ANS performance briefing - Germany

EUROCONTROL Performance Review Unit

31/Oct/2019

EUROCONTROL

Preface

This performance briefing has been prepared by the EUROCONTROL Performance Review Unit (PRU) in the interest of the exchange of information.

If you have any questions related to this document or if we can help with any ANS performance related matter, then please do not hesitate to contact us: pru-support@eurocontrol.int

Key observations

TRAFFIC

- Following the high traffic increase already in 2017 ..
- The strong growth ..
- As a result ..

SAFETY

- No data available

CAPACITY

En-route ATFM delays

- No en-route ATFM delay..

Airport arrival ATFM delays

- No airport arrival ATFM delay..

ENVIRONMENT

Horizontal en-route flight efficiency

- In 2008, Finland..

Vertical en-route flight efficiency

Vertical flight efficiency during climb and descent

COST-EFFECTIVENESS

- ARMATS represents.. see [1]
- Since ARMATS did not..
- Compared to the..

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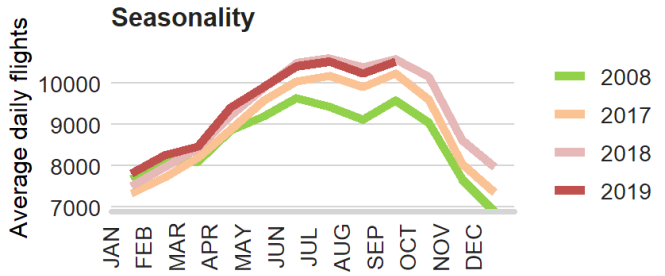
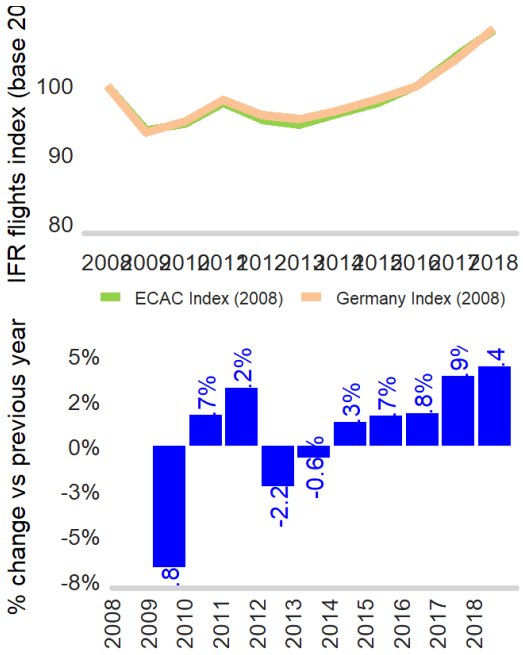
1 Institutional arrangements

2 Traffic characteristics

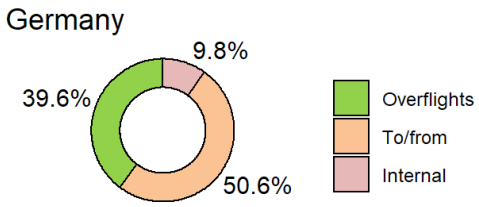
Sources: NM; STATFOR[2]; PRU ANS Performance Data Portal [3]; CRCO Service Unit Dashboard [4]

Traffic evolution (Germany)		
Traffic growth 2018 (full year)		+4.4%
Forecast growth 2019 (STATFOR Feb. 2019)	Baseline	0.0%
	High	0.0%
	Low	0.0%
Average annual growth rate (2008-2019)		0.0%
Average annual growth rate (2014-2019)		0.0%
Forecast annual average growth rate (2019-2025)		0.0%





Germany (Jan-Sep)	2019	vs 2018
Total flights	2596930	+ 0.5%
Overflights	1028208	-0.1%
To/from	1313110	+ 1.0%
Internal	255612	+ 0.8%



Germany (Jan-Sep)	2019	vs 2018
Scheduled	1357471	+ 1.9%
Lowcost	840839	+ 0.4%
Business	148830	-5.7%
Cargo	112319	-0.6%
Non-Scheduled	70641	-3.2%
Military	14659	-2.8%
Other	52171	-4.6%

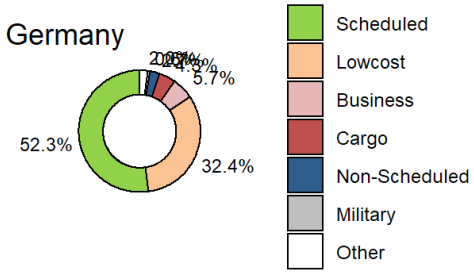


Figure 1: Traffic characteristics (IFR flights)

- In 2018, traffic increased by +4.4%. Between 2013 and 2018, traffic increased by 13.8%.
- In the first 9 months of 2019, traffic in Germany increased by +0.9% compared to the same period in 2018
- The largest traffic segment is traffic from and to Germany (50.6%), followed by overflights (39.6%) and domestic flights (9.8%).

3 Safety

4 Capacity

4.1 Air traffic flow management (ATFM) delays

Source: NM, PRU ANS Performance Data Portal [3] The data in this section is from the PRU ANS performance data portal (data section).
It is available at: http://ansperformance.eu/data/performancearea/

4.1.1 En-route ATFM delays

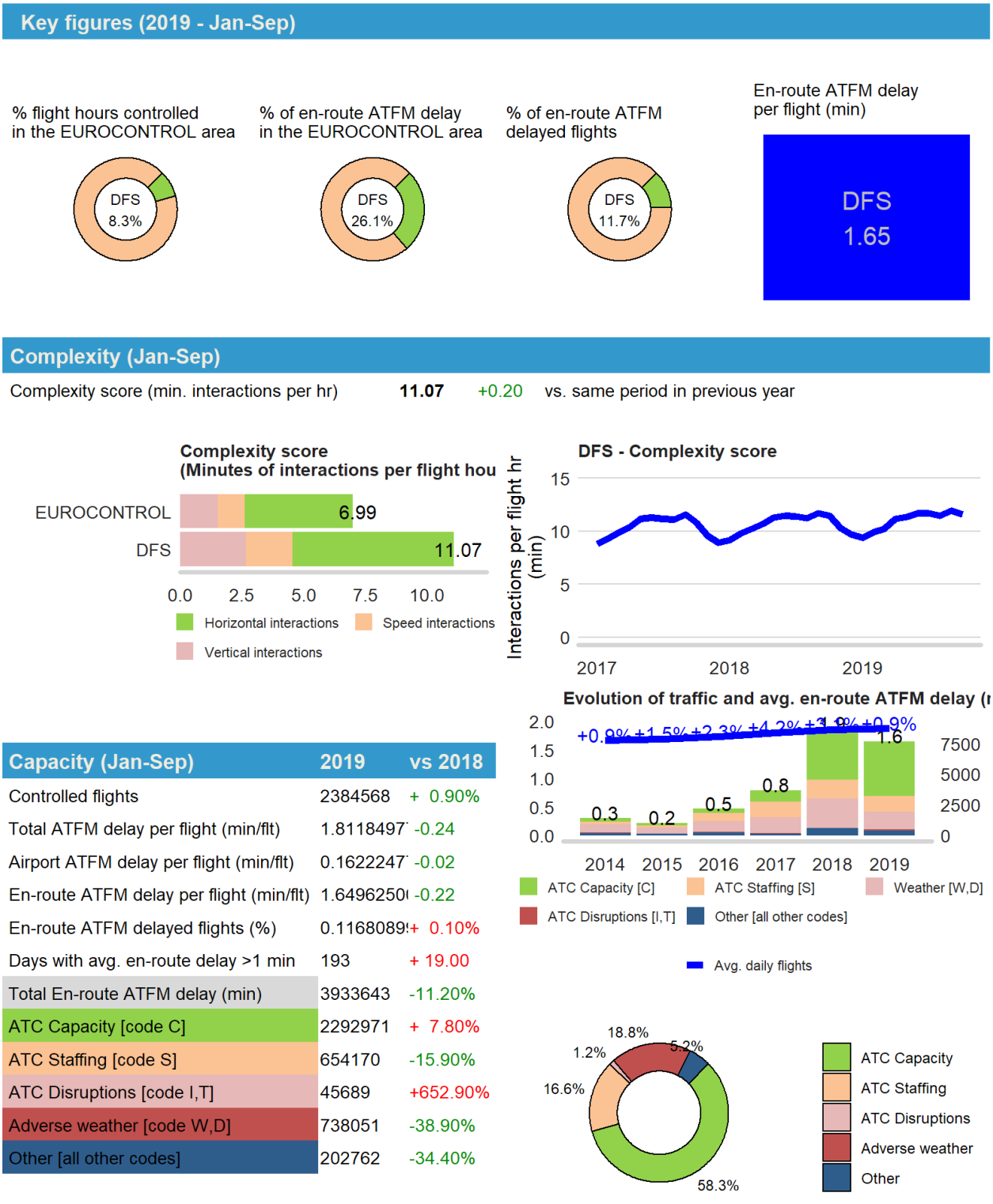


Figure 2: Traffic evolution and en-route ATFM delay

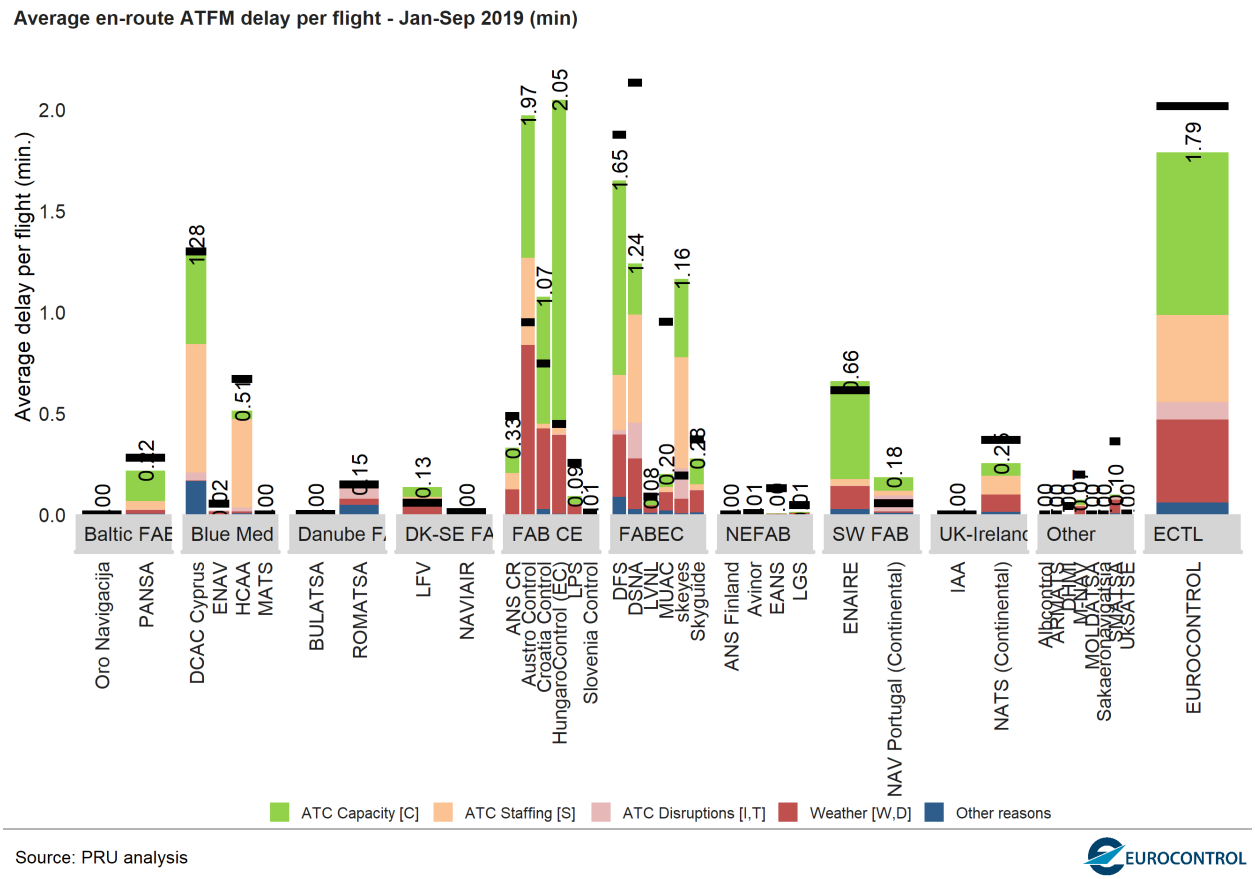
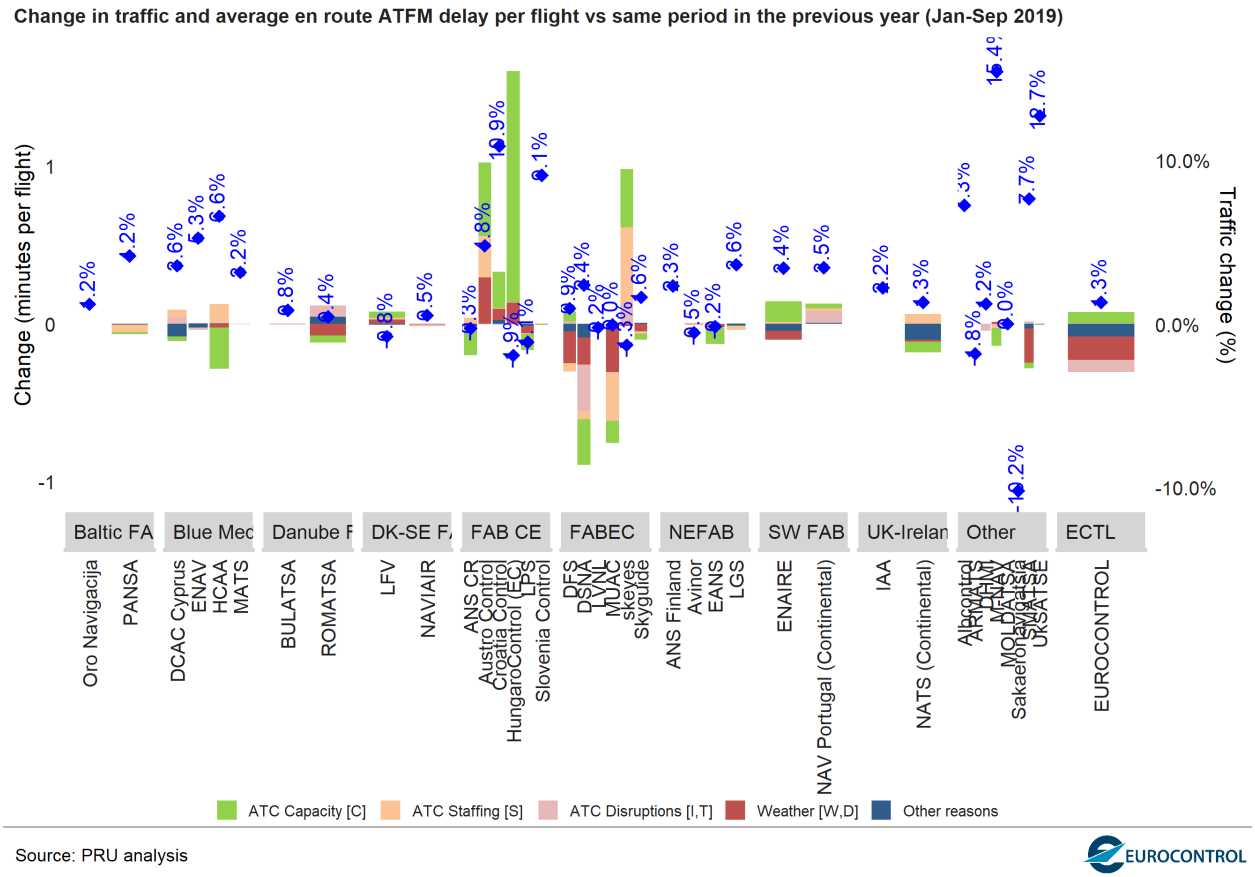


Figure 3: Average en route ATFM delay per flight (EUROCONTROL area)

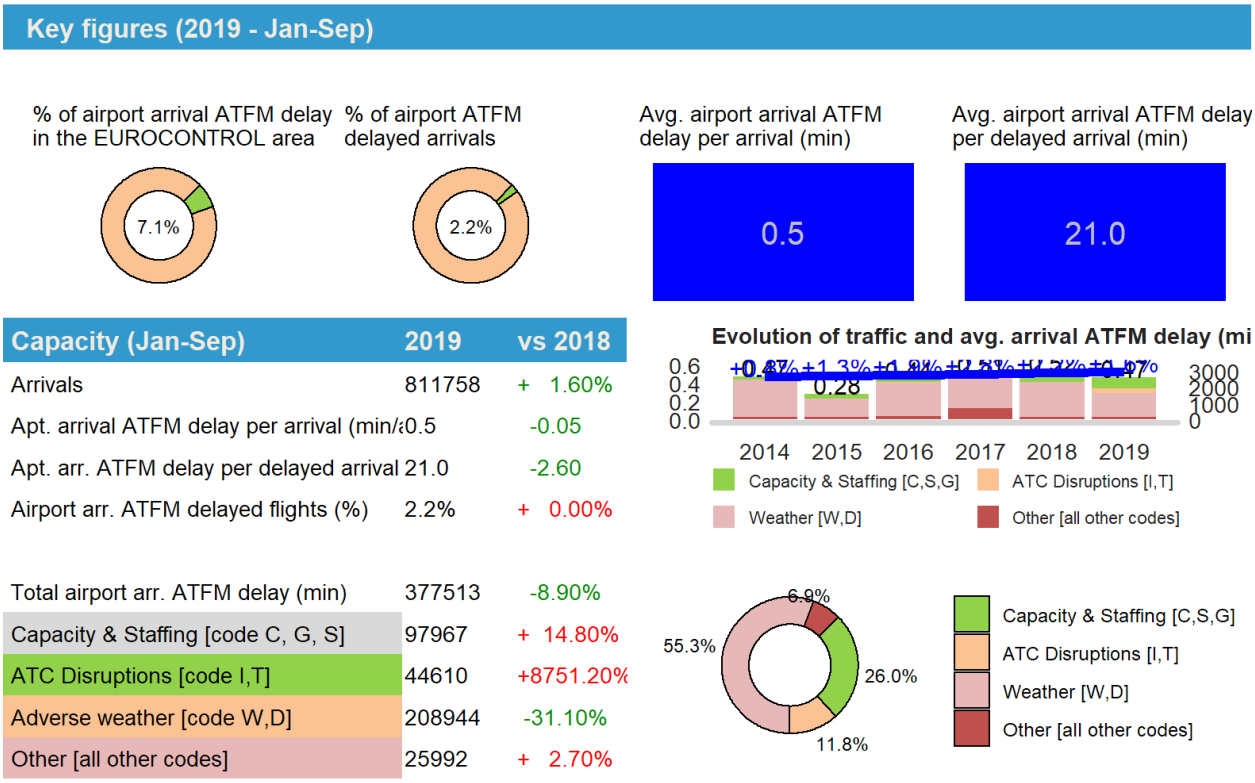


Source: PRU analysis

Figure 4: Year on year change of average en route ATFM delay per flight (EUROCONTROL area)

- In the first 9 months of 2019, Germany accounted for 8.3% of total controlled flight hours and generated 26.1% of total en-route ATFM delays in the EUROCONTROL area. Overall, 11.7% of the controlled flights in the respective airspace were delayed by en-route ATFM delays (Jan-Sep 2019).
- Delays decreased in 2019 (-11.2% vs. Jan-Sep 2018) to reach 1.65 minutes per flight.

4.1.2 Airport arrival ATFM delays



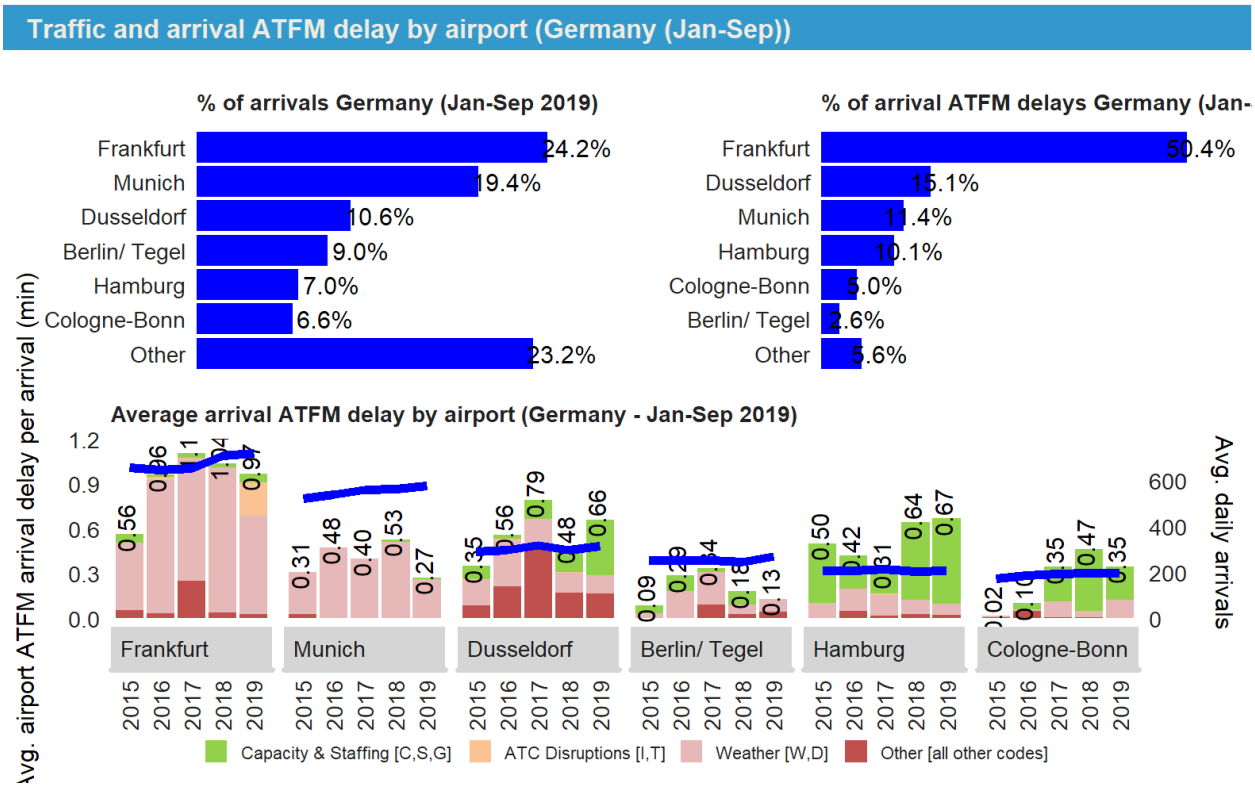


Figure 5: Traffic evolution of airport arrival ATFM delays

- Germany accounted for 7.1% of all arrival ATFM delay in the EUROCONTROL area (Jan-Sep 2019).
- Overall, 2.2% of the flights arriving at airports in Germany were delayed by arrival ATFM regulations (Jan-Sep 2019). Total arrival ATFM delay decreased by -8.9% vs. Jan-Sep 2018.
- The main share (50.4%) was generated by Frankfurt, closely followed by Dusseldorf accounting for 15.1% of all airport ATFM delay in Germany during the first 9 months of 2019.

5 Environment

Source: PRU ANS Performance Data Portal The data in this section is from the PRU ANS performance data portal (data section).
It is available at: http://ansperformance.eu/data/performancearea/

5.1 Horizontal en-route flight efficiency

Key figures (2019 - Jan-Sep)

% of total add. distance flown in the EUROCONTROL area actual trajectory	Horizontal en-route flight efficiency (%) actual trajectory	Horizontal en-route flight efficiency (%) flight plan	Horizontal en-route flight efficiency (%) shortest constrained route
10.2%	97.0%	94.4%	94.8%

Horizontal en-route flight efficienc Germany				EUROCONTROL Area (PRR)	
Period (Jan-Sep)		**2019**	-0.10%	95.6%	- 0.0%
Horizontal en-route flight efficiency	Flight plan	94.4%	-0.10%	97.2%	-0.1%
	Actual	97.0%	-0.10%	95.9%	-0.1%
	Shortest	94.8%	+ 0.40	46.2	+ 0.9
Average additional distance (km)	Flight plan	17.7	+ 0.50	30.1	+ 3.3
	Actual	9.1	+ 0.40	42.4	+ 1.3
	Shortest	16.6	+ 1.34M	357.0M	+12.5M
Total additional distance (million km)	Flight plan	43.1M	+ 1.49M	222.3M	+28.7M
	Actual	22.6M	+ 1.19M	325.4M	+13.8M
	Shortest	40.2M			

Figure 6: Horizontal en-route flight efficiency

5.2 Vertical en-route flight efficiency

5.3 Vertical flight efficiency during climb & descent

6 Cost-effectiveness

7 Annex 1: Evolution of cost-effectiveness performance (2012-2017)

8 Annex 2: Network Operations Plan (2018-2019/22)

References

[1] Performance Review Unit, "ATM cost-effectiveness (ace) 2015 benchmarking report with 2016-2020 outlook," EUROCONTROL/PRU, Report, May 2017.

[2] STATFOR, "EUROCONTROL seven-year forecast february 2019," EUROCONTROL/STATFOR, Report, 2017.

[3] Performance Review Unit, "ANS performance data portal," 2019. [Online]. Available: http://ansperformance.eu/.

[4] CRCO, "Service unit dashboard," 2019. [Online]. Available: http://www.eurocontrol.int/ServiceUnits/Dashboard/LongTermEvolution.html.