

Simple SMS in a Complex Operational Arrangement

Marginal Gains

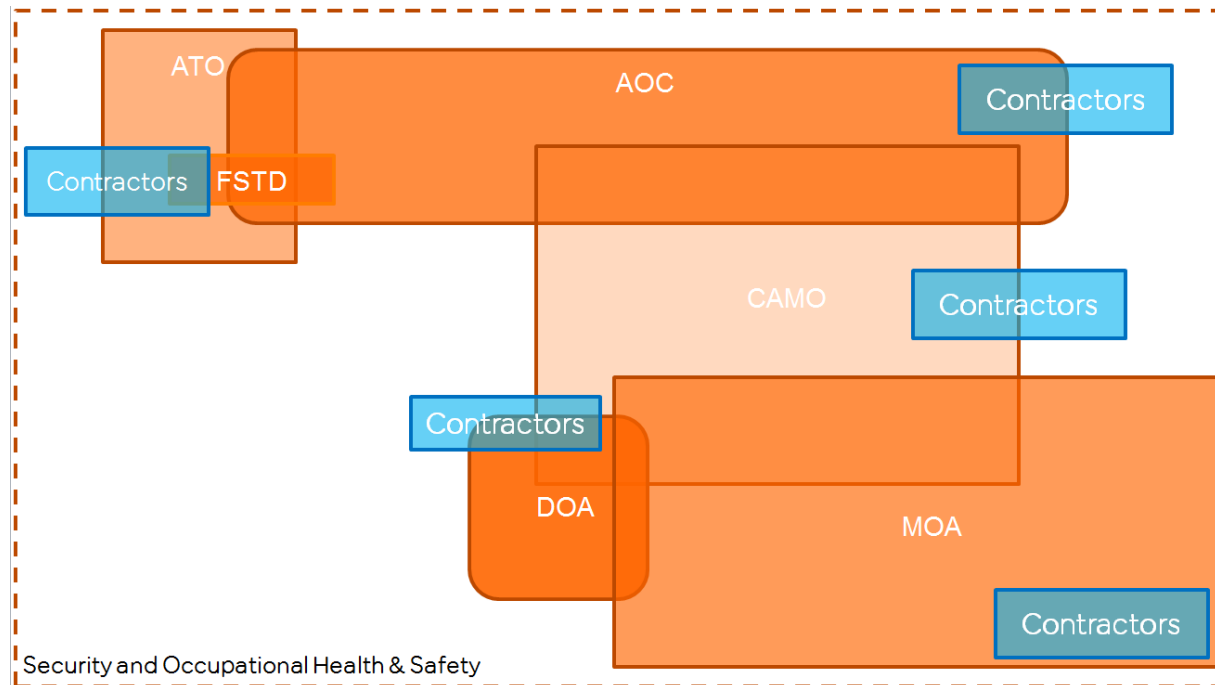


13th November 2018

Cologne, Tendai Mutambirwa

Equivalent Level of Safety

This complex operational arrangement is made up of complex, non-complex, certificated and non-certificated organisations.



The safety objectives in a complex operational arrangement are similar to those in a non-complex organisation.

- All activities should be undertaken to an equivalent level of safety (as defined in the safety policy)

Luck is what happens when opportunity meets preparedness

Simplicity

Complexity

Compliance

Share Price

Safety

Market

Turnover

Equivalent level of safety does **NOT** equate to the same:

- Systems
- Procedures
- Infrastructure
- People
- Culture

It is about attaining the same desired operational conditions that are conducive to good performance.

Any arrangement, simple or complex, should design its activities to minimise or eliminate hazardous **conditions** to unwanted events.

The focus is not on outcomes, but on the activities and conditions.

This is the goal! (Be prepared?)

Preparation can increase system resilience.



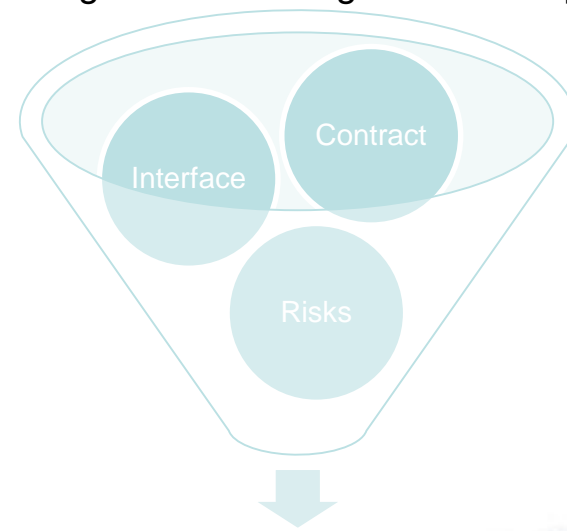
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Standardisation & Harmonisation

A goal based approach focuses on the creating the 'right' conditions. And the SMS should be developed with activities that lead to the 'right' conditions through meeting the intent of the EASA management system requirements.

In a complex operational arrangement;

- standardisation in SMS can mean 'speaking' the same language with regards to risk
green rated risk means green across the operational arrangement and that goes for orange and red rated risks too.
- Harmonisation in SMS can mean having the same 'understanding' of risk with regards to the operational arrangement
having an agreed position on what is expected.



Harmonisation through
Standardisation

Speaking the Same Language and having the Same Understanding of Risk

Standardise and harmonise through examples that are in context with activities undertaken by the organisation or in the operational arrangement.

It can be difficult to make the original text useful.

Use as many examples as needed to make sure every community in the organisation/arrangement is represented.

Examples make the terms used meaningful and provide context.

Ensure the consequences are relative to the organisation.

The loss of 1 million Euros is not good for any business, for some it is catastrophic for others it is minor.

Risk Likelihood	Original Text	Tailored Meaning	Value	Tailored Examples
Frequent	90 – 100% Probability	Likely to occur frequently. Has already occurred in the organisation	5	First aid injuries. 'Go arounds'. Baggage misrouted.
Probable	66 – 100% Probability	Likely to occur multiple times. Has occurred multiple times in the organisation.	4	Passengers flying to incorrect destination. Minor cabin crew injury due to turbulence. Blue hydraulic pump failure (pre-modification).
Occasional	33 – 66% Probability	Likely to occur sometimes. Has already occurred in the organisation. Has occurred sometimes in the organisation or on similar aircraft type, similar route or similar airspace.	3	Major cabin crew injury due to turbulence. Decompression. Engine Inflight shutdown. Major aircraft damage.
Remote	0 – 33% Probability	Unlikely to occur, but possible. May have already occurred in the organisation at least once or has occurred in the aviation industry on similar aircraft type, similar route or similar airspace.	2	Fan cowl loss. Landing gear failure to extend. Tail strike. Emergency evacuation.
Improbable	0 – 5% Probability	Very unlikely to occur. Not known to have occurred in the organisation but has already occurred at least once in the history of the aviation history.	1	Pilot suicide (Germanwings), Terrorist bomb (Lockerbie). Hijacking (9/11).



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Assessing the SMS



Management System Assessment Tool

Assessing the SMS

The assessment of the SMS provides useful information on the maturity of the different elements within the SMS. The information used to determine the maturity level can support the development of well structured continuous improvement plans

What could you do?

The EASA Management System Assessment Tool provides a good platform for an organisation to tailor the tool to it's own needs. Through the tailoring process, rather than completely remove the what to look for criteria, attempt to answer why the question may not be applicable to the organisation.

How could you do it?

- The [EASA Management System Assessment Tool](#) can be downloaded from the EASA website.
- Some organisations can be contracted to conduct assessments or provide training on how to use the assessment tool



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What Matters?

1 SAFETY POLICY AND OBJECTIVES

What to look for

- Talk to accountable manager to assess their knowledge and understanding of the safety policy.
- Confirm it meets EU Regulations.
- Interview staff to determine how readable and understandable it is.

‘Readable’ – reading standards vary within organisations because of different functions and the associated qualifications and experience requirements.

To be understood, does the safety policy and its objectives need to be read by personnel?

or

Do Leadership commitment, training and promotion need to work for the policy and its objectives to be understood?

For example

If the safety policy is not readable to some individuals but the safety objectives are understood;

- Work to understand why the objectives are understood: capture people’s stories – they provide the context and details of what activities and conditions lead to the desired outcomes.
- And assess if making the policy readable will improve the conditions and desired outcomes.
- As a principle disregard nothing (in the EASA framework) and look to use or improve any activity that promotes the ‘right’ conditions.
- Learning from what works is potentially more effective than learning from what doesn’t work. But we learn from both.



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Making the Most of the Opportunity

Make the most of the time you have with people during the interviews.

Learn from them what they find helpful and explore why they find it helpful or why they do not find it helpful.

Collect stories, examples and suggestions that give context to the information being collected.

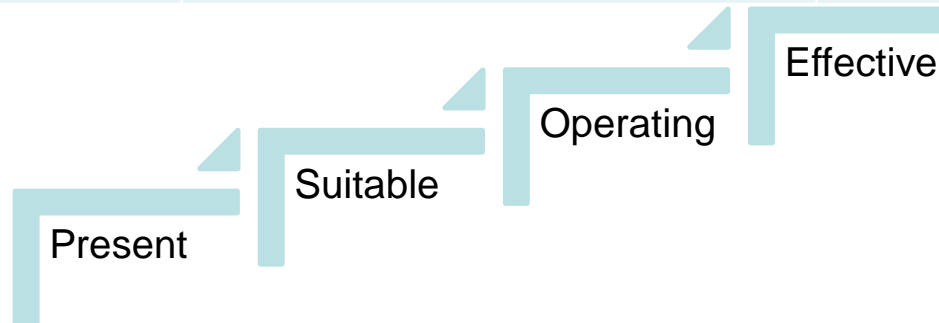
Category: Management Commitment			
Requirement			
The safety policy shall: <ol style="list-style-type: none"> 1. Should be signed by the accountable executive of the organisation 2. Periodically reviewed to ensure it remains relevant and appropriate to the organisation and operational arrangement 			
What to assess			
1. Talk to the accountable manager to assess their knowledge and understanding of the safety policy			
2. Does it meets EASA requirements			
3. Interview staff to determine how readable and understandable it is – Senior Managers, 1 st Level Managers, Specialists, Frontline Personnel.			
Assessment Findings			
Present	Suitable	Operating	Effective
Learning Points			
Stories			
Examples			
Suggestions			



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Using the Tool to Improve

Output of the assessment	What you could do?	How could you do it?
The output of the assessment tool should aim to give the organisation a better understanding of the effectiveness of the different elements of the SMS.	Try to capture why a particular the element has been given a certain level. The why can often provide important information about what conditions lead to successful and unsuccessful outcomes in the organisation.	<ul style="list-style-type: none"> - When any element is found to be working at 'Effective' level, give praise, and get the story behind what was done to make things effective. - The story will give you context to better understand the conditions that enabled the successful outcome. You can then start to formulate the journey from Safety I to Safety II



Build a plan to take the next step – Effective is not the destination, it's the journey

Safety II Thinking

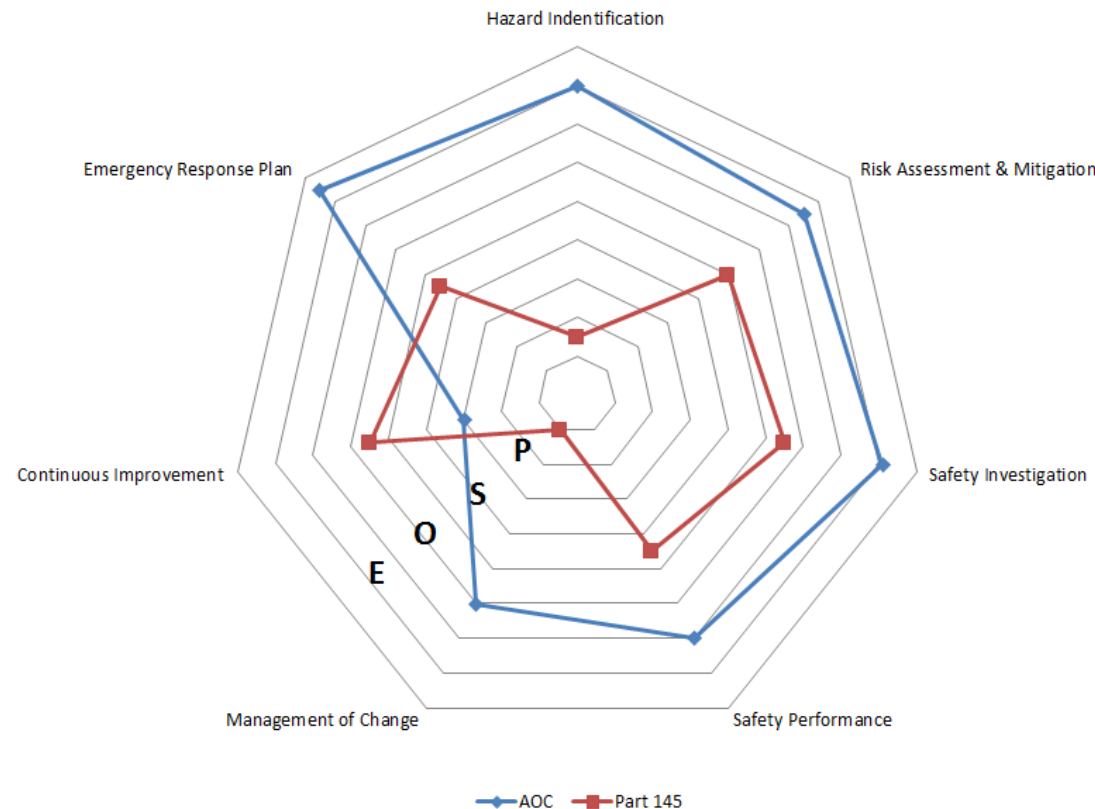
Design the SMS components on the basis of what works – not just because its successful but because you understand what makes it successful.

When we compared the safety risk management elements that been assessed in the Air Ops vs the Part 145 organisation.

We found a significant difference in the effectiveness of the safety reporting process.

When we explored further to gain an understanding, we found that the Part 145 mainly reported what was actually found / occurred and not what could potentially occur.

But we also found that the Part 145 was constantly talking about what could potentially occur – we had to adapt our approach to capturing hazards and risks in the Part 145



We introduced Toolbox talks – shared reported safety risks and encouraged personnel to talk about similar types of risks... with examples and stories.



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Toolbox Talk Approach

The assessments also found the Air Crew training community had similar challenges as the Part 145 making use of the established Hazard Identification processes.

There were similarities in how both the communities used the safety reporting processes, however the Air Crew training community talked more about risks within the Air Operations environment than in the training environment.

When the discussion focused on training the team shared relevant issues and examples.

The next step was to use the Toolbox Talk approach and capture hazards and risks in the training environment.

1-Selected champions.
2-Identified some risk areas.
3-Described the risk using a HAZOP and Brainstorming approach ([CAP 760](#)).
4-Turned the description into a story – being clear about the scenario, adverse state and potential consequence.
5-Established a clear objective for the talk with questions.

Developing the approach

1-The champions shared the story.
2-Explained the risk in a context that was understood by the other trainers.
3-The safety team supported with keeping the talk focused on the objective.
4-Kept notes on the points raised

Delivering the talk

1-The logged hazards were processed as potential occurrences and managed like submitted safety reports.
2-Feedback on investigations was shared through feedback focused Toolbox Talks

Using the Information

Through this approach, the objective was to share examples of the sort of information that the organisation was trying to capture through the hazard ID processes.

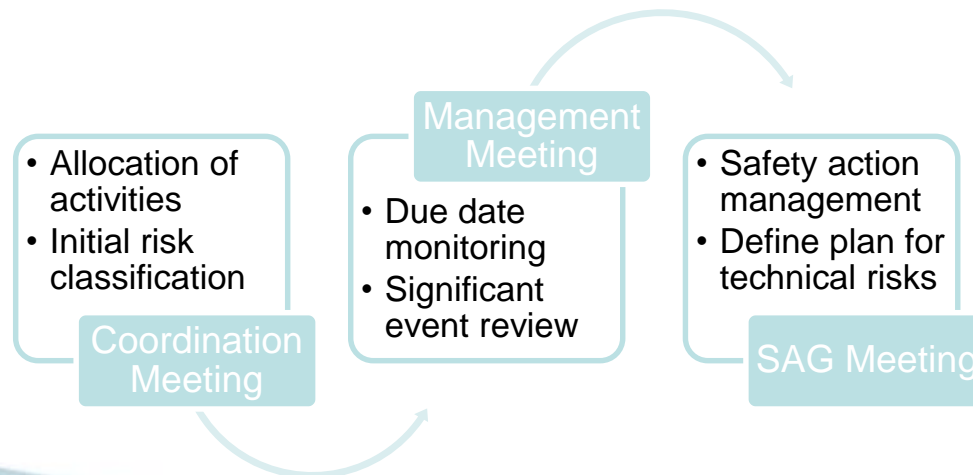
And the examples and stories individuals shared back provided information about the potential risks present in the activities carried out by Air Crew training

Making Things Happen

Leading indicators can be used like a project 'Drumbeat' meeting to motivate and support any team with accomplishing its safety management activities by keeping them in focus on a regular basis.

The simplest leading indicators to implement are measures associated with routine future events or activities. Events or activities that are important for the SMS to work properly – this helps the indicators to be meaningful and beneficial.

In order for the Technical Safety Action Group (SAG) to be effective and efficient, it requires the different Technical teams to have performed key processes leading up to the meeting. The Technical SAG can influence these future events to occur by detailing the expected performance and monitoring it against actual performance.



Leading Indicators

Monitoring safety performance through leading indicators drives focus onto the elements of the system that are required to operate in expected and unexpected conditions.

Safety performance indicators	What you could do?	How you could do it?
Good safety performance indicators are made of a combination of leading and lagging indicators. Leading indicators can help improve the resilience of your SMS	Have a clear understanding of the activities or processes that make your SMS work. Set parameters that can be measured and reported to help encourage those activities and processes to be accomplished.	<ul style="list-style-type: none"> - Use the EASA management system assessment tool to gain a clear understanding of what makes your SMS work. - Setup the parameters around expected vs actual to get started

Activity / Meeting	Q1		Q2		Q3		Q4		Totals		Percentage
Expected/Actual	E	A	E	A	E	A	E	A	E	A	%
Weekly Coordination Meeting	13	13	13	12	13	9	13	10	52	44	85
Monthly Management Meeting	3	1	3	1	3	1	3	1	12	4	33
Quarterly SAG Meeting	1	1	1	0	1	1	1	0	4	2	50

Most, effective leading indicators are temporary – they set an expectation and drive behaviour



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Outcome Driven



In summary the tribal societies in Melanesia and New Guinea saw 'goods' delivered by cargo aircraft to the Western settlers.

They wanted the cargo to come them and believed the cargo should come to them.



But they did not understand all the required elements that are needed to be in place for cargo to come to them.

But they replicated what they saw the Western settlers do.

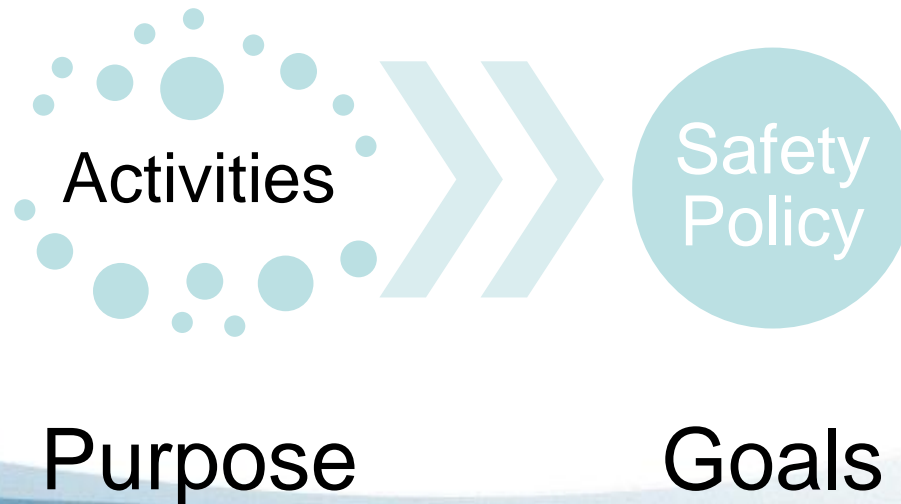
Still the cargo did not come.

So they continuously improved what they saw.

They are still waiting for the cargo.

Beware of 'Cargo Cult' Thinking

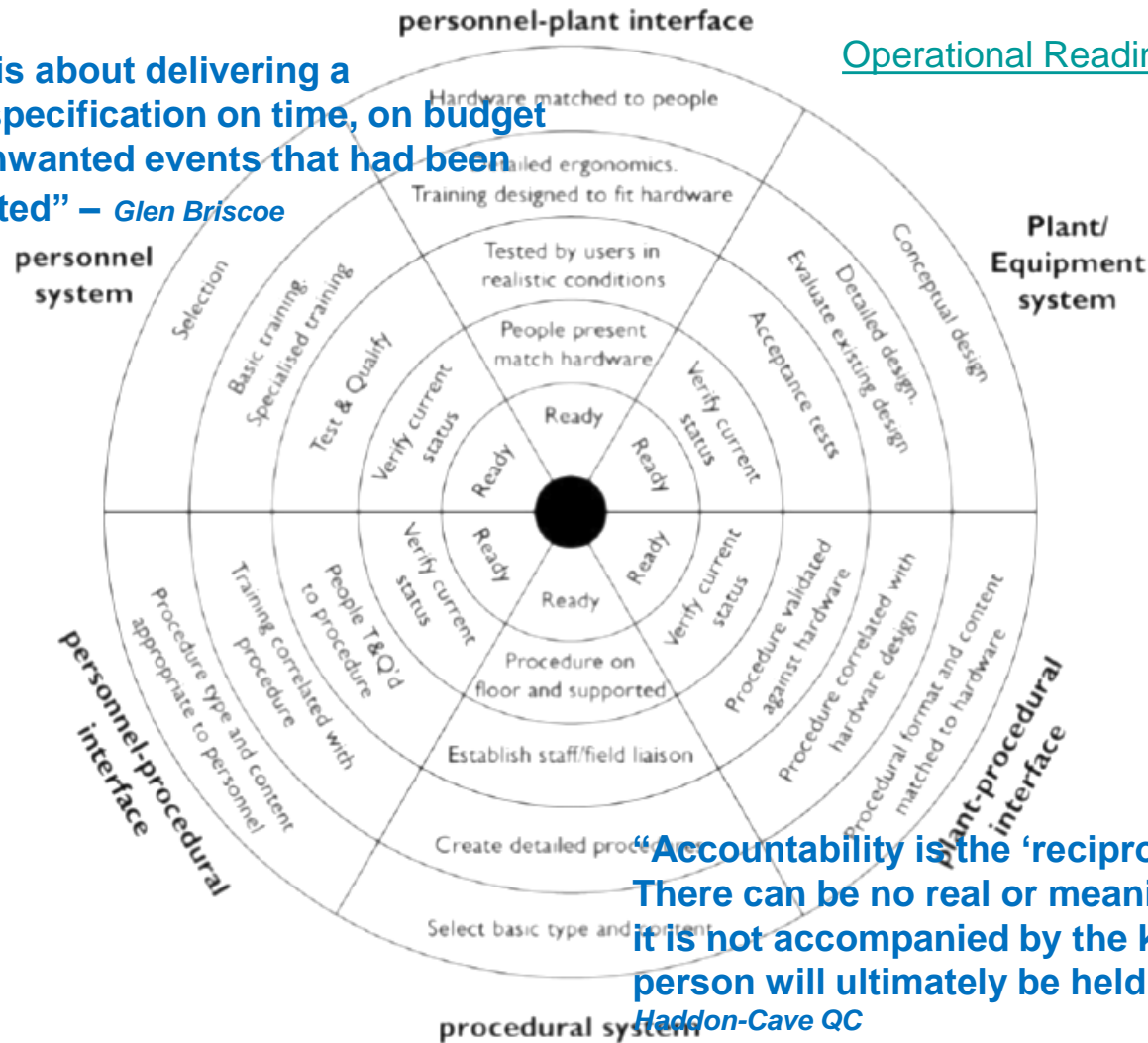
Cargo Cult	What you could do?	How you could do it?
<p>Leaders will demand results or will want to see immediate outcomes. SMS priorities could become confused and measure what is easy not what is important.</p> <p>Constantly amending the templates, agendas and presentation to look more safety, is not building effectiveness.</p>	<p>Make the activities of your SMS goal based, so you focus on achieving the aims of each activity.</p> <p>If a safety meeting is not effective try not to fall into the trap of constantly changing the format of the slides, hoping this will make the meeting more effective.</p>	<ul style="list-style-type: none"> - Be clear about the purpose of each activity. - Focus on how you can best achieve the right outcomes from each activity. - Replicate if it makes sense to, otherwise innovate.



Questions? – Nertney Wheel

“Risk Management is about delivering a product/service to specification on time, on budget and with only the unwanted events that had been foreseen and accepted” – Glen Briscoe

Operational Readiness – Nertney Wheel



“Accountability is the ‘reciprocal’ of Responsibility. There can be no real or meaningful responsibility if it is not accompanied by the knowledge that that person will ultimately be held responsible.” - Charles Haddon-Cave QC

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