

Arrival Manager (AMAN)

Increased predictability, efficiency, and sustainability

The Frequentis Arrival Manager (AMAN) helps air traffic controllers to efficiently manage incoming flights optimising the use of available runway and airspace capacities. AMAN aids controllers in handling arrival traffic, across multiple runways and airports supporting air navigation service providers (ANSPs) to manage arrivals efficiently. The system enables air traffic controllers to meter traffic into a busy terminal manoeuvring area, reducing the need for stack holding.

Key features

Automated arrival sequencing and metering

AMAN continuously sequences arrivals considering the traffic demand, available capacities, and multiple optimisation criteria. To support efficient metering of the arrival traffic, AMAN calculates target times and provides delay absorption advice to ATC controllers.

Advanced AMAN functions

AMAN offers advanced functions for successful deployment in diverse operational settings, aiding controllers effectively. These functions encompass holding, routing and speed advice, point merge turn guidance, meter-fix spacing, and runway balancing.

Extended arrival management

AMAN extends the arrival management coordination to neighbouring area control centres, even across ANSP boundaries (cross-border arrival management). This enables controllers to provide early speed instructions during cruise, promoting eco-friendly flight profiles and sustainable ATM practices.

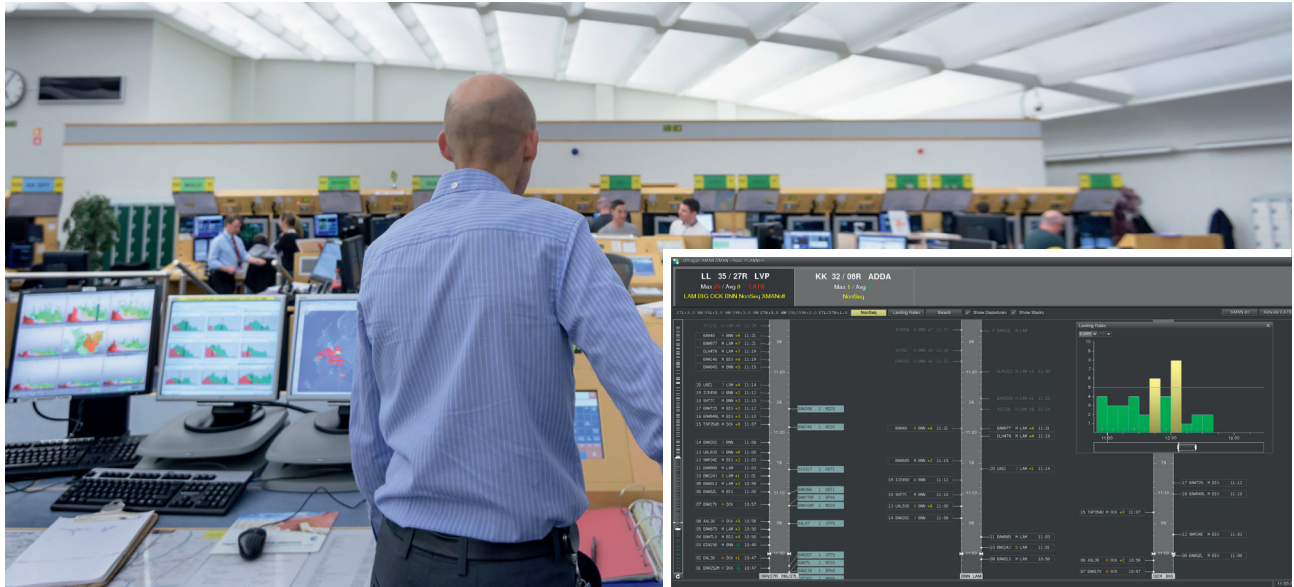
Integration with Departure Manager (DMAN)

The Frequentis Integrated AMAN/DMAN (IAD) supports mixed-mode operations by balancing arrivals and departures based on traffic demand. IAD supports tower and approach controller coordination enhancing the efficiency and sustainability of ATM and airport operations.



AMAN at a glance

- More than two decades of experience in deploying the AMAN globally in various operational and technical environments
- Worldwide references include Doha, Hong Kong, Istanbul, London, Oslo, Rome, Singapore, Toronto and Zurich
- World's first Extended AMAN, operationally deployed for NATS in 2014
- Providing various advanced functions adaptable to local ATC procedures
- Pioneering innovations successfully validated within the Single European Sky ATM Research (SESAR) programme
- Compliant with ICAO ASBU and EU CP1 requirements for extended arrival management



Benefits

Reduced emissions and improved sustainability

Delay absorption at more fuel-efficient altitudes instead of airborne holding saves fuel and reduces greenhouse gas emissions.

Increased predictability of arrival traffic

Calculation of precise arrival times enabled by trajectory predictions and runway sequence planning improves predictability of arrival times.

Maximised runway capacity utilisation

Optimisation of arrival sequence and balancing of traffic improves runway capacity utilisation and reduces delays.


Efficient flight profiles and reduced costs for airspace users

Reduction in fuel burn and delays reduces operational costs for the airlines and hence improves flight efficiency.


Reduced workload for air traffic controllers

Silent coordination, improved traffic flow predictions and support in multi-directional arrival metering environments reduce overall workload spread evenly across sectors.

Facts & figures

 AMAN saved in excess of **1M** tons of CO₂ emissions within its >20 years of operations

550 NM AMAN horizon for London Heathrow pioneering extended planning horizons

 **Sustainability Award** at CANSO World ATM 2021

World's first

Integrated AMAN/DMAN deployed in operation for CAA Singapore in 2021



Oslo Airport was named **top performer** for continuous decent operations thanks to Point Merge System supported by the Avinor AMAN

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