DHMI

2019 ANNUAL REPORT

AIR NAVIGATION SERVICE PROVIDER
STATE AIRPORTS AUTHORITY of TÜRKİYE

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AIR NAVIGATION SERVICE PROVIDER AND STATE AIRPORTS AUTHORITY of TÜRKİYE

ANNUAL REPORT 2019

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CONTENT


The future is in the skies.

Dear Readers,

While getting prepared for the Annual Report of 2019, one could not imagine that the world aviation would nowadays come to a point of nearly zero operations in an attempt to stop the spreading of the COVID-19 virus which nearly left no place unaffected.

The impact will be enormous and we can only hope and pray that all stakeholders will overcome these hard times that we are all faced with. This is the time to provide each other help and assistance not only from a financial perspective but moreover from a humanitarian point of view.

The situation in 2019 was still very prosperous and I would like to tackle some of the highlights that we have experienced in the course of the year.

Officially opened at the end of 2018, the movement to the İstanbul New Airport has been completed and has started to operate in full as of 7 April. This airport which will be one of worlds' most important hubs, is our source of pride. Not only with is architectural structure, its capacity, the number of passengers it has provided excellent service to or its state-of-the-art systems but also with the ongoing work regarding the 3rd parallel runway and building constructions which will expand the volume of service of the airport even further. Moreover, this prestigious airport certified as a "Green Airport" generates its own energy, is environmentalist, nature-friendly and - most importantly - handicapped-friendly.

Another issue that we are proud of is that we operate skillfully an airspace of nearly 1 million km². Thanks to some couple of new arrangements, we have succeeded to merge safe air traffic control services with "fuel savings". The İstanbul Airspace has been designed by using solely national resources and abilities and thanks to the renewed flight routes, the İstanbul Airspace is providing service with distinction not only to our source of proud the İstanbul Airport but also to all other airports and flights overflying Turkish airspace. The new arrangements made over the Marmara area has shortened the daily flight durations by 1300 minutes and provides a fuel saving of 8%.

One of the events realized during the year has been the "Teknofest 2019". This exhibition on the future of aviation welcomed 50.000 contestants and over 1,5 million visitors from 122 different countries. During the first day of the exhibition, the DHMİ stand was overwhelmed with visitors who showed great interest in our products manufactured completely with national resources. Another festival which was hosted at the Atatürk Airport was the "World Ethno Sports Cultural Festival". Organized for the 4th time, the festival aims at introducing and making widely known traditional sports not only those originating from Turkey but also those previously performed around the world; different sorts of wrestling, archery, javelin and more branches of authentic sports. The festival attracted much attention and was attended by more than 1,2 million visitors from 21 countries around the world who shared the same vision; culture is the biggest richness. It is thanks to this festival that cultural values are carried to the future.

This was a short look into the year 2019. I hope that when we reach the publication of the next edition of our Annual Report, I will be able to report back to you on a year where we had incredible drawbacks but were at the end a healthy recovery and restoration was achieved.

Stay safe and healthy!

Hüseyin KESKİN
Chairman of the Board
Director General

Board of Directors*

Hüseyin KESKİN
Chairman Of The Board &
Director General

Mehmet ATEŞ
Member of the Board
Deputy Director General

Dr.Yunus Emre AYÖZEN
Member of the Board

Sadettin PARMAKSIZ
Member of the Board

Gökhan EVREN
Member of the Board

Necdet SÜMBÜL
Member of the Board

* As of July 2020.

DHMI Organization Chart

Hüseyin KESKİN
Chairman Of The Board & Director General

- Office Of The Board
- Audit Board
- Airport Operations
- Public-Private Partnership
- Corporate Communication
- Private Secretariat
- Legal Service
- Internal Control
- Human Resources

MEHMET ATEŞ
Deputy Director General

- Air Navigation Services
- Electronics

İSMAİL SELAY MÜREY
Deputy Director General

- Strategy Development
- Procurement & Supply
- Marketing & Trade
- Information Technologies

MEHMET KARAKAN
Deputy Director General

- Finance
- Occupational Health & Safety
- Airport Slot Coordination Center
- Aviation Training

Erhan Ümit EKİNCİ
Deputy Director General

- Support Services
- Construction & Real Estate
- Aviation Urgent Medical Aid & Security

HISTORY

DHMI started its long journey as an airmen school and the first aeronautical state enterprise in Turkey, back in 1912. The State Airlines Enterprise, created with the advent of the Republic, was followed by the Directorate General for State Airlines. The spectacular development of civil aviation made it necessary to separate the functions of air transport and the operation of aerodromes, which were entrusted to Turkish Airlines and the Directorate-General of the State Airports Enterprise respectively. After having operated as the Airport Management Company, on 8 November 1984 with its brand new legal status the State Airports Authority was founded and began its operations on 1 December 1984.

LEGAL STATUTE AND OBJECTIVES

The DHMI is a public-enterprise company deemed to be privileged in view of the public service that it renders, the capital which is entirely paid by the state, and which is associated with the Ministry of Transport. It is governed, as regards its objective, its activities and its administration, by Decree-Law No. 233 and the amendments thereto, and by its Statutes which came into force on the basis of the aforementioned Decree; by Law No. 2920 (Civil Aviation Code); by Law No. 2677 on the execution of functions and services at commercial airports, ports and border posts and by Law No. 3832 on Defense and the Security of certain bodies and organizations. The objectives of the DHMI are to provide air transport, to manage aerodromes, to provide ground services at airports and air traffic control services, to install and set up air navigation systems and facilities and other related systems, and to maintain them at the level required for modern aviation standards.

Mission

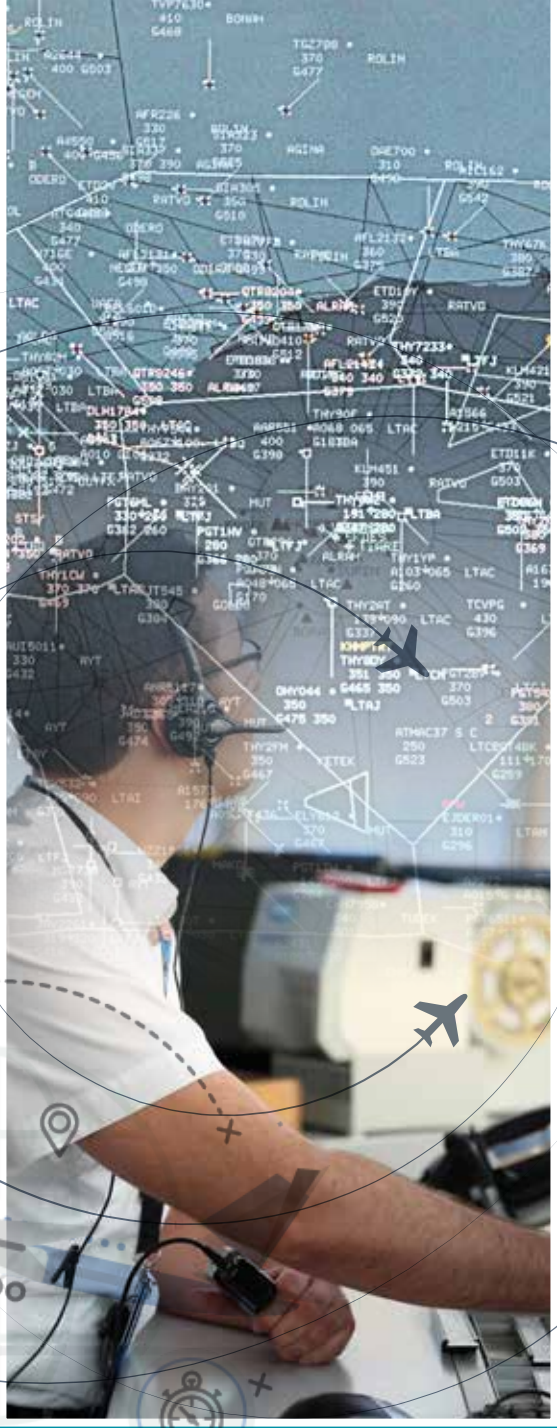
To provide air navigation and airport operating services at international standards in the aviation sector, leaning on high quality, safe, human and environment friendly high technology infrastructure and systems with qualified expertise.

Vision

To become one of the leading companies in the World having a global competitive power in the field of air traffic management and airport operations.

Major Principles and Values

- Expertise and Scientific Methodology
- Comprehensiveness
- Attachment to Occupational Principles
- High Quality and Seamless Service
- Productivity
- Safety and Reliability
- Transparency
- Environment and Passenger friendly
- Innovation and Progress
- Domestic Production of Aviation Equipment



AIR NAVIGATION SERVICES

AIR NAVIGATION SERVICES

Turkey has a huge and strategically important airspace with totally 74.640 kilometers of controlled air routes and 982.286 square kilometers of controlled airspace over Europe and Asia continents. Due to its special geographical location, Turkish airspace includes crossroads with north south and east-west traffic flows between Europe, Asia and the Middle East.

Devlet Hava Meydanları İsletmesi (DHMI) is responsible for Air Navigation Services in the Turkish airspace. Civil aviation in Turkey is the responsibility of the Ministry of Transport and Infrastructure. The Directorate General of Civil Aviation (DGCA) a certified entity designated by the Minister of Transport is the Turkish Regulatory Authority. DHMI Air Navigation Department of Directorate General of State Airports of Turkey is the unique provider of Civil Air Navigation Services for Turkey. DHMI is a 100 % State-owned Governmental Organization and provides all the Air Traffic Services within civil airspace (Controlled Airspace, TMA and CTRs).

One of the main objectives of DHMI is "to provide air navigation services for all users in a qualified, balanced, safe, environmental, friendly, fair and economic manner and the development of the air traffic".

DHMI's strategy has two primary focuses:

» to maintain its level of performance and strives to continuously improve the quality of its services.

» to steadily develop its position in Europe and to achieve a leading position in the provision of air navigation services in the region.

Realization of DHMI's strategic principles is premised on reaching the following strategic goals

Maintaining high-level air traffic safety,

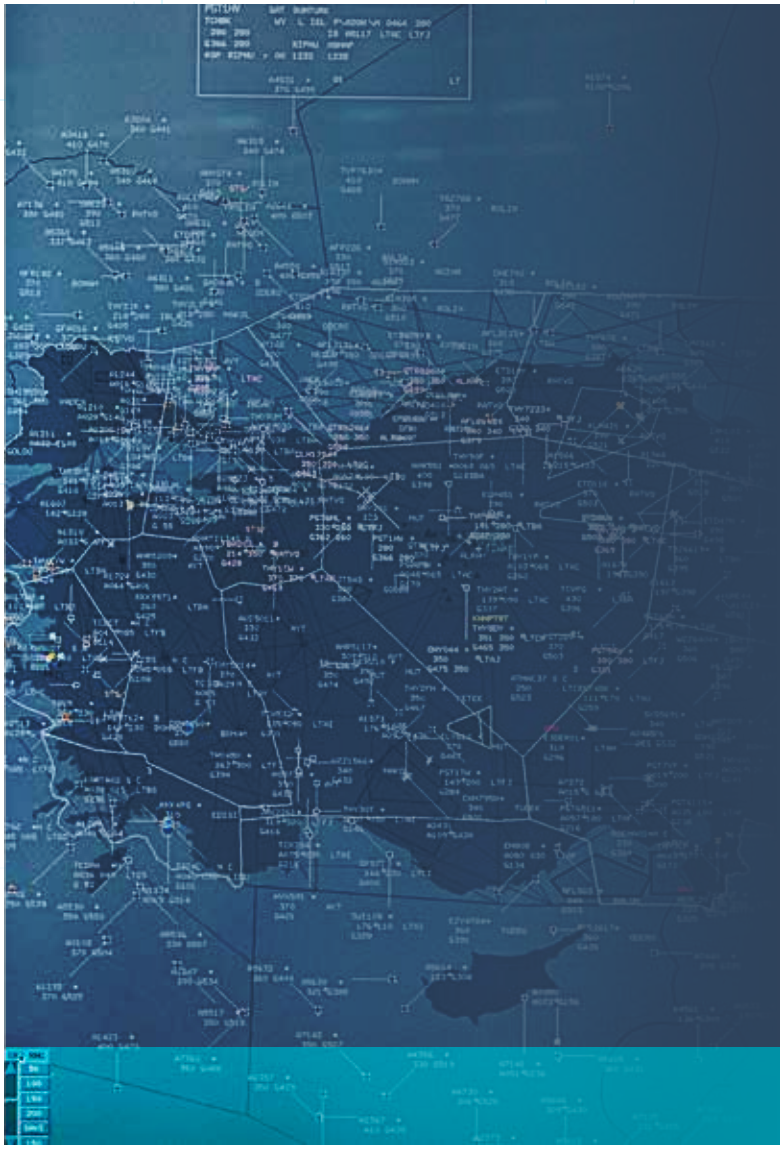
» Ensuring competent and highly qualified staff

» Maintaining top quality services

» Keeping air traffic delays to a minimum

» Maintaining the economic efficiency at an acceptable level

DHMI also works to achieve Turkish transport policy goals.



ATC UNITS

DHMI's main ATC units are as follows:

» Ankara ACC: Ankara Area Control Centre provides area control services within Ankara and İstanbul Flight Information Region. It also provides approach control services in Ankara TMA.

» 47 Aerodrome Control Towers provides both approach control and aerodrome control services (İstanbul, İstanbul Atatürk, İstanbul Sabiha Gökçen Havalimanı, Ankara Esenboğa, İzmir Adnan Menderes, Antalya, Antalya Gazipaşa Alanya, Muğla Dalaman, Muğla Milas-Bodrum, Adana, Trabzon, Isparta Süleyman Demirel, Kapadokya, Erzurum Gaziantep, Adıyaman, Ağrı Ahmed-i Hani, Aydın Çıldır, Balıkesir Koca Seyit, Bingöl, Bursa Yenişehir, Çanakkale, Çanakkale Gökçeada, Denizli Çardak, Elazığ, Erzincan, Hatay, Iğdır, Kahramanmaraş, Kars Harakani, Kastamonu, Mardin, Muş Sultan Alparslan, Samsun Çarşamba, Siirt, Sinop, Sivas Nuri Demirağ, Şanlıurfa GAP, Şırnak Şerafettin Elçi, Tekirdağ Çorlu Atatürk, Tokat, Uşak, Van Ferit Melen, Zafer, Zonguldak Çaycuma, Ordu-Giresun, Hakkari Yüksekova Selahaddin Eyyubi)

» 4 Aerodrome Control Towers provides aerodrome control services (Eskişehir Hasan Polatkan, Hazerfen, Samsun 19 Mayıs, Efes)

DHMI Air Traffic Control Services in Turkey

TWR TWR & APP ACC

Responsibilities

DHMI came into existence on 1933, taking the responsibilities of the safety of air navigation within the civil airspace in Turkey. Its zone of activities extends from ground level to flight level 450. Air traffic control, aeronautical information service, alerting service, planning air traffic flow above Turkey, training services, publishing and updating aviation publications are just some of numerous DHMI's activity spheres.

The main services provided by DHMI Air Navigation Department are:

Air Traffic Management

» Air Space Management

» Air Traffic Services

» ATM occurrence investigation

» Participation in EUROCONTROL and ICAO activities / projects,

» Planning and determining capacity (runway, sector, airspace)

Airspace design

» Designing instrument approach and ATS/ RNAV routes,

» Designing departure and arrival procedures from/to Turkish airports by using conventional methods non-conventional methods based on RNAV in accordance with the PBN (Performance Based Navigation) concept

» Redesigning and modernising airspace to make air traffic management more efficient, reduce the impact air traffic especially for the environment, and supporting future growth.

Aeronautical Information Management

» Preparing, publishing and distributing all aeronautical information/data concerning Turkish Airspace and Aerodromes via Turkish AIP,

» Publishing Aeronautical Information Circulars and Pre-flight bulletins,

» Producing and distributing aeronautical charts,

» Receiving, issuing and distributing NOTAMs,

» Controlling the Flight Permission of A/C using the Turkish Airspace and Aerodromes

» Controlling, distributing and supervising the Flight Plans (FPL)

» Coordinating SAR activities

Flight Inspection Services

» Participating in the design and development process of instrument flight procedures

» Approving instrument procedures,

» Calibrating and validating the signal quality and reliability of facilities (Radars, NDB, VOR, DME and ILS with its two Flight Inspection aircraft flying for an average of 900 hours per year.

» Providing transportation of maintenance personnel and /or spare parts in order to achieve in-place repair of a malfunction of radars, navigation aids and communication systems.

» Participating in reconnaissance and evaluation works on the locations of the new navigation aids

» Conducting individual trainings for air traffic controllers on VFR flight patterns and procedures of their aerodromes.

The Eurocontrol Management

» Establishment of the national cost base for en-route charges taking into account all economic developments,

» Collection, validation and exchange to the CRCO of flight data in line with our reporting responsibilities,

» Coordination and follow-up of financial and operational route charges related issues

System Project Development and Assessment

» Solve the problems or the bottlenecks occurring in the current air navigation infrastructures

» Research new technologies to improve the ATM services

» Follow the latest aviation technology and the projects and participate where available

» Cooperate with national and international research organizations for R&D issues

Air Navigation SMS & QMS Management

» Manage the SMS implementation plan

» Facilitate the risk management process that should include hazard identification, risk assessment and risk mitigation;

» Monitor any corrective action required in order to ensure accomplishment;

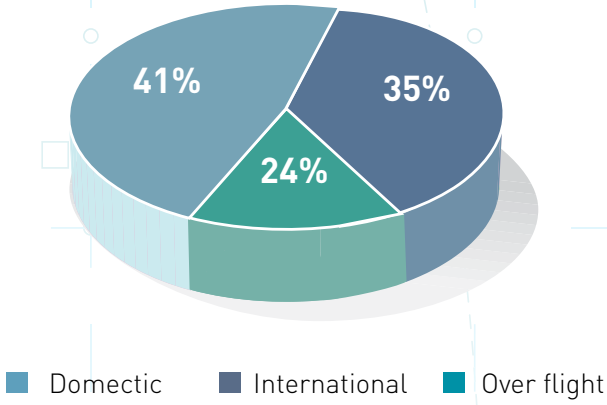
» Maintain safety documentation;

» Plan and organize staff safety training;

MOVEMENTS IN THE AIRSPACE AND AT AIRPORTS IN TURKEY

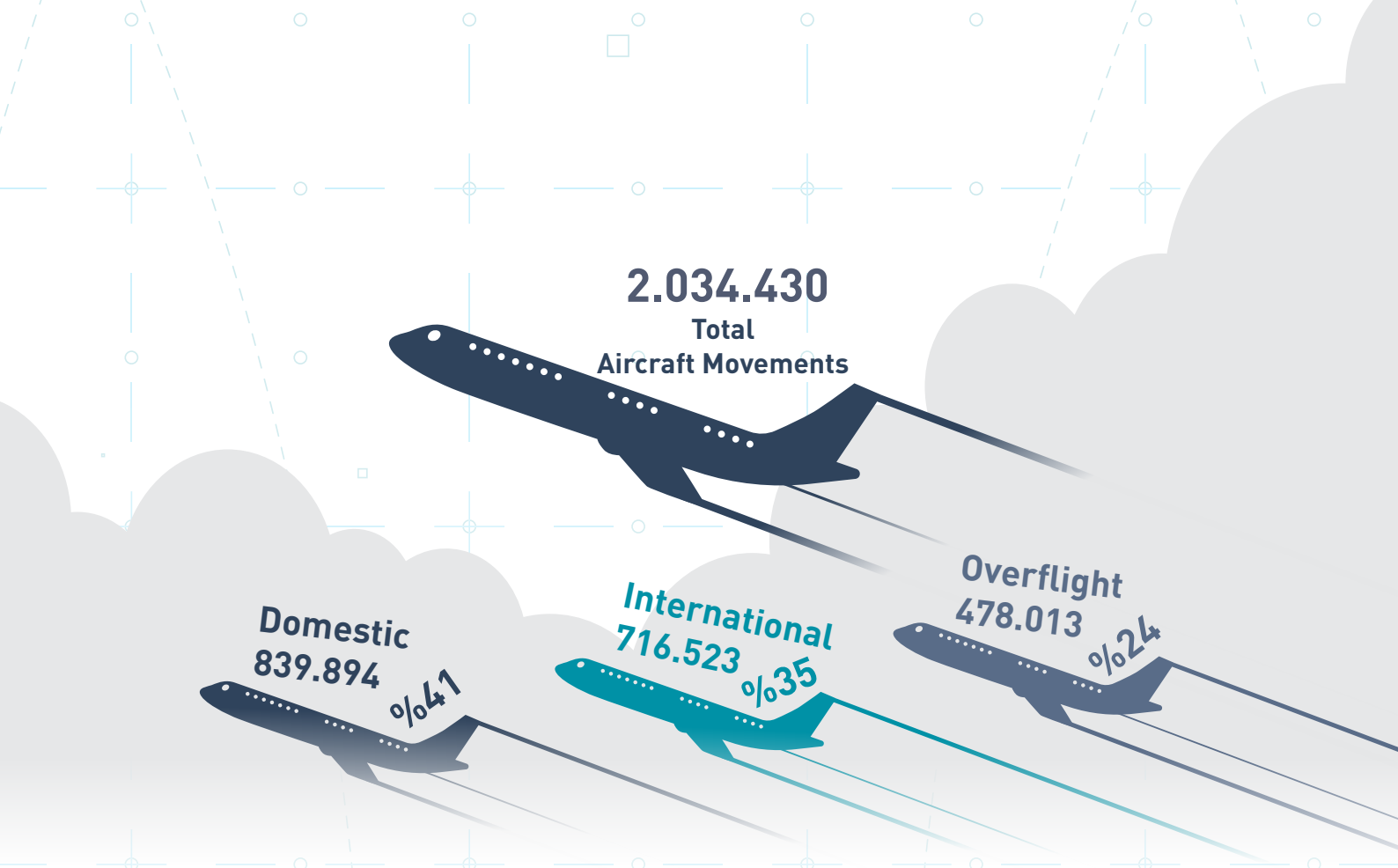
Turkey was the main contributor in European network in 2019. The total volume of air traffic in Turkey was still growing in 2019. The total number of traffic came up to 2,034,4300 flights, a 67,7 percent increase from 2010.

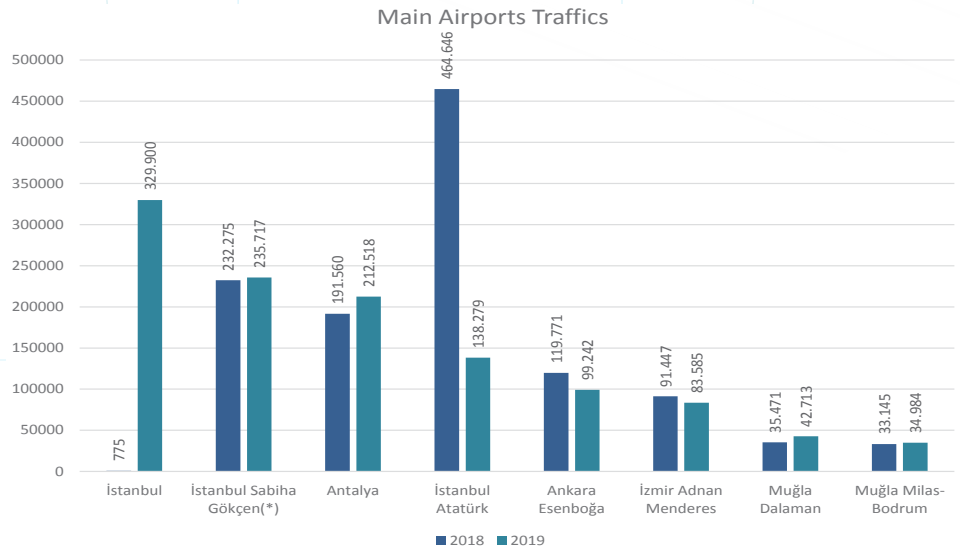
The greatest growth were international flights through Turkish airspace with 9,9 percent according to 2018. Overflight traffic movements increased by 1 percent. Domestic air traffic movements was 839.884 with decrease of 5,9 percent. In 2019, 41% of the flights in Turkey were domestic flights, 35% were international flights and the remaining 24% were overflights.



The number of take-offs and landings increased slightly approximately 1% in comparison to 2018.

After the opening of the new Istanbul airport in April, the subsequent shift of traffic between Istanbul and Istanbul/Ataturk airports. Therefore, İstanbul Airport has the largest share in the total number of take-offs and landings.





RECRUITMENT

The total number of ATCOs employed by DHMI was 1749 for 2019. DHMIs controller recruitment plan continues. Sufficient numbers of ATCOs are currently available to meet operational requirements but with no excess.

A major training program of ab-initio ATCOs has been underway since 2004 due to the large increase in traffic and the consequent need to create new sectors to manage this capacity.

In 2019, 65 student ATCOs were recruited. This recruitment campaign started with a press advertisement in May 2019. After the analysis of the applications, 333 applicants were invited to sit a computerized aptitude test, which was held in 17 June-19 July 2019. This test is commonly known as the FEAST and was used on license from EUROCONTROL.

TRAINING

Training means investing in the future. Once again this year, despite the heavy workload, the DHMI kept up this principle and managed to ensure high-quality training for all of its trainees.

DHMI provides initial training in both theoretical air traffic management and practical simulator based training. The Basic Training for ATCO trainees was conducted at the Training Centre of DHMI, located at Esenboğa Airport, DHMI conducts basic, refreshment and advanced ATC training programmes. The training center has theoretical training classrooms, laboratories, radar simulator, tower simulator with 3-dimensional and 360 degree monitoring features and pilot control units.

The Air Traffic Control Simulator System consists of tower and approach/en-route control units. The system has the capability of running stand-alone as a tower or radar simulator or in integrated mode where the same scenario can run among all sectors (en-route/ approach/ tower) as in the real ATC environment. Working positions are equipped with ground and approach radar screens, NAV-AID and lighting panels, weather-NOTAM display, strip printers and voice communication systems. The appropriate design of the radar work stations also gives the possibility of non-radar training.

Basic training courses are designed in line with the EUROCONTROL Specification for the ATCO Common Core Content Initial Training. Besides, we have also a vigorous and continuous refreshment training plan covering the present and future needs of ATCOs. In 2019, 3 Basic ATCO training courses completed and the students obtained their licenses.

Regular refresher, development, and emergency courses were provided either by DHMI in cooperation with he EUROCONTROL Institute of Air Navigation Services (IANS).

DHMI also conducts some training courses for staff other than ATC personnel who are working for Electronic Units, Communication, AIS, Fire Brigade, Special Security and other units.

Moreover, 115 ANS personnel participated to ATM related courses at IANS, the Eurocontrol Institute of Air Navigation Services in Luxembourg, in order to increase their knowledge in 2019.

AIRSPACE PLANNING

Airspace Planning and Design studies continued during the year 2019;

» *RNAV SID and STAR procedures were amended / new procedures have been implemented for the İstanbul /Atatürk and Sabiha Gökçen Airports to utilize the ATC Services*

» *New Instrument Approach Procedures, RNP APCH procedures, Standard Arrival Routes, Standard Instrument Departure Procedures based on Conventional and P-RNAV / RNP 1 criteria were implemented for Adana, Ankara Esenboğa, Antalya, Balıkesir Merkez, Bingöl, Çukurova Bölgesel, Denizli Çardak, Elazığ, Erzurum, Eskişehir Hasan Polatkan, Gaziantep, İzmir Adnan Menderes, Kars, Kocaeli Cengiz Topel, Malatya, Muğla Milas / Bodrum, Siirt, Şanlıurfa GAP, Trabzon ve Zonguldak Çaycuma Airports have been implemented*

Quality Management System (QMS)

DHMI meets the requirements to be appointed as the air navigation service provider in Turkish airspace. A Quality Management System (QMS) has been established, documented, applied and maintained by DHMI in compliance with the requirements of the international standards and a certificate was issued to DHMI by Turkish Standards Institution (TSE) the ISO 9001:2000 certificate for its Air Navigation Services in 2005. DHMI upgraded the QMS and started the implementation of ISO 9001:2008 in 2010. DHMI applied as well as maintaining it in compliance with the requirements of the ISO 9001:2008. The scope of activities covered by the ISO 9001:2008. The services have been managed in compliance with national and international standards.

During 2019, DHMI continued to upgrade its QMS and started the implementation of ISO 9001:2015.

Necessary assessments are carried out annually by the Turkish Standards Institution (TSE) which has been established for the purpose of preparing standards for every kind of item and products together with procedure and service. As a result of the internal assessments made by Quality Management representatives, it was revealed that there were no any deviations from the requirements in 2019 proving the validity and efficiency of our system and indicating that we were able to guarantee the best use of our resources. This efficient use of manpower and infrastructure meant that throughout 2019 we delivered services effectively and therefore, met most of our business targets.

The management ensures, by means of the Quality Policy, that user requirements are identified and complied with, in order to increase their measurable satisfaction.

Moreover, DHMI obtains Customer Satisfaction Questionnaire from various airlines to continuously improve services and adequately meet customer expectations in order to ensure the optimal delivery of provisions of the air navigations services every year.

Safety Management System (SMS)

Safety and safety management remain the overriding objectives for DHMI. Safe working conditions have always been a priority at DHMI.

DHMI's Safety policy is defined in accordance with international and national requirements and reflects organizational commitment regarding safety. DHMI's Safety Policy consists of; safety priority, safety responsibility, planning for safety, safety standards, safety assurance and safety promotion.

The main component of the SMS is the Safety Management Manual which defines the SMS organization and processes as well as basic SMS procedures, in order to comply with the SMS requirements laid down in national regulations, ICAO requirements, (Annex 19) EUROCONTROL Safety Regulatory Requirements (ESARRs) setting out European safety standards. In this respect, DHMI Safety Management System Manual concerning ANS (version 3.2) was issued in 2018.

Since the establishment of its SMS - Safety Management System - DHMI has increased its initiatives to promote a safety culture within the company. This culture is integrated at all levels, so that each employee, especially air traffic controllers, is aware that he/she can make a difference as far as safety is concerned. That is why in July 2011, DHMI placed ATS SMS Confidential Reporting Form. COREFORM which is an electronic reporting system. DHMI's Safety Commission comprise representatives from relevant departments in HQ under the chairmanship of Head of ANS. Regarding safety matters, the head of commission has a direct access to the top management. If necessary the experts from other departments, units or institutions are able to employ within the commission. Similar settlement is constituted in all DHMI's airports.

Incident Investigation

Civil ATM incidents are investigated by the "Investigation and Assessment Commission" which reports incidents and investigation findings to the DGCA. The commission is formed of experts with sufficient qualifications. Where requested by the DHMI and/or if DGCA consider it necessary, experts from DGCA will also join the commission in accordance with SHY 65-02 "Reporting and Assessment of ATM Related Safety Occurrences" which was aligned with the EC directives on investigations of civil aviation accidents.

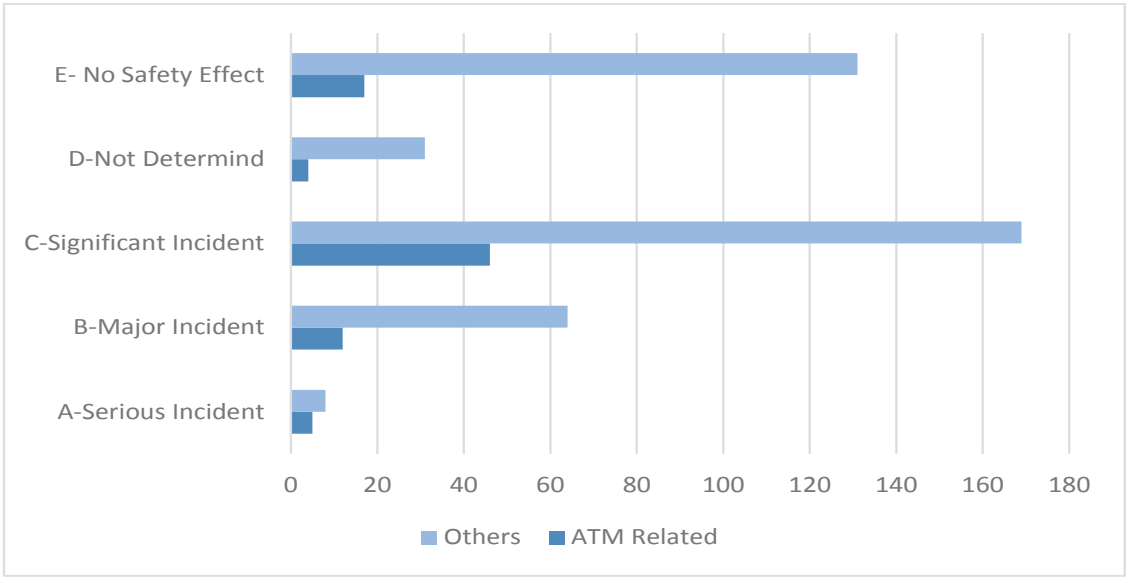
An investigation team is formed for each incident to investigate the incident, determine the causal factor(s) and propose necessary measures to avoid the repetition of such incidents in the future (e.g. training, new procedures, etc.). The results of the investigations are reported to DGCA.

The causes of occurrences are analyzed to identify the areas which should and could be improved and safety recommendations, interventions and corrective actions are developed to reduce the risk incurred. All appropriate safety data are collected and stored.

There were no accidents in 2019 resulting from DHMI's operations. The objective of zero accidents was met. However, there were seven serious incidents that resulted from our operations. Due to the nature of accidents or serious incidents, they can never be eliminated or predicted with 100% certainty.

While 498 incident reports have been investigated in 2019; 84 of which were classified as ATM related. Appropriate recommendations have been issued for each event and their implementation has been monitored. Actions to be carried out for the implementation of safety nets are underway, like control staff training in the most critical sectors in procedures to avoid or mitigate the main factors detected in incidents.

Accaptable Level of Safety is defined as the number of safety incidents that occurred in the airspace for which DHMI is responsible, weighted according to its severity, in relation to the total number of flights controlled in the Turkish air space throughout the year". Incidents considered as A,B and C severity are those where it is considered that an ATM contribution exists directly by DHMI



DHMI's Flight Safety Goals

DHMI has set the goal of a maximum of tolerable probability for ATM direct contribution incidents at classification A,B and C per 100.000 movements in Turkey. DHMI meets safety targets for A and B 2019.

Voluntary reporting

Voluntary reporting is encouraged as a best practice in Turkey. DHMI has two main objectives for Voluntary ATM Occurrence Reporting activities, one of them is the fixing of problems within the shortest time possible and the other is promoting a data driven approach to further safety enhancement activities based on low or medium risk bearing incidents, instead on serious risk bearing incidents and accidents. DHMI has been using ATS SMS Confidential Reporting Form for voluntary reporting.

DHMI has introduced the "just culture". In its commitment to maintain and improve the highest safety standards in the provision of its services, DHMI signed and implemented in its organisation the Just Culture Policy in 2019. Individuals are not prosecuted except in cases of willful deliberate or criminal negligence. It is therefore considered that a "Just Culture" exists in ATC. DHMI Just Culture Policy contains the principles and commitments in relation to Just Culture matters. The achievements of the aims of this policy go further than just its publication, as they include the development and adoption of a series of procedures that sustain it.

COORDINATION and COOPERATION

International Cooperation

DHMI has always given great importance to International Cooperation and to develop its relations with other countries and associations. In this respect, DHMI is fully aware of the benefits of coordination and cooperation among the stakeholders in aviation community and giving a great emphasize to global cooperation in ATM. DHMI is regularly participating and following the events of ICAO, ECAC, EUROCONTROL and CANSO.

Turkey, as an integral part of the European ATM network and a candidate country for the accession to the European Union, is actively aligning, wherever possible, its national aviation legislation and aviation environment with the SES policy. With regard to the harmonization to the acquis communautaire, DHMI continued to work with Turkish Civil Aviation Authority and the Ministry of Foreign Affairs to review the existing aviation legislations and decide the necessary steps that should be taken.

DHMI has been the full member of CANSO since 2005. In 2011 DHMI has become a member of the European CANSO to the idea of strengthening cooperation amongst ANSP's in the European region. Since then Turkish Air Navigation Service Provider has participated to the CANSO EUR activities.

Regional Cooperation

Turkey maintains very close co-operation/ co-ordination with all neighbours to optimize performance.

Turkey has taken on responsibility of some transition tasks in the area and arranging air traffic flow to / from Europe.

It is also considered that, collaborating as closely as we can with our neighboring civil air navigation service providers has a paramount importance in order to optimize airspace design and management and increase regional capacity, safety and quality. Therefore, Turkey undertakes initiatives and efforts to ensure the application of same concepts, standards and projects under the EUROCONTROL umbrella.

Civil Military Cooperation

Military authorities also play a major role in managing the Turkish Airspace. Military ATC is entirely separated from Civil ATC, although very good civil/military co-ordination is maintained. Co-ordination between the military authorities and DHMI is ensured through a Civil-Military Co-ordination Group. Some (11) airports/ airfields of military origin are jointly used by military and civil aviation. At eight (8) of these airports, all aircraft are under military ATC control.

In order to increase the capacity of Turkish airspace, with implementation of the SMART system, DHMI and the Military Authorities are planning to implement the EUROCONTROL Flexible Use of Airspace (FUA) concept to apply the legislation that has been published at Official Gazette dated 18 April 2014. Studies are going on to establish infrastructure and units.

Modernization Projects

Turkey has been upgrading the ATM systems through modernization projects and maintenance agreements to cope with the continuous traffic growth and to satisfy the extra capacity needs.

Studies to implement the CDM to enhance the productivity of the İstanbul Airport has been commenced. Study groups were formed and studies have been going on to sign the Memorandum of Understanding.

For the implementation of Arrival Manager (AMAN) and Departure Manager (DMAN) Systems at İstanbul Atatürk Airport, tender was completed and contract has been signed at 13th of Mar 2013. These systems are going to be used together with the SMART Systems and will have an important contribution to the capacity and quality of the services provided.

Beside these projects / studies to increase the capacity of the İstanbul Airport has been going on. With the opening of the third runway of the Airport at June 2020, the new airport will be one of the biggest airports in world with its 150 Million Passenger Annual Capacity.

Also tender for the establishment / construction of second parallel Runway to be used for the simultaneous independent parallel approaches for Istanbul Sabiha Gokcen Airport has been done. Second runway will be operational at the last quarter of the year 2020 as well.

TRANSFER FROM ISTANBUL ATATÜRK AIRPORT TO ISTANBUL AIRPORT

The İstanbul Airport has been inaugurated on the 29th of October 2018, when the Turkish Airlines airline started scheduled flights to Baku-Heydar Aliyev Airport in Azerbaijan, Ercan Airport in Turkish Republic of Northern Cyprus and the airports of Antalya, Ankara and Izmir in Turkey.

A phased transfer from İstanbul Atatürk Airport to İstanbul Airport took place between 29 October 2018 and 6 April 2019. During that period, the 45 hours airport transfer completed in success between 5 and 6 of April 2019, according to the conditions specified in the relevant AIC of Turkey.

This big movement, which continued a total of 45 hours was one of the most important air transport operations in aviation history. When completed, as of 6 April 2019 21:00 UTC, Atatürk Airport closed to scheduled/unscheduled domestic and international commercial passenger flights and become available for cargo, maintenance/technical, general aviation, air taxi, business flights, for state aircraft and other flights permitted by Authority. The Figure below shows the flow of the traffic during that big movement.

The construction of the IST airport is taking place in four major phases incrementally evolving into an airport surface structure with six RWYs, five independent parallel RWYs plus one additional East-West RWY.

The first Phase 1a concluded with the successful re-organisation of the Istanbul TMA supporting the operation of IST with two independent parallel runways. This re-organisation, totally designed by DHMI, involved the introduction of Point-Merge sequencing of arrivals for Istanbul Airport as well as for Sabiha Gökçen airport.

Currently, the Phase1b of the Istanbul Airport project, which will provide the introduction of the third parallel runway is in progress. At the same time, the construction of a second runway at Sabiha Gökçen airport continues.

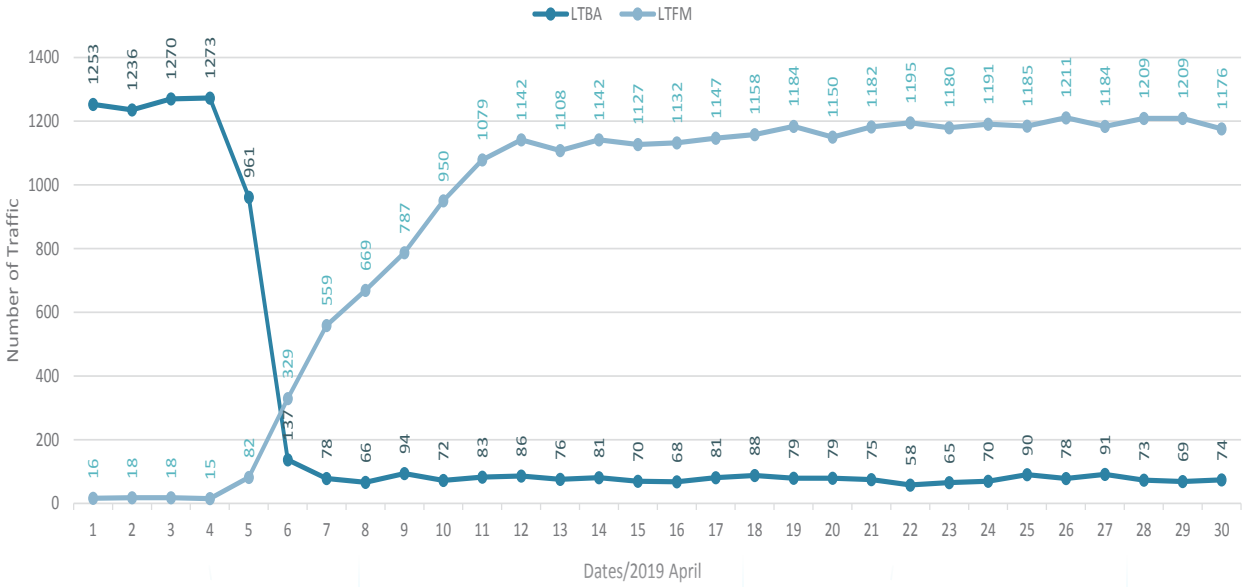
In this context, the airspace design related works and evaluating the impact of increased capacity following the introduction of a third runway for İstanbul Airport and a second runway for Sabiha Gökçen Airport are in progress.

During this process, on the basis of the agreement between EUROCONTROL and DHMI, a full-scale real-time simulation (RTS) is conducted at EUROCONTROL Experimental Centre (EEC) in Brétigny.

The aim of this RTS is to establish whether the operational concept supporting a third runway at İstanbul Airport and a second RWY at Sabiha Gökçen Airport can accommodate the expected capacity increase in the Istanbul TMA at an acceptable level of controller performance.

A key element of the new operational environment is the new modes of parallel runway operation triggered by the increase in the number of runways.

The preparations of the RTS concluded in 2019 and 6 week of simulation exercises has been conducted in 2020, the remaining 3 weeks freezed/postponed due to the COVID-19.



Flow of the LTBA and LTFM traffic on April 2019

AERONAUTICAL INFORMATION MANAGEMENT (AIM)

ICAO Annex-15 briefly states that; Each Contracting State shall provide an aeronautical information service, to publish aeronautical information/data related to its own territory. In accordance with this statement, DHMI is the responsible authority for AIM services throughout Turkish Airspace.

Turkey AIM units receive, assemble, edit, format, publish/store and distribute all aeronautical information/data concerning the State territory through Integrated Aeronautical Information Package.

AIM Units have been certified with ISO 9000 since 2005. Our quality policy is to supply timely, effective and safe air navigation service to achieve customer satisfaction at top level and to improve the Quality Management System constantly.

AIM Services in Turkey consist of;

- *AIM headquarter Offices (AIS/MAP, AIP, COM)*
- *1 International NOTAM Office (NOF)*
- *1 National NOTAM Office*
- *1 FIC (Flight Information Center)*
- *2 RCCs (Aeronautical Rescue Coordination Center)*
- *47 Search & Rescue Sub Center Units*
- *1 Communication Center*
- *AIS/ ARO Offices at 48 Aerodromes*
- *Total number of AIM staff: 510*

Briefly, The tasks of AIM Services are below;

- *Preparing, publishing and distributing all aeronautical information/data concerning Turkish Airspace and Aerodromes via Turkish AIP,*
- *Publishing Aeronautical Information Circulars and Pre-flight bulletins,*
- *Producing and distributing aeronautical charts,*
- *Receiving, issuing and distributing NOTAMs,*
- *Controlling, distributing and supervising the Flight Plans (FPL)*
- *VFR Flights are followed by DEP, ARR messages*
- *Flight permissions for Aircraft to use Turkish Airspace and ADs are granted by Ankara Flight Information Center (FIC) on behalf of Ministry of Transportation and Infrastructure at weekends, public holidays and beyond working hours*
- *Military exercises, Navigational warnings, SAR related NOTAMs and PERM NOTAMs are evaluated and transmitted to NOF to issue.*
- *Follow emerging international developments about AIM, initiated projects aiming automation and integration*
- *Air RCC Offices serve for 24 hours. They evaluate the information about Air Search and Rescue that is transmitted from COSPAS-SARSAT satellite system and coordinate with related bodies.*

ATM R&D Projects

DHMI carries on R&D facilities related to ATM with TÜBİTAK since 2009. 12 of these projects have been completed and 1 project is still in progress.

These projects are:

» *Aircraft Tracking System R&D Project (HATS)*

» *Avian Radar R&D Project (KUŞRAD - MGR) (Phase 1)*

» *Avian Radar R&D Project (KUŞRAD - MGR) – KUŞRAD Installation*

» *ATC Radar And 3D Tower Simulator R&D Project (atcTRsim) – ATC Aerodrome and Approach/Enroute Control Radar Simulator R&D Project (Phase 1)*

» *ATC Radar And 3D Tower Simulator R&D Project (atcTRsim) – ATC Aerodrome and Approach/Enroute Control Radar Simulator R&D Project (Phase 2) (atcTRsim-2)*

» *Air Traffic Controller Selection Tool R&D Project (KONSEY)*

» *Air Traffic Controller Selection Tool R&D Project - Remote Training and Information Sharing Portal R&D Project (KONSEY-2)*

» *FOD Detection R&D Project (FODRAD)*

» *SSR Signal Processing R&D Project*

» *The genuine CWP (Controller Working Position) Development and Implementation R&D Project (Özgün CWP)*

» *The Modernization of ATM Communication Infrastructure in Turkey R&D Project (TAMAM)*

» *MGR Installation (PSR Radar İnstallation at Gaziantep Airport)*

» *ATC Radar And 3D Tower Simulator Atatürk Airport Installation R&D Project (atcTRsim) – ATC Aerodrome and Approach/Enroute Control Radar Simulator R&D Project*

You may find detailed information about the projects as follows :

» Aircraft Tracking System R&D Project (HATS)

DHMI has 2 helicopters used for multi-purposes and DHMI has decided to develop a Project by which it could track its helicopters from take-off to the landing then the specification was prepared accordingly. The system based on transferring the aircraft's position data through GPRS messages and the message transferring is taken over by satellite communication if the GSM signals are not available. In this case the continuous tracking would be possible. It consists of HATS (Aircraft Tracking Device) mounted on helicopters/aircrafts and HATM (Aircraft Tracking Center) land-based server system. The completion of the Project is scheduled to 21 months, and acceptance of these systems was made at the end of 2013.

Two of the HATS equipment are installed to the DHMI's helicopters, and the works are going on to generalize the usage of the HATS system in Turkey with different companies.

» Avian Radar R&D Project (KUŞRAD - MGR)

The Project is aimed to be used in Airports which are located on the way of the birds' migrating routes. The radar will serve as an early alert to the controller of a possible migrating flock of birds, so that the controller could provide safety separation between the bird flocks and the aircraft. Bird activity is also recorded continuously for statistical analysis that is used to manage the aircraft approach routes, departure and arrival times. The system consists of two radars; one S Band horizontal surveillance pulse radar and one X band vertically scanning FMCW radar. The system will operate 24/7 detecting and tracking birds, bird flocks and aircrafts, reporting their range, elevation and direction.

In this Project DHMI, with TUBİTAK aimed to have one avian radar system and one PSR (primary surveillance radar) system working on S band for future developments. The acceptance of the avian radar system was made in 2013 and PSR system was made at the end of 2014.

» KUŞRAD (Avian Radar) Installation R&D Project

The aim of the project is to make the installation of the systems which completed by the KUŞRAD R&D project. Thus, the radar which is developed nationally will be put into operation in a big international airport of our country.

The installation has been accomplished by the end of May 2016 at Atatürk International Airport

» ATC Radar And 3D Tower Simulator R&D Project (atcTRsim – Phase-1)

Following the MOC, the ATC Simulator was the first project to start and scheduled to be completed within 30 months. The property rights of developed software will belong to DHMI. Thus, DHMI will be able to deploy these software tools at any airport in order to enhance the number and quality of basic and/or refreshment ATC training facilities.
ATC Simulator has complete systems that meet basic and advanced ATC training requirements and gives important cost and time savings. It supports all levels of radar and tower ATC trainings according to international standards like ICAO and EUROCONTROL. ATC Simulator systems are also interoperable with the other ATM systems. It has fast time performance to manage high traffic loads on multiple exercises.
The project which is composed by software finished at the end of 2013.

» ATC Aerodrome and Approach/ Enroute Control Radar Simulator R&D Project (Phase 2) (atcTRsim-2)

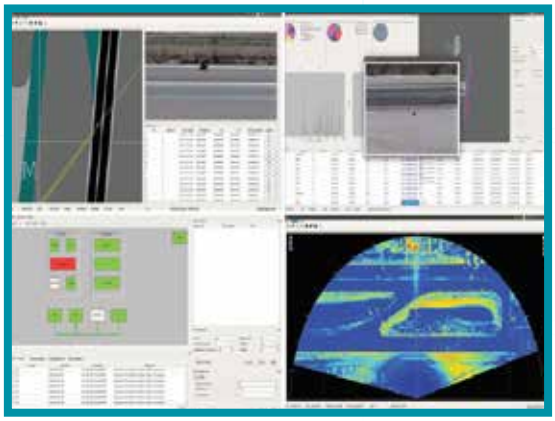
The installation and implementation of the software developed in phase 1 will be done to the Esenboğa Airport Simulator and training center. It is intended to use the high fidelity visuals and national training materials provided by the systems in the versatile education and work of both candidates or active air traffic controllers (basic ATC refresher, adaptation to the airspace innovation, airspace capacity to work, etc.).
ATC Training technical infrastructure capacity will be increased at least twice when the installation is complete.
The project was successfully completed in 2017

» Air Traffic Controller Selection Tool R&D Project (KONSEY)

In line with ICAO and EUROCONTROL's standards and recommended practices, DHMI has developed, in collaboration with TÜBİTAK, a selection tool which will standardize selection of the candidates of air traffic controllers. The selection software through electronically assesses the skills (reflex, three-dimensional thinking, quick decision making, memory etc.) in safe that ATC must have. It consists of 12 test applications and personality test which have the ability of measuring 9 different skills
DHMI has decided to upgrade the tool in line with developments and requirements in the future. The system acceptance completed in 2012.

» Remote Training and Information Sharing Portal R&D Project (KONSEY-2)

By the project which will form the phase 2 of the Air Traffic Controller Selection Software R&D project realized between 2010-2012, it is targeted to prepare the training materials in Turkish which were prepared in English in the first stage and verified by testing on more users and prepare in a unique way. However, the software used as Air Traffic Controller's annual degree renew it is intended to be further developed to respond to all needs.
Within this software, Air Traffic Control Personnel Management System, Web based Training (e-learning) System, Remote ATC Rating Exam System; AIM Personnel Management System, Personnel Management System for ATSEP staff with e-Learning System modules, are available separately.
The project was successfully completed in 2017.



» FOD Detection R&D Project (FODRAD)

The aim of the project is to enhance the runway safety by developing FOD Detection Radars, in collaboration with TÜBİTAK, which provides continuous surveillance in detecting foreign objects on the runways. Before this project runway inspections were followed visually and mostly in a rush manner as the traffic flow allows.
The infrastructure of the FOD radars currently based on radar or optical surveillance or may contain both. DHMI's product have both capabilities.
The Project started by the end of 2014 and lasted 4 years. Once it is developed, DHMI is planning to spread the application nationwide. Installation and testing of the system to Antalya International Airport was successfully completed in 2018.

» **SSR Signal Processing Unit R&D Project**

With the adoption of Mode-S radar stations which were provided under the project of renovation of Existing Radars and Procurement of Additional Requirement, most of the old type SSR (Secondary Surveillance Radar)'s used by a period of 20 years, were disabled. A new Mode-S radar is located to Mira Communication station, which is at a higher altitude and alternative to Baspinar SSR Station. After the integration of Mira Mode-S SSR to Interim System, which is still operational, it was found suitable to use the Baspinar SSR as R&D platform after actually switched on. It is intended to produce the standard ASTERIX CAT048 data format and developing a national signal processing capability of ADS-B with SSR. 10 pieces of ADS-B units were produced at the end of April 2016 and each installed to a different airport in 2017. The project has been completed in 2017.

» **The Genuine CWP (Controller Working Position) Development and Implementation R&D Project (Özgün CWP)**

With this project it is intended to produce some sub-systems of an ATM Environment. One of the products is CWP (Controller Working Position), which is called as CARE (Multi-functional Radar Screen). It provides to display ASTERIX formatted data receiving from radar sources. It also supports the basic air traffic control functions. The software can visualize detailed airspace information, such as; air corridors, fix points, navigation aid devices and procedures. It can also show drawing of the plans of airports. Air traffic data which is demonstrated in accordance with the standards can be filtered in some main features by the controllers for an easier traceability. Receiving NOTAM messages can be created on the map automatically and a NOTAM area drawn in a CWP position can be shared with all other CWP positions. Flight plans are categorized as arrival, departure or transit according to area of responsibility of the position. CARE has been installed to 35 Radar airports in Turkey.

Another product which is developed by this project is EFS (Electronic Flight Strip). EFSs (Electronic Flight Strip System) provides functionality to replace paper strips with electronic strips in a TWR/APP environment. The electronic strips are used to control traffics' flight progress by its user-friendly and highly configurable interface. EFS provides the management of electronic strips by using controller's operational tendency and maintaining situational awareness. The project was successfully completed in 2019.

» **The Modernization of ATM Communication Infrastructure in Turkey R&D Project (TAMAM)**

Communications Systems are one of the most important element of CNS/ATM systems. Expression of service quality with the scientific results and how much the improvement obtained as a result of investments meet the need.

It is of great importance to determine the quality of the communications infrastructure such as, Air/space distortion amount on the voice signal for voice communications, the delay of the remote station and the headquarters from the transmission medium, packet loss, beacons, sound signal in the S/N (signal / noise) to measure values such as rate and issues such as the determination of the geographical area infirm in terms of coverage area. It is aimed to develop software tools to help making such tests.

With this project a voice quality analysis system has been developed. The system consists of SQC and SQS software. SQC (Speech Quality Client) records analogue or digital voice calls at the location of the air / ground voice communication line and calculates the quality parameter values of this call according to ITU-T P.563 standard

» **MGR /Mode-S SSR Radar Development and Installation Project**

In the civil aviation domain, generally, combined PSR (Primary Surveillance Radar) and SSR radar systems are used. In 2017, by signing this project it was intended to develop National Primary Surveillance Radar and Secondary Surveillance Radar with MODE-S capability and then integrate them to gain a combined PSR/SSR Mode-S radar system.

MGR Surveillance Radar System consists of an S-Band fully Solid-State Pulse Doppler Radar (Primary Surveillance Radar - PSR) and an L-Band Enhanced Mode-S Secondary Surveillance Radar (MSSR). The system is developed in order to monitor air traffic and precipitation level. The system is designed according to ICAO and EUROCONTROL recommendations and standards. Detection and tracking of air targets by PSR are performed up to 60 nautical miles using advanced coherent radar signal processing techniques in different weather conditions. The minimum range of the SSR is 200 nautical miles. The system can simultaneously track up to 1,000 targets via Moving Target Detection (MTD) and Clutter Reduction capability by using low/high beam selection, sensitivity time control (STC), adaptive clutter map and Doppler filters. Also, the weather channel can provide 6 levels of precipitation information at 1.4° to 0.95 nautical miles resolution. The system architecture is fully redundant and is optimized for 7/24 continuous operation.

Gaziantep is selected as the installation location and project started at the end of 2017 and it will be finished at 2022.

» ATC Radar And 3D Tower Simulator Atatürk Airport Installation R&D Project (atcTRsim)

ATC Radar and 3D Tower Simulator (atcTRsim) developed by DHMI and TUBITAK has been installed at Ataturk International Airport with all the necessary capabilities for both radar and tower control simulations.

It was used as main simulation tool for education of air traffic controllers before the opening of Istanbul New Airport. The system has a 360-degree tower simulator and 4 ground control positions with 10 pseudo pilot positions for Tower Control. And also, there are 14 controller working positions and 14 pseudo pilot positions for Radar (Approach) control. This project has successfully completed in 2018 and used efficiently for İstanbul New Airport transition phase.

Exhibitions Attended in 2019:

» TEKNOFEST

The TEKNOFEST Aerospace and Technology Festival is organized under the leadership of the Republic of Turkey Ministry of Industry and Technology and the Turkish Technology Team Foundation (T3), which aims at making a Move of National Technology and transforming Turkey into a technology producing society, with the support of Turkey's major institutions and companies.

FODRAD, KUSRAD, EFS, CARE (Özgün CWP), MGR, and atcTrsim developed within the scope of R&D projects were exhibited in TEKNOFEST ISTANBUL, which was held on September 2019, Demonstrations or models of our R&D project products were represented as working systems.

Especially the demo of the Air Traffic Control Radar and Tower Simulator with the visual system in full working has attracted the attention of the participants and their chance to try the system has increased their interest. All questions about DHMI, which are wondered by the visitors, were answered by the staff of our organization. Although the festival was prepared in a national concept, the foreign participants who visited our stand were also given general information about our products.

ROUTE CHARGES

NATIONAL COST-BASE

DHMI has again shown the best performance in cost-efficiency both European wide and regionally. This has become a true tradition. This achievement is thanks to the firm steps taken by DHMI on some key elements; strict cost containment measures versus a tremendous provision of service, reflected on the figures of costs; which can be summarized as all possible savings in favor of the users of our airspace.

DHMI's unit ATM/CNS provision costs are once again significantly lower than the European system average. DHMI unit costs are in the bottom quartile and in line with the underlying economic and traffic demand fundamentals.

> Tremendous provision of service vs low provision costs

2019 ACTUAL COST-BASE

The Turkish cost-base is established in TRL as from 2015 onwards and the 2019 cost-base has been realized as 2.650,3 M TRL, significantly lower compared to the estimated figure. This decrease has been a combination of a major decrease of -3,7% in other operating costs and furthermore -11,5% decrease in depreciation costs, an increase of 4,7% in cost of capital while staff costs have remained nearly the same.

This efficiency obtained in operating costs and depreciation costs is translated as a saving of more than -77,9 M TRL, and furthermore an increase of 20,7 M TRL in cost of capital and staff costs, resulting in a total saving of -57,3 M TRL.

As a result, the 2019 actual cost base has been established as 2.650,3 M TRL. When compared to the estimated figures, this is translated as a saving of -2,1% (-57,3 M TRL).

DHMI has reached its aim to reduce its preliminary estimated figure when actualizing the costs. The 2019 figures have been kept at the lowest possible level.

> Actual costs lower than forecasted

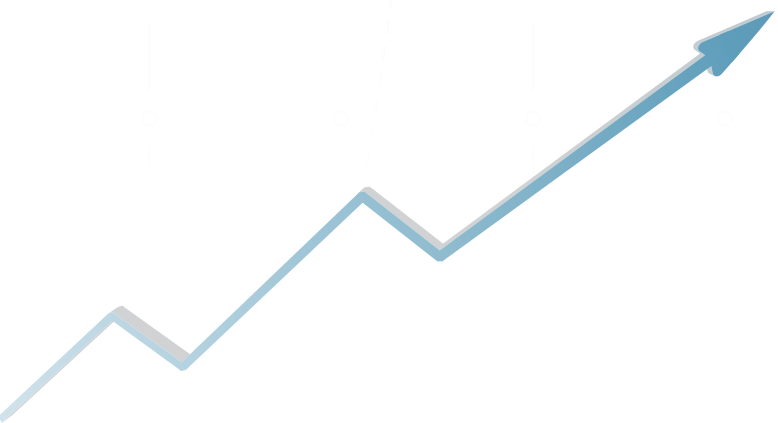
2019 estimated costs vs actuals in brief;

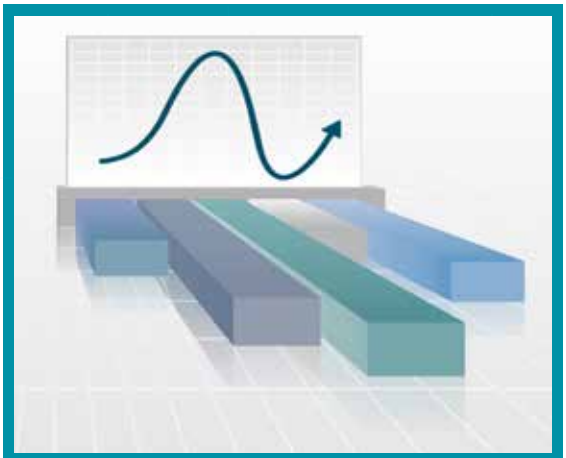
Comparison of 2019 Forecast&Actual costs				
				('000 TRL)
Costs	2019 F	2019 A	Delta	%
Staff	1.012.003	1.020.210	8.207	0,8%
Other operating costs	1.103.362	1.062.873	-40.489	-3,7%
Depreciation	324.519	287.058	-37.461	-11,5%
Cost of capital	267.713	280.200	12.487	4,7%
Total costs	**2.707.589**	**2.650.341**	**-57.256**	**-2,1%**

As regards the costs by nature; staff and other operating costs have been calculated as 1.020,2 M TRL and 1.062,9 M TRL respectively, depreciation and cost of capital have been established as 287,1 M TRL and 280,2 M TRL respectively, the total cost base being 2.650,3 M TRL.

Main Parameters - 2018 F vs 2018 A				
Parameter	2019 Planned	2019 Actual	Variation	%
Costs	2.707.597.705	2.650.341.420	-57.256.285	-2,1%
Charges billed	2.639.797.513	2.506.687.217	-133.110.296	-5,0%
Total Service Units	19.014.902	17.912.101	1.102.801	-5,8%

On the other hand, charges billed have been actualized -5% (133,1 M TRL) lower than the estimated figure while the TSUs have been realized -5,8% lower compared to the planned figures thus leading to an under-recovery of 83,3 M TRL to be carried over to 2021.





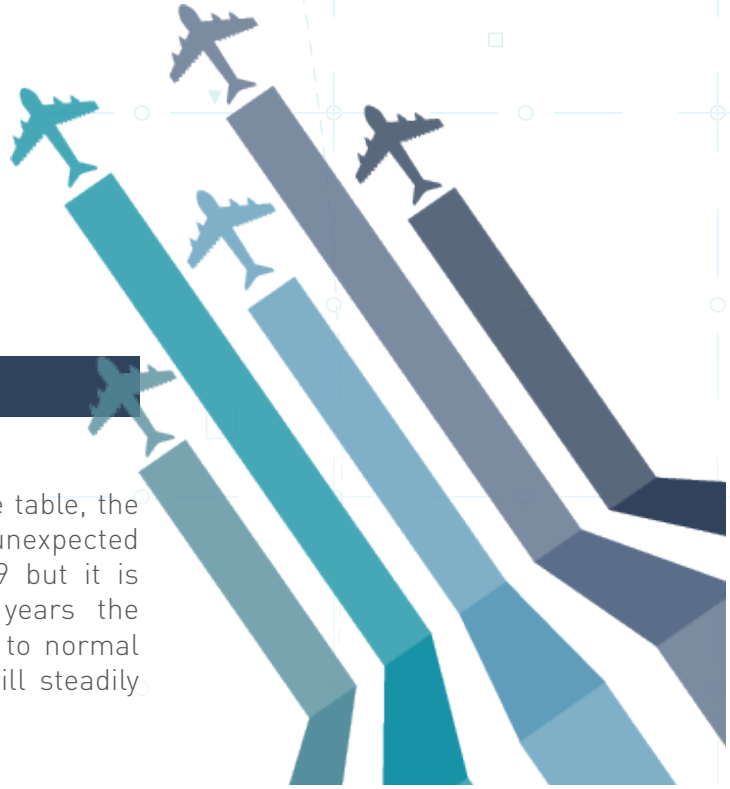
SERVICE UNITS

The instability in the situations of the neighboring states made it again difficult to predict the traffic situation in 2019.

The continuation of the shift in overflights from the North to our country which started in 2014 slowed down after 2018 bringing the total service units to 17.912.101 in 2019, -5,8% lower than forecasted.

However, despite the incredible workload for the ATCOs, the huge amount of traffic in 2019 was handled without application of any restriction or regulations with a view to avoid any inconvenience for the airline community.

> Despite high ATC workload, no restriction or regulations applied



NATIONAL UNIT RATE

As can be seen from the above table, the 2021 UR will be affected by the unexpected developments due to Covid-19 but it is foreseen that the following years the situation will gradually return to normal and the unit rate increases will steadily reach its regular levels.

2019 and Five Year Plan - Unit Rates*

(in €)

Year	2021	2022	2023	2024	2025
Unit Rates	36,20	37,67	38,79	39,51	39,83
Variation	27,0%	4,0%	3,0%	1,9%	0,8%

Covid-19 and its impact on SUF;

The unexpected drop of air traffic worldwide due to the Covid-19 pandemic disease has also had an impact on Turkey leading to a significant decrease in the 2020 actual SU. Based on this situation, the expectation is that the 2021 SUF will show a huge decrease compared to 2020 SU forecast figure approved in CER-113 (used in Reporting Table), having a significant impact on the 2021unit rate.

Under-recovery from 2019 actuals and its impacts;

Another reason for the rise in the 2021 UR has been the uncontrollable factor comprising the amounts relating to the significant carry-over of 83,3 M TRL stemming from 2019.

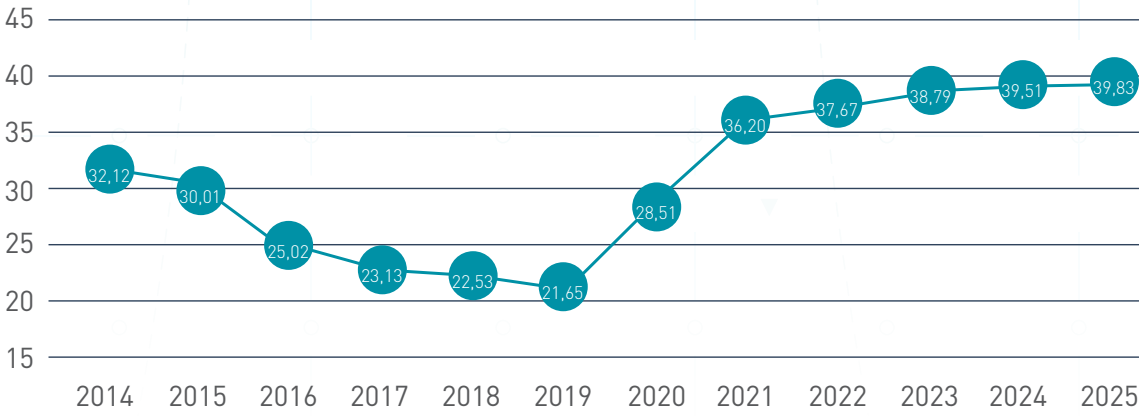
As a result; both these unavoidable and uncontrollable factors as well as the under-recovery and the significant drop in the SUF have led to a remarkable rise in the unit rate.

It should be noted that during these very hard times, all possible measures have been taken to keep the estimated costs as low as possible (even below the inflation rate, meaning a decrease in real terms although the ANSP had to continue providing service at utmost safety levels) with a view to maintain the unit rate as low as possible despite a SUF expected to realize with an average drop of -49,4% at the end of 2020.

If the effects of the service unit variation and carry-over from 2019 are eliminated, the increase of the 2021 UR without uncontrollable factors would be 13,2%.

As usual Turkey is determined to maintain its efficiency targets of which the main one is to keep its unit rate low whilst maintaining high aeronautical performance.

Unit Rate in Euro



FORWARD LOOKING INFORMATION

The table below provides forward looking information relating to the years 2021-2025. The macro-economic indicators projected by the Government, budgetary implementations and variations in market prices have been taken into account in the calculation of these figures.

> High service quality, maximum cost-efficiency & zero ATFM delays

Five Year Plan					
					(TRL'000)
Costs by nature	2021 F	2022 P	2023 P	2024 P	2025 P
Staff	1.339.875	1.616.715	1.930.193	2.295.670	2.735.810
Other operating costs	1.510.105	1.818.220	2.166.984	2.573.351	3.062.327
Depreciation	353.551	426.604	509.326	605.771	721.918
Cost of capital	324.313	393.472	471.854	563.374	673.817
Exceptional items	0	0	0	0	0
Total costs	**3.527.845**	**4.255.012**	**5.078.357**	**6.078.166**	**7.193.871**

In the period 2021-2025, the increases foreseen in the cost-base will be in parallel to price and consumption expectations.

COMMUNICATION
NAVIGATION
SURVEILLANCE

CNS

DHMI Electronics Department is the main CNS service provider in Turkey. DHMI provides CNS services by means of Electronics Units at 56 Turkish Airports and Turkish Air Traffic Control Center.

DHMI Electronics Department is in charge of the following tasks:

- *To procure and install navigation aids, surveillance systems, communication systems related to flight safety and to provide a dedicated quality of service for the systems,*
- *To carry out conceptual design of projects and technical/functional specifications of the required CNS systems and equipment; to prepare the periodic maintenance plans of for those systems; to execute and monitor these plans,*
- *To set up a ground team to work on the flight control of the Communication, Navigation, Surveillance systems,*
- *To renew, repair, calibrate and modify the systems and test equipments that cannot be repaired on site; to provide necessary stand-by equipment, test equipment and documentation; to plan and perform domestic and international training related to these services; to follow the latest technological improvements in order to enhance service and to implement these improvements,*
- *To follow the activities at international aviation institutions (ICAO, EUROCONTROL, ECAC, etc.), to coordinate and cooperate with the related units to perform the prepared and approved plans in time; to draw up plans and programs as required,*
- *To organize and conduct ATSEP (Air Traffic Safety Electronics Personnel) Basic, Qualification and Refreshment trainings according to ATSEP License Regulation.*

Safety Management System (SMS)

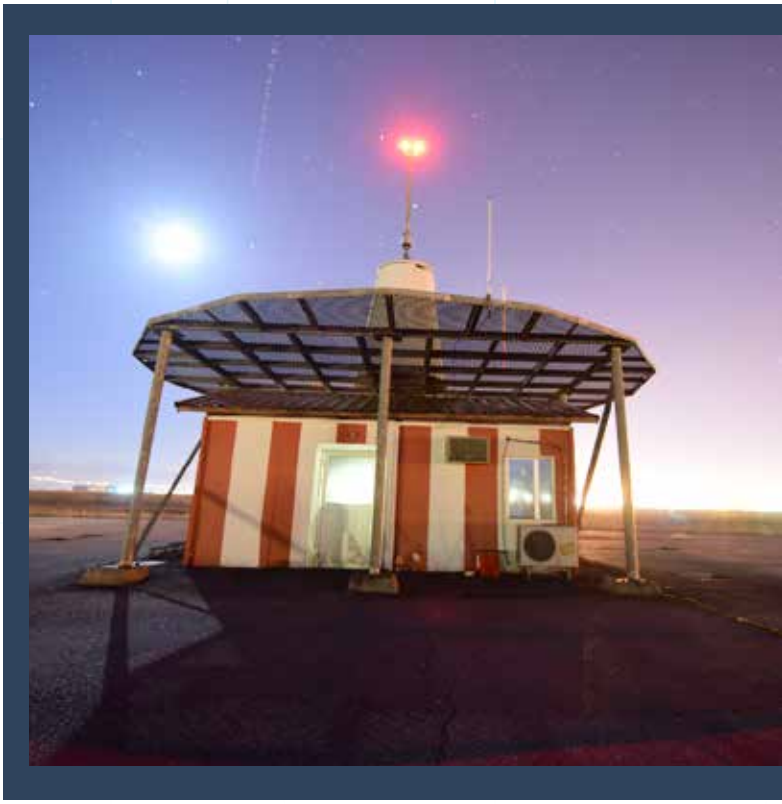
In accordance with the safety policy set forth in the "Guidelines for the Use of Safety Management Systems by Air Navigation Service Providers (SHT 65-03)" and in the light of the requirements stipulated by the Air Navigation Service Provider's Safety Management, Safety Responsibility, Safety Priority and ATM Services' Safety Objectives has to be well established in the organization. In this context, the CNS Services Safety Management System was entered into force on September 1, 2014.

Purpose of Safety Management System; is to reduce the safety risks that may occur in the fields of activity that may affect the flight safety of CNS systems and in all processes to acceptable levels. The highest level of safety is tried to be achieved while the activity is being carried out. In addition, the staff are authorized by the ATSEP license approved by the General Directorate of Civil Aviation in order to establish the safety.

Emergency action plans for risk analysis of each and every CNS systems operated at all sites by DHMI are prepared, and internal audits are carried out once a year together with the QMS audits. SMS refreshment trainings are being held for all staff (ATSEPs) for every 5 years. Approximately 470 staff have been participated refreshment trainings since 2018.

Problems have to be well understood in order to find solutions with which the negative effect of the problems can be reduced or completely be eliminated. SMS focuses on processes rather than outputs and rather than a reactive approach, it implements a more proactive approach to prevent problems that may cause accidents, such as dangerous situations, it uses a hazard analysis and risk management system to understand the hazard potential of the hazard.

In the scope of the SMS activities; in 2019, under Directorate General of State Airports Authority (DGSAA) - ANSP (Air Navigation Service Provider) of Turkey, some preliminary studies and workshops have been carried out to implement a well based SDCPS (Safety Data Collection and Processing System) in CNS Department by taking into consideration both SDCPS related chapters of Annex 19 (Chapter 5); Doc 9859 (Chapter 5) by ICAO and the need of an effective SDCPS within the context of a safer SES (Single European Sky). It is considered by DGSAA as one of the first steps of responsibilities of its own towards State Safety Program of which framework has been set by ICAO in Annex 19 under the titles Chapter 3-1 – State Safety Responsibilities and Appendix 1-1 – State Safety Oversight (SSO) System Critical Elements (CEs), and in Chapter 8 titled as State Safety Management within Doc 9859.



Quality Management System (QMS)

The Quality Management System (QMS) has been established, documented, implemented and maintained by DHMI in compliance with the international standards of ISO 9001: 2015 and with the certificate given by Turkish Standards Institute (TSE). The system is being implemented in Electronics Department and Airports' Electronics Units from 2 January 2013. The Electronics Department has been awarded TS-EN-ISO 9001: 2008 certificate by the TSE with license audit conducted between 4-8 November 2013. From this date onwards, TSE conducts document audits every year and document renewal audits every 3 years.

In order to provide a common interface for handling a single Quality Management System upon ATM Resources and Airport Operations within DHMI, DHMI has initiated a multi-departmental project. Hence, a wide training session for CNS staff has been planned.

Preventive maintenance activities for CNS systems are performed daily / weekly / monthly / quarterly / annually, and are recorded using specially prepared check and maintenance forms. Moreover, all possible system malfunctions regarding proper functioning based on ICAO/ EUROCONTROL requirements, have been recorded and required actions have been taken in scope of QMS.

On the other hand, statistical information about ILS, VOR, DME, NDB and Surveillance Systems and data from NOTAMs are recorded by means of module designed internally.

Internal audits are performed by authorized CNS staff (ATSEP) including Electronic Departments and Airports Electronic Units according to TS-EN-ISO 9001: 2015 Standard.

STAFF

The total number of ATSEPs employed by the DHMI was 570 for 2019. Staff working on CNS systems have to have a valid ATSEP license issued by DGCA, Turkish NSA. Licenses are renewed every 5 years. DHMI's responsibility covers training of ATSEP and ensuring the validation of the dedicated licenses.

TRAINING

The activities covering preparation of Training Plans and Training Materials in accordance with the regulation and organizing the trainings for technical staff to ensure the air traffic safety is one of the responsibilities of Electronic Department.

ATSEP Communication, Navigation and Surveillance Trainings had been carried out at the Training Centre of DHMI, located in Ankara in 2019 and 43 trainees completed the ATSEP Qualification Trainings.

A total of 26 students, 4 Vocational High School students and 22 University Students, did internships in 2019 under the Department of Electronics.

In order to improve the knowledge and skills of the flight control systems and principles of the navigation aids operating under the responsibility of our organization, 65 personnel were given flight control training and 17 personnel who completed these trainings were given advanced flight control training.

It is ensured that 20 of our staff, who are working or will work as trainers, participate in the training of trainers.

In order to carry out alcohol and drug use tests of ATSEP Licensed personnel, 15 personnel were trained on Alcohol test-drug detection devices.

COMMUNICATION SYSTEMS

In order to provide a clear communication between pilots flying in all flight levels of Turkish airspace and the air traffic controllers, at a required level of performance prescribed by standards published by the International Aviation Organizations (ICAO, FAA, EUROCONTROL, etc.); communication stations are established in and outside the airports. The renovation and modernization of communication systems are executed within a yearly plan.

Communication Systems provided by CNS Department;

- *VCS(Voice Communication Systems),*
- *Air/Ground Radios,*
- *Ground/Ground Radios,*
- *AFTN/AMHS (Aeronautical Fixed Telephone Network/Aeronautical Message Handling System),*
- *ATIS/D ATIS(Automatic Terminal Information Service / Datalink ATIS),*
- *VSAT(Very Small Aperture Terminal),*
- *Cospas – Sarsat System,*
- *VRS(Voice Recording/Playback Systems),*
- *Datalink Sytems,*
- *Radiolink Systems,*
- *HF-SSB Radios.*

Voice Communication System (VCS)

In order to modernize and to extend the capacity of the current Voice Communication Systems (VCS) and Voice Recording Systems (VRS) systems installed at Ankara ACC/Esenboğa APP, Yesilköy APP/Istanbul TWR, Menderes APP/TWR, Antalya APP/TWR, Dalaman APP/TWR and Bodrum APP/TWR and to meet requirements, a contract has been signed with the vendor of the systems.

Furthermore, after having been completed of the commissioning tests of IP based Voice Communication Systems (VCS) and Voice Recording/Playback Systems (VRS) systems which already installed at Aydın Çıldır, Bingöl, Kastamonu, Ordu – Giresun, Sinop, Şırnak Şerafettin Elçi and Van Ferit Melen Airports, these systems have been put into operation.

AFTN/CIDIN/AMHS

With the renovation project of existing AFTN/CIDIN/AMHS system, a main system center has been installed in Ankara Air Traffic Control Center, a contingency system center has been installed in İstanbul Atatürk Airport and AFTN/CIDIN/AMHS terminals have been installed at all airports with a connection speed of at least 2 Mbps for each terminal.

As a contingency center installed in İstanbul Atatürk Airport has been securing FPL, NOTAM and all ATS message flow in Turkish airspace in case the main center in Ankara is inactive due to an unforeseen event (natural disaster, breakdown, maintenance, etc.).

Additionally, in the scope of the project, a training class has been established at Ankara Air Traffic Control Center in order to provide user training for the AFTN / CIDIN / AMHS System and FPL Database.

Commissioning tests of the new system have been going on and will be completed by the mid of the 2020.

Pan European Network Services (PENS)

Pan European Network Services (PENS) system has been developed under the coordination of EUROCONTROL in order to provide data and message flow between European countries more quickly and safely and to establish a common communication network. In the first stage, our organization has transferred the European AIS Database (EAD) and Central Flow Management Unit (CFMU) network systems to the PENS infrastructure and in 2015 became a full member of PENS. After the PENS membership, the necessary work has been started to pass the ANSP Backbone (BB) service to make the communication services available via the PENS network.

In order to improve the current PENS infrastructure, NewPENS project has been commenced and a contract has been signed between BT Telecom and Eurocontrol (on behalf of PENS member states). Our organization is a part of the NewPENS project with which aeronautical information reliably, securely and safely exchanged in a cost efficient way across the Europe. In line with the works of the migration to the new infrastructure, AMHS connections between Ankara and Roma, Viyana, Varşova, Bakü, Eurocontrol Haren and Eurocontrol Bretigny have been put into operation over NewPENS, and all connections of EAD, AMHS and NM CFMU have been transferred from PENS to NewPENS.

Communication System Design

In order to solve the coverage and interference problem that occurred in air / ground communication at Nevsehir Cappadocia and Siirt Airports, suaitable locations for the installation of the air / ground transmitter stations that will provide the required signal coverage at the best quality without any interference have been determined, and air / ground transmitter stations have been installed at these determined locations.

Communication Systems by the end of 2019:

- 43 VCS (Voice Communication System),
- 27 ATIS System,
- 4 D-ATIS System,
- 69 VRS (Voice Recording Equipment),
- 27 Radio Link Systems,
- 6180 Air/Ground Radios,
- 5736 Ground/Ground Radios,
- 111 HF-SSB Radios.

AIR NAVIGATION AIDS

In 2019 the following activities has been carried out:

At the Zonguldak Çaycuma Airport, where normal ILS operation could not be performed due to obstacles, upon determination of 5 ° offset ILS procedural design for 36 runways in line with the offset ILS design criteria that were not previously applied in our country, The ILS System was established and put into service.

Infrastructure and preparatory work for the establishment of ILS / DME and VOR/ DME Systems for Istanbul Airport 3rd runway, İstanbul Sabiha Gökçen Airport 2nd runway and Tokat New Airport has been continued.

A new DVOR / DME system was put into service at the new location at Milas Bodrum Airport and LLZ/ DME system was put into service at Siirt Airport.

As of December 2019; there are 71 ILS, 73 VOR, 146 DME and 70 NDB systems are serving in all airports and remote stations.

Maintenance and Repair Activities

For the relocation of the VOR / DME / NDB station at Milas Bodrum Airport, geolocation was performed with Mobile VOR / DME / NDB. The NDB device was moved from the old station to the new DVOR / DME station, and the flight control test was completed and put into service.

- Flight control tests of Localizer and DME devices installed at Siirt Airport were completed and the devices were put into service.
- Remote control connection of Gökçebağ DME device and Erzurum Airport ILS system has been completed.
- NDB device serving at Gökçeada Airport was renewed and put into service.

Other Activities

In order to calibrate electronics testing and measuring devices, which are used in CNS Systems, a laboratory has been constituted within the Electronics Department. Totally 719 testing and measuring devices; i.e.multimeters, scopemeters, frequency meters have been calibrated during the year 2019.

Calibration of the calibrator devices used in the mentioned laboratories has been ensured and cooperation meetings have been held with TÜBİTAK regarding the measurement methods applied.

Within the framework of the signed protocols, Electronic (CNS) services have been provided by Samsun Ondokuz Mayis Airport since November 2018, Selçuk Efes Airport since February 2019, Eskişehir Hasan Polatkan Airport since April 2019 and Hezarfen Airport since February 2019.

The repair of the cards and modules of 114 radios, 24 VORs, 6 DMEs, 6 NDB

devices have been completed. 77 cards and modules belonging to these devices were repaired under insurance.

Remote Control and Monitoring Project (UYIP)

The main purpose of UYIP is enabling to get access the main software of VOR/DME systems all over Turkey in order to control and monitor these systems from a centre in System Installation and Operation Unit located in Esenboğa Airport.

Within this scope, of the project the remote control data infrastructure of VOR/DME Stations are modernized and 76 VOR/DME stations (3 of them in 2019), which are located in/near the airports, have already been connected to this control and monitoring system. The process of connecting all VOR/DME stations to this system has been completed.

SURVEILLANCE SYSTEMS

To provide an accurate and reliable air and ground surveillance picture to Air Traffic Controllers, Electronics Department closely follows new technologies, systems and operations; and adapts innovations its existing ATM infrastructure. By means of new investments, every point above FL200 in the Turkish airspace is covered with minimum three surveillance sensors.

With the two big projects "SMART (Systematic Modernization of ATM Resources in Turkey)" and "Renovation of Existing Radars and Additional Requirements" DHMI is able to provide Mode S surveillance information and use the latest ATM technologies.

Beside of the conventional surveillance technologies, DHMI also follows new technologies like ADS-B and Multilateration (LAM/WAM) to add these new systems' assets to its inventories.

Technical staff attends regular training and courses, organized in Turkey or abroad. By these trainings, they get the knowledge of surveillance and DP techniques and of maintaining the installed systems.

As of today, 8 PSR (Primary Surveillance Radar) and 24 Mode S MSSR (Monopulse Secondary Surveillance Radar) are in service to provide air surveillance picture. Beside that 14 ADS-B (Automatic Dependent Surveillance-Broadcast) ground receiver is installed and under test process. The locations of these sensors are shown in Map 3.

The data produced by surveillance sensors are transmitted via terrestrial and satellite lines to ATC centers. All sensor data is fed to WAN network and it is shared between ATC centers through this WAN.

An on-mounted PSR/Mode S MSSR system for Istanbul Airport and a stand-alone Mode S MSSR system for Mugla Dalaman Airport were operational at the end of the 2018.

Turkish Air Traffic Control Center

SMART ATC systems has been in operation since 7 July 2015 and by the transfer of İstanbul ACC and İzmir ACC sectors to Ankara ACC; Area Control Service in Turkey has been provided by Turkish Air Traffic Control Center(Ankara).

In addition, İstanbul, Antalya, Adnan Menderes, Dalaman and Bodrum ATC Centers are established for APP services in the Project.

Since consisted configuration and terrestrial digital lines (IP-MPLS-VPN) supported by VSAT allows voice and data network, in case of an emergency/contingency, APP centers can support each other and roles can be shared among them.

Other Systems

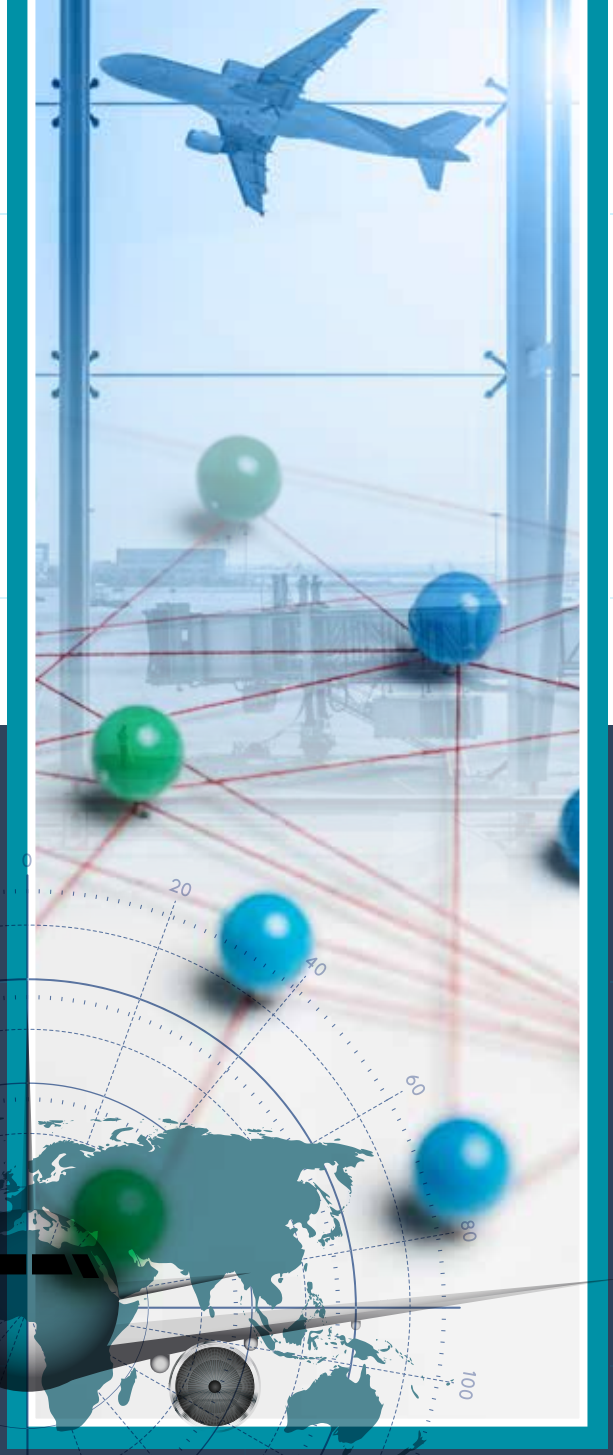
A-SMGCS systems with surveillance and safety services are in operation since 2010 at Ankara Esenboğa, Istanbul Atatürk and Antalya Airports. Also A-SMGCS system including EFS/DCL is available for Istanbul Airport (LTFM). Istanbul Airport A-SMGCS is aimed to have the surveillance, safety, routing and guidance services as well.

In order to use the resources (runway, air space etc.) more effectively, AMAN/DMAN (Arrival Manager/Departure Manager) systems were installed at Istanbul Atatürk Airport and it is also extended for Istanbul Airport (LTFM) arrival traffics.

Future Projects

In the next days/years the following projects are planned:

- Regional Air Traffic Control Center Surveillance Systems for Istanbul TMA
- APP Systems for Gaziantep TMA
- Renovation of 3PSR and 6 MSSR systems which are in operation more than 15 years
- Country wide ADS-B implementation as complementary to existing surveillance coverage



PERFORMANCE

TRAFFIC

The Turkish Airspace located at the cross - roads of the main traffic flows between Europe, Caucasian Region, Middle East, Africa and Asia and DHMI is paying utmost importance to bi-lateral and regional cooperation as being one of the main air navigation service provider in the region.

In 2019, DHMİ air traffic volume increased by 67,7 % compared to the year 2010 and passenger number also increased by 102% and reached approximately 209 million passengers.

Although the transfer from Istanbul Atatürk to İstanbul completed in April Istanbul Airport was the 8th airport in Europe in terms of average daily departures. Traffic growth continued for S.Gökçen Airport especially in international flights. Moreover, Antalya Airport has a significant traffic increase (+11% vs 2018).

Antalya (25th) and Istanbul Atatürk Airport (39th) in the top 50 airports in terms of average daily departures

The geo-political location of states or airspaces has direct impacts for providing ATM services. Due to geographical location and the neighbouring states surrounding Turkey, there are some difficulties of providing ATM services in Turkey and traffic numbers and flows were effected during 2019. Due to the closures of Airpaces of the neighbouring Countries of Türkiye, number of traffic increased enormously and flow directions changed a lot in year 2019.

To be able to continue to provide ATC Services efficiently, new Airway structure has been studied and implemented together with our neighbours, ICAO and Eurocontrol during year 2019.

In this context, civil / military coordination, communications infrastructure and surveillance infrastructure were improved, ATC route structure was developed. Traffic to and from Turkey remained the largest traffic segment accounting for 41.6 % of all flights in the first ten months of 2019.

CAPACITY

Capacity planning is one of the most important aspects in the provision of Air Traffic Services.

DHMİ has taken necessary measures to ensure that the system has the capacity and the redundancy to work in a safe and reliable way. In this context, civil / military coordination, communications infrastructure and surveillance infrastructure were improved.

The opening of the new Istanbul airport in April, and the subsequent move of traffic, explain the variation at Istanbul/Ataturk airport. The new airport recorded low ATFM delay since its opening. Weather and aerodrome

capacity were the main contributors to the delay generated.

In the meantime, to cope with the continuous traffic growth and to satisfy the extra capacity needs, Turkey has been upgrading the ATM systems through modernization projects and maintenance agreements.

Studies to implement the CDM to enhance the productivity of the İstanbul Airport has been commenced. Study groups were formed and studies have been going on to sign the Memorandum of Understanding.

For the implementation of Arrival Manager (AMAN) and Departure Manager (DMAN) Systems at İstanbul Atatürk Airport, tender was completed and contract has been signed at 13th of Mar 2013. These systems are going to be used together with the SMART Systems and will have an important contribution to the capacity and quality of the services provided.

Beside these projects / studies to increase the capacity of the İstanbul Airporthas been going on. With the opening of the third runway of the Airport at June 2020, the new airport will be one of the biggest airports in world with its 150 Million Passenger Annual Capacity.

Also tender for the establishment / construction of second parallel Runway to be used for the simultaneous independent parallel approaches for Istanbul Sabiha Gokcen Airport has been done. Second runway will be operational at the last quarter of the year 2020 as well.

Also, due to the closures of Airpaces of the neighbouring Countries of Türkiye, number of traffic increased enormously and flow

directions changed a lot in year 2019. To be able to continue to provide ATC Services efficiently, new Airway structure has been studied and implemented together with our neighbours, ICAO and Eurocontrol during year 2019.

DHMI has taken all necessary measures to provide ATC Services to this unexpectedly increasing traffic in Turkish Airspace without causing any remarkable delay.

With the increase of traffic in Turkey, there is a continuously growing demand for capacity at İstanbul/Atatürk, Antalya, Ankara/Esenboğa, İstanbul/Sabiha Gökçen Airports. Due to an imbalance between the demand for these airports and the availability of adequate airport facilities/ infrastructure and airspace systems, slots have been distributed in an equitable, non-discriminatory and transparent way by DHMI since June 2010. To be operationally successful, DHMI ensures close co-operation and coordination with airport authorities and airlines.

All in all, considering the traffic growth and delay situation, it is assessed that the measures taken to enhance and better manage capacity led to an effective increase of ATM capacity and therefore, the capacity plan was achieved and delays were kept at optimum levels.

As a result of the efficient work, despite the sustained substantial traffic growth over the past years, there were no significant en route ATFM delays reported in Turkey.

PUNCTUALITY

According to DHMI's plan, 0,14 minute/ flight target has been defined for 2019. There was no en-route ATFM delay for AnkaraThey were significantly lower than the target and still remained below the European average.

The new Istanbul Grand airport became fully operational in April 2019. While all scheduled passenger traffic has been transferred from Istanbul Atatürk to Istanbul Grand airport business aviation and military and cargo flights still operate from Atatürk Airport.

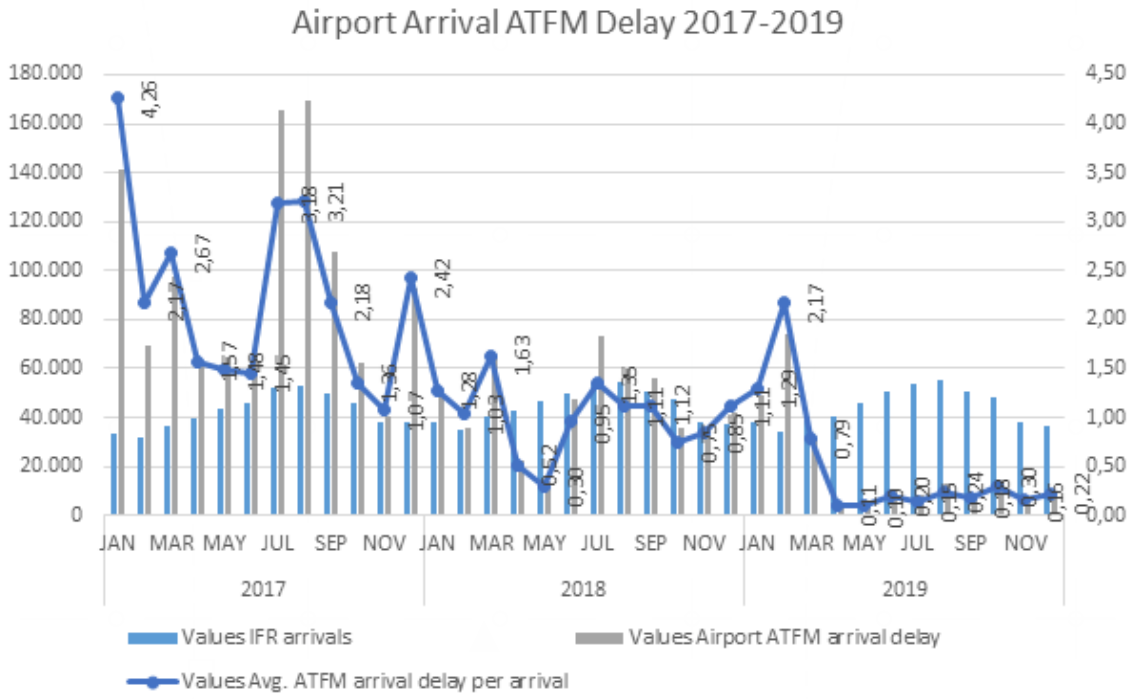
İstanbul, Sabiha Gökçen and Antalya took part in the airport arrival ATFM delay within the top 30 airports. But the situation in Istanbul was improved with the opening of the first phase of the Istanbul Airport. Performance at these airports will be continued to be monitored by DHMI.

Arrival ATFM delays at the Istanbul was 0.30 min/arr represent only a small part of the delays that arrivals at Istanbul Atatürk suffered in 2018 which was 1.84 min/arr.

There was also in 2019 a further reduction of airport capacity delays at Istanbul Sabiha (SAW) where the ATFM capacity attributed delays have evolved from almost 10 minutes per arrival in 2016 to practically zero in 2019.

These delays were eliminated through common actions agreed between our FMPs and the NMOC.

As a result, considering the traffic growth and delay situation, it is assessed that the measures taken to enhance and better manage capacity led to an effective increase of ATM capacity and therefore, the capacity plan was achieved and delays were kept at optimum levels.



ENVIRONMENT

Slight improvement is visible in 2019, four horizontal en-route efficiency Further improvements expected from the forthcoming FRA Implementation.

SIDs have been designed to provide noise abatement over the most congested areas. Noise monitors have been established and data is being analysed in a noise map pilot project.

There is a legislation regarding maximum noise levels generated by aircraft but no system of enforcement/punitive measures have been developed as yet. Local traffic regulations have been developed in coordination with airport and airline operators.

ENVIRONMENTAL INITIATIVES FOR A CUSTOMER ORIENTED APPROACH

The consciousness of being environmentally friendly is one DHMI's top priorities and is one our most precious values. We as the human beings on this planet, carry the responsibility to understand and protect the nature. We are obliged to ensure that next generations can count on a livable world. Nature - entrusted to us - is our most valuable heritage to our descendant's. In fact, air traffic is increasing at an amazing speed and new records are achieved in both passenger and cargo traffic. Each of these increases is an indication of success to be proud of. However the same growth is the biggest enemy for the environment that we all live in.

It is with this consciousness that DHMI embraces new projects to minimize the additional burdens on the environment caused by this traffic increase. Knowing that DHMI is contributing even only a tiny bit in the overall efforts to diminish the negative effects of these increases to the environment, will give us even more strength in future successes.

For this purpose, some of our environment related projects encourage that huge energy saving systems are preferred and moreover especially renewable energy systems are used in every field of service.

To reduce the negative effects that the environment may be exposed to by our operations at the airports and to leave a better world to live upon to the next generations with measures taken against global warming and climate changes, our Administration has started the "Carbon-free Airport Project".

The Project foresees the compilation of an Emission Inventory Report as well as joint studies in the context of the Airport Carbon Accreditation (ACA) Programme conducted with ACI (Airports Council International) at airports selected as pilot areas where validations will be performed according to the related ISO standard.

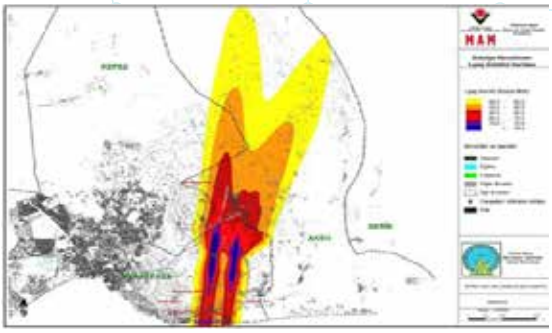
Furthermore, with a view to contribute to environmental improvement, the ultimate aim is to provide sustainable airport operations on several issues such as air quality, noise, waste, waste water and chemicals management.

Our administration applies the ISO Environment Management System at the airports it operates, to increase also the quality in the field of environment, as it does in other fields as well.

Studies are continuing to widespread the use of electrical vehicles at the airports for ground handling purposes.

In line with our the Project that our Administration is carrying out jointly with

TÜBİTAK MAM Environment and Clean Production Institute, Strategic Noise Charts of the airports that are operated by our Administration have been prepared and are regularly updated whilst studies regarding action plans for the reduction of noise are still ongoing.



Currently, integration work has begun at our airports to take part of the Zero Waste Project initiated by the Environment and Urban Planning Ministry and airports complying with the zero waste regulation are already being licensed.

A magnificent environmentalist initiative was launched by The Ministry of Agriculture & Forestry "A Fresh Breath to the Future" and our participated to this event with over 100.000 of trees planted at our airports.

T.C.
KASTAMONU VALİLİĞİ
Çevre ve Şehircilik İl Müdürlüğü

SIFIR ATIK

SIFIR ATIK BELGESİ
(Temel Seviye)

DHMI, aiming to be the model of the environmentally friendly managements has, in the context of "the Green Company Project" initiated by the Turkish Civil Aviation Authority General Directorate, uninterruptedly continued its works and most of Airports were awarded the "green company" certificate.

Furthermore, in the context of our "handicap friendly airports" concept, all necessary measures have been taken to remove all obstacles that handicapped passengers may be faced at our airports in line with appropriate standards and as a result nearly all of our airports have been certified by the Turkish CAA as "Handicap-Friendly Airports"

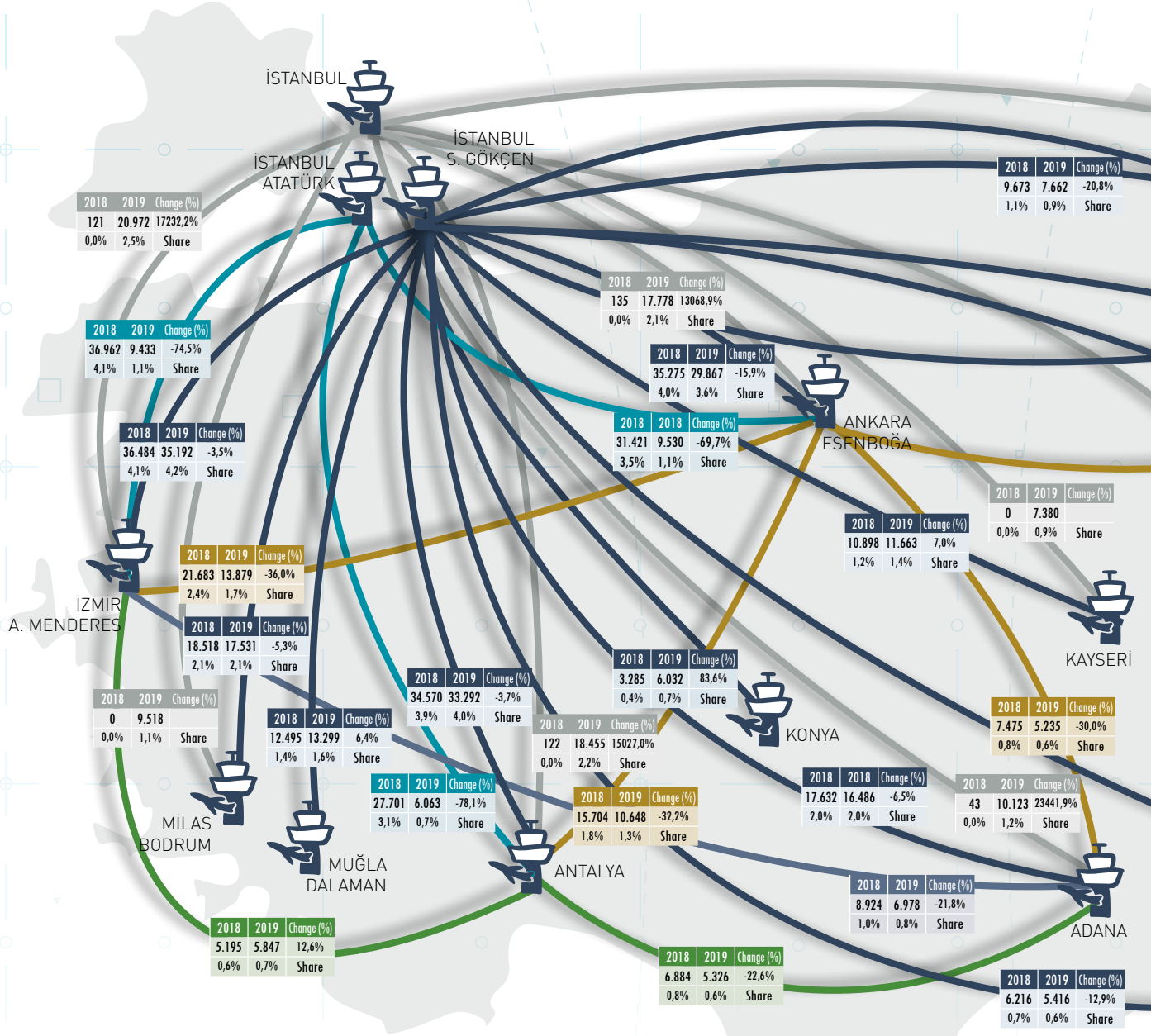
PLANNED INVESTMENTS TOWARDS THE CONTINUOUS IMPROVEMENT OF PERFORMANCE

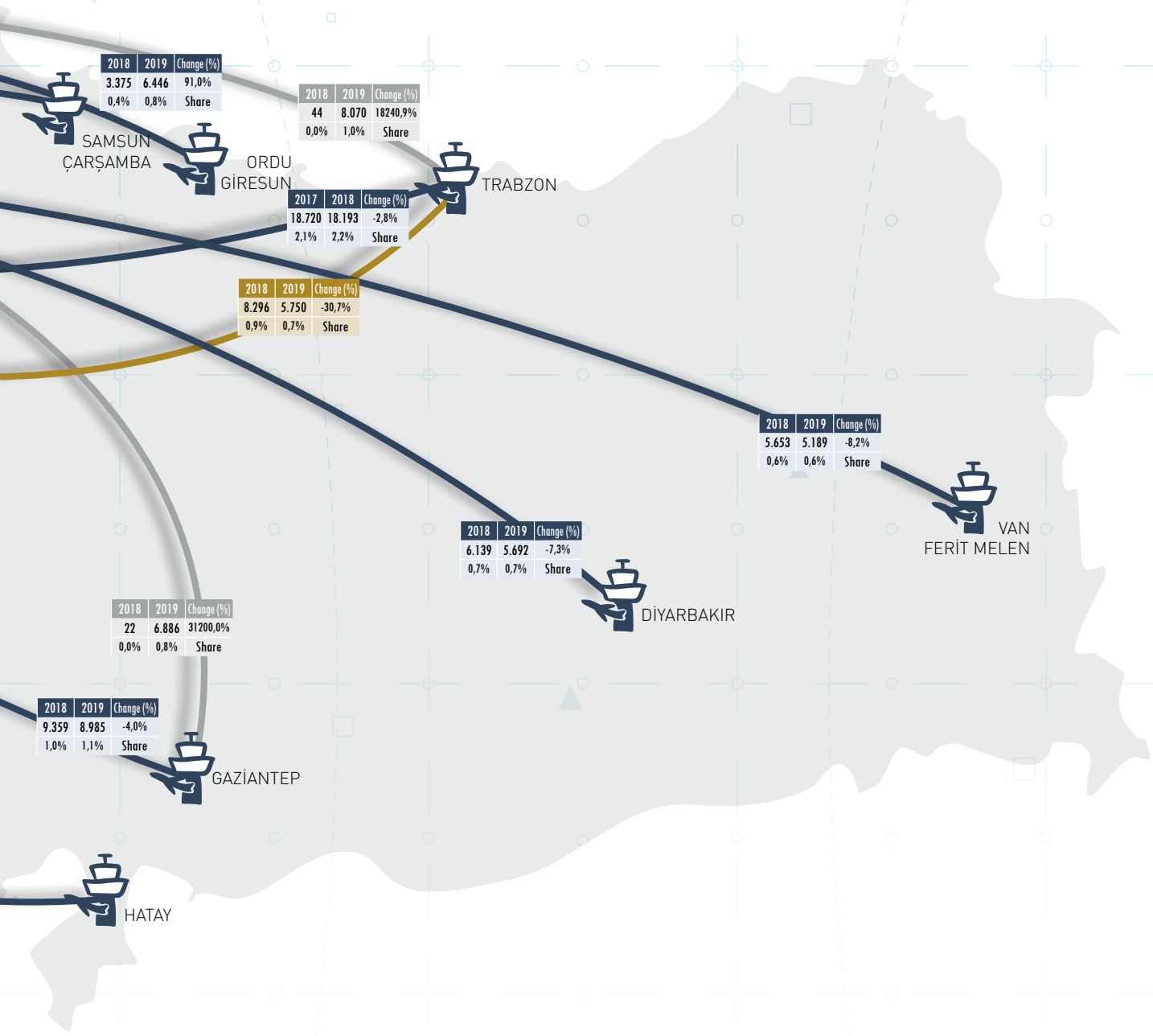
- Wide Area Multilateration R&D project
- Mode S/MGR System R&D project
- ATC Training Complex (Postponed)
- Periodic Modernization of navaids & air communication systems*
- Periodic Renewal IT systems both hardware and software*

* Modernization of Information Network Systems

- Renewable energy systems *
- Procurement of calibration aircrafts
- National ATC Center 1.phase R&D project
- Surveillance and ATM systems *
- Modernization of CNS systems
- ATC Portal R&D project

DOMESTIC FLIGHTS*





* Indicates over 5000 flights in total take offs-landings, between two domestic airports.

INTERNATIONAL FLIGHTS*

GERMANY		
2018	2019	Change (%)
99.421	109.337	10,0%
15,3%	15,3%	Share

BELGIUM		
2018	2019	Change (%)
9.658	10.341	7,1%
1,5%	1,4%	Share

RUSSIAN FEDERATION		
2018	2019	Change (%)
62.575	67.166	7,3%
9,6%	9,4%	Share

AZERBAIJAN		
2018	2019	Change (%)
8.356	10.197	22,0%
1,3%	1,4%	Share

UNITED KINGDOM		
2018	2019	Change (%)
33.859	38.329	13,2%
5,2%	5,3%	Share

POLAND		
2018	2019	Change (%)
7.087	10.187	43,7%
1,1%	1,4%	Share

TRNC		
2018	2019	Change (%)
26.673	27.629	3,6%
4,1%	3,9%	Share

SPAIN		
2018	2019	Change (%)
9.115	10.082	10,6%
1,4%	1,4%	Share

UKRAINE		
2018	2019	Change (%)
24.108	24.398	1,2%
3,7%	3,4%	Share

SWITZERLAND		
2018	2019	Change (%)
9.226	9.932	7,7%
1,4%	1,4%	Share

SAUDI ARABIA		
2018	2019	Change (%)
24.309	23.462	-3,5%
3,7%	3,3%	Share

AUSTRIA		
2018	2019	Change (%)
8.977	9.739	8,5%
1,4%	1,4%	Share

FRANCE		
2018	2019	Change (%)
19.659	22.009	12,0%
3,0%	3,1%	Share

GREECE		
2018	2019	Change (%)
9.711	9.609	-1,1%
1,5%	1,3%	Share

IRAQ		
2018	2019	Change (%)
13.645	18.795	37,7%
2,1%	2,6%	Share

LEBANON		
2018	2019	Change (%)
8.402	9.596	14,2%
1,3%	1,3%	Share

ITALY		
2018	2019	Change (%)
17.218	17.974	4,4%
2,6%	2,5%	Share

JORDAN		
2018	2019	Change (%)
7.692	8.703	13,1%
1,2%	1,2%	Share

IRAN (ISLAMIC REPUBLIC OF)		
2018	2019	Change (%)
18.060	17.107	-5,3%
2,8%	2,4%	Share

ROMANIA		
2018	2019	Change (%)
7.650	8.666	13,3%
1,2%	1,2%	Share

ISRAEL		
2018	2019	Change (%)
14.820	16.283	9,9%
2,3%	2,3%	Share

QATAR		
2018	2019	Change (%)
7.545	8.303	10,0%
1,2%	1,2%	Share

NETHERLANDS		
2018	2019	Change (%)
13.890	15.317	10,3%
2,1%	2,1%	Share

DENMARK		
2018	2019	Change (%)
7.716	8.141	5,5%
1,2%	1,1%	Share

UNITED ARAB EMIRATES		
2018	2019	Change (%)
10.086	11.444	13,5%
1,5%	1,6%	Share

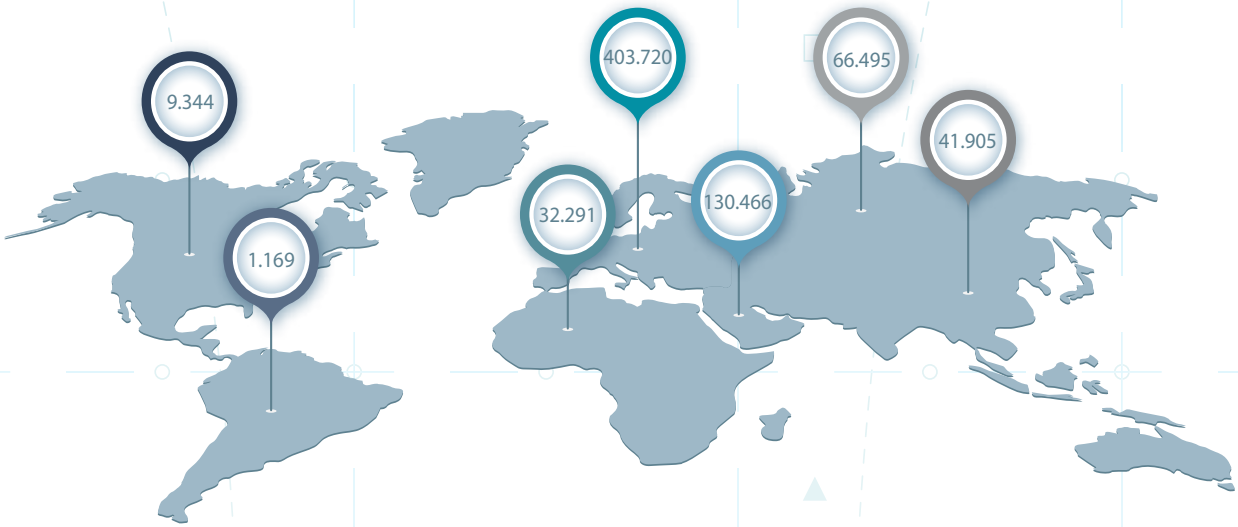
UNITED STATES		
2018	2019	Change (%)
7.693	8.011	4,1%
1,2%	1,1%	Share

EGYPT		
2018	2019	Change (%)
8.410	10.545	25,4%
1,3%	1,5%	Share

OTHER (BELOW 8000)**		
2018	2019	Change (%)
156.203	175.221	12,2%
24,0%	24,5%	Share

* Indicates over 8000 flights in total take offs-landings, between Turkey and other countries.

**Represents all the 118 countries with below 8000 flights in total take offs-landings.



NORTH AMERICA	SOUTH AMERICA	AFRICA	EUROPE	MIDDLE EAST	RUSSIAN FEDARATION	ASIA
9.344	1.169	32.291	403.720	130.466	66.495	41.905

GRAND TOTAL

685.390

Distribution of Total International Commercial Aircraft Movements by Continent - 2019

Statistics & Forecasts	ACTUAL (2018-2019)		FORECASTED (2020-2022)*		
YEARS	2018	2019	2020	2021	2022
Commercial Passengers (Including Direct Transit Passengers)	210.947.639	208.911.338	95.181.311	215.166.274	221.971.563
Commercial Passengers	210.498.164	208.373.696	94.936.303	214.628.511	221.433.800
- Domestic	112.911.108	99.946.572	62.072.334	95.295.343	96.105.474
- International	97.587.056	108.427.124	32.863.969	119.333.168	125.328.326
Direct Transit Passengers	449.475	537.642	245.008	537.763	537.763
Aircraft Movements (Including Overflight)	2.017.220	2.034.430	1.044.575	2.095.350	2.135.402
Aircraft Movements	1.544.169	1.556.417	791.767	1.579.447	1.600.555
- Domestic	892.405	839.894	545.320	858.807	870.698
- International	651.764	716.523	246.447	720.640	729.857
Overflight	473.051	478.013	252.808	515.903	534.847
Freight (Cargo+Mail+ Baggage) (Ton)	3.855.231	4.090.168	1.733.084	4.189.612	4.305.506
- Domestic	886.025	833.768	487.122	904.578	922.295
- International	2.969.206	3.256.399	1.245.962	3.285.035	3.383.211
Cargo (Ton)	1.388.623	1.522.404	999.892	1.540.791	1.586.105
- Domestic	52.807	65.667	57.950	71.244	72.639
- International	1.335.815	1.456.737	941.942	1.469.547	1.513.466

**Revised in April 2020, according to preliminary numbers at the end of March 2020*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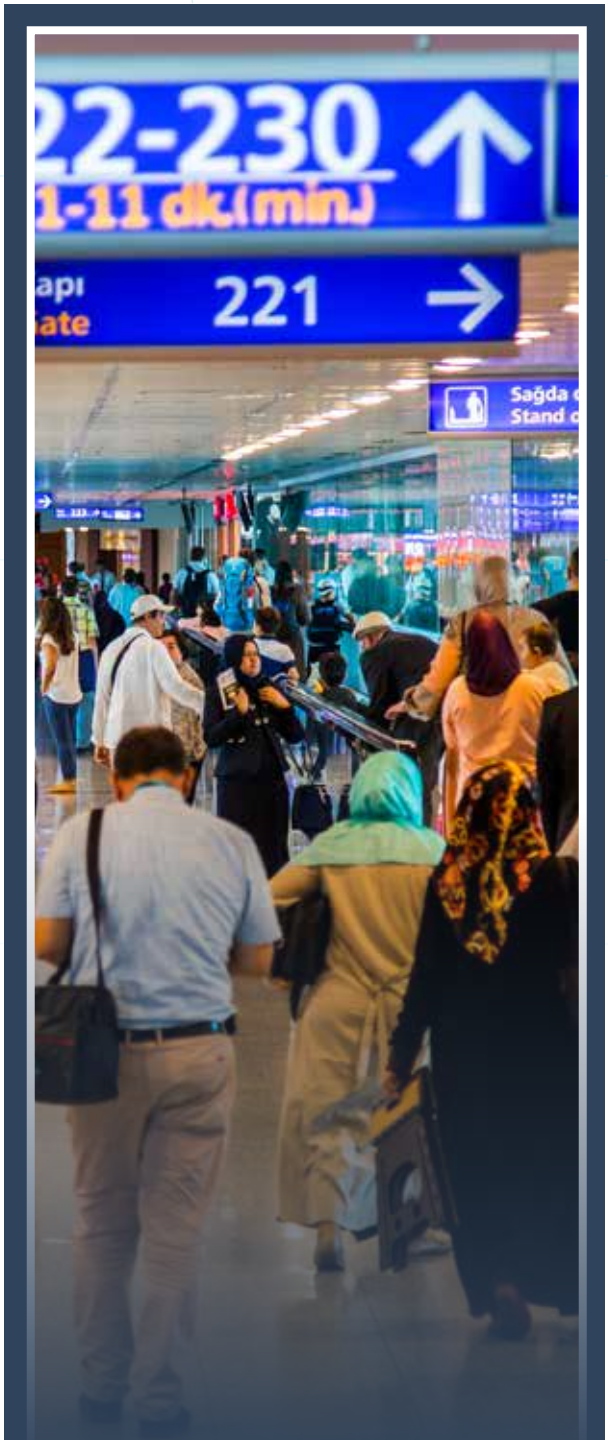
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HIGHLIGHTS

The aviation sector is developing at an amazing speed. DHMI is one of the role players within these developments. It is continuously improving, developing and growing on a non-stop basis.

DHMI has witnessed many important and outstanding events this year and has again made huge progress!

2019

January

High level Coordination Meeting took place.

March

Renewal work of Karaburun Akdağ radar staff training complex ongoing

April

Move to Istanbul Airport

May

The Şerafettin Elçi Airport in Şırnak has been certified as a "green airport" DHMİ has celebrated its 86th anniversary

June

According to the ACI pax data, Turkey is ranked on the 6th place in Europe with the highest number of passengers carried at the end of April 2019

July

Delegation of Singapore Civil Aviation Authority (CAAS) has paid a visit to the ATC tower at Istanbul Airport
Hüseyin Keskin appointed as the DHMI new Director General & Chairman of the Board

August

Direct air corridor between Turkish and Azerbaijani airspace
Following new arrangements savings of 1300 minutes of flight duration and 8% of fuel on a daily basis at Istanbul Airport

September

The TEKNOFEST 2019 accommodated at Atatürk Airport has welcomed its visitors
Atatürk Airport has hosted the world ETHNO Sports Cultural Festival

October

Triple runway operations to be realized at our source of pride the Istanbul Airport for the first time in the world after the USA!

December

DHMI "A Fresh Breath to The Future"

JANUARY 2019

DHMI HAS OBTAINED THE "ISO 27001 DATA PROTECTION MANAGEMENT SYSTEM CERTIFICATE"

DHMI has been granted the Data Protection Management System Certificate in conformity with the ISO/IEC 27001:2013 standard.

In the framework of the harmonization project; asset management, risk management and data protection supervision activities comprising all our entity's critical units were completed in nearly one years' time, along with the strengthening of the systems and network infrastructure whilst measures were taken to increase cyber security.

MARCH 2019

RENEWAL WORK OF KARABURUN AKDAĞ RADAR STAFF TRAINING COMPLEX ONGOING

Renewal work of the Karaburun Akdağ Radar Staff Training Complex located in İzmir has been conducted on a non-stop basis whereby 19 classes, a briefing room and its foyer, meeting rooms, offices, a restaurant, a cafeteria, sporting space and library are renewed.

APRIL 2019

MOVE TO ISTANBUL AIRPORT

Officially opened at the end of 2018, the movement to the İstanbul New Airport has been completed and has started to operate in full as of 7 April. This airport, which will be one of worlds' most important hubs, is our source of pride. Not only with is architectural structure, its capacity, the number of passengers it has provided excellent service to or its state-of-the-art systems but also with the ongoing work regarding the 3rd parallel runway and building constructions which will expand the airport even further during the 3rd and 4th stages of the Project.

MAY 2019

THE ŞERAFETTİN ELÇİ AIRPORT IN ŞIRNAK HAS BEEN CERTIFIED AS A "GREEN AIRPORT"

The Green Airport Project was put in place by the Turkish CAA with a view to systematically decrease or even diminish completely the damages that entities operating at airports might be giving to the nature or to human health.

Before an airport can call itself a "Green Airport", all entities operating within that airport must fulfill necessary requirements to obtain the "Green Entity Certificate".

Having met the required conditions, Şırnak Şerafettin Elçi Airport has become the 45th Green Airport operated by DHMI.

DHMI HAS CELEBRATED ITS 86TH ANNIVERSARY

Many giant projects, modern accomplishments and huge investments have transformed DHMI from a shining star of the Turkish aviation into a strong brand known world-wide.

The successes that DHMI has obtained during its long-established history of 86 years

is primarily the product of its service approach built on a safe and comfortable service of high quality meeting international standards and sensitiveness towards humans and nature.
Turkish aviation has jumped into a new generation. Everyone has become familiar with the luxury of travelling by air. During the last two decades, the number of airports has increased by 155%, terminal capacity by 546%, the length of air routes by 59%. Besides, during the same period, the number of total passengers increased by 512%, air traffic by 281% and the number of navaids by 89%.
These accomplishments are never being regarded as enough. Therefore, DHMİ is working day and night to put its signature under even bigger projects and new investments to strengthen its position amongst the giants of the aviation world.

JUNE 2019

ACCORDING TO THE ACI PAX DATA, TURKEY IS RANKED ON THE 6TH PLACE IN EUROPE WITH THE HIGHEST NUMBER OF PASSENGERS CARRIED AT THE END OF APRIL 2019

ACI Pax Data has shown that Turkey carried the 6th highest number of passengers at the end of April within Europe with an index of 7,6.
In May, on the other hand, Antalya Airport was on the first place with an average of daily departures of 136,1 charter flights - an increase of 25,4% compared to the previous year - whereas İstanbul was ranked 4th with an average of daily departures of 536,6 scheduled flights compared within the EUROCONTROL Statistical Reference Area.

JULY 2019

DELEGATION OF SINGAPORE CIVIL AVIATION AUTHORITY (CAAS) HAS PAID A VISIT TO THE ATC TOWER AT ISTANBUL AIRPORT

The delegation from CAAS has visited the İstanbul Airport ATC Tower and the Approach Units.
Heads of delegation, CAAS Deputy Director General Soh Poh Theen and Director Yeo Cheng, were briefed by the İstanbul Airport Chief Authorities on the building, technical systems and the air traffic operations.
Focus was put on the Point Merge Procedures (SID-STAR) designed by DHMI. These procedures have started to be applied at the İstanbul Airport and are known to be used by only a few airports around the world and have been proved to ensure fuel savings and decrease of carbon emissions. The delegation was further briefed on the technical systems as well as the atcTRsim simulator developed indoor and ongoing trainings.
İstanbul Airport, officially opened on 29 October 2018 and formally started operating on 6 April 2019, is attracting the worlds' attention with its awarded tower, air traffic procedures and operations.

HÜSEYİN KESKİN APPOINTED AS THE DHMI NEW DIRECTOR GENERAL & CHAIRMAN OF THE BOARD

After having fulfilled many senior level occupations in aviation, Hüseyin Keskin has been appointed as the new Director General and Chairman of the Board.

AUGUST 2019

DIRECT AIR CORRIDOR BETWEEN TURKISH AND AZERBAIJANI AIRSPACE

The work conducted by DHMI under the umbrella of ICAO to establish an air corridor that would enable direct flights between our airports and the Azerbaijan Nakhichevan Airport has finally been accomplished.

Following the agreement reached, the said corridor is being used as of August 15.

FOLLOWING NEW ARRANGEMENTS SAVINGS OF 1300 MINUTES OF FLIGHT DURATION AND 8% OF FUEL ON A DAILY BASIS AT ISTANBUL AIRPORT

DHMİ - operating skillfully the airspace of nearly 1 million km² - has succeeded to merge safe air traffic control services with "fuel savings".

The İstanbul Airspace has been designed by using solely national resources and abilities and thanks to these renewed flight routes, the İstanbul Airspace is providing service with distinction not only to our source of proud the İstanbul Airport but to also to all other airports and flights overflying Turkish airspace. The new arrangements made over the Marmara area has shortened the daily flight durations by 1300 minutes and provided a fuel saving of 8%.

SEPTEMBER 2019

THE TEKNOFEST 2019 ACCOMMODATED AT ATATÜRK AIRPORT HAS WELCOMED ITS VISITORS

TEKNOFEST 2019 - THE exhibition on the future of aviation - has been organized at Atatürk Airport and welcomed 50.000 contestants and over 1,5 million visitors from 122 countries who attended the exhibition on 19 different areas.

Our young people showed fantastic performance during rocket and UAV contests and competed with the rest of the world to become the leader in technology in the cyber security contest during the international initiative summit.

During the first day of the exhibition, the DHMİ stand was overwhelmed with visitors who showed great interest in our national products; air traffic simulator, multi-purpose radar screen, electronic flight strip, flight information system, FOD radar, bird radar and national surveillance radar.

ATATÜRK AIRPORT HAS HOSTED THE WORLD ETHNO SPORTS CULTURAL FESTIVAL

Another festival which has been hosted at the Atatürk Airport was the World Ethno Sports Cultural Festival.

The festival has been organized for the 4th time and it endeavors to introduce and make widely known traditional sports not only those originating from Turkey but also those previously known around the world; different sorts of wrestling, archery, javelin and more branches of authentic sports.

One of the most famous traditional sports of Argentina called "pato" was also presented to the visitors who were deeply interested.

The exquisite satisfaction and peace for a population is undoubtedly living its own identity. Its value is beyond price. The festival attracted much attention and was attended by more than 1,2 million visitors from 21 countries around the world who shared the same vision; culture is the biggest richness. It is thanks to this festival that cultural values are carried to the future.

OCTOBER 2019

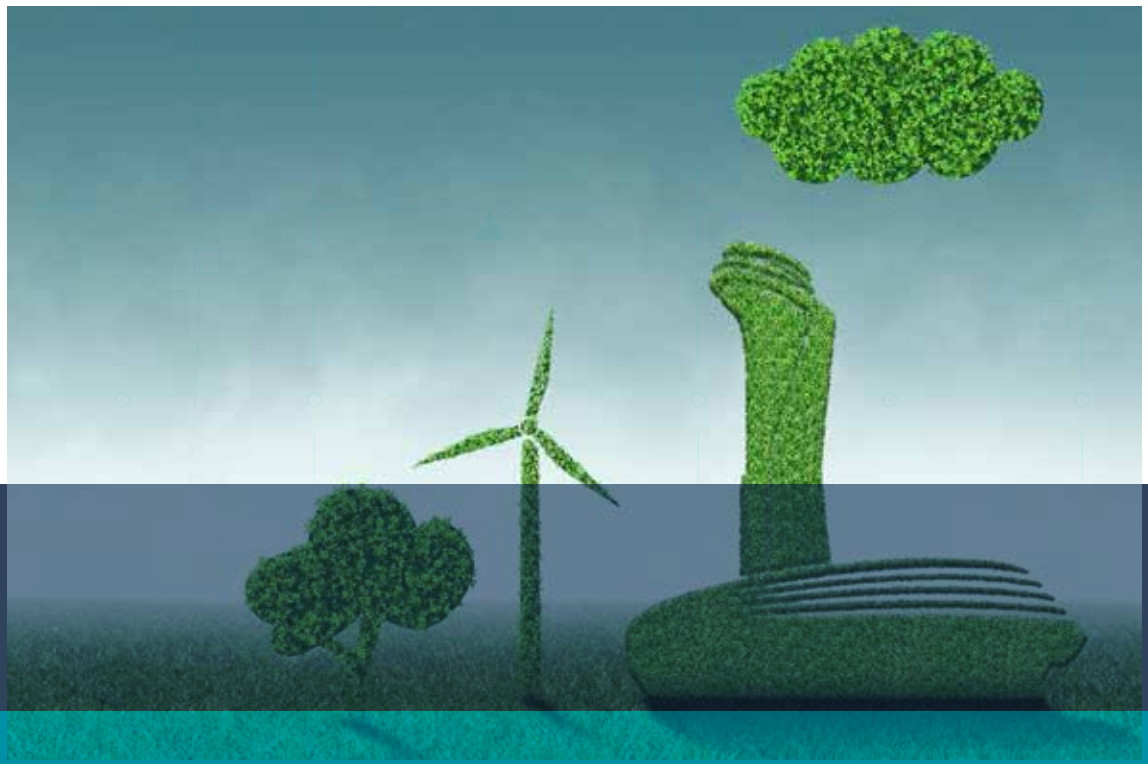
TRIPLE RUNWAY OPERATIONS TO BE REALIZED AT OUR SOURCE OF PRIDE THE İSTANBUL AIRPORT FOR THE FIRST TIME IN THE WORLD AFTER THE USA!

A visit was paid by the DHMI delegation to MITRE, one of worlds' prestigious R&D companies affiliated to MIT located at Washington and performing studies on air space, approach procedures, noise and risk analyses at many countries such as Doha, Singapore, Dubai and Germany. DHMI studies on triple runway operations were found very successful.
#DHMİ is working, Türkiye is flying!

NOVEMBER 2019

DHMİ "A FRESH BREATH TO THE FUTURE"

A magnificent environmentalist initiative was launched by The Ministry of Agriculture & Forestry whereby 11 November 2019 was declared as the National Forestation Day aiming to reach to plant 11 millions of trees at exactly 11:11 o'clock. Our entity participated to this event with over 100.000 of trees.
Having adopted the principle of "sustainable environment, sustainable aviation" DHMI continuous to be the pioneer entity and proves to be decisive in this field with its 45 airports certified as Green Airport.



FINANCIAL STATEMENTS

FINANCIAL

The General Directorate of State Airports Administration's (DHMI) balance sheet and income statement for the financial year 2019 were drawn up in accordance with the regulations laid down in the Turkish Uniform Accounting System.

In line with civil aviation activities, our Administration is responsible for air transport, aerodrome operation, aerodrome ground services, air traffic control services, installation and operation of navigation systems and facilities in compliance with economic and social requirements in parallel to the principle of efficiency.

The methods and principles used for the recording of accrual and income obtained for services provided by the Administration are specified in the directive, and all the commercial transactions have been carried out under that directive.

Our Administration's service sales income obtained from air traffic control services, aerodrome ground services and terminal services as required by Civil Aviation Activities, plus other proceeds and profits. At the end of the period, a total gross income of 8.891.010 thousand TRY was obtained, of which 8.105.178 thousand TRY was income from service sales, 755.824 thousand TRY was ordinary revenue and profit from other operations and 30.008 thousand TRY was extraordinary revenues and profits. When sales deduction of 803.623 thousand TRY is deducted from this, our income decreases to 8.087.387 thousand TRY which represents an increase of 10.64 % when compared to the net income of 2018.

Under the Uniform Accounting System, service sales are provided in detail according to their respective codes of expenditure. Every service heading is followed by three sub-headings (Air Navigation Services, Ground Services and Terminal Services) as "type of category". Foreign sales represent 19 % of the total sales.

The services rendered in 2019 are gathered in three groups.

» *Air Navigation Services: Air Navigation, AIS publications and other unclassified navigation services.*

» *Terminal (Runway, Apron and Taxi-Route) Services: Landing, parking, approach and lighting services, safety precautions against aircraft fire, follow-me services, ground handling, other runway, apron and taxi-route services.*

» *Operating Services : Passenger service, service allocation (Office, check-in desks, land etc), electricity-heating-cooling, telephone, diaphone, telex and public address system, Build-Operate-Transfer (B.O.T), load bridge, 400Hz electricity and water, other terminal services*

STATEMENT OF INCOME		(K₺)
	2019	2018
A. GROSS SALES	**8.105.178**	**6.590.439**
1. Domestic Sales	6.593.595	5.360.489
2. Export Sales	1.511.583	1.229.950
3. Other Sales	0	0
B. SALES DEDUCTIONS (-)	**803.623**	**664.742**
1. Sales Returns (-)	0	0
2. Sales Discounts(-)	0	0
3. Other Deductions(-)	803.623	664.742
C. NET SALES	**7.301.555**	**5.925.697**
D. COST OF SALES	**3.006.870**	**2.457.769**
1. Cost Of Products Sold (-)	0	0
2. Cost Of Merchandise Sold (-)	0	0
3. Cost Of Services Rendered (-)	3.006.870	2.457.769
4. Cost Of Other Sales (-)	0	0
GROSS PROFIT OR (LOSS)	**4.294.685**	**3.467.928**
E. ADMINISTRATIVE EXPENSES (-)	**341.842**	**304.831**
1. Research and Development Expenses	8.514	6.587
2. Marketing, Selling and Distribution Expenses	10.493	4.874
3. General Administration Expenses (-)	322.835	293.370
OPERATING PROFIT OR (LOSS)	**3.952.843**	**3.163.097**

STATEMENT OF INCOME		(K₺)
	2019	2018
F. INCOME AND PROFIT FROM OTHER ORDINARY OPERATIONS	**755.824**	**1.360.687**
1. Dividend Income From Affiliates	0	0
2. Dividend Income From Subsidiaries	0	0
3. Interest Income	82.567	93.540
4. Commission Income	0	0
5. Provisions No Longer Required	574	0
6. Profit on Sale of Marketable Securities	0	0
7. Foreign Currency Transaction Gain Exchange	596.124	1.229.713
8. Rediscount Income	0	0
9. Other Income and Profit	76.559	37.434
G.EXPENSES AND LOSSES FROM OTHER ORDINARY OPERATIONS(-)	**556.276**	**1.598.204**
1. Commission Expenses (-)	0	0
2. Provision (-)	3.067	2.390
3. Loss on Sale of Marketable Securities	0	0
4. Loss From Foreign Currency Exchanges	545.244	1.589.513
5. Rediscount Interest Expense s	0	0
6. Other Ordinary Expense and Losses	7.965	6.301
7. Net Monetary Gains or Losses	0	0
H. FINANCIAL EXPENSES (-)	**0**	**0**
1. Short Term Borrowing Expenses	0	0
2. Long Term Borrowing Expenses	0	0
ORDINARY PROFIT OR (LOSS)	**4.152.391**	**2.925.580**
I. EXTRAORDINARY REVENUES AND PROFITS	**30.008**	**23.571**
1. Prior Period Revenues and Profit	18	3.385
2. Other Extraordinary Revenues and Profit	29.990	20.186
J. EXTRAORDINARY EXPENSES AND LOSSES	**10.717**	**42.426**
1. Idle Department Expenses and Losses	0	0
2. Prior Period Expenses and Losses	8.993	41.993
3. Other Extraordinary Expenses and Losses	1.724	433
PROFIT OR (LOSS) FOR THE PERIOD	**4.171.682**	**2.906.725**
K. PROVISIONS FOR INCOME TAXES AND OTHER LEGAL DUTIES (-)	**965.095**	681.860
NET PROFIT OR (LOSS) OF THE PERIOD	**3.206.587**	**2.224.865**

INCOME		(K₺)
	2019	2018
1. GROSS SALES	**8.105.178**	**6.590.439**
a. Domestic Sales	6.593.595	5.360.489
b. Export Sales	1.511.583	1.229.950
c. Other Sales	0	0
2. INCOME AND PROFIT FROM OTHER ORDINARY OPERATIONS	**755.824**	**1.360.687**
a. Interest Income	82.567	93.540
b. Provisions No Longer Required	574	0
c. Profit on Sale of Marketable Securities	0	0
d. Profit From Foreign Currency Exchanges	596.124	1.229.713
e. Other Income or Profit	76.559	37.434
3. EXTRAORDINARY REVENUES AND PROFITS	**30.008**	**23.571**
a. Prior Period Revenues and Profit	18	3.385
b. Other Extraordinary Revenue and Profit	29.990	20.186
TOTAL:	**8.891.010**	**7.974.697**

EXPENSES AND LOSSES		(K₺)
	2019	2018
1. COST OF SALES AND OPERATING EXPENSES	**3.348.712**	**2.762.600**
a. Raw Materials and Supplies	103.123	82.235
b. Staff Wages and Costs Salaries and Other Staff Expenses	1.555.362	1.230.014
c. Outsource Services Expenditures External Utilities and Services	802.307	667.720
d. Various Costs Miscellaneous Expenses	263.228	220.272
e. Taxes, Duties and Similar Charges Taxes and Other Fiscal Duties	4.783	8.076
f. Amortization and Depletion Expenses Depreciations and Amortisations	619.909	554.283
2. EXPENSES AND LOSSES FROM OTHER ORDINARY OPERATIONS(-)	**556.276**	**1.598.204**
a. Provisions (-)	3.067	2.390
b. Loss on Sale of Marketable Securities	0	0
c. Loss From Foreign Currency Exchanges (-)	545.244	1.589.513
d. Net Monetary Gains or Losses (-)	0	0
e. Other Ordinary Expenses and Losses	7.965	6.301
3. FINANCIAL EXPENSES (-)	**0**	**0**
a. Long Term Borrowing Expenses (-)	0	0
4. EXTRAORDINARY EXPENSES AND LOSSES	**10.717**	**42.426**
a. Idle Department Expenses and Losses (-)	0	0
b. Prior Period Expenses and Losses (-)	8.993	41.993
c. Other Extraordinary Expenses and Losses (-)	1.724	433
TOTAL:	**3.915.705**	**4.403.230**

ASSETS		(K₺)
	2019	2018
1. CURRENT ASSET	**5.023.558**	**3.387.309**
A. Liquid Assets	2.170.730	2.182.623
B. Marketable Securities	0	0
C. Trade Receivables	2.690.895	547.911
D. Other Receivables	2.148	501.413
E. Inventories	77.590	81.197
F. Contract Progress Costs	0	0
G. Prepaid Expenses For Future Months	77.933	68.475
H. Other Current Assets	4.262	5.690
2. LONG TERM ASSETS FIXED ASSETS	**9.700.585**	**8.918.305**
A. Trade Receivables	260	224
B. Other Receivables	0	0
C. Financial Fixed Assets	0	0
D. Tangible Fixed Assets	9.617.131	8.826.289
E. Intangible Fixed Assets	82.472	88.437
F. Assets Subjects to Amortization	0	0
G. Prepaid Expenses For The Future Years	0	0
H. Other Fixed Assets	722	3.355
TOTAL ASSETS:	**14.724.143**	**12.305.614**

LIABILITIES		(K ₺)
	2019	2018
I. SHORT TERM LIABILITIES	**2.946.297**	**2.409.552**
A. Financial Liabilities	0	0
B. Trade Payables	346.198	337.311
C. Other Liabilities	12.910	10.037
D. Advances Received	2.303	85.132
E. Contract Progress Income	0	0
F. Taxes Payable and Other Fiscal Duties	631.085	116.287
G. Provisions for Duties and Expense	454.960	213.272
H. Income Relating to Future Months	1.498.841	1.607.513
I. Other Short Term Liabilities	0	0
II. LONG TERM LIABILITIES	**1.129.934**	**1.168.576**
A. Financial Liabilities	0	0
B. Trade Payables	0	0
C. Other Liabilities	0	0
D. Advances Received	0	0
E. Provisions for Debts Expenses	159.463	89.823
F. Income Relating to Future Years	970.471	1.078.753
G. Other Long Term Liabilities	0	0
III. SHAREHOLDERS EQUITY CAPITAL	**10.647.912**	**8.727.486**
A. Paid-In Capital	3.986.975	3.986.975
B. Capital Reserves	1.658.076	1.010.044
C. Profit Reserves	1.796.274	1.505.602
D. Retired Earnings	0	0
E. Losses From Previous Years (-)	0	0
F. Net Profit (Loss) For The Period	3.206.587	2.224.865
TOTAL LIABILITIES (SOURCES):	**14.724.143**	**12.305.614**

CASH FLOW STATEMENT		(K₺)
	2019	2018
A.CASH AT THE BEGINING OF THE PERIOD	**1.082.494**	**1.633.742**
B.CASH INFLOWS WITHIN THE PERIODS	**8.185.025**	**4.668.443**
1. Cash From Sales	**5.829.276**	**4.168.570**
Net Sales	5.925.698	4.266.792
Decrease in Trade Receivables	10.384	2.433
Increase in Trade Receivables (-)	106.806	100.655
2. Cash From Other Operations	**240.417**	**149.173**
3. Cash Received From Extraordinary Income and Profit	**20.035**	**15.360**
4. Cash From Increase in Short Term Liabilities	**683.632**	**38.146**
Securities Issued	0	0
Credits Obtained	0	0
Other Increase	683.632	38.146
5. Cash Received From Increase in Long Term Liabilities	**648.157**	**38**
Issuance of Securities	0	0
Credits Obtained	0	0
Other Increases	648.157	38
6. Cash Received From Share Capital Increase	**0**	**0**
7. Cash Received From Share Premium	**0**	**0**
8. Other Cash Received From Cash Inflows	**763.508**	**297.156**
C.CASH OUTFLOWS WITHIN THE PERIOD	**7.084.896**	**5.219.691**
1. Cash Outflows Due to Costs	**1.868.147**	**1.486.439**
Costs of Sales	2.457.769	2.074.183
Increase in Inventories	17.416	15.355
Decrease in Trade Payables	0	20.838
Increase in Trade Payables (-)	81.916	126.307
Expenses not Requiring Cash Payments such as Depreciation and Provisions(-)	525.122	497.630
Decrease in Inventories(-)	0	0

CASH FLOW STATEMENT		(K ₺)
	2019	2018
2. Cash Outflows Due To Administrative Expenses	**275.669**	**167.055**
Research and Development Expenses	6.587	5.242
Marketing, Selling and Distribution Expenses	4.874	3.807
General and Administrative Expenses	293.369	178.797
Expenses not Requiring Cash Payments such as Depreciation and Provisions-(-)	29.161	20.791
3. Cash Outflows Related to other Expenses and Losses	**33.793**	**114.112**
Ordinary Expenses and Losses	1.598.204	349.232
Other Expenses and Losses not Requiring Cash Payments(-)	1.564.411	235.120
4. Cash Outflows Due to Financial Expenses	**0**	**0**
5. Cash Outflows Due To Extraordinary Expenses and Losses	**8.305**	**101.752**
Extraordinary Expenses and Losses	42.426	101.949
Expenses and Losses Not Requiring Cash Payments(-)	34.121	197
6. Cash Outflows Due To Investment in non-current assets	**1.135.841**	**1.104.112**
7. Cash Outflows Due To Short Term Liability Payments	**0**	**0**
Current Maturities of Marketable Securities	0	0
Principal Payments of Marketable Securities	0	0
Other Payments	0	0
8. Cash Outflows Due To Long Term	**0**	**0**
Current Maturities of Marketable Securities	**0**	**0**
Principal Payments of Marketable Securities	**0**	**0**
Other Payments	**0**	**0**
9. Taxes and Other Similar Charges Paid	**1.362.408**	**1.033.676**
10. Dividends Paid	**1.553.917**	**888.500**
11. Other Cash Outflows	**846.816**	**324.045**
D. CASH AT THE END OF THE PERIOD (A+B-C)	**2.182.623**	**1.082.494**
E. INCREASE OR DECREASE IN CASH (D-A)	**1.100.129**	**-551.248**

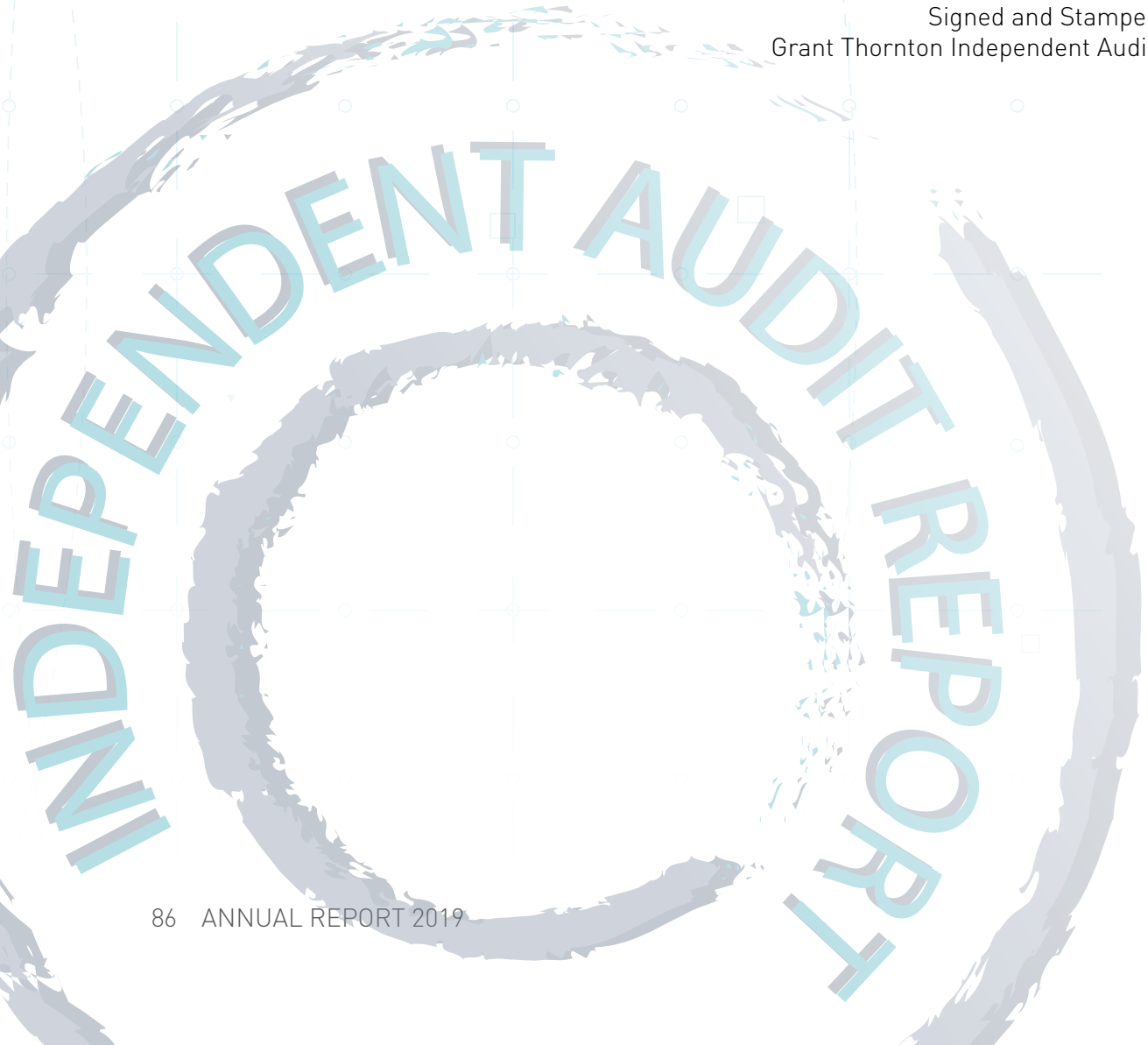
INDEPENDENT AUDIT REPORT

GRANT THORNTON

The independent audit has been conducted by the audit and accounting company "Grant Thornton" in line with the Independent Auditing Standards which are part of the Turkish Auditing Standards as set by the Public Oversight, Accounting and Auditing Standards Authority (KGK) established under Decree Law 660.

The resulting audit report states that, apart from some minor issues relating to the confidential BOT and ROT agreements which are not presented and the uncertainty about ownership of some historic assets, the enclosed financial tables reflect properly the financial situation of DHMI as at 31 December 2019 and, in accordance with the Turkish Financial Reporting Standards, present fairly from every aspect the financial performance and the cash flows recorded in the accounting period ended at the same date.

Signed and Stamped by
Grant Thornton Independent Auditors



Grant Thornton

BAĞIMSIZ DENETÇİ RAPORU

Devlet Hava Meydanları İşletmesi
Yönetim Kurulu'na

A) Finansal Tabloların Bağımsız Denetimi

1) Sınırlı Olumlu Görüş

Devlet Hava Meydanları İşletmesi'nin ("Kurum") 31 Aralık 2019 tarihli finansal durum tablosu ile aynı tarihte sona eren hesap dönemine ait, kar veya zarar ve diğer kapsamlı gelir tablosu, özkaynak değişim tablosu ve nakit akış tablosu ile önemli muhasebe politikalarının özeti de dahil olmak üzere finansal tablo dipnotlarından oluşan finansal tablolarını denetlemiş bulunuyoruz.

Görüşümüze göre, *Sınırlı Olumlu Görüşün Dayanağı* bölümünde belirtilen konuların muhtemel etkileri hariç olmak üzere, ilişikteki finansal tablolar, Kurum'un 31 Aralık 2019 tarihi itibarıyla finansal durumunu ve aynı tarihte sona eren hesap dönemine ait finansal performansını ve nakit akışlarını, Türkiye Finansal Raporlama Standartlarına (TFRS'lere) uygun olarak tüm önemli yönleriyle gerçeğe uygun bir biçimde sunmaktadır.

2) Sınırlı Olumlu Görüşün Dayanağı

a) Kirala-İşlet-Devret ("KİD") Modeli'ne ve Yap-İşlet-Devret ("YİD") Modeli'ne ilişkin sözleşmeler gizlilik gerekçesiyle tarafımızca temin edilememiştir. TFRS 15 Müşteri Sözleşmelerinden Hasılat standardı gereğince hasılat ölçümü testleri uygulanamamıştır.

b) Maddi ve Maddi Olmayan Duran Varlıklar ile ilgili tutarlı bir geçmiş ve cari yıl çalışması tarafımıza sunulamamıştır. Buna bağlı olarak, Kurum'un yapısal durumundan kaynaklı varlık mülkiyet belirsizliği, elde edim bedelleri, bedelsiz devir maliyet bedelleri ile amortisman ve itfa oranlarına ilişkin tarafımıza tutarlı olarak sunulamayan veriler nedeniyle yeterli ve uygun denetim kanıtı sağlanamamıştır.

Yaptığımız bağımsız denetim, Kamu Gözetimi, Muhasebe ve Denetim Standartları Kurumu (KGK) tarafından yayımlanan Türkiye Denetim Standartlarının bir parçası olan Bağımsız Denetim Standartlarına (BDS'lere) uygun olarak yürütülmüştür. Bu Standartlar kapsamındaki sorumluluklarımız, raporumuzun *Bağımsız Denetçinin Finansal Tabloların Bağımsız Denetimine İlişkin Sorumlulukları* bölümünde ayrıntılı bir şekilde açıklanmıştır. KGK tarafından yayımlanan Bağımsız Denetçiler için Etik Kurallar ile finansal tabloların bağımsız denetimiyle ilgili mevzuatta yer alan etik hükümlere uygun olarak Kurum'dan bağımsız olduğumuzu beyan ederiz. Etik kurallar ve mevzuat kapsamındaki etiğe ilişkin diğer sorumluluklar da tarafımızca yerine getirilmiştir. Bağımsız denetim sırasında elde ettiğimiz bağımsız denetim kanıtlarının, sınırlı olumlu görüşümüzün oluşturulması için yeterli ve uygun bir dayanak oluşturduğuna inanıyoruz.

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Legendary Histories

Nuri DEMİRAĞ

Founder of the very first aircraft manufactory and the sky school.

In the early 1930s, aircraft needed desperately could only be afforded with donations made by either rich people or businessmen. Nuri Demirağ, a rich businessman at that time, was asked for a donation but instead replied that "if you want something for your people then you should endeavor for the best. A nation cannot exist without aircraft and should not wait for favors to come from others. I therefore aspire to construct an aircraft manufactory".

Which he accomplished.

He first started with the construction of a trial factory and then bought a big farm on which a flight area, hangars and an aircraft repair station was put in place. The flight area was the size of the biggest airport of Europe and has nowadays been used as the İstanbul Atatürk Airport.

Then, an aviation school was needed to train Turkish pilots to fly the aircraft. On the land where also the runway was built, the "Sky School" was founded. 290 pilots were trained here until 1943. He opened a sky high school in his birthplace, where there even were no high schools at all, let alone sky schools. All the expenses of the students were met and they were brought to İstanbul where they got flight classes so that they would get familiar to aviation.

The very first Turkish aircraft engineer, Selahattin Alan, drew the plans of the aircraft and gliders to be constructed. In 1936, the first motorized aircraft was manufactured and was called Nu.D-36, named after Nuri Demirağ. Two years later, the Nu.D-38, a two engine 6-passengers aircraft was constructed and received the A class amongst the World Aviation Passenger Aircraft. The very first orders followed.

Nuri Demirağ, was not only the first to build an aircraft manufactory, but he also realized the national production of parachutes in 1938.

In 1941, a completely Turkish aircraft flew from İstanbul to his birthplace in the command of Galip Demirağ, the son of Nuri Demirağ and one of the first graduates from the Sky School.

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