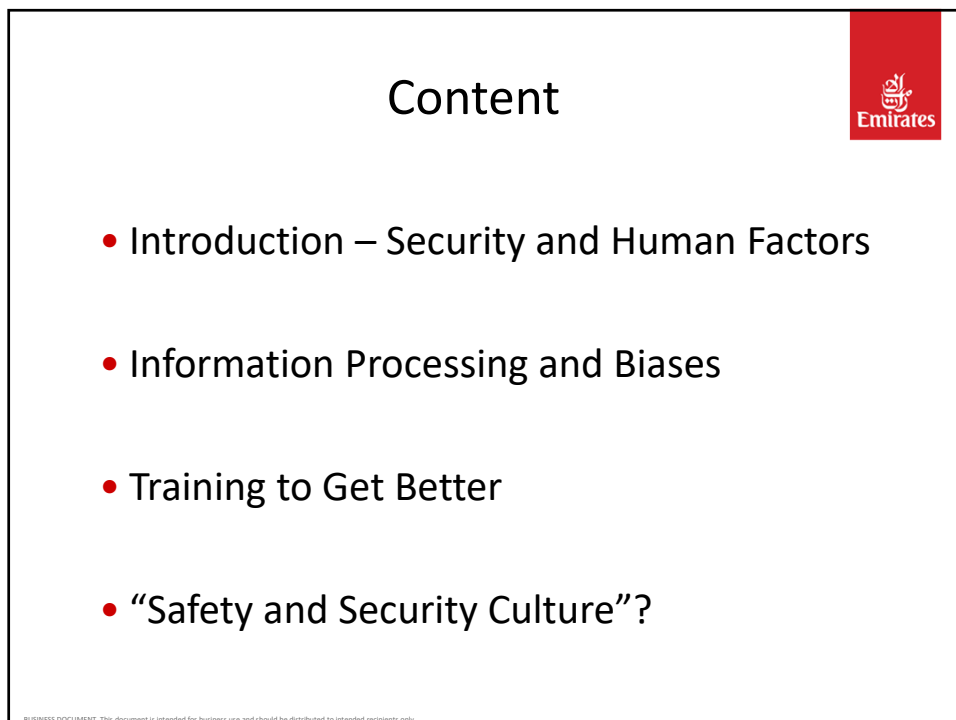




1



2



Introduction

- Security and Human Factors

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3

Security & Human Factors/Safety

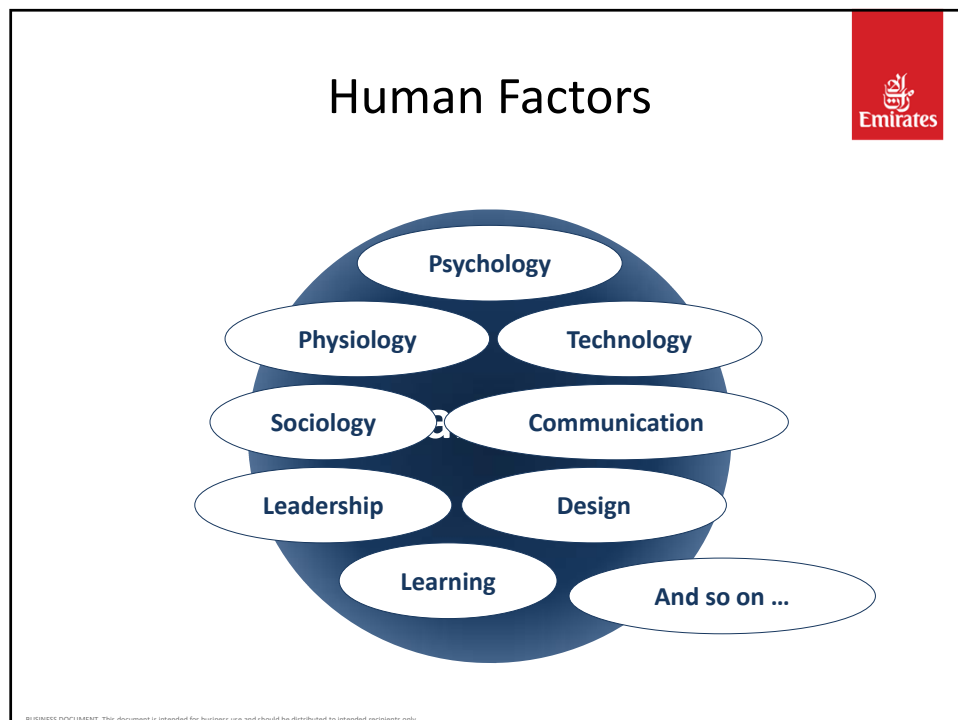
– Shared Goals and Differences



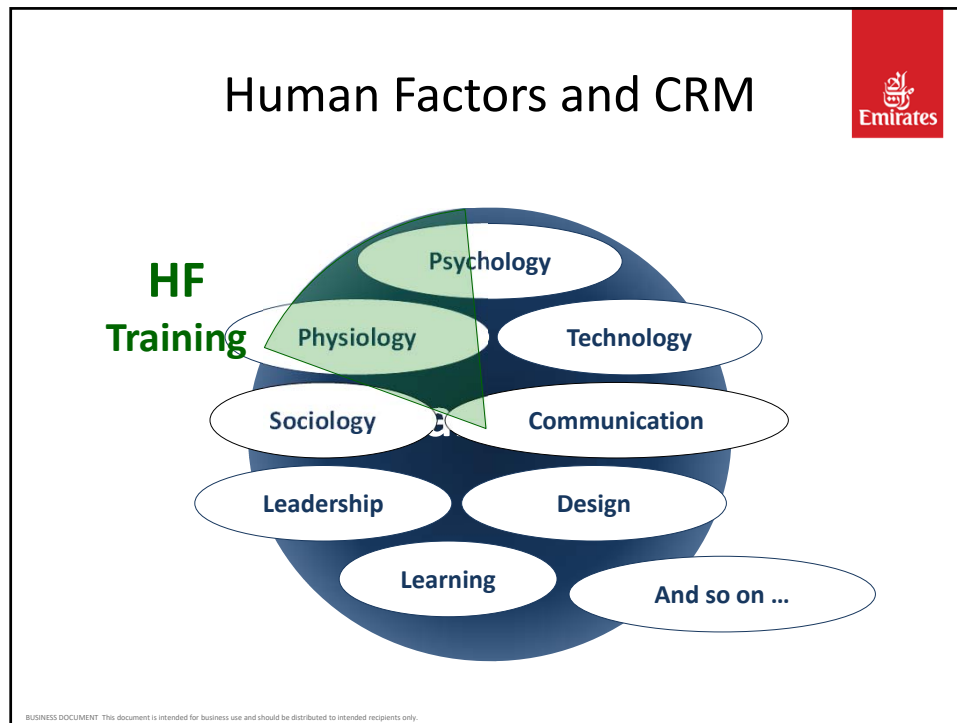
4



5



6



7

Training Pay-off?



The slide presents a list of outcomes from CRM training, overlaid with a large green 'YES' stamp. To the right, there are three small images: surgeons in an operating room, a medical team in a control room, and a document titled 'INSURANCE POLICY'.

- Research at academic medical center in UK
- Mandatory CRM training for 517 staff (surgeons, anaesthesiologists, nurses etc.), including use of briefings and checklists for coordination
- Pre-operative briefings up in the operating room from 6.7% to 99% within four months
- Wrong site surgeries and retained foreign objects down from 7 in 2007 to none in 2008, after 14 months without training up to 5 in 2009
- Malpractice expenses down from \$ 793 000 (2003-2007) to 0 (zero) in 2008

YES

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(Ricci & Brumsted, 2012)

8



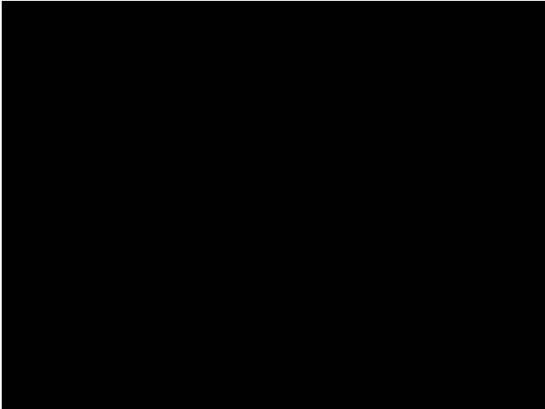
Information Processing and Biases

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9



What could possibly go wrong?



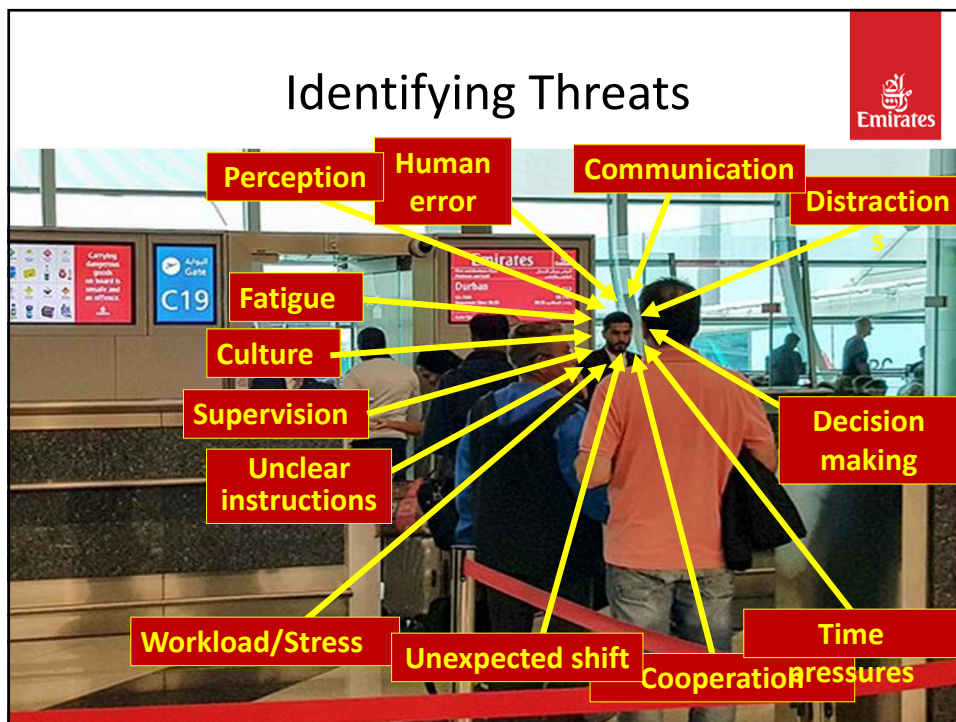
Imagining what could go wrong
= Identifying Threats

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10



11



12

Assessing Threats





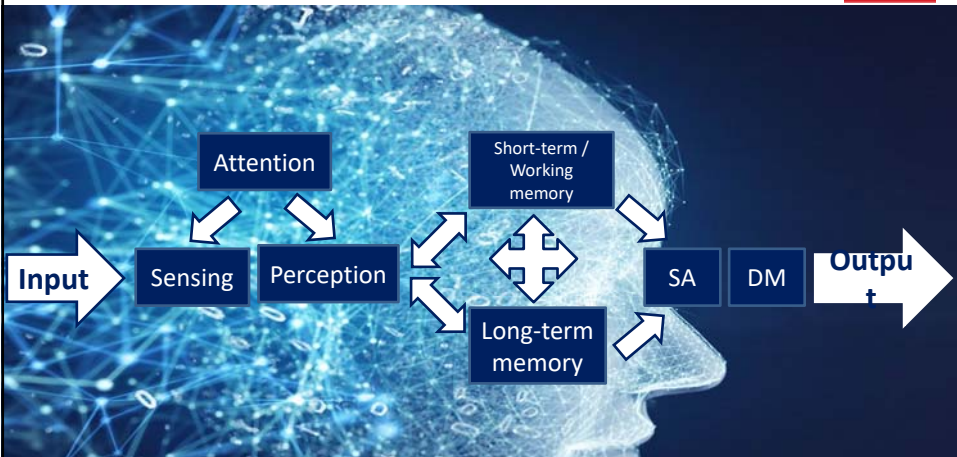
*Have the probability of an accident
potential consequences been actively assessed?*

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13

Information Processing





*Need to know? – Yes, if you want to be or become an expert!
An expert knows what they are doing while they are doing it, this
requires the ability to "think about what you are thinking about"*

14



Perception

Affected by: Experience – Expectations - Desire



15

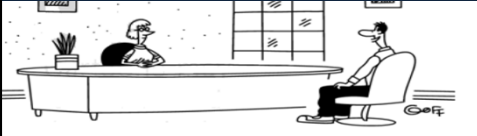


Biases: Me, myself and I – The best!

Overconfidence effect




Self-serving bias / Attribution error

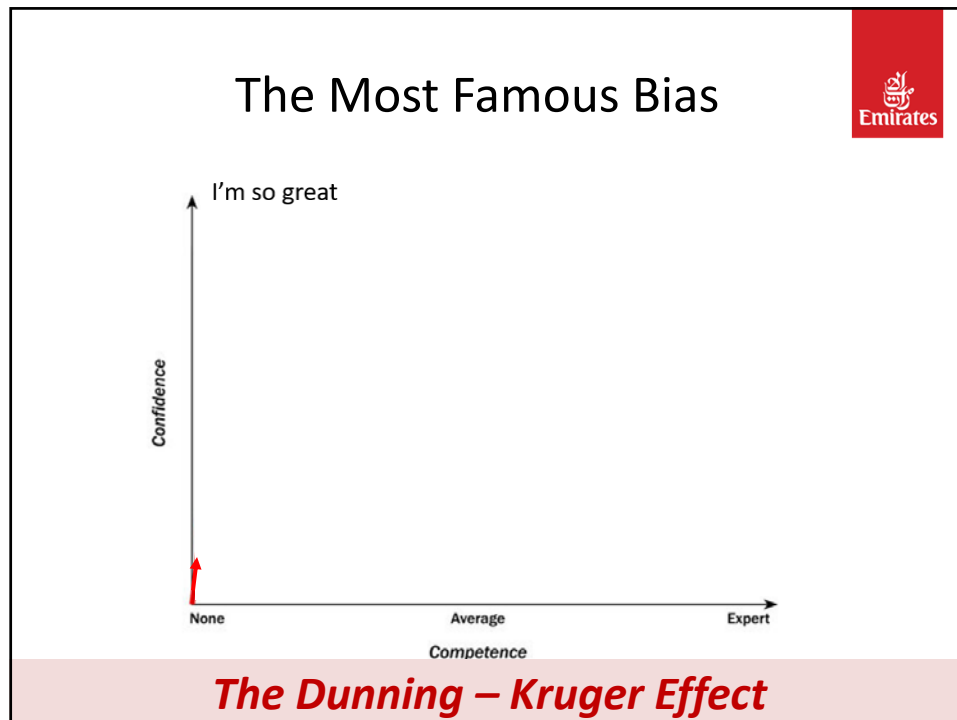


"I am possibly the best job candidate you will ever have the privilege to interview. Need I go on?"



"And that's why it was everyone else's fault that I didn't wear my safety gear or follow instructions."

16



17

Assessing Risk

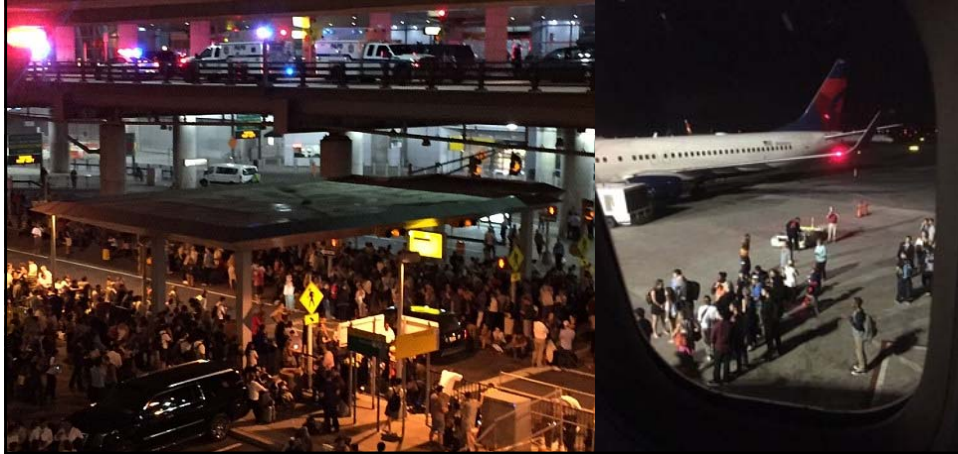
CAUTION	<i>“Relative risk”?</i>	CAUTION
UNDER PRESSURE	<i>How reset?</i>	COMFORT ZONE

18

Reacting ... and then?



“Chaos over 'shots fired' at JFK: Thousands of passengers are ordered to take cover and then evacuated from two terminals as a huge army of cops hunt for non-existent gunman after false alarm”



19

The Problem of Escalation

**a lot**

- Information arriving may already be old
- The escalation may be exponential (People think of linear development)

exponential growth**linear growth****a little**

Must get ahead of the development!

20



Training to Get Better

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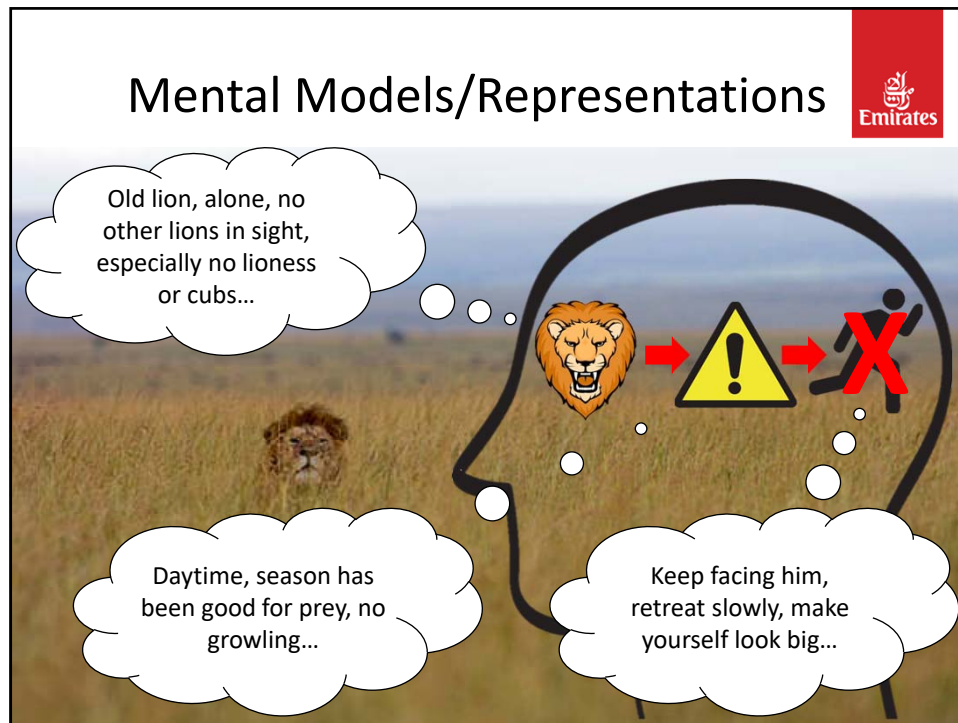
21



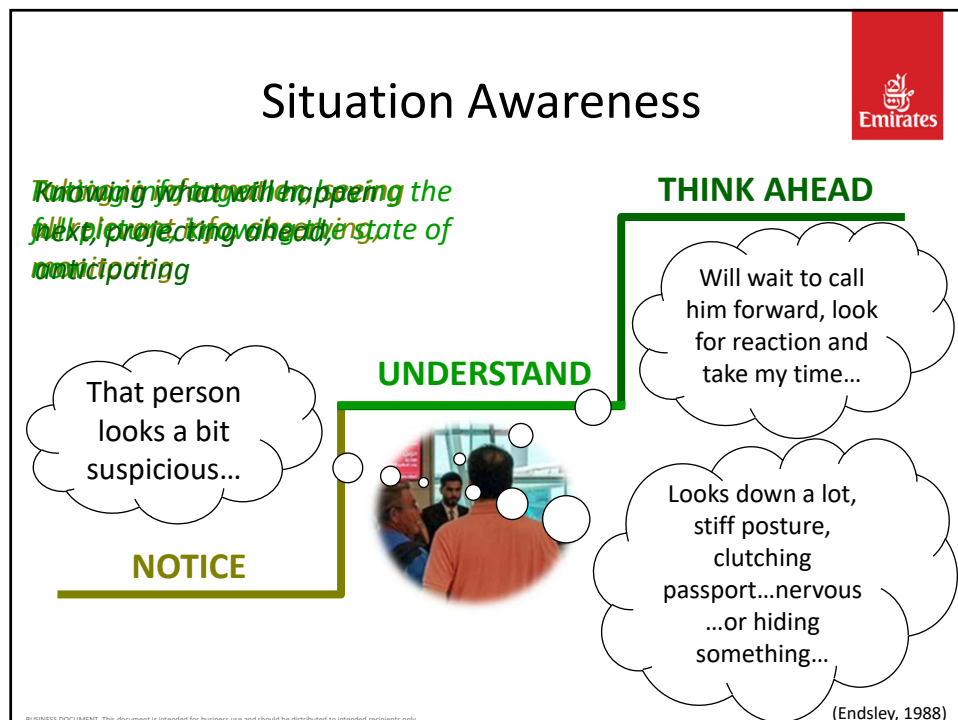
Understanding Human Behaviour – for Effective Security



22



23



24



Situation Awareness



Situation Awareness is most of all about having an active attitude to taking in information!

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25



Decision Making

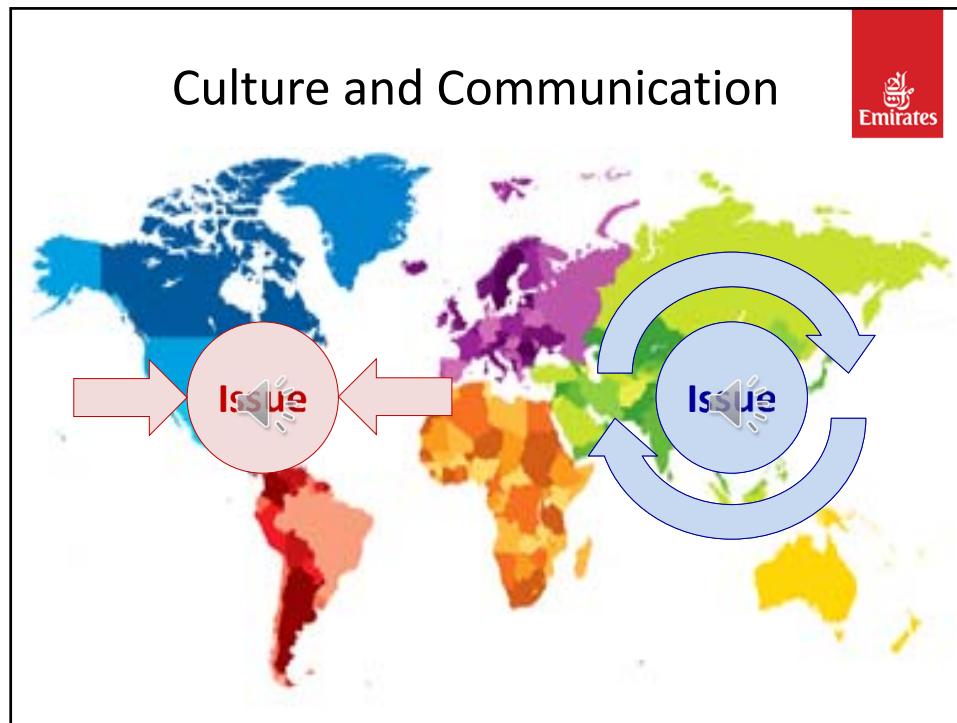
Conditioned reaction	Natural decision making	Rational decision making
• Identify triggers • Fast/directed actions • Focus on actions, avoid distractions	• Recognise cues • Serial option evaluation • Mental simulation	• Clarify priorities, analyse options • Make use of time • Reflected choice
⇒ Correct /fast reaction	⇒ “Good enough” decision	⇒ Optimal decision



Split-second
Seconds
Minutes
Hours

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26



27

“Safety and Security Culture”?



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28

Safety and Security – culture? How can it be created?



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29

Training Human Factors for Security and Operations



30



31



32

Let us get better together!




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33

Summary



- **Security and Human Factors**
- **Information processing & Training to get better**
- **Security + HF = True**





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34

Thank you!





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35