



EASA
European Aviation Safety Agency

EASA Annual Safety Conference
Day 1, 14/10/2015

Panel 4

New training methods and tools

Your safety is our mission.

An agency of the European Union

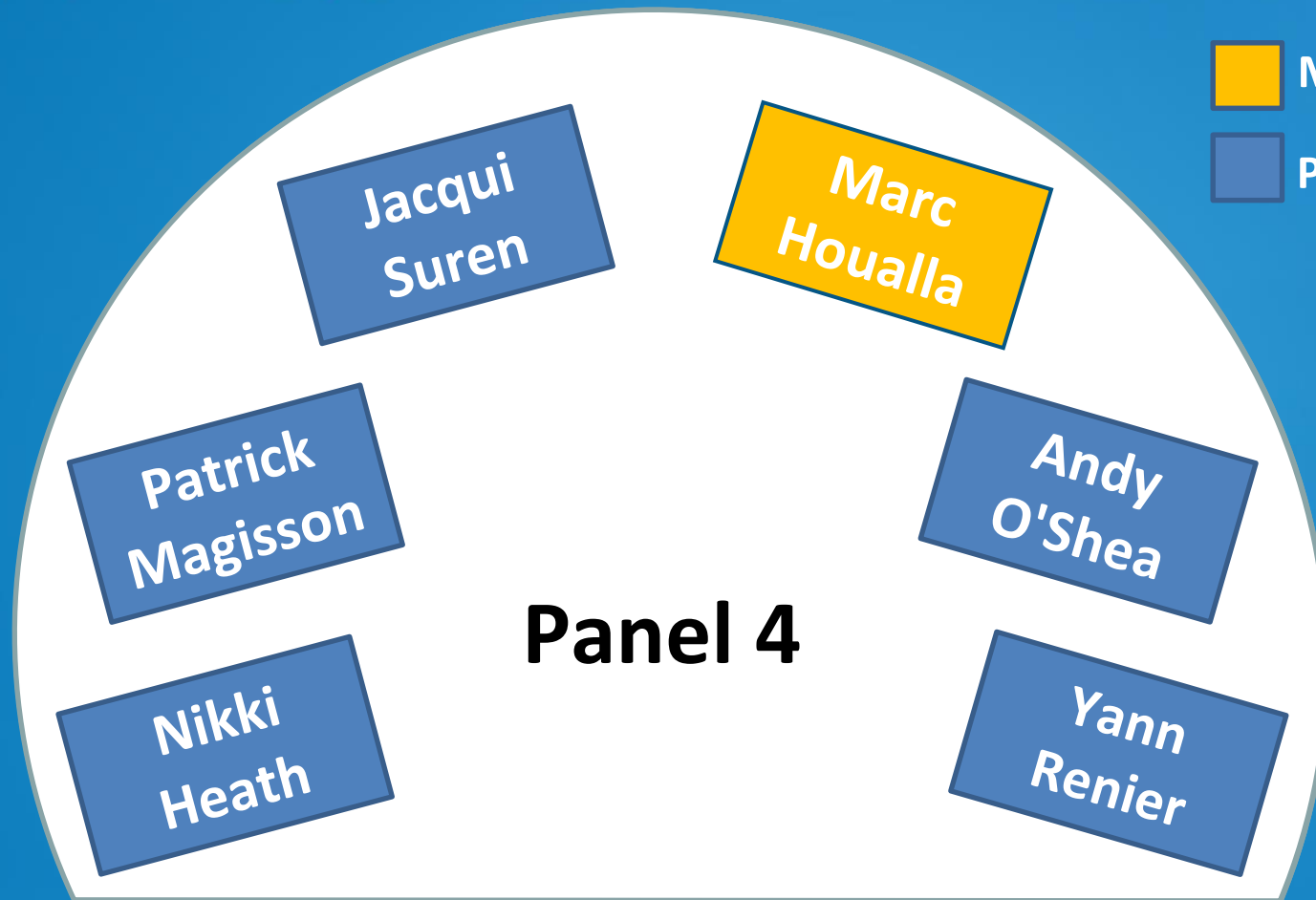




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New training methods and tools



 Moderator

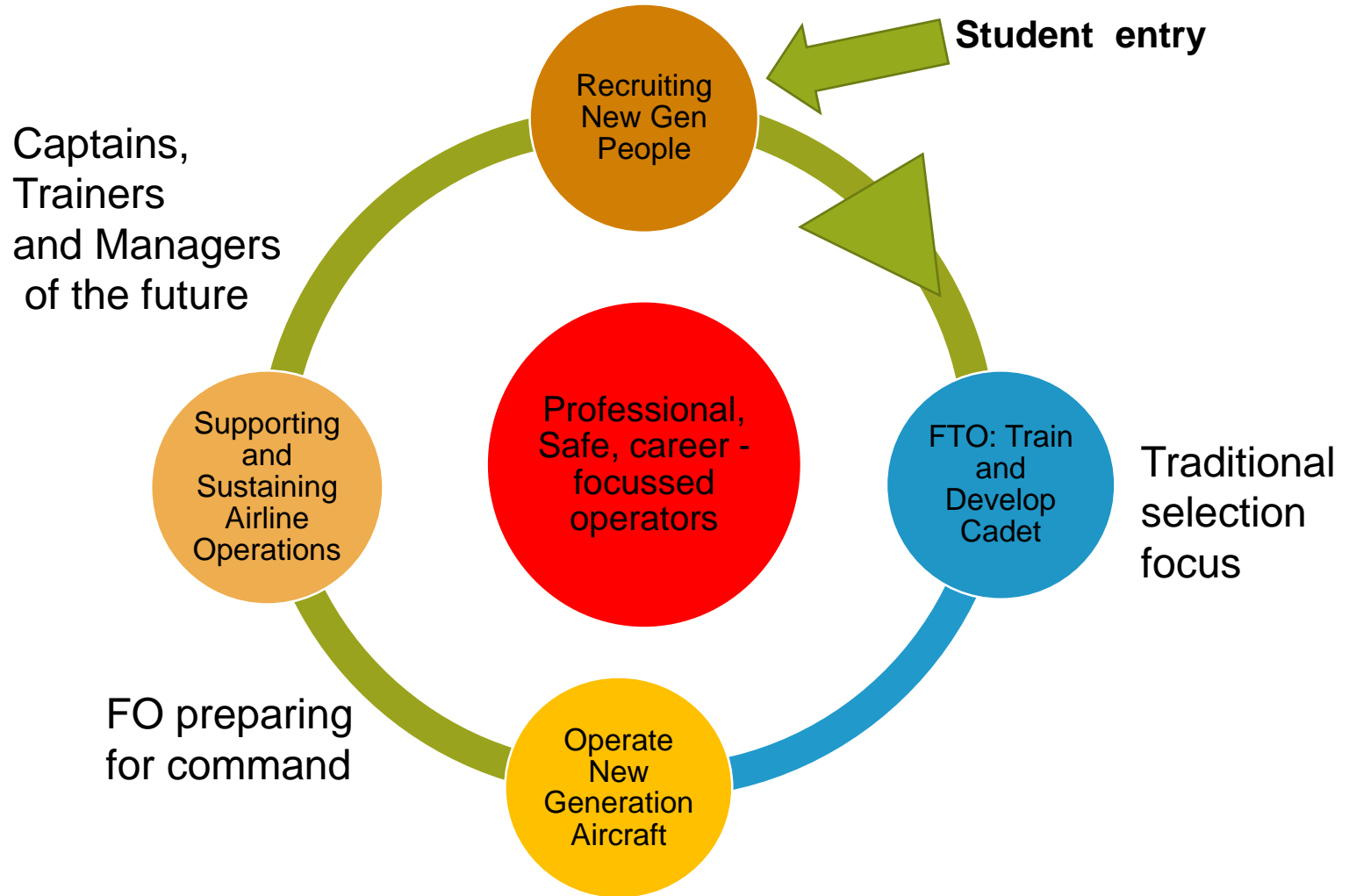
 Panellist

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The Role of Assessment in Modern Training and Instructing Techniques

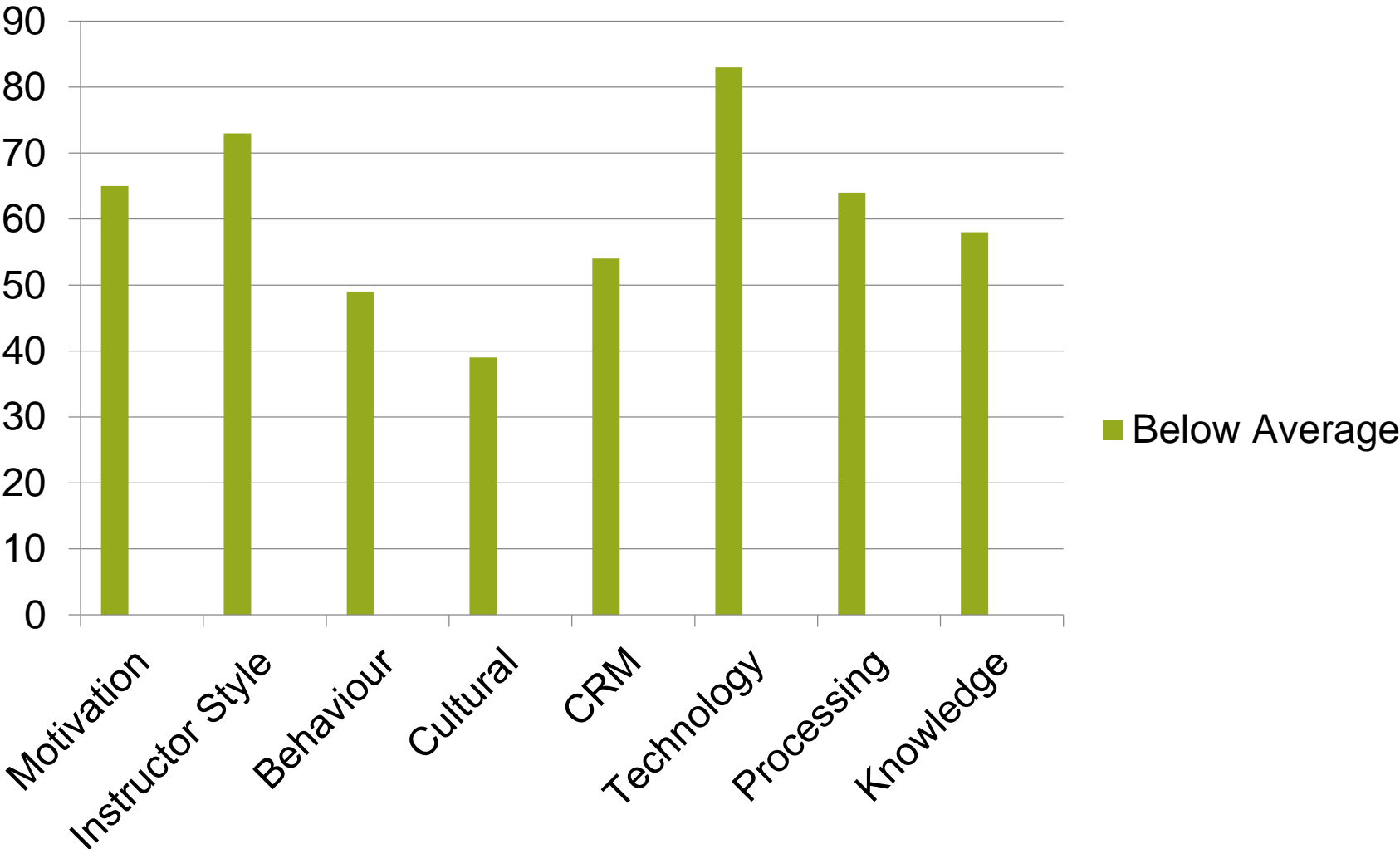
Selection Criteria Focus



- Disorientation - attitude recovery
- Startle Effect - potential and reaction
- Skill fade - degeneration/robustness
- Simulator - skill transfer effectiveness
- Conflict Management failures
- Situational Awareness/Monitoring failures
- Complacency and SOP rigidity
- Instructor Skills and Behaviour

- Motor skills better because of gaming
- Better communicators
- Better team workers
- Can process information quicker
- Not True: when they are in real world
- Not True: losing ability to empathise
- Not True: Increased Narcism
- Possibly BUT, reduced attention span, focus on facts not analysis or “so what”

Percent of Below Average Scores



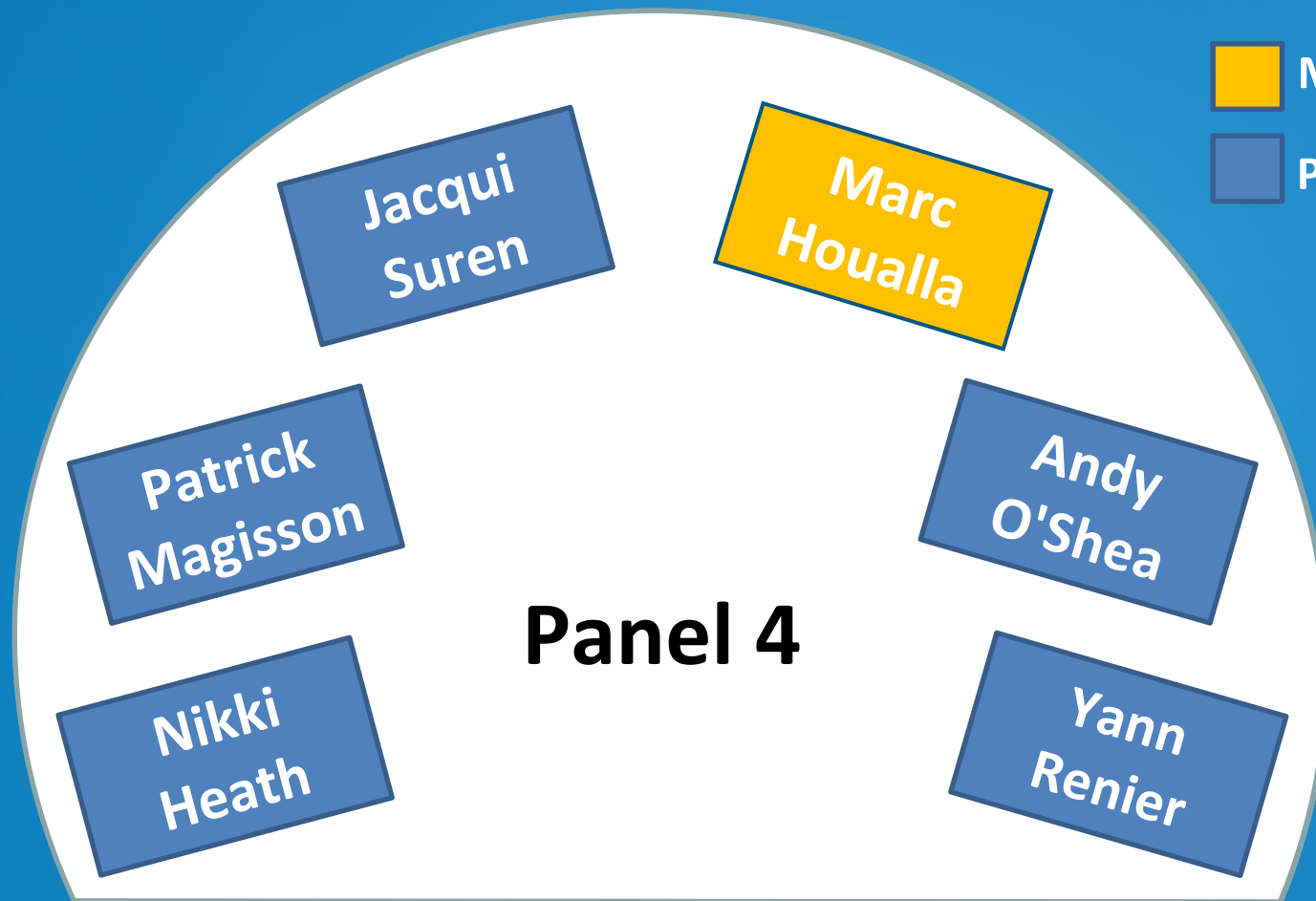
- Future students may need more real world training
- Select for Modern Skills
- Develop through life development and mentoring programmes
- Train Instructors to use technology



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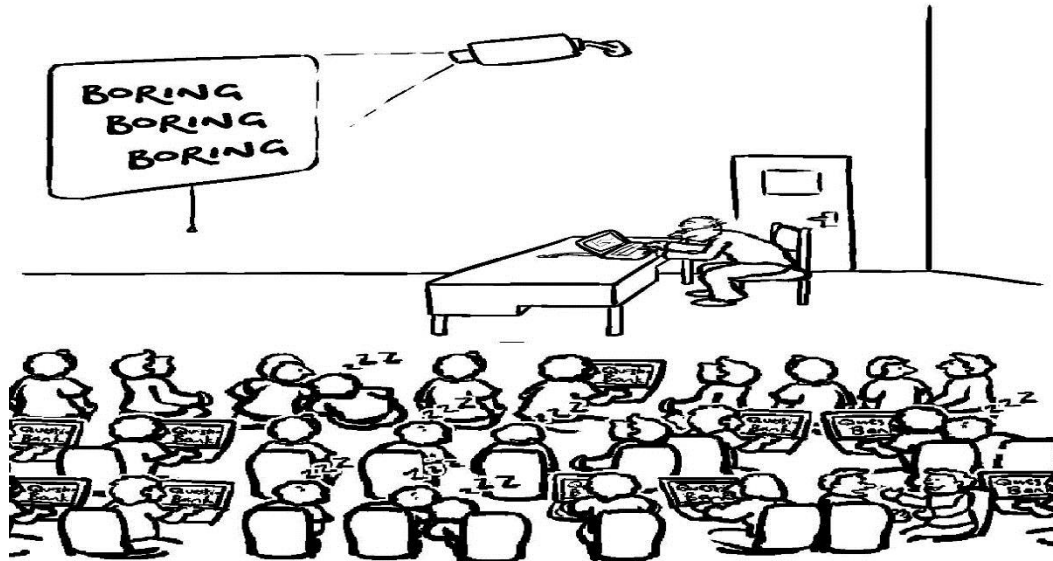
Ab-initio Ground Training: Applied Knowledge & Core Competencies

Jacqui Suren
Head of Ground School

Training our pilots for today

- ✈ Safety & commercial managers in a rapidly technologically advancing industry and unpredictable environment
- ✈ 'Thinking' pilots with sound Core Competencies

✈ Is this what our current TK system provides?

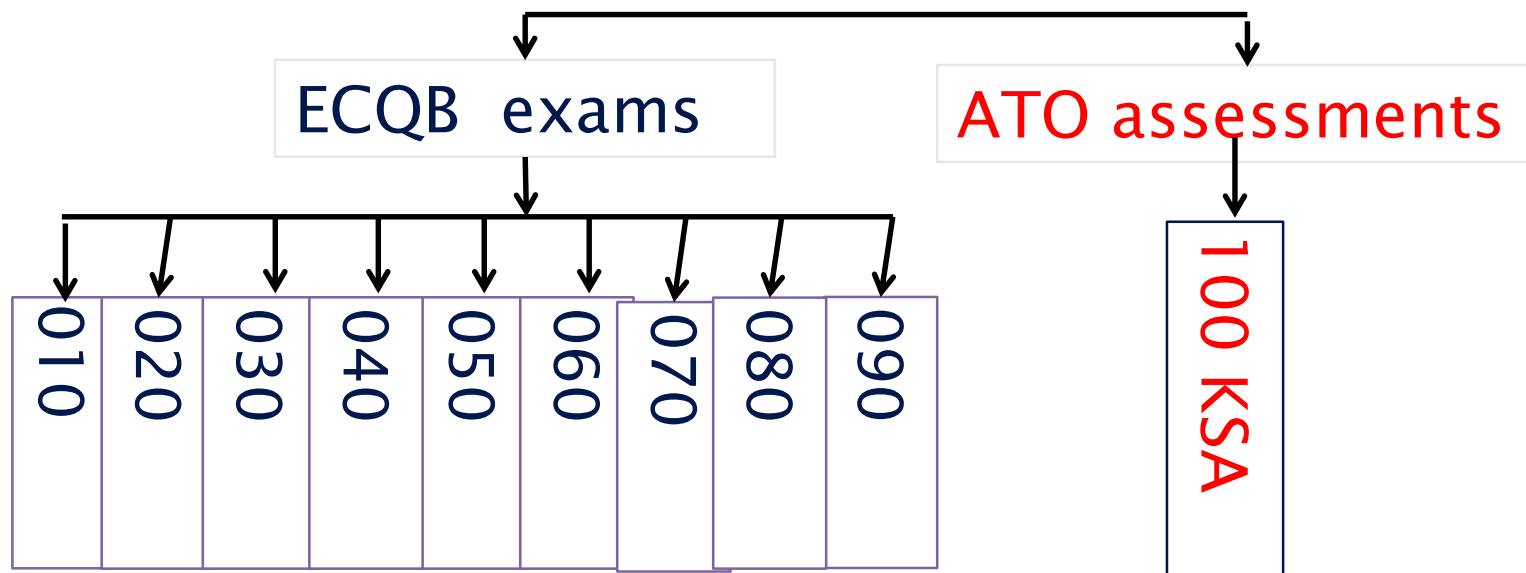


Proposed industry/EASA's direction

- ✈ Ensuring understanding and application of knowledge
- ✈ Interwoven application of Threat Error Management, commercial and industry understanding
- ✈ Development and assessment of the Core Competencies - which require Knowledge, Skills & Attitudes (KSA)



EASA- An effective exam &

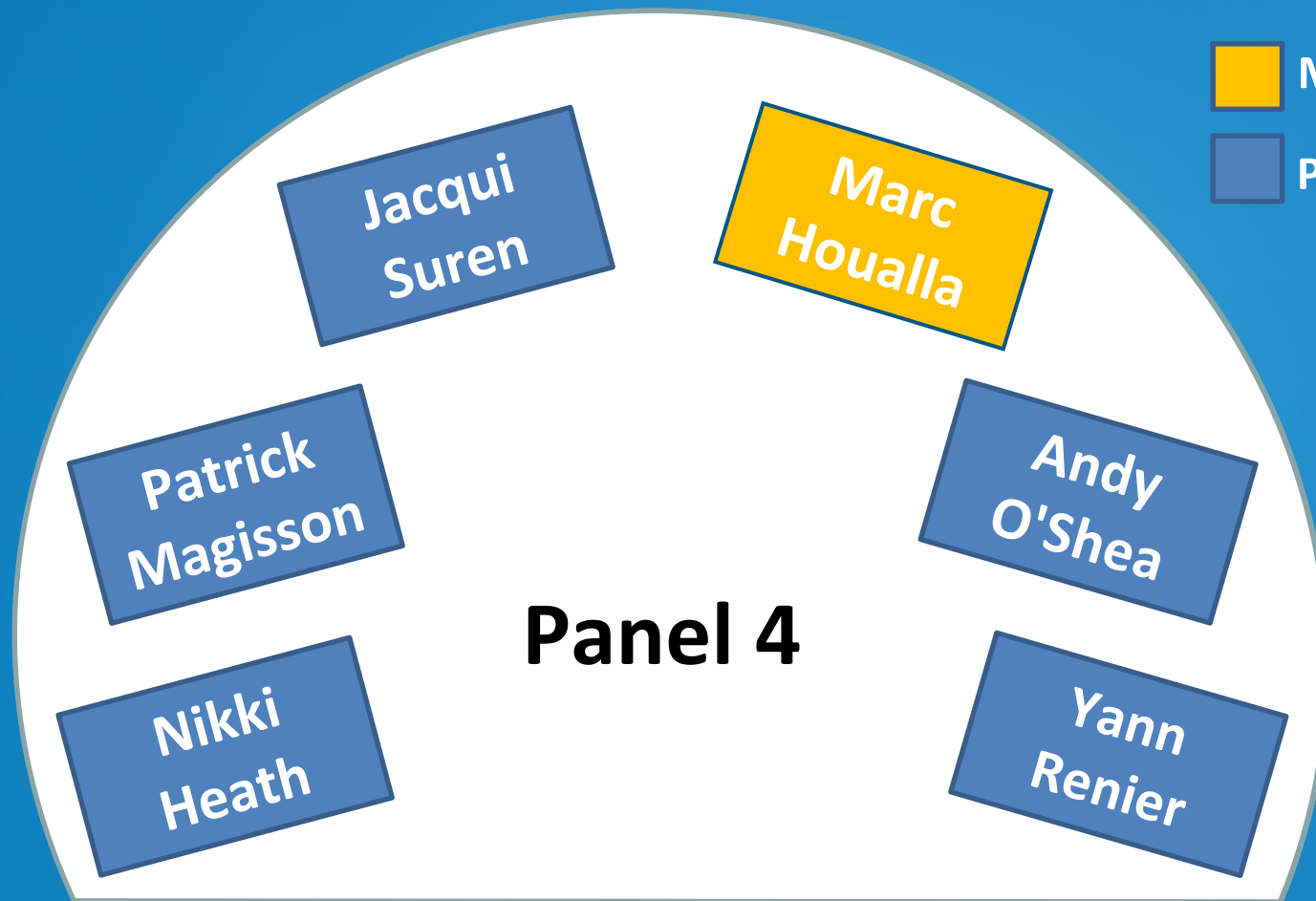




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Why Are 50% Of Newly Trained EU Pilots Unable To Pass An Airline Assessment?

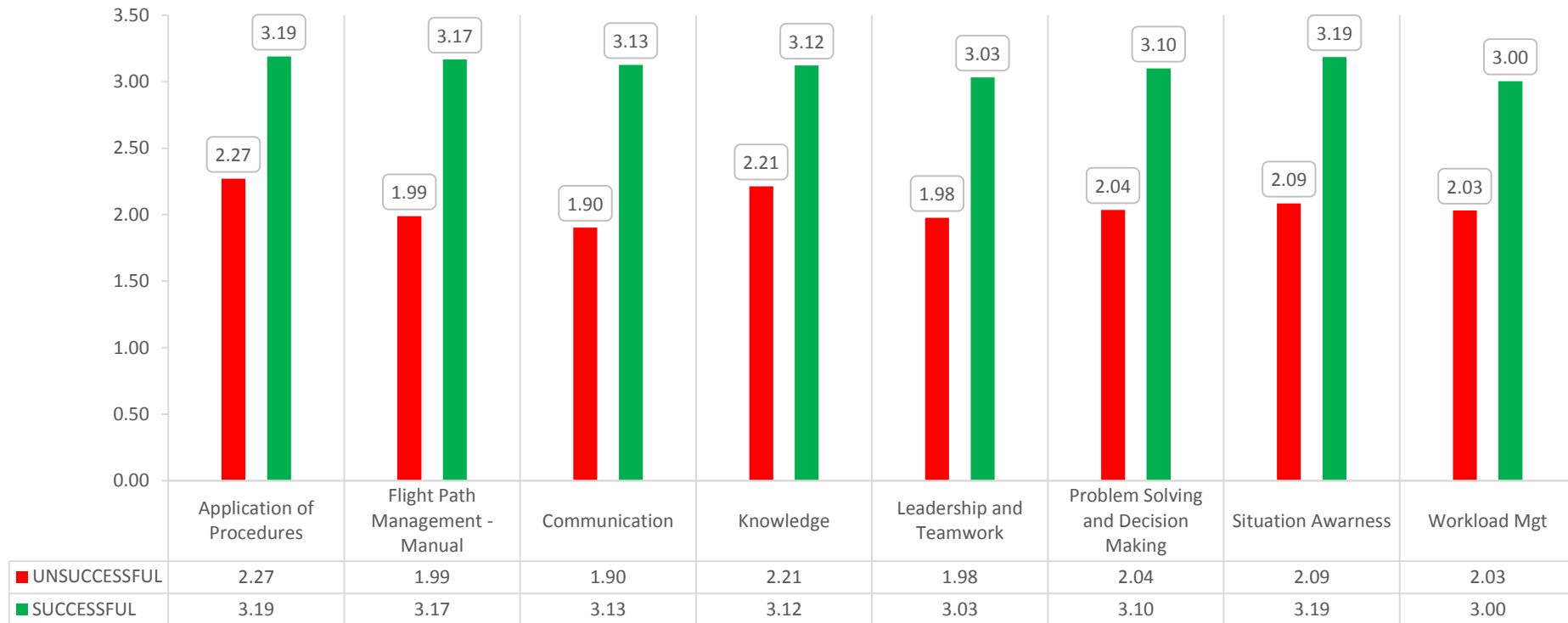


Captain Andy O'Shea FRAeS
**Head of Training & DCP Flight Standards -
Ryanair**

- Industry needs 500,000 pilots over the next 15 years (Boeing)
- 50% of Commercial Pilot Licence (CPL) EU pilots not “Industry Ready”
- CPL courses are Hours related, not Competency based, outdated
- Clear “Gap” between CPL standard and an Industry Ready pilot
- Pilots try to close the Gap but options limited.
 - Multi Crew Course (MCC) – Required, however...
 - Varying standard MCC – Equipment & Instructors
 - >90% of CPL pilots complete voluntary Jet Orientation Course (JOC)
 - No regulatory standards for JOC – Equipment or Instructors
- Safety Issue:
 - The other 50% of pilots get airline pilot jobs
 - Airlines will be under pressure to accept any licenced pilot
- Solution: Improve Pilot Training Standards

ICAO/Industry recognise 8 Core Airline Pilot Competencies (Knowledge & Skills)

AVERAGE CORE COMPETENCY SCORE
MAXIMUM SCORE = 5



Analysis of 387 Ryanair candidates assessed between February 2015 and June 2015

- Average Core Competency Score of unsuccessful candidates was 2.06
- Strongest Core Competency for unsuccessful candidates – Application of Procedures
- Weakest Core Competency for unsuccessful candidates – Communication

Airline Pilot Certificate Course - Creating Industry Ready Pilots

Entry Requirement: CPL ME I/R

AIRLINE PILOT CERTIFICATE COURSE

ITEM	PF HOURS PER STUDENT	HOURS AS CREW	FSTD SESSIONS	Minimum FSTD	INSTR Qualification	ACADEMIC TRAINING	INSTR
AIRCRAFT SYSTEMS TECHNICAL TRAINING	Type Rating standard content and examination. Sets an early high standard of training and required student application Enables maximum benefit to the student from subsequent FSTD training					56hrs e Learning 20hrs lecturer	E LEARNING/ ATO INSTRUCTOR (ATOI)
Crew Resource Management (CRM)	Initial CRM training – Airline Specific or Generic Operator CRM					16hrs Lecturer	CRMI
Multi Crew Course (MCC) Airline SOPs	10	20	5	FNPT2/MCC FTD	SFI	24hrs Lecturer 5hrs Pre Session Briefing	SFI
Jet Orientation Course (JOC) Airline SOPs	10	20	5	FNPT2/MCC FTD	ATOI	5 hrs Pre Session Briefings	ATOI
Operator Regulations Airline Structures, Relationships and Processes	Module designed to educate student pilots in the realities of commencing a career in a commercial airline focusing on regulations, processes, relationships, personal responsibilities and commitment.					16hrs	Management Pilot Department Reps 3 rd Level Partner Onsite Visit
Line Oriented Flight Training (LOFT) Airline SOPs	6	12	3	FNPT2/MCC FTD	ATOI	3hrs Pre Session Briefings	ATOI
TOTALS	26hr	52hrs	13			145 HOURS	

FUTURE EU PILOT CAREER PATH

1. **MPL > High F/O Standards > Airline Career > Increased Safety**
2. **CPL ME/IR > APC > High F/O Standards > Airline Career > Increased Safety**
3. **CPL ME/IR > Basic MCC/JOC > Lower F/O Standards**

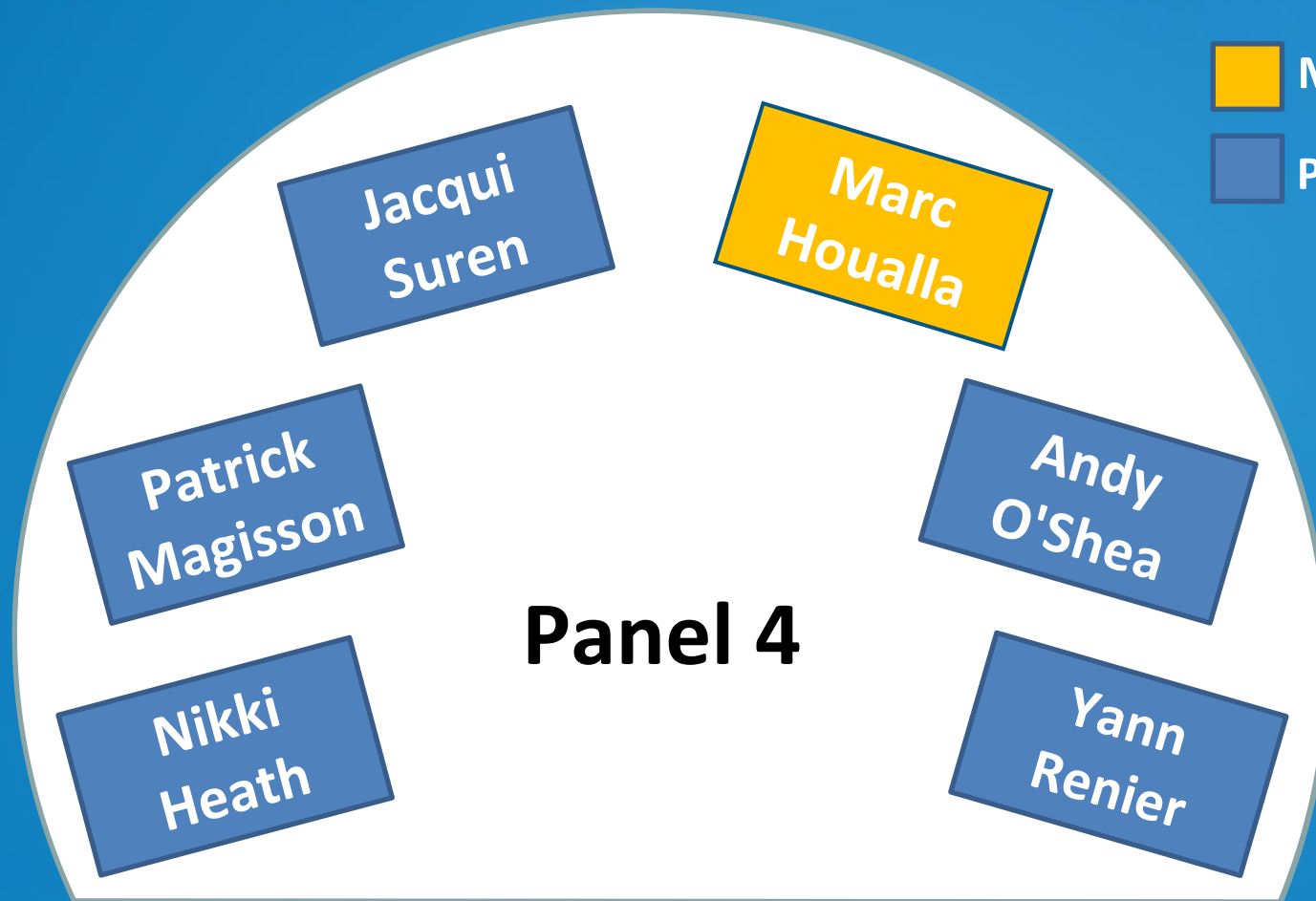




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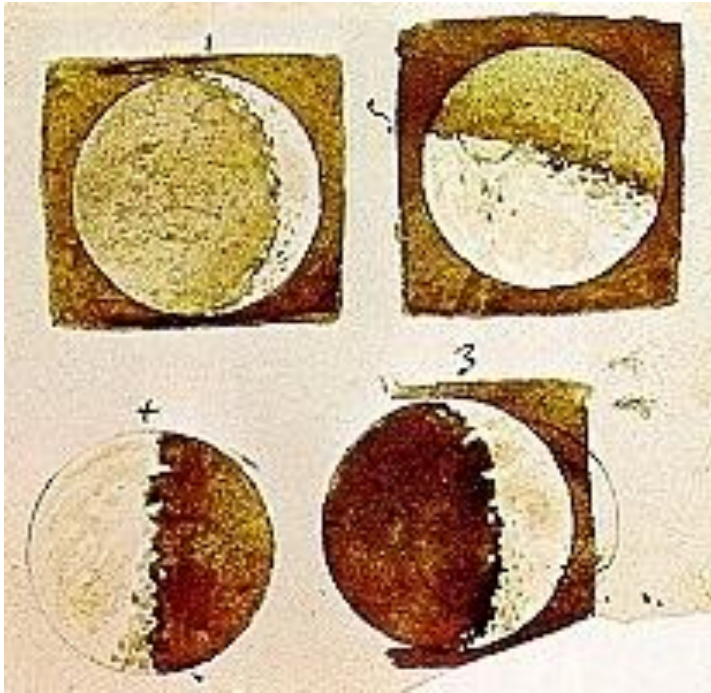


ECA

European Cockpit Association

Competency-based-Training : A Quantum Leap

CBT is Just another tool...



Galileo - 1609



P. Magisson - 2009

Title event – Date, Place



ECA

European Cockpit Association

A Human-centered Tool...

Mission Profile

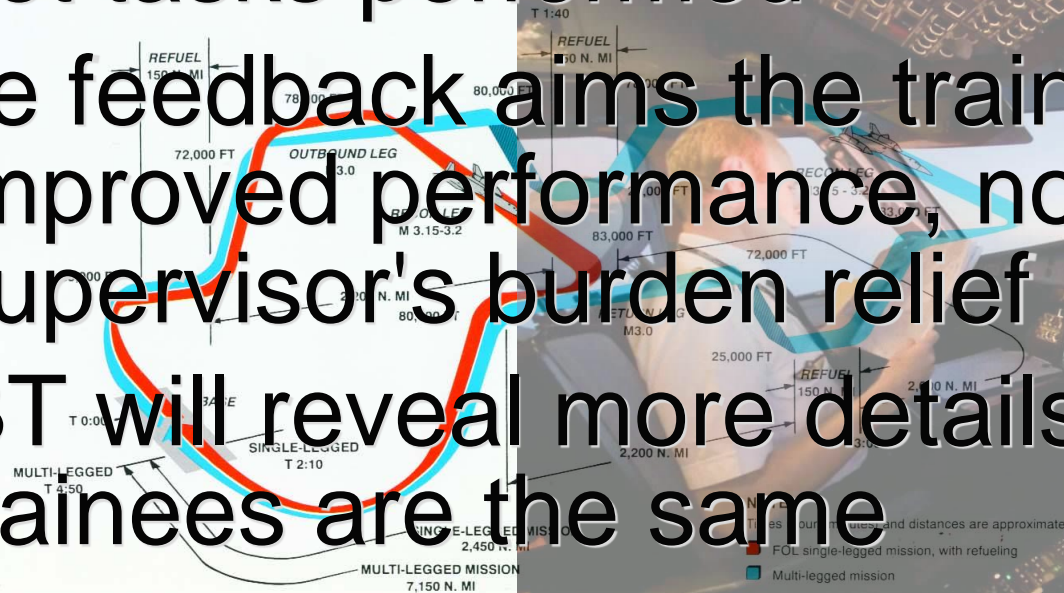
CBT focuses on human performance, not tasks performed



The feedback aims the trainee's improved performance, not the supervisor's burden relief



CBT will reveal more details, but the trainees are the same



A Quantum Leap

The change is not in what you are looking for.

It is in the way you're looking for it.

CBT means much more than just CRM assessment,
and deserves much more than box-ticking

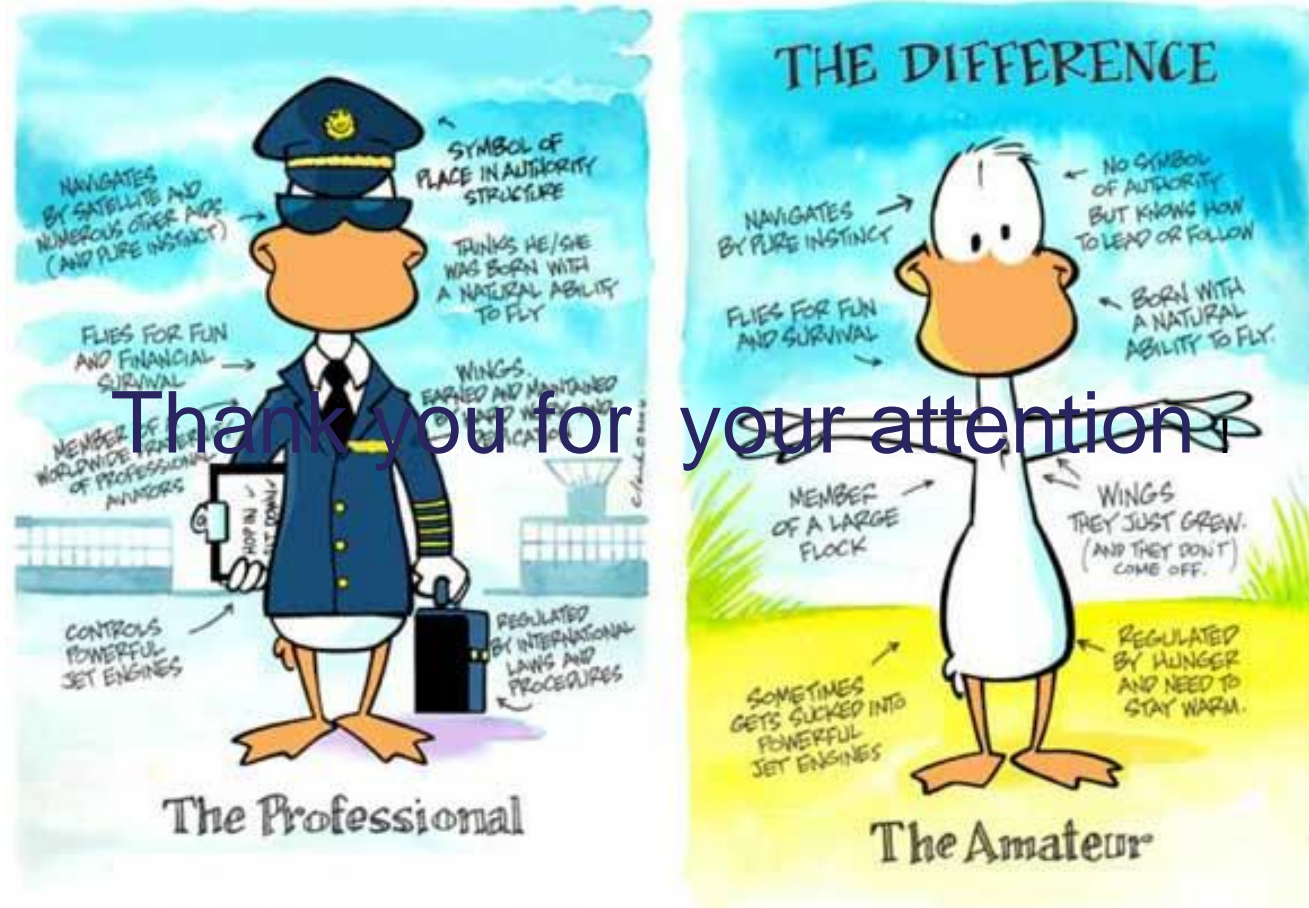
Title event – Date, Place



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European Cockpit Association

CBT : a Human-centered training Tool For a Quantum leap into human-centered safety management

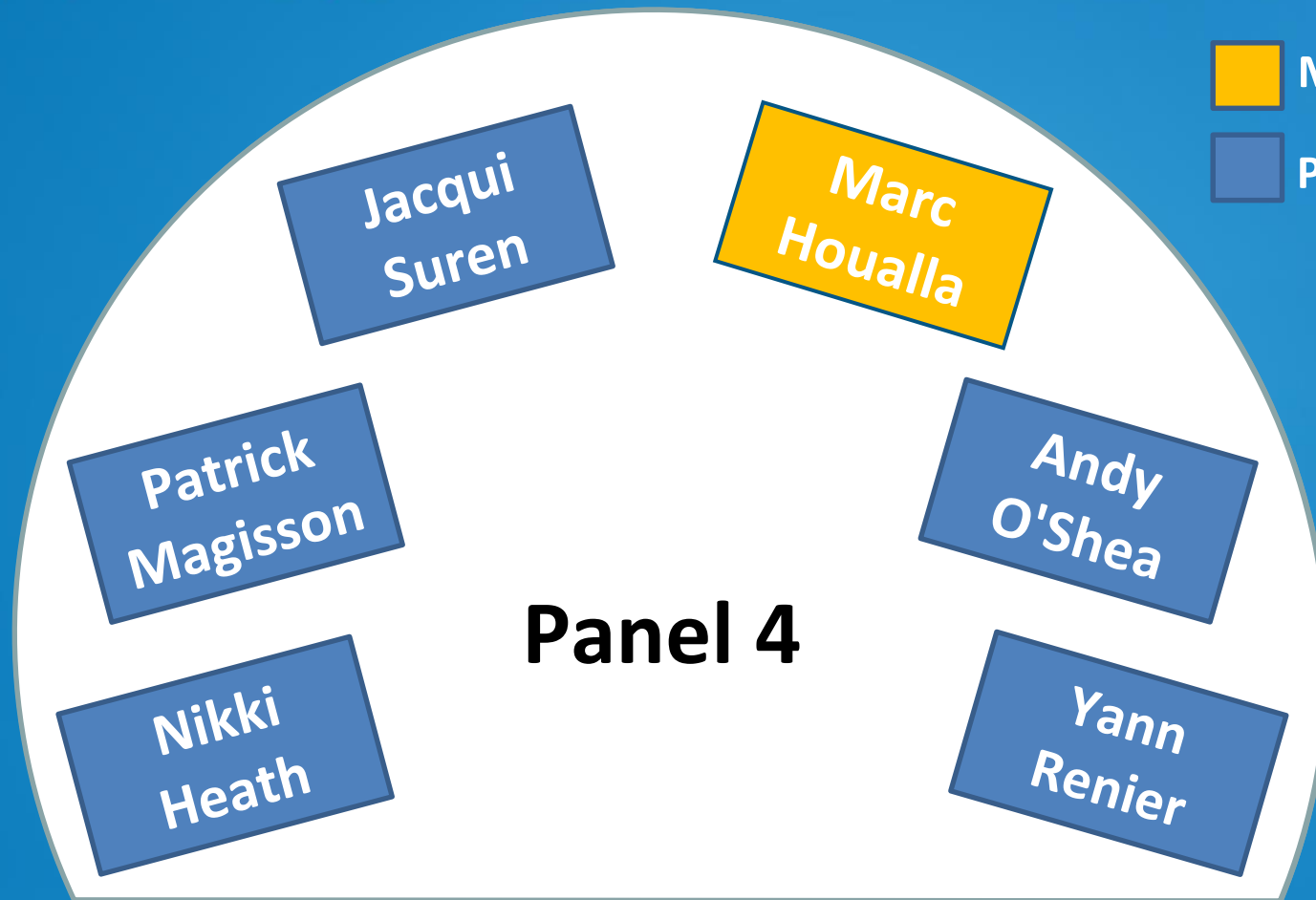




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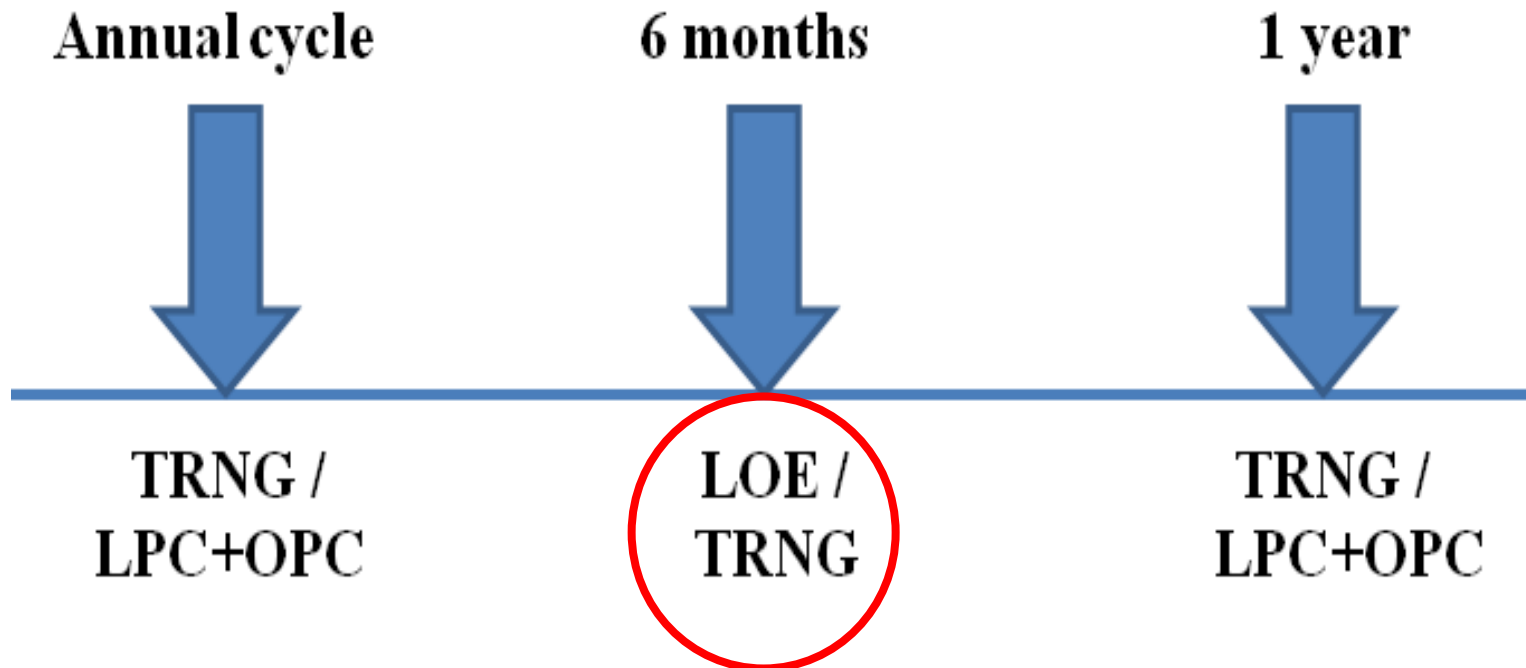
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From ATQP to ...

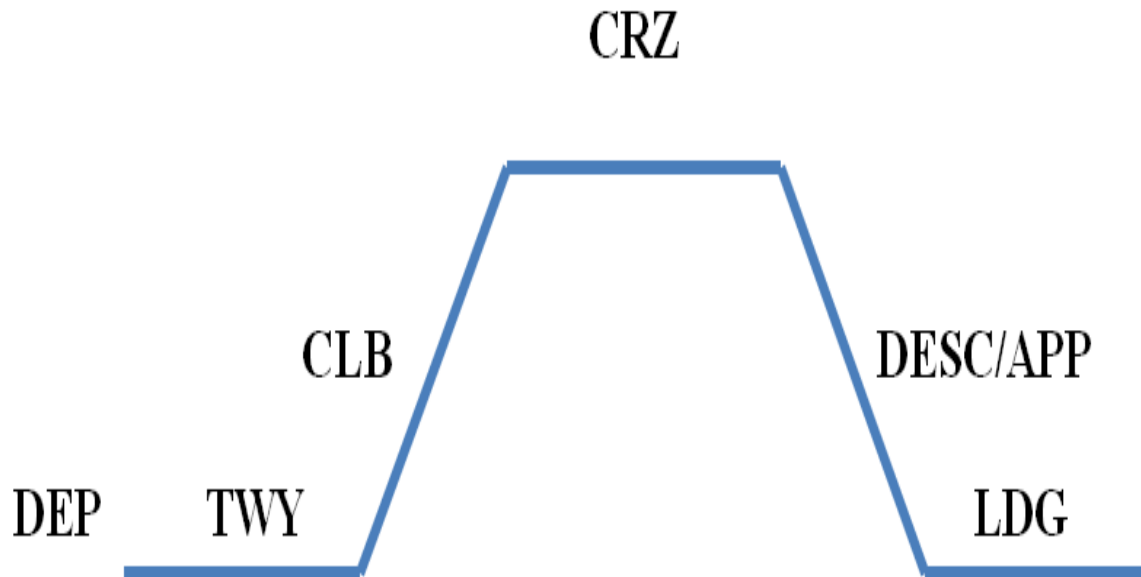
Captain Yann RENIER

Chief Pilot

Compliance & Regulatory Affairs



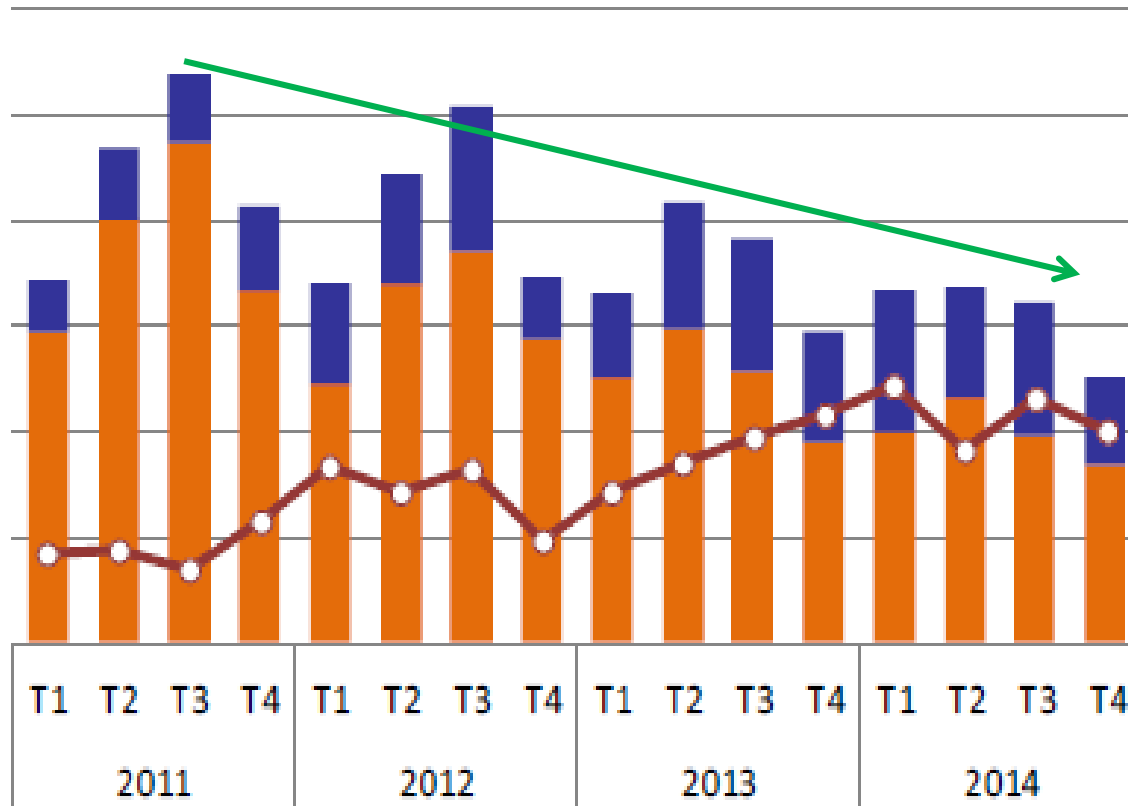
LOE Flight Phases and Events



DEP EVENTS

- Flight Computer INOP
- Disembarking PAX
- Weather at destination below minima
- APU shut down during engine start

Flight Safety Improvements



Green Arrow:
FDM events

Red Line:
ASR ratio

Annual cycle



**LOE /
TRNG**

6 months



**LOE /
TRNG**

1 year



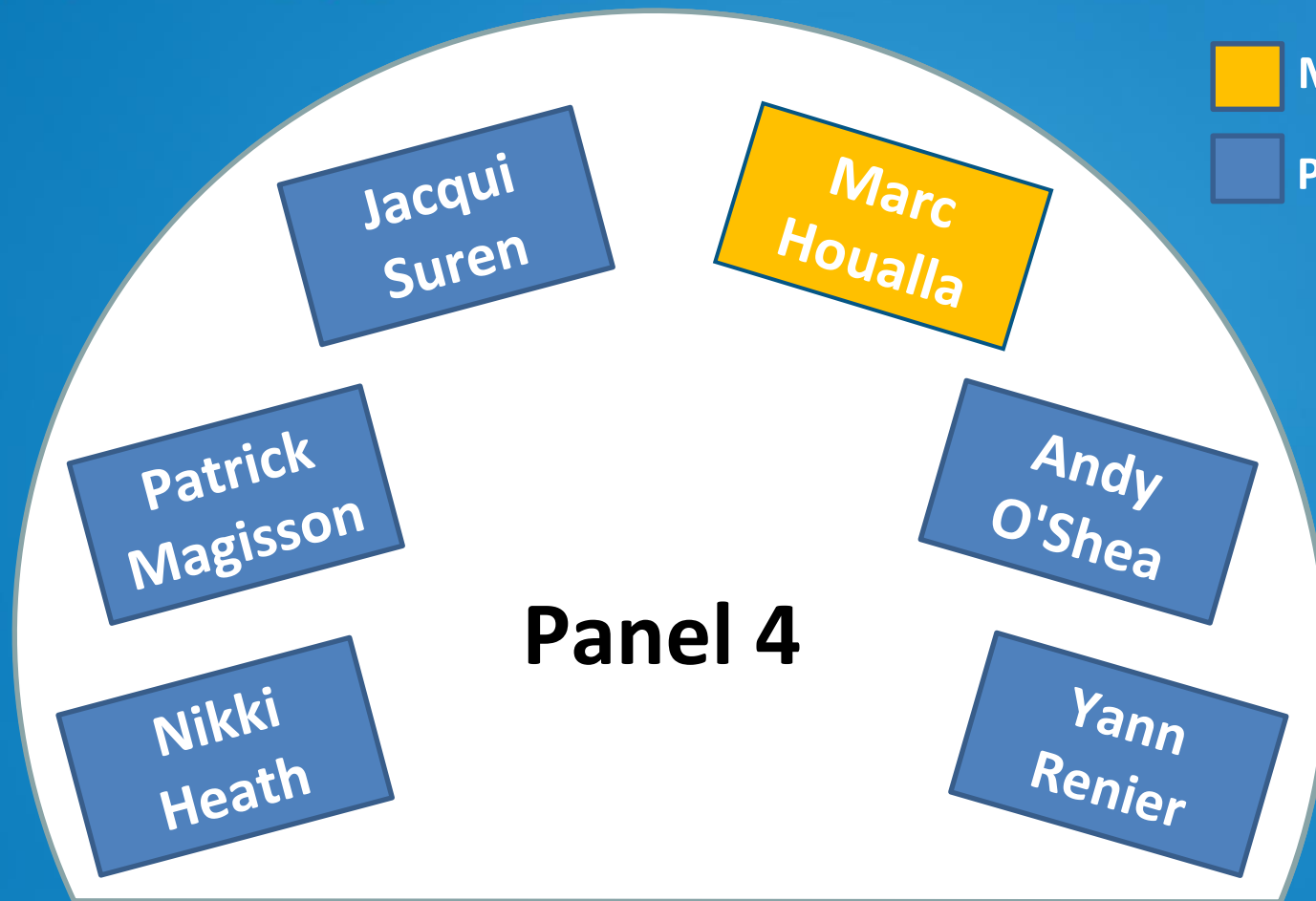
**LOE /
TRNG**



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Panel 4 – New training techniques and tools



- How could we further bridge theory and practice?
- Are new training technologies a boost or a bane?
- How can we better link operators risks as identified by the operator SMS and the pilot training ?





Panel 4 – New training techniques and tools



- What are the benefits of introducing the Airline Pilot certificate ?
- What technological evolutions may contribute to further match the training tools with the pedagogic ?





Technological evolutions for new training



SVS (Shared Virtual sky) : Enables voice and data interoperability between remote ATM and flight simulators



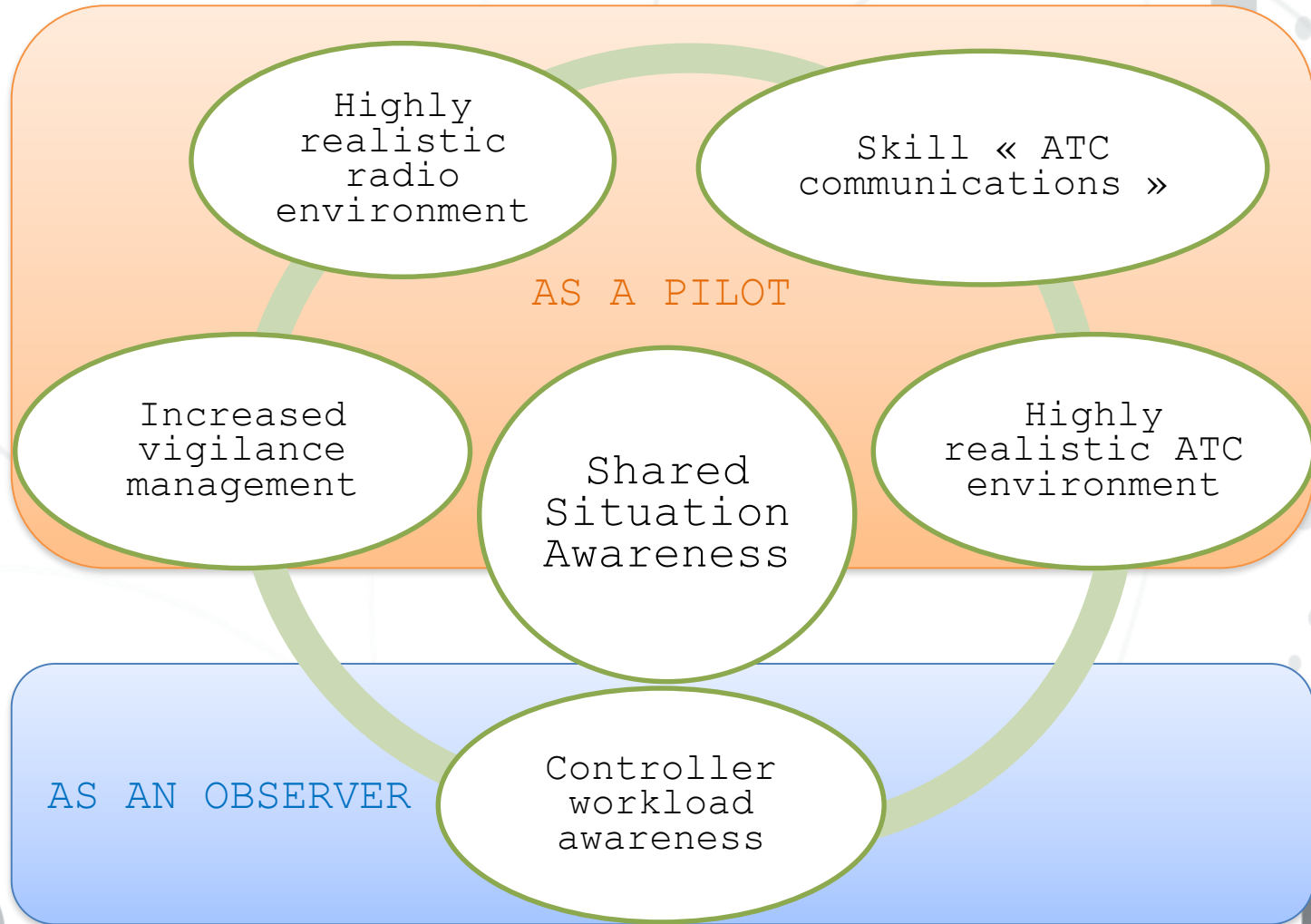


Technological evolutions for new training





Technological evolutions for new training

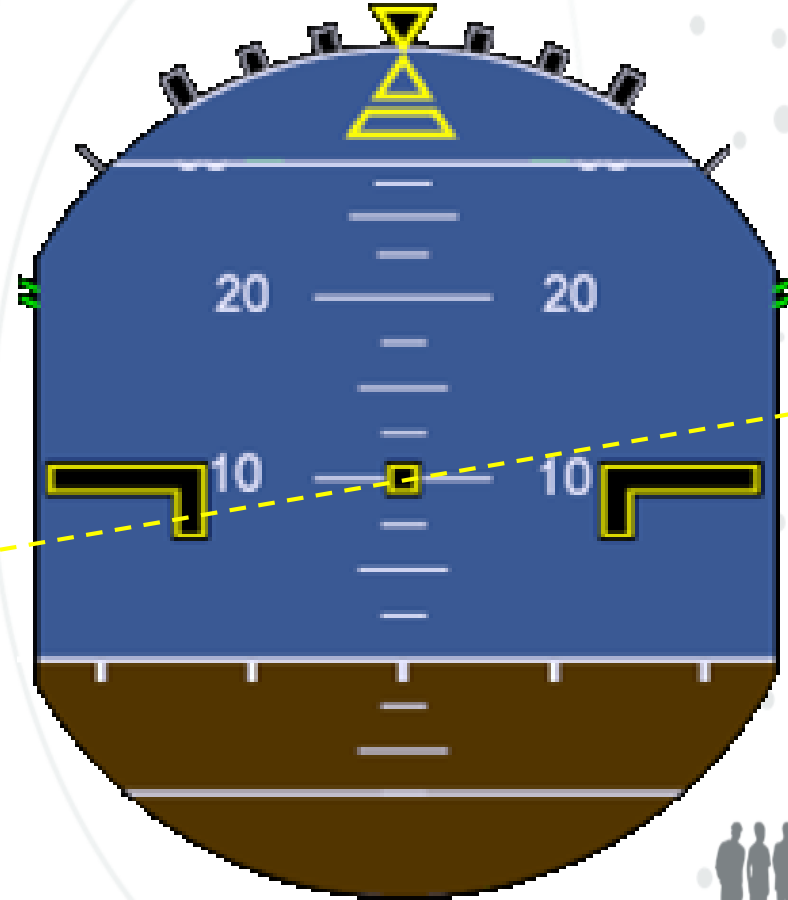




Technological evolutions for new training

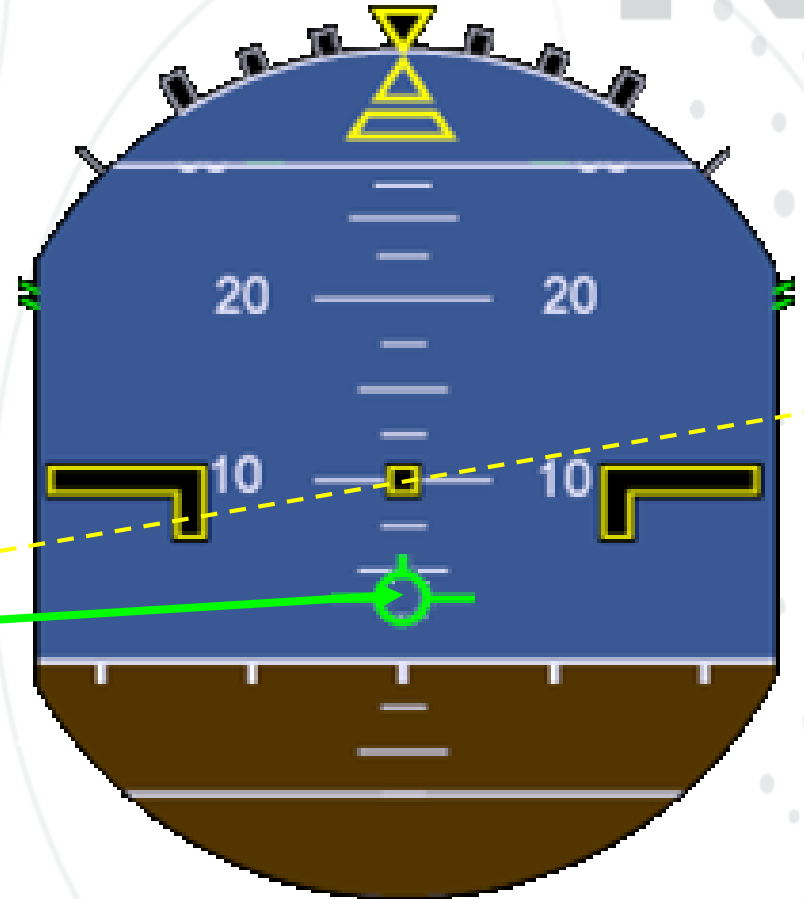


PITCH ATTITUDE





Technological evolutions for new training



**FLIGHT PATH ANGLE
(FPA)**

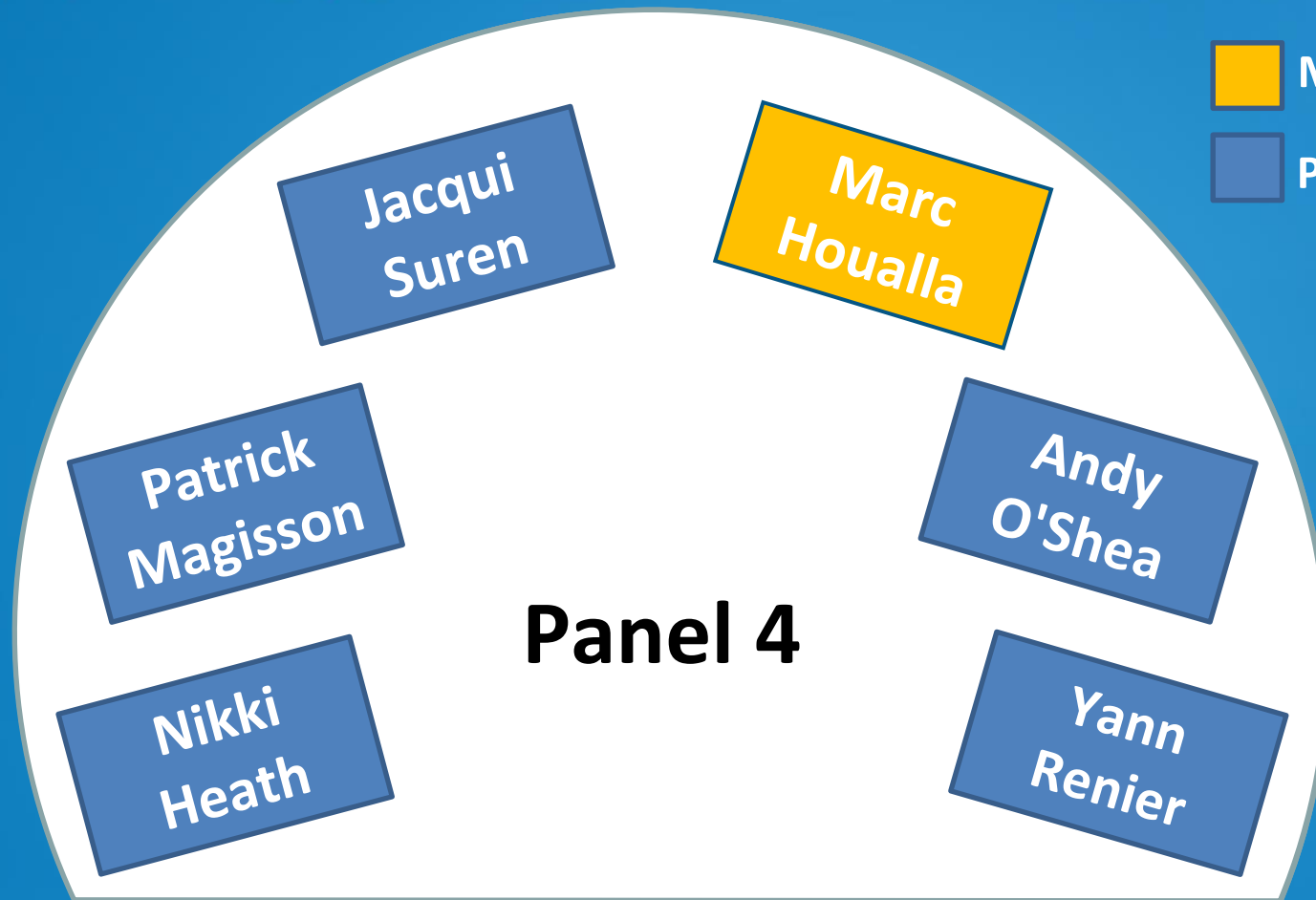




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