



Dedicated to innovation in aerospace

Violation of procedure - Attitudes & Behaviour for aircraft maintenance

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Why do people violate procedures





Human Factors

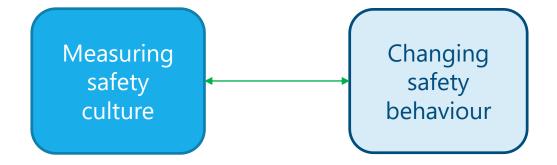




Source: olifantentpaadjes, Jan-Dirk van der Burg



From knowing to changing





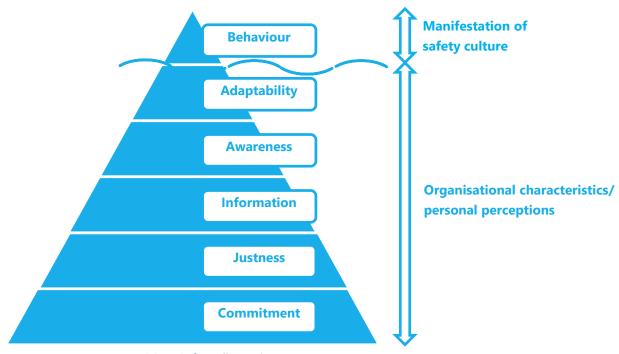
Safety culture

Safety Culture is the set of enduring <u>values and attitudes</u> regarding safety, shared by <u>every member</u> of <u>every level</u> of an organisation.





Measuring safety culture by ASC-IT



NLR ASC-IT Safety dimension

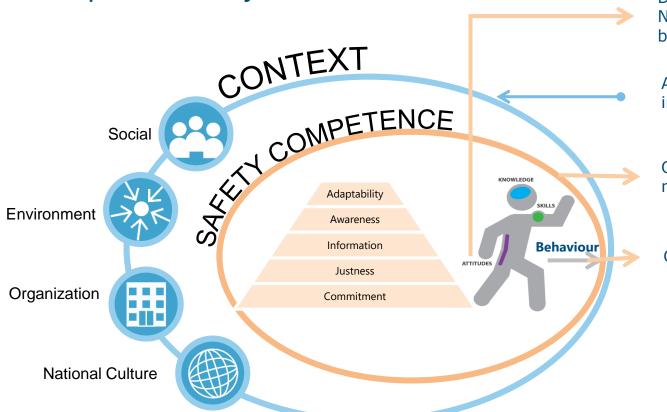


Safety Culture dimensions indicators

Dimension	Indicators
Commitment	 Management commitment
	 Personal commitment
	 Colleague commitment
	 Investment in safety
Justness	 Evaluation of safety-related behaviour
	 Perception of evaluation
	 Transferring responsibility
Information	 Communication of safety-related information
	 Safety reporting system
	 Willingness to report
	 Consequences of safety reports
Awareness	 Awareness of work-related hazards
	 Safety reporting system
	 Attention for safety
Adaptability	- Training
	 Actions with regard to safety occurrences
	 Proactivity to prevent safety occurrences
	 Involvement in safety activities
Behaviour	 Work situation
	 Safe behaviour
	 Challenging each other







Difficult to grasp Not always predictive for behaviour

Attitudes derive from direct and indirect experiences

Output of skills, knowledge and – more remotely- attitudes

Can be observed



National culture **Facilities** Procedures Peer support - Power Distance Index: Knowledge Design Processes Leadership - Individualism vs. Skills Systems Policy Delegating collectivism; Attitudes Weather Planning Responsibility Tools Prioritizing Informal networks Accessibility Communication Organisation culture Industrial-relations Ergonomics Supervising Process vs. results-Teamwork Time Pressure Training orientated; Selection Process Employee vs. job-Quality orientated: - Source: Hofstede



Changing safety behaviour

Map Identify Select and Start Analyse safety problems with solutions and intervention& outline culture results culture onion interventions effects follow up



Step 1: Analyse safety culture results

- Workforce do not feel rewarded for their effort to improve safety
- Lack of accurate feedback
- Lack of good response on safety reports
- Safety reports are not always taken seriously

Goal: get a good overview of the results of the safety survey



Step 2: Map problem with safety culture onion



Goal: Verify main problems with stake holders and identify intervention areas

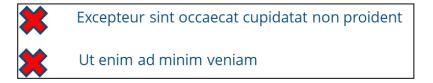


Step 3: Prioritize and identify solutions and effects



Look at feedback process & Improve system design

- Too much feedback
- Standard feedback





Goal: Prioritize with higher and safety management and define interventions



Step 4: Select and outline interventions

Gather information on effective and accepted intervention strategies

- Agile project
- Human in the loop design
- All stakeholders represented in project:
 - ✓ Operators
 - Maintenance personnel
 - ✓ Support department
 - ✓ Safety department
 - ✓ Quality department
 - ✓ Communication
 - ✓ Management
 - ✓ All other involved in reporting process

Goal: selection of effective and accepted interventions



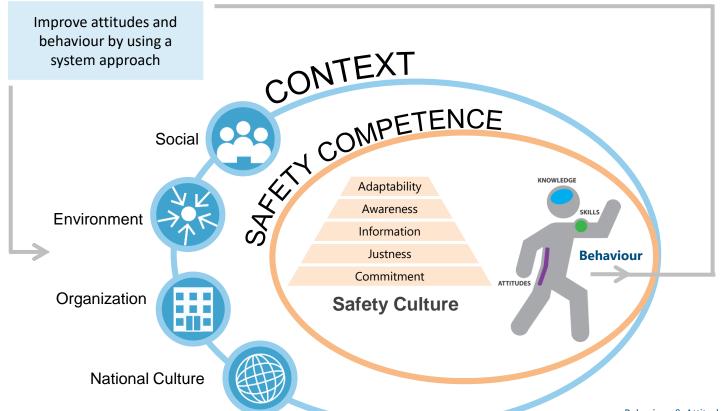
Step 5: Start intervention & follow-up

- Make the planned interventions SMART
- Appoint a responsible person
- Facilitate (people, time, money, etc)
- Follow-up and observe activities on a regular basis
- Include higher and safety management
- Evaluate

Goal: Commitment and ownership



Improve safety culture by system approach





Fully engaged

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CONCLUSIONS

Foundations role:

- Assemble an AeroSafety World or website article to highlight the usefulness of continuous system approach to safety improvement.
- 2. Invite MRO's interested in applying a system approach to safety improvement to communicate any changes needed to enhance its applicability and to share lessons learned.



Safety culture assessment







NETWORK AVIATION





































Amsterdam Airport Schiphol

