



# EASA

European Aviation Safety Agency

# EASA Research 'Startle Effect Management'

EASA CRM Workshop  
30 August 2017

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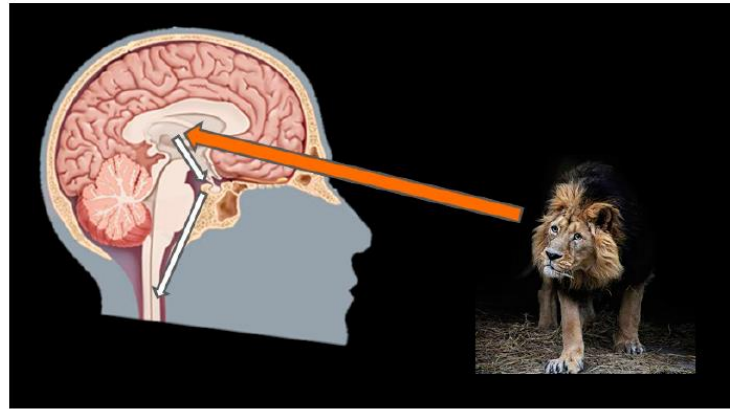


# Content

- Project Objectives
- Main results
- Dissemination



## ➤ Startle and Surprise



- Research carried out by NLR with active support from KLM Training Center and KLM crews



# Main research objectives

## Theoretical Analysis

- Three areas:  
Startle & Surprise, Accidents & Incidents, Training

## Training Development

- Design & Development of training module, coaching

## Training Evaluation

- Experiments being completed, initial results analysis



# Training development

## Background

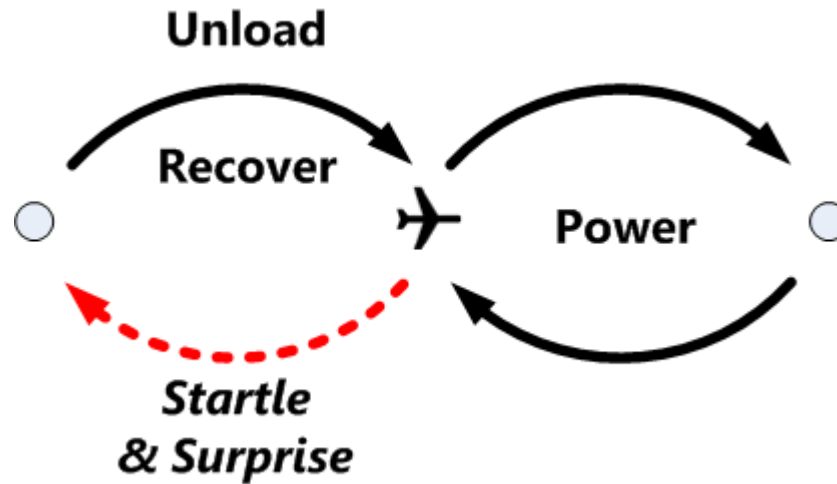
- Emotional impact of Startle & Surprise
- Mental Skills Training
- Focus on process (not scenarios)

## Content

- Classroom session
- Simulator session –coaching from instructor



# Main principle: Unload – Recover – Power



**Unload:** active way of relaxation

**Recover:** start-up cognitive processes

**Power:** foresee actions to take



## KLM Pilots involved (volunteers)

Total: 42 candidates

- B737(short haul): 18 (+2)
- B747(long haul): 24

Average flying hours: 8412 h

- Candidates with Equal or over 10000 hrs: 19

Average time on type: 5,12 years

Instruction experience: 20 people (48%)



# Evaluation results

- Total effect of training is large on ‘information collection’(not so much on self-control)
- Only classroom briefing is not enough (large effect on ‘checking of colleague’ and on ‘information collection’)
- Large difference in progress between short haul and long haul on ‘checking of colleague’ and ‘information collection’





# Pilot Evaluation

## Average grade of the whole training: 8,33 (scale 1-10)

- Average grade short haul: 8,28 vs. 8,38 long haul
- Average grade of classroom training: 8,05 (scale 1-10)
- Average grade of simulator training: 8,32 (scale 1-10)
- Average grade of connection between classroom and sim: 3,76 (scale 1-4)

## Average increased self-efficacy: 3,02 (scale 1-4)

- Average grade short haul 2,94 vs. 3,08 long haul

## Average proposed use of the technique in the operation: 3,56 (scale 1-4)

- Average grade short haul 3,50 vs. 3,54 long haul



# Follow-up Questionnaire

Increased awareness of startle & surprise effects

- 21/29 responses

All respondents shared training experience

50% experienced Startle/Surprise

- 5 used URP in the operation
- URP technique applied: 9 respondents in other circumstances



- Publication of research report on EASA website (September)

<http://www.easa.europa.eu/document-library/research-projects>

- Safety promotion action in preparation
  - Training leaflet
  - Customised 'package' for flight instructors



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# Questions ?

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