



Dedicated to innovation in aerospace

## Managing Startle & Surprise

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A KLM and NLR project, commissioned by EASA



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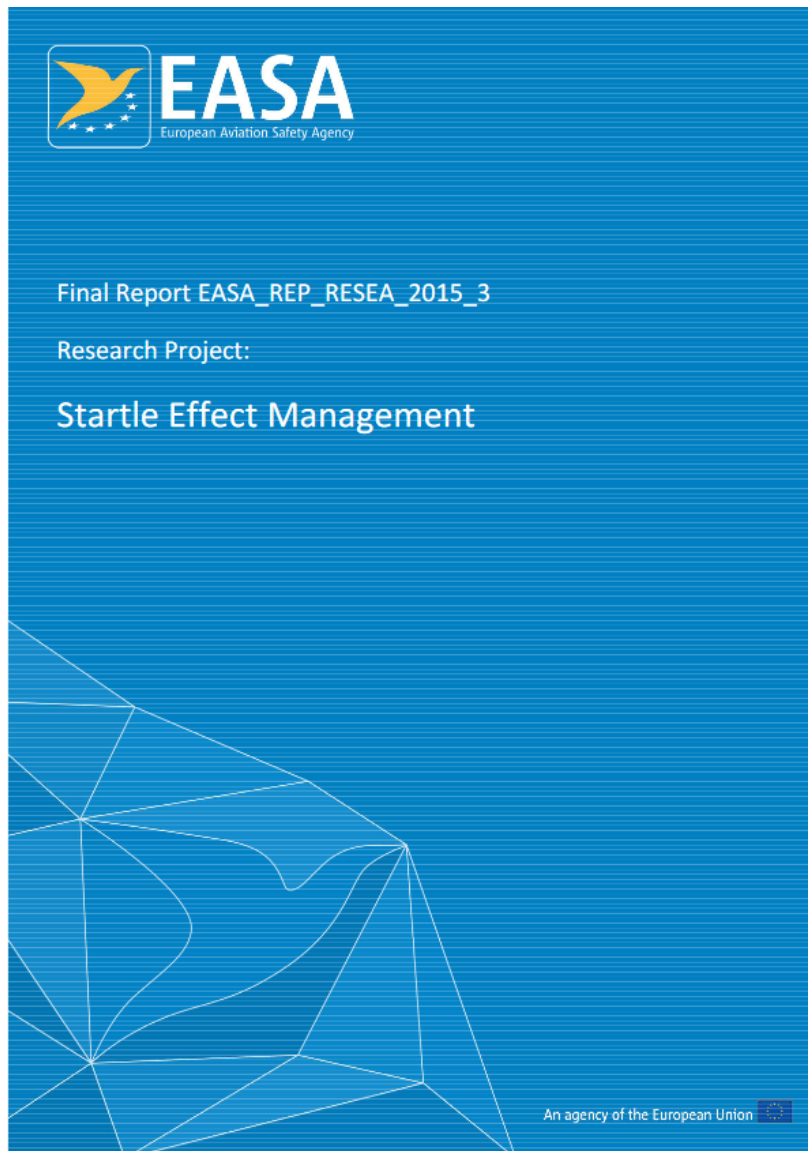
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# Operational impact – Departure Kiev 2018





## Bad news



## Good news



After the research...



Startle & Surprise training in LOE 2018

Startle & Surprise addressed in TR 2019

Startle & Surprise training in TC

Startle & Surprise training in IP



After the research...



**Lufthansa CityLine**



# Why?

**\*BREAKING\*** -  
**IN SAN FRAN**



# Do not blame the crew





# Unexpectedness - Behavioural reactions





## Startle and Surprise training – The goal

**Practicing skills that  
help pilots deal with  
ANY unexpected  
situation**



## Aviation wisdom

### Remember these...?

- Enjoy the failure
- Look at the big picture
- Sit on your hands

Etc...



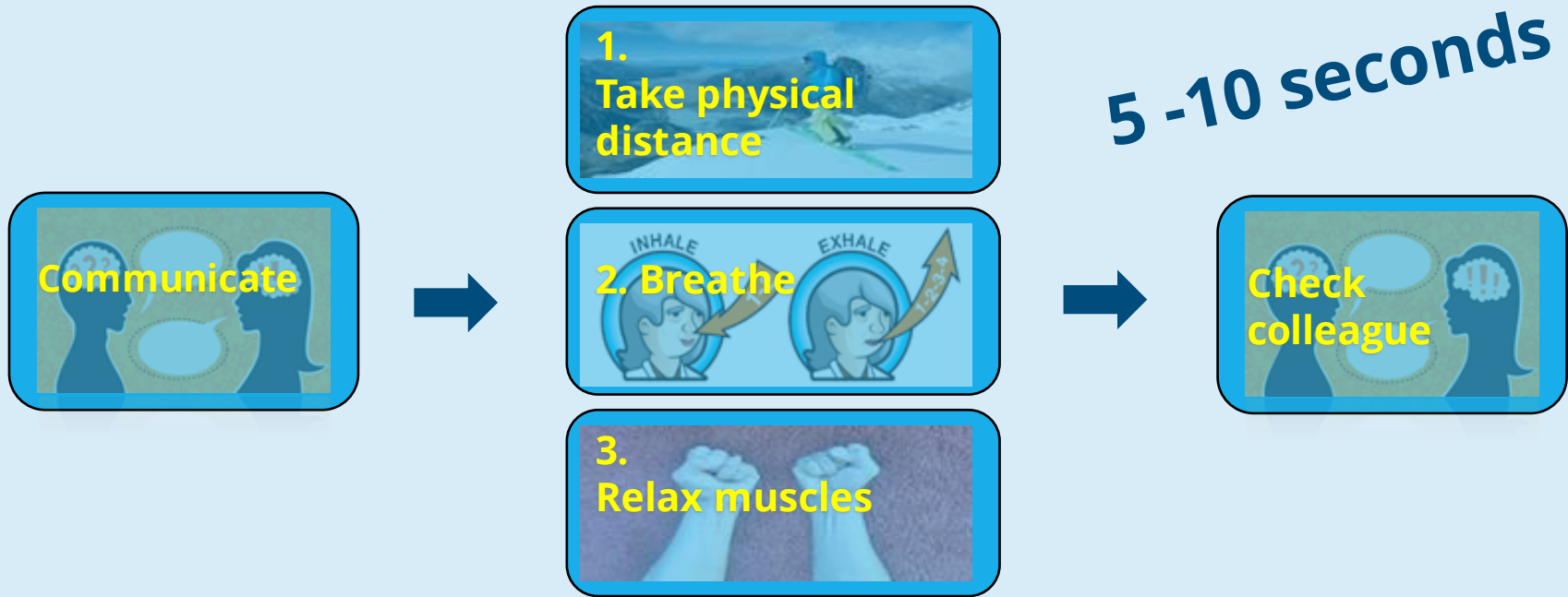
## Three step approach

Reset

Observe

Confirm

# Reset – Arousal Control





# What does it look like?

Relax

Observe

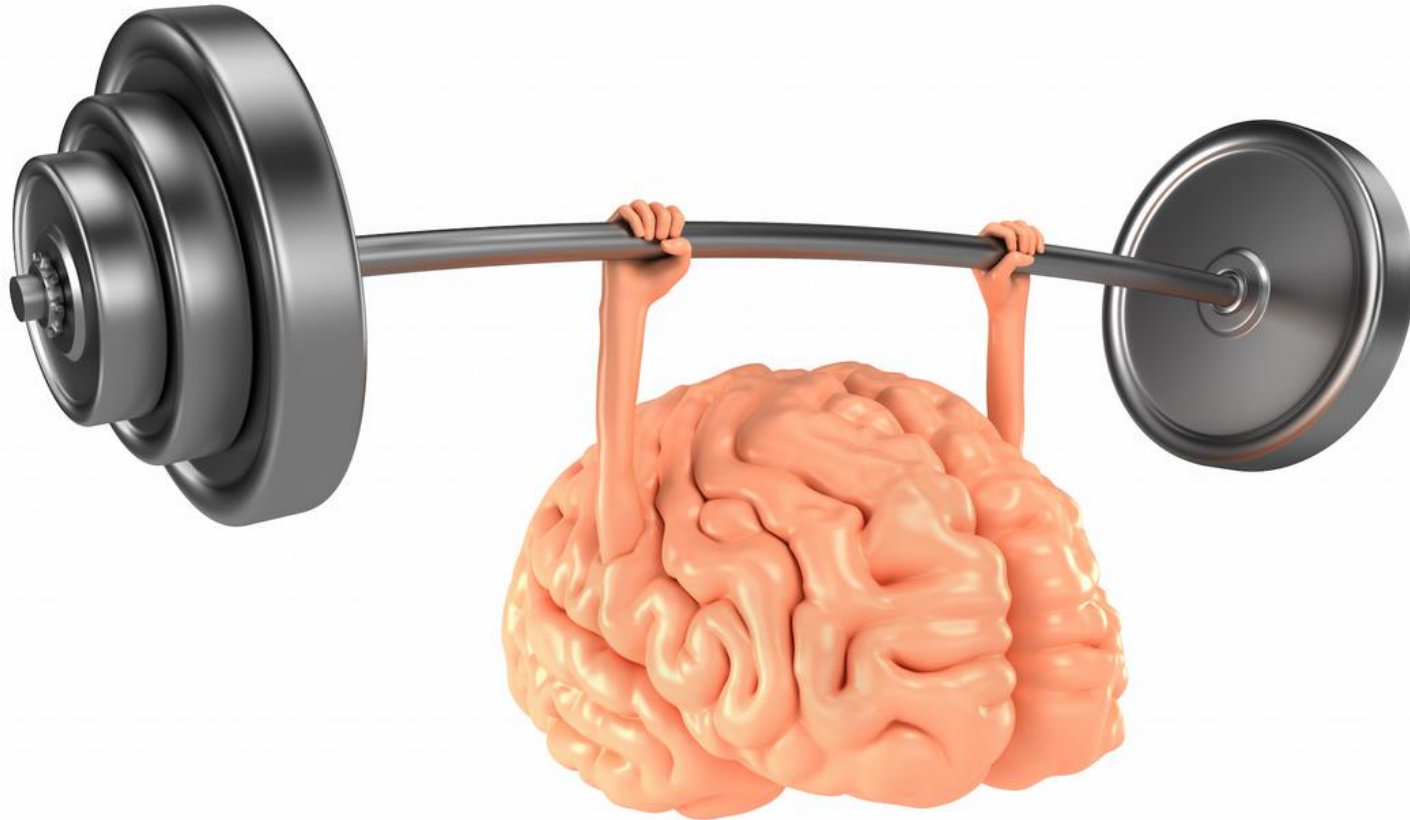
Confirm



An engine failure

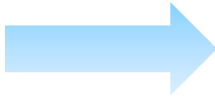


It is not a trick, it is Mental TRAINING!





# Pilot Empowerment







Dedicated to innovation in aerospace

# Fully engaged

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