

The Challenges of Achieving Effective Safety Culture in Distributed and Autonomous Environments

Rob Dixon



- Introduction
- Safety culture
- Current Pilotwise situation / challenge
- Challenges.

Rob Dixon

- 22 years in the RAF
- Safety director for fast jet and intelligence aircraft
- Merlin instructor
- Head of tactics and training for military battlefield helicopters
- NATO Joint Warfare Centre – training
- Human factors instructor
- 4 year as director at Pilotwise
- MSc in human performance and safety management.



Pilotwise International Ltd

- Established 1987
- Training design and support
- ISO 9001 accredited
- 26 Air Forces, public sector (NHS), FTSE 100/250 and charities.



Drone training

- Non aviators
- Not safety aware
- Need to operate in aviation environment.



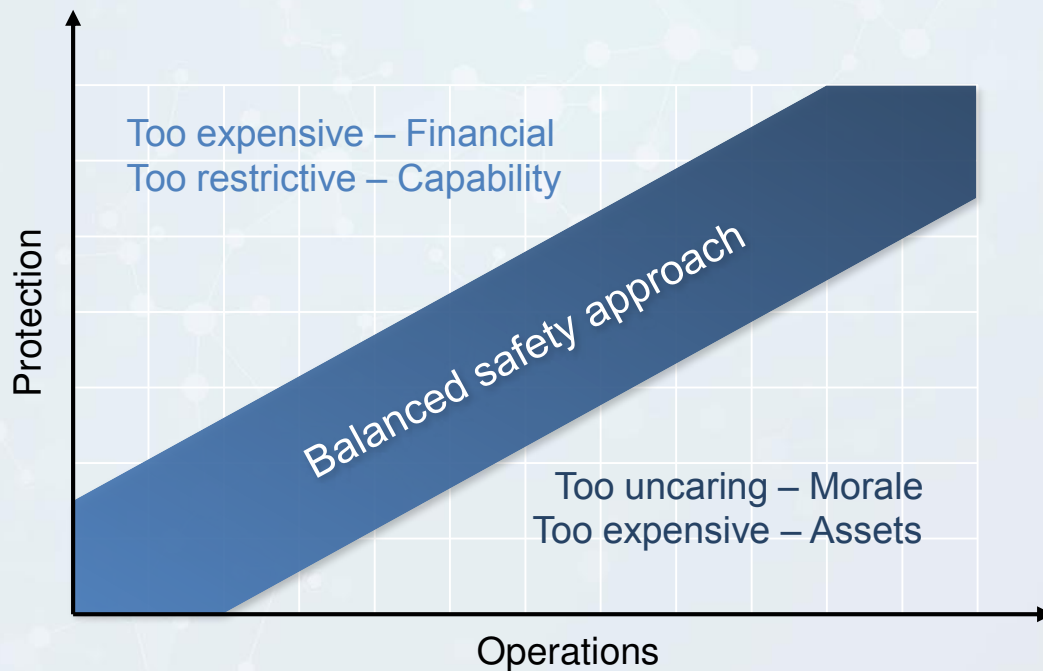


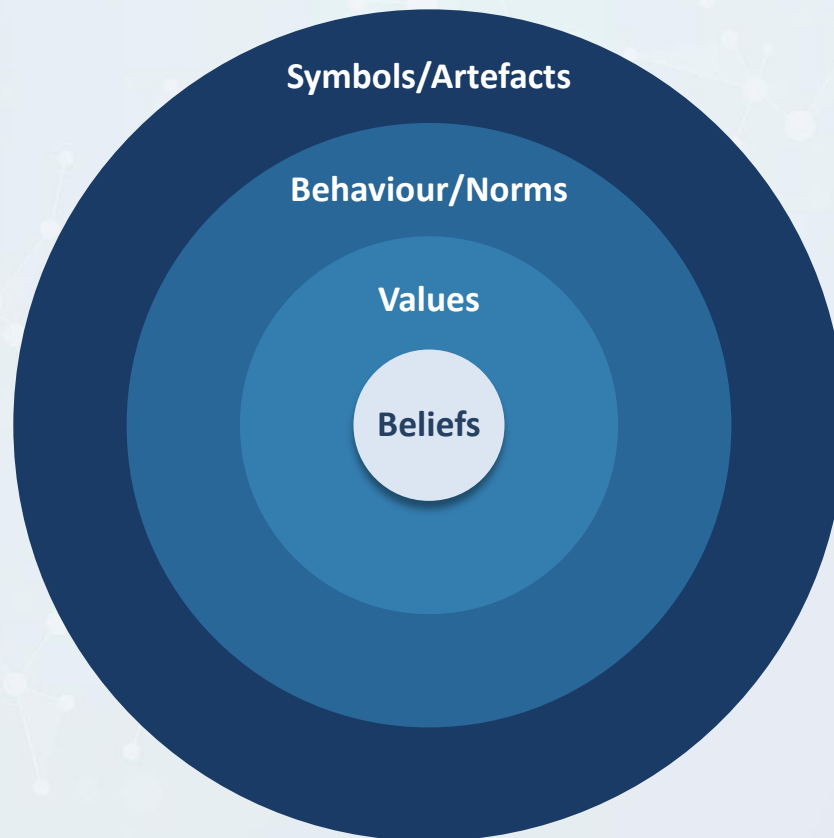


S Safety Culture **F T A E Y** Safety Management System

Safety = Safety Culture + Safety Management System

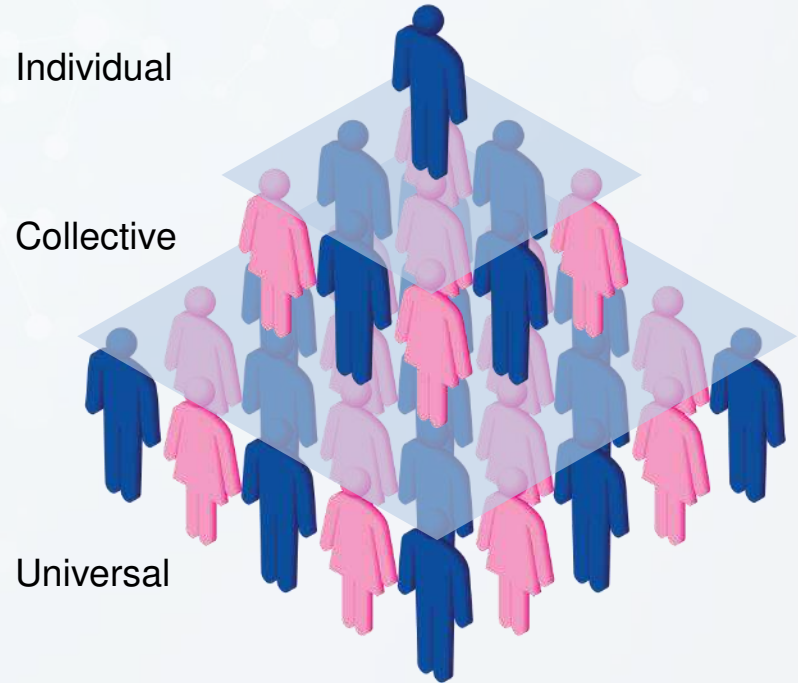






Culture is characterised by

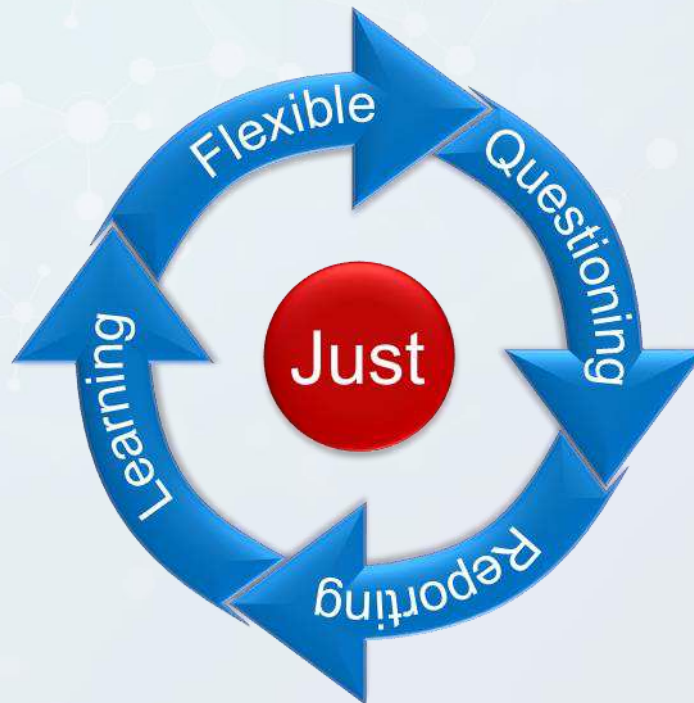
- The beliefs, values, biases and resultant behaviours
- Shared by members of a society, group or organisation
- The 'automatic' human response to a situation
 - Mental programming – based on the characteristics of the individual or group.

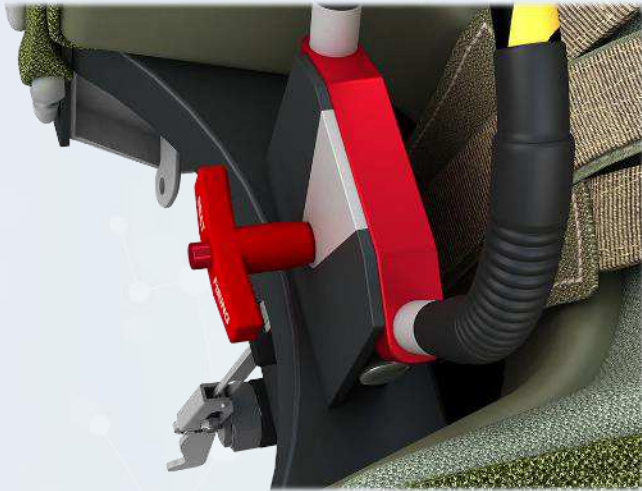


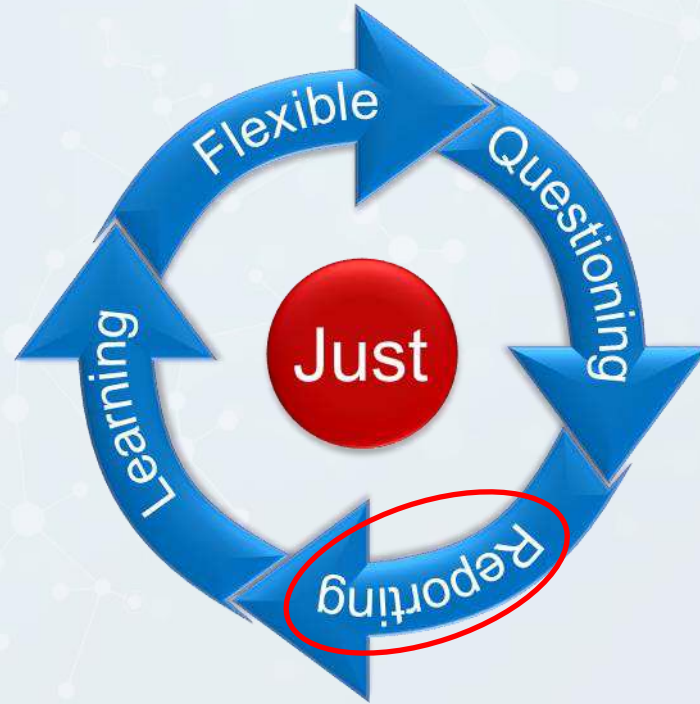
Adapted from Hofstede, G. (2001)

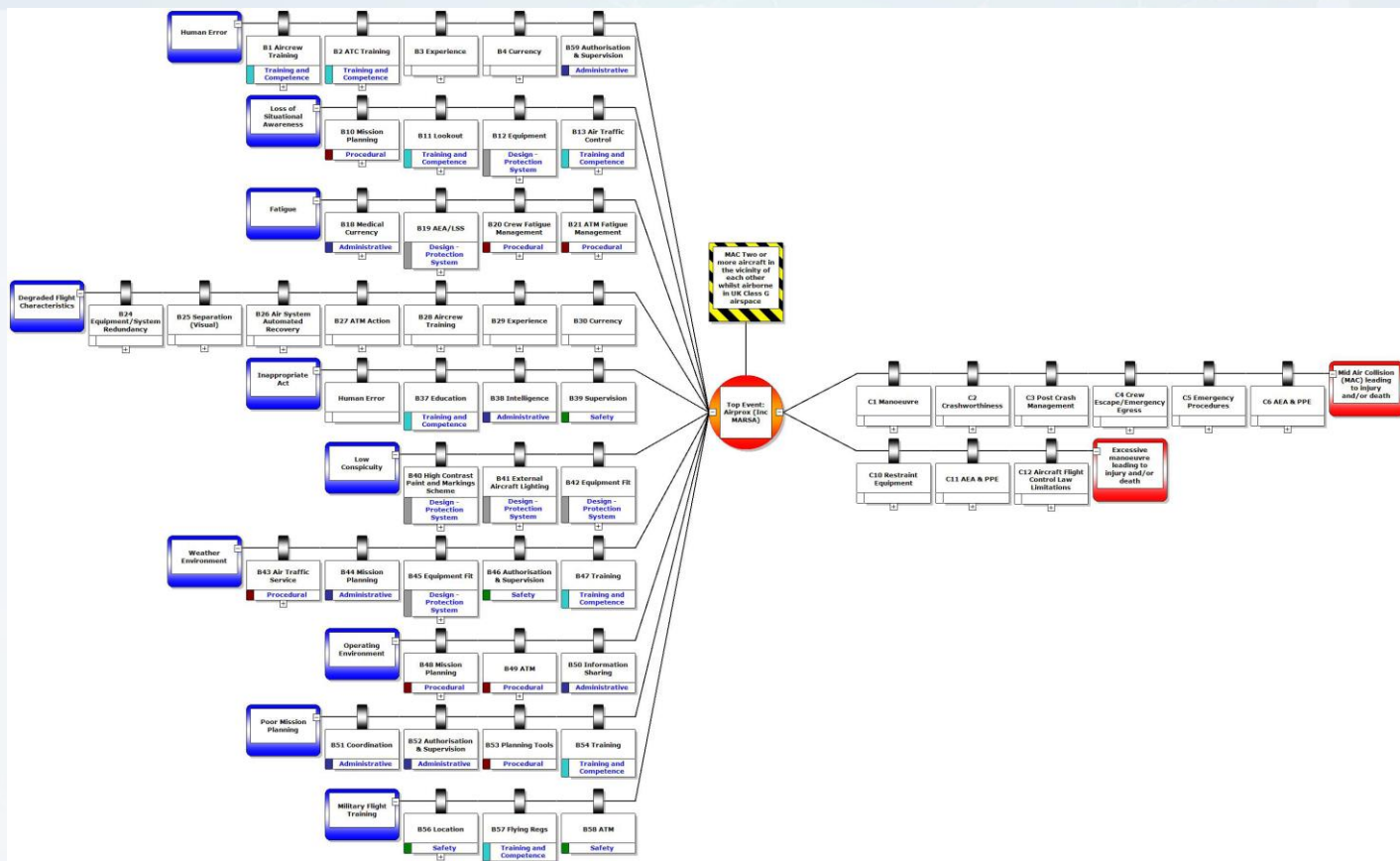
Formalised 2010

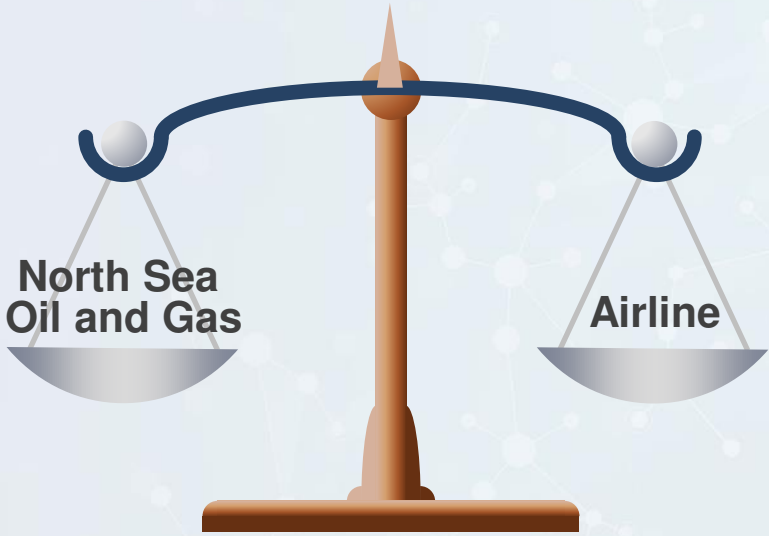
- Just
- Learning
- Reporting
- Flexible
- Questioning.

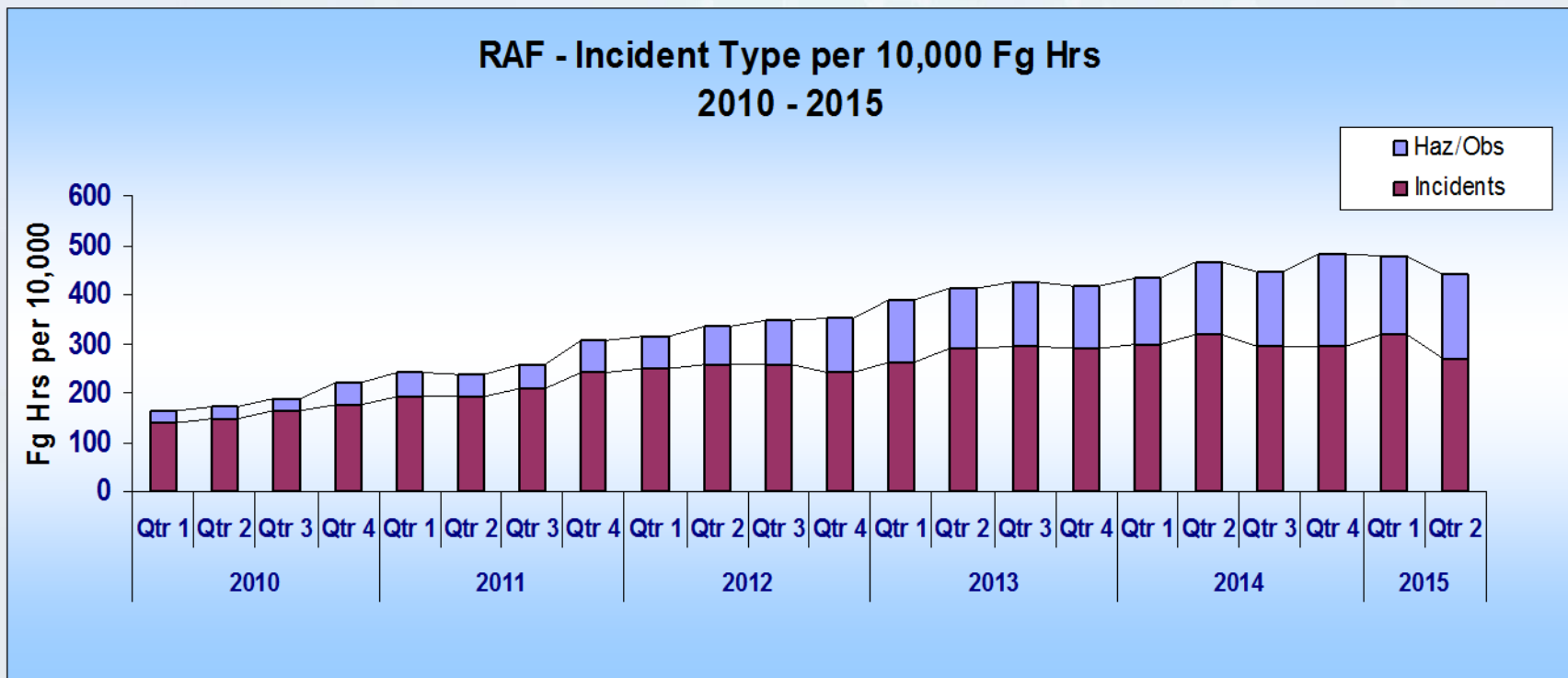












Beyond the SUA pilot

- Non aviators
- Not safety aware
- Regulation / governance
- Different industry / organisational cultures
- Different organisational structures
- Supervision
- Complex, dynamic situations
- Currently solved in a similar manner.



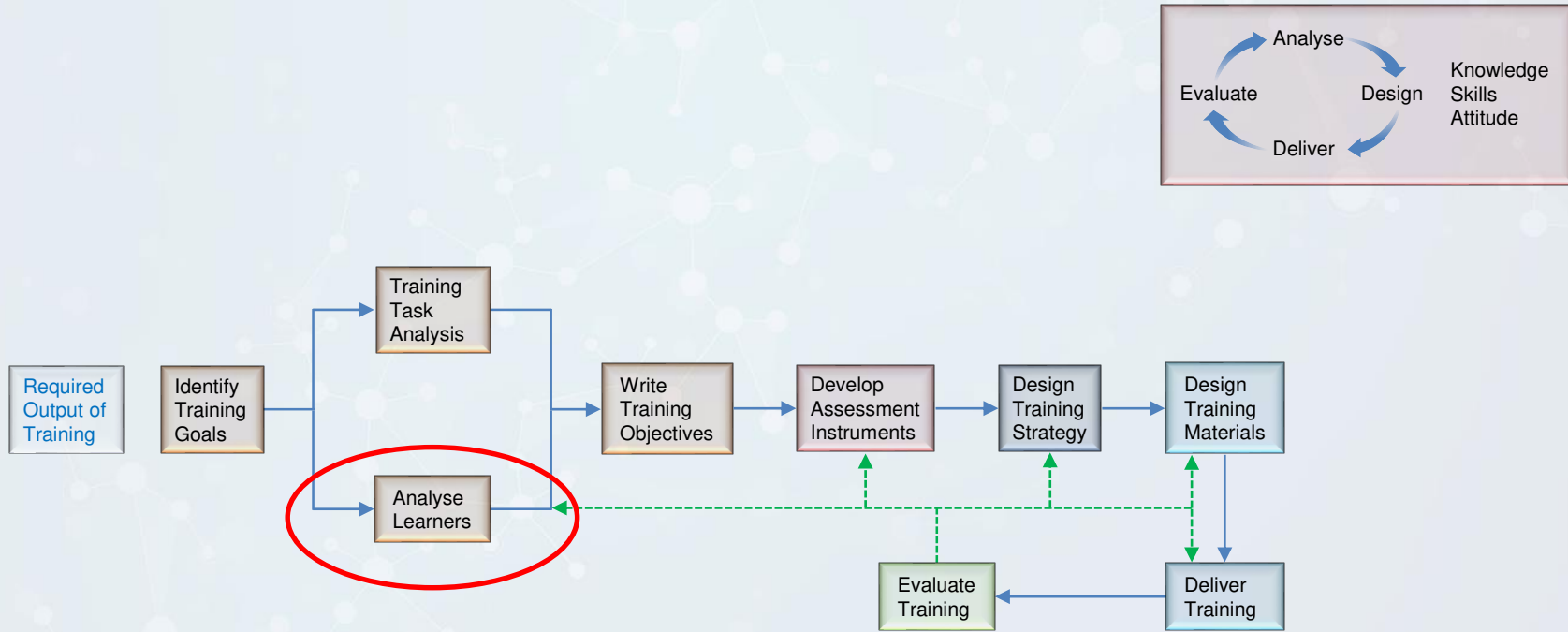
COMPETENT	<ul style="list-style-type: none">- GOOD, BUT NOT SURE OF OWN ABILITY SO SEEKS FREQUENT REASSURANCE	<ul style="list-style-type: none">- BUDDING AVIATOR- GOOD, BUT AWARE OF OWN IMITATIONS- SEEKS ADVICE WHEN APPROPRIATE
	<ul style="list-style-type: none">- NOT VERY GOOD, BUT KNOWS IT AND SEEKS HELP	<ul style="list-style-type: none">- THINKS THEY ARE BETTER THAN THEY ARE- MAY NOT SEEK ADVICE, EVEN WHEN DEMAND MAY EXCEED ABILITY
BARELY COMPETENT	UNDER-CONFIDENT	CONFIDENT

RISK:

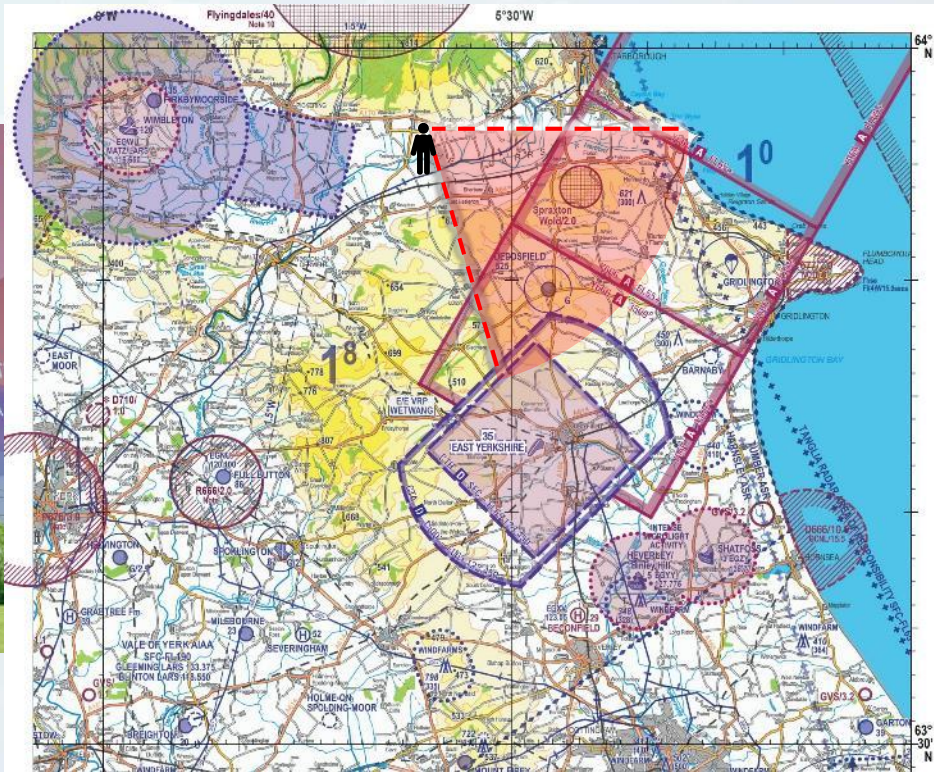
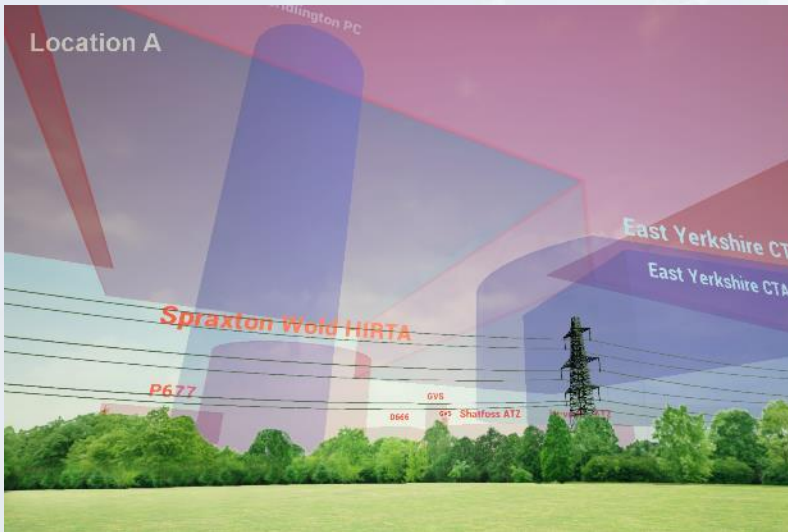
LOW

MEDIUM

HIGH



Adapted from Dick, Carey & Carey.(1978)

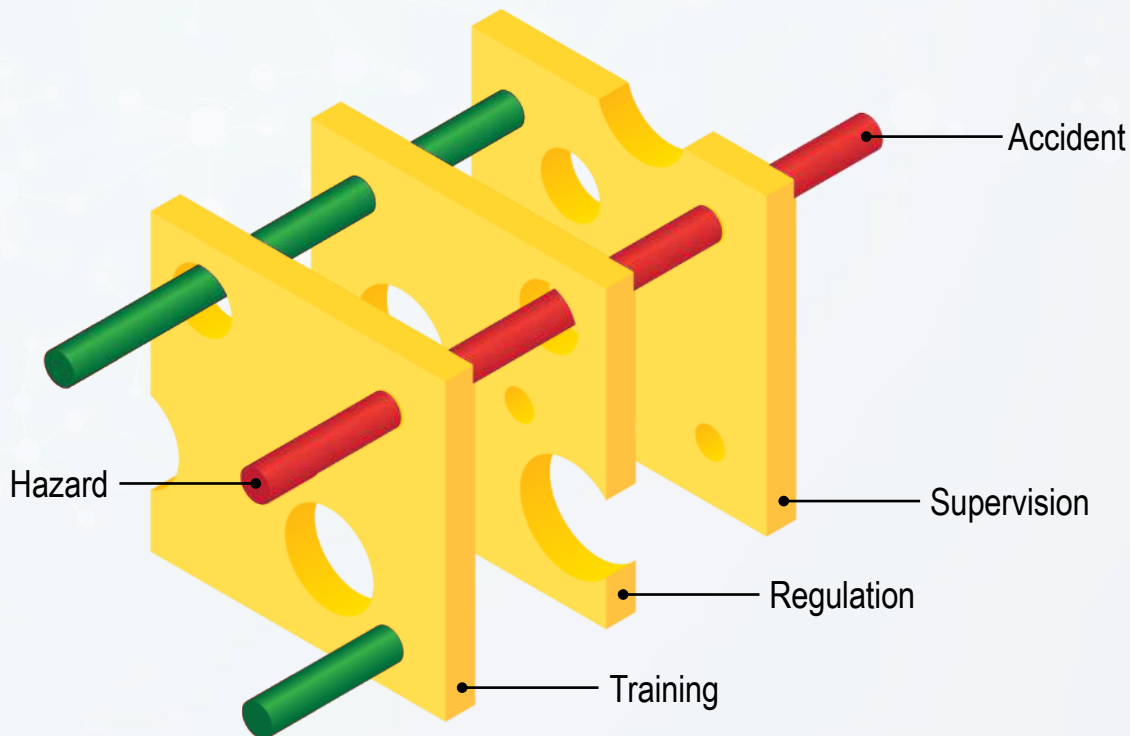


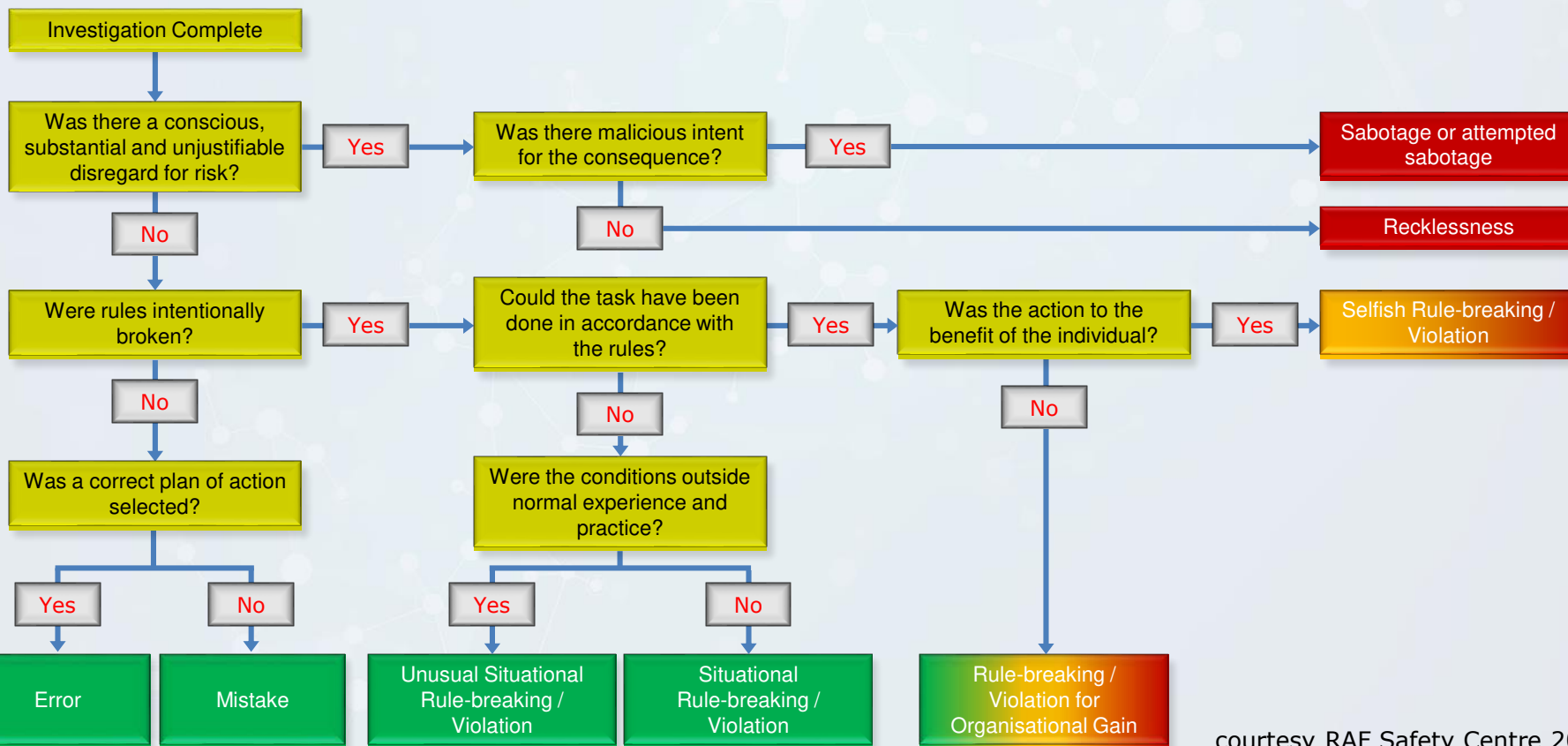
Overview

- Building situational awareness
- Just culture maintenance
- Remote instruction.

SA – identify important factors in distributed learning

- IT infrastructure
- Time zones
 - Circadian performance
 - Work schedule
- Instructor IT savvy and adaptable style
- Quality of and appropriate material
- Multi-cultural considerations and learning approach
- Language, age range, input standard.





courtesy RAF Safety Centre 2015

Remote Instruction

- Can you identify who has got it on VLE / VC videolink?
- How replace 'war stories'
- How re-create classroom benefits
- Other IT / tools
 - Integrated Assessment Programme.



Overview

- What are the important factors?
- Are there any experienced instructors?
- Programmers often not the operators
- Does leadership understand and prioritise appropriately
 - Manned vs autonomous importance
 - System within a system.





(adapted from Hudson)

**Let's not repeat early aviation
and nautical reactive learning**

100% into the technology currently

**R&D to understand the safety system
and organisational elements**

**Create experts to understand
what's important at all levels.**



(adapted from Hudson)

Thank you

Any Questions?



01 – Title	13 – A Positive Air Safety Culture	25 – Challenges 2/3
02 – Scope	14 – Communication 1/2	26 – Challenges 3/3
03 – Rob Dixon, Why am I here?	15 – Communication 2/2	27 – Autonomy
04 – Pilotwise International Ltd	16 – Risk Assessment	28 – Conclusion 1/2
05 – Recent Challenge	17 – The Safety Iceberg	29 – Conclusion 2/2
06 – Eras of Aviation Safety	18 – RAF Reporting Levels	30 – Questions?
07 – Safety Maturity	19 – Recent Challenge	31 – Slide Index
08 – What is Safety?	20 – Implementation Requirements	32 –
09 – ICAO SMS Structure	21 – Training Design	33 –
10 – What are we trying to achieve?	22 – Training Support	34 –
11 – What is Culture?	23 – Distributed Workforce	35 –
12 – Culture	24 – Challenges 1/3	36 –