Eskişehir
Chamber Of Industry

Eskişehir
Organized Industrial Zone

ESAC

Eskisehir Aviation Cluster

www.eskisehiraviation.org

ESAC
Eskisehir Aviation Cluster

ESKİŞEHİR AVIATION CLUSTER

Eskişehir Aviation Cluster (ESAC) is a natural and legal initiative serving as Eskişehir's primary organization devoted to aviation based economic development of the province.

ESAC's mission is:
To promote aviation capacity in Eskişehir which will attract and help create businesses in innovative, high-growth industries relating to aviation.

ESAC accomplishes this mission by focusing on SME's in aviation industry or which have a capacity to be involved in aviation supply chain. In collaboration with Eskişehir Chamber of Industry, Eskişehir Organized Industrial Zone, Anadolu University and other supplementary units in Eskişehir, ESAC helps to improve Eskişehir's business climate for aviation industry thus ensuring the province's global competitiveness.

THE CITY OF ESKİŞEHİR IS THE MOST IMPORTANT CENTER FOR THE AERONAUTICAL INDUSTRY IN OUR COUNTRY.

Eskişehir, one of the most important industrial centers in Turkey, holds an important place not only in the Aeronautical Industry but also in the history of the industrialization of the country.

Shortly after the Declaration of the founding of the Republic, the Air Supply Maintenance Centre, as it is now known, was established in 1926. Its establishment was a milestone for Eskisehir and for Turkey. The Centre began with aircraft and engine maintenance but later contributed to the development and use of new technologies not only for maintenance but also for the production of parts for fighter aircraft.

Today, Eskisehir boasts a modern institution with a skilled labour force that has played a significant part in bringing about the integration of both the public and private sectors into the industry and in forming collaborative partnerships with some of the biggest aeronautical companies in the world.

The industry developed rapidly after 1980 following foreign direct investment and the growth of home-grown investment by such Turkish companies as Tusaş Engine Industries, Savronik, Alp Aviation, Turbomak and Coşkunöz. In this decade, the aviation exports from the Eskişehir Region has risen from US $55 million in 2000 to over US $300 million by the end of 2010. Over 3000 people are now employed within the aviation industry in Eskişehir.

The next stage will be the establishment of Industry of the Eskisehir Aerospace and Defense Industrial Zone, a complex of 5 million square meters which will allow companies to bring their production in the same location, by Eskişehir Chamber of industry.

The aerospace potential of the province and the accretion of companies in the area have made Eskisehir an attractive centre for both foreign and domestic investment. These attractions include not only large-scale facilities and aerospace companies but also a skilled workforce supported by the education and training programmes of the universities and higher vocational colleges in aviation. The industry also has the support and affection of the local community and benefits from their rich culture.

M. Savaş ÖZAYDEMİR
President
Eskişehir Chamber of Industry

THE AVIATION INDUSTRY IS EXPERIENCING AN INTENSIVE COMPETITION ENVIRONMENT WHILE SUSTAINING ITS GROWTH.

Parallel to the economic indicators on world stage, significant growth and improvement have been observed in the aviation industry. In this context, the world economy is expected to grow 3.1% on average each year starting from 2011. There are forecasts that world air traffic will grow by 4.7-4.8% on average each year as from 2011. It is expected that the passenger traffic will increase by 4.9% and the cargo traffic by around 6.1%. The aviation industry is experiencing an intensive competition environment while sustaining its growth. Energy and environmental constraints are forcing producers towards new technologies while higher speed, safety and economy have been come into prominence for transportation with the globalization

Besides, significant improvements are experienced in Russia and China. Aircraft and engine companies have been involved in an extreme competition and technology battle for launching their new generation aircrafts to the market. In the next 20 years, the sector will have a market of 3 trillion dollars.

Due to these developments on world stage, significant improvements have also been observed in defense and aviation industries in our country. As of the end of 2010, the number of passengers carried by Turkish Airlines has reached to 33.5 million whereas 15 million passengers had been carried in the year 2005. As it is known that Turkish Airlines with the fleet of total 160 aircrafts, has prepared a master plan for the acquisition of 105 new aircrafts. Apart from the air transportation, new companies for engine maintenance are also emerging. In addition to the civil aviation sector, new projects in the military field, contribute to the development of our country's aviation sector. Looking at our defense industry, parallel to the needs of our country, planned and systematic activities have been carried out in every area within the direction of Undersecretariat for Defense Industries' strategic plan. We gladly mention that today our defence industry has elevated to domestic genuine product development stage.

To summarize, a significant market exists the world aviation industry for the up-coming period. The share that our country will get from this market will depend on the readiness of our infrastructure and on the level of coordination of studies carried out by industry-university-science institutions and the authority. Apart from obtaining our share from the market, thus has a strategic importance for the development of our country.

Hence, if we look into Eskisehir's case; Eskisehir is the homeland for aviation activities. The Aircraft Plant which was established in 1926, with its current name Air Supply and Maintenance Center has the capabilities and capacity that can enter in first 5 among its examples in the world. Turkish Aeronautical Association's center in Inonu which was established later on, in 1936, had important role in establishment of the aviation infrastructure in Eskisehir. In the following period, a well-established structure has been brought in to Eskisehir by many companies emerging in defence and aviation industry and the supplier network developed.

Today, Aviation Cluster which is founded in Eskisehir with the efforts of Eskisehir Chamber of Industry is qualified as a very important step in terms of coordination and collaboration in this area. Besides, it is an initiative to carry aviation sector that has important share in city's economical indicators, to further levels. The establishment of this strategic integrity is qualified as a milestone for the development of the sector, in terms of the market and the business share we will get from the global aviation sector in national base and technological improvement, for the activities to be carried out on the basis of quality, delivery on time and competitive prices

I would like to thank all companies in this process of cooperation and the unity of work which will bring unique values to our city and wish all the success in their activities.

Akın DUMAN
President
Eskişehir Aviation Cluster

CONTENT

Where is Eskişehir?

Eskişehir, literally means Old City in Turkish, is a city in northwestern Turkey. According to the 2009 census, the population of the city is 631,905. The city is located on the banks of the Porsuk River, 792 m above sea level, where it overlooks the fertile Phrygian Valley. In the nearby hills one can find hot springs. The city is 220 km to Ankara and 330 km to Istanbul.

From the point of view of its geographical position, Eskişehir is one of most important centers of Turkey and it is located in the conjunction point of the railway and highway networks.

Highway: The total pubic highway length throughout the city is 848 km and the divided highway length is 262 km. There is no problem in highway transportation and construction works of divided ways in the direction of Istanbul is already almost completed. After the completion, the duration between Eskişehir and Istanbul has been decreased from 6 hours to 3 hours. There are also transportation facilities from Eskişehir to important cites

and seaports by highways without any problem. Moreover, the road extension works of local road are almost completed, through 13 crossovers and underground roads the traffic runs continuously without congestion.

Railway: Eskişehir is one the most important railway access centers of Turkey and all of main track trains come over the Eskişehir everyday. From Eskişehir to Ankara, Istanbul and Izmir there are several train services per a day. “The High-Speed Train” came into service in 2009 between Ankara and Eskişehir and it is possible to reach Ankara in 1 hour 20 minutes by this way. When the Istanbul stage of the project is completed in 2013, the access time from Eskişehir to Istanbul will be 2 hours by train. Moreover, a junction line is being constructed between Eskişehir Organized Industrial Zone (EOIZ) and current railway line and the companies will be able to find cheaper transportation costs to other cities and ports when this junction line comes into service.

Airway: There are flights to Istanbul from Eskişehir 5 days a week. Turkish Airlines organizes flights and also some private companies continue their studies to put new flights between Eskişehir and Istanbul. There are airway transportation facilities from Eskişehir to other locations of Turkey and the world with the Istanbul connected flights. In 2009, the airline traffic of Anadolu University Airport has raised to 5.101. In parallel with the increased traffic, 67.194 passengers used the airport in 2009. 38.438 passengers used the domestic lines and 28.756 passengers used the international lines. In last 3 years, the number of passengers who used the airlines in Eskişehir increased from 15.000 to 67.000 people.

Sea Road: There is no sea line in Eskişehir but the nearest seaport, which is the Gemlik Port, is about 160 km from Eskişehir. Besides, there is both railway and highway access facilities to Istanbul Haydarpaşa Port.

Invest in Eskişehir

Being a settlement and trading center of important civilizations throughout the history, Eskişehir is also among the locations where the industry was first established and developed in our country. The foundry established in our province during construction of Berlin-Baghdad railway in 1884 has founded the industrialization.

Planned and proper industrialization has been accelerated in the province thanks to establishment of Eskişehir Chamber of Industry on November 1, 1968. Introduction of Eskişehir Organized Industrial Zone in 1973 is an important milestone in industrialization, while the undertakings operating in manufacturing of flour and pastries, roof tiles, bricks and stoves were dominant in previous years. Following establishment of OIE, in addition to establishment of a refrigerator factory by Arçelik one of the largest industrial undertakings of our country, many industrial sectors presented a rapid development by virtue of progressing technology and new production facilities, and a number of undertakings have been established operating in all industrial sectors.

Table 1: Share of the Sectors in the Industry of the Province (%)

Main Sectors	Number of Company	Turnover (TL)	Export ($)	Rate of Staff
Machinery and Metal Goods Industry	35,60	54,00	57,80	40,90
Food Industry	12,80	20,90	5,70	16,90
Soil based Manufacturing Industry	12,50	8,40	11,40	11,90
Chemical, Rubber, Plastic Industry	10,30	3,00	2,30	5,20
Forest Products Industry	7,30	1,00	0,10	3,20
Mining	6,30	5,00	18,50	4,50
Other Production Industry	4,70	1,90	0,00	1,60
Textile and Ready-made Clothing Industry	4,00	3,10	3,20	11,70
Metal Industry	3,70	0,80	0,90	1,90
Paper Industry	2,80	1,90	0,10	2,20
Total	100	100	100	100

Some products manufactured in Eskişehir are those, which have an important market share all around Turkey, and take an important part in the economy and industry of Eskişehir. Such products and their respective local market shares are given on the table. Accordingly, manufacturing of aircraft engines, diesel locomotives and borax production control 100% of Turkish market. Furthermore, 60% of all boron deposits in the world are located in Eskişehir. The share of other products in national production is given on the Table 2 below.

Table 2: The share of Eskişehir in the national production

SHARE OF ESKİŞEHİR IN MANUFACTURE OF SOME PRODUCTS	
Products	Percentage (%)
Aircraft Engine	100
Diesel Locomotive	100
Borax	100
Compressor (Cooler)	95
Refrigerator	60
Magnesite	60
Stove and Accessories	40
Ceramics (floor and wall tiles)	40
Biscuit and Cake	35
Roof Tile and Brick	25

Accordingly, manufacturing of aircraft engines, diesel locomotives and borax production control 100% of Turkish market. Furthermore, 60% of all boron deposits in the world are located in Eskişehir.

White goods sector has a big share in Eskişehir industry. As can be seen in the table, the Eskişehir' share of the refrigerator production is 60% and compressor is 95% of Turkey.

Upon looking at the general level, which Eskişehir industry has reached, the number of members of Eskişehir Chamber of Industry is 600, the total turnover of the members is 6 billion USD and the number of employees is around 43.000 people. Eskişehir industry has been growing based on export for many years. The export amount of members in 1982 was 66 million USD and 338 million USD in 2000. With the high and stable increase, it reached to 1,7 billion USD in 2010.

Table 3 : Exports Comparison

Years	Turkey (Million $)	Eskişehir (Million $)	Share %
2000	27.775	388	1,40
2001	31.334	446	1,42
2002	36.059	521	1,44
2003	47.253	664	1,41
2004	63.167	744	1,18
2005	73.476	870	1,18
2006	85.535	1.109	1,22
2007	107.272	1.468	1,29
2008	132.027	1.683	1,27
2009	102.143	1.530	1,50
2010	112.000	1.700	1,52

Member companies of ECI export their goods mostly to EU countries with the ratio of 70%. It reveals the quality and high standards of the Eskişehir industry. Members of ECI sell their products to more then 100 countries over the world.

A City of Aviation: Eskişehir

Modern-day Eskişehir is one of Turkey's foremost industrial cities. The city expanded with the building of railway workshops in 1894 for work on the Berlin-Baghdad Railway. Then Eskişehir became the site of Turkey's first aviation industry which is Turkey's First Tactical Air Force as aeronautical supply maintenance centre on NATO's southern flank during the Cold War, 1926 is a milestone for Eskişehir and Turkey. It is notable to remember that first civil aviation enterprise by the Turkish state started chartered flights between Ankara and İstanbul via Eskişehir in 1933.

This center firstly started to do maintenance of aircrafts and engines. In coming years, it provided important contributions to develop new technologies regarding the maintenance of jet engines and component production. Today, this center has a considerable contribution in aviation cluster naturally formed by the public and private sectors and also their partnerships with the biggest firms in the world.

In parallel with the increasing number of aviation companies in Turkey, the number of firms in Eskişehir has also raised. With the effects of meetings held by TEI in 90s, some companies in Eskişehir started to work as subcontractor for TEI. In this scope, Alp Aviation was established first as a subcontractor in 1999 and it became a company in 2005. Today, tens of companies are currently working in the sector by manufacturing jet and helicopter parts and their different processes.

The aviation industry has a fundamental history in Eskişehir industry and an important share in local economy. When we look at the improvements of local companies in aviation sector, we see that the export amount of these companies was $ 55 million in 2000 and it reached $ 300 million in 2010. The total export amount of all companies registered in Eskişehir Chamber of Industry was $ 1,7 billion and almost 18% of the total export belonged to aviation industry (aircraft engine and helicopter components). The number of people working in this sector is about 3.000. These numbers show the importance of the sector for the Eskişehir industry.

We, as Eskişehir Chamber of Industry, have been planning to establish the “Eskişehir Aerospace and Defense Industrial Zone” of 5 million square meters, and this shall enable the companies to carry out their manufacturing altogether in the same place. By this means, the aggregation model in the aeronautical industry in Eskişehir will be taken to further stages.

Aviation Museum has an important place in the formation of aviation culture in Eskisehir. Eskisehir Aviation Park and Aircraft Museum where 1 helicopter, 6 training planes, 1 submarine defense plane, 6 fighting jets, 1 model plane and 1 missile 1 F-5A frontal cockpit section, personnel parachutes and clothes, F-104 Radar System and model planes are on display, opened in 1997.

Big companies in the sector, qualified work force, aviation departments in high school and universities and experience are the factors carrying Eskişehir to this special position. There is no doubt that this potential and natural cluster make Eskişehir an attraction center for domestic and foreign investments. Now, Eskişehir has become the most important location in Turkish aviation industry.

For more information about Eskişehir aviation industry and company profiles, please visit the www.eskisehiraviation.org website.

Eskişehir Organized Industrial Zone

The Eskişehir organized industrial zone (OIZ) was established in 1969 and has been providing an excellent service to investors since 1973. Eskisehir OIZ has a total of 32 million square meters and is the largest OIZ in Turkey. Some 16 million square meters within the zone have been assigned for investors. The total exports from the Eskişehir OIZ reached US$ 1 billion in 2009. There are almost 500 units within the OIZ employing some 25,000 people.

Apart from being the largest OIZ within Turkey, the Eskişehir OIZ is also the cheapest with a typical price per square meter of EUR 15 (including the infrastructure).

The zone infrastructure is already complete with all the water, electricity, sewerage, natural gas, waste water treatment, telephone services and fiber optic internet connection being available to each plot.

In additional to the above services the fire department, ambulance, sporting facilities; restaurant, mosque and maintenance services are also available. A 'Heliport' is situated in the OIZ. With all these facilities the Eskisehir OIZ is an ideal location for businesses to make new investments.

It also has the unique position of being at the centre of low cost logistics with some 17 logistics companies located within the area with a large fleet of vehicles being available for transportation.

The first internet service provider within Turkey, which was licensed by the 'Turkish Telecommunications Corporation' in 2000, is located within the OIZ. It provides a fast and continuous internet connection for companies located within the OIZ. It also provides companies with web hosting, domain name registration, rack hosting. In addition to the above, the internet service provider gives internet advertising and tailor made internet solutions for customers.

Eskişehir 1st Air Supply and Maintenance Center Command

Eskişehir, one of the most important industrial centers in Turkey, has a distinctive place and importance in the "Aeronautical Industry" within the history of industrialization. Right following the proclamation of the foundations of the Republic, the establishment of the "Air Supply Maintenance Center," as today called; in 1926 is a milestone for Eskişehir and Turkey.

This center firstly started to do maintenance of aircrafts and engines. In coming years, it provided important contributions to develop new technologies regarding the maintenance of jet engines and component production. Today, this center has a considerable contribution in aviation cluster naturally formed by the public and private sectors and also their partnerships with the biggest firms in the world.

The above mentioned center, at the beginning, performed aircraft and engine maintenance, and later on in the following years, contributed to the development of new technologies related to especially the engines, maintenance of jet engines and production of parts of the fighter aircrafts by the help of its developed and improved capabilities. Today, in Eskişehir this institution and the qualified labor force have great contribution and share for the fact that the private sector companies as well as the public institutions are able to perform manufacturing for the aviation industry by forming natural unities, and being partners with and working in collaboration with the biggest aeronautical companies in the world.

The products and services which the center is able to provide presently are maintenance, overhaul, modification, modernization, functional test and structural part repair of aircraft and helicopters' power plant, innovation services for jet aircrafts in Turkish Air Force inventory, calibration and repair.

In the 1. Air Supply and Maintenance Center Command, 12.800 different components are produced a year. In the center, the maintenance of the 6129 units was realized in 2008. In this important center of our country, factory level progresses of approximately 75 aircrafts, revision of 300 engines, production of 200.000 parts, maintenance of 80.000 units, calibration of 9500 measuring tools are realized every year. These implementations provide about 250 million USD to Turkish economy in a year.

Anadolu University School of Civil Aviation

One of Europe's notable aviation schools: Aviation School in Eskişehir.

School of Civil Aviation was established in 1986 to provide qualified personnel for rapidly growing Turkish Aviation industry. The School was the first educational and training organization in Turkey to meet all the requirements of the International Civil Aviation's Standards. Currently there are five departments; Avionics, Air Traffic Control, Flight Training, Aviation Management, Airframe-Power plant Maintenance. Students that complete all elements of the 5 year course, which includes a one year course in English, obtain a Bachelor's Degree on graduation.

School of Civil Aviation offers an intensive combination of theoretical and laboratory courses in well designed and equipped facilities. The School has its own Airport with 2600 m long illuminated runway, which is equipped with ILS, VOR, DME and NDB. It operates a fleet of 20 aircraft for in-flight laboratory teaching, a maintenance center for repairing various types of aircrafts.

There are domestic and international flights operated in Anadolu University Airport. Turkish Airlines organizes flights from Eskişehir to Istanbul and Brussels, and also some private companies continue their studies to put new flights between Eskişehir and Istanbul. There are airway transportation facilities from Eskişehir to other locations of Turkey and the world with the Istanbul connected flights. In 2009, the airline traffic of Anadolu University Airport has raised to 5101. In parallel with the increased traffic, 67.194 passengers used the airport in 2009. 38.438 passengers used the domestic lines and 28.756 passengers used the international lines. In last 3 years, the number of passengers who used the airlines in Eskişehir increased from 15.000 to 67.000 people.

The School has been supported by national and international aviation institutions and has mutual cooperation between several aviation industries. It also provides special programs to offer in-service training to air traffic controllers, pilots and technicians for state-owned and private aviation sectors.

Anadolu University Research and Application Center of Civil Aviation

Targets of RACCA

Objectives of RACCA are;

* To ensure; all national and international air transportation, air navigation activities and air services are being conducted in a,
  - » Systematic
  - » Secure and
  - » Healthy manner.

* To foster all national and international multilateral co-operations.
* To support all aviation related activities by scientific researches, projects, publications, etc.

Main Fields of Activities of RACCA are;

1. To conduct;
   a) Scientific Researches,
   b) Designs,
   c) Experiments,
   d) Tests.

2. To organize;
   a) Training Courses,
   b) Certificate Programs,
   c) Conferences, Seminars, Panels, Congress and Meetings,
   d) Fairs and Exhibitions,
   e) Projects.

3. To publish;
   a) Journals,
   b) Books.

4. To pioneer;
   a) National and International Co-operations

5. To serve;
   a) As an aviation documentation center.

Anatolian Technology Development Park

Eskişehir Technology Development Zone has been officially established upon Decree of Council of Ministers published in the official Journal dated April 10, 2003. The zone has established on an area of 500.000 m2 shall offer production units to be assigned to R&D enterprises to rent for a period of 5 years, with all infrastructure completed. These facilities which will let the Eskişehir become a high-tech production center, was come into service in 2004 and still 26 companies are working on the R&D and technology development there.

The second building has been built because of the increasing demand and put into service. The third building consisting of zone administration center and new work offices were also opened in 2008. This zone has been becoming an important technology development center particularly in software technologies and high value added products. There are currently 40 companies with 200 staff showing activity in the zone.

Our main target for the Eskişehir Technology Development Zone, which will become one of the most important centers in the new technology development and innovation till 2015, is to ensure at least 100 R&D companies there and to reach yearly 500.000.000 USD export amount with almost 1000 high qualified personals. We aim to realize a big development particularly in software sector and become one of the most important technology producers in our country.

İnönü Glider Training Center and Aviation Museum

İnönü Glider Training Center was established by the direction of Atatürk in 1936. It is a unique training center where there are flight tower, administration building, maintenance and instructional facilities and dormitory on the campus. Turkish Aeronautical Association is located in this camp and there is any kind of air sports by the world class trainers and instructors.

Eskişehir Gliding Flight School operates every year from May till the end of September. Parachute, glider, hang gliding, paragliding, microlight and, hot air balloon courses are given in this training center.

Aviation Museum has an important place in the formation of aviation culture in Eskisehir. Eskisehir Aviation Park and Aircraft Museum where 1 helicopter, 6 training planes, 1 submarine defense plane, 6 fighting jets, 1 model plane and 1 missile 1 F-5A frontal cockpit section, personnel parachutes and clothes, F-104 Radar System and model planes are on display, opened in 1997.

TUSAŞ ENGINE INDUSTRIES, INC.

In the Sky For Over Quarter Century...

TEI is a joint-venture company established in 1985 with the partnership agreement signed by Turkish partners and General Electric (USA). TEI's Turkish partners are TUSAS-Turkish Aerospace Industries, Inc., Turkish Armed Forces Foundation and Turkish Aeronautical Association.

Determining its vision as "being the main manufacturer of a worldwide, high quality and competitive aircraft engine", TEI's mission is "building a permanent aircraft engine industry in the country providing products and services which will develop technological basis of aviation and space industry".

TEI has proved itself in aviation with both national and international projects successfully engineered for aircraft and helicopter engines in military and commercial fields from its first years on. TEI is taking firm steps forward to be the main manufacturer of aircraft engines with its constantly developed infrastructure, manufacturing, engine assembly, testing, maintenance, repairing, revision and design capabilities; its service capacity exceeding customer expectations and its quality applications.

TEI's main fields of activity are Part and Module Manufacturing, Engine Assembly and Test, Maintenance, Repair & Overhaul, Engine Design and Product Development, Services.

Mentioned as "Center of Excellence" in manufacturing parts and the sole source for most of the manufactured engine parts, today TEI's manufacturing parts reached the number of approximately 650 for 37 different engine programs in military and commercial arena. Competing with leading manufacturers in the world in engine part manufacturing, TEI gains new technological capabilities in order to be an engine part manufacturer completely. In this direction, TEI realized another important project by signing an agreement in 2009 with its partner GE to adopt blisk-spool manufacturing technology. Mentioned project will be realized by using the latest manufacturing technologies and TEI will be one of the few companies in this area.

TEI is making use of its high-tech capabilities in the projects such as assembly and testing of F110 engines for F-16 aircrafts; assembly and testing of Makila 1A1 engines for Cougar helicopters and Depot Level Maintenance of TF33 engines of NATO Awacs aircrafts.

Participating in international aviation projects in the field of design and carrying on its future investments, TEI has projects such as TP400-D6 engine project of A400M aircraft; F136 engine project of Joint Strike Fighter (JSF),

authentic turboprop engine project (TEI-TP-1X) for Unmanned Air Vehicles and other engine projects in line with the national requirements. Besides that, Turkish Technology Center established in Gebze Technology Free Zone with the agreement signed between TEI and GE Aviation in 2007, serves to TEI's aim of being the main manufacturer of aircraft engines. In the center, technology development works including manufacturing and quality processes are carried out besides design operations for commercial and military engine programs of GE Aviation.

Technical support services furnished by TEI for high tech aircraft and helicopter engines in the country to meet customer expectations are becoming prevalent more and more for commercial engines in the regional countries that passing our borders.

Achievements in above mentioned activities result in TEI's turnover. TEI's total sales figure is approximately 300 million USD, more than half of which comes from export. Taking place in a difficult field like the aviation sector requiring high technology, TEI ranks 200th in sales from manufacturing and 59th in export out of 500 big industrial enterprise according to 2009 quest of "500 Major Industrial Enterprise of Turkey" done by Istanbul Chamber of Industry.

TEI gave acceleration to its activities in supply industry to strengthen technological infrastructure of our country; to extend the supply industry network and to create new employment opportunities by getting more employment share from international aviation market. Increasing part manufacturing year by year, TEI brings in new manufacturing technologies not available in the country to product range on one side, and opens its scale of manufacturing to the supply industry firms as much as possible on the other side. TEI, parallel to its growth targets, fosters supply industry firms and improves their manufacturing capacities and quality infrastructures.

TEI, the owner of the 1994 TÜSİAD-Kalder Quality Award, encourages creativity, innovation, continuous development and has made innovation an integral part of its culture with the use of 6 sigma methodology.

TEI owns well-trained, qualified and experienced employees and provides improvement opportunities to its employees according to their skills in all fields of activity together with its civilized human resources applications and learning organization structure from past to present. Giving particular importance to quality and customer satisfaction and minding team work and constant development, TEI became a worldwide model establishment in the issues such as school-industry cooperation, environment, employee health and safety with the sense of responsibility to the public in which it takes place.

Company Information: TEI

Foundation Year: 1985
Number of Employees: 1100
Area (m2): 508.500 (open space) - 68.290 (indoor space)
Quality Certificates: AS 9100, ISO 9001:2008 - Management Systems: ISO 14001:2004, OHSAS 18001:2007, ISO 27001
References: GE Aviation, Snecma, Techspace Aero, ITP, Thales, Rolls Royce-North America, Rolls Royce-Germany, Samsung, MTU, NAMSA/IAMCO, Turkish Airlines (THY), Saudi Arabian Airlines
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Alp Havacılık

ALP AVIATION

Alp Aviation has a distinct role in Turkey's developing aviation sector for rotating wing platforms and transmission organs.

Alp Aviation is a joint venture between Alpata Group and Sikorsky Aircraft. It is located in the Eskişehir Industrial Zone in a closed area of 12.500 m2 which houses 99 frames/work benches, tens of special processes and almost three hundred well qualified personnel/staff working in the aerospace industry. The joint venture produces key engine components, dynamic helicopter components, driver shafts and critical flight safety items.

Alp Aviation is one of the key flight part suppliers for Sikorsky Aircraft. In fact, It is the unique source for key flight components outside the USA.

As well as Sikorsky Aircraft, Alp Aviation also works for a number of the world's premier companies including Pratt & Whitney, Pratt &Whitney Canada, Goodrich Landing Gear and TAI with such platforms as BlackHawk, eaHawk, S76, S92, F-35, F-22, Boeing 787, A380 and B737 totalling some 135 different motors.

Alp Aviation holds international aviation certification for AS EN 9100 and UTC ASQR-01 confirmations and is approved by NADCAP for its experience in aviation alloys especially titanium.

Products

Alp Aviation supplies Flight Safety Assemblies and Finished precision machined parts to its customers. Alp Aviation manufactures and delivers more than 1500 parts and assemblies such as;

- Structural parts & assemblies for aircraft
- Tail Rotor Drive Shaft parts & assemblies
- Landing Gear Parts & assemblies
- Helicopter Dynamic parts & assemblies
- Dynamic & static engine parts

Company Information: ALP

Foundation Year: 1998
Number of Employees: 352
Area (m2): 22.500
Quality Certificates: AS 9100, ASQR-01, NADCAP
References: Sikorsky, Boeing, Airbus, Pratt & Whitney, Lockheed Martin, Goodrich, Hamilton Sundstrand, TAI
Address: Organize Sanayi Bölgesi 8. Cad. 26110 Eskisehir / Turkey
Telephone: +90 222 236 1300
Fax: +90 222 236 1285
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COŞKUNÖZ Defense & Aerospace Inc.

Coşkunöz Defense and Aerospace Inc. (CSH) is a newborn company of Coşkunöz Holding dedicated to manufacturing of mechanical components for the Defense and Aerospace Industry. CSH has been in production since November 2007. Although it has been in production in a relatively short time, CSH has been able to introduce hundreds of new parts into production with zero defect. Our experienced team has more than 20 years of aerospace industry experience mainly on airframe and aircraft engine component manufacturing. CSH has a well established production, cost and quality system. Our experienced team, brand new capabilities, growth potential are key strengths of us. CSH can offer its competitive solutions to its valued customers.

COSKUNOZ is a market leader in tool manufacture, stamping, assembly and resistance welding machines in Turkey. This leadership has been achieved through a combination of experience in metalforming with continuous investment in technology and human resources to forge strong customer loyalty.

COSKUNOZ is one of the top 500 industrial companies in Turkey and uses SAP Information Systems, ISO 14001 Environmental and ISO/TS:16949/2002 Quality Management systems.

Products

CSH manufactures more than 200 structural components for Boeing B737, B777, B787, Airbus A318, A319, A320 aircrafts and Agusta AW139 helicopters. Each month several new parts are introduced in the shortest cycle time.

- Design, Manufacturing and Assembly of Structural and Dynamic Parts for Land, Naval and Air Platforms
- Design, Manufacturing, Assembly and Repair of Welding Machines and Presses
- Design, Manufacturing, Assembly and Repair of Tools and Dies
- Design, Manufacturing and Assembly of Rubber, Rubber to Metal Parts

Company Information: Coşkunöz

Foundation Year: 2006
Number of Employees: 45
Area (m2): 18.000
Quality Certificates: AS 9100, ISO 9001, ISO 14001, OHSAS 18001
References: Boeing, Airbus, Agusta
Address: Organize Sanayii Bölgesi 19. Cad. No:16 26110 Eskişehir / Turkey
Telephone: +90 222 236 21 80
Fax: +90 222 239 21 87
E-mail: cshmail@coskunoz.com.tr
Website: www.csh.com.tr

Savronik

SAVRONIK

SAVRONIK was established in 1986, with the objective of generating solutions for national defense requirements and today enjoys an excellent reputation within the Turkish Defense Industry for the work it has carried out in defense electronic system applications.

The mission of Savronik is to provide electronic and information system solutions to the Turkish and regional military organizations through the application of technology to actual battlefield problems, partnering where necessary with national and international partners. To this end, Savronik maintains a large R&D team developing cost effective products and integrated solutions and also applying these solutions to the civilian domain.

Savronik plays an important role in the development of Turkish Aviation Industry with its close partnership with main manufacturers like Turkish Aerospace Industry TAI, in a variety of projects such as HURKUS – Basic Primary Training Aircraft Program- by developing systems like Electrical Power System, Activation Panel and Lighting Panels.

Savronik has been involved in great number of projects ranging from producing components to turnkey integrated system solutions as main or subcontractor for defense industries. It has also played an important role as an investor in the foundation of new ventures for the Turkish Defense Industry community such as STM.
Savronik especially employs the AQAP 2110 Quality Assurance System.

Products:

- Avionic Equipment (Control Panels, Activation Panels, etc.)
- Data Link Solutions
- Ground Control Stations for UAV
- Flight Test Instrumentation Capability
- Power Distribution and Control Systems
- Intervalometers (Helicopter, Fighters)
- Fire Control Systems for Land and Air Platforms
- Command Control Shelters (NATO I, ACE Type, etc.)
- Test Programs Development for ATE

Company Information: Savronik

Foundation Year: 1986
Number of Employees: 340
Area (m2): 18.000
Quality Certificates: AQAP 2110, ISO 9001:2001, ISO 14001, ISO 18001
References: TAI, ASELSAN, TEI, CAF
Address: Organize Sanayi Bölgesi 10.Cad. No:10 Eskişehir / Turkey
Telephone: +90 222 236 15 90
Fax: +90 222 236 15 89
E-mail: savronik@savronik.com.tr Website: www.savronik.com.tr

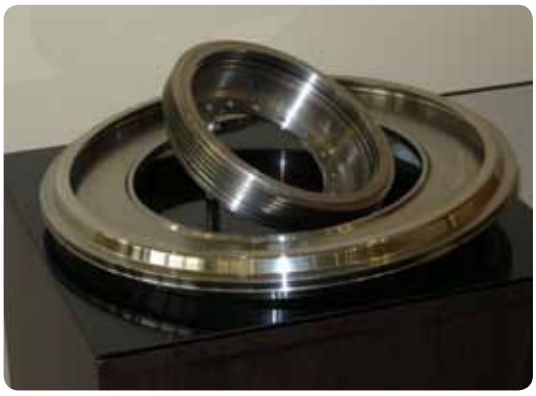
EJS Turbomak

TURBOMAK

Turbomak is a subsidiary of EJS which is an old company producing wheels for off-road industrial vehicles. Turbomak has been established in 1999 as a machining shop for turbo engine components such as LPT discs, seals, spools, shafts, etc.

Mainly turning operations by vertical lathes both to semi finish or finish shape is being performed.

Most of the administrative costs such as bookkeeping, human resources, etc. is being shared by the main company, EJS, which result in lower administrative costs. Quality system has been approved by BSI according to the standard of AS9100 RevB. in 2009.



Materials such as inconel718, rene, waspaloy, titanium, aluminum, stainless steel are no longer hard to machine for Turbomak. Precise machining, quality management, effective CNC programming, self fixture and tooling producing capability and very short cycle time for prototype production are points making the difference.

Turbomak offers machining service for turbo jet engine components such as LPT discs, seals, spools, shafts, etc. with a high precision and quality in a low cost. Both finish machining projects and semi finish machining projects are welcome. In finished projects, raw material supplying, prototype, tooling and fixture manufacturing, mass production, inspection process and logistics process management can be handled by Turbomak.

In semi finished projects, Turbomak can receive the raw material from your facility and manage the whole cycle to deliver the semi finished product back to your facility. This service will include fast prototype production, inspection operations and whole cycle logistics management. By AS9100 certificated system, you can be sure all the requirements will be fitted. Precise operations will be completed by more than 10 years experience in machining aeronautical materials such as inconel718, titanium, stainless steel, aluminum, waspaloy, titanium and other super alloys.

Products

» Machining service for inconel, titanium, aluminium, waspaloy and other super alloys with high precision
» Machining low pressure turbine discs, seals, spools, shafts and other rotating parts.
» Ultrasonic inspection by level 2 inspector accredited by COFRED/COSAC for EN4179 immersion method.

Company Information: Turbomak

Foundation Year: 2004
Number of Employees: 27
Area (m2): 2000
Quality Certificates: AS 9100, ISO 9001:2000, TAI Supplier Certification, TEI Supplier Certification, Aubert & Duval Supplier Certification
References: TEI Eskisehir Turkey, TAI Ankara Turkey, Aubert & Duval France, FNSS
Address: Organize Sanayi Bölgesi 7. Cad. No:5 26110 Eskişehir / Turkey
Telephone: +90 222 236 16 00
Fax: +90 222 236 16 05
E-mail: info@ejs.com.tr Website: www.ejs.com.tr

AYCAN AVIATION

Furtherance of its growth attack in recent years, Aycan while continuously increasing the part variety, also renews its manufacturing technology with state of the art machine and quality equipment investments to expand the capacity. As of today number of manufactured parts exceeds 90. Aycan's engineering activities will also expand to manufacturing process technologies.

Aycan's growth has been built on a continuous process of updating its manufacturing technology using state of the art machinery to expand its capacity and the range and variety of its products so that its current total of manufactured parts exceeds 90. Products are manufactured to meet high quality, price expectation and on time delivery.

On the way of creating a lasting aircraft engine industry in our country Aycan Aviation successfully carries out undertaken tasks, confidently looks to the future with its experienced, horizon eminent to the world, strong, accredited and established infrastructure. Aycan manufactures precision aircraft engine part with CNC machining and CMM quality control machining experience on super alloys (INCO 718-RN88) stainless steel and titanium. They are General Electric Aircraft Engine ITP (Industry Turbo Propulsores) Certified vendor to manufacture engine parts for TEI - G.E partnership. Aycan is currently partnership with Sezer Corporation located at CINCINATI OHIO to expand its international sales and marketing in U.S.A

Aycan's engineering activities will also expand into manufacturing process technologies.As one of the major players in the creation of a sustainable and long-term aircraft engine industry in the country Aycan Aviation, looks to the future with confidence, as a strong, accredited and established manufacturer with a world-class reputation.

Products

- Precision aircraft engine part
- Super alloys (INCO 718-RN88) stainless steel and titanium

Company Information: Aycan

Foundation Year: 1997
Number of Employees: 40
Area (m2): 1.500
Quality Certificates: AS 9100, ISO 9001:2000, NADCAP
References: TEI, GEAE, FNSS, ALP Aviation, ITP
Address: Organize Sanayi Bölgesi 7. Cad. No:46 Eskişehir / Turkey
Telephone: +90 222 236 2030
Fax: +90 222 236 2032
E-mail: info@aycanaviation.com
Website: www.aycanaviation.com

NUMERIK MAKINA

Nümerik Makina was established in 2002 and moved to own factory which in Eskisehir Industrial Zone in 2006. Today our company reached the same level with its competitors with using last system of CAD-CAM technologies. We give our experience, which earned in private factories, to our customers. Our priority is satisfaction of customers and our personnel.

They are able to measure the sample with laser digitizing equipment and make 3D drawing approximately in one day. They are in progress in the category and sheet metal tooling with face-scan modeling and reverse engineering. Instead of using iron, the company creates patterns made of Wood, which are primarily used in the finishing of aluminum castings.

We have obtained ISO 9001:2000 Quality System Certificate in 2005 and AS 9100 Aviation and Defense Industry Quality System Certificate in 2009 from BVQI. In this way, we increase our quality day by day. We make precision quality control with CMM 3D measurement system, profile projection system, and granite surface plate and protect the quality standard in production with Quality Management System, Calibration and Calibration Follow-up system , Inspection and Tests, Improper Material Control, Control of Shipment, Control of Documentation, Internal and External Audits, Personnel Education, Process Control.

Products

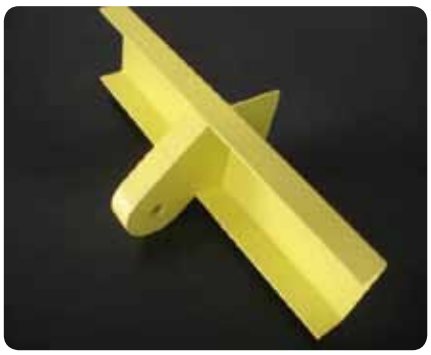
- Machining
- Defense Industry Serial Manufacturing and Mold Manufacturing
- 3D Modeling and Machining (Cast Molds, Plastic Injection Molds, Sheet Molds)

Company Information: Nümerik

Foundation Year: 2002
Number of Employees: 30
Area (m2): 1500
Quality Certificates: AS 9100, ISO 9001:2000
References: TEI, TAI, ASELSAN, ROKETSAN
Address: Organize Sanayi Bölgesi 9. Cadde No:62 Eskişehir / Turkey
Telephone: +90 222 236 18 66
Fax: +90 222 236 18 68
E-mail: info@numerik.com Website: www.numerik.com.tr

ATARD
Savunma ve Havacılık Sanayi
İleri Teknoloji Uygulamaları
Araştırma ve Geliştirme A.Ş.

ATARD Defense and Aerospace Inc.



ATARD is an internationally competitive defense and aerospace company which provides and develops advanced technological applications and solutions on the basis of national resources and worldwide knowledge. ATARD's production line and design office are located in Eskisehir. Liason offices available in Istanbul and Ankara. ATARD has also an engineering office in Seoul . ATARD's Quality Management System is based on AS 9100 & ISO 9001 Standards. Facility Security Clearance Certificates are also available in "National" and "NATO" Level.

ATARD's Motto is to

» Be your partner in Engineering, Simulation, Manufacturing
» Employ the best and most innovative experts from Turkey and abroad to bring you value added solutions.
» Invest on people – training
» Invest on technology – R&D
» Invest on partnership – communicate & listen.
» Focus on long term technologies, training and making employees believe in ATARD, establish trust with our partners and long term win – win solutions.

Main Expertise Areas ;

» Composite and Metallic Airframe Parts, Subassembly & Assembly Design / Analysis
» Composite Tooling Design
» Composite Part Manufacturing for Aerospace Applications
» RTM & Infusion
» Prepreg
» Composite Part & Assembly Design / Analysis / Manufacturing of Defense Systems
» Gas Turbine Systems Design & Analysis

Products and Services

» Composite Wings & Airframes
» Composite Parts for Aerospace Applications
» Composite Structural Analysis
» Composite Manufacturing
» Propulsion Systems
» Internal Combustion Engine Design, Analysis and Prototyping for Unmanned Aerial Vehicles,
» Flywheel Energy Storage System

Company Information: Atard

Foundation Year: 2008
Number of Employees: 51
Area (m2): 3500
Quality Certificates: AS 9100, ISO 9001:2000
References: Airbus, Korean Aerospace Inc., TAI, ROKETSAN, ASELSAN
Address: Organize Sanayi Bölgesi 26 Cad. No:08 Eskişehir / Turkey
Telephone: +90 222 236 2395
Fax: +90 222 236 2396
E-mail: info@atard.com.tr Website: www.atard.com.tr

MAVI TEKNIK

MAVI TEKNIK started R&D activities on Gas Turbine Engine Protection and Controlling Systems for the defence industry in 2003. In addition, the company set up Non-Destructive Testing (NDT) in the Eskisehir Technology Development Zone.

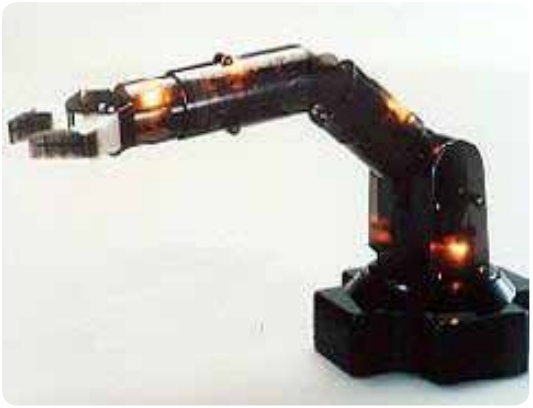
Products

- Gas turbine engines and control protecting systems

Company Information: Mavi Teknik

Foundation Year: 2004
Number of Employees: 5
Area (m2): 40
References: TEKFEN, Ege Gas, PO Petrol Ofisi
Address: OSB Teknoloji Bulvarı, Girişimci Geliştirme Binası Eskişehir / Turkey
Telephone: +90 222 236 1568
Fax: +90 222 236 2079
E-mail: info@maviltd.com.tr
Website: www.maviltd.com.tr

LIDER Technology Development Inc.



Lider Teknoloji Geliştirme (LTG) was established in 2005 at 20 m2 office. LTG, which takes its power from the experience of its organizer partners, carries out some R&D (Research and Development), software, hardware and technological projects which are about defense industry and aviation, with experts in their own subjects at its facility in Eskişehir Technology Development Area.

After the establishment, LTG not only made some works in order to recognize the market and be recognized at the sector but also accelerated its institutionalization process and quality management. The purpose of this institution is implementing some technology and software development activities about electrical, electronics, machine, computer and communication areas. In 2007 the decision was made about the incrementing the works which are about software development, and in 2008 Research and Development works which are about FPGA technology and VHDL (Hardware Description Language) was started. With these works, capability of designing of integrated circuits, designing and fabrication of hardware were gained.

Some of the projects:

1- The Design and Implementation of MIL-STD-1553B IP Core (CEKIRDEK):

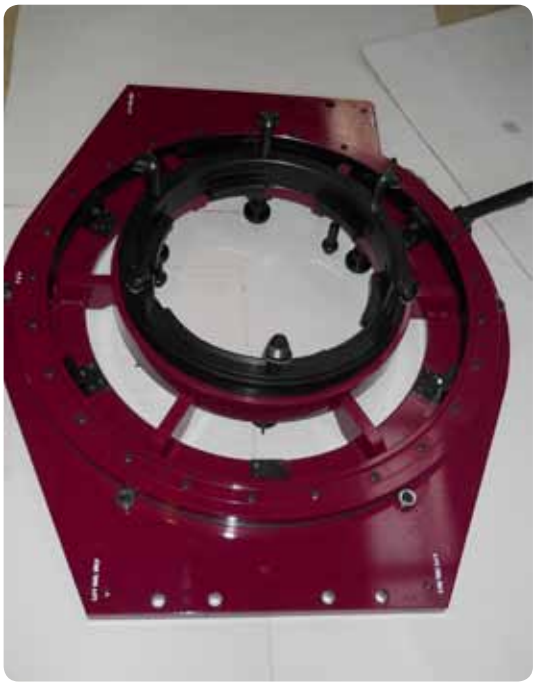
Remote terminal and bus monitor using Mil-Std-1553B serial communication protocol were realized originally by using VHDL language at the FPGA environment. Data Transfer Unit (DTU) was realized as an application of the implementation of the remote terminal. With this unit, recording of required aircraft data in air was aimed. The records of DTU can be analyzed by using the Data Transfer Ground Unit (DTGU) which was also made by LTG. DTGU software is also an original product developed by LTG. This project was supported by TÜBİTAK TEYDEB.

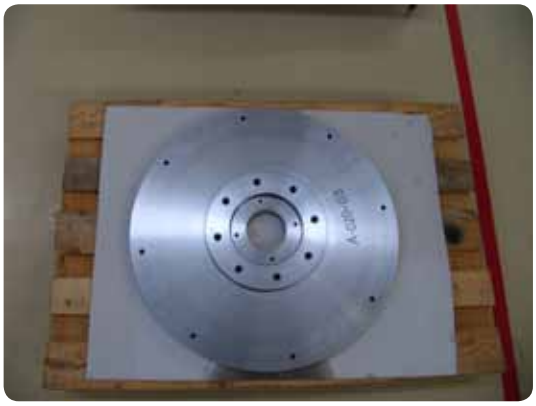
2- Virtual Cockpit System with Augmented Reality Applications for Unmanned Aerial Vehicle (UAV-VCS):

UAV-VCS System, which is going to be implemented for Unmanned Aerial Vehicle, consists of original software, which can execute on a laptop with special glasses. UAV-VCS software will be developed by Lider Teknoloji Geliştirme. The aim of UAV-VCS is to set off an interface between UAV and its operator. The data coming from the sensors on UAV, will be shown at the windows of the UAV-VCS monitor. A cockpit system is aimed to be created virtually. This project is also being supported and founded by TÜBİTAK TEYDEB.

Company Information: Lider

Foundation Year: 2005
Number of Employees: 5
Area (m2): 110
Quality Certificates:
References: The Scientific and Technological Research Council of Turkey (TÜBİTAK)
Address: OSB Teknoloji Bulvarı, Eskişehir Teknoloji Geliştirme Bölgesi, Tekno-C Blok No: 406, Eskişehir / Turkey
Telephone: +90 222 220 4151
Fax: +90 222 220 4152
E-mail: posta@liderteknoloji.com Website: www.liderteknoloji.com





ALFATEC

Alfatec Defense and Aerospace delivers innovation in technology through advanced design and manufacturing processes, and global collaboration with industry and academia.

The aerospace industry relies on cutting edge precision CNC machining techniques to produce intricate, high precision screw machine products. ALFATEC has the experience, quality materials and machines needed to create aerospace components and assemblies with the accuracy required in the aerospace market. They successfully make use of Nickel Based Alloys and Aluminum Alloys machining and titanium machining to create the most advanced screw machine products for Aerospace companies.

Complex machining is critical to many components used in ALFATEC's metrology instruments. Extremely high dimensional and geometrical tolerances must be machined on a "one hit" basis to ensure that the end structure is highly stable with a high grade cosmetic appearance.

The main capabilities of the company are as following;

- Precise & Complex Manufacturing
- Fixtures and Tooling Manufacturing
- Raw Material Design And Procurement
- Reverse Engineering
- Outsourcing
- Logistics Support

Products

- Structural Parts
- Rotating Parts
- Small Machined Parts
- Fixtures and Tooling Manufacturing

Company Information: Alfatec

Foundation Year: 2005
Number of Employees: 12
Area (m2): 22.000
Quality Certificates: AS 9100, ISO 9001:2008
References: TEI
Address: Organize Sanayi Bölgesi 5. Cad. No: 2 Eskişehir / Turkey
Telephone: +90 222 236 2532
Fax: +90 222 236 1066
E-mail: info@alfatec.com.tr
Website: www.alfatec.com.tr

ESAC
Eskisehir Aviation Cluster

ARIKAN
KRİKO ve MAK. SAN. TİC. A.Ş.

ARIKAN

Arikan was established in Eskisehir in 1975 and started to supply car lifting jacks and various sheet metal parts to main OEMs in automotive, aviation and defence industries.

Arikan has long years of experience in metal processing and component production and a good reputation among the international automotive OEMs such as Ford Motor Co., Volvo, Toyota, Renault – Dacia, Fiat and domestic manufacturers like Otosan and Tofas. Arikan has conveyed its know how ad metal processing experience in automotive industry to aviation and defence industries in recent years in line with the major developments in aviation industry.

Arikan produces exhaust and engine parts for TEI, ammuniation boxes for MKE, armored personnel vehicle roadwheels and armored parts for FNSS in defence industry. Arikan is not only a manufacturer but also a designer for all the industries it is working for. After the completion of the parts design, static, dynamic, kinematic, linear and non linear electronically analyses are able to be made with the SIM-EXPERT, ADAMS, NASTRAN, MARK programmes. Arikan has all the required quality certifi cates like ISO / TS 16949, ISO 14001, ISO 9001.

Having all these required elements such as experience, know how, skilled man power and quality certifi cates. Arikan is eager to be one of the robust, reliable players of aviation and defence industries.

Company Information: Arıkan

Foundation Year: 1975
Number of Employees: 360
Area (m2): 40.000
Quality Certificates: ISO / TS 16949, ISO 14001, Ford Q1
References: TEI, FNSS, Ford, Toyota, Volvo, Renault, Dacia, Fiat
Address: Organize Sanayi Bolgesi 2. Cad. 26110 Eskişehir / Turkey
Telephone: +90 222 236 0770
Fax: +90 2222 236 0774
E-mail: arikan@arikankriko.com.tr
Website: www.arikanautomotive.com - www.arikanaviation.com

ESALBA METAL FORMING

Esalba Metal has started its operations in Eskişehir Industrial Zone, Turkey in January, 2007 claiming to be the most modern metal subcontracting investment of Turkey. Esalba has become an expert for its clients requirements for diverse sectors such as white appliances, automotive, defense and aviation industry, lightning and air-conditioning.

Esalba facilities have 12 thousand tons/ year, flat sheet iron processing capacity and the new additions of design, mould production, serial production (1250 tons transfer press, Transfer line with 1000 tons capacity (4 x 250) and 920x2700 table size on each station is equipped with mono-bar type transfer system, fine blanking), assembly and electrostatic powder paint (zinc phosphate baths) sections. Esalba has total 36 thousand square meters of operational land with 12 thousand square meters of covered area.

Esalba works with global brands and exports processed metal sheet to European companies.

Products and Services

- Design
- Die Manufacturing
- Part Production
- Assembly
- Electrostatic Powder Coating

Company Information: Esalba

Foundation Year: 2007
Number of Employees: 185
Area (m2): 36.000
Quality Certificates: ISO 9001:2000
Address: Eskişehir Organize Sanayi Bölgesi 21. Cadde Eskişehir / Turkey
Telephone: +90 222 236 21 50
Fax: +90 222 236 21 59
E-mail: info@esalba.com
Website: www.esalba.com

AYDINGÖR MAKİNA

AYDINGÖR MAKINA

Aydıngör Makina is a well known company serving aerospace and defence industry, mining industry, and thermal power plants, cement factories, wood and food industries by producing parts, jig and fixtures in accordance with the national and international standards requested by its customers.

Aydıngör Makina has a great experience and capability dealing with forming, lathing, cutting and other machining techniques together with its heat treatment facilities and CNC capabilities. Main target of Aydıngör Makina is, today, to enlarge its capability especially in defence industry.

As a company, holding ISO EN 9001: 2008 Quality Management certificate and meeting the requirements of AS EN 9100 standard, Aydingör Makina has already started new investment, parallel to developing technology in this field, to reach its target as soon as possible.

Company Information: Aydıngör

Foundation Year: 1965
Number of Employees: 44
Area (m2): 5740
Quality Certificates: ISO 9001:2000, TEI Approved Supplier
References: TEI, Alp Aviation, Coşkunöz
Address: Eskişehir Organize Sanayi Bölgesi 8. Cad. No:25 Eskişehir / Turkey
Telephone: +90 222 236 1111
Fax: +90 222 236 1017
E-mail: info@aydingormakina.com.tr
Website: www.aydingormakina.com.tr

AYDIN TORNA

Aydın Torna specified for (CNC) Machining and was founded in 1983. Aydın Torna produces pre-worked and ready-worked products for the automotive, defense and heavy metal industries. For all industries, products are made by casting, gorging and stripe material by machining process. Aydin Torna has got the ISO 9001:2000 Quality Management System Certificate since 2005 and it was awarded by the TAI with Certificate of Approved Supplier as the company's considerable experience and production capability within the industry.

The company catches the fast development of machining industry by the following tools:

- CNC Lathes ,
- CNC Vertical Machining Centers,
- CNC Horizontal Machining Centers,
- 3D Coordinate Measuring Machine.

The company is still rapidly evolving technology and plans to remove to the Organized Industrial Zone in 2012 for its new and well-equipped factory.

Products

- Motor Carrier
- Differential Carrier
- Gearbox Carrier
- Elevator Brake Disc
- Helicopter Parts
- Feather Carrier
- Gear Box
- Connecting Rod

Company Information: Aydın Torna

Foundation Year: 1996
Number of Employees: 36
Area (m2): 1500
Quality Certificates: ISO 9001:2010, TAI Approved Supplier
References: Boeing, Componenta, TAI, Roketsan
Address: Tornacılar Sanayi Sitesi A Blok No: 1-5-6-7-8-9 Eskişehir / Turkey
Telephone: +90 222 228 1324
Fax: +90 222 228 1322
E-mail: aydintorna@aydintorna.com
Website: www.aydintorna.com

KARCAN CUTTING TOOLS

Karcan, which was founded in 1996 in Eskisehir and break new grounds as of the beginning of the establishment in the production of cutting tools, aims to continue its mission for the following years. While continuing its operations in this direction, it has aimed to be a leader in the international area on cutting tool sector as in domestic area through using its great experience.

Today, Karcan manufactures 120 different types of products such as Carbide Cutter, Cast Cutter, Carbide Drill and Reamer, and also it gives ceramic honing services and special tool services for the first time in Turkey. By means of this successes obtained, Karcan continue to give service to more than 400 customer portfolio. Having the conception of “If you love with your job, you produce high quality jobs. If you produce quality, you manage the world”, the company is conscious of the support of its valuable customers. The added value, which the company has provided to the country with its production capacity, will be continued to increase by adding new products to product range.

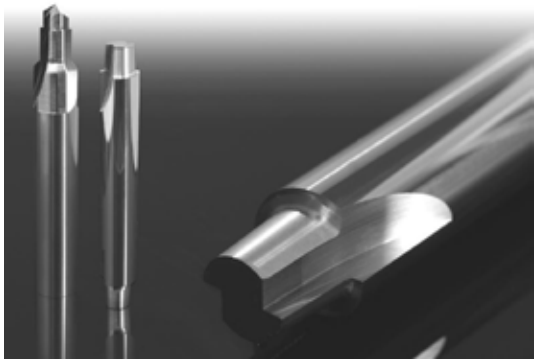
Products

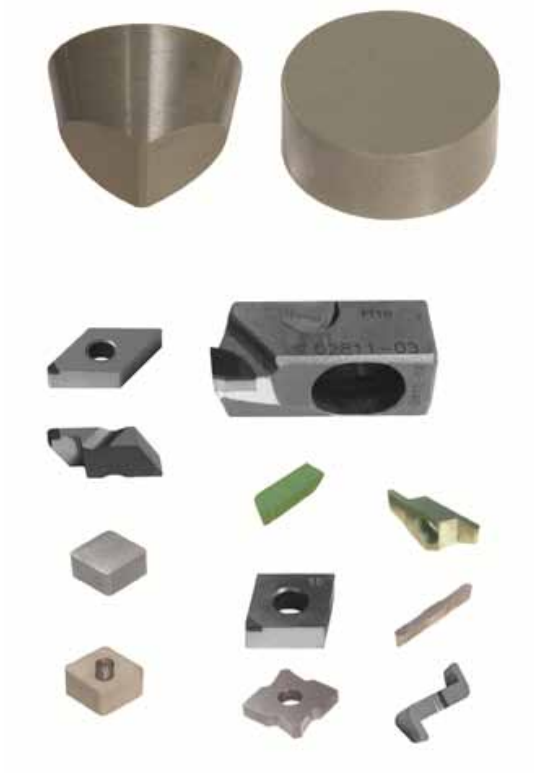
- Standard Serial Cutters
- Standard Drills
- Ultra Byte Series
- Aluminum Cutting

Company Information: Karcan

Foundation Year: 1996
Number of Employees: 55
Area (m2): 1000
Quality Certificates: ISO 9001:2000
Address: OSB Tornacılar ve Oto Tamirciler Sitesi R Blok No:3 Eskişehir / Turkey
Telephone: +90 222 228 1040
Fax: +90 222 228 0613
E-mail: info@karcan.com
Website: www.karcan.com

BUSEL
Takım Sanayi





BUSEL MAKINA

Busel makina was established in 2005 in Eskişehir. Since its foundation, the company has been serving for the national economy by sharpening cutting head. Busel follows the newest technology in cutter tools industry by c o-opting the CNC and NC machineries for its facility. The company provides high quality and globally competitive products for its customer.

On the other hand the company takes place in machining parts made of

inconel, titanium, aluminum of aviation location with its CNC frames.

PRODUCTS

- Carbide end mill, drill, reamer
- Cutting tools
- PCD-CBN- Ceramic head sharpening
- Special carbide tool machining
- CNC Turning & milling

Company Information : Busel

Foundation Year: 2005
Number of Employers : 20
Area (m2) : 800
Quality Certificates : ISO 9001:2008
References : TEI, Alp Aviation, Coşkunöz, Aycan Makina, Turbomak
Address : KOBI OSB.103. Cad. No:20 Eskişehir / Turkey
Telephone : +90.222.236.91.40
Telefax : +90.222.236.91.41
e-mail : info@buselmakina.com.tr
website : www.buselmakina.com.tr

MİL MAKİNA ve KALIP SANAYİ LTD. ŞTİ.

MIL MAKINA

Mil Makina which has been showing activity since 2004 with its qualified working team is focused on steel construction and machining. The factory acts as supplying industry for defense, ceramic, automotive and molding sectors. They became an indispensable company for the sector due to its excellent products and services. The company made very much progress in a short period and its main principle is following the advances in industrial technology day to day. Mil Makina aims at always being on the top and carrying out our studies through this direction.

Mil Makina carries on its investments in order to increase the production capacity and to maintain its pioneer role as a technology center. They are aware of the fact that developing in the world of high technology and, meeting the demands and needs of its customers is an aim only which will be achieved by employing qualified human resources.

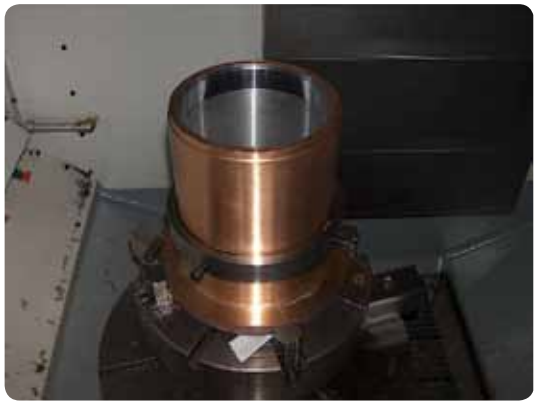
Mil Machinery is a company which is constantly focused on innovation, education and development in all processes.

Products

- Products with metal filings
- Sheet metal moulds
- Ceramic moulds

Company Information: Mil Makina

Foundation Year: 2004
Number of Employees: 28
Area (m2): 2.500
Quality Certificates: ISO 9001:2008
References: TEI, Alp Aviation, Esalba, Ford
Address: Organize Sanayi Bolgesi 8. Cad. No: 35 Eskişehir / Turkey
Telephone: +90 222 236 2476
Fax: +90 222 236 2480
E-mail: info@milmakina.com.tr
Website: www.milmakina.com.tr



DERIN MAKINA

Derin Makina was established in 2007 with its 20 years experience on the precise handling field particularly in the aviation and automotive industries as machining supplier.

Derin Makina produces jet engine part and components. Moreover, it has considerable experience on the alloyed steel and stainless titanium steel progressing. The company also provides technical training and consulting services for the CNC machining.

Company Information: Derin Makina

Foundation Year: 2007
Number of Employees: 12
Area (m2): 380 m2
Quality Certificates: ISO 9001
References: TEI, Kale Kalip, Kale Aviation
Address: 75 Yıl Mah. Kücük Sanayiciler Oto Sit B Blok No:9 Eskişehir / Turkey

Telephone: +90 222 246 0021
Fax: +90 222 246 0022
E-mail: info@derinmakina.com.tr
Website: www.derinmakina.com.tr

AKBEY

AKBEY ENGINEERING

Akbey Aviation is a subcontractor of Tusas Engine Industries (TEI). TEI is a joint venture company of General Electric Aircraft Engines.

FACILITIES: Manufacturing & Inspection in Aviation, Energy and Defence Industry.

CAPABILITIES: Precision machining and inspection of heat resistant super alloys (Inconel, Rene, Waspalloy, HastelloyX, Incoloy909), titanium alloys, stainless steels, alloy steels and castings for aircraft, marine and helicopter engine parts.

- CNC VERTICAL LATHES
- YOU JI YV1200 2 pieces
- YOU JI YV600 1piece

Products	Motor Program
» Disc	J79
» Outer Cover	F110
» Seal	Ge90
» Flowpath Spacer	Genx
» Impingement Ring	Ge90
» Aft Flange	Lm2500
» Lpt Fwd Shaft	Lm2500
» Seal#4 Bearing	Cf6
» Disc	Ge90
» Brush Seal Support	Ge90

Company Information: Akbey Engineering

Foundation Year: 2008
Number of Employees: 13
Area (m2): 650
Quality Certificates: AS9100 (in processing)
References: TEI
Address: Eskişehir Organize Sanayi,7. Cd. No: 16 Eskişehir / Turkey
Telephone: +90 222 236 0482
Fax: +90 222 236 0482
E-mail: akselozturk@akbeymuhendislik.com
Website: www.akbeymuhendislik.com

NANOTECH

Nanotech was established in 2005 in the Eskişehir Technology Development Zone. The company works on production of nano-dimensional and bio-compatibility antimicrobial materials and their implementations. Nanotech uses its experience and know-how in this scientific area in order to commercialize this considerable knowledge for the national economy.

The working fields of the company are;

- Production of nano-dimensional and bio-compatibility antimicrobial materials and their implementations.

- Our antimicrobial powder sold under the brand name of Nagno. This product used in the following products.

  - » Tiles and sanitarywares
  - » Textile products
  - » Carbon air filters
  - » Enamels
  - » Dyes
  - » Roll bandages

- Advanced technology ceramics metal materials
  - » Piezoelectric ceramics

- Electrical materials and equipment: design, development, production and implementation
  - » Acceleration, vibration and impact sensors

Company Information: Nanotech

Foundation Year: 2005
Number of Employees: 4
Area (m2): 80
Quality Certificates: ISO 9001-2008
References: ROKETSAN, ASELSAN, SSM, METEKSAN
Address: Anadolu Üniversitesi Yunusmere Kampusu ETGB Anadolu Teknoparkı No: 106
Eskişehir / Turkey
Telephone: +90 222 335 76 41
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E-mail: info@nanotech.com.tr
Website: www.nanotech.com.tr

ALPATA YAZILIM

Alpata Technology, established in 2000, is a Turkiye (TR) based software development company that specializes in developing tailor made software solutions, assembling a team of highly-skilled developers.

Alpata Technology has expertise on many of the latest technologies, including Microsoft .Net based (Smart-client, .NET 3.0/3.5 Technologies, Silverlight etc.) and Mobil based software application development.All applications are developed feature component-based, multi-tier architecture, employing standard development blueprints.

Alpata technology's other main working area is providing engineering service. This department was founded in September 2008 and provides engineering service to aviation industries for manufacturing parts.

Services provided:

- Solid modeling and drafting
- Fixture design (Welding fixtures, sheet metal forming and trimming tools, assembly fixtures etc.)
- CAM programming (This department uses state of the art CAD/CAM equipment to ensure accuracy and completeness of design for parts used on aircraft and helicopters.)
- Process planning to fulfill main contractures and civil aviation authority requirement.

Until September 2010 four projects was taken. First one, Turkish basic training aircraft KT-1T's tail parts Rudder, Horizontal stabilizer and Elevator. 196 parts' engineering service was provided to Alp Aviation.

Two of the projects were Sikorsky aircrafts' parts. First one was Sikorsky UH-60M helicopters Gunner and troop seats in cabin area. The other project was tail parts of the Sikorsky helicopters. 45 parts' engineering service has been given.

Fourth project is Pratt & Whitney Canada PW600 turbofan engine which for use in very light jets. In this project sheet metal parts' and solid parts' engineering service is providing. This project is continuing.

Company Information: Alpata Yazılım

Foundation Year: September 2008
Number of Employees: 18
Area (m2): 152 m2
References: Alp Havacılık
Address: OSB Teknoloji Bulv. Eskişehir Teknoloji Geliştirme Bölgesi Tekno C Blok Kat 4 No 401 Eskişehir / Turkey
Telephone: +90 222 236 23 50 - 51
Fax: +90 222 236 23 52
E-mail: teknoloji@alpata.com
Website: www.alpatadestek.com

A&T PLASTIK

A & T Plastik was established in 2007 and has a considerable experience in the plastics security seal sector. It is the company that imported the first plastics seals to Turkey in 1993 and has become the biggest domestic manufacturer company within a short while in the country. The company has realized the largest plastics security seal production project with an amount of 15.000.000 in one go. A & T Plastik shows activity in many areas including the civil aviation industry.

Products

- Plastics seals
- Plastics lock seals
- Steel cable seals
- Container seals
- Steel lock seals

Company Information: A & T Plastik

Foundation Year: 2007
Number of Employees: 15
Area (m2): 12.000
Quality Certificates: ISO 9001:2000
References: Turkish Airlines, Atlas Jet
Address: Organize Sanayi Bölgesi 9.Cad. No:7 26110 Eskişehir / Turkey
Telephone: +90 222 236 26 36
Fax: +9 0222 236 25 35
E-mail: info@avet.com.tr
Website: www.avet.com.tr

Capability Matrix

	R & D Engineering	Airframes & Components	Avionics Sim & Control	Software Development	Equipment	Subcontracting	Engine & Components	Mock-Ups & Modeling	Maintenance and Repair	Industrial Design	System Integration	AS 9100
TEI	*			*		*	*	*	*	*	*	*
ALP Aviation	*	*				*	*					*
COŞKUNÖZ	*	*				*	*			*		*
SAVRONIK	*		*	*	*	*		*			*	
TURBOMAK						*	*					*
AYCAN Aviation				*	*		*		*	*	*	*
ATARD	*	*		*		*		*		*	*	*
NUMERIK MAKINA		*			*	*		*				*
MAVI TEKNIK Aviation	*				*	*	*			*	*	
LIDER Technology	*		*	*	*	*		*			*	
ALFATEC		*		*	*	*	*			*		*
ARIKAN	*	*				*	*					
ESALBA	*				*	*			*	*	*	
AYDINGOR MAKINA	*	*			*	*	*		*			
AYDIN TORNA					*	*						
KARCAN					*	*						
BUSEL MAKINA					*	*						
MIL MAKINA					*	*						
DERIN MAKINA						*	*					
AKBEY ENGINEERING						*	*					
NANOTECH	*		*									
ALPATA YAZILIM	*			*		*						
A&T PLASTIK					*					*		

www.eskisehiraviation.org