHAVIOURS
THAT
LEADS TO
SUCCESS

SKILLS

KNOW HOW

KNOWLEDGE

KNOW WHAT

PROCEDURES
&
PRACTICES

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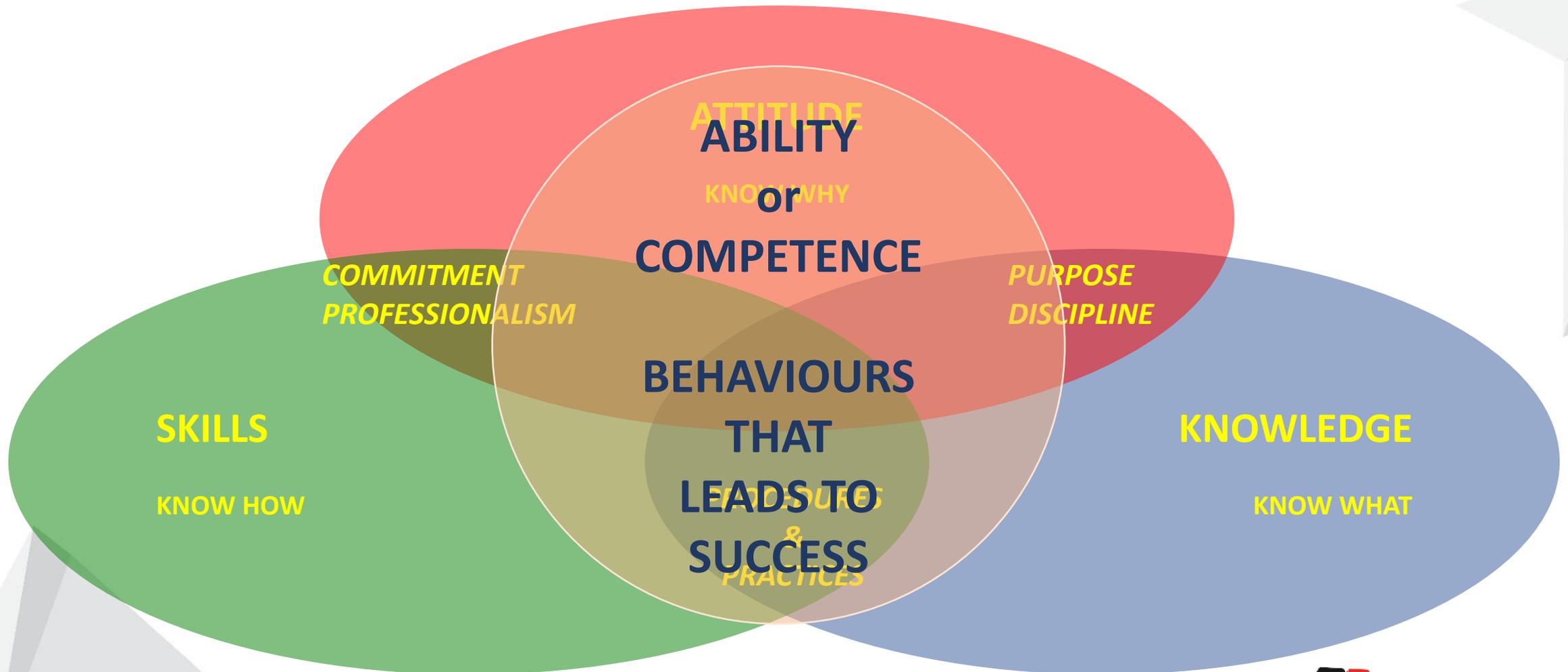
Non-Technical Skills Categories

TEAMWORK

LEADERSHIP & MANAGERIAL SKILLS

SOCIAL SKILLS

COMMUNICATION

WORKLOAD MANAGEMENT

THREAT & ERROR MANAGEMENT

SITUATIONAL AWARENESS

DECISION MAKING SKILLS

COGNITIVE SKILLS
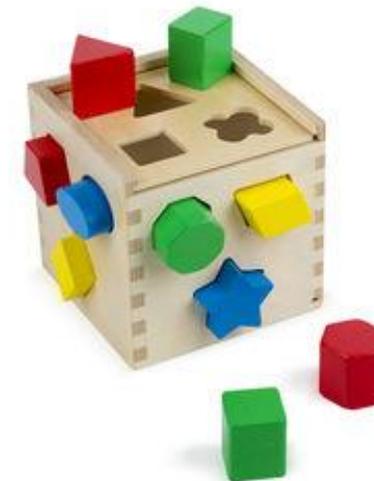
TRAINING

TECHNICAL SKILLS
Non-technical Skills

NON-TECHNICAL SKILLS
COMPETENCE and ABILITY

Final version - 230829

TRAINING

KNOWLEDGE

SKILLS

TECHNICAL SKILLS
Non-technical Skills

ATTITUDE
KNOWLEDGE
& SKILLS

NON-TECHNICAL SKILLS
COMPETENCE and ABILITY

ABILITY /
COMPETENCE
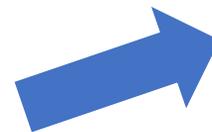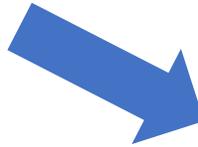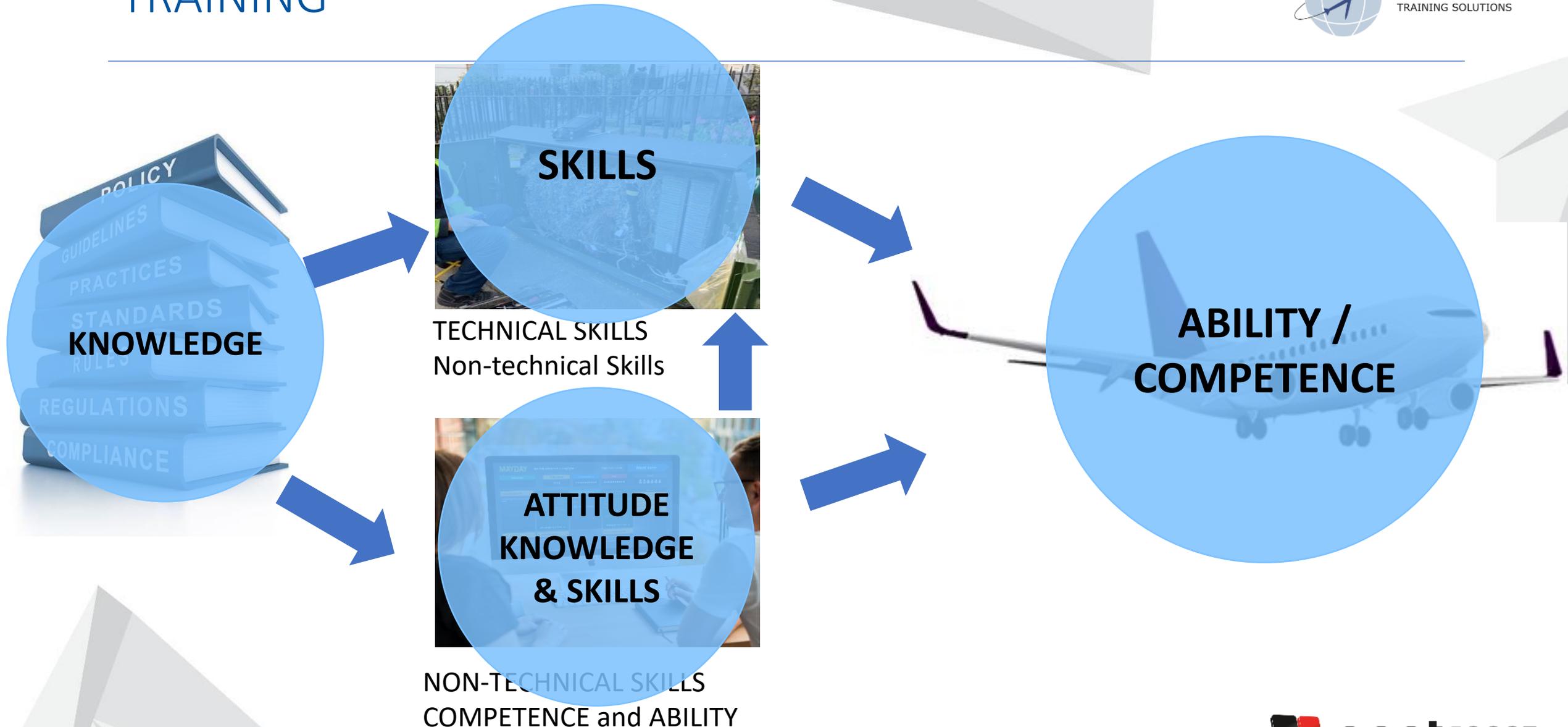
FACILITATION – HOW DOES IT WORK?

- Creation of Realistic Scenarios

- Dilemmas to Create Discussions

- Give a few solutions – All plausible

- Show Possible Consequences

- Highlight Focus areas

STAFF SELECTION

CERTIFYING STAFF

BO, 47

Bo has spent many years working for different companies on line stations at airports abroad. His basic work philosophy is: "If it flew in, it can fly out". He is always the one handing over jobs to the new shift.

CERTIFYING STAFF

CHARLOTTE, 38

Charlotte has been with the company since she was an apprentice. She is loyal and ambitious and rarely makes any mistakes. She recently divorced and is now a single mom.

DILEMMA

TASKS 5

THE PASSENGER SEAT

You are asked to contact a captain who has reported a problem with a cabin seat reclining mechanism. A repair normally takes 25 minutes. The aircraft has been boarded at full capacity. No spare aircraft are available.

This is only a job for certifying staff

Option A
You replace the actuator straight away while the passengers wait in the aisle.

Option B
You ask the captain to send the passengers back to the terminal while you perform the repair job.

Option C
You inform the captain that you will defer the defect in accordance with the Minimum Equipment List.

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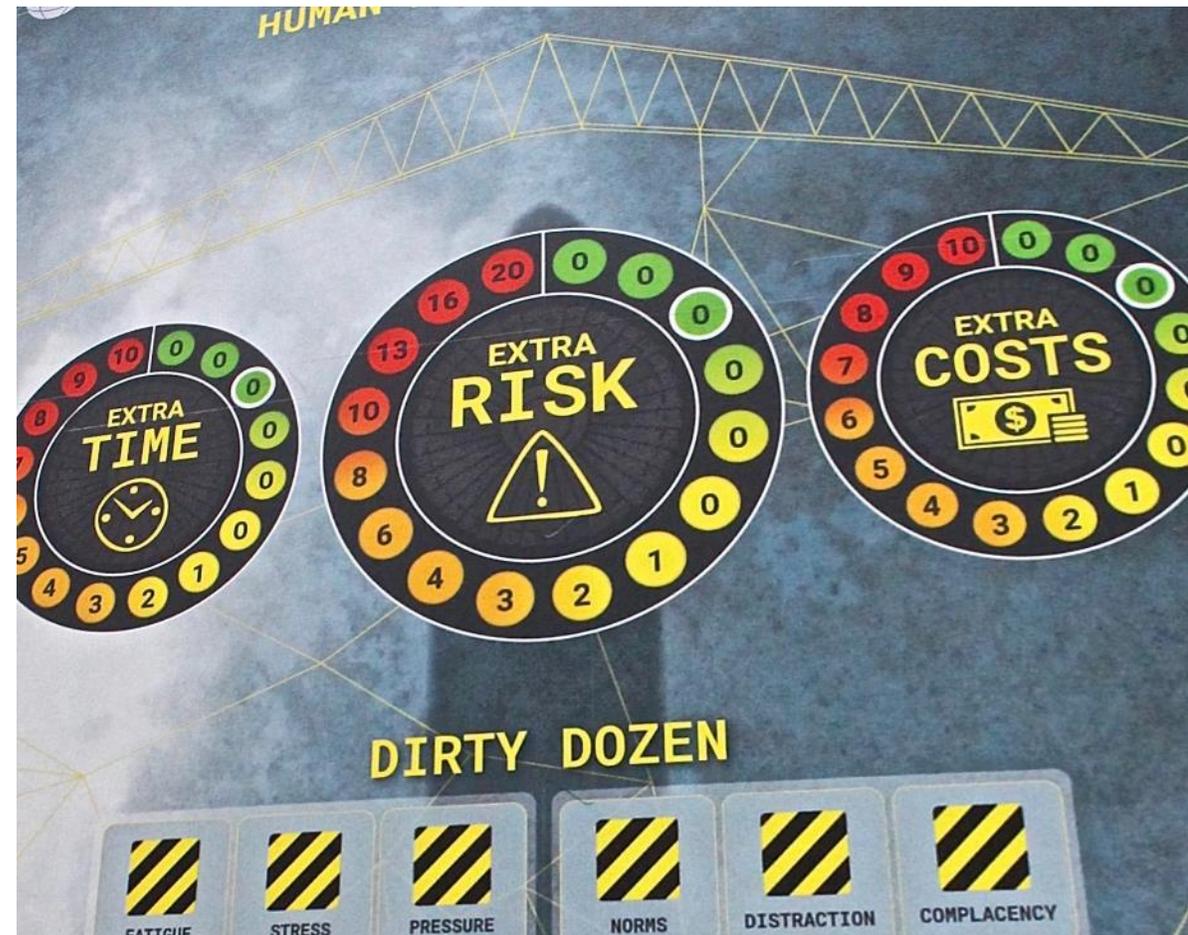
BEST PRACTICES

Discuss which of these Management tools that will help create a more robust SAFETY CULTURE.

Pick the 2 you think will help the most in your organisation!

How could they be implemented in your organisation?

❑ SAFETY SURVEY

❑ TOOLBOX MEETINGS

❑ TECHNICAL TRAINING

❑ MINIMUM STOCK LIST

ASSESSMENTS

"Your evaluation is based on the next 30 seconds. Go!"

ASSESSEMENTS

FORMATIVE ASSESSMENT

- ***Help students*** identify their strengths and weaknesses and target areas that need work

- ***Help faculty (Instructors)*** recognize where students are struggling and address problems immediately and improve the training

SUMMATIVE ASSESSMENT

- ***Evaluate student* learning** at the end of an instructional unit by comparing against some standards or benchmark.

ASSESSMENT – General rating scale

LEVEL 1 UNSATISFACTORY	LEVEL 2 SATISFACTORY	LEVEL 3 GOOD	LEVEL 4 VERY GOOD	LEVEL 5 EXCELLENT
The student's performance was ineffective or inadequate, and had a neutral or negative effect on others or on the outcome of the exercise	The student's performance was satisfactory, which had a slightly positive effect on others or on the outcome of the exercise	The student's performance was effective and had a good effect on others and significantly contributed to the overall outcome of the exercise	The student's performance was very effective and had a very good effect on others and significantly enhanced the overall outcome of the exercise	The student's performance was exemplary and had an excellent effect on others and an outstanding effect on overall outcome of the exercise
Showed none or few relevant Performance Indicators (PI)	Showed some* of the relevant Performance Indicators (PI) * min 35%	Showed most of the relevant performance indicators (PI) to a good standard	Showed most or all of the relevant performance indicators (PI) to a very good standard	Showed all of the relevant performance indicators (PI) to an excellent standard

Competency Assessment Matrix

CBTA Assessment Matrix														
Formative assessment			**COMPETENCY MAP** Competency to be assessed in the specific task											
MAYDAY Training Tool				1	2	3	4	5	6	7	8	9	10	11
TASK	**Description**	**Desired outcome**	Oral / Written	Application of Procedures	Work Management	Situational Awareness	Technical Expertise	System Thinking	Coordination and Handover	Risk Management	Teamwork	Problem-Solving and Decision-Making	Self-Management and continuous Learning	Communication
	[Description of the task or MM reference]	[what do you expect to see] [What behavioural markers is expected] [Questions and answers to specific subjects]	[O]	[X]	[X]		[X]							
Example	Job interruption	Complete appropriate documentation	[W]	X					X					X

PERFORMANCE INDICATORS

COMPETENCY	SITUATION AWARENESS
LEARNING OBJECTIVE	Recognize and understands the maintenance environment and relevant information; anticipates future events
OBSERVABLE BEHAVIOURS	Maintains awareness of hazard situations
	Verifies that information is accurate, and assumptions are correct
Examples	Identifies threats, errors and undesirable situations that could affect the task
	Did not give effective solutions to the problem
	Did not anticipate what could happen, that could affect the exercise

OBSERVATIONS

- Staff behaviour

- Non-verbal Communication

- Listening skills

- Do they disagree?

- How do they solve that?

- Is there a "leader"?

- Is someone very passive?

- How do they handle conflicts?

- Do they follow Procedures?

- Can they foresee the consequences?

- Does everyone give inputs?

- How do they reach an agreement?

- Is someone dominant / controlling?

ASSESSMENTS in Practice

- It is behaviours that are observable and not the actual skills!

- Instructor knowledge of the NOTECHs Observable Behavioural markers is essential!

- Definition of effective Human factor behaviour is visible to the crew
  - Helps staff to compare own performance

- You **MUST** be **OBJECTIVE** in your assessment

OBJECTIVE versus SUBJECTIVE

OBJECTIVE	SUBJECTIVE
OBJECTIVE information is **FACTUAL** information based on **OBSERVATIONS** and **MEASUREMENTS**	**SUBJECTIVE** information is anything that is based on **PERSONAL OPNIONS, JUDGMENT, FEELINGS**, or **POINT of VIEW**
VERIFIED with EVIDENCE	CANNOT be PROVED by EVIDENCE
UN-BIASED	BIASED
DOES NOT CHANGE	CHANGE depending on different PEOPLE

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LIMITATION of Assessment

- Not every aspect of performance and behaviour can be captured:
- Not possible to Assess everything all the time
- Limited occurrence of some behaviours
  - i.e., Conflict resolution
- Limitation of human observers
  - Distractions
  - Overload
  - Large groups
  - Lack of knowledge of NOTECHS and Performance Indicators
  - Own perception of Level of Performance
  - Assessor Standardization

WHO WAS THIS GUY?

Søren Seindal Agner, CEO – AEROTEAM Training Solutions

- Tour Guide, Cabin Crew, Operations
- Pilot
  - Danish Air Transport (Short 7)
  - Scandinavian Airlines (MD 80)
- Ground Instructor – ATPL
- CRM and Human Factors Trainer / Examiner
- Multi Crew Course Instructor (MCCI)
- Training Manager EASA Part 147
- Member of The Danish Flight Safety Council since 2010
 - Human Factors in Civil Aviation
- INVENTOR of the MAYDAY Training Concept
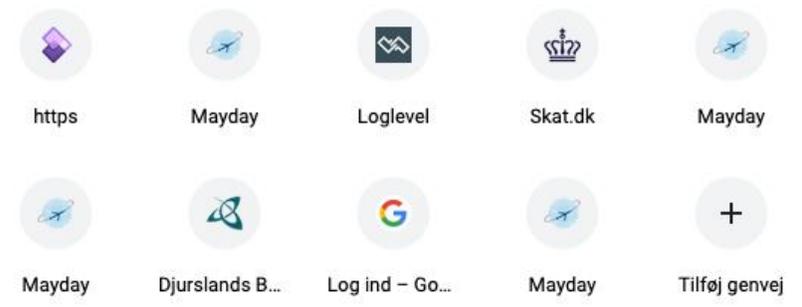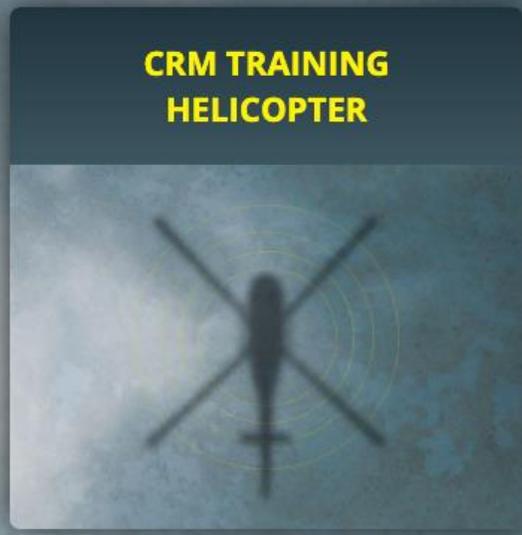
Select SAFETY TRAINING MAINTENANCE

PLEASE REMEMBER

ESSENTIALS OF RISK MANAGEMENT:

1. DON'T DO ANYTHING WRONG TODAY.
2. DON'T DO ANYTHING WRONG TOMORROW.
3. REPEAT.

OOPS!!

CONTACT

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THANK YOU FOR YOUR ATTENTION