Challenges in Safety Management
DFS's view

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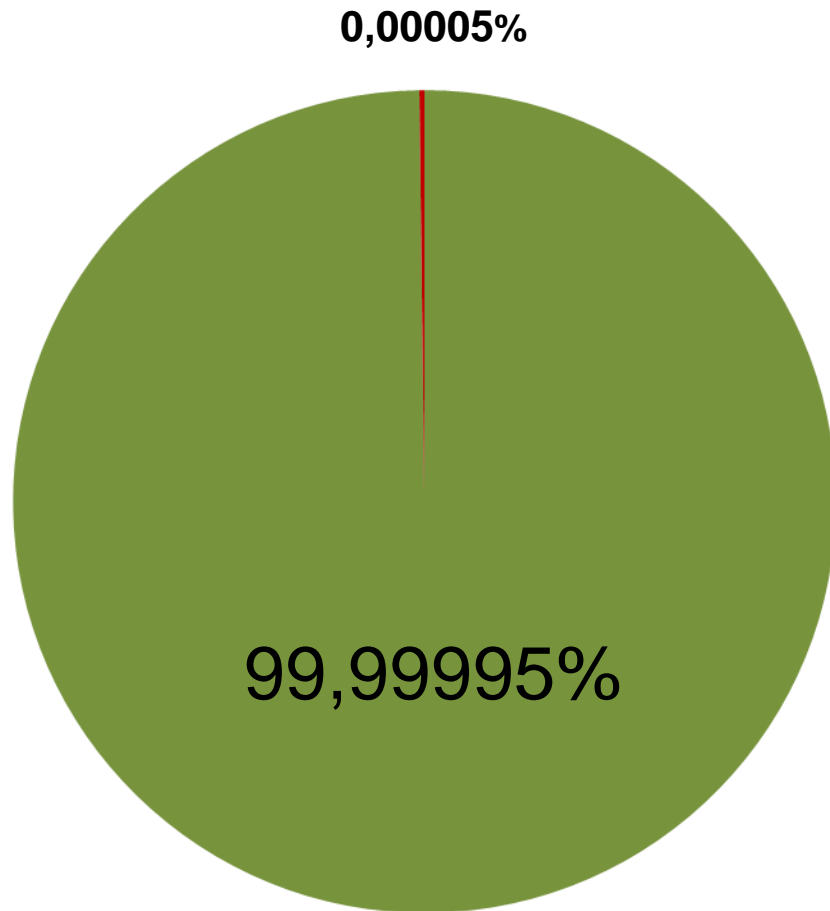**Human Factors and System Safety Seminar, Barcelona**

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Safety Management achieved a high level of Safety

- Complex aviation organizations like ANSPs are called ultra safe systems, where **major accidents are relatively rare**

- Constant improvements have led to very high safety levels. **The number of adverse events is almost zero**

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Distribution of "failure" and "success"

0,00005%

99,99995%

DFS 2014 figures:

142 ATM induced SMI vs.
2.980.735 IFR movements

$$\frac{142}{2980735} = 0,0000476$$

Is it sufficient to seek for negative outcomes?

- However, to keep these figures so low, **continuous enhancements of the SMS with a proactive view** is required

- The systems safety status shall be continuously monitored to detect early on developments jeopardizing the continued high level of safety

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What does a modern safety management system need? The DFS point of view

Areas to look at ....

- The human being

- The human centered approach

- System complexity

- System thinking: The Local Rationality Principle

- Automation

- Leadership

What does a modern safety management system need? The DFS point of view

Elements, which should be regarded
for a proactive safety management approach :

- **Consider <u>Weak Signals</u> in ATM safety performance**

- **Perform <u>Local Safety Surveys</u>**

- **Establish <u>user centered</u> design**

- **Identify <u>automation</u> as joint cognitive systems**

Conclusion

- The current safety level is very high

- The traditional SMS approach has to be improved inorder to keep the safety level high

- While the collection, monitoring and analysis of occurrences (Safety 1.0) should be maintained, more effort is required in order to systematically understand what makes us successful and early identify "trends" or "drifts" (Safety 2.0)

- The DFS approach to "Safety 2.0" contains various proactive programmes like "Weak Signals", "Local Safety Surveys" and the establisment of a "Design Process Guide"

The important things seldom remain hidden. But they often remain unnoticed.

Thank you for your Attention

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