Monitoring on the flight-deck: so what are we looking for?

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“The fuel light’s on Frank! We’re all going to die! .... Wait, wait.... Oh, my mistake – that’s the intercom light.”
Monitoring – what’s it all about?

- To be aware of the state of the system
- To observe a situation for any changes and have the knowledge to compare the change
- To have the experience to know whether this is a risk...

....and then share it
Monitoring – *what’s it all about?*

- It’s not new –
  - just a complex mix of attentional, perceptual, cognitive and behavioural activities

- for which we don’t select or train - *or do we?*
Monitoring – Part 1

- To be aware of the state of the system – through attention and perception

- Is this taught and understood?
  - In HF 😞
  - In CRM 😞
  - In TEM 😞
Monitoring – *Part 2*

- To observe a situation for changes and have the knowledge to compare
  - through active scanning

  - do we recognise and experience all system changes? 😞

  - do we understand and train pilot scanning? 🙁

  - do we train for expectation bias? 😞
Monitoring – *Part 3*

- To have the experience to know whether this is a risk
  - through handling skills

“900 hours of Airbus flying per year equals 4 hours of actual handling plus one hour of automated flight repeated 896 times”

- Capt. Jacques Frappier, former Airbus Chief Test Pilot
Monitoring – *sharing information*

- Then share your mental picture
  - through communication

- do we practice intervention/assertiveness in normal operations? 😐

- do we practice these skills in emergency/unusual situations? 😊

- do we practice managing distraction/interruption? 😞
Monitoring – *what are we looking for?*

- Flight-Deck observations focussed on monitoring skills and behaviours – 5 stage development
  - Identifying the key monitoring skills and behaviours
  - Develop the observation criteria
  - Use Day 2 Day Safety Survey to validate the observations
  - Analyse the findings and modify the observation criteria
  - Produce Monitoring Day 2 Day Safety Survey
So what will we observe?

- Visual Scanning & Active Listening behaviours
- Communication between crews – *airborne and ground*
- Crew co-ordination behaviours – *workload allocation*
- System Management behaviours – *the situation awareness of the automation*
- Defensive Flying behaviours – ‘*what ifs*’
- Attentional behaviours – *interruption and distraction management*
- Intervention/Assertiveness behaviours – “*remind me, monitor me and my risk is*”
Summary

Don’t train monitoring
Train Task Switching, Cultivate Resilience
.... Let’s learn to be more afraid
Questions?