

The Borealis Alliance is a collaboration between the Air Navigation Service Providers (ANSPs) of Denmark, Estonia, Finland, Iceland, Ireland, Latvia, Norway, Sweden and the United Kingdom. It's vision is to be the leading ANSP alliance to help improve the way airspace is managed for the benefit of airlines and business aviation customers.

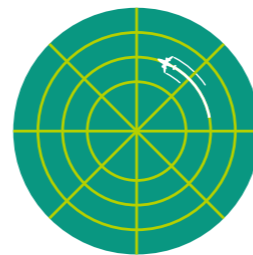
The Borealis Alliance and the Environment

The Borealis Alliance States and ANSPs place environment at the highest level of their priorities and intend to intensify their efforts to contribute substantially to the "European Green Deal".

Free Route Airspace

– the Borealis Alliance Flagship

The Borealis Alliance is a pioneer in the implementation of a complete, cross-border, free route airspace (FRA) among its nine national airspaces. Whilst full implementation has been slowed down by the COVID crisis, cross border implementation will be achieved by 2023 and full implementation is planned by the end of 2026. Partial FRA implementation has already delivered substantial benefits. The graph below shows the increased gains achieved (per annum) from 2018, based on actual data through partial Borealis implementation in the North European FRA (NEFRA), to estimated gains in 2026 with full FRA implementation:



Seamless Airspace

1.7M Nm >> 4.7M Nm
237K min >> 770K min



Cost Savings

Dependant on fuel price fluctuation



Reduced Fuel Burn

15K t >> 30K t



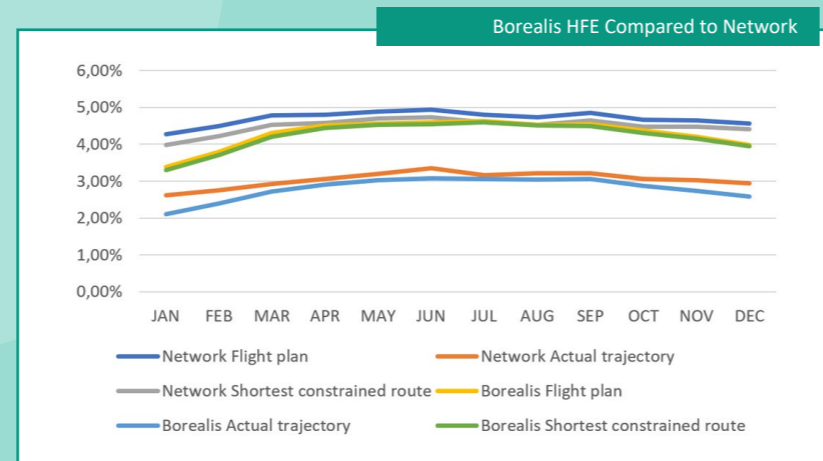
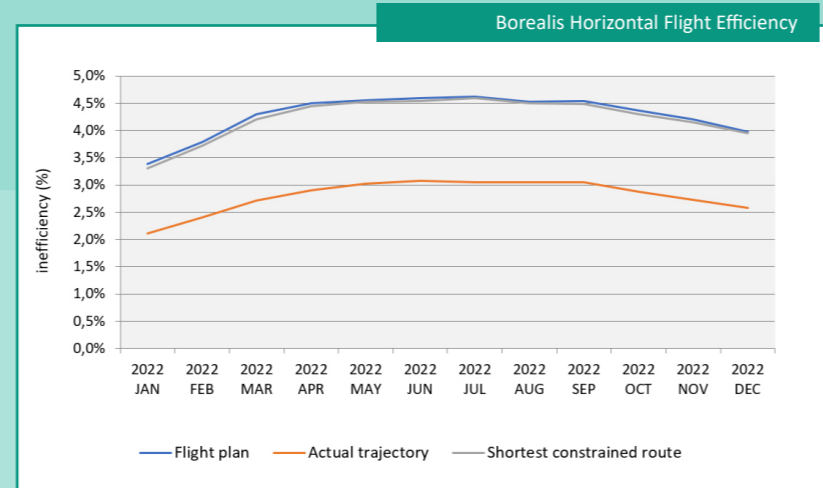
Less Emissions

44K t >> 94K t CO2

Horizontal Flight Efficiency

– Borealis ANSPs are “best in class”

- Since 2018, Horizontal flight efficiency reached nearly 100% in each of the Borealis ANSPs, when compared with filed flight plans.
- More optimal flight routings were available during 2022, the Borealis outperformed the Network in actual trajectory and Shortest Constrained Route.
- Performance achievements in 2022:
 - ▶ For the Eurocontrol Area (40 ANSPs), the average route extension based on last filed flight plan (KEP) performance decreased from 4.52% in 2021 to 4.73% in 2022. For Borealis the KEP was 4.34%.
 - ▶ Trajectory Metrics, Ireland is no 1 in Europe with 1,12%, Denmark 1,21% is No.3 and Sweden (1.55) No.9 in the Eurocontrol area.
 - ▶ Norway, with 1,26% has risen by 3 places to #4.
 - ▶ Due to the war in Ukraine, flights are following inefficient flight profiles, Finland (2.73%) has fallen from No.1 to No.20.
 - ▶ Estonia 6.44% & Latvia 7,43% are number 8-12 in the Eurocontrol Area.
 - ▶ United Kingdom with 3.31% has risen 5 places to 28th.



Vertical Flight Efficiency

– Borealis ANSPs are “best in class”

- The four Scandinavian hub airports are performing at the very top of the Vertical Flight Efficiency (VFE) with low amounts of level flight and high shares of Continuous Descent / Climb Operations (CDO/CCO)
- Other Borealis airports are also performing well.
- Tallinn, the best performer averaged 33 seconds level flight in descend, Oslo averaged 36 seconds.
- Helsinki (38 sec), Riga (37), Kastrup (55), Arlanda (50), Dublin (106), Heathrow (224)

