# How to keep safe three million operations a year – from local, FAB and network management metrics to a worldwide CANSO approach

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member of
**FABEC**

The sky over Germany on a normal day
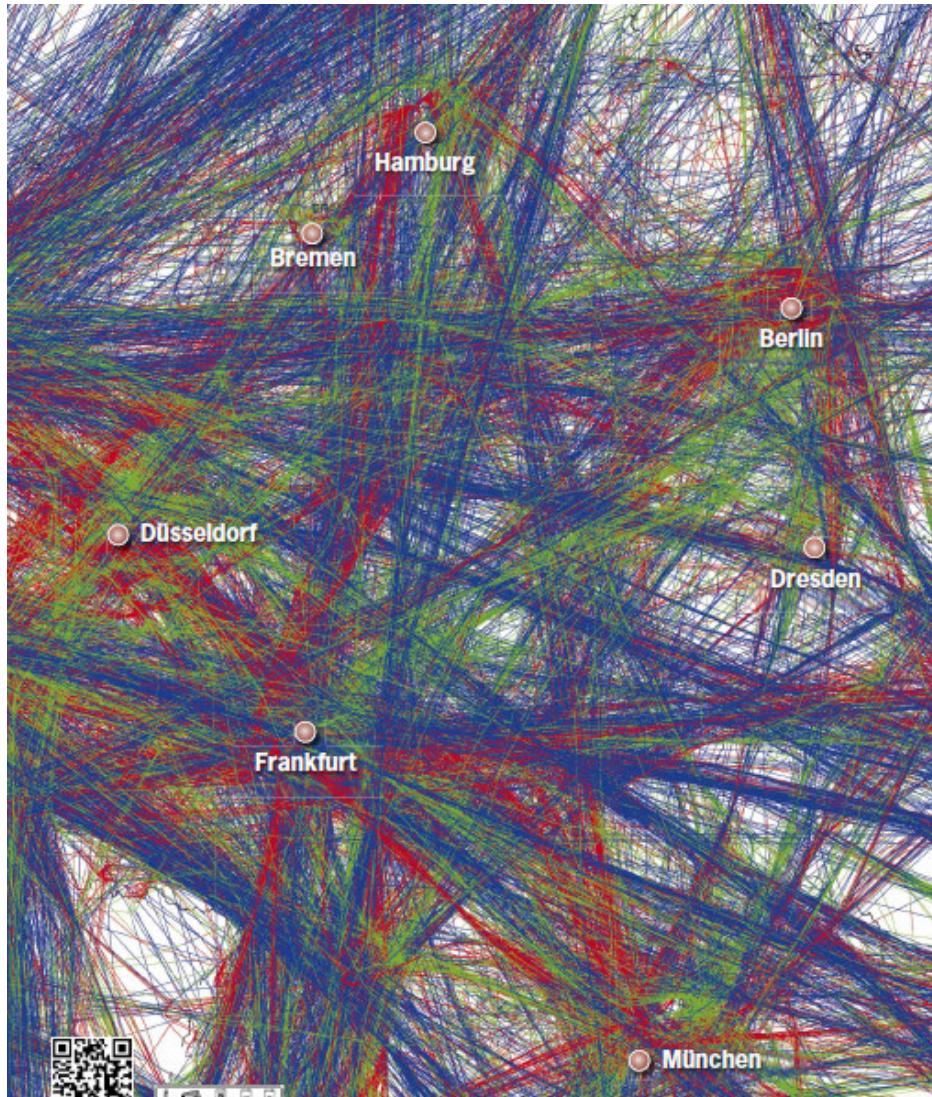
- Complex airspace structure in the centre of Europe

- High traffic complexity indicator

- High traffic volumes

- 3 million IFR flights in 2011

- En-route: 3% increase in 2011

- ARR/DEP: 2.6% increase in 2011

- Safety record remains good

Facing the challenge – locally

- Setting strategic safety goals and measures

- Safety action plans at unit level for improvements and risk mitigation

- Adhering to safety requirements

- Safety-assessed ATM technology

- Investigating causal factors

- Using HERA

Technology example: Design Process Guide
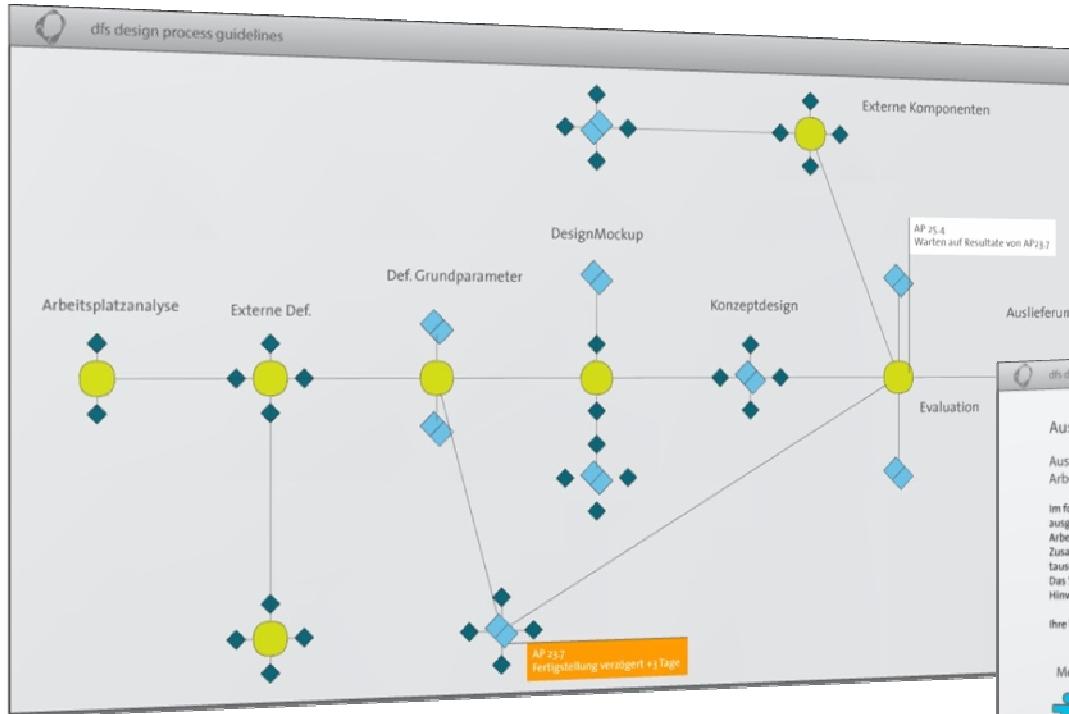
Design elements cannot be considered independently of each other but need to be understood as an interactive system including their interrelationships and processes …

… the **Design Process Guide** is a tool that supports this systemic view

SMS – Roles and responsibilities

Responsibility for safety management

Safety responsibility

Monitor safety

Develop and maintain SMS

Provide ANS safely

Investigate occurrences

Manuals on safety assessments, investigation, audits

Enable/ support

Adhere to safety management requirements (e.g. occurrence reporting)

Capture and analyse safety data

Interface with NSA and international developments

Implement risk mitigating measures

Indicate potential risks

Recommend measures

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Separation minima infringements remain acceptably low

Legend: ■ very significant ■ significant ■ not signficant
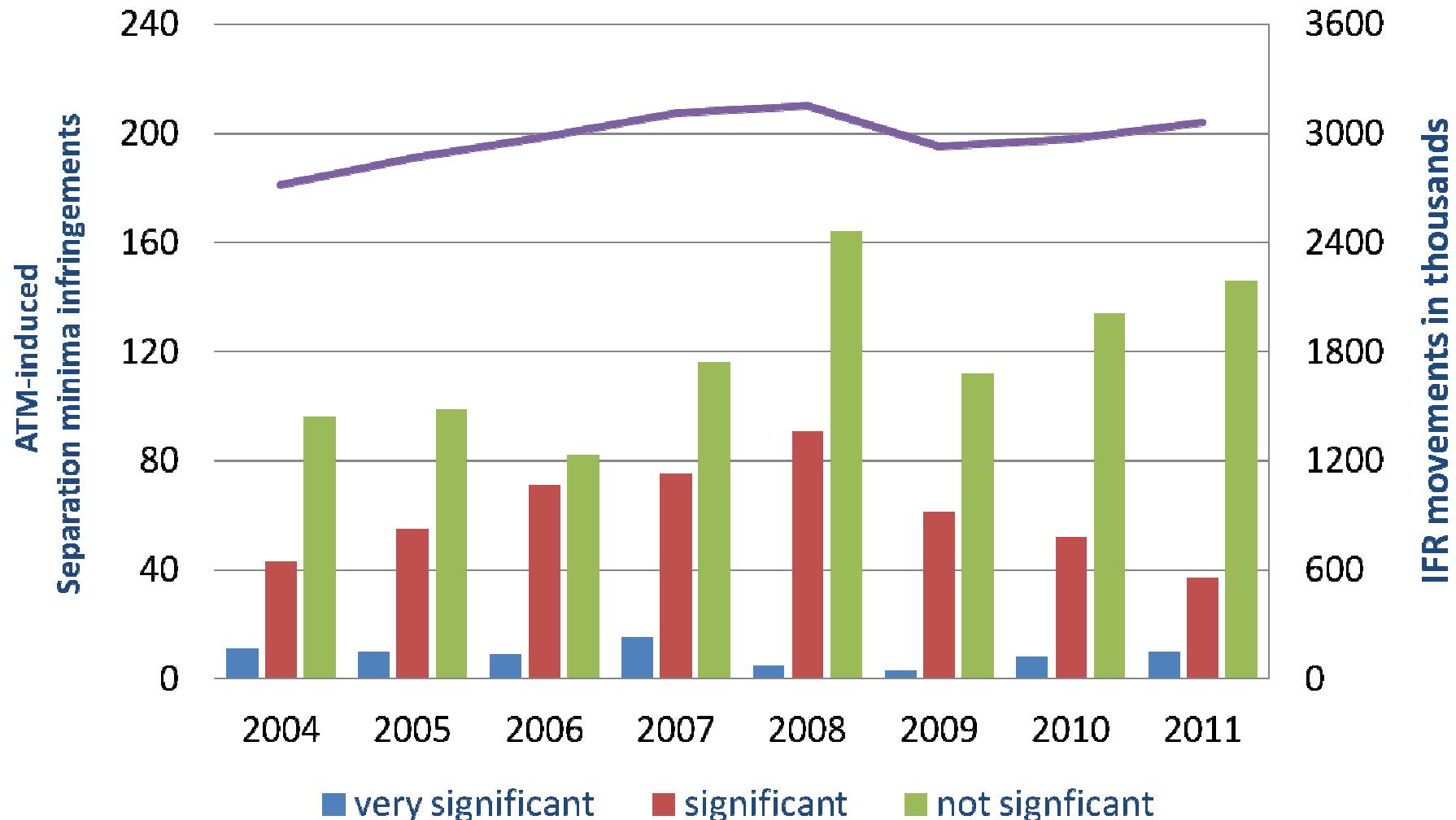
National / international safety interfaces

German interface NSA / ANSP:

- New working processes established
- Transfer of knowledge was required
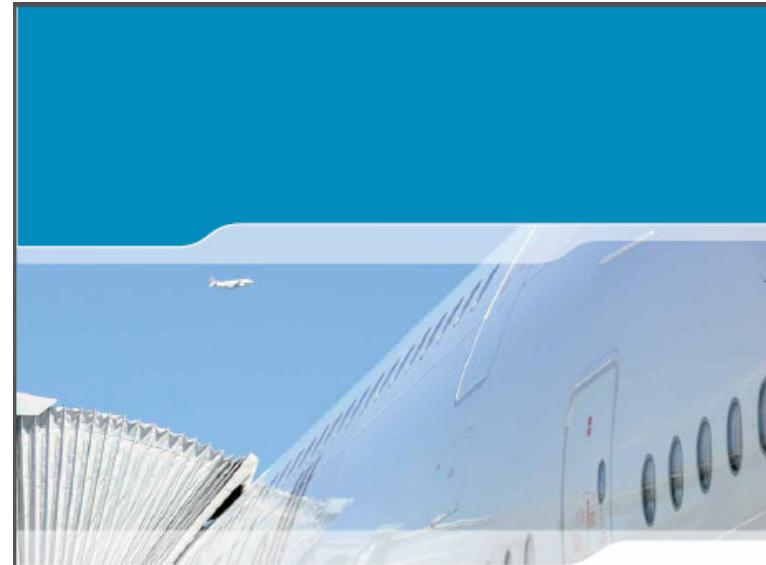
EUROCONTROL:

- Safety Team, for example: Interface NSA / ANSP Study
- SAFREP, SISG, HF Subgroup

ATM Safety Management
Interface between ANSP and NAA/NSA

Study and Selection of Good Practices

International safety interfaces

- **FABEC**

  Common safety assessment method

- **CANSO**

  Effectiveness of safety management

- **EASA**

  Regulatory framework

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Thank you for your attention!