



2018 Operational Achievements 2019 Perspectives

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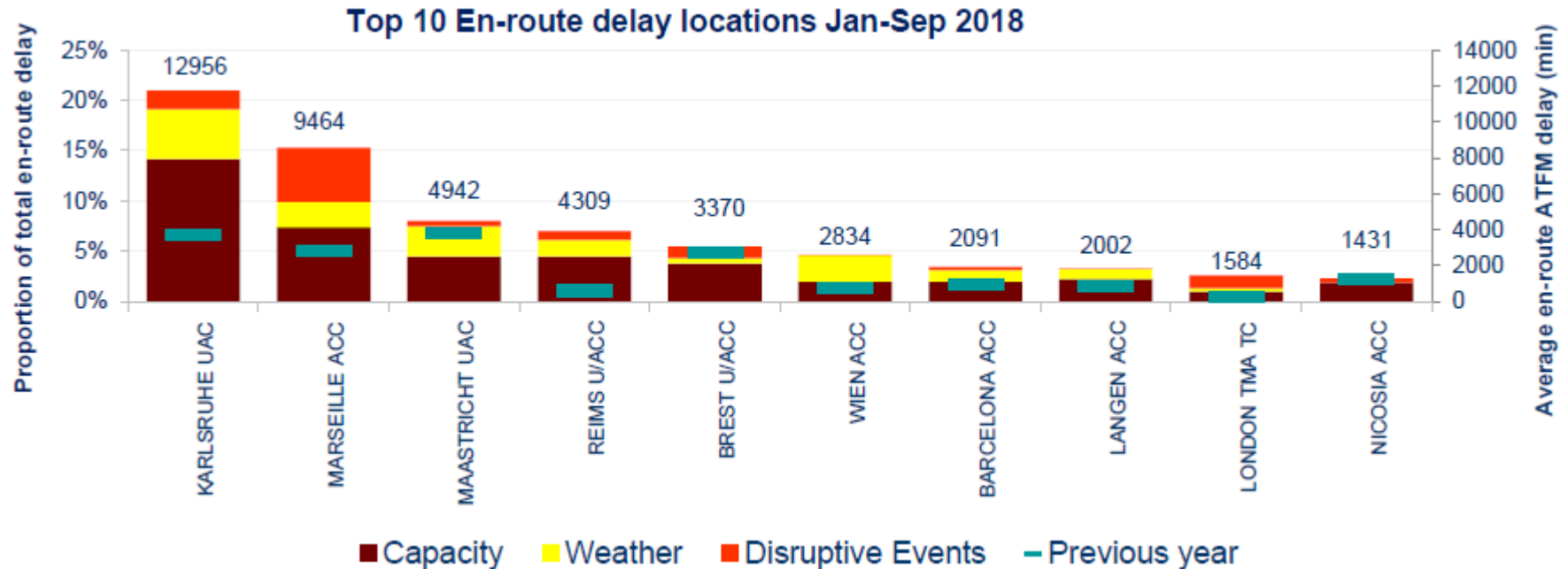
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Delays 2018



- Marseille, Reims and Brest in the top 5
- Paris & Bordeaux below 850 min. avg
- DSNA: 2.28 min. per flight and 33% delays



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Delays 2018

1 – Continuous traffic growth

- Jan.-Sept. 2018/2017: +2.1% (+3.7% overflight)
- 117 days > 10,000 flights (41 consecutive)
- 4 days > 11,000 flights (July)

2 – Marseille ACC

- Local industrial action
- Staffing issue
- Weather => Thunderstorms

3 – Reims ACC

- Capacity issues => traffic growth +4% (impact 4ACC/NM initiative)
- Weather => Thunderstorms

4 – Brest ACC

- Capacity issues => traffic growth +2% (unequally distributed in space and time)
- High traffic peaks => +9 to +12% after 22h UTC





2018 Operational Achievements

- Technical
 - EHS
 - ALISEP
 - 43'' screens in Bordeaux & Brest



- Seasonal/weekly rostering in Marseille ACC
- DSNA in FABEC
 - FABEC ATCA Award (**Volatility & Weather**)
 - Proposal NM **error messages**: accepted
 - Proposal **Sharp Turns**: RAD Workshop December



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Fly as you file



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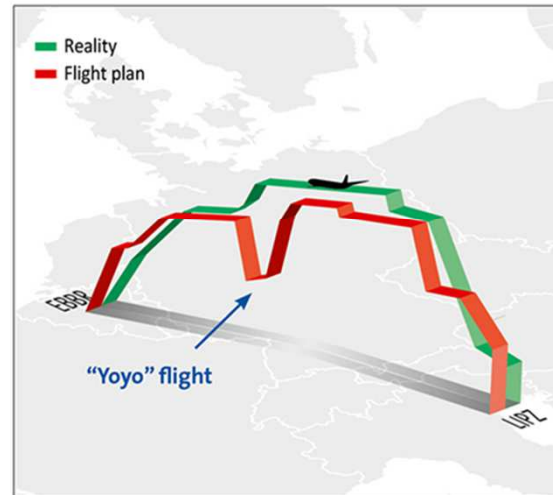
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Fly as you file: ATC view

“CREATIVE” HORIZONTAL OR VERTICAL PROFILES



“CREATIVE” ROUTE LEADS TO SUDDEN CHANGE IN SECTOR SEQUENCE



-> Hundreds of RAD restrictions to prevent sharp turns.

-> Some flights try to avoid ATFM regulations

Offer alternatives ?



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Fly as you file: one common goal

Let's all avoid

- safety issues
- wrong traffic counts (trust in the regulation system)
- additional workload

... resulting in lower capacities

More detailed study on volatility (intruders, extruders, 20' late/early) shows that **planned flight level** is often **not respected**

Collaborative work will reduce volatility

- Between airlines and CFSPs: avoid “creative” flight plan, performance models to be compared
- Between airlines and ATC to file and respect, in a CDM way, the best route for airlines performance and safety/capacity



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Focus on Sharp turns

- Study during 07/18
- Despite all existing RAD restrictions, more than **1,000 FPL** (above 90°/above FL195)
 - 700 are due to complex connection between FIR and UIR or to SID/STAR
 - 150 are flights trying to avoid an area with a lot of delays
 - 50 are circular flights or FPL with a STAY mention
 - 100 are “strange” flights





Sharp turns: second, check & reject beforehand

- FABEC Proposal, NM RAD Workshop Dec. 2018
 1. Define a set of vertical and geographic routes (full time or temporary) to avoid overcrowded areas or to be used in case of planned disruptions
 2. Check and **reject** all FPL with a turn **above 90°** unless
 - RFL below FL 245
 - Circular flight or FPL with a “STAY” mention in the road
- **Additional common benefit**
 - **RAD restrictions will be removed** accordingly



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InterFab Weather Initiative: model?



- Traffic distributed into **three additional fixed routings** via Karlsruhe, Zurich or Vienna
- **Descent areas** have been defined to ensure a smooth inbound flow to Munich airport.
- **Increased predictability** through an automated data exchange
- Briefings to **agree upfront** on the scenarios to be applied



Weather forecast to be constructed collaboratively!



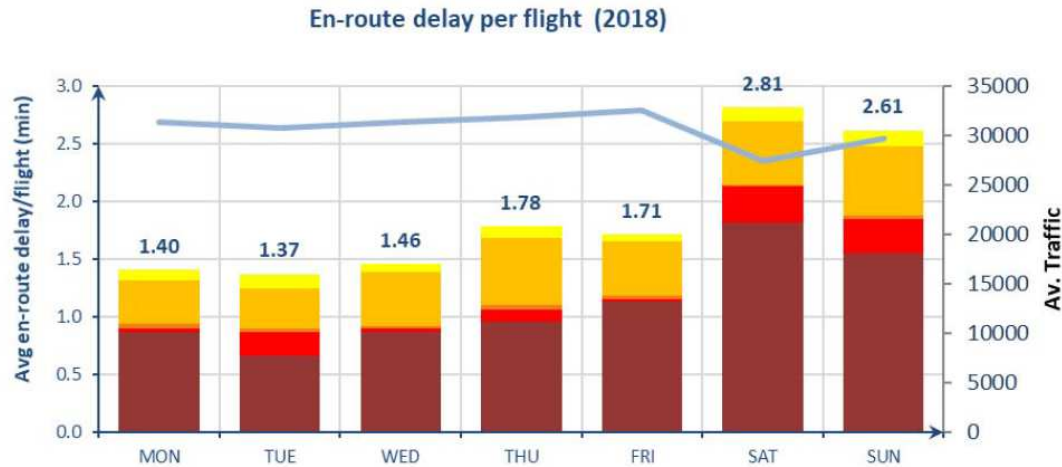
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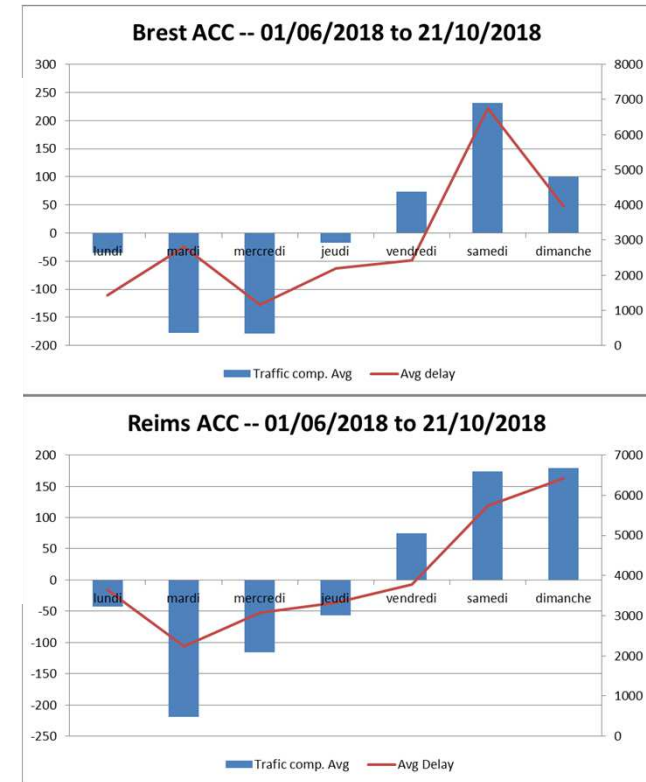
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Back to Saturdays: a different view



- Computation for two ACCs
 - Which create delays
 - During the period when they create delays
 - Strike days not included



- ⇒ **Further analysis required** (more ACCs, morning traffic only ?...)
- ⇒ Different scenarios Week-WE ?
- ⇒ Should the **staffing balance Week-WE** change ? (at a constant resource level)





Human resources



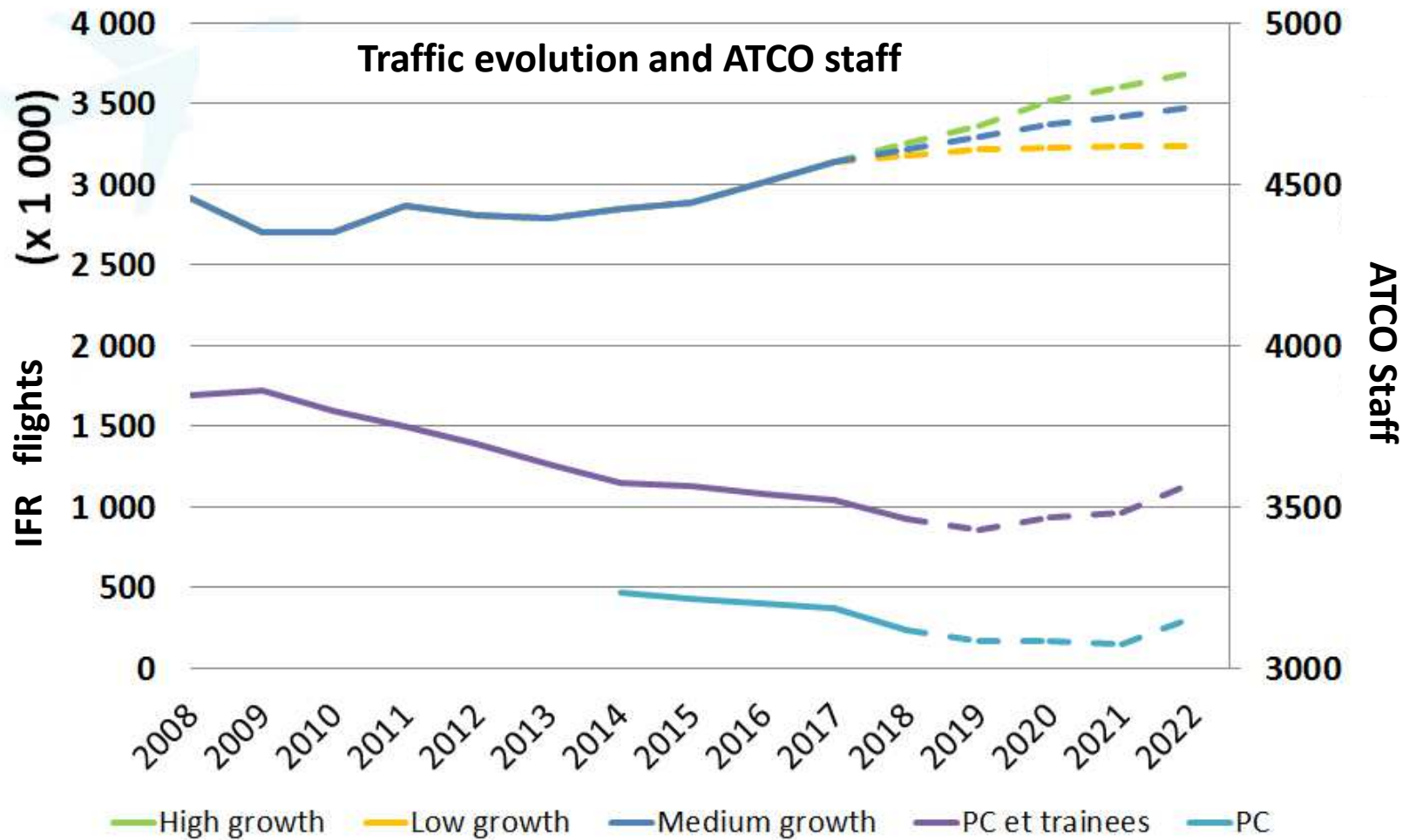
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Staff forecast and ATCO recruitment



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Continuous rostering adaptation: en-route capacity

1. Flexible rostering : agreements at ACC level
 - Reims (2015) + yearly adaptation
 - Bordeaux (2016) + yearly adaptation
 - Brest (2017) + yearly adaptation
 - Marseille and Paris (work in progress)
2. Priority ACC staffing / APP staffing
3. Recruitment + training: medium-term effect
4. Social context
 - Union election in Dec. 2018
 - 2019: new social agreement, “aligned” with RP3
 - Difficult transition period RP2/RP3





Summer 2019



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2019

- Less controllers = less opened sectors despite flexibility
- Technical: 4th and last CPDLC service (ACL, ATC Clearances) deployed in Brest and Bordeaux
- **Active participation** to NM action plan (**global optimum**)
 - eNM/S2019 Network Measures
 - Optimized ATFM regulations
 - Management of En-route Weather (**collaborative** forecast, routing scenarios)
 - FUA: Harmonization enhanced Procedures
 - Structural Airspace Bottlenecks (FABEC, **France/Spain 2019?**)
- MAC -> eNM/S2019
- New DSNA ATFM tools: SALTO in ACCs, BigSky in CDG
- CAP tool: +Munich (weather scenarios) -> with NM (N-CAP)
- Monitoring, PostOps, Dashboards
- Mass production vs. specific flights



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