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TAI

In The Office
EXECUTIVE INTERVIEW 

Sky's THE Limit

Turkish Aerospace Industries is becoming a global organisation, developing aircraft and helicopters for various agencies around the world.

Images by Bora Ucak

Turkish Aerospace Industries, Inc. (TAI) was established to build F-16 aircraft. At that time, TAI was owned as part of a joint venture with Lockheed Martin. The partnership was intended to go for 25 years, but both parties decided to renegotiate the terms and they parted amicably and TAI was 100-per-cent nationalised in January 2005.

Muharrem Dörtkaşlı, President and CEO of TAI, has been with the organisation for more than 20 years and has seen the company go through numerous changes to become the global organisation it is today. "I am a mechanical engineer by profession. TAI and its development have been significant factors in my professional career. I started working for Turkish Aircraft Industries, Inc. [TUSAŞ] in 1991 as a program control office

leader, continued as Deputy General Manager between 1997 and 2003, and was promoted to the General Manager position in March 2003.

"There were a number of studies by us and other partners to enhance the local aerospace industry, and forming a new consolidated company was the outcome of these studies. In this vision, TUSAŞ and TAI were merged into one company and I was entrusted as the President and CEO of the company in October 2005. I have been in the same position since then and I am still trying to support the development of the aerospace industry in Turkey."

While aerospace by its very nature is a global industry, TAI has been making strides in becoming a more transnational company in its standards and network. "The way I see the future is we will need to

develop our own products with a global vision and we will participate in international programs of large scale. To deliver this message internally and externally, we included in our vision statement the target of becoming a world-brand aerospace company.

When asked what differentiates TAI from other organisations within the aerospace sector, Muharrem explains, "TAI's history goes back to the 1970s when Turkey faced the Cyprus crisis and could not receive international support. At that time, people in Turkey donated their savings to create an independent defence capability. The 1970s were difficult years for Turkey and sufficient funds could not be allocated to start a major program. This was only possible in the 1980s with the F-16 production program. We, as all the team in TAI, still carry this responsibility on our shoulders—the seed of the company >



was planted with the savings of our people. We need to make sure that we create a return for the society. This time it includes both independent defence capability as well as creating return financially. I believe this is one of the distinguishing factors of TAI from the other companies in the aerospace industry.

“Thus, we aim to cover more areas, from fixed wing to rotary wing and space, as well as working for OEMs as a risk-sharing partner or subcontractor while keeping in mind the profitability. Having this wide activity spectrum and profitability target is quite a big challenge, but we remember how the company was established and what we owe to our society.

“In 2005, after the acquisition of foreign shares and consolidation, we believe we took the first step to becoming a global brand as this move provided us with a clearer focus. We started investing in engineering to develop our own IP and in parallel seeking broader international collaborations. We started working in an increasing

scale with all the major OEMs in aerostructures, executing complex design and manufacturing processes, started to extend our capabilities like modernisation and mission conversion programs, and finally we had the capability to design, develop, and manufacture our own products like ANKA UAS, HÜRKUŞ New Generation Basic Trainer, T129 ATAK helicopter and even the observation satellites. Of course, all of these were possible with the support of our government who trusted that we could deliver and provided us with the challenging development programs.

“As a result of these, TAI has progressively increased its capability and skills over the past decade and today has more than 150 active projects. We are involved in major civil and military international projects and have extensive responsibilities from design to manufacture. We took part as an industrial partner with both design and production work-share for the A400M Transport Aircraft. Within Turkey’s participation in the JSF/F-35 Program, we are

currently manufacturing ‘centre fuselage’ of F-35 as sole source outside the USA.

“On the commercial side, or when we look at the passenger-aircraft business, we work with Airbus, Boeing, and Bombardier in many work packages. For Airbus we have major responsibilities on the A320 series, A330, and for the A350 XWB, we are a risk-sharing design and manufacturing partner. We also have a strong partnership with Boeing in many different programs; for the B787 platform we have design and production responsibilities and have responsibilities as a single source with many other Boeing platforms. We are also working with Bombardier for the CS Series Regional Aircraft Fixed Trailing Edge. The aerostructure side extends to helicopters with AgustaWestland, Sikorsky and Airbus Helicopters.”

TAI has numerous programs in aerostructures, aircraft, helicopters, unmanned aerial vehicle [UAV] systems, space systems, and logistics. With all these groups

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- Muharrem Dörtkaşı

working together, TAI has been able to develop capabilities in design, composite, metallic products, surface treatment and coatings, and flight school and testing. This means TAI can offer a wide range of high-quality products and services to clients around the world.

In 2005, the company’s sales were approximately US\$80 million with about 2,000 employees, and its R&D activities were negligible. The company now has more than 4,500 employees, 1,700 of which are engineers and 1,000 that specifically work on R&D activities. Total revenue is about US\$913 million and TAI is one of the largest defence and aerospace companies in the world. TAI is working with engineers on indigenous projects such as helicopters, aircraft, UAVs, and satellites.

Muharrem notes how crucial it is for Turkey to create its own brands in sectors like defence, aerospace, and automotive, particularly since Turkey is the seventeenth largest economy in the world. Turkey’s target for 2023 is to reach \$5 billion in defence-industry exports, which is almost four times what the total industry has today. Currently, the average value of 1 kilogram of Turkish exports, from airplanes to hazelnuts, is US\$1.50. In South Korea, the average is US\$3.00 and in Germany it is US\$4.10. Their export products have more value-added because they are exporting local products. Therefore, by 2023, Turkey can either quadruple the amount it exports, which is not possible because global consumption will not quadruple over that time, or Turkey can increase the value-added of Turkish exports. In the aerospace sector, the average value per kilogram is US\$850, and for integrated products it is over US\$5,000 per kilogram.

“TAI’s continuous support has helped us develop our quality management systems and chemical process capabilities to the highest levels, which has allowed us to reach a unique position within the aerospace and defence sector. Our aim is to continue to be part of TAI’s future projects.” - Recep Coskun Colpan, General Manager, Mikron Mühendislik



Considering the complex nature of the aerospace industry, TAI understands the importance of working closely with key suppliers and customers to ensure innovation and continuous improvement. “The programs in the aerospace industry today require significant investments in terms of finance and other resources. Success is not in the ownership of a party but a common goal shared by a number of parties. This can only be achieved by successful collaborations upwards and downwards. We strive to be a good team member. We work for customer satisfaction and believe this is a continuous effort requiring improvement to set barriers a bit upwards every day.

“We work with both the government and OEM parts of the business and our approach is always the same: ‘provide complete solutions and results achieving partnerships’. We attach importance

in building strong relationships with our customers. As I mentioned earlier, we have established a strong bond with our customers as the result of our participation in several international programs. On the other hand, our strategic partners and suppliers have an important role in supporting our bond with our customers. Therefore, while we are looking to the frontiers, and defining our strategies and action plans, we are also considering and encouraging our partners to look at the same picture.

“Moreover, we aim to expand beyond TAI facilities with the assistance of subcontractors in Turkey. To further our manufacture base, we are working with our government to establish a specialised aerospace cluster around TAI. We are also discussing several business cases with the global system/subsystem providers to develop our existence in the international market.” >



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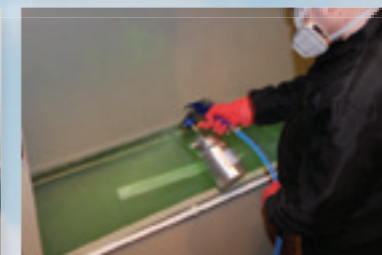
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One key project TAI is undertaking is the company's involvement with Turkey's first satellite centre. "We are trying to assist the inspirational vision of our government towards space. With many challenging programs ahead, we try to enhance our human resource capability and skills. This space vision enabled Turkey's first Spacecraft Assembly, Integration and Test (AIT) Center to be established in our premises in Ankara. The investment of this state-of-the-art centre is undertaken by Undersecretariat for Defence Industries (SSM) and TÜRKSAT.

"With a 3,800-square-metre integration area, AIT Center consists of the required infrastructure for measurements and ground testing of space

"Our experienced management team aims to be a reliable player in the aerospace field. We offer quality products and respond quickly to our customers. We value our partnership with TAI and hope it will take us to the next level of aerospace manufacturing." - Emin Sazak, Chairman, Yüksel Composite Technologies

systems. This might be a bit technical, but these include mass properties and alignment measurements, vibration tests, thermal vacuum tests, acoustic tests, EMI/EMC tests, compact antenna tests, and solar-panel deployment tests compatible with ECSS Standards. AIT Center will be operated by TAI to serve national and international GEO and LEO satellite programs. We believe this approach will assist our vision to become a global player."

In 2009, TAI signed a contract with the Pakistan Ministry of Defence to deliver the avionics and structural modernisation of 41 F-16 aircraft to the Pakistan Air Force. Pakistan Air Force personnel have also been qualified for the modernisation by having classroom and on-the-job training given by TAI and have participated in the work performed at TAI. The final four F-16 aircraft were delivered in early September 2014 at a ceremony held at TAI's facilities in Ankara, Turkey.

In 2014, TAI also delivered the first T129 ATAK Advanced Attack and Tactical Reconnaissance Helicopter to the Turkish Armed Forces. The program started in 2007 for the development and production of 59 helicopters as a joint collaboration of TAI and AgustaWestland, also known as 'ATAK Team'. Within the scope of the program, the first T129 ATAK helicopter was delivered. More than 4,000 flight hours were conducted during the flight and firing tests, qualification and acceptance flights, and training activities. The overall program is a success story for the Turkish aviation and defence industry in terms of design and development and also international collaboration.

TAI has been going through exceptional growth with the company being commissioned by various countries to build and develop aircraft. The future will see TAI grow further and work on many more exciting projects. "We are at

the verge of a second step change. The first step change took place during the merger of TAI and TUSAŞ in 2005. All the efforts during the past nine years have come to fruition and we need to have a new approach to move further.

"For the second step change, we need to take TAI higher in the global-ranking companies. Having reached OEM status, the competition is international now. The outlook for the future is like the past nine years: more work, challenges, and success. There is more we need to do in order to be accepted as a global brand and we are fully aware of that.

"The studies up to now brought us to a competency level. However, we need to develop new skills in reaching international customers and looking to organic/inorganic growth opportunities taking a global approach. We will make every effort to take our company to a global level—of course, with the assistance of our personnel, government, and partners both in and outside of Turkey. I believe that the future looks bright for TAI.

"The revenues of the industry have been increasing and in 2013 reached US\$5 billion. For an emerging country, the increasing trend is positive; however, Turkey is taking the regional leader role, and this requires more. We have established several working groups to make sure the defence and aerospace industries follow our government's mission for 2023, the 100th year of the establishment of the Turkish Republic. The strategy includes developing our own IP and products as well as increasing partnerships with our allies in Europe and the US. As a side note, I believe the continuing Transatlantic Trade and Partnership (TTIP) discussions between the US and Europe need to include Turkey in aerospace and defence. With our capabilities in land, sea, and air as well as our partnerships in international programs, our adherence to international regulations, our strategic alliance with both sides of the discussions, Turkey deserves to be in the TTIP discussions." •

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- Muharrem Dörtkaşlı



About Turkish Aerospace Industries

Turkish Aerospace Industries, ranking among the top hundred global players in the aerospace and defence arena, is Turkey's centre of technology in design, development, modernisation, manufacturing, integration, and life-cycle support of integrated aerospace systems, from fixed- and rotary-wing air platforms to unmanned aerial vehicle (UAV) systems and space systems.

With the strategic investments made in recent years, TAI has established a respected and recognised presence in the global market as a reliable player known for its technologies and commitment to ultimate customer satisfaction.

Under the vision of becoming a 'world-brand aerospace company' with indigenous products and global competitive power, with the mission to lead the development of Turkey's aerospace industry, TAI has built its worldwide success on the foundation of the technological excellence of its products and solutions, participating in international aerospace programs such as JSF/F-35, A400M, A350 XWB, and B787.

TAI is located in Ankara, Turkey, on a 5-million-square-metre area with a state-of-the-art industrial facility of approximately 300,000 square metres under roof, furnished with high-technology machinery and equipment that enables design, development, modernisation, and system integration. TAI as a reliable solution provider to military and commercial customers has extensive capabilities ranging from parts manufacturing to aircraft assembly, flight tests, and delivery.

The widespread product and activity range grant TAI a unique and unmatched position globally. TAI's major products and activities include: indigenous 'ANKA' Medium Altitude Long Endurance (MALE) UAV System, 'HÜRKUŞ' Turkish Primary and Basic Trainer Aircraft, 'TURNA' and 'ŞİMŞEK' Target Drone Systems, and Advanced Avionics Modernisation Suites for Fixed Wing and Rotary Wing Platforms; T129 Attack and Tactical Reconnaissance Helicopter, A400M Military Transport Aircraft; E/O Surveillance and Reconnaissance Satellites; special-mission aircraft conversions and system integrations; and design-to-build or build-to-print aerostructures for military and commercial airborne platforms.

TAI Flight School provides standard and custom-designed military, police, and civil helicopter pilot training in line with international regulations.

By utilising capabilities of the Turkish Armed Forces' Maintenance Centers, TAI also provides maintenance, repair, and overhaul services to its international customers.

Determined to keep abreast of global technological developments and secure its place among the major aerospace companies, TAI aims to lead Turkey to new horizons in aviation in the twenty-first century.

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