ICAO ATFM Seminar

Hosted by General Civil Aviation Authority (GCAA)

DFS experience related to ATFM from an individual state point of view –
Integration with the Network Manager Operation Center (NMOC, former CFMU)

Dubai, UAE 13th – 15th DEC 2016

Mr. Moritz Manzel – German Air Navigation Services

member of FABEC

ICAO • OACI • ИКАО 国际民航组织 • ايكاو

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United Arab Emirates

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GENERAL CIVIL AVIATION AUTHORITY

Agenda

- Preliminary Remark
- ATC and ATFM in practice
- Integration with NMOC
- Conclusion

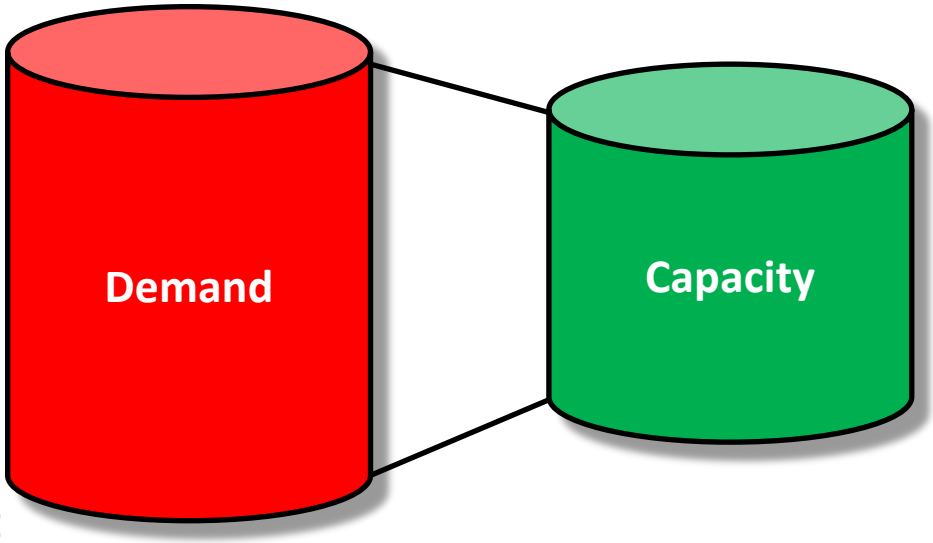
Preliminary Remark

Control is not enough.

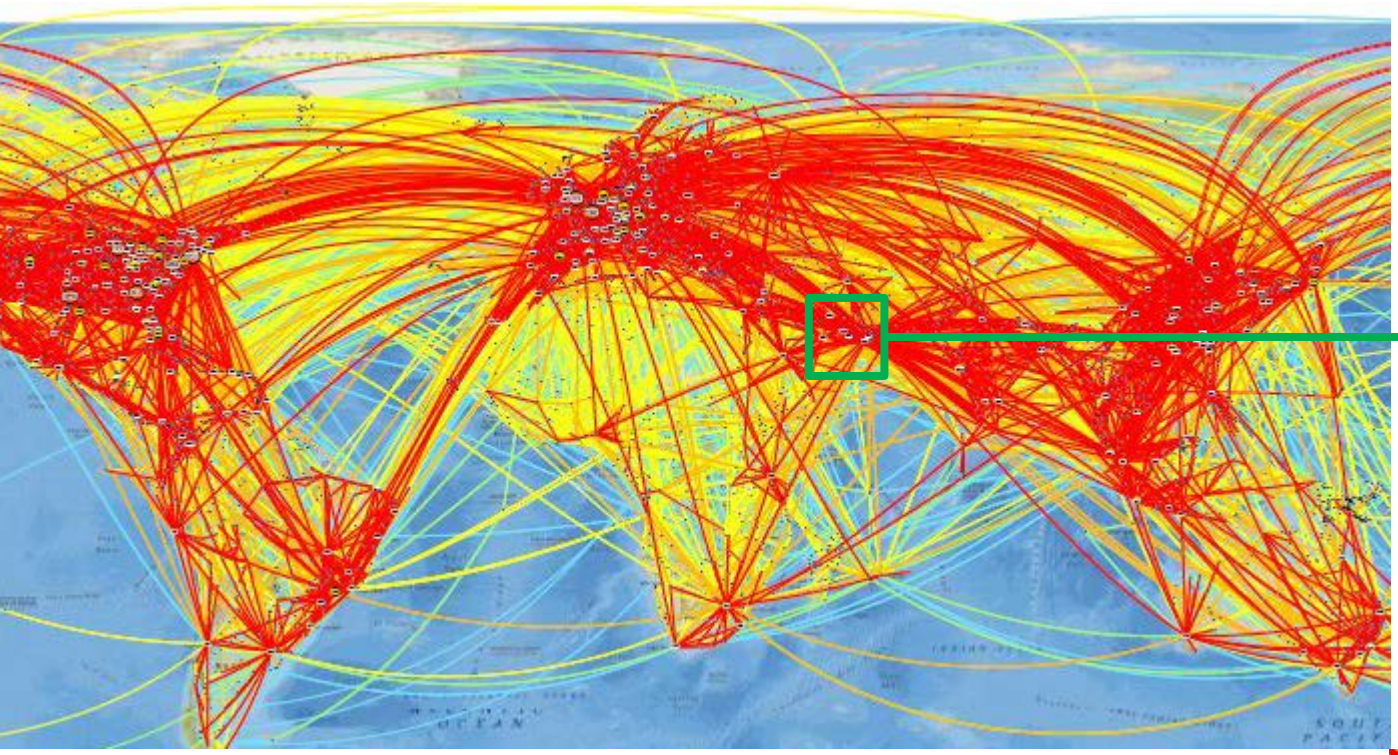
Management is mandatory.

Preliminary Remark

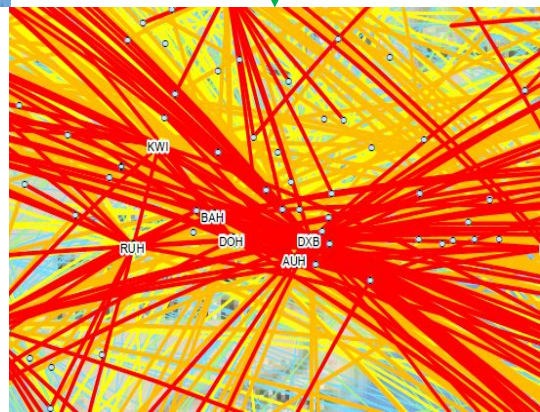
- Major aviation capacity constraints are:
  - Over-demand / Over-delivery
  - Weather
  - Staff shortage
  - Quality of information
  - Technical problems
- Air Traffic Flow Management contributes to:
  - Making best use of available capacity
  - Protecting Air Traffic Controllers from over-deliveries
  - Ensuring safe, orderly and efficient Air Traffic Management
  - Environmental issues, as fuel savings and less CO2 emission
  - Predictability of Air Traffic
  - Flexibility in Demand / Capacity Balancing
  - Collaborative Decision Making between all ATM partners, as ATC, Airlines and Airports



Preliminary Remark



"This development is a positive one."



Air Traffic Flow Chart 2030
(ICAO Forecast Model)

ATC and ATFM in practice

(1) Nothing must happen – zero tolerance.

(2) Control is not enough – management is mandatory.

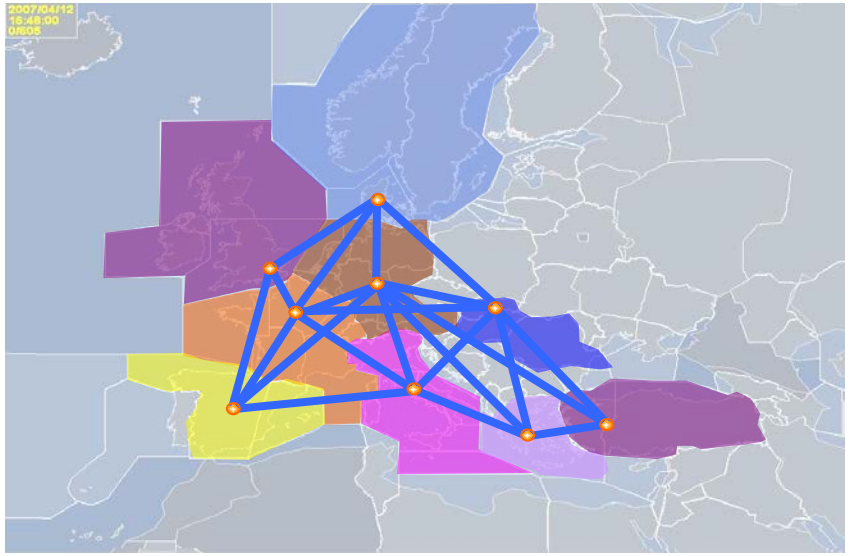
(3) Need for C-ATFM

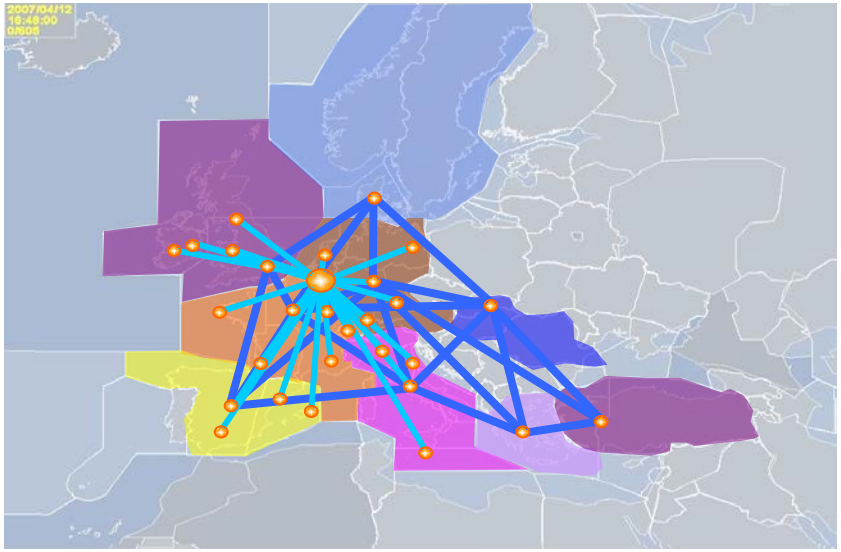
(4) Achievement through implementation of Flow Management Position (FMP) in every UAC / ACC.

ATC and ATFM in practice

History of ATFM in Europe

- Traffic Overloads since the 1970s
- National Flow Management Units in the 80s and early 90s
- Central Flow Management Unit (EUROCONTROL) in Brussels since 1995
- Eurocontrol becomes declared Network Manager (NM) for Europe (NMOC)

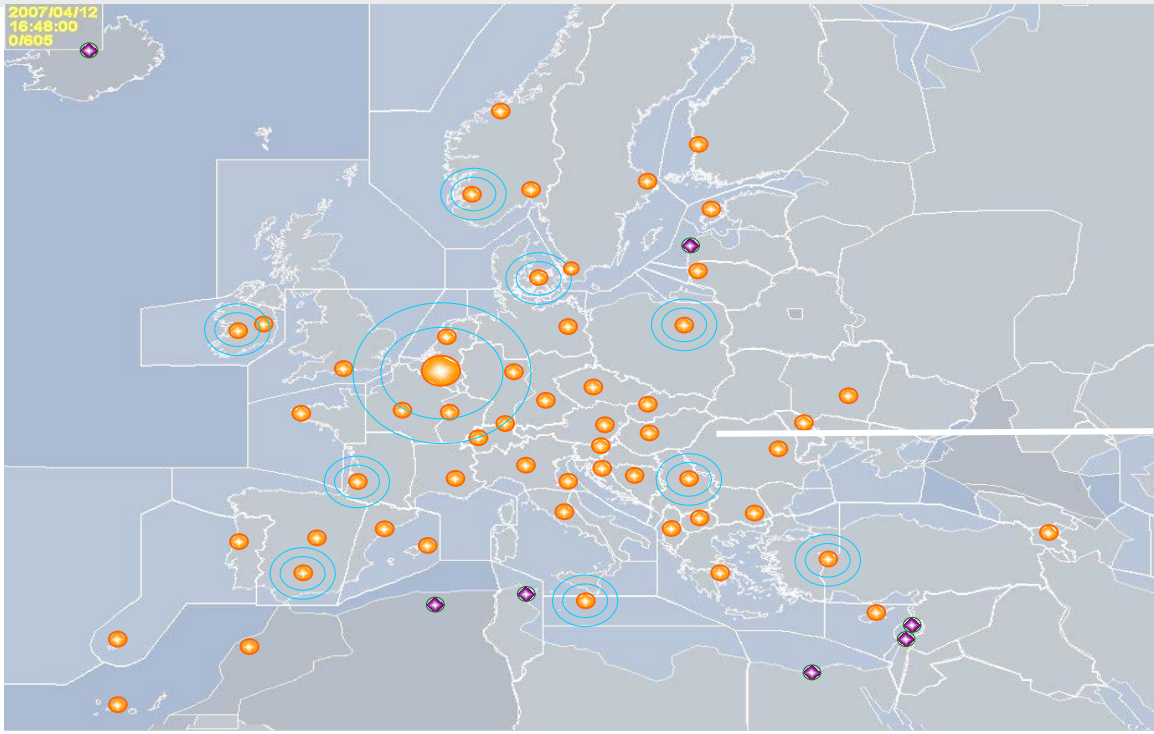




ATC and ATFM in practice

ATFM and adjacent areas

- 42 States
- 1750 Sectors
- 65 ACCs & 61 FMPs
- 520 Airports
- 1940 Aircraft Operators
- + 6700 Connected end-users
- Peaks + 33.400 Flights a day
- 10,000,000 Flights a year



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Preliminary Remark

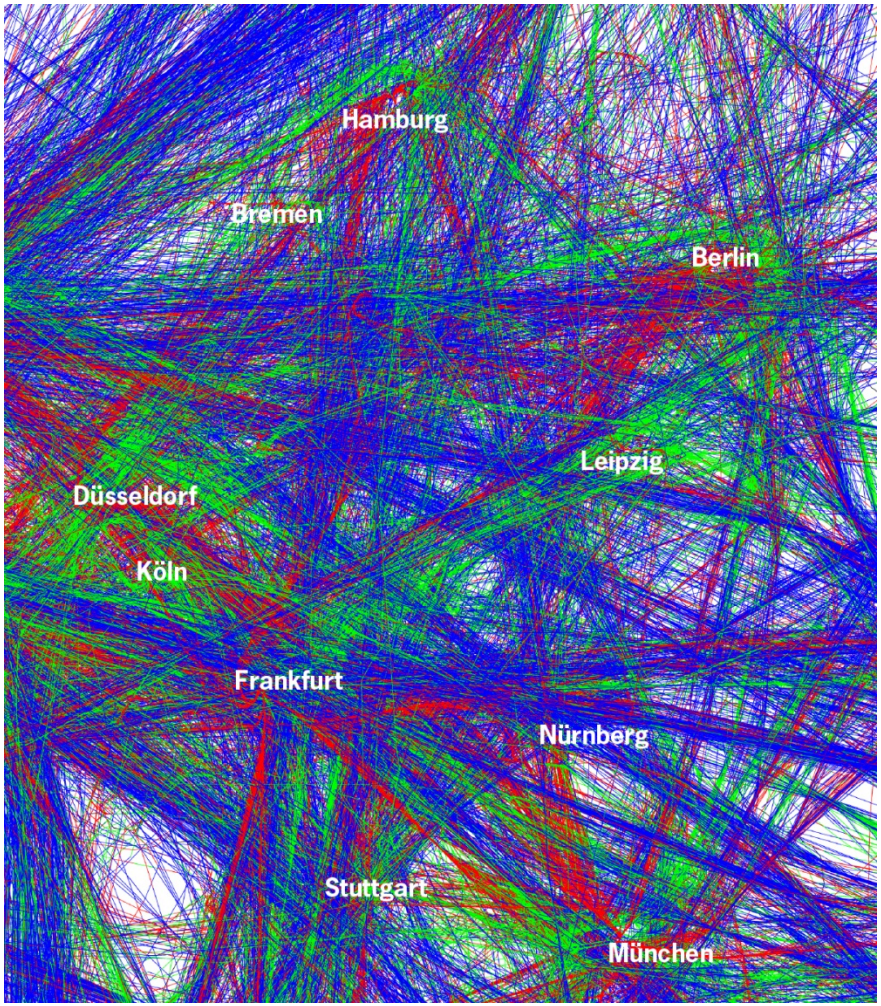
One day in January 2016

Climbs

Transit flights

Descents

In 2015 DFS has handled more than 3 million flights (10.065 IFR flights per day).



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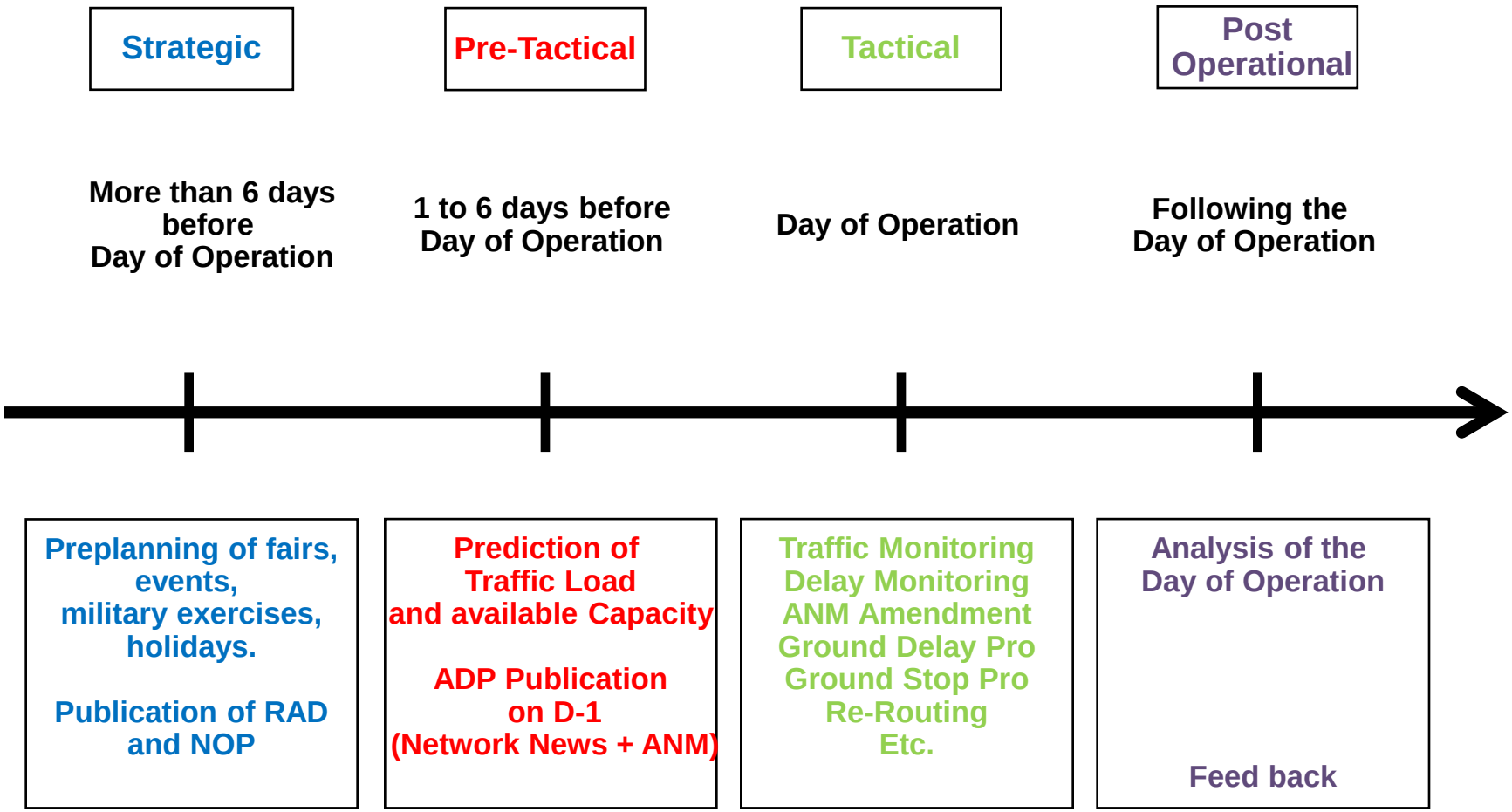
ATC and ATFM in practice

NMOC Responsibilities

- Flights subject to ATFM Measures
  - All IFR Flights departing within NM area
  - IFR Flights departing from NM adjacent area and entering NM area
- Flights exempted from ATFM Measures
  - Flights departing outside the “adjacent area”
  - VFR Flights
  - Military Operational Traffic (OAT)

ATC and ATFM in practice

ATFM Phases



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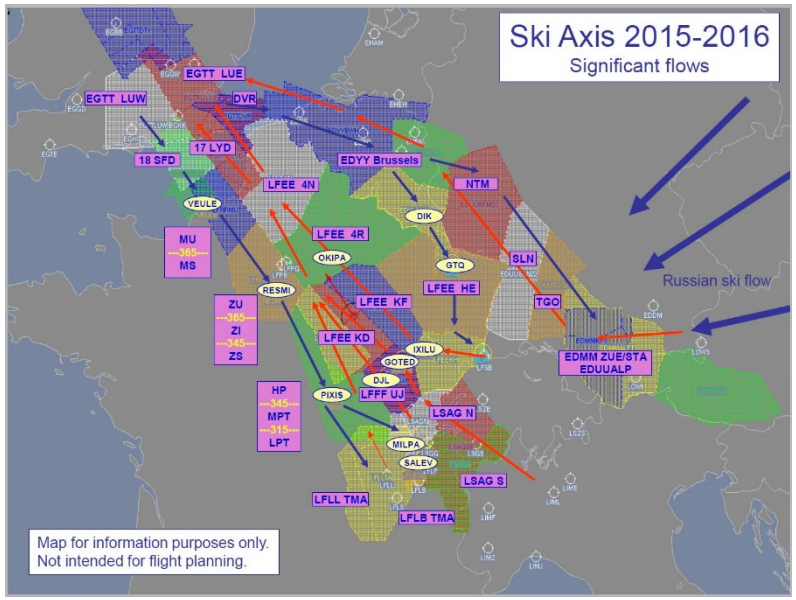
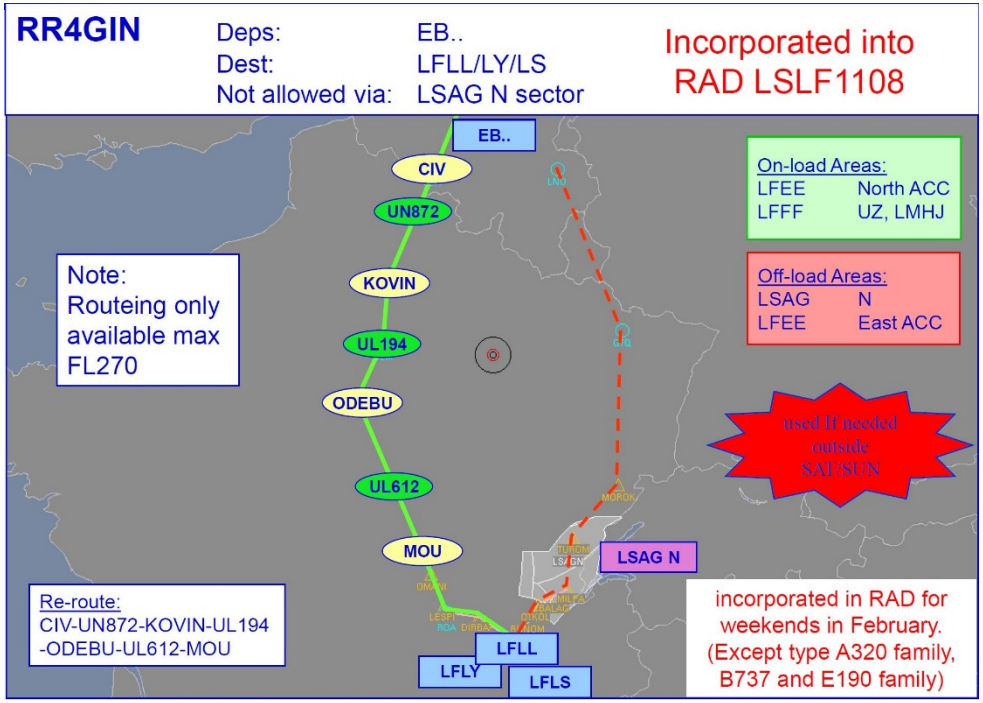
ATC and ATFM in practice



Ski season in the Alps

Special events or scenarios will be coordinated / regulated in advance.



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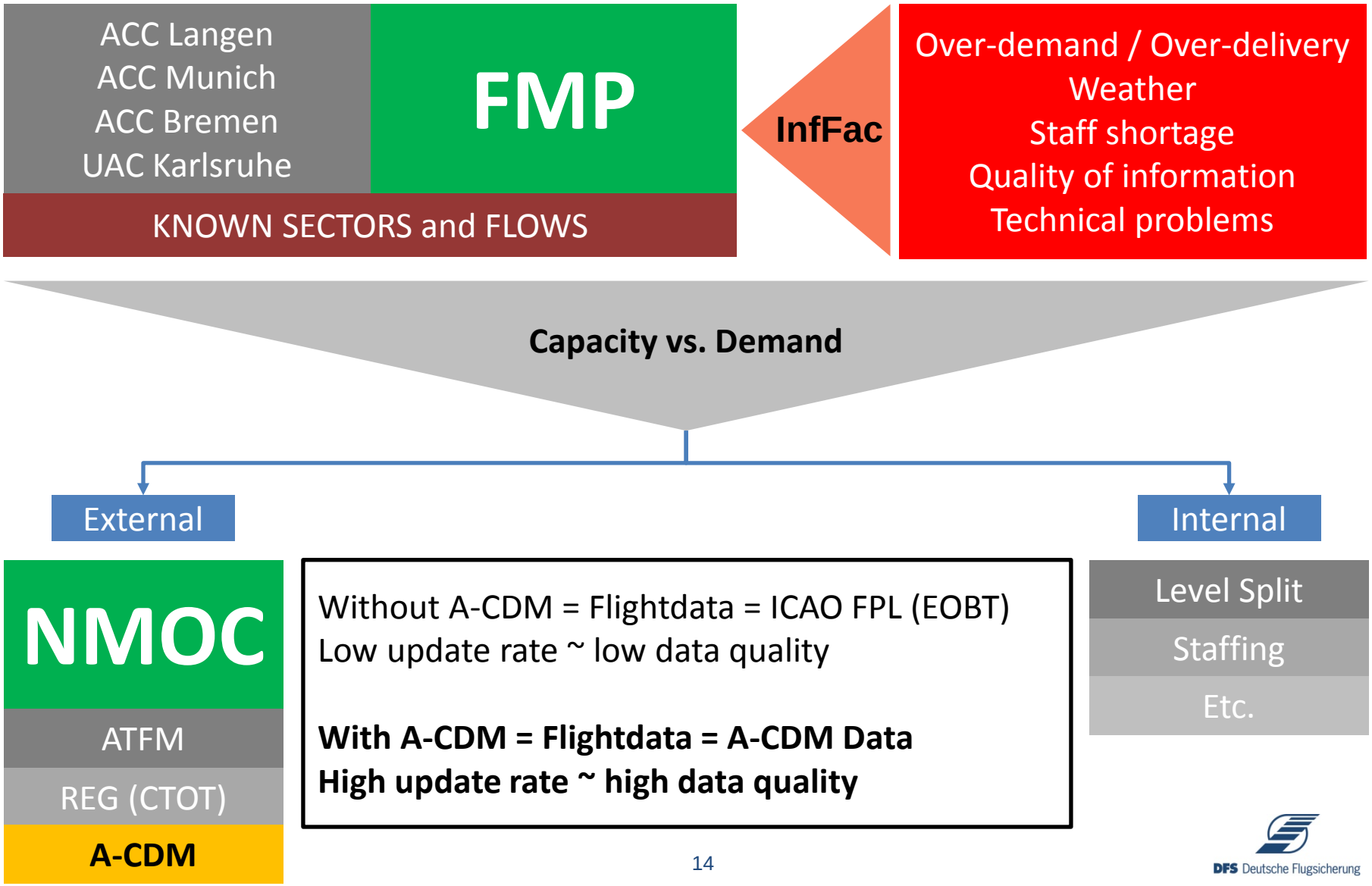
ATC and ATFM in practice

NMOC Systems

- Initial Integrated Flightplan Processing System (IFPS)
  - Check process and distribute Flightplan Messages and ATS-messages
- Enhanced Tactical Flow Management System (ETFMS)
  - Core System to calculate Traffic Load and implement Regulations
- Archive System (ARCH)
  - Store all Data from ETFMS for evaluation, and for Pre-Tactical Use
- PREDICT
  - Predict Traffic Load from today to D+6, evaluate effect of planned regulations
- Environment System (ENV):
  - Supply all other Systems with basic Data, e.g. ATS Routes, ACC Sectorization, Taxi Times

Integration with NMOC



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Conclusion

- Based on ICAO
- Centralized ATFM with role as NM integrated in the NMOC
- Implementation of FMP in every UAC and ACC as THE LINK between ATFM (NMOC) and Local ATC Unit
- Fully implemented A-CDM Airports for high data quality and better usage (6 fully implemented / connected A-CDM Airports in Germany; 21 in Europe)
- People create Safety – People create Capacity
  - First come – first served becomes best planned – best served

World ATM Congress 2017

7-9 MARCH 2017

Contact Details for Middle East

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