

Setting the scene

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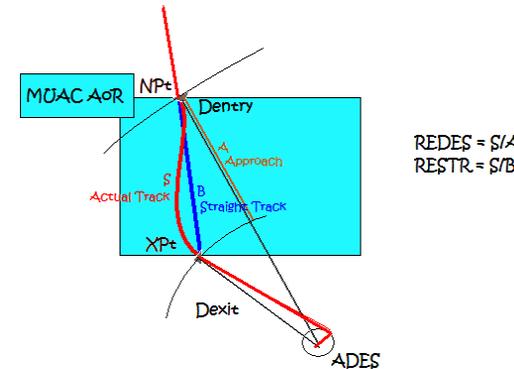
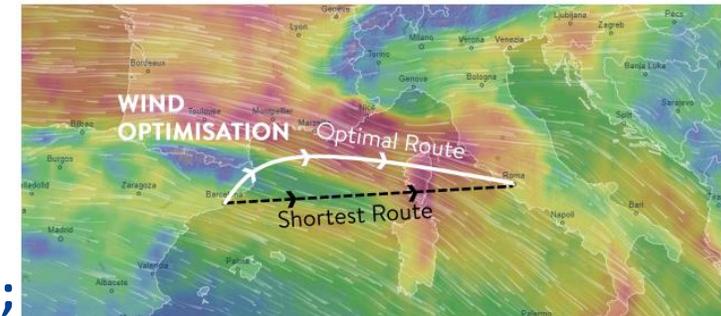
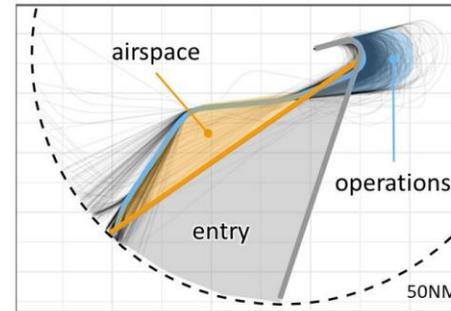


Better indicators are needed to measure ANSPs' progress towards European net zero emissions goal.

- In October 2020 the “ATM/ANS Environmental Transparency Working Group” was established.
- Objective to develop proposals on how ATM/ANSP providers can increase environmental transparency and demonstrate their efforts to support the industry in the reduction of environmental impacts.
- The final report: “Critical review of ATM/ANS environmental performance measurements”.
- A key finding of this work is that a “one size fits all” approach cannot be applied for measuring environmental ANSP performance.
- A set of fuel burn or CO₂ indicators, is recommended by the working group as the best option to measure the ATM contribution to aviation sustainability

A set of indicators is the best option to measure the ATM contribution to aviation sustainability.

- Horizontal Flight Efficiency: KEA, KEP (PRC);
- En-route Vertical Flight Efficiency (PRC);
- CCO/CDO indicators;
- ASMA and TXOT;
- Excess Fuel Burn (XFB);
- 3Di Score Indicator (NATS);
- HFE and VFE indicators (MUAC);
- Horizontal and vertical TMA indicators (EUROCONTROL);
- “Directs” Indicator and Holding Monitoring Indicator (ENAIRES);
- ACROPOLE indicators (DSNA);
- Optimal Trajectory Indicator: KEO (Vueling, ENAIRES);
- The Six Reference Trajectories;
- Partitioned indicator of efficiency



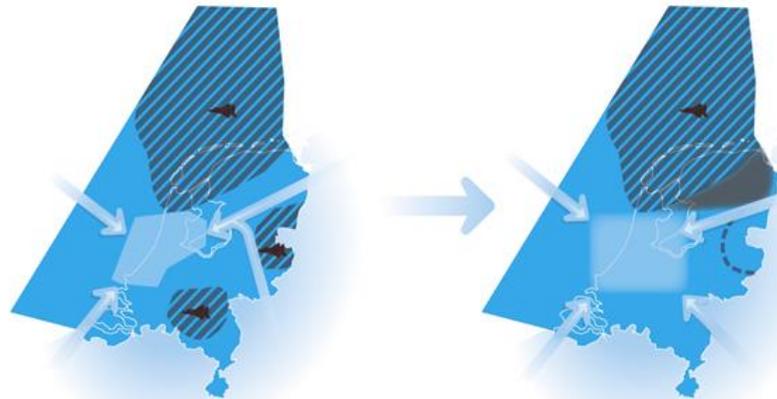
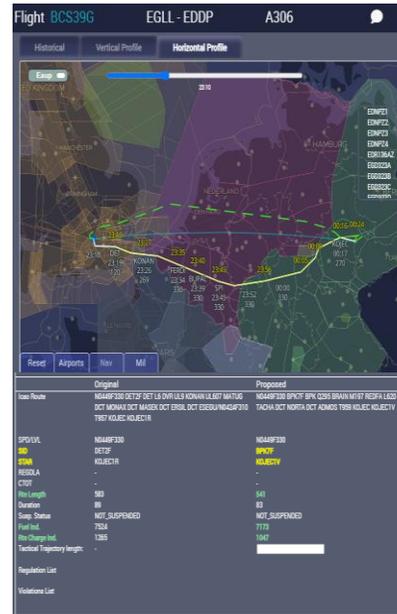
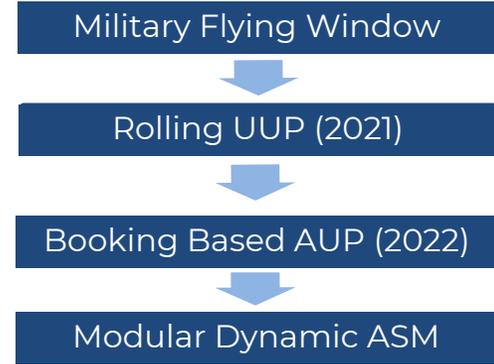
Moving from performance measurement to performance improvement

BE FUA Developments supporting sustainable operations

FUA France : Environmental benefits of a successful cooperation

Customer Initiative/ATM portal

Dutch Airspace Redesign Programme



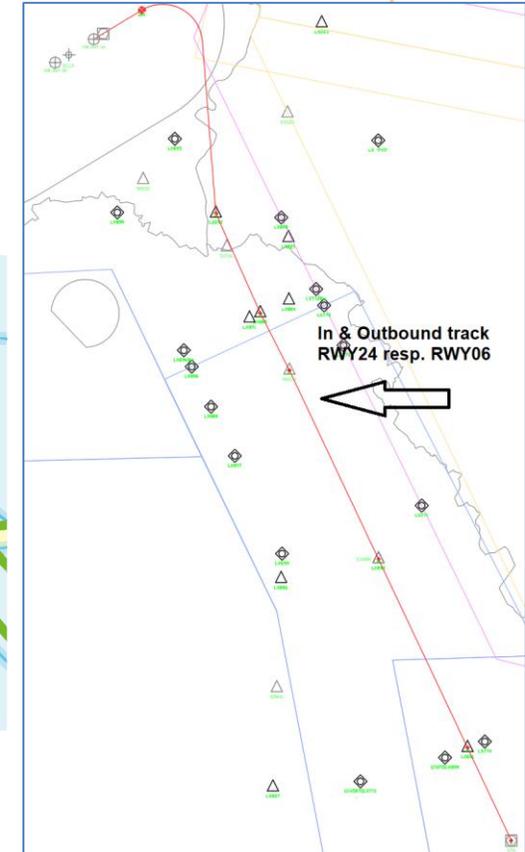
Moving from performance measurement to performance improvement

Update ELLX PBN network (SID & STAR's)

Green descent Paris ACC

Optimised Profile Descent (OPD)

Curved night arrival routes to secondary runways at Amsterdam-Schiphol (1/2)



Aviation climate impact consist of CO₂ and non-CO₂ contributions

- MUAC run world-wide first operational contrail prevention trial since January until end of December 2021
- It has been proved that persistent contrails can be avoided (statistically and operationally).
- D-KULT (German consortium);
- CICONIA (SESAR project);
- CONCERTO (SESAR project);
- BeCoM.

