



EASA

European Aviation Safety Agency

EASA Research 'Startle Effect Management'

EASA CRM Workshop
30 August 2017

Emmanuel Isambert
Safety Intelligence and Performance Dept

Your safety is our mission.

An agency of the European Union

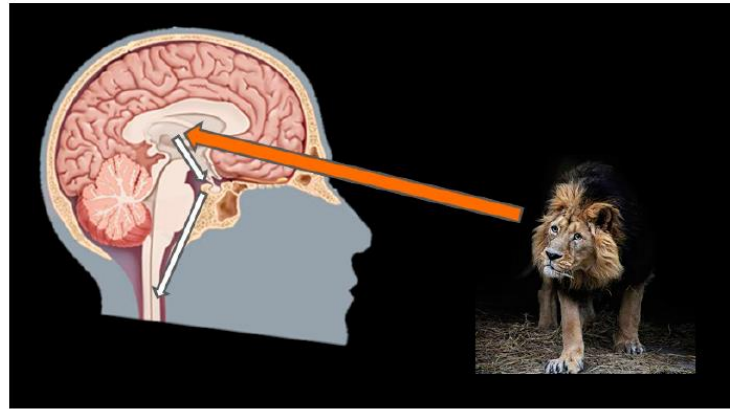




- Project Objectives
- Main results
- Dissemination



➤ 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

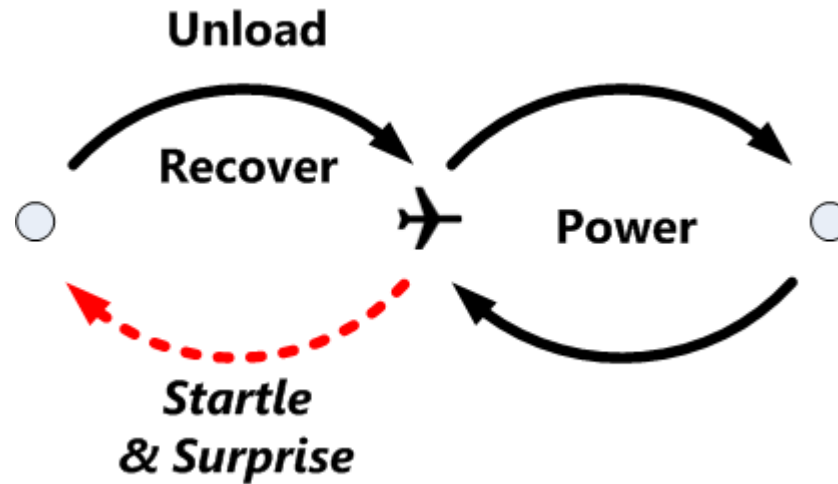
- Emotional impact of Startle & Surprise
- Mental Skills Training
- Focus on process (not scenarios)

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



EASA
European Aviation Safety Agency

Questions ?

Your safety is our mission.

An agency of the European Union

