MAYDAY

HUMAN FACTOR
TRAINING CONCEPT

apats2019 SINGAPORE

LEARNING EFFECT?

TRAINING TEAMWORK?

LEARNING GAMES

SIMULATIONS?

NOTECHS?

INTRODUCING GAMIFICATION
INTO THE MAINTENANCE ENVIRONMENT

BY

SØREN SEINDAL AGNER

AEROTEAM TRAINING SOLUTIONS

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HUMAN FACTOR
TRAINING CONCEPT

ABILITY

SYNERGY OF YOUR ATTITUDE, KNOWLEDGE AND SKILLS

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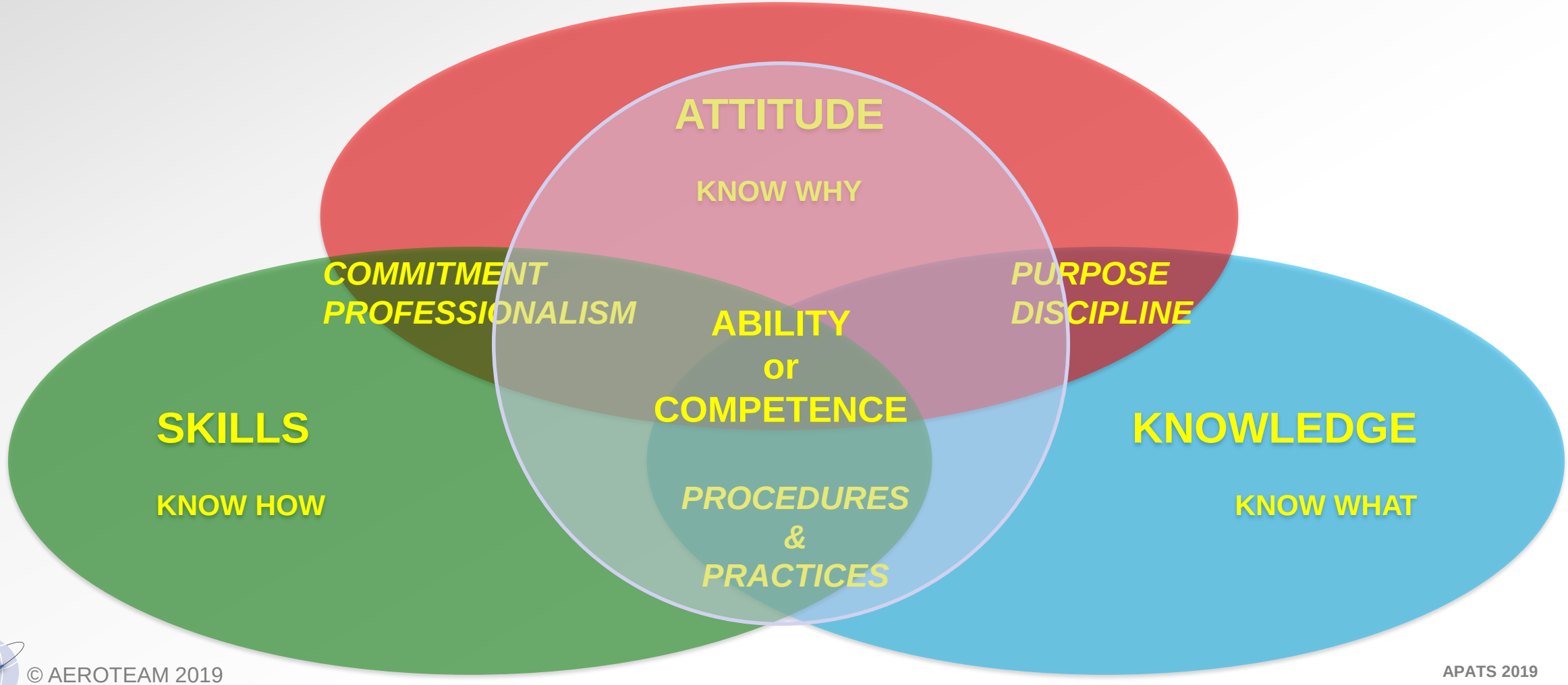

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TRAINING CONCEPT

NOTECHS Categories

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TEAMWORK

LEADERSHIP & MANAGERIAL SKILLS

SOCIAL SKILLS

SITUATIONAL AWARENESS

DECISION MAKING SKILLS

COGNITIVE SKILLS

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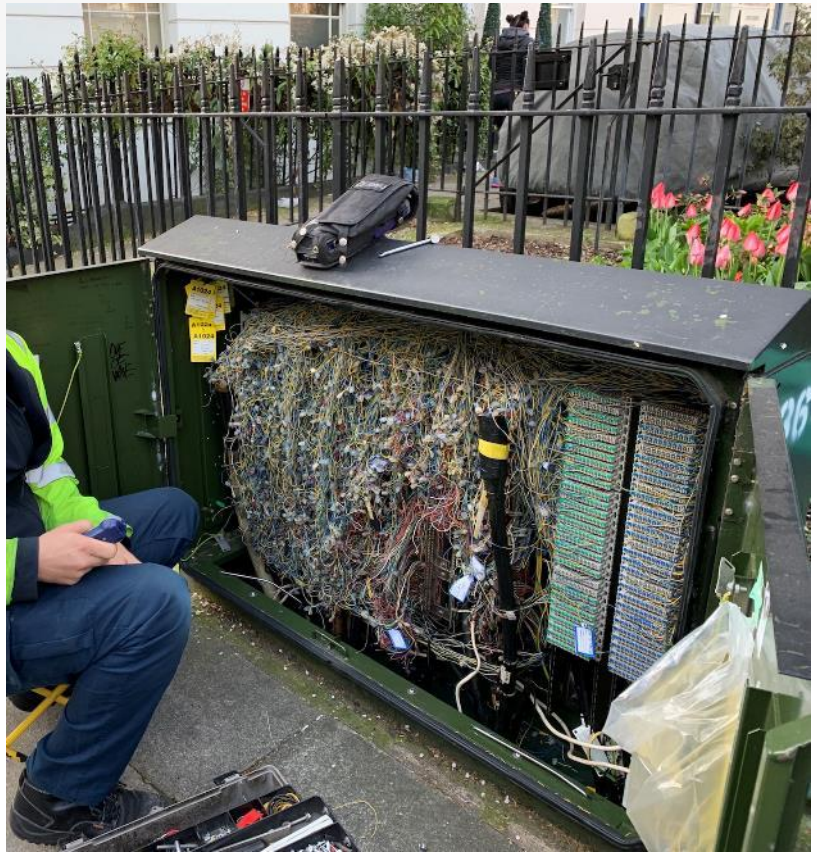
SIMULATION

- Learning games are Simulations
- Learning by Doing or
  - Learning by Simulation
- Simulation creates a situation where ideas, decisions, or actions can be tried out
- Consequences are visible
- No actual risk



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TRAINING

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TECHNICAL SKILLS
FLYING SKILLS
Non-technical Skills

NON-TECHNICAL SKILLS
COMPETENCE and ABILITY

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TRAINING CONCEPT

TRAINING

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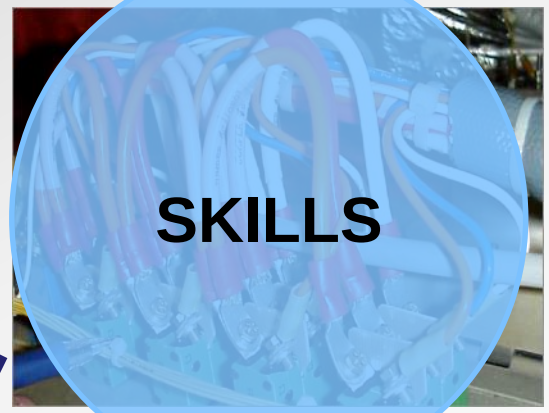
KNOWLEDGE



SKILLS

TECHNICAL SKILLS
FLYING SKILLS
Non-technical Skills

ATTITUDE

NON-TECHNICAL SKILLS
COMPETENCE and ABILITY

ABILITY / COMPETENCE

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HUMAN FACTOR
TRAINING CONCEPT

EFFECTIVE LEARNING
METHODOLOGIES

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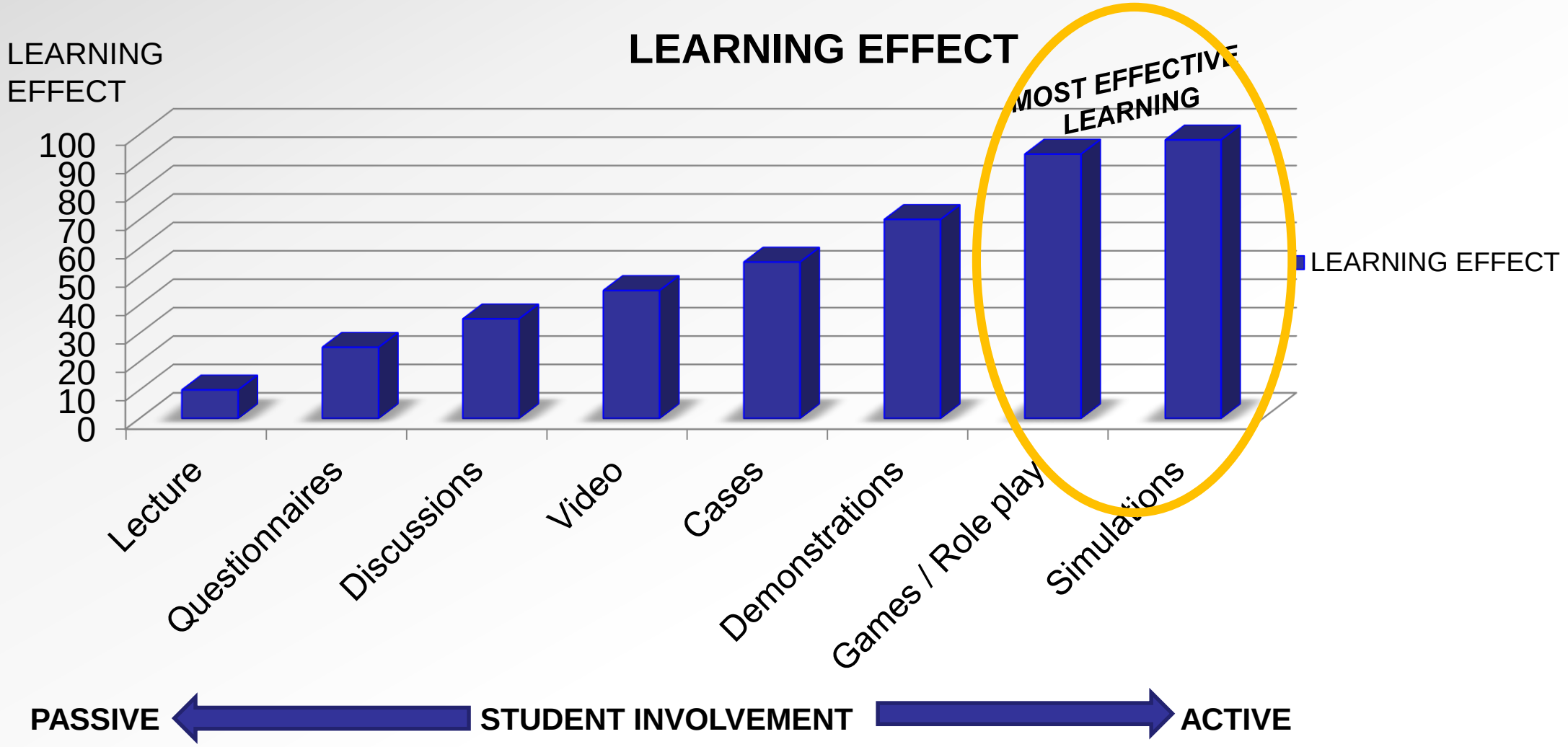

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Ref.: SDU – University of Southern Denmark

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HUMAN FACTOR
TRAINING CONCEPT

LEARNING GAMES

ANALOGUE OR DIGITAL

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FOCUSPOINT: Learning – Not entertainment

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TRAINING CONCEPT

SOCIAL LEARNING

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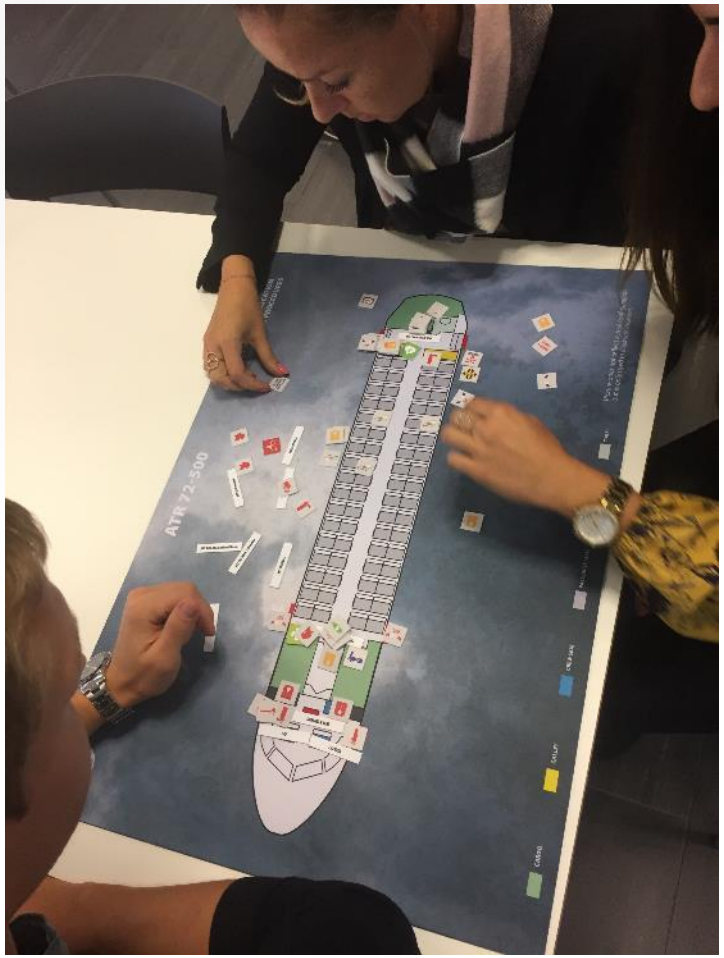
- Safe to be challenged
- It is OK to make mistakes
- Mistakes can be evaluated
- Individual learning → in a dynamic social environment
- Assessment of Non-Technical Skills (observable behaviours)



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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.

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HUMAN FACTOR
TRAINING CONCEPT

DILEMMA

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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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Human Factor Compliance
GM1 145.A.30(e)

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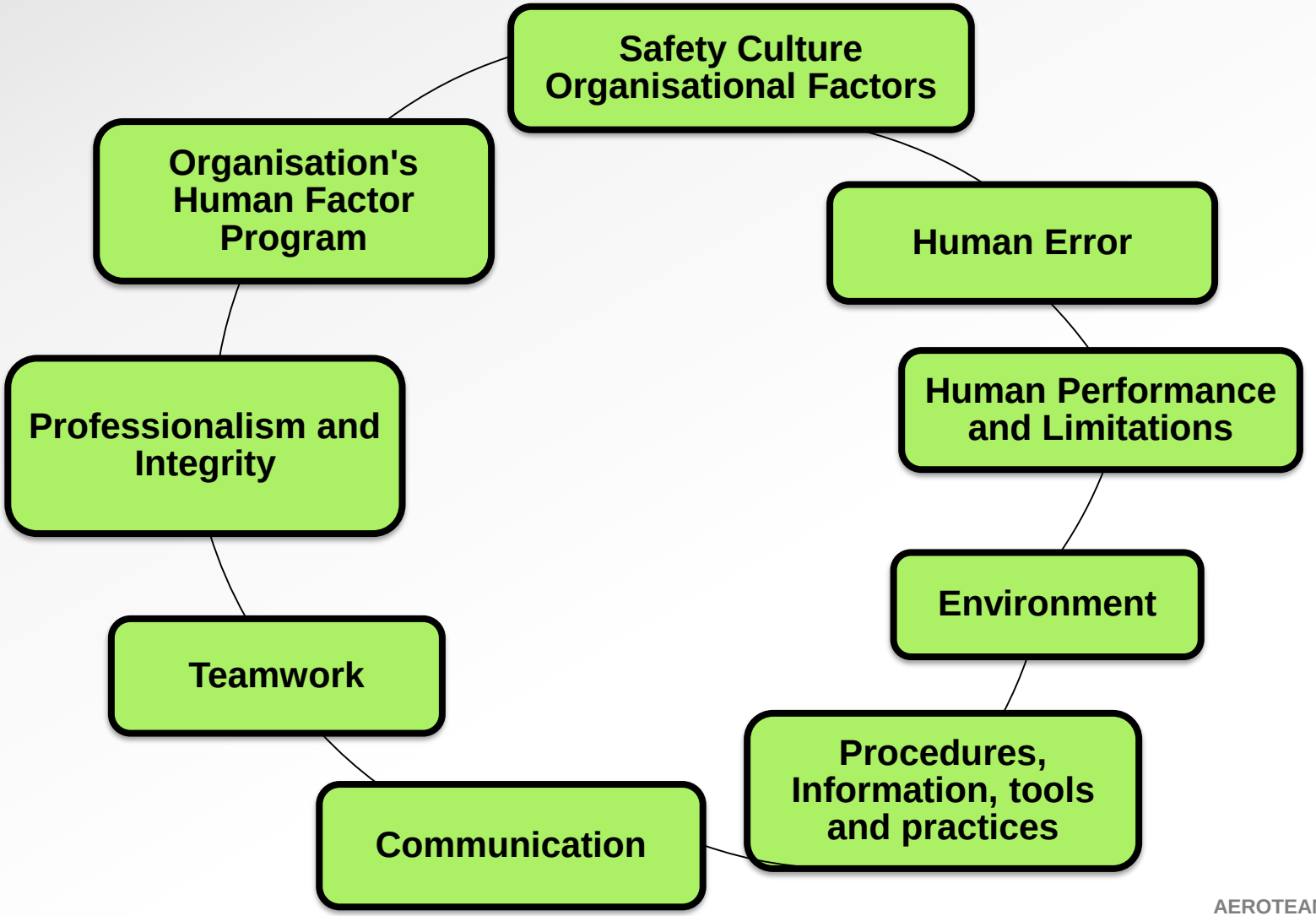

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SUMMARY

- Introduction of Learning Games into crew training will:
  - Enhanced learning effect by active participation
  - Enhance the Non-technical Skills of the crew
  - Visible Observable Behaviours
  - Define problem areas for future training (EBT)
  - Enhance Instructor’s Competence in Assessment

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SUMMARY

- Introduction of Learning Games into crew training will:
  - Connect classroom training to real world operation
  - Enhance learning effect and motivation by active participation
  - Define problem areas for future training (EBT)
  - Enhance the Non-technical Skills
  - Enhance Instructor Assessment Skills

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DESIGN of GAMES

- Learning games has to 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.

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BENEFITS

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Benefits of Introducing Learning Games into Crew Training

- Increase the Learning Effect of CRM Training
- Enhancement of Simulator Training
- Enhancement of Crew Competencies
- Assessment of Non-Technical Skills
- Observation of Behaviours
- Cost Effective Training

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HUMAN FACTOR
TRAINING CONCEPT

WHO WAS THIS GUY?

apats2019 SINGAPORE

- **Søren Seindal Agner, AEROTEAM**
  - Tour Guide, Cabin Crew, Operations
  - Pilot
    - Danish Air Transport (Short 7)
    - Scandinavian Airlines (MD 80)
  - Ground Instructor – ATPL
  - CRM Trainer / Examiner / Human Factors
  - Multi Crew Course Instructor (MCCI)
  - Training Manager EASA Part 147
  - Member of The Danish Flight Safety Council since 2010
    - Human Factors in Civil Aviation

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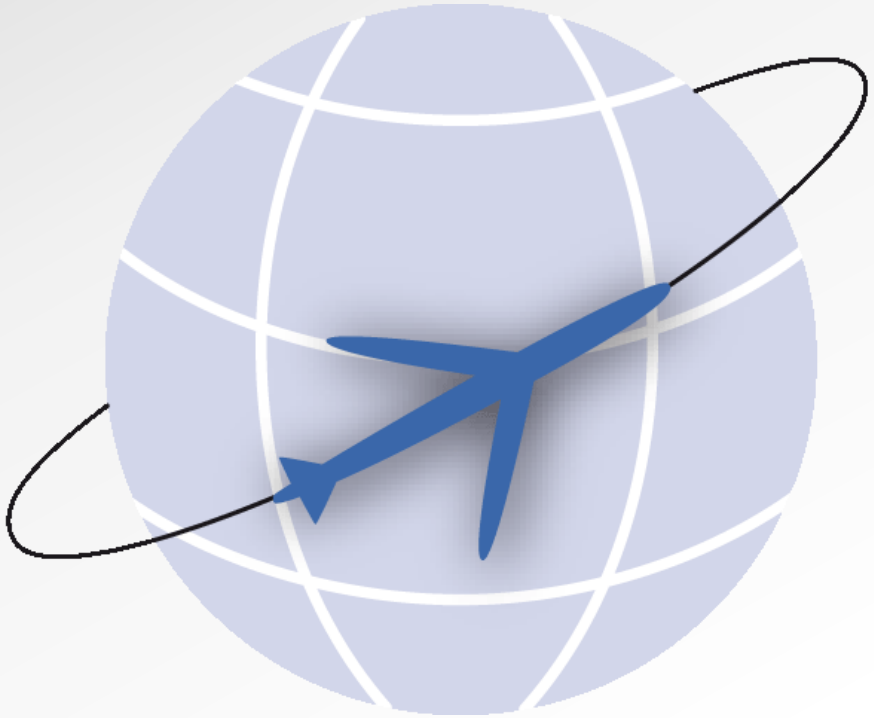
THANK YOU FOR YOUR ATTENTION!



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…if everything seems under control, you're not going fast enough…

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