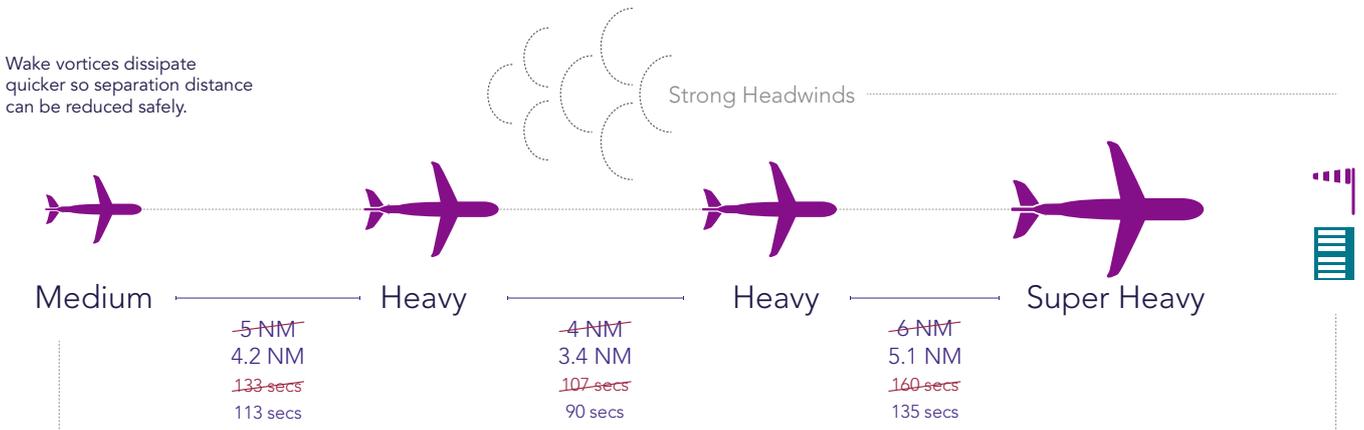


Intelligent Approach[©]

TIME AND DISTANCE BASED SEPARATION



Air passenger figures are set to double in the next 20 years. Inefficient final approach spacing is the single most constraining factor to runway capacity.

NATS and Leidos have pioneered a product suite that blends technology and ATC expertise to enable airports to optimise approach spacing for aircraft through both distance-based and time-based separation.

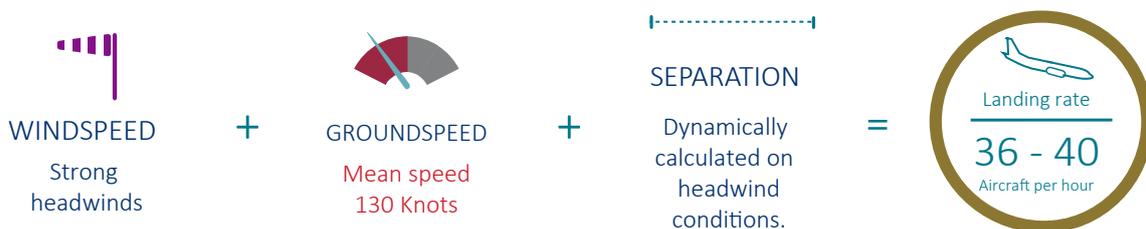
Distance Based Separation (DBS)

Assists the controller in ensuring the required safety separation whilst delivering efficient spacing.

Time Based Separation (TBS)

By dynamically calculating aircraft separations TBS safely reduces separation minima during certain wind conditions based on live wind data.

TBS IN STRONG HEADWINDS



Over 150,000 flights were analysed to understand the behaviour of aircraft wake vortices in strong headwinds. The results confirm the theory that wake vortices dissipate more quickly in strong headwind conditions.

This means that the distance between certain aircraft can be reduced and the time between

landings can be kept similar to those arriving in light headwinds.

Time Based Separation (TBS) enables us to minimise the impact of strong headwinds on landing rates, thereby reducing delays and cancellations.

BENEFITS



High performance atc
Increased efficiency through consistent ATC delivery of approach spacing.



Capacity gains
Increase runway throughput to maximise the revenue delivered by your runways.



Intuitive tools
User friendly controller support tool suite enabling enhanced performance.



Assured operations
Improved resilience in adverse weather. Improved safety - clear indication of safety minima for controllers.

PRODUCT ROADMAP



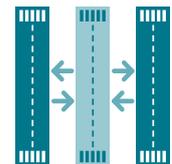
Mixed mode operations
Safely reduce the required inbound separation through integration with departure manager systems to take account of the aircraft runway occupancy on departure.



Pairwise separation
Further optimising time based separation to take account of the wake pairings of specific aircraft types. Moving from the current ICAO wake categories to RECAT 1 and then to RECAT 2 pairwise separation.



Low visibility procedures
To tailor the final approach spacing to the preceding aircrafts occupancy of the localiser sensitive area. This allows for runway occupancy optimisation in LVP conditions.



Dependent runway operations
Converging runways – final approach spacing will take cognisance of departures to ensure deconfliction of go-arounds.

50% REDUCTION IN WIND RELATED DELAYS AT HEATHROW

The introduction of TBS at Heathrow is a world-first and will deliver major benefits to the airlines and the flying public.

Heathrow Airport is scheduled to 99% of its capacity, meaning any impact on landing rate can have major implications, namely delays and an increased chance of cancellations. Time Based Separation will reduce wind related delays by more than 50%.

Dave Wood, Senior First Officer, British Airways: "We do see TBS as the future as this will enable aircraft to be spaced closer together on approach in terms of distance but with no reduction in the time interval between landings compared to a calm day."