

dans PUBLICATION

2024



dans

دبي لخدمات الملاحة الجوية
DUBAI AIR NAVIGATION SERVICES



HIS HIGHNESS SHEIKH MOHAMMED BIN ZAYED AL NAHYAN
President of The United Arab Emirates and Ruler of Abu Dhabi



HIS HIGHNESS SHEIKH MOHAMMED BIN RASHID AL MAKTOUM
Vice-President and Prime Minister of The United Arab Emirates and Ruler of Dubai



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01

LEADERSHIP FOREWORD



LEADERSHIP FOREWORD

CHAIRMAN'S MESSAGE

Aviation is one of Dubai's greatest success stories and remains at the heart of our economic and social progress. From modest beginnings, we have built a sector that connects millions of people across the world, supports trade and tourism, and creates lasting opportunities for our people and partners. This achievement reflects our enduring belief in aviation as a driver of growth and a bridge between cultures.

Air navigation services are a vital foundation of this success. By ensuring the safe, reliable, and efficient management of our skies, dans has supported the transformation of Dubai International and Al Maktoum International into leading global gateways. Its progress reflects not only technical excellence but also the dedication of its people, whose work

ensures that the highest international standards are met every day.

As we look to the future, aviation will remain central to Dubai's vision. Emerging technologies, including advanced air mobility; artificial intelligence; and the growth of sustainable air transport will reshape the industry. dans continues to work with ecosystem partners to embrace these opportunities, supporting the expansion of our airports, and contributing to the resilience and competitiveness of our economy.

Beyond infrastructure, aviation strengthens Dubai's global presence and influence. It enables dialogue between nations, fosters innovation, and demonstrates what can be achieved through ambition and foresight. In this space, dans is not

only a provider of essential services, but also a champion of our values of safety, excellence, and openness to the world.

Through continued commitment and innovation, I am confident dans will help secure a prosperous future for Dubai, the UAE, and the wider region.



HIS HIGHNESS SHEIKH AHMED BIN SAEED AL MAKTOUM

Chairman, dans (Dubai Air Navigation Services)

Chairman and Chief Executive, Emirates Airline & Group

LEADERSHIP FOREWORD

CEO'S MESSAGE

dans stands at the forefront of an industry in transformation. As aviation evolves to meet the demands of rapid growth, sustainability, and technological change, our role is not only to deliver safe and efficient services today but also to shape the future of air navigation for Dubai.

Over the years, and in the last two in particular, we have continued to invest in digital transformation, strengthening our ability to manage complex traffic flows with great precision and flexibility. Advanced automation, data-driven decision-making, and integrated platforms are redefining how we operate, enabling us to enhance safety while accommodating growth. At the same time, we are embedding sustainability into our planning and operations, ensuring that efficiency

gains contribute to reducing the environmental footprint of aviation.

These efforts are laying the groundwork for the next chapter of Dubai's aviation journey: the phased transition of operations from Dubai International Airport (DXB) to Al Maktoum International Airport (DWC). On track for completion by 2032, this move will establish DWC as the largest and busiest airport in the world, with an unrivalled capacity to serve global connectivity. dans is preparing to meet this challenge — building the systems, expertise, and partnerships that will ensure a seamless transition and future-proof our capabilities.

Our ambition reaches beyond meeting operational requirements. We aim to contribute to the UAE's leadership in aviation by developing

talent, advancing innovation, and sharing expertise with the global community. In doing so, we are helping strengthen Dubai's position as a hub of connectivity and mobility, and a source of soft power, where aviation continues to open doors for trade, tourism, and communication between nations.

Together with our partners, we are ensuring Dubai's skies remain among the safest, most efficient, and most innovative in the world.



HIS EXCELLENCY IBRAHIM AHLI

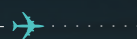
Chief Executive Officer

dans (Dubai Air Navigation Services)

02



dans EXCELLENCE IN
AIR NAVIGATION



Dubai Air Navigation Services (dans) is at the core of Dubai's dynamic aviation environment and manages one of the world's busiest and most complex airspaces with precision, safety, and efficiency. Through innovation and operational excellence, dans is not only ensuring seamless air traffic management today, but also shaping a connected, intelligent, and future-ready aviation landscape for the region.

Local and international aerospace in and around the United Arab Emirates (UAE) is transforming rapidly due to changing trade and traffic patterns, technological breakthroughs, and increasingly urgent calls for sustainability. With its strategic mega-hub location, unparalleled infrastructure and ambitious vision, the UAE is ideally positioned to lead worldwide aviation development.

A magnet for commerce and tourism, Dubai has made aviation its heartbeat. dans sets the standard with its Control Area (CTA), managing and optimizing the flow of air traffic across the airport with the most international passengers (DXB), ensuring seamless operations and connectivity.



Covering an area of 15,212 km², Dubai CTA is highly complex and extremely busy due to the location of multiple international airports in its immediate vicinity. This configuration presents unique parameters within which dans must deliver its services.

An exceptionally complex, densely layered airspace requiring efficient coordination to cater for varying stakeholder requirements:



Traffic growth levels for five international airports in close vicinity – Dubai International Airport, Al Maktoum International Airport, Sharjah International Airport, Ras Al Khaimah International Airport and Fujairah International Airport.



The world's highest levels of international passenger traffic at Dubai International Airport (DXB), with 10 hours of declared Arrival and Departure traffic peaks.



Emirates Airlines' largest wide-body fleets - Airbus A380s, Boeing 777s – among mixed aircraft fleets



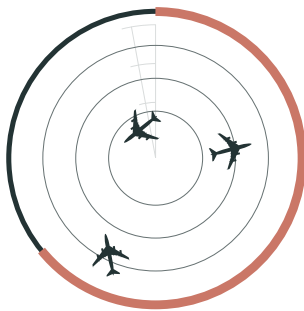
Introduction of Urban Air Mobility operations in 2026

2.1

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dans' ROLE IN THE AVIATION ECOSYSTEM

Air navigation in Dubai traces its roots over a rich and proud 58-year history, reaching back to 1967. Air navigation has played a key role in providing services for the country's innovative and exceptionally busy international airports.



671,635

air traffic movements

In 2024 alone, dans efficiently managed 671,635 air traffic movements within the Dubai Control Area (CTA), a testament to its growing role in regional and global aviation

Core air navigation services

dans delivers a variety of approach and tower control-related air navigation services to the UAE's major airports, including services such as:

- **Approach Radar Control services** to air traffic entering and leaving Dubai International Airport, Al Maktoum International, Sharjah International and Emirates Flight Training Academy.
- **Aerodrome Control services** at Dubai International Airport (DXB), Al Maktoum International (DWC) and Emirates Flight Training Academy (EFTA).
- **Approach services to transiting air traffic**, including arrivals and departures from Al Ain International Airport, Ras Al Khaimah International Airport and Fujairah International Airport.

dans' extensive expertise in managing Dubai's air traffic has positioned it as a strong provider of technical services such as air navigation training, consulting for flight procedure design and review, assessing impact of events and activities in the Dubai CTA, surface obstacle limitations, and impact of drone operations, among several other technical areas.

Airspace Management services

In addition to core services, dans' airspace management services ensure seamless integration of design, planning, data management and air traffic simulation across the air navigation system. These services include:



Airspace and Instrument Flight Procedure Design:

formulating precision flight procedures with safeguarding assessments to ensure terrain and obstacle clearance



Aeronautical Information Management Services:

collecting, managing, and distributing critical aeronautical data via web-based platforms to provide real-time information availability for stakeholders

Fast Time Simulation (FTS) services:

modeling and analyzing the impact of airspace changes on ground operations, flight efficiency, and environmental footprints.



Airspace Planning and Implementation:

assessing and managing temporary or special use of airspace requests, overseeing stakeholder coordination, and leading the Notice to Airmen (NOTAM) management process



Flexible Use of Airspace:

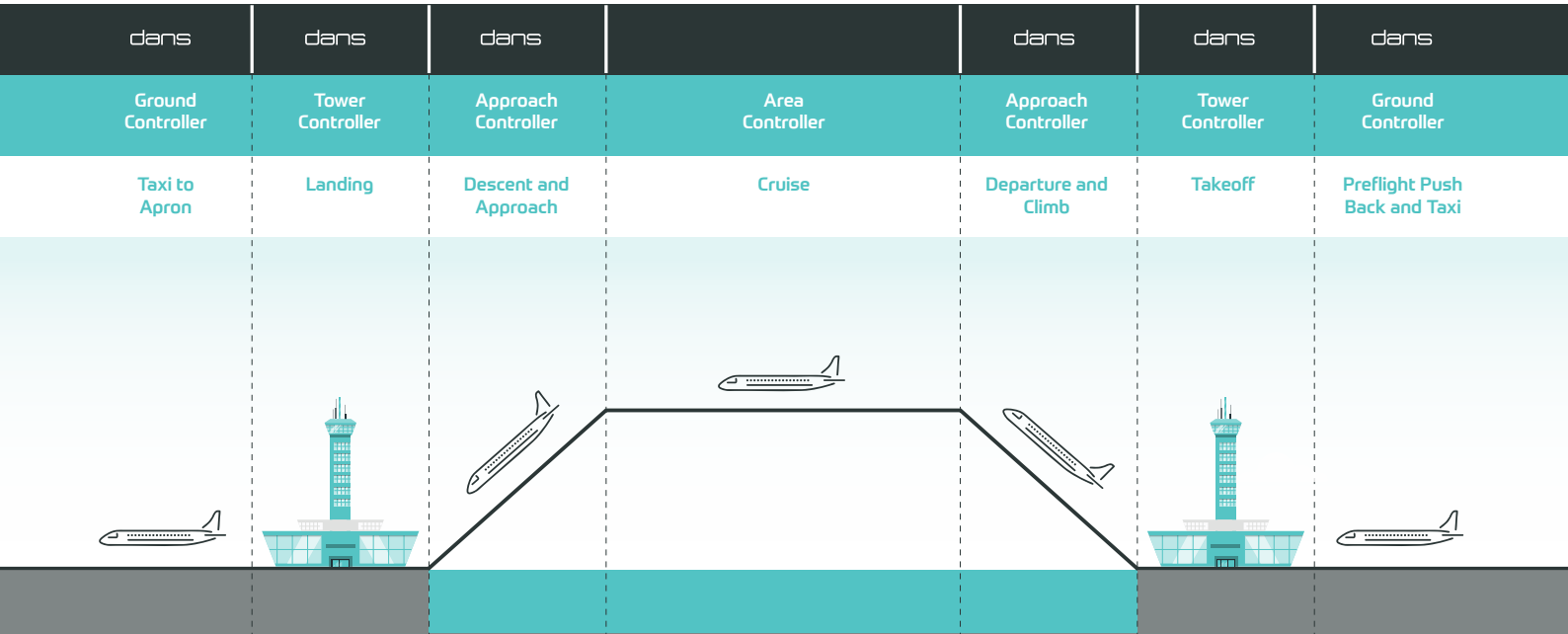
coordinating military, civil, and recreational airspace needs to optimize flexible usage of national airspace.



dans' air navigation services are delivered through air traffic control towers located at Dubai International Airport, Al Maktoum International Airport, and Emirates Flight Training Academy.

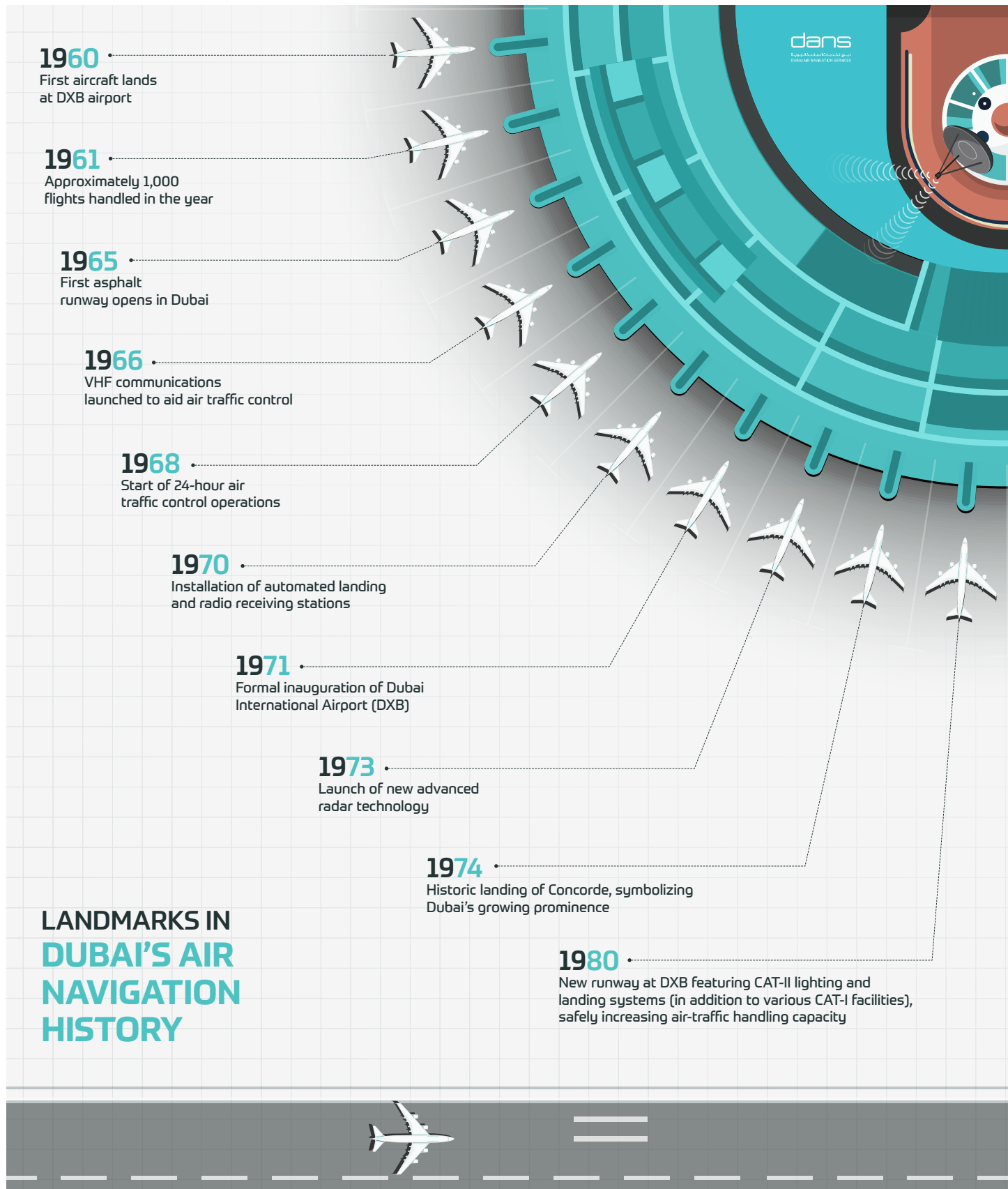


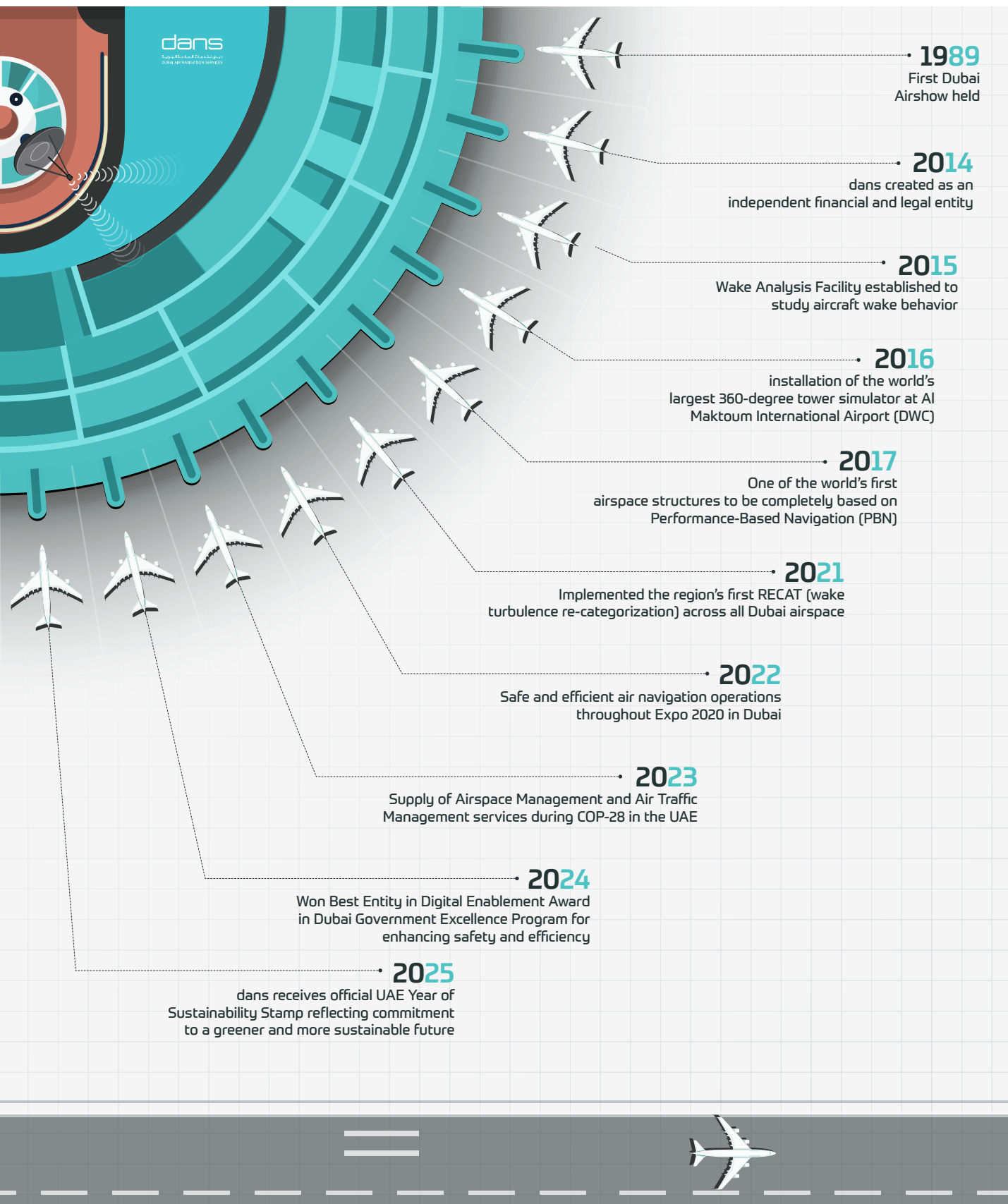
Overview of dans' operations



The dans story

The 1960s was a game-changing decade in Dubai's aviation history, beginning with the first aircraft touchdown in 1960. By 1968, 24-hour air traffic control had been launched, initiating Dubai's progress to global aviation prominence.

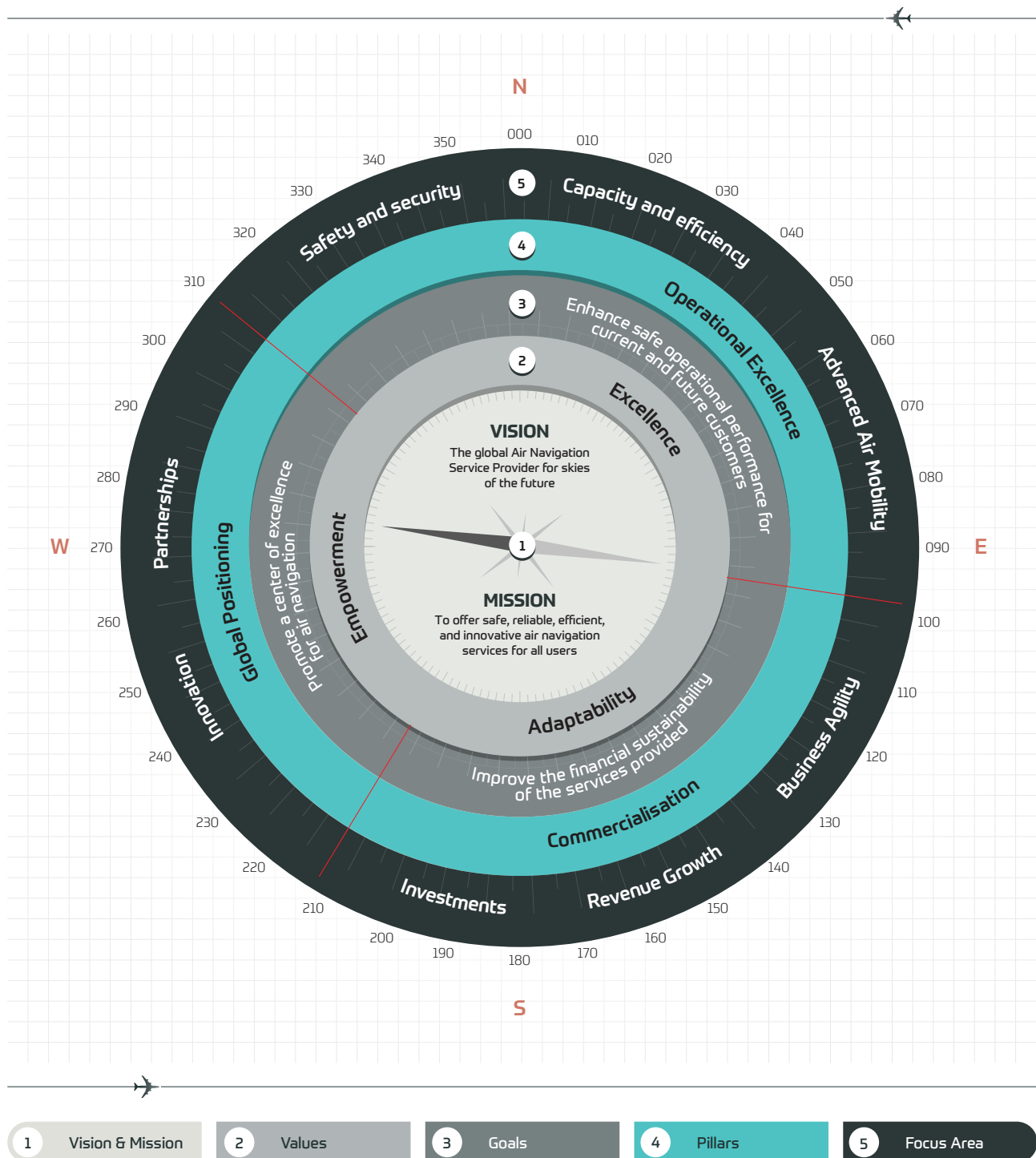


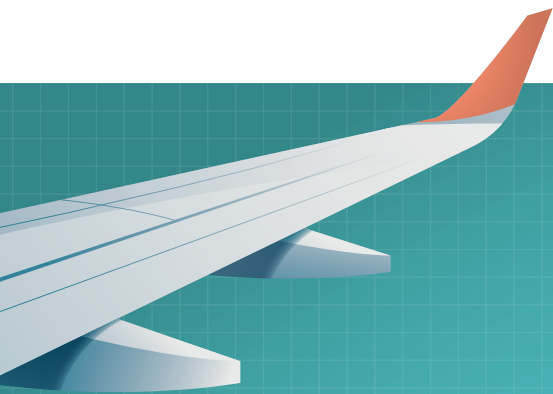


2.2

dans VISION, MISSION AND VALUES

At dans, our strategy is built on a strong vision, a clear mission, and values that steer every move we make, allowing us to stay ahead.





OUR VISION

The global air navigation service provider for skies of the future

Aviation never stops evolving. To lead air navigation over the next decade and beyond, we are always looking forward by identifying challenges, developing solutions, and preparing today for tomorrow's skies.

OUR MISSION

To offer safe, reliable, efficient, and innovative air navigation services for all users

Our mission keeps us steady and guides every step. It's our core: how we measure what we do and why we do it.

OUR VALUES



Empowerment



Adaptability



Excellence

OUR GOALS

- Enhance safe operational performance for current and future customers
- Improve the financial sustainability of the services provided
- Promote a center of excellence for air navigation.

OUR PILLARS AND FOCUS AREAS



Safety & Security



Enhancing Capacity and efficiency



Advanced air mobility



Investments



Revenue growth



Business agility



Innovation



Partnerships

03

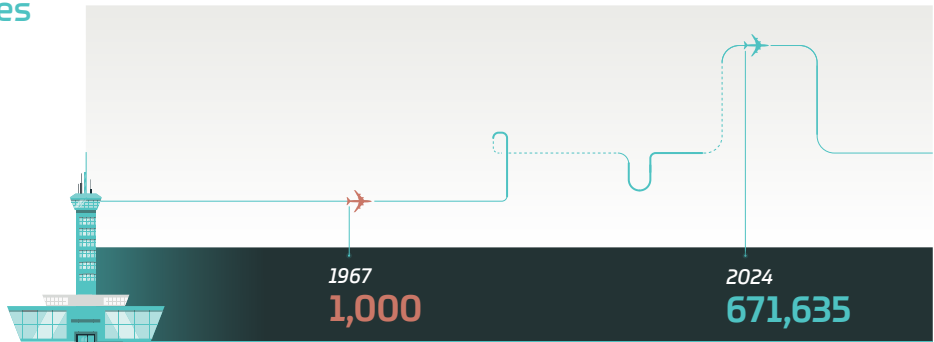


**NAVIGATING
THE SKIES** OPERATING THROUGH
COMPLEXITY



With its state-of-the-art air traffic management systems, dans optimizes flight operations and ensures safe, efficient airspace management within Dubai's Control Area.

Air navigation services have been a driving force in improving Dubai's ability to handle CTA movements, from around 1,000 in 1967 to more than 671,000 in 2024.



Over the past decade, dans has played a critical part in enabling Dubai's transformation into a global aviation hub.

As Al Maktoum International Airport (DWC) grows to become Dubai's – and the world's – largest airport by 2032, dans will again perform a key role in facilitating strategic change.

Once fully operational, DWC will be five times the size of DXB, with as many as five parallel runways designed to accommodate

400 aircraft gates and around
260 million passengers annually.

Total number of airspace movements handled by dans per airport (overflights excluded)

Flights	2017	2018	2019	2020	2021	2022	2023	2024
DXB	413,953	413,607	375,751	184,713	236,514	347,170	420,849	445,385
DWC	32,968	28,974	38,141	22,750	27,324	44,004	38,768	52,490
SHJ	75,033	80,384	87,719	34,954	59,946	89,582	100,502	108,638
EFTA	0	1,104	1,809	14,341	20,481	21,048	23,263	25,993
Total	521,954	524,069	503,420	256,758	344,265	501,804	583,382	632,506

In the first half of 2025, dans managed

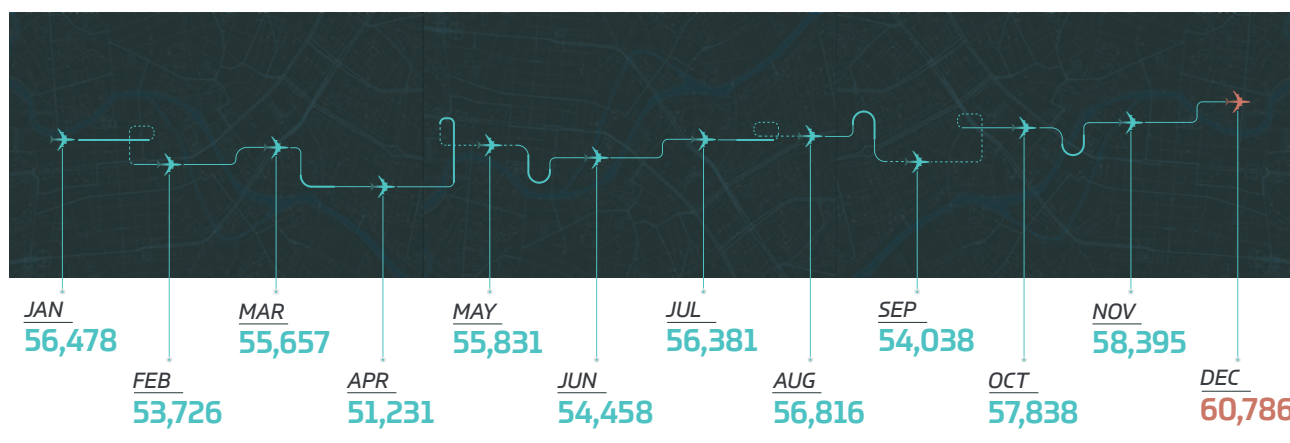
325,540
air traffic movements,

marking a 5% increase compared to the same period in 2024. This shows continued operational efficiency and growth.

A photograph of an air traffic controller in a white uniform and headset, sitting at a console with multiple computer monitors displaying flight data. The background is a blurred view of the control room.

Large volume of monthly airspace movements handled in 2024

The average monthly number of Dubai airspace movements handled by dans mounted steadily over 2024, peaking at almost 61,000 in December – its busiest month ever. This trend is expected to continue due to Dubai's strong global positioning, allowing dans to keep playing its part in Dubai's aviation growth story.



Average daily movements handled by dans at DXB

Dubai International Airport (DXB), the busiest airport serviced by dans, recorded strong traffic growth of 6% in 2024 compared to 2023. dans managed an average of 1,217 airspace movements per day, with a maximum of 1,280 on December 27th.

Overall, across all airports served by dans, the average number of daily CTA movements handled has increased from 1,775 movements per day in H1 2024 to 1,878 movements per day in H1 2025.

Average throughput during peak hours at DXB

In addition to enabling high levels of air traffic at airports, dans also optimizes efficiency. It caters to two key peak periods of demand for air navigation at DXB: 03:00-06:00 UTC (07:00-10:00 Dubai time) for departures and 01:00-02:00 UTC (05:00-06:00 Dubai time), as well as 17:00-20:00 UTC (21:00-24:00 Dubai time) for arrivals. In 2024, dans supported DXB by managing an average of 36 arrivals and 41 departures per hour during the peak periods. The busiest arrivals hour was on May 5th from 02:00-03:00 UTC (06:00-07:00 Dubai time) (41 arrivals) and the busiest departures hour was on June 14th 06:45-07:45 (10:45-11:45 Dubai time) (48 departures).

dans delivers a high rolling-hour capacity at DXB throughout the year due to its relentless focus on operational efficiency. During peak departure hours, 80% of departure pairs at DXB were optimized using Standard Instrument Departure (SID)-based separation. Most of these movements had diverging routes, achieving the most efficient separations with an average of 76 seconds, while 13% followed the same route, requiring 111 seconds on average.

The remaining 20% of pairs were non-optimized and followed wake-based RECAT (Recategorization of Aircraft Wake Turbulence) separations, averaged 130 seconds against a 100-second standard. Overall, these results demonstrate dans' proactive management of departure flow using route-based separation logic to minimize delays and enhance throughput.

dans also continued to optimize arrival-arrival separations under the enhanced Wake Turbulence Separation (eWTS) framework in 2024, improving efficiency while maintaining safety during peak hours. The majority of separations aligned with ideal minima.

Average control area flying times remained stable, with marginal increases despite higher traffic volumes. Key Standard Instrument Arrivals (STARs) – IMPED (from Asia and Australasia) and VUTEB (from Europe) – saw traffic rise by over 10%. Yet average flight times rose by just 12-18 seconds. This highlights dans' ability to absorb growth while maintaining procedural efficiency.

The seamless coordination between dans, Dubai Airports, and the region's leading airlines has created a powerful win-win scenario for the aviation ecosystem in Dubai. The airlines benefit from optimized flight movements and reduced delays, while Dubai Airports continues to expand its global connectivity and passenger capacity. Enabled by dans, this synergy directly supports Dubai's broader economic ambitions, driving inbound tourism, trade, and investment.

This high-level operational delivery is also enabled by dans' Communications Navigation and Surveillance (CNS) team. CNS systems ensure the engineering assets and equipment required to deliver air navigation services safely and efficiently are well-maintained and readily available. Since 2018, dans has achieved exceptional CNS availability performance of more than 99% across DXB, DWC and EFTA (Emirates Flight Training Academy).





04

TRUST IN
MOTION

SETTING THE STANDARDS
IN SAFETY AND SECURITY



4.1

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SAFETY PERFORMANCE

At dans, safety is more than a focus area: it is a core principle that defines how we operate. Together with our emphasis on security, capacity and efficiency, and advanced air mobility, we continue to pursue a safer, more efficient, and innovative airspace.

The Safety Management Program plays a central role throughout dans, overseeing the **Safety Management System (SMS)** internal audits, monitoring **Safety Performance Indicators (SPIs)**, engaging with stakeholders, and providing targeted safety training.

The Safety Management program promotes a robust safety culture via media such as the Safety

Matters podcast and supports high-priority safety developments like **Local Operational Threat and Error Management (LOTEM)**. It also contributes to regulatory forums such as the GCAA National Safety Committee and engages regularly with stakeholders including Dubai Airports, Emirates Airline, Flydubai, Air Arabia, and regional Air Navigation Service Providers (ANSPs), and other, foreign operators as required.



4.2

SECURITY PERFORMANCE

In addition to maintaining the highest safety standards, dans has a strong focus on security. The following initiatives have been successfully undertaken by dans:

Security Operations Centre (SOC)

The newly upgraded SOC delivers real-time monitoring and robust defense against cybersecurity threats, thus safeguarding our vital operations.



Cyber security

In partnership with a leading digital transformation services provider, dans' cybersecurity framework is being enhanced with AI-driven threat intelligence, automated rapid response, and machine learning to counter emerging risks. This collaboration reflects dans' mission: to offer safe, reliable, efficient, and innovative services for all our users.



Threat Intelligence and Risk Scoring Web Vulnerability Assessment (TIRS Web VA)

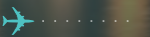
dans has exhibited consistent excellence in TIRS Web VA, maintaining a perfect score throughout all three assessment periods.





05

**BUILDING FOR
TOMORROW** SHAPING THE FUTURE
OF AIR NAVIGATION



dans strives to stay ahead of its peers by identifying and investing in large technology-led projects. These are designed to make dans' CTA safe, smooth and sustainable for now and for the future.

dans has a sharp focus on the three strategic focus areas of the International Civil Aviation Organization (ICAO)'s Global Air Navigation Plan (GANP): information, operations, and technology. Projects are already being implemented based on ICAO's GANP, from the Aviation System Block Upgrade (ASBU) Blocks 2 and 3. These are expected to maintain dans' operational readiness until 2036.



dans projects are also aligned with central strategies such as **UAE ATM Strategic Plan, Dubai D33 Economic Agenda, Dubai Autonomous Transportation Strategy, Dubai Digital strategy and UAE Tourism Strategy 2031**, among others. dans projects adopt cutting-edge technologies to address emerging trends such as digitalization and urban air mobility, and to enhance core operational capabilities and maintain service excellence.

5.1

PROJECT PORTFOLIO

The following are highlights of key projects undertaken or planned by dans.



UAE Airspace Restructuring

(COMPLETED)

- Developed designs for the UAE Terminal Airspace, reaching key milestones identified in 2016, 2020, and 2022-2025 (Phase 1)
- Collaborated with stakeholders across the UAE to ensure alignment with the country's airspace development objectives
- Engaged with the external Italian supplier Ente Nazionale Assistenza al Volo (ENAV) to ensure successful implementation within challenging timelines
- Enhanced operational efficiency by improving airspace structure to accommodate increasing traffic demand.



Dual Arrival Operations – Approach Peak Offloading

(COMPLETED)

- Implemented ATC concepts to use both runways effectively
- Increased throughput and reduce delays, especially during peak arrival periods
- Reallocated lighter wake category aircraft to RWY 30R (the main arrivals runway at DXB) during arrival peaks to optimize runway use
- Reduced delays and enhance passenger experience during peak periods
- Increased overall air traffic capacity, allowing for smoother arrivals and improved scheduling.



Dubai RECAT

(COMPLETED)

- Developed a new aircraft categorization system encompassing weight, speed, and wingspan to redefine wake turbulence standards
- Replaced ICAO separation with a modern system that safely reduces separation minima between aircraft types
- Conducted a detailed wake analysis in partnership with EUROCONTROL (European Organization for the Safety of Air Navigation), ensuring alignment with RECAT EU methodology and safety guidelines
- Supported improved operational efficiency and increased runway capacity, to meet future traffic demand.



Emergency Operational Fallback (EOF) – Development and Expansion

(COMPLETED)

- Built a robust Air Traffic Management (ATM) fallback system for the ATC Approach Control (APP) unit and the APP ATM extension into the Visual Control Room (VCR) and Contingency Visual Control Room (CVCR)
- Established a separate facility with equipment identical to the current Approach Control Room, ensuring independent power supply and data feeds for seamless backup
- Ensured operational continuity by maintaining Air Traffic Services during planned outages or unexpected incidents
- Enhanced predictability by providing a stable fallback solution that ensures continuity of services without disruption.



Air Capacity Optimization Study (ACOS)

(COMPLETED)

- Identified key factors that could hinder the performance of DXB in both the short- (2025) and long-term (2030)
- Assessed critical airfield concerns through fast-time simulations to evaluate potential capacity constraints
- Categorized and prioritize identified issues based on thematic relevance to ensure targeted solutions
- Collaborated with Dubai Airports through dedicated workshops to develop effective solutions and explore enhancement concepts.



Security Operations Center

(COMPLETED)

- Established a continuous monitoring and response system to address security threats
- Enhanced dans' ability to detect and mitigate cyber attacks swiftly, minimizing risks to critical systems
- Ensured the organisation remains resilient against rapidly evolving threats, contributing to overall business continuity.



New Air Traffic Management (ATM) system

(ONGOING)

- Supported technology growth and ensure infrastructure readiness to enhance air traffic management (ATM) capabilities
- Focused on automating interfaces and leveraging operational data to improve decision-making
- Aligned with the UAE's Unified Automation System initiative and adhere to both national and international ATM strategic plans.
- Replaced the current ATM system to eliminate redundancy and enhance functionality and overall capability
- Prepared the organisation for seamless transition to the upgraded system, aligning with future operational demands.



Integrated Tower Working Position

(ONGOING)

- Designed to enhance efficiency and improve safety by integrating multiple operational functions into a single tower position
- Focus on streamlining operations and enhancing decision-making processes for air traffic controllers
- Aims to optimize resource utilization and improve coordination within the control tower environment.



Digital Aerodrome Control Services (DACS) at Al Maktoum International Airport (DWC)

(ONGOING)

- Improve contingency capabilities by implementing a remote tower type solution to enhance visual surveillance of existing Visual Control Rooms (VCRs)
- Reduce reliance on traditional infrastructure through the digital tower solution
- Enable continuous peak traffic rate operations for an indefinite period to meet Dubai aviation's requirements
- Leverage digital surveillance, AI-driven decision support, and automation to improve operations.



Flight Information Service

(ONGOING)

- Aim to improve aviation safety and efficiency by providing specialized assistance to pilots
- Set up MBZ NORTH, including supporting activities
- Established 24/7 dedicated FIS service within uncontrolled airspace (Class G) throughout dans' area of responsibility



New Tower Simulators

(ONGOING)

- Design systems that enhance training efficiency for air traffic controllers by providing realistic simulation environments
- Enable controllers to practice various operational scenarios, improving their skills and preparedness for managing complex air traffic situations
- Focus on strengthening air traffic management capabilities to support both normal and emergency situations effectively.



Systems Wide Information Management (SWIM)

(ONGOING)

- Collaborate with a specialist supplier to deliver hardware regeneration for the Aeronautical Information Management (AIM) system
- Introduce SWIM as a new protocol for improved collaboration with aviation stakeholders, aligning with the ICAO ASBU Blocks mandate
- Position dans as one of the first ANSPs, regionally and globally, to adopt this new standard.

5.2

FUTURE OF AIR MOBILITY

dans: redefining airspace

dans is revolutionizing the future of aviation by pioneering one of the world's most advanced Unmanned Traffic Management (UTM) ecosystems. The vision is to create a unified, cutting-edge airspace where manned and unmanned aviation coexist, sustained by innovation, safety and sustainability. dans' UTM strategy integrates real-time tracking, AI-driven conflict resolution, and dynamic geofencing to ensure Dubai's control area remains secure, agile and prepared for tomorrow's challenges.



Unmanned Traffic Management System (UTM System)

(ONGOING)

- First-mover to integrate AI, blockchain, and predictive analytics for UTM
- Supports the implementation of UAE Federal Decree-Law No. 26 of 2022, On the Regulation of the Civil Use of Unmanned Aircraft and Related Activities
- Focuses on enhancing safety and efficiency for air navigation service providers by implementing an Unmanned Traffic Management (UTM) system
- Aims to manage unmanned air traffic seamlessly, ensure smooth and safe drone and unmanned aerial vehicle (UAV) operations
- Integrates advanced air mobility solutions into Dubai's evolving airspace, including UAVs
- Aligns dans with global trends in urban air mobility, reinforcing Dubai's ambition to be at the forefront of innovative air transport solutions.



Roads and Transport Authority (RTA) Aerial Taxi program

(ONGOING)

Under the directive of H.H. Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, the Roads and Transport Authority (RTA) has been mandated to introduce the "Aerial Taxi" service by 2026. dans is supporting the RTA in realizing this innovative mode of transport in Dubai's skies by providing the following:

- **Aviation/aerospace and regulation:** Provide comprehensive support to RTA's designated partners concerning operations, ensuring all regulatory and aerospace requirements are met
- **Vertiport locations:** Collaborate with RTA and stakeholders to identify and agree on suitable locations for aerial taxi landing and take-off areas, or "Vertiports," integrating these seamlessly into the urban public transport network and Dubai CTA
- **Flight Paths:** Determine and agree on appropriate flight paths for ATS operations, ensuring safety and efficiency
- **Design configuration input:** Capture and relay aviation or airspace-specific requirements to the RTA for consideration in the design and configuration of the Aerial Taxi Vehicle and Vertiports.
- **Operational restrictions and limitations:** Identify any restrictions and limitations from an aviation or airspace and regulatory perspective, providing guidance to ensure compliance and safety
- **Trial operations:** Review the results of trial operations, offering feedback to refine and improve the service before full-scale deployment

Such key projects aim to bring the futuristic unmanned and manned air mobility services to Dubai, enhancing the city's public transport network, while reinforcing its position as a leader in innovative transportation solutions.

5.3

PROOF OF CONCEPTS (POC) AND TRIALS

With a strong history of projects, and plenty in the pipeline, dans continues to carry out an innovative program of operational POCs and trials.

Development of Aerodrome Mapping Database (AMDB) for DWC and DXB

dans, in collaboration with the Mohammed Bin Rashid Space Centre (MBRSC), is developing an AMDB for DWC and DXB. This project uses high-resolution satellite imagery from MBRSC to allow accurate mapping of aerodrome characteristics. MBRSC is responsible for developing algorithms to derive coordinates and shapes from satellite images. dans then processes this data to create the final AMDB. This initiative aims to enhance aerodrome situational awareness, within a short to medium term timeline.

THALES ATFM functionality testing

dans tested the Thales Air Traffic Flow Management (ATFM) functionality to support RECAT implementation, providing a clear view of impending traffic. The PoC has since progressed into a new implementation phase managed by Dubai Aviation Engineering Projects (DAEP), deploying Thales' TopSky-ATC system. This next-generation system, designed to enhance safety, capacity and operational resilience, is aligned with the highest international standards and is aligned with requirements at DXB airport. The system also offers 'approach services' for the northern Emirates allowing the optimization of traffic flows for increased capacity and safety while also lowering fuel burn for airlines.

Collaboration for aerodrome survey development

dans is partnering with MBRSC to develop Aerodrome Survey Reports using special drones and satellite imagery for obstacle assessments. MBRSC will provide obstacle survey data, while dans will produce the annual Aerodrome Survey Reports. This project also includes the development of Obstacle Limitation Surfaces (OLS) for runways, with further studies required for GCAA approval. This is a long-term initiative aimed at setting new standards for aerodrome safety.

Exploring MS Fabric for Cloud Data Management

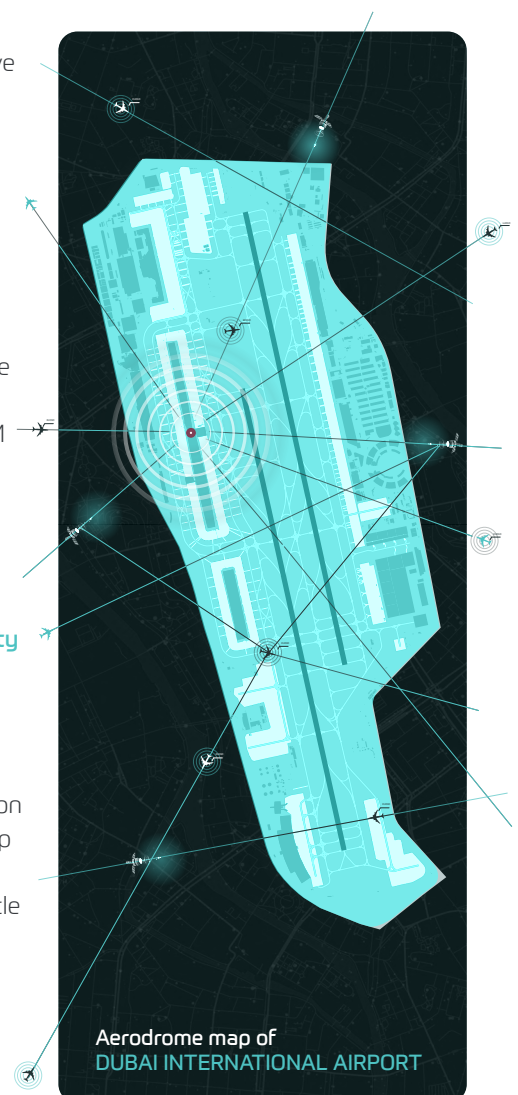
dans is collaborating with Microsoft to explore the use of MS Fabric as a cloud server for managing all dans' data. This initiative aims to centralize data from CNS servers, supporting current applications and future UTM systems. The project is in the early stages, with ongoing discussions to assess feasibility and integration requirements.

Collaboration with Dubai Municipality on 3D mapping

dans is collaborating with Dubai Municipality to define 3D mapping requirements for the entire city of Dubai, supporting the implementation of the UTM system. This partnership also includes discussions on using the municipality's system for obstacle limitation, as well as improvement of airspace safety and operational efficiency.

Implementation of drone technology in Instrument Landing Systems (ILS) maintenance

dans successfully completed a PoC at DWC airport for the use of drones in ILS ground maintenance. The objectives were to enhance efficiency during runway closures, lower safety risks, minimize the impact of ILS maintenance on airport operations, and reduce costs and CO2 emissions.



A full-page background image featuring two business professionals shaking hands. The person on the left is wearing a dark suit, and the person on the right is wearing a white shirt. They are positioned in the lower half of the frame. The background is a blurred city skyline with several tall buildings. The entire image has a teal/cyan color overlay. In the upper left corner, there are several white dashed lines forming a circular pattern.

06

**BRIDGING
PARTNERSHIP**

STRENGTHENING TIES
WITH THE PUBLIC AND
PRIVATE SECTORS



The future of air navigation isn't flying solo. It's about partnerships and teamwork.

In the fast, complex aviation industry, connecting with public and private players is key to delivering safe, smart, pioneering air navigation services. dans collaborates with regulators, airports, airlines, and tech innovators to meet rising demand, promote operational excellence, and stay ahead of global trends. This relentless focus has made dans a trusted, go-to partner.

Creating the air navigation systems required for Dubai's Control Area over the foreseeable future requires constant planning and carefully phased implementation. dans has allied with the multiple key stakeholders to enhance strategic alignment and provide the technical and human resources necessary to bring about the changes required.

Dubai Aviation City Corporation (DACC)



DACC, the powerhouse behind Dubai's aviation sector, is also the parent company for dans. The expansive scope of DACC includes the management and strategy of Dubai's twin aviation hubs: the Dubai International Airport and world's largest airport in the making, the Al Maktoum International Airport. DACC's purview also includes Dubai South and Dubai Aviation Engineering Projects (DAEP).

Sheikh Zayed Air Navigation Centre (SZC)



SZC delivers en-route air navigation services for air traffic in the upper airspace of Dubai. dans collaborates closely with SZC on air traffic transitioning between the upper and lower airspace where dans provides approach and control services. Working with SZC, dans has successfully navigated air traffic for major events in Dubai such as Expo 2020 and COP 28, delivering expert airspace assessment, airspace design, ATC procedures and safety assessments.

Dubai Aviation Engineering Projects (DAEP)



DAEP is a leading engineering organisation responsible for master planning, design, infrastructure development and construction of the Dubai aviation sector. DAEP supports dans with procurement of all major capital assets, projects and programs. Upon completion, the assets are then handed back to dans for operations and maintenance.

Dubai Airports (DA)



DA and dans collaborate extensively to plan hourly, daily and yearly air traffic movements, readying Dubai for future demand. Currently, DA and dans are working together on the Airside Capacity Optimization Study as part of DA's DXB 2030 strategy. Another co-project, Follow the Green, has promoted sustainable and efficient taxiing at the airport. dans and DA are also closely working for a streamlined transition to Al Maktoum International Airport.

General Civil Aviation Authority (GCAA)



dans meticulously ensures that it always operates under the regulations and guidelines issued by GCAA. Further, dans and the GCAA also work closely to develop innovative solutions and technical papers, such as the co-authored 'Managing Safety during COVID: Challenges of an ANSP'. Additionally, dans and the GCAA have co-developed an Investigation Article on Unmanned Aerial Systems, tackling safe integration of drones in the controlled airspace.

National Center of Meteorology (NCM)



dans has service contracts in place with the NCM for supplying weather and seismic information related for promulgation in the UAE Aeronautical Information Publication.



Road and Transport Authority (RTA)

سلطة الطرق والنقل
ROADS & TRANSPORT AUTHORITY



dans is proud to support the transformation of urban aerial mobility in Dubai by partnering with the RTA to develop the airspace necessary to accommodate air taxis. Looking to bring aerial taxis to Dubai by 2026, dans is working with Joby Aviation to develop aircraft flight procedures, and with Skyports to identify potential vertiport locations in Dubai. These efforts set the stage for one of the world's first operational Aerial taxi networks, positioning Dubai as a global leader.

Emirates Flight Training Academy (EFTA)



dans has executed an Air Traffic and CNS service provision agreement with EFTA. EFTA, with around 600 students, is providing the next generation of pilots for Emirates Airline and helping to meet future pilot demand in the UAE. In 2018, dans completed the inclusion of ATC, airspace, and engineering services implementation for EFTA. Under the agreement, dans supports EFTA by training pilots to run air traffic control towers and manage air navigation service providers. dans also played an important role in ensuring the successful establishment of EFTA. This included setting up a greenfield aerodrome that required airspace, training, operational and technical approvals from the GCAA.

Knowledge partnerships with the University of Sharjah



dans is formalizing knowledge agreements with leading academic and research centers in the region to undertake specific development projects. dans already has a memorandum of understanding (MoU) with Sharjah University for collaboration on specific Unmanned Traffic Management (UTM) system functionalities with other partnerships with RIT University and American University of Sharjah also planned.

Technology partnerships

Micro Nav

MICRONAV

dans has continued its long-standing partnership with the UK's Micro Nav by signing an agreement to deploy its BEST ATC simulator to facilitate dans' planned adoption of the latest technology and expand its training capabilities. The new simulator suite extended the existing Micro Nav tower simulation platform with two additional 360° tower simulators, ten single-person tower simulators, plus integration with existing simulation assets and new ATM systems to support dans' growth strategy.

Thales

THALES

In 2022, Thales' TopSky – Air Traffic Control (ATC) system was selected to strengthen the safety, capacity, and efficiency of its air navigation services. Designed with robust redundancy features, TopSky – ATC ensures uninterrupted operations and is tailored to the operational needs of Dubai International Airport.

Indra

indra

In 2023, dans strengthened its relationship with Spain's Indra Avitech by deploying SWIM (System Wide Information Management). This state-of-the-art intranet platform connects the different aeronautical information systems used by airports, air navigation service providers, airlines, air forces and meteorological services. It ensures a coordinated and efficient Air Traffic Management, increasing safety and improving traffic flow.



DFS Aviation Services



DFS Aviation Services

Also in 2023, dans entered into a contract with Germany's DFS Aviation Services (DAS) for the delivery of new Air Traffic Control (ATC) systems. The systems are intended to improve operational capacity and maintain high-quality standards in Dubai's airspace. A modular and scalable digital system, the platform equips tower and approach controllers with integrated tools for the safe and efficient management of air traffic across Dubai and the Northern Emirates.

Saab



SAAB

In 2022, dans and DAEP awarded Saab a contract to supply its Integrated Air Traffic Control Suite (I-ATS) for use at DXB and DWC airports. The agreement covers around 95 controller working positions, which will be deployed across both airports, the Emirates Flight Training Academy, and the Contingency Operations Center. The I-ATS platform is designed to enhance safety and efficiency in tower and approach operations, and incorporates a Departure Manager (DMAN) to optimize departure flights' sequencing.



ANRA
TECHNOLOGIES

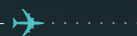
ANRA

In 2025, dans and Dubai Aviation Engineering Projects appointed ANRA Technologies to develop a next-generation UTM platform to manage drone traffic in Dubai. The system will integrate radar, weather, NOTAMs, and live tracking to enable safe, real-time coordination. Features include flight approvals, dynamic airspace management, and conflict detection, with future scalability for Urban Air Mobility and integration into existing air traffic systems.



07

**EMPOWERING
TOMORROW** INSPIRING TALENT
IN AVIATION



dans' success relies on its highly skilled, efficient, and motivated workforce. Managing Dubai's complex airspace requires a technically proficient, responsible team that champions safety, precision, and operational excellence.

7.1

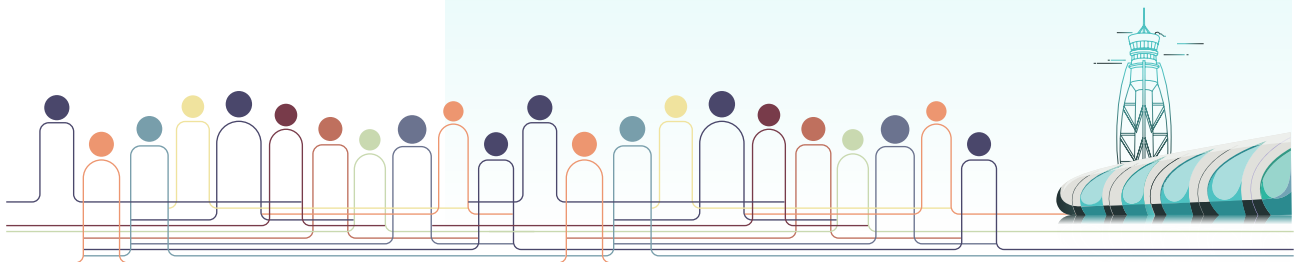
OUR ORGANISATION

dans greatest asset is its people. Their focus on safety and consistent delivery of high operational standards has established the organisation as a reliable provider of air navigation services. Together, their drive for excellence and safety has made dans a trusted name in global air navigation. From air traffic controllers guiding flights with safety and precision, to engineers enabling communication, navigation and surveillance systems, our teams ensure Dubai Control Area operates reliably, safely, and efficiently.

dans' diverse and experienced team of over **500 professionals** including more than **160 air traffic controllers** and **over 60 engineers**.

organisation's

51 different nationalities



The organisation's 51 different nationalities reflect Dubai's global spirit. With high levels of experience, the workforce brings a wealth of expertise, ensuring safe and efficient skies for millions of air passengers each year.

A strong commitment to Emiratization has led to a growing share of Emirati talent within dans, complementing a strong blend of national and international experts who collectively deliver world-class service.

dans leadership

Led by His Excellency (HE) CEO Ibrahim Ahli, accountability at dans is paramount. The organisation has three main sectors: Operations, Corporate Support Services, and Strategy and Development. These are supported by a dedicated Safety and Security team and an Operations Projects team. This lean structure is fine-tuned to optimize management of Dubai's control area, while continually pushing for innovation.



HE Ibrahim Ahli
CHIEF EXECUTIVE OFFICER

HE Ibrahim Ahli has over 30 years of air traffic management and air navigation strategy. Since starting his career in 1996, he has risen through the ranks, turning dans into an independent financial and legal entity renowned for its safety and efficiency internationally. He has spearheaded many pivotal projects for dans across several domains, including: air traffic management systems (the New Air Traffic Management System: control tower (Integrated Tower Working Position (ITWP), Digital Tower Operations Using Cameras

and Fusion, Contingency Control Towers, Upgrading Existing Towers and Existing Engineering Facilities, New Voice Control and Communications System (VCCS); and others (Follow the Greens, Enhanced Surveillance Systems, Camera-Based Surveillance, Unmanned Traffic Management System and UAE Airspace Restructuring Project). His clear focus on Emiratization has inspired several Emirati leaders to take top positions in dans. Beyond dans, he is Deputy Chairman of the Flying Control Committee for the Dubai Airshow.



Khalid AlJabir
SENIOR VICE PRESIDENT OPERATIONS

Khalid AlJabir brings over 25 years of leadership in aviation, engineering, and public sector to the team. He has held key positions at dans - Vice President of Communications, Navigation Systems, Head of Air Traffic Engineering Services - driving critical operations and transformation projects. Before joining dans, he tackled big

infrastructure and Information Technology Services (ITS) related challenges at the Roads and Transport Authority (RTA) and the Department of Civil Aviation. He has a degree in electronics engineering from the UAE's Higher Colleges of Technology and a master's degree in international business law from the University of Paris.



Yousuf Marhoon
SENIOR VICE PRESIDENT CORPORATE SUPPORT SERVICES

Yousuf Marhoon has over 25 years of IT and strategic leadership experience in UAE government roles. He started at dans in 2019 as Head of Information Technology and was promoted to his current role in 2022. Before joining dans, Yousuf was the IT Director at the Abu Dhabi Department of Transport as well as Information Security Manager at Road

and Transport Authority (RTA), rolling out enterprise-wide digital and security systems. A Higher Colleges of Technology graduate.



Thani Al Thani

VICE PRESIDENT AIR TRAFFIC SERVICES

Thani Al Thani brings over 20 years of hands-on leadership in air traffic control. Since joining dans in 2000, he has taken on several roles - Head of ATC DXB Tower, Tower Operations Manager, Senior Officer ATC Operations - showing dedication to safety, excellence, and teamwork. With advanced certifications in ATC

supervision and Operational Excellence, he is also a part of the dans Leadership Development Program.



Talal Al Hammadi

VICE PRESIDENT AIR TRAFFIC DEVELOPMENT

As VP Air Traffic Development, three heads of department report to Talal Al Hammadi: Airspace Management, Unmanned Traffic Management (UTM), and Organisational Research & Development. Before joining dans in 2015, Talal spent 11 years at the General Civil Aviation Authority (GCAA) as Head of Airspace Coordination, crafting routes and regulatory ideas. He has also

shaped worldwide flight policies at ICAO's Instrument Flight Procedures Panel in Montreal. Beyond aviation, Talal's eight years as a Sharjah Police officer show his commitment to public service.



Salah Mohamed Al Qasim

VICE PRESIDENT SAFETY & SECURITY

Salah Mohamed Al Qasim has built a career spanning over two decades in aviation operations, safety management and security governance. Since joining dans in 2000, he has held progressive roles across air traffic control, compliance and safety, including Head of Safety and Security and Security Manager. In his current role, he directs the development and implementation of the Information Security

Management System (ISMS) and Safety Management System (SMS), ensuring that risks are maintained at the lowest practicable levels in line with international aviation standards. He holds a bachelor's degree in law from Al Falah University and multiple advanced training qualifications in aviation safety, risk management, and operational excellence from IATA, Eurocontrol, and other global institutions.



Saeed Alzaffin

VICE PRESIDENT OPERATIONS PROJECTS

Having joined dans in 1995, Saeed Alzaffin's career spans over 30 years in aviation systems, airport infrastructure, and project leadership. He currently oversees major programs and projects that support air navigation safety and efficiency. This involves leading the strategic planning and execution of all such programs and projects within dans and ensuring

alignment with national aviation goals and stakeholder interests. Previously at dans, he was responsible for delivering complex aviation infrastructure and navigational aids (navaids) projects, and introducing systematic project management processes across the organisation. Saeed holds a BSc in electronic engineering from the University of Toledo (USA).



Maitha Mohammed Al Haj

VICE PRESIDENT STRATEGY AND DEVELOPMENT

Maitha Mohammed Al Haj has more than 24 years of experience in digital transformation, strategy, innovation, future foresight, governance, compliance, quality and excellence management. She has a proven record of turning visionary concepts into scalable programs that deliver measurable impact, strategic alignment, and sustained competitive advantage. Before joining dans, she developed large-scale strategic and innovative initiatives as well as transformative digital projects

at Dubai Airports and Wasl. She holds an executive master's degree in big data and business analytics from ESCP Business School, a master's in international business law from Panthéon-Assas University, and an Executive MBA as well as dual degrees from the Higher Colleges of Technology. She is also certified by the Dubai Future Experts Program and graduated from Mohammed Bin Rashid Center for Leadership Development.



Ahmad Hanafy

FINANCIAL ADVISOR

Ahmad Hanafy brings over 30 years of experience across the public and private sectors. He has expertise in finance, accounting, financial planning and development, risk management, corporate governance, and both internal and external audit. Throughout his career, Ahmad has held several prominent roles, including Finance Advisor to the Abu Dhabi

Department of Transport and the Head of Central Accounts at the Department of Finance – Government of Dubai. His qualifications include Certified Public Accountant (CPA), Certified Internal Auditor (CIA), Certified Management Accountant (CMA), and Certified Financial Manager (CFM).



Asma Almutawa

VICE PRESIDENT FINANCE

Asma Almutawa brings more than 20 years of experience in finance, accounting and strategic budgeting from the public sector. Since joining dans in 2008, she has led annual budgets, systems, and reporting. Before dans, she held key financial roles at Dubai Taxi Corporation, Awqaf and Minors Affairs Foundation, Etisalat, and Dubai

Courts. She holds a bachelor's in business administration and diplomas in accounting and business management from the Higher Colleges of Technology.



Abdulla AlMarzooqi

VICE PRESIDENT PROCUREMENT AND CONTRACTS

Abdulla AlMarzooqi brings over 20 years experience in procurement and support services to our organisation. Prior to joining dans in 2017, he held several senior procurement and supplier-relationship positions in organisations such as Emirates Airlines and Dubai World Trade Centre (DWTC). Abdulla holds an MBA from CASS

Business School of Management London City University and an Executive MBA from Bradford University.



Hala Al Khatib

HEAD OF STRATEGY AND INNOVATION

Hala Khatib has more than 20 years' experience spanning aviation, government services, and corporate transformation. She currently drives strategic planning, innovation programs, organisational development, and future foresight initiatives aligned with dans vision for operational excellence and future readiness. Prior to joining dans, Hala held central roles in leading government and aviation entities, including Dubai Municipality, Dubai Customs,

and the Ministry of Environment, where she contributed to national and regional aviation projects, corporate performance programs, and strategic initiatives. She holds a master's in quality management from the University of Wollongong in Dubai and a bachelor's in industrial engineering from the University of Jordan, in addition to many professional certificates in leadership, innovation, knowledge, excellence, and performance.

TALENT DEVELOPMENT AND TRAINING

Training and development form the core of dans' commitment to maintaining world-class operational standards and supporting the growth of UAE nationals. The focus on continuous learning and professional advancement ensures staff remain at the forefront of industry best practices. This approach is reflected in key performance indicators that highlight steady improvements in staff competence, increased training for UAE nationals, and a growing number of specialized certifications.

dans' staff are its biggest strength, and building their skills, fueling their drive, and ensuring their well-being helps to grow new talent and keep teams engaged. In 2024 dans ran a large number of operational and non-operational training courses, to build a high-performance environment.



National Development Program

dans' National Development Program (NDP) is designed to develop the next generation of Emirati leaders across four streams: ATCO, CNS, ATMS, and Safety. Spanning 2-4 years, the program combines structured training, technical specialization, and on-the-job experience. Trainees undergo system-based, simulated and field training on advanced platforms such as Indra Garex, EFPS, and surveillance radars. The NDP is producing growing numbers of skilled, successful Emirati professionals, including validated ATCOs operating in Dubai airspace. To boost leadership training, dans celebrated the graduation of its first batch of participants in the executive diploma in leadership management at the Mohammed bin Rashid School of Government. The ceremony, attended by HE CEO Ibrahim Ahli, honored the graduates' academic and professional achievements, and recognized the vital contributions of mentors, trainers and support teams. dans also acknowledged the instrumental role of the Mohammed bin Rashid School of Government in the program's success.



Training for UAE nationals

The number of Emirati employees trained has increased steadily, from 92 in 2021 to 114 in 2024, in line with dans' commitment to local talent development. The number of national employees with specialized certifications highlights the focus on advanced technical skills, critical for ensuring operational excellence.



Operational staff knowledge

Levels of operational staff knowledge, measured through annual Certificate of Competence (CoC) assessments, have consistently exceeded the 90% target set for 2021 to 2024. This key performance indicator tracks the comprehensive competence of ATCOs through writing, oral, and practical examinations. There is a continuous upward trend from 95.93% in 2021 to 97.65% in 2024, reflecting ongoing investment in skills development and training program effectiveness.



Talent development

To keep staff adept and prepared, dans runs an internal training program, covering Air Traffic Services (ATS) and Air Traffic Safety Electronics Personnel (ATSEP), together with regular briefings on wide-ranging subjects at all skill levels.

• Air Traffic Services (ATS) training

- Initial training for newcomers
- Rating & Qualification: license-ready skills
- Competency checks: fresh and recurring, plus new endorsements
- Continuation, refresher and emergency: keeping operations tight
- Past Competency Review for transfers
- New gear and procedures training
- ICAO 051 Basic
- ICAO 052 Aerodrome Rating
- ICAO 054 Approach Surveillance Rating
- On-the-Job Training Instructor (OJTI) endorsement
- Examiner endorsement
- Supervisor course
- Classroom techniques and continuation on Safety Management Systems (SMS), Human Factors, Team Resource Management (TRM), Simple Flight Modeling (SFM), and Threat and Error Management (TEM), among others.

• ATSEP training

- Basic Course: CNS/ATM essentials.
- Qualification courses: Voice/Data Comms, Nav Aids (VOR, ILS, GNSS),
- Surveillance (PSR, SSR, ADS), Data Processing, System Monitoring & Control
- ATSEP OJTI and Assessor Training for seasoned professionals stepping into teaching roles.

• Communication Navigation Surveillance (CNS) training

CNS has developed replica training platforms for Instrument Landing Systems and Meteorology Sensors, providing hands-on learning for operational engineers. These sessions are led by experienced engineering specialists, ensuring precise and practical skill development.

CNS maintains replicated or split systems across two dedicated equipment rooms, primarily to ensure operational redundancy. This setup also enables the use of these systems for focused training sessions, enhancing the technical preparedness of staff.

CNS also regularly organises dedicated training sessions for DWC and DXB airports' operational and specialist staff, delivered directly by Thales Original Equipment Manufacturer (OEM) trainers, ensuring in-depth technical understanding and practical knowledge transfer.

• Simulation and classroom facilities

To optimize technical training and operational readiness, dans invests in cutting-edge simulation technologies. At the center of its capabilities is the 360-degree TOSIM1 tower simulator - one of the largest in the world - located at DWC. This simulator, equipped with 13 Barco projectors, and fully integrated with Airfield Lighting Control and Monitoring Systems (AFLCMS) and Electronic Flight Progress Strips (EFPS), provides immersive training for DXB and DWC tower operations.

Additional simulators such as TOSIM2 A & B offer high-definition visuals and multi-position setups to support training. For approach training at DXB, the radar simulator (RASIM) features 10 ATC workstations and 12 pseudo-pilot positions, simulating complex scenarios. These simulators also serve as experimental hubs, where new procedures are trialed before going live. This ensures real-time precision and world-class training for dans' ATCs.





08

**ELEVATING
INFLUENCE** **SHAPING INDUSTRY
IMPACT**

dans helps shape the technical discourse on the future of air navigation by sharing expert insights, earning respected awards, and re-imagining airspace navigation via global forums.

8.1

THOUGHT LEADERSHIP

Through technical white papers and thought leadership reports, dans is pushing the boundaries of air navigation development and consolidating Dubai's position as a global aviation hub.

- 2025: International Civil Aviation Organization (ICAO) conference** 

dans presented a working paper on maximizing efficiency in sector capacity calculation and declaration using fast-time simulations with CAPAN, Brazil and FAA methodologies.
- 2025: Improving the efficiency of the use of airspace with a mandatory broadcast zone (MBZ)** 

This paper presented the implementation of MBZs as a way of enhancing airspace efficiency, reducing emissions from general aviation and improving safety in complex airspace environments.
- 2024: Enhancing Segregated Parallel Operations (SPO) to promote environmental sustainability and fuel efficiency** 

The ICAO has set a Long-Term Aspirational Goal (LTAG) of achieving net-zero carbon emissions by 2050. dans' working paper for ICAO explored SPO enhancement to reduce environmental impacts and fuel consumption.
- 2024: Strategic integration of Electric-Powered Advanced Air Mobility** 

Highlighting the crucial roles of the ANSP and State Regulator in managing airspace and ensuring regulatory compliance, dans' working paper helped foster an environment for Advanced Air Mobility.



- 2024: Integration of Unmanned Aircraft Systems (UAS) operations into existing Air Traffic Management (ATM) systems** 

This technical paper explored the integration of UAS operations into existing ATM systems, focusing on policing applications. It addressed the challenges posed by very low-level operations, typically below 500 feet, where conflicts with manned aircraft, particularly around helipads, are common.
- 2024: Enhancing efficient use of runway type Final Approach and Takeoff Area (FATO) to promote environmental sustainability and fuel efficiency** 

dans' working paper explored the ICAO standards and regulations around use of runway type FATO integrated in accordance with ICAO to the proximity of a runway.
- 2024: Phasing out legacy air traffic management systems for enhanced efficiency and safety** 

The necessary phasing out of legacy air traffic management (ATM) systems to enhance efficiency, safety, and interoperability in global air navigation was the topic of this paper. It highlighted the limitations of existing legacy systems and proposed strategies for transitioning to modern, performance-based systems.
- 2025: Why UAM needs real-world rotor wake data** 

Developed in collaboration with the Coherent Research Group (CRG), this groundbreaking white paper addressed one of the most pressing challenges in the evolution of Urban Air Mobility (UAM): accurately understanding the aerodynamic effects of rotor wakes from eVTOL aircraft.

8.2

EVENTS AND EXHIBITIONS

Over the past decade, dans has been a constant presence at airspace-related trade exhibitions and conferences, strengthening international connections and showcasing innovations.



Dubai Airshow

dans took part in Dubai Airshow through its stands in 2017, 2019 and 2023, joining discussions with keynote speakers in 2019, 2021, and 2023. In 2024 dans ensured the event's safety and continuity by coordinating with the UAE Military and Dubai Airports via the Flight Control Committee, developing ATC procedures tailored to the show, and delivering safety assessments aligned with AMC25 regulatory standards.

dans' ATCOs were trained and briefed on event-specific procedures, while CNS/ATM systems were installed in the Airshow Tower and FCC (Flying Control Committee) offices. Additionally, dans supported airspace stakeholders by publishing critical AIP SUPs - Aeronautical Information Publication Supplements - and NOTAMs (Notices to Airmen), reinforcing its operational leadership.



Airport Show

dans has exhibited and presented findings at every Airport Show in Dubai between 2017 and 2023. Further, as a key partner of the 2025 Airport Show and the 8th edition of the Air Traffic Control Forum, dans reaffirmed its leadership in airspace management and innovation. Held under the patronage of H.H. Sheikh Ahmed bin Saeed Al Maktoum, the event brought together global stakeholders to explore trends in communication, navigation and surveillance systems.



AirTOP User Group Conference

dans uses the Airtop Simulation tool to perform ACOS (Airfield Capacity Optimization Studies), gauging impacts on airfields and airspace during major events like COP28 and Dubai's Airshow. In collaboration with Transoft Solutions, dans was proud to host the first-ever AirTOP User Group Conference in the UAE, in 2025. This landmark event brought together aviation professionals from around the world to exchange insights, and explore the latest advances in airspace simulation and optimization.

The agenda featured deep technical dives into AirTOP modules, user presentations, software updates and networking opportunities, culminating in a group visit to the Museum of the Future. By convening global stakeholders, dans reaffirmed its leadership in championing digital innovation and collaborative progress..

dans also took part by submitting three ICAO working papers. The first, Strategic Integration of Electric-Powered Advanced Air Mobility, received endorsement from stakeholders including the USA, Brazil, IATA, France, Mauritania, Chile, Japan, Colombia, Italy, KSA, Oman, South Korea, Indonesia, and Kenya. It was also commended by the ICAO conference chairman.



Bahrain International Airshow

dans participated in the Bahrain International Airshow 2024, showcasing Dubai's commitment to air navigation excellence. Engaging with authorities from Bahrain, Qatar, and Brunei, dans swapped insights and eyed future teamwork. The visit culminated with a tour of Bahrain's cutting-edge ATM Center, courtesy of the Ministry of Transport and Telecommunications.



ICAO Symposium

The 14th Air Navigation Conference at ICAO headquarters in Montréal in 2024 saw dans connecting with industry leaders around air navigation, innovation and sustainability. Meetings were held with global counterparts, strengthening international ties with Dubai's air navigation ecosystem.



VFR Committee Meeting

dans contributed to the 5th VFR Committee Meeting, where we rallied drone and Visual Flight Rules (VFR) operators in Dubai's CTA to refine airspace safety and operational excellence.



Participation in ICAO ATFM and FF-ICE Seminar

dans was proud to participate in the ICAO Seminar on Air Traffic Flow Management (ATFM) and Flight & Flow Information for a Collaborative Environment (FF-ICE), held in Dubai in 2024, where global aviation stakeholders exchanged insights on harmonized air traffic strategies. dans' Airspace Management and Safety teams presented their expertise in sector capacity calculations, advanced simulation techniques and a comparative study aligned with the Mid Region ATFM Plan. The seminar reaffirmed dans' commitment to airspace optimization and collaborative innovation in global air traffic management.



Global industry strategy and roadmap for future skies – CATS CONOPS

dans was one of the contributors to the CATS CONOPS (Complete Air Traffic System Concept of Operations) Global Council Leadership Summit, and one of the sponsors of its publication, enabling its design, printing and dissemination. This was a global initiative driven by collaboration, innovation and a shared commitment to safe, sustainable, and scalable skies.



8.3

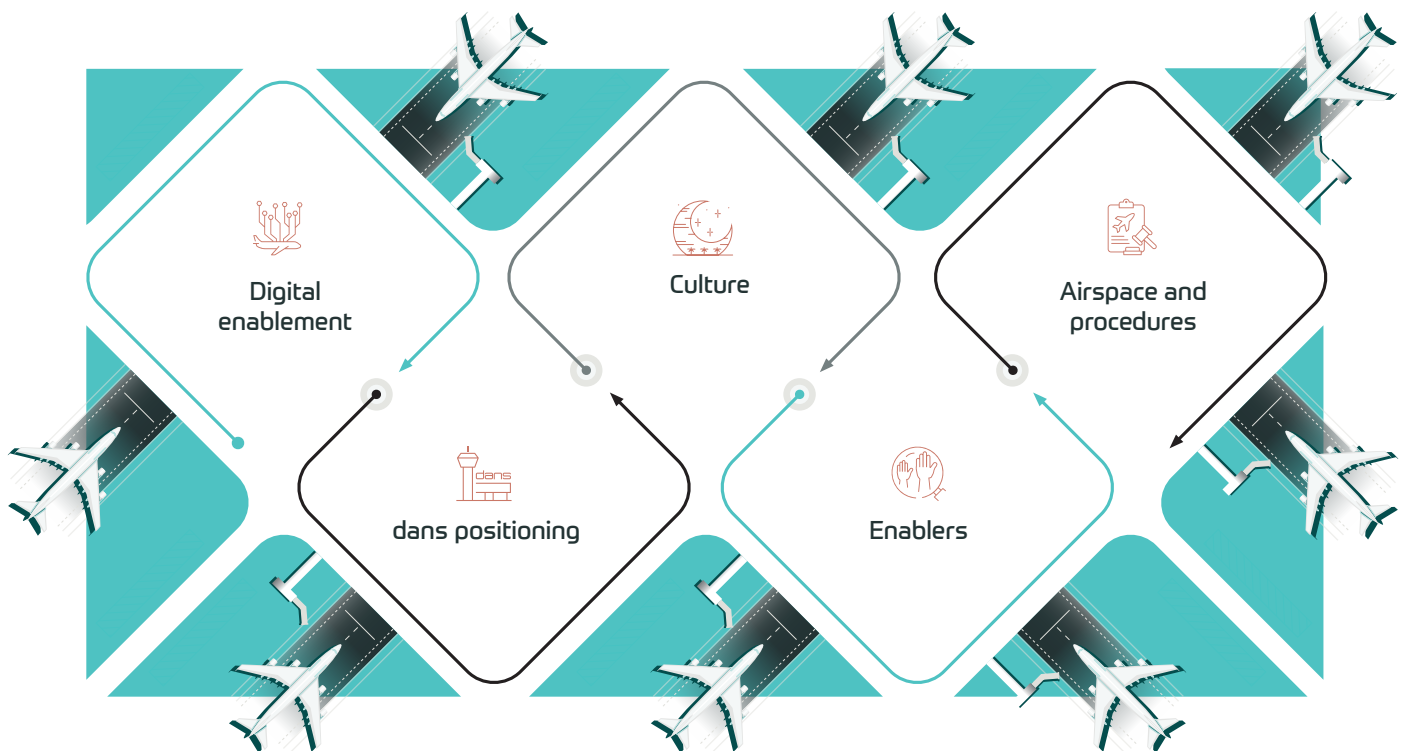
INNOVATION

Although dans operates in a highly regulated environment, which makes developing new approaches challenging, dans has developed a strong innovation-focused culture.



Future Foresight Training

Working sessions were devised by dans to empower teams with creative problem-solving and planning skills. These fostered collaboration, ideation, and scenario-based thinking, equipping participants to create resilient solutions. Training sessions centered around:





Design Thinking & Future Foresight Workshops

Comprising 2 key workshops focused on creativity and strategic foresight, the Design Thinking Workshop tackled DWC expansion challenges via hands-on design, while Future Foresight Training equipped participants with tools like trend analysis and scenario planning. Both sessions fostered collaboration and saw staff contributing visionary ideas.



Hackathon 2025

As part of Innovation Month, dans organised a multi-stakeholder hackathon, involving 70 participants and 300 learning hours. It was attended by dans' executive and senior management, subject matter experts (SMEs), employees and external parties. The latter included Dubai Airports, Dubai Civil Aviation Authority, Emirates Airline, GANS, Air Arabia, RTA, Department of Civil Aviation Ras al Khaima (RAK), Flydubai, American University of Sharjah, Dubai Police, University of Sharjah, and Rochester Institute Of Technology.



Fekra Innovation Challenge

A wide range of external global participants were invited through active community engagement on social media. dans employees were asked to co-create solutions around five strategic themes: optimizing airspace for DWC expansion, predictive maintenance of navigation systems, AI-powered decision support for controllers, upskilling through immersive technologies and improving operational energy efficiency. The challenge sparked cross-functional ideation and renewed dans' focus on using emerging technologies for solving complex issues.

InnovatED Campaign

As part of UAE Innovation Month, dans launched the InnovatED Education Campaign in 2024, delivering 3 innovation workshops, 1 quiz, 3 communications, and 2 award sets. The campaign engaged 66 attendees over 429 learning hours and created a platform for sharing groundbreaking, forward-thinking ideas.

Innovation Ambassadors Network

In 2024, dans conducted two dedicated virtual training sessions to onboard its Innovation Ambassadors, focusing on their roles and responsibilities. These were formed to support innovation culture and implementation. The Ambassadors actively refine innovation-related processes and their efforts support a structured and inclusive approach to dans' innovation framework.

8.4

DIGITAL TRANSFORMATION

dans has launched several initiatives aimed at digitalization-led operational efficiency and project management. These are designed to streamline processes, empower teams, and drive continuous improvement.



Business process automation

dans designed an advanced digital solution for automating business processes and streamlining workflows, significantly improving organisational efficiency and productivity. By reducing manual interventions and optimizing routine operations, the system enables dans teams to focus on higher-value tasks.

Learning, provides a unified system for dans users to enhance their skills, accelerate professional development, and contribute effectively. It ensures continuous learning and upskilling, keeping employees ahead in a rapidly changing industry. Since its launch in November 2024, the platform has seen remarkable engagement across dans. In less than six months, 159 employees completed a total of 2,587 courses, covering 729 unique topics, and logged over 2,000 learning hours.



Project management

dans has developed a central hub for managing all its projects, facilitating collaboration, organisation, and goal alignment. The platform enhances project visibility and communication, enabling teams to stay organised and aligned.



Active-Active Data Center and Disaster Recovery Implementation

As part of dans' commitment to robust digital infrastructure, the implementation of an Active-Active Datacenter and Disaster Recovery setup has been successfully completed. This strategic initiative significantly strengthens dans' IT resiliency, ensuring high availability for critical systems.

Designed to enhance disaster recovery readiness, the infrastructure minimizes system redundancy, boosts operational efficiency, and supports scalability in line with industry best practices. It plays a vital role in safeguarding service continuity and minimizing the risk of downtime, thus reinforcing dans' readiness for future operational demands.



Document management

dans launches a new web-based document management service in 2025 to replace the existing system. effectiveness.



Training platform

dans' comprehensive training platform, integrated with LinkedIn

8.5

SUSTAINABILITY AND CORPORATE SOCIAL RESPONSIBILITY INITIATIVES

dans' sustainability focus directly addresses nine out of 17 United Nations Sustainable Development Goals (SDGs), categorizing these goals into priority, supporting, and underlying levels. Emphasis is placed on critical goals like Decent Work and Economic Growth (SDG 8), Industry, Innovation, and Infrastructure (SDG 9), Responsible Consumption and Production (SDG 12), and Climate Action (SDG 13), while support is also given to Good Health and Well-being (SDG 3), Gender Equality (SDG 5), and Quality Education (SDG 4).

Aligned to these goals, dans has launched several sustainability and Corporate Social Responsibility related initiatives:



Aviation Environmental Design Tool

dans' comprehensive modeling system evaluates the environmental impact of aviation, including noise, air quality, emissions, and fuel consumption. It can assess these for individual flights, entire airports, or at global scale, considering factors like aircraft weight, performance characteristics and weather conditions.



dans CSR x Beit al khair

During Ramadan, dans announced a new partnership with prominent UAE charity Beit Al Khair. This initiative makes it easier for employees to contribute to community wellbeing by donating towards iftar meals for those in need. Beit Al Khair's extensive network makes sure these meals reach those who need them most during the holy month.



CSR Ramadan campaign – Fathers' Endowment

dans' CSR Ramadan campaign includes the internal launch of the Fathers' Endowment program, established by His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai. This initiative seeks to celebrate fathers by enabling people to make donations in their names, while honoring parents, compassion and togetherness. Promoting renowned UAE values, particularly generosity, Fathers' Endowment also engenders a sense of global humanitarian solidarity.



Initiatives for commitment to lifelong learning and skill development

Sustainable Development Goal 4 emphasizes inclusive and equitable quality education. dans actively promotes lifelong learning opportunities for its workforce, with continuous investment in upskilling and professional growth. This is borne out by the increasing number of development hours per dans employee, from 34 hours in 2021 to 47 in 2024.



Initiatives for environmental stewardship and sustainable operations

Aligning with Sustainable Development Goals 6 and 12, which focus on water management and sustainable production, dans has achieved the prestigious LEED Gold Certification for its facilities. This shows dans' commitment to sustainable building practices, energy efficiency, and responsible resource management.

Initiatives to support People of Determination

dans continuously undertakes several inclusivity initiatives at its key operational premises to support People of Determination. Such initiatives include evacuation (EVAC) chair in Airport Traffic Control Tower (ATCT), elevator in ATCT, braille words and phrases on buttons, wheelchair in ATCT, entrance ramp in ATCT, disabled toilet with emergency assistance, disabled car parking in training facility among several others.

8.6

AWARDS AND CERTIFICATIONS

dans' quest for excellence, technological innovation and continuous improvement has set new standards for the aviation sector and assured its rise to national and global prominence. Over many decades, dans' success has attracted recognition via international certifications and government awards. The past few years have seen frequent acclaim for dans' achievements in these areas – and many others – as highlighted below.



Best Entity in Digital Enablement

dans also won the 2024 Best Entity in Digital Enablement award at the Dubai Government Excellence Program Awards, held at the Dubai World Trade Center. HH Sheikh Hamdan bin Mohammed bin Rashid Al Maktoum presented the award to HH Sheikh Ahmed bin Saeed Al Maktoum, who accepted it with pride. This win celebrates dans' technological edge and boosts safety and efficiency in one of the world's busiest airspaces.



ISO certification

dans has multiple ISO certifications, validating its systems' robustness, agility and processes:

- ISO 22301 Business Continuity Management System (BCMS))
- ISO 37301 Compliance management system
- ISO 9001 Quality Management System
- ISO 27001 Information Security System
- ISO 10015 Operational training compliance
- ISO 45001 Occupational health and safety management system

These certifications are evidence of dans' strong governance, thorough training, and secure systems.



Wosool Certification Achievement

Reinforcing dans' ongoing commitment to accessibility, and the integration of people of determination across all levels, the dans Training Facility has been awarded the prestigious Wosool seal by Dubai Municipality. This golden certificate recognizes full compliance with the Dubai Building Code as a 'Building Friendly for All'.



National Qualifications Centre (NQC) accreditation

dans has received accreditation from the National Qualifications Centre (NQC) as an approved training provider. The accreditation, valid from 14 July 2025 to 13 July 2028, confirms its endorsement to deliver nationally recognized qualifications.



DGEP's Superiority Makers program

dans received a 7-Star rating from the DGEP Superiority Makers program under the Government Best Practices Series 2025 for its Next Generation Airspace project for Unmanned Traffic Management. This recognized dans' work in enabling the safe and seamless integration of unmanned traffic.

7-Star International Best Practice Award

dans was recognised for implementing Dubai RECAT, the region's first enhanced Wake Turbulence Separation (eWTS) system within the Dubai Control Area (CTA). This initiative reduced separation minima, enabling extra peak-hour arrivals and departures at Dubai International Airport while cutting pilot flying and waiting time in the busy airspace.

These achievements collectively highlight dans dedication to operational excellence, regulatory compliance, organisational resilience, and environmental responsibility. Each milestone is a testament to our collective strength and shared vision.

Executive Program for Benchmarking

dans was short-listed for the Executive Program for Benchmarking by the Dubai Government Excellence Programme (DGEP). The Agile airspace – Next generation airspace project was among 10 shortlisted projects for the 6th cycle of the program. Run in partnership with New Zealand's Centre for Organisational Excellence Research (COER), the program included projects from leading entities such as the Department of Economy and Tourism, and Dubai Municipality. This short-listing validates the transformative projects dans undertakes to make Dubai a better place to live and work.



UAE Year of Sustainability Stamp

dans is honored to have completed the requirements for the UAE Year of Sustainability Stamp. This recognition is acknowledgment of our efforts and commitment to environmental stewardship and sustainable practices aligned with the national vision. It reflects our dedication to contributing to a greener and more sustainable future.



LEED Gold Certification Achievement

The dans Training Facility was awarded the LEED Gold Certification by the U.S. Green Building Council, honoring its sustainability and operational efficiency. A solar panel feasibility project is now underway as a step towards achieving LEED Platinum.



GLOSSARY



ACOS	Airfield Capacity Optimization Studies
ADS	Automatic Dependent Surveillance
AFLCMS	Airfield Lighting Control and Monitoring Systems
AI	Artificial Intelligence
AIM	Aeronautical Information Management
AIP	Aeronautical Information Publication
AIP SUPS	Aeronautical Information Publication Supplements
AMC	Acceptable Means of Compliance
AMDB	Aerodrome Mapping Database
ANS	Air Navigation Services
ANSP	Air Navigation Service Provider
APO	Approach Peak Offloading
APP	Approach Control
APP ATM	Approach Control Air Traffic Management
ASBU	Aviation System Block Upgrades
ATC	Air traffic control
ATCO	Air Traffic Control Officer
ATCT	Airport Traffic Control Tower
ATFM	Air Traffic Flow Management
ATM	Air Traffic Management
ATMS	Air Traffic Management Systems
ATS	Air Traffic Services
ATSEP	Air Traffic Safety Electronics Personnel
AVG.	Average



BCMS	Business Continuity Management System
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CEO	Chief Executive Officer
CFM	Certified Financial Manager
CIA	Certified Internal Auditor
CMA	Certified Management Accountant
CMC	Crisis Management Committee
CNS	Communication Navigation Surveillance
CO ₂	Carbon Dioxide
COC	Certificate of Competence
COER	Centre for Organizational Excellence Research
COP 28	Conference of the Parties 28



COVID	Coronavirus-19 disease
CPA	Certified Public Accountant
CSR	Corporate Social Responsibility
CTA	Control Area
CVCR	Contingency Visual Control Room



DA	Dubai Airports
DACC	Dubai Aviation City Corporation
DACS	Digital Aerodrome Control Services
DAEP	Dubai Aviation Engineering Projects
dans	Dubai Air Navigation Services
DAS	DFS Aviation Services
DFS	Deutsche Flugsicherung GmbH
DGEP	Dubai Government Excellence Program
DMAN	Departure Manager
DWC	IATA code for Al Maktoum International Airport
DXB	IATA code for Dubai International Airport



EFPS	Electronic Flight Progress Strips
EFTA	Emirates Flight Training Academy
ENAV	Ente Nazionale Assistenza al Volo
EOF	Emergency Operational Fallback
ESCP BUSINESS SCHOOL	École Supérieure de Commerce de Paris (ESCP) Business School
EU	European Union
EUROCONTROL	European Organisation for the Safety of Air Navigation
EVAC CHAIR	Evacuation Chair
EWTS	Enhanced Wake Turbulence Separation



FAA	Federal Aviation Administration
FATO	Final Approach and Takeoff Area
FCC	Flying Control Committee
FF-ICE	Flight & Flow Information for a Collaborative Environment
FTS	Fast Time Simulation



GANP	Global Air Navigation Plan
GANS	Global Air Navigation Services
GCAA	General Civil Aviation Authority
GMR	General Civil Aviation Authority
GNSS	Global Navigation Satellite System



HE	His Excellency
HH	His Highness



IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IFR	Instrument Flight Rules
ILS	Instrument Landing Systems
ISMS	Information Security Management System
ISO	International Organization for Standardization
IT	Information Technology
ITS	Information Technology Services
ITWP	Integrated Tower Working Position



LEED	Leadership in Energy and Environmental Design
LL.M.	Legum Magister (Master of Laws)
LOTEM	Local Operational Threat and Error Management
LTAG	Long-Term Aspirational Goal



MBA	Master of Business Administration
MBRSC	Mohammed Bin Rashid Space Centre
MBZ	Mandatory Broadcast Zone
MOU	Memorandum of Understanding



NAVAIDS	Navigational aids
NCM	National Center of Meteorology
NDP	National Development Program
NOTAMS	Notices to Airmen
NQC	National Qualifications Centre



OEM	Original Equipment Manufacturer
OJTI	On-the-Job Training Instructor
OLS	Obstacle Limitation Surfaces

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