Annual ATFM delay report

Air Traffic Flow Management Delay (ATFM)
ATFM measures in Europe
(Data Source: CFMU statistics)

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2017</th>
<th>Trend 18/17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Flights</td>
<td>11,012,030</td>
<td>10,605,946</td>
<td>3,8%</td>
</tr>
<tr>
<td>Regulated Flights</td>
<td>2,400,442</td>
<td>1,641,471</td>
<td>46,2%</td>
</tr>
<tr>
<td>Delayed Flights</td>
<td>1,382,551</td>
<td>891,479</td>
<td>55,1%</td>
</tr>
</tbody>
</table>

Total Flights: Number of flight plans having been activated in the EUROCONTROL CFMU TACT-System.
Regulated Flights: Number of flights / percentage of flights with SLOT allocation (with & without delay).
Delayed Flights: Number of flights / percentage of flights subject to delays due to ATFM measures.
Trend Column: The percentages show the changes compared to the corresponding period last year.

ATFM-Delay per flight
(Data Source: CFMU statistics)

Average ATFM delay per flight in minutes attributable to national FMPs.

* caused by ATC
(source: DFS CC/FC, based on FMP reports)
ATFM Delay as a result of ATFM measures
(Data Source: CFMU statistics)

ATFM Delay in minutes as a result of ATFM measures of selected European FMPs.

ATFM Delay:
difference in time between estimated take-off time (ETOT) and calculated take-off time (CTOT) of the CFMU.

Percentage of German FMPs: 5.605.928 = 21,9% minutes of total delay of 25.627.605 minutes

Percentage of German ATFM delay attributable to different FMPs
(Data Source: DFS CC-FC, based on FMP reports)

FMP München
7,1%

FMP Langen
17,4%

FMP Bremen
3,4%

FMP Karlsruhe
72,1%
FMP
Langen

- Environmental Issues: 1.9%
- Other: 0.1%
- Weather: 40.4%
- Airspace Management: 0.4%
- Equipment non ATC: 1.3%
- Aerodrome Capacity: 5.4%
- ATC Capacity: 30.8%
- ATC Staffing: 19.5%
- ATC Equipment: 0.1%

FMP
München

- ATC Capacity: 29.4%
- Weather: 69.7%
- Aerodrome Capacity: 0.8%

FMP
Bremen

- Other: 0.8%
- Weather: 24.9%
- Airspace Management: 2.3%
- Special Event: 0.3%
- Equipment non ATC: 2.1%
- Ind. Action non ATC: 0.2%
- Aerodrome Capacity: 18.2%
- ATC Capacity: 34.8%
- ATC Staffing: 16.1%
- ATC Routeings: 0.1%
- ATC Equipment: 0.2%
FMP Karlsruhe

Development and share of "ATFM delays" attributable to German FMPs
(Data Source: CFMU statistics)

ATFM delays (in thousands of minutes) and percentages of ATFM delays attributable to ATFM measures.

<table>
<thead>
<tr>
<th>Year</th>
<th>ATFM Delays (in thousands)</th>
<th>Share of ATFM Delays</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>23,840</td>
<td>15,7%</td>
</tr>
<tr>
<td>2009</td>
<td>15,218</td>
<td>21,2%</td>
</tr>
<tr>
<td>2010</td>
<td>27,673</td>
<td>20,6%</td>
</tr>
<tr>
<td>2011</td>
<td>17,835</td>
<td>23,4%</td>
</tr>
<tr>
<td>2012</td>
<td>10,772</td>
<td>20,5%</td>
</tr>
<tr>
<td>2013</td>
<td>8,773</td>
<td>12,2%</td>
</tr>
<tr>
<td>2014</td>
<td>10,059</td>
<td>12,3%</td>
</tr>
<tr>
<td>2015</td>
<td>14,068</td>
<td>6,4%</td>
</tr>
<tr>
<td>2016</td>
<td>15,579</td>
<td>10,2%</td>
</tr>
<tr>
<td>2017</td>
<td>16,890</td>
<td>16,6%</td>
</tr>
<tr>
<td>2018</td>
<td>25,628</td>
<td>35,3%</td>
</tr>
</tbody>
</table>
### ATFM departure delay at international German airports
(Data Source: CFMU statistics)

#### Average ATFM delays in minutes for departures from international German airports following ATFM measures of European FMPs.

- **Leipzig**: 4.20 minutes
- **Dresden**: 3.91 minutes
- **Saarbrücken**: 3.66 minutes
- **Erfurt**: 3.39 minutes
- **München**: 3.31 minutes
- **Münster-Osnabrück**: 2.99 minutes
- **Hamburg**: 2.88 minutes
- **Frankfurt**: 2.82 minutes
- **Münster-Osnabrück**: 2.69 minutes
- **München**: 2.55 minutes
- **Erfurt**: 2.47 minutes
- **Saarbrücken**: 2.42 minutes
- **Dresden**: 2.30 minutes
- **Leipzig**: 1.51 minutes

#### ATFM departure delays at international German airports
(Data Source: CFMU statistics)

Percentage of ATFM delays for flights departing from international German airports attributable to ATFM measures of German FMPs in categories. The delays are distributed in 3 categories.

- **not delayed**: 88.4%
- **< 15 min**: 10.2%
- **15 - 60 min**: 7.4%
- **> 60 min**: 0.3%

German airports: 12.3% = 3.153.506 minutes of total delay of 25.627.605 minutes
ATFM Arrival Delay
(Data Source: CFMU statistics, DFS LIZ)

ATFM Arrival Delay with reference to the relevant Airport, in minutes per IFR Arrival.

ATFM Arrival Delay:
sum of all arrival ATFM delay divided by the sum of all inbound flights for the particular traffic volume

Please note: The ATFM Delay data are provided by CFMU statistics. Due to internal distribution of the ATFM Delay, data are modified by CC/FC and TWR/M. The inbound flight information is based on LIZ statistics.

* All Airports means all international German Airports
  Berlin Schönefeld (EDDB), Berlin Tegel (EDDT), Bremen (EDDW), Dresden (EDDC), Düsseldorf (EDDL), Erfurt (EDDE), Frankfurt (EDDF), Hamburg (EDDH), Hannover (EDDV), Köln/Bonn (EDDK), Leipzig (EDDP), München (EDDM), Münster-Osnabrück (EDDG), Nürnberg (EDDN), Saarbrücken (EDDR), Stuttgart (EDDS)