



ESKİŞEHİR AVIATION INDUSTRY 2023



ESKİŞEHİR

1. Aviation History

2. Airports

3. Aviation Museums

4. Aviation Vocational Training

1. Vocational High Schools

2. Universities

5. Aviation Industry

1. General situation

2. Capabilities

3. Aviation Cluster (ESAC)

4. Quality

5. R&D

6. Export

7. Labor

8. Participation in European Union Projects

9. Aviation Main Industry Companies

10. Aviation Industry Companies List



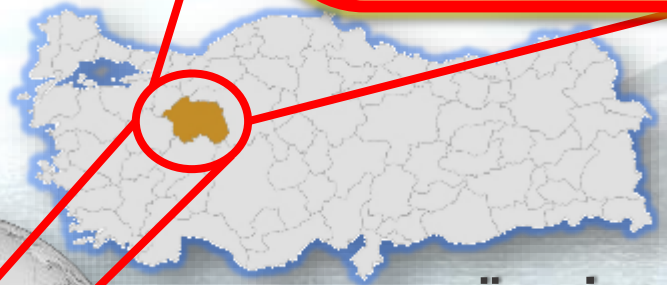
ESKİŞEHİR
AVIATION
INDUSTRY

EOIZ - 2023

Location of Eskişehir



ESKİŞEHİR



TÜRKİYE



WORLD

AREA
13.652 km²

1

ALTITUDE
788 m

2

NUMBER OF
DISTRICTS
14

3

POPULATION
- 2022
906.617

4

INCOME PER
CAPITA - 2021
\$ 10.158

5

Eskişehir's History of Aviation-1

- 1920 – Turkey's first military aviation division was established in Eskişehir.
- 1921 – The General Directorate of Military Air Forces was established in Eskişehir.
- 1925 – Turkey's first military aviation school and airport was established in Eskişehir.
- 1925 – Establishment of Eskişehir aircraft factory started.
- 1926 – Eskişehir aircraft factory started production. *(These facilities have become the 1st Air Maintenance Factory Directorate (1.AMFD), which is currently affiliated to the General Directorate of Military Factories.)*
- 1932 – A training and reconnaissance aircraft named MMV-1 was built at the Aircraft Factory.
- 1936 – The aviation center of the Turkish Aeronautical Association (THK) was established in the İnönü district of Eskişehir.
- 1939 – The 1st Air Force Command, which militarily controls and protects Turkey's entire western airspace, was established in Eskişehir.

Eskişehir's History of Aviation-2

- 1951 – The Air Force Academy was established in Eskişehir.
- 1968 – 1.AMFD performs first jet fighter engine overhaul
- 1979 – Factory level maintenance of F-4 fighter planes started for the first time.
- 1985 – TEI Aircraft engine factory was established in partnership with General Electric (GE).
- 1986 – Anadolu University Civil Aviation Department was opened for education.
- 1986 – Savronik company started to produce software and hardware for military aircraft.
- 1987 – The first jet engine for the F-16 was produced at the TEI factory.
- 1988 – Eskişehir Air Museum was opened.
- 1989 – Anadolu University Airport was opened to domestic and international flights.
- 1991 – Sabiha Gökçen Voc. and Tec. Anat. High School aviation departments were opened.
- 1992 – 1.AMFD gained the revision capability of F-110 Engines.
- 1994 – TEI received the TÜSİAD-KalDer Grand Prize.

Eskişehir's History of Aviation-3

- 1998 – Alp Aviation established a joint production facility with Sikorsky company.
- 1999 – TEI started to provide Warehouse Level Maintenance service to NATO AWACS aircraft.
- 2001 – The 1st National Aircraft Aerospace Engineering Congress was held in Eskişehir.
- 2003 – TEI, participated in the TP400-D6 engine program of the EU's Military Transport Aircraft A400M.
- 2006 – Production facilities were established in Coşkunöz Aerospace and Defense company EOIZ.
- 2009 - Eskişehir Aviation Cluster Workshop was held.
- 2011 – Eskişehir Aviation Cluster was established.
- 2013 – Sivrihisar Aviation Center and Airport service opened
- 2015 – Anadolu University Airport has been raised to international standards.
- 2018 – The Air and Space Museum, featuring historical aircraft, was opened in Sivrihisar.
- 2021 – Aviation Engines School was opened by TEI for engineering students.
- 2022 – Anadolu University Airport has reached 100 thousand passengers annually.
- 2023 – The 13th National Aircraft Aerospace Engineering Congress was held in Eskişehir.



Airports in Eskişehir-1



★ Eskişehir Military Air Base

- ✪ Type: **Military Base**
- ✪ International Code: **IATA: ESK, ICAO: LTBI**
- ✪ Runway Length: **3050 meters**
- ✪ Scheduled Flight: **None**



★ Hasan Polatkan Airport

- ✪ Type: **Civil Airport**
- ✪ International Code: **IATA: AOE, ICAO: LTBY**
- ✪ Runway Length: **3000 meters**
- ✪ Scheduled Flight: **Yes - Usually International Flights**



Airports in Eskişehir-2



★ Sivrihisar Military Air Base

- ✪ Type: Military Base
- ✪ International Code: IATA: ---, ICAO: LTAV
- ✪ Runway Length: 3400 meters
- ✪ Scheduled Flight: None



★ Sivrihisar Aviation Center

- ✪ Type: Civil Airport
- ✪ International Code: IATA: ---, ICAO: ---
- ✪ Runway Length: 1810 meters
- ✪ Scheduled Flight: None-Sports Show and Flight Center



Airports in Eskişehir-3



★THK İnönü Flight Runway

- ✪ Type: Civil Glider Training Airstrip
- ✪ International Code: IATA: ---, ICAO: ---
- ✪ Runway Length: 1000 meters
- ✪ Scheduled Flight: None-Glider and Flight Training Center



Airports in Eskişehir-4



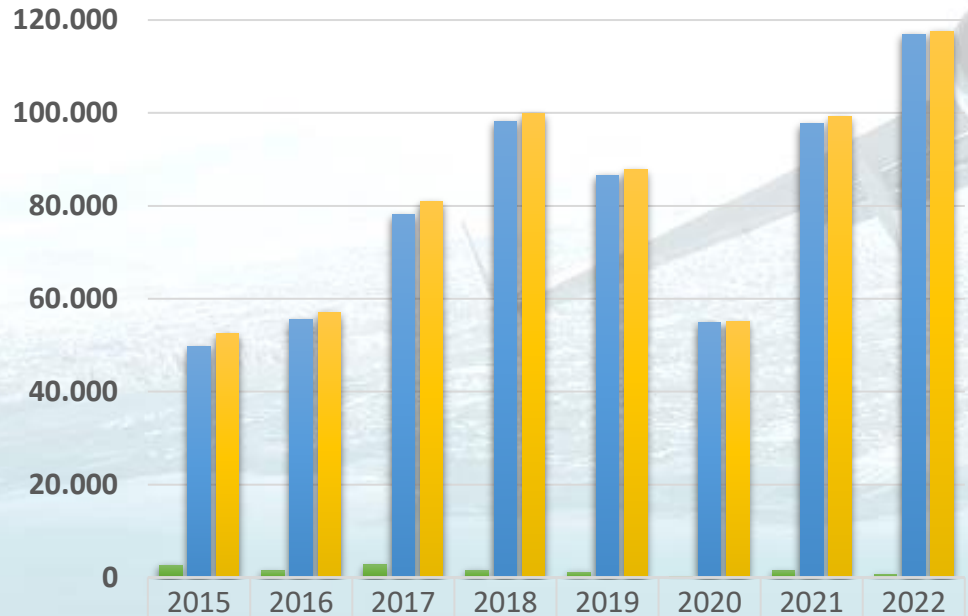
Airlines Operating International Flights from Eskişehir



Countries and Cities Flying from Eskişehir on International Lines

- ✪ Belgium (Brussels, Ostend) ✪ Netherlands (Amsterdam)
- ✪ Germany (Düsseldorf, Cologne) ✪ Saudi Arabia (Jeddah)
- ✪ France (Lyon)

Eskişehir Airport Annual Passenger Number



■ Domestic Passengers	2.702	1.424	2.794	1.592	1.175	165	1.498	666
■ International Passengers	49.762	55.536	78.122	98.230	86.613	54.912	97.674	116.932
■ Total	52.464	56.960	80.916	99.822	87.788	55.077	99.172	117.598

Eskişehir Airport Number of Annual Flights



■ Number of Dome. Flights	320	335	395	334	289	290	227	209
■ Number of Inter. Flights	509	473	671	744	663	456	837	901
■ Total	829	808	1.066	1.078	952	746	1.064	1.110



Aviation Museums in Eskişehir



Vecihi Hürkuş Aviation Park

- Establishment Year: 1998
- What's In: Jet and Cargo Aircraft, Engines, Missiles
- Ticket Fee: Free Touring
- Operating Institution: Tepebaşı Municipality



M.S.Ö. Air and Space Museum

- Establishment Year: 2018
- What's In: Historic airplanes and helicopters
- Ticket Fee: It is paid
- Operating Institution: Sivrihisar Aviation Center S.H.M.
- WEB: <https://msomuseum.com/>

Aviation Vocational Training in Eskişehir

📖 Eskişehir is at the top of the provinces where **Vocational and Technical High Schools** are dense and the number of students is higher than the country in general.

📖 **Vocational and Technical High School** in Eskişehir according to 2022 data

- ✦ Number of Schools: 52
- ✦ Number of School Branches: 794
- ✦ Total Number of Students: 21,641
- ✦ Total Number of Teachers: 2016
- ✦ Number of Classrooms: 964
- ✦ Annual Number of Graduates: 3.950

📖 There is **Sabiha Gökçen Vocational and Technical Anatolian High School** in Eskişehir, which provides training for the **Aviation Sector**.

- ✦ Number of Departments: 2 (Aircraft Maintenance and Information Technologies)
- ✦ Number of Students: 540
- ✦ Number of Teachers: 50
- ✦ Number of Classrooms: 33
- ✦ Number of Workshops: 21



Universities in Eskişehir Engineering and Aviation Education

Eskişehir Osmangazi University

- ◆ It was founded in 1970.
- ◆ Total number of students 29.650

Faculty of Engineering and Architecture

- * Number of Engineering Branches: 13
- * Number of Faculty Members: 243
- * Number of Undergraduate Students: 7.443
- * Number of Graduate and Doctorate Students: 1.194

Department of Aeronautical Engineering

- * It was founded in 2019
- * Number of Faculty Members: 10
- * Number of Undergraduate Students: 130



Universities in Eskişehir Engineering and Aviation Education

Eskişehir Technical University

- ◆ Anadolu University, which was established in 1958, was separated from its body and was established in 2018.
- ◆ Total number of students 15.082

Faculty of Aeronautics and Space Sciences

- * Founded in 1986
- * Number of Majors: 5
- * Number of Faculty Members: 118
- * Number of Undergraduate Students: 1,060
- * Number of Graduate and Doctorate Students: 342

Engineering Faculty

- * Founded in 1970
- * Number of Engineering Branches: 8
- * Number of Faculty Members: 145
- * Number of Undergraduate Students: 3.444
- * Number of M.Sc. and Ph.D. Students: 1.074



ESKİŞEHİR TEKNİK ÜNİVERSİTESİ
ESKİŞEHİR TECHNICAL UNIVERSITY





ESKİŞEHİR AVIATION INDUSTRY



General Situation of Aviation Industry in Eskişehir

→ According to the data of 2022, the situation of the sector in Eskişehir;

→ **59 Industrial Companies**

- ✪ 3 Large Main Industrial Companies
 - ✪ 2 Industrial Enterprises with Foreign Capital
- ✪ 1 Military Maintenance Industry Facility
- ✪ 55 Medium and Small Size Sub-Industry Companies

→ **9.500 Workers**

→ **2 R&D Center**

→ **750 Million Dollar Turnover**

- ✪ Turnover per Person 79 Thousand Dollars

→ **400 Million Dollars Export**

- ✪ Exports per Person 42 Thousand Dollars



Aviation Industry Capabilities in Eskişehir

- Aerospace industry companies in Eskişehir serve as the sole main supplier or part manufacturer in the production of structural parts and their engines for many military and civil, national and international aircraft, helicopters and UAV's.
- One of every two planes flying in the world carries parts produced in Eskişehir.

AEROPLANE

(Military and Civil)

- Aircraft Structural Parts and Assemblies
- Aircraft Engines
- Aircraft Electronics And Software



HELICOPTER

(Military and Civil)

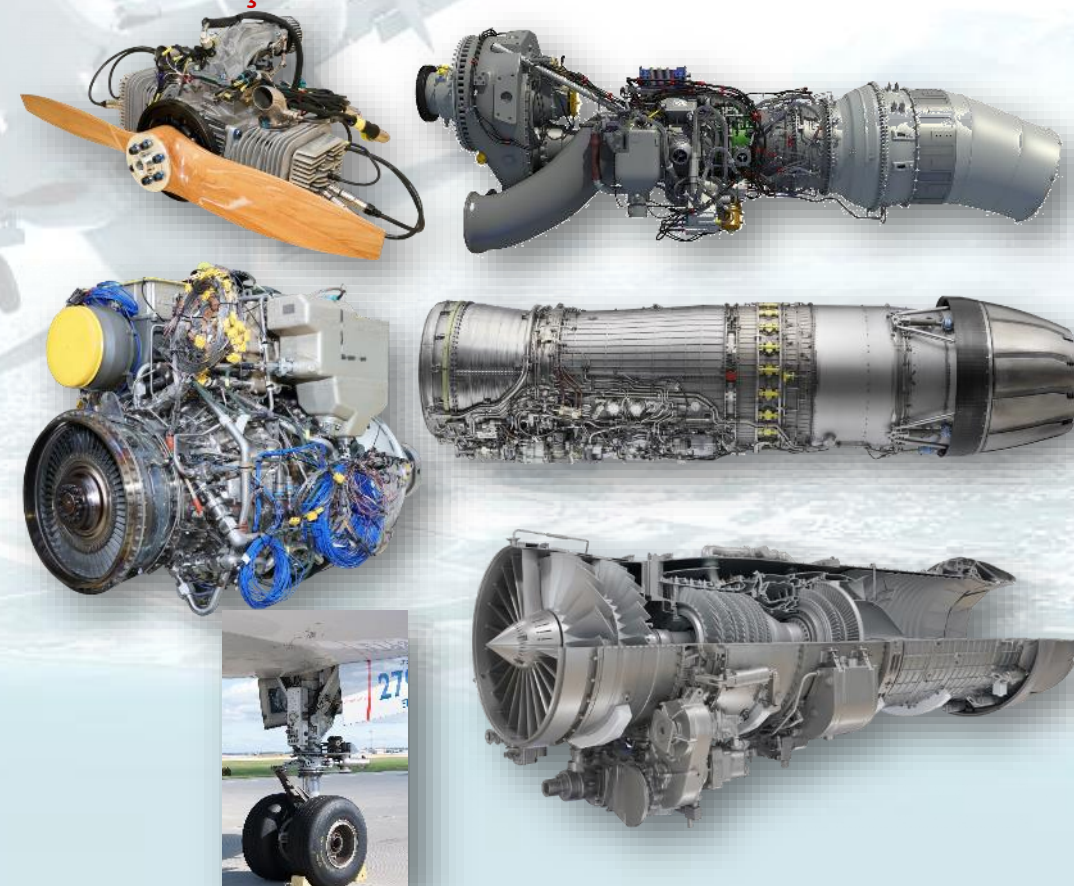
- Helicopter Structural Parts and Assemblies
- Helicopter Engines
- Helicopter Electronics and Software



UAV

(Military)

- UAV's Structural Parts
- UAV's Engines
- UAV's Electronics And Software



Aviation Cluster in Eskişehir

- Eskişehir Aviation Cluster was established in 2011.
- The short name of the institution is ESAC.
- The cluster currently has 32 members.
- Industrial organizations, universities, Chambers, Eskişehir OIZ, Technology Development Zone are members of the cluster.
- The Cluster has taken part as a partner in the 7th Framework Programs of the European Union and other important EU projects.
- The Presidency of the Cluster is TEI General Manager Prof. Dr. Mahmut Faruk Akşit is doing it.
- www.esac.org.tr



ESAC

Eskişehir Aviation Cluster
Eskişehir Havacılık Kümelenmesi

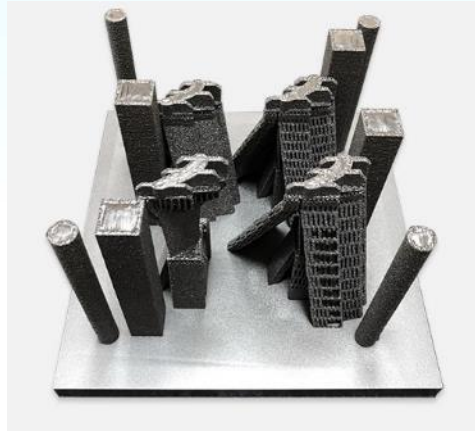


Quality in Eskişehir Aviation Industry

- Eskişehir aviation industry produces within the scope of international norms and standards.
- According to **May 2023** data, **24,781 companies** around the world are producing with **AS9100** and its successor Quality Certificate.
- The number of companies receiving **AS9100** Quality Certificate in Turkey is 272.
- The number of companies with **AS9100** Certificate **in Eskişehir** is **20**.
- The number of companies receiving **AS9110** Quality Certificate in Turkey is 8.
- The number of companies with **AS9110** Certificate **in Eskişehir** is **2**.
- The number of companies receiving **AS9120** Quality Certificate in Turkey is 9.
- **At the beginning of the certifications used in the world aviation industry, it is also included in NADCAP.**
- **According to August 2023 data, 4.626 companies worldwide have NADCAP certificates containing different variations.**
- **The number of companies that received NADCAP Certificate in Turkey is 37.**
- **The number of companies with NADCAP Certificate in Eskişehir is 6.**



R&D Studies in Eskişehir Aviation Industry

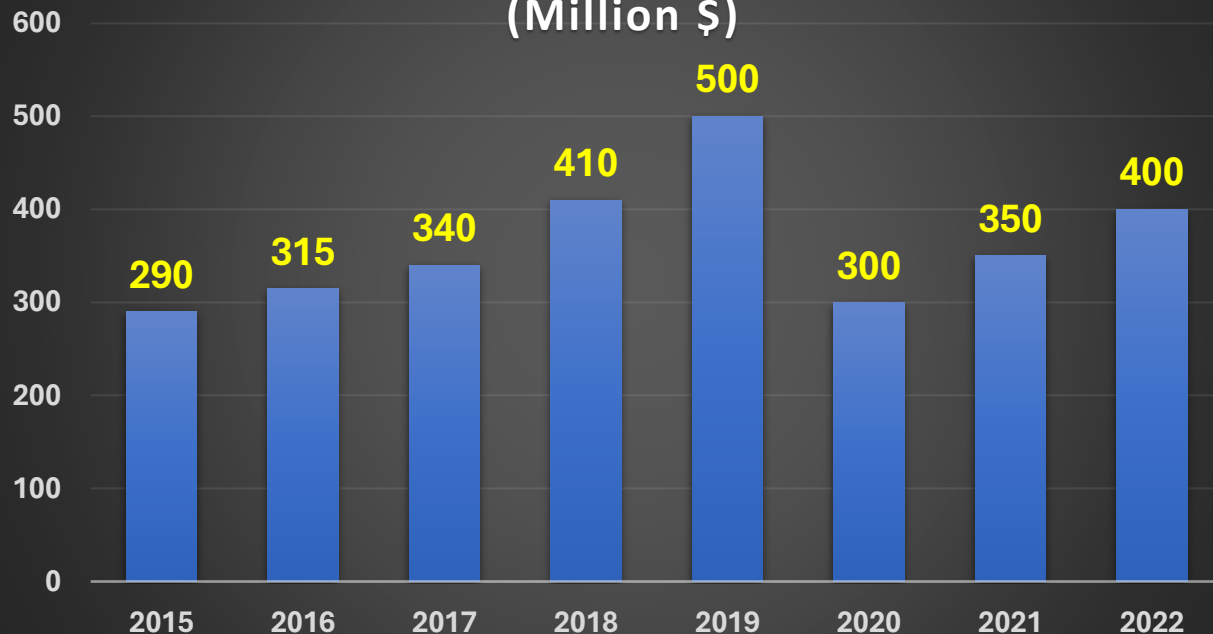


- There are 1.290 R&D Centers throughout Turkey.
- **There are 20 R&D Centers in Eskişehir.**
- There are 9 R&D Centers in the Aviation Industry in Turkey.
- **There are 2 R&D Centers in the Aviation Industry in Eskişehir.**
- **Companies with Aviation Industry R&D Centers,**
 - **TEI-TUSAS Engine Industry Inc. (Opened in 2008)**
 - **ALP Aviation Inc. (Opened in 2013)**
- TEI allocates more than 10% of its annual turnover to R&D studies.
- TEI has been selected as the best R&D Center in the field of Aviation by the Ministry of Science, Industry and Technology twice in a row.
- **TEI carried out 45 R&D Projects in 2021. It ranks 6th in Turkey with 913 R&D personnel.**
- **Alp Aviation carried out 41 R&D Projects in 2021. Turkey ranks 24th with 195 R&D personnel.**

Aviation Industry Export in Eskişehir

- Turkey's aviation industry exports reached 2.5 billion dollars in 2022.
- The exports of the aviation industry organizations in Eskişehir reached 400 million dollars in 2022.
- It is calculated that Eskişehir's aviation industry exports will exceed 1 billion dollars in the 2030s.

**Eskişehir's Aviation Industry Exports
(Million \$)**



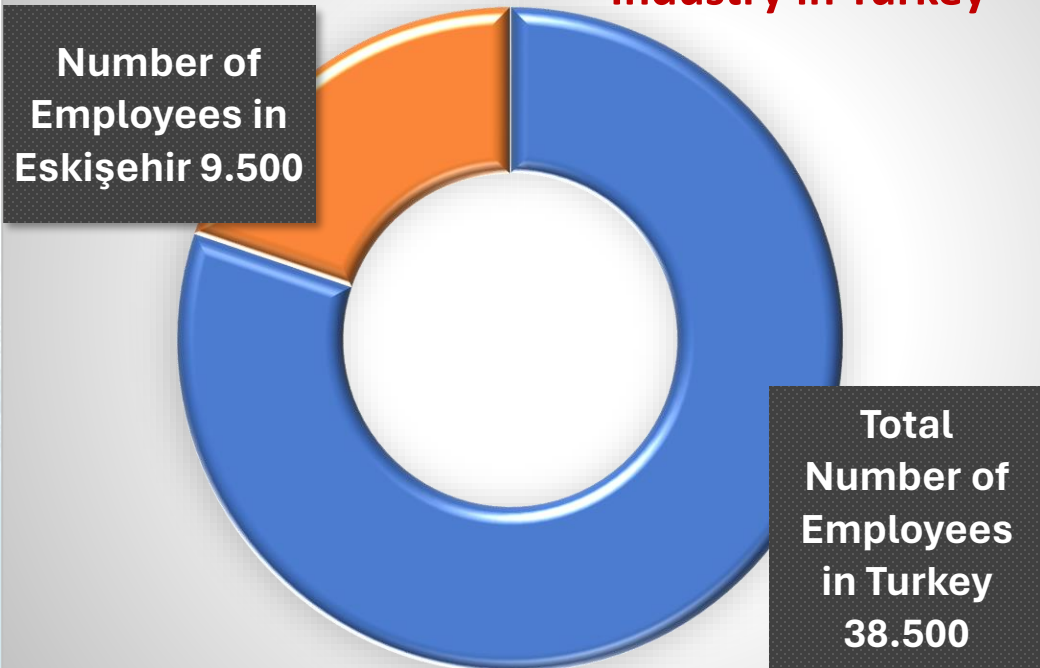
**Turkey's Aviation Industry Exports
(Million \$)**



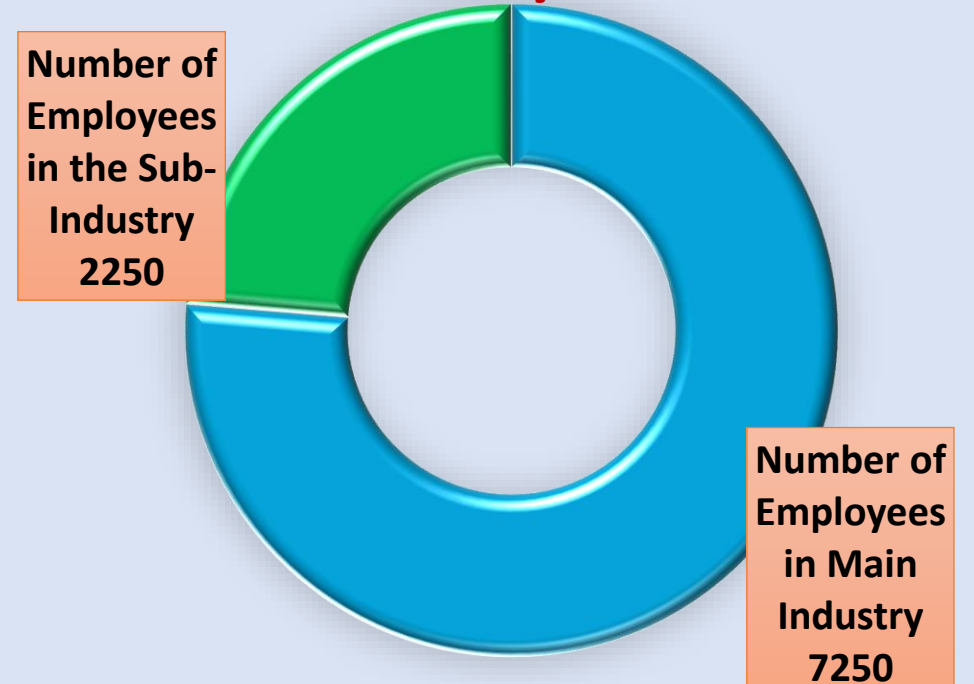
Workforce in Aviation Industry in Eskişehir

- The number of employees in Turkey's aviation industry is around 38.500.
- The total number of employees of the aviation industry establishments in Eskişehir is 9.500, and its share in the total is 25%.
- While there are 7.250 people working in the main industry in Eskişehir, the number of people working in the sub-industry is 2.250.
- In 2030, the number of employees in the sector in Eskişehir is expected to reach 12 thousand people.

Number of Employees in the Aviation Industry in Turkey



Number of Employees in the Aviation Industry in Eskişehir



Participation of Aviation Industry in EU Projects in Eskişehir

- Eskişehir aviation industry organizations have been actively participating in aviation industry projects (**Green Aircraft and Fuel Project**) in the European Union for years, both through their professional chambers and their Clusters.
- 2011 Participated as a Partner in the **7th Framework Program (Clean Aerospace REGions (CARE))** Project, participated as a partner in the Green Aircraft Capacity Enhancement project.
- 2015 Joined the Secure Management Platform for Common Process Resources (**ShareBOX**) project as a partner
- Participated as a partner in the **2016 ABROAD – Activities and Business from Real Opportunities for Aerospace Developments** project.
- In 2020, Eskişehir OIZ was selected as a pilot OIZ in the «**Green OIZ Implementation Program**» by the World Bank.





AVIATION MAIN INDUSTRY COMPANIES IN ESKİŐEHİR

Aviation Main Industry Companies in Eskişehir

- **1st Air Maintenance Factory Directorate (1.AMFD)**
- Gas turbine engines of aircraft belonging to military force commands are being overhauled.
- It was founded in 1926.
- Number of employees 2.350 people
- Closed area is 147 thousand m2
- Ten types of engine revisions, including turbofan, turboprop, turbojet and turboshaft, are carried out at the facilities.
- Many activities such as factory level maintenance, analytical control, avionic modernization, structural renewal of F-16, F-4, F-5, T-38 and KT-1T aircraft are carried out.
- Over 10 thousand engines were overhauled at the facility.



Aviation Main Industry Companies in Eskişehir

• **TEI - TUSAS Engine Industry Inc.**

- TEI-TUSAŞ Engine Industry Inc., Turkish Aerospace Industries Inc. (TAI) is a company established with the partnership of General Electric (GE), Turkish Armed Forces Foundation (TSKGV) and Turkish Aeronautical Association (THK).
- It was founded in 1985.
- Number of employees 3.500 people
- Closed area is 151 thousand m²
- In 1987, jet engine and engine parts were produced for the first F-16 at the facilities.
- TEI has carried out the transfer of aircraft engine parts and modules production, assembly and test technology to our country over the years; In addition, it has proven itself in global markets with its reliable, high-quality production at international standards.
- All engines of national aircraft and helicopters in Turkey are developed and produced in this facility.



Eskişehir'deki Havacılık Ana Sanayi Kuruluşları

• **ALP Aviation Inc.**

- ALP Aviation Inc. It is a company established as a joint-venture (Joint-Venture) with the partnership of Alpata Group from Eskişehir and Sikorsky in 1998, today Lockheed Martin (Sikorsky, LM Aero).
- It was founded in 1998.
- Number of employees 1,250 people
- Closed area 50 thousand m²
- Since its inception, it has been producing flight critical structural parts and assemblies for Sikorsky's S-70, S-76 and S-92 platforms.
- Alp Aviation has produced many structural parts for F-22 and F-35 aircraft, as well as producing many parts for Airbus and Boeing passenger planes.
- It contributes to the production of structural parts for national aircraft and helicopters in Turkey.



Aviation Main Industry Companies in Eskişehir

- **Coşkunöz Defense and Aerospace Inc.**
- Coşkunöz Aviation; It is a 100% domestic company operating in the aviation sectors, under the umbrella of Coşkunöz Holding, one of the largest industrial establishments in Turkey.
- It was founded in 2006.
- Number of employees 250 people
- Indoor area 12 thousand m²
- Coşkunöz Aviation is also included in the "Airbus Global Approved Supplier List".
- Except for the tail part of KUH Surion helicopters of Korea Aerospace Industries (KAI), the entire fuselage assembly and most of the parts that make up the fuselage are manufactured in these facilities.
- The production of important parts for national helicopter projects in Turkey is carried out in this facility.



Aviation Main Industry Companies in Eskişehir

- **Savronik Electronics Inc.**

- Savronik was established in Eskişehir with the participation of STFA Holding and group companies and with all national capital.
- The company is to produce solutions for the "Electronic Defense Systems" requirements of the Turkish Defense Industry, which are considered in the "national" and "critical" categories.
- It was founded in 1986.
- Number of employees 400 people
- Closed area 20 thousand m²
- Savronik provides services with various Secure Data Transmission Systems, Fire Control Systems, Power Control Systems, Control-Control Systems, Avionics Systems, Simulator Systems and System Integration Solutions for air, land and naval platforms.



Savronik





LIST OF AVIATION AND DEFENSE INDUSTRY COMPANIES IN ESKİŐEHİR



**ESKİŞEHİR
AVIATION
INDUSTRY**
EOIZ - 2023

LIST OF AVIATION AND DEFENSE INDUSTRY COMPANIES IN ESKİŞEHİR



TEI-TUSAŞ Motor Sanayi

- www.tei.com.tr
- Number of Employees: 3.500



ALP Havacılık

- www.alp.com.tr
- Number of Employees: 1.250



Coşkunöz Savunma ve Havacılık

- www.csh.com.tr
- Number of Employees: 250



Savronik

- www.savronik.com.tr
- Number of Employees: 400



Turbomak Havacılık

- www.turbomak.com.tr
- Number of Employees: 50



Aycan Havacılık

- www.aycanaviation.com
- Number of Employees: 60



Nümerik Makina

- www.numerik.com.tr
- Number of Employees: 55



Busel Makina

- www.buselmakina.com.tr
- Number of Employees: 25



FSK Havacılık

- www.fskhavacilik.com.tr
- Number of Employees: 35



Derin Havacılık

- www.derinhavacilik.com
- Number of Employees: 35



**ESKİŞEHİR
AVIATION
INDUSTRY**
EOIZ - 2023

LIST OF AVIATION AND DEFENSE INDUSTRY COMPANIES IN ESKİŞEHİR



Rotafilo Havacılık

- www.rotafilo.com.tr
- Number of Employees: 100



Feza Havacılık

- www.feza.aero
- Number of Employees: 30



Enmak Havacılık

- www.enmakhavacilik.com
- Number of Employees: 30



Akbey Mühendislik

- www.akaero.com.tr
- Number of Employees: 30



Alfatec Havacılık

- www.alfatec.com.tr
- Number of Employees: 30



Karcan Kesici Takım

- www.karcan.com
- Number of Employees: 200



Yakaboyu Kabin

- www.yakaboyu.com
- Number of Employees: 100



AG Havacılık

- www.aghavacilik.com.tr
- Number of Employees: 15



Korel Elektronik

- www.korel.com.tr
- Number of Employees: 21



Endel

- www.endelwhitegroup.com
- Number of Employees: 200



**ESKİŞEHİR
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EOIZ - 2023

LIST OF AVIATION AND DEFENSE INDUSTRY COMPANIES IN ESKİŞEHİR



Boyplast

- www.boyplast.com
- Number of Employees: 290



GEM Makina

- www.gem.com.tr
- Number of Employees: 50



Baycan Elektrik

- www.baycan.com.tr
- Number of Employees: 750



Truva Kalıp

- www.truvakalip.com.tr
- Number of Employees: 60



Tomris Makina

- www.tomrismakina.com
- Number of Employees: 32



Anot Makina

- www.anot.com.tr
- Number of Employees: 200



Tanatar Kalıp

- www.tanatar.com.tr
- Number of Employees: 390



Arıkan Kriko

- www.arikanautomotive.com
- Number of Employees: 620



Akar Makina

- www.akarmak.com
- Number of Employees: 155



Çına Otomotiv

- www.cina.com.tr
- Number of Employees: 45



**ESKİŞEHİR
AVIATION
INDUSTRY**
EOIZ - 2023

LIST OF AVIATION AND DEFENSE INDUSTRY COMPANIES IN ESKİŞEHİR



Nanotech

- www.nanotech.com.tr
- Number of Employees: 15



EKM Endüstri

- www.ekmendustri.com.tr
- Number of Employees: 5



Tusa Makina

- www.tusamakina.com
- Number of Employees: 6



MAC Savunma Havacılık

- ---
- Number of Employees: 2



Tayyar Tasrım

- www.tti.com.tr
- Number of Employees: 3



Mota Güç Sistemleri

- www.motapower.com
- Number of Employees: 5



Özen İş Makina

- www.ozenismakina.com.tr
- Number of Employees: 10



Bor Makine

- www.bormakine.com.tr
- Number of Employees: 7



Zet Redüktör

- www.zetreduktor.com
- Number of Employees: 60



Lider Teknoloji

- www.liderteknoloji.com
- Number of Employees: 8



**ESKİŞEHİR
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LIST OF AVIATION AND DEFENSE INDUSTRY COMPANIES IN ESKİŞEHİR



Secant Teknoloji

- www.secantglobal.com
- Number of Employees: 21



Artelon Makine

- www.artelonmakine.com.tr
- Number of Employees: 32



Markut

- www.markut.com.tr
- Number of Employees: 5



Emek Özel Civata

- www.emekcivata.com
- Number of Employees: 6



Çağın Kesici Takım

- www.cagankesicitalim.com.tr
- Number of Employees: 4



Sarb Kesici Takım

- www.sarb.com.tr
- Number of Employees: 4



Gürel Kesici Takım

- www.gurelkesicitalim.com
- Number of Employees: 3



MDA Seramik

- www.mdaceramic.com
- Number of Employees: 7



Beril Mühendislik

- www.berilmuh.com.tr
- Number of Employees: 15



Ada Takım Sanayi

- www.adatakim.com
- Number of Employees: 3



**ESKİŞEHİR
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LIST OF AVIATION AND DEFENSE INDUSTRY COMPANIES IN ESKİŞEHİR



SKY Kesici Takım

- www.skykesicitakim.com
- Number of Employees: 5



Yıldız Kesici Takımlar

- www.yildizkesici.com.tr
- Number of Employees: 4



Gökdemir Teknik

- www.gokdemirteknik.com.tr
- Number of Employees: 5



Baran Metal

- www.baranisleme.com
- Number of Employees: 8



Eskişehir Kesici Takım

- www.ektteknik.com
- Number of Employees: 6



Hanlı Endüstri

- www.hanliend.com.tr
- Number of Employees: 7



ADR Havacılık

- www.adraero.com
- Number of Employees: 5



Mavi Kuzey Havacılık

- www.mavikuzey.com
- Number of Employees: 7



1'inci Hava Bakım Fabrika Müdürlüğü

- www.asfat.com.tr
- Number of Employees: 2.350



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International Manufacturers of Aviation Industry Companies in Eskişehir

AIRBUS  **BOEING** **LOCKHEED MARTIN** 



**General
Electric**



RTX



Collins Aerospace



Pratt & Whitney



Raytheon



MTU
Aero Engines



SAFRAN

AUBERT&DUVAL



LEONARDO

Honeywell



HÉROUX DEVTEK

BAE SYSTEMS

SIKORSKY
A LOCKHEED MARTIN COMPANY

KAI KOREA AEROSPACE
INDUSTRIES, LTD.

**NORTHROP
GRUMMAN**

GENERAL DYNAMICS

*With a century of aviation industry experience, **Eskişehir** is the center of power and aviation investments.*



**ESKIŞEHİR
ORGANIZED
INDUSTRIAL ZONE**