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Intelligent Approach

The world's leading approach spacing tool

Intelligent Approach

Intelligent Approach is a final approach spacing tool that safely optimises runway capacity to improve operational resilience, deliver better on-time performance, reduce emissions, and increase revenue.

Made up of different modules that can be selected and configured to best meet each airport's unique needs, Intelligent Approach fully integrates into existing air traffic management systems and delivers proven benefits in all types of operational scenarios.

Benefits

Capacity

Releases latent runway capacity without the need for any new ground-based infrastructure investment.

Environment

Reduces fuel burn and emissions per-flight through improved predictability and reduced airborne holding.

Resilience

Increased on-time performance meaning reduced delays, reduced costs, and happier passengers.

Revenue

Increased revenue by enabling additional capacity with a return on investment in less than a year.

Airport growth

Supports airport growth plans at a fraction of the cost of major capital investment.

Developed by controllers, for controllers

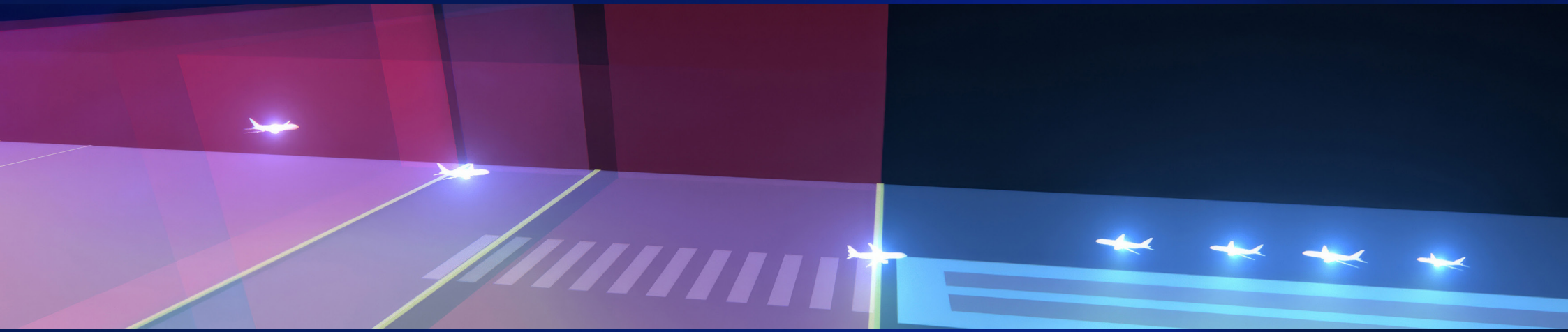
Well-liked by operational teams, with training and support delivered by NATS air traffic controllers.

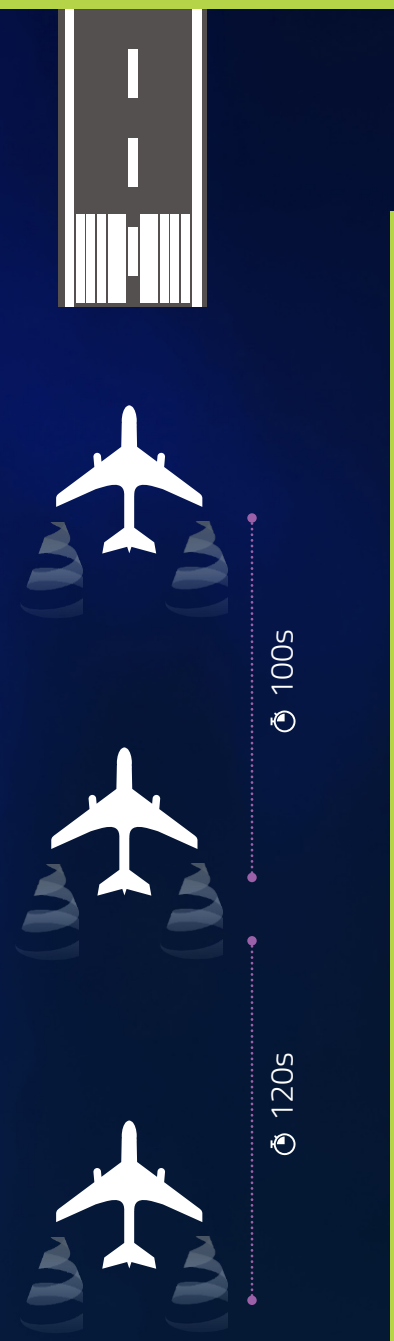
A proven solution

Intelligent Approach comprises a standard product and several modules that can be integrated to improve separation consistency, enhance resilience, or support different modes of operation.

Each module is designed to address different challenges and can be tailored to satisfy your specific operational requirements – such as airport infrastructure and airspace changes – or to further improve capacity, resilience, and environmental performance.

Intelligent Approach delivers more runway capacity in all conditions and significant benefits during peak times or strong headwinds. The tool can be seamlessly integrated into existing air traffic management systems - including Indra's ManagAir - without the need for airport infrastructure changes.





Time Based Separation

Distance Based Separation

Distance Based Separation (DBS) provides controllers with a visual indication of the required separation and can take into account the deceleration profile of each aircraft as it prepares to land.

This improves the consistency of delivery of aircraft to the runway, resulting in typical capacity gains of 2-3 landings per hour, per landing runway.

Time Based Separation

The only true Time Based Separation (TBS) tool on the market today, Intelligent Approach provides a further increase in capacity, enabling controllers to deliver more aircraft, or to better deal with peaks in demand.

The dynamic adjustment of spacing for all wind conditions – with live weather data downlinked from each individual aircraft - recovers the capacity lost due to headwinds, improving operational and safety performance. Capacity gain per runway of 2-3 landings, in addition to DBS.

Mixed Mode Operations

A world-first spacing tool for maximising arrival and departure capacity for mixed mode runways, including single runway airports.

The Advanced Mixed Mode module safely increases capacity and resilience gains by 2-3 movements per hour per runway.

Pairwise

Pairwise provides the capability to separate aircraft using an enhanced wake scheme.

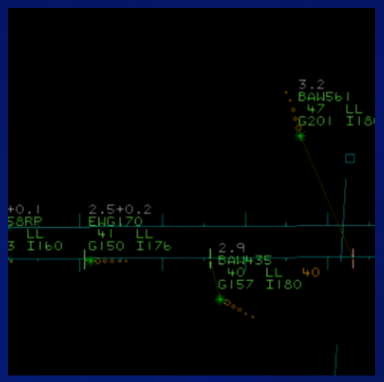
Instead of using a wake scheme that groups aircraft together into categories based on weight and wingspan, Pairwise uses wake vortex separations that are individually tailored for each pair of aircraft, providing typical capacity gains of 1-2 landings per hour in additional to those already delivered by DBS and TBS.

Case study

Resilience gains at London Heathrow Airport

Intelligent Approach has been in continuous operation at Heathrow since March 2015. In that time it has delivered an average tactical capacity gain of two aircraft landings per hour in all wind conditions and up to four in strong headwinds. This has boosted on time performance, cut fuel burn and reduced emissions.

- Annual benefit to the airlines, airport, and ANSP of over €50m
- Reduction in airborne holdings of 230,000 minutes a year, equating to approximately 47,000 tonnes of saved CO2
- Over 60% reduction in headwind delays



Case study

Boosting tactical capacity at Amsterdam Airport Schiphol

Intelligent Approach went live at Schiphol in January 2023. The airport saw an immediate benefit with controllers able to land 3-6 more airport per hour on each runway during high winds. This significantly reduced the number of aircraft that had to land on the airport's noise sensitive runway, reducing the impact for local residents while also improving on-time performance.

"I've seen the huge benefits Intelligent Approach brings during high winds. The amount of traffic we can handle has been dramatically increased. We're talking 10 to 15% more traffic."

Jose Daenen, LVNL Director of Operations and an Air Traffic Controller

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