

## AIRBUS AND MILITARY AUTHORITIES APPROVE TAI'S DESIGN ORGANIZATION

Within the framework of the A400M program, the Airbus Company has certified that TAI is capable of producing and approving Civil Certification, Military Certification and Qualification data relevant to its allocated work packages. The granting of this certification means that the organization, infrastructure, methods, tools and source activities of TAI, which have been in use by the company since 2000, have been found to be compatible with the program requirements by Airbus.

With this approval, TAI has been accepted as a part of the Airbus Design Organization. Furthermore, with the official recognition of TAI's design organization TAI has a strong reference of its capabilities that can be submitted to authorities for programs.

## FIRST COMPOSITE DETAIL PART IN A400M PROGRAM MANUFACTURED AT TAI

TUSAŞ Aerospace Industries, Inc. (TAI) has completed production of the first composite detail part under the A400M Program at its Composite and Metal Bonding (CAMB) facilities on November 24, 2005. A partner and member of Airbus Military SL, TAI has been participating in the design and feasibility activities of the A400M program as the 'National Industrial Institution,' representing Turkey, since the beginning of the program.

The company will manufacture at its facilities a total of 360 ailerons and 1.800 spoilers for the program. These parts will then be delivered to Airbus-UK's Filton facilities for assembly onto the wing components.

The contract for the A400M program, which is considered to be an important step towards the integration of Turkish industry into European aviation industry, was signed in May 2003. The program foresees the production of a total of 180 A400M aircraft for delivery to the launch customers, namely Belgium (7), France (50), Germany (60), Luxembourg (1), Spain (27), Turkey (10) and the United Kingdom (25).

To compensate for the 10 A400M aircraft to be procured by Turkey, TAI shall undertake structural work share corresponding to 7.15% of the total work. TAI's structural work package includes the forward-center fuselage, the paratroop and hatch doors, the tail cone and top shell on the rear fuselage and ailerons/spoilers; whereas the systems work package, a further 1.26%, comprises the lighting and water/waste systems.

With the A400M program, TAI, will gain the ability to design, test, certificate and deliver aircraft components in accordance with international standards.





TUSAŞ Aerospace Industries, Inc.

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# From the Editorial Board

*We have now left behind 2005, and can look back on the year as one in which many significant changes took place in the structure of the shareholders and in the capital of TAI. In Turkish aviation history 2005 will be marked as being a year of major developments.*

*Moving into the New Year with great expectations, we have already witnessed some developments that will be of great benefit to our Company. The contract inked with IAMCO, which charges TAI with the refurbishment of the outer wing of NATO-AWACS aircraft, and TAI's assignment as the prime contractor in the Turkish Air Force C-130 and F-4 aircraft modernization programs are developments that show the confidence in TAI, both in the national and international arenas. The long-term cooperation contract recently signed with*

*Aermacchi, sub-contractor of the Alenia Company, for the production of elevators for the Boeing B787 aircraft as a sole source is an indication that these developments have the capacity to continue and increase in 2006.*

*Our Company participated in the "7th International Defense Industry Exhibition" (IDEF 2005), held between 27-30 September, 2005, in Ankara, exhibiting its technical capabilities as well as indigenous products, such as the unmanned aerial vehicle and target drone. The signing of two protocols, namely "Conceptual Design Studies/Activities for the Development of Primary and Basic Trainers" and "Development of Unmanned Aerial Vehicle Platforms" between the Undersecretariat of Defense Industries (SSM) and TAI shows the trust put in TAI and give the Company the opportunity to*

*advance its capabilities to a higher level.*

*Being aware of the fact that the route to becoming a powerful country is closely connected to the existence of a strong national defense and aerospace industry, TAI will continue to develop its technology, capabilities and design capacity. As the "Center of Aerospace Industry in Turkey," TAI aims not only to meet the military and commercial aerial vehicle requirements of both Turkey and its foreign customers, but also to take part in the international design and development programs and increase its share in the world market through continuous improvement.*

*Looking forward to seeing you in the next issue....*

## EDITORIAL BOARD



# From the Management

## Distinguished Readers,

This is my first opportunity to say “Hello” to all of you through TAI’s Voice. My expectations and desire for this publication, besides other opportunities, is to inform our employees and business partners from the developments in our country, sector and TAI, and to share our achievements with you.

During my times in TUSAŞ and at TAI’s Board of Directors, I had the opportunity to witness TAI’s activities, its growth and development, targets and the problems encountered along the way. All the successes aside, it is clear to me that TAI’s most pressing problem is related to the dispersed structure, but this dilemma has been solved to a great extent due to the sacrifice and support of its shareholders at the beginning of last year.

The consequences of the transfer of foreign shares to Turkish ownership, as well as TUSAŞ/TAI merger, will be closely observed by the international community. As a result of these developments, our company will emerge as a more powerful force in the market with the ability to undertake greater responsibilities.

At a TAI scaled company, to meet these expectations, much depends on the absorption of the vision and mission of the company by all executives and employees based on a common goal. I have no doubt that our successes will continue as long as we realize this objective. Initially through the development of our design capabilities and technology, it is our intention to meet the military, commercial aviation and space systems requirements of Turkey and our foreign customers. I believe that the environment is suitable for success in this regard.

The projects and project models being executed by the Ministry of National Defense (MoD) and the Undersecretariat of Defense Industries (SSM) aimed at the modernization of the Turkish Armed Forces (TAF) possess an important opportunity for the defense sector. If we properly manage the coming 4-5 year period with the support of all related parties, I believe that we will double our present capacity and local content. It is within our capability to provide a contribution equal to 15-20 years of accumulated experience in this short period of time, however, mistakes made during this period would lead us to a long and difficult recovery process.

We have a worldwide reputation in aircraft manufacturing technology. We will continue to perform our works and develop even more productive methods. In parallel, we are determined to carry on the “Intensive Engineering” activities



initiated previously, such as A400M, Yarasa, Meltem, UAV etc. I believe that we have enough experience to realize the design, modification, modernization and integration on all Rotor/Fixed Wing and Unmanned Air Vehicles with minimum foreign support and maximum local contribution under TAI’s leadership. I am confident that our national success in these High Value Added projects will lead to greater responsibility in the future and will transform into foreign successes in the shortest period. We will become a global player and I believe we can attain those goals in that 4-5 year period.

Besides the developments in aviation sector, I am glad to mention that concrete steps, regarding the development of “space” capabilities, are being taken. Our objective is to be assigned as the prime contractor in Turkey’s future space-satellite projects.

The defense and aerospace sector is the driving force behind technological development in the world. Along with the changing priorities and expectations of the market, each day it is becoming more vital to comprehend the dynamics carefully and form a customer-oriented structure. We give importance to apply a project-based management style with a high perception of our customer’s requirements and an ability to respond and adapt as necessary in the implementation of the programs. We will be concluding our development in this sense next year.

To sum up I would like to say that, when we study our history, we can see our nation’s interest in aviation. Today, from the design of air platforms to parts manufacturing, flight tests to delivery, modernization to after sales support, acquiring a wide manufacturing capability and a service scale, TAI will continue its activities to increase its share in the competitive global market with all its power. The resources and efforts spent to bring TAI up to this current level have been fundamental.

We are grateful to all of our predecessors, who initiated and developed TAI, for their service and support. We are aware of our responsibilities, and we shall be successful in this regard. The greatest assurance of this success comes from the support and belief granted by our stakeholders and shareholders.

With Best Regards,  
Muharrem DÖRTKAŞLI  
General Manager



# Business Development Activities

## TAI AND ALENIA AERONAUTICA SIGN AGREEMENTS ON MELTEM III PROGRAM

The contract regarding Meltem III Programme and two Memoranda of Understanding [MoU], relating to the offsets of the programme were signed between TAI and Alenia Aeronautica at a ceremony held at TAI's facilities on December 21, '05.

The Meltem III program covers the procurement of 10 ATR72-500 aircraft and their modification into Anti-Submarine Warfare (ASW) configuration for the Turkish Navy. Under the contract the conversion works are to be carried out at TAI's facilities, and as additional offset TAI shall take on the production of the Horizontal Stabilizer-Fuselage Skin Plating, Cargo Compartment Separation Panel and Elevator assemblies for the Boeing B787 on behalf of Alenia Aeronautica, one of the prime partners in the program. The agreements bring not only a USD235 million work package to TAI, but also the distinguished role of sole source manufacturer of Boeing B787 Elevators.

The ceremony was held under the auspices of Minister of National Defense (MoND) H.E. Vecdi Gönül and was attended by many high-ranking civil and military executives, including Italian Ambassador to Turkey H.E. Carlo Marsili and Undersecretary for Defense

Industries (SSM) Mr. Murad Bayar.

Following the signing of the agreements, speeches were given respectively by TAI General Manager Mr. Muharrem Dörtkaşı, Alenia Aeronautica CEO Mr. Giovanni Bertolone, SSM Mr. Murad Bayar and MoND H.E. Vecdi Gönül.

TAI General Manager Dörtkaşı stated that TAI's relations with Alenia Aeronautica were just beginning, and that the agreements that had been signed would, he believed, lead TAI to new horizons. "Turkish aviation history, which is based on many years, with these latest developments has become stronger. These developments indicate that TAI can compete globally in the aviation, manufacturing, integration and technology fields and we are determined to proceed in a respectful manner," he said. He praised the support received from the MoND, the SSM, the Turkish Armed Forces and its related institutions, as well as TAI's shareholders, national defense industry establishments and TAI's national and international business partners, who, he said "played a vital role in the realization of this achievement." He also thanked the technical and administrative teams

of Alenia Aeronautica and TAI for their valuable contributions, and to Alenia CEO Bertolone and his team for their significant contributions to the successful culmination of the negotiations. He went on to extend his gratitude to Turkish Naval Forces Command, underlining their insistence on Turkish industries' participation in all Meltem programs. He also expressed TAI's gratitude for the extraordinary support of the SSM in the program and in every field, and added that the determination and orientation of the SSM had played a vital role in TAI's participation in such large-scale international programs.

Alenia Aeronautica CEO Bertolone began by emphasizing the desire of Alenia Aeronautica and its parent company Finmeccanica for long term, firm business relations with Turkey. "We believe Turkey should become a strategic partner of Italian industry in other countries too. In this way, both in trade and in bilateral investments they will join forces, talents and energy to compete together in the international stage," he said. He underlined that Turkey had a great future ahead and that Italian aerospace companies intended to be part of it by playing a crucial role



# Business Development Activities

in the business growth of the country, saying that the signing ceremony represented an important step taken towards this goal.

The production of various structural units for the B787 at TAI meant much more than a traditional industrial “compensation” agreement, Bertolone said, stating that TAI had been given “a highly qualified work share of the ATR ASW program including design, training, manufacturing and integration activities for the aircraft modification.”

Bertolone concluded by saying that TAI and Alenia Aeronautica would attain targets together in the future and mentioned his willingness for TAI's involvement in even bigger aerospace and defense programs such as Eurofighter.

SSM Bayar gave details of the history of the Meltem III program to date, recalling the contract signed between the SSM and Alenia Aeronautica on 20 July, 2005. Bayar underlined that besides TAI, the participation of Aselsan, Aydın Yazılım, Havelsan and KaleKalıp would ensure the local contribution requirement of 10% from the program. “The concurrence of the continuing negotiations on workshares for the Boeing 787 aircraft between TAI and Alenia and its contribution to Turkey carries a



vital role,” he said, and extended his gratitude to the Alenia and TAI executives on their support for the allocation of structural work packages to TAI.

MoND H.E. Vecdi Gönül praised the project and its wide-reaching benefits to Turkey: “On one side we meet the vital modernization requirements of our Armed Forces and on the other side we consider our industry's rapid increasing capabilities as a vital target.” He continued by saying that through the modernization of the aircraft under the Meltem III program at its facilities, TAI would realize direct participation in the program, as well as participation in the highly developed B787 passenger aircraft.

H.E. Gönül said that there was a target to develop the relationship between TAI and Alenia Aeronautica, the respective aerospace centers of Turkey and Italy, and stated, “We expect this relationship to lead us to a strategically important international

cooperation model in the future.”

H.E. Gönül highlighted the underlying importance of such cooperation, which aside from leading TAI to new horizons also established an important step for the integration of the industries of Italy and Turkey, particularly important for Turkey during its ongoing accession negotiations with the EU. He extended his gratitude to SSM, Alenia Aeronautica and TAI executives and to the technical teams for their efforts and valuable contributions to the program. He also wished success to Naval Forces Command in maintaining national defense and regional peace with the capability it will gain.

With the contract inked between TAI and Alenia Aeronautica, TAI has added a new company to its list of business associates, among which major aerospace companies are found. TAI will continue its activities and efforts in the international arena for the development of Turkey's defense and economy.



# Business Development Activities



TAI has been appointed as the sole source supplier of elevators for Boeing's B787 aircraft through Alenia Aeronautica, which is a major subcontractor to Boeing in the B787

## TAI ASSIGNED AS SOLE SOURCE FOR B787 ELEVATOR PRODUCTION

Next Generation passenger aircraft program. TAI's workshare is part of Alenia's offset commitment agreed under the MELTEM III program, under which Turkey will purchase 10 ATR 72-500 aircraft from Alenia for subsequent modernization into Anti-Submarine Warfare (ASW) configuration at TAI's facilities.

Aside from the elevators, the deal, agreed with Alenia in May 2005 comprises additional composite work for TAI that includes the "Horizontal Stabilizer-Fuselage Skin Plating" and the "Cargo Compartment Separation

Panel" assemblies. The 10m x 2m elevators require the manufacture of composite parts and assembly by TAI for later shipping to Alenia.

Boeing's order book for the B787 had reached 300 prior to production launch, and now stands at 1,022. TAI shall deliver its first elevators to Alenia subsidiary Aermacchi in September this year, with the final delivery of the current order expected in 2022. Many further orders for the B787 are expected, which will increase TAI's involvement in the program in the future.

## PRODUCTION STATISTICS

### PROGRAM

B737 FLIGHT DECK PANEL  
B737 WING TIP  
CN-235 PARATROOPER DOOR  
C-295 PARATROOPER DOOR  
EC-135 REAR DOORS AND ENGINE COWLINGS  
COUGAR FUSELAGE  
COUGAR TAIL CONE  
COUGAR "CANOPY"  
F-16 DETAIL PARTS  
S-76 HORIZONTAL STABILIZER  
S-70A HORIZONTAL STABILIZER  
S-70A TAIL CONE  
S-70A TAIL ROTOR PYLON  
T-38 STRUCTURAL PARTS  
MH-60 HORIZONTAL STABILIZER  
MH-60 TAIL CONE  
MH-60 TAIL ROTOR PYLON  
MH-60 CENTER BOX  
NH-60 PADDLES  
S-70A COMPONENT KITS  
MH-60 COMPONENT KITS  
MH-60/S-70 FAIRING MANUFACTURING  
MH-60/S-70 HYDRAULIC & ELECTRICAL MAN. & ASS.  
UH-60 TAIL CONE AND TAIL ROTOR PYLON  
MH-60/S-70 DETAIL PARTS MANUFACTURING  
A319/320/321 FUSELAGE PANELS  
AIRBUS DETAIL PARTS  
NG GROUP B KITS MANUFACTURING  
"DEEP ATTACK" PARTS MANUFACTURING  
TURSAR ARMORED VEHICLE TRANSMISSION PARTS  
TEI J85/T38 PARTS MANUFACTURING  
HAI SIKORSKY SIDE PANEL PARTS  
HAVELSAN CN-235 COCKPIT SHELL  
CN-235 MLG FAIRING AND ENGINE MOUNT  
DAVIS IR SUPPRESSOR MODIFICATION  
AB-139 FUSELAGE  
MELTEM II MODIFICATION  
CN-235 CENTER FUSELAGE (DEEP WATER VERSION)  
CN-235 CENTER FUSELAGE (S-300 VERSION)  
CN-235-300/C-295 COMMON PARTS  
RUAG "STRETCH FORM" PARTS  
BOEING-WICHITA LTA PACKAGE - I  
BOEING-WICHITA LTA PACKAGE - II  
BOEING-WICHITA LTA PACKAGE - III  
BOEING 747 NOSE LANDING GEAR DOORS  
BOEING 777 DORSAL FIN  
FACC PIANO PANEL  
FACC BOEING 737 HARNES  
YARASA

### SCHEDULE

1998-2006  
1999-2008  
2002-2003  
2003-2004  
1995-2012  
2003-2006  
2003-2006  
2003-2006  
1994-2007  
1995-2007  
1998-2007  
1998-2008  
1998-2008  
2004-2005  
2002-2006  
2002-2008  
2002-2008  
2002-2005  
2004-2006  
2004-2006  
2004-2006  
2005-2008  
2005-2008  
2005-2009  
2006-2007  
1998-2008  
2001-2006  
1996-2003  
1997-2006  
1993-2004  
1997-2005  
2003-2005  
2004-2004  
2004-2006  
2004-2005  
2004-2017  
2003-2008  
2004-2006  
2004-2006  
2004-2006  
2005-2008  
2002-2009  
2004-2008  
2005-2008  
2002-2008  
2002-2007  
2004-2013  
2004-2007  
2002-2008

### TOTAL ORDERS

14,858 (\*)  
1,000 set  
3 set  
3 set  
700 set  
17 set (\*)  
18 set (\*)  
18 set (\*)  
25,406 (\*)  
201  
377 (\*)  
217  
217  
176  
100  
70  
70  
77  
Left:30 / Right:21  
Stabilizer:12, Tail Rotor Pylon:13, Tail Cone:12  
Stabilizer:7, Tail Rotor Pylon:8, Tail Cone:7  
50 set  
50 set  
80 set  
4,585  
200+300 set  
21,358 (\*)  
2,864  
11,375 (\*)  
9,715  
2,240 (\*)  
120 (\*)  
1  
7 set MLG Fairing, 9 set E. Mount (\*)  
78  
252  
9  
7 (\*)  
4 (\*)  
4 set (\*)  
21 set (\*)  
226,677 (\*)  
213,818 (\*)  
545,808 (\*)  
100 set  
200 set  
400 set  
2,160  
4 (\*\*)

### DELIVERIES

14,179  
633 set  
3 set  
3 set  
390 set  
10 set  
13 set  
13 set  
23,583  
141  
215  
84  
101  
176  
64  
28  
36  
77  
Left:11 / Right:13  
Stabilizer:7, Tail Rotor Pylon:7, Tail Cone:6  
Stabilizer:3, Tail Rotor Pylon:5, Tail Cone:4  
-  
-  
-  
376  
299 set  
17,166  
2,864  
11,296  
9,715  
2,240  
66  
1  
4 set MLG Fairing, 4 set E. Mount  
78  
-  
-  
-  
2 set  
7 set  
81,085  
67,912  
563 (FAI+FIT CHECK)  
19 set  
59 set  
44 set  
921  
4

(\*) Indicates firm orders. New orders are expected.

(\*\*) AFTI modification of four helicopters were completed. AVINT modification will be made.



# Business Development Activities

## TAI TO REFURBISH OUTER WING SECTION OF NATO-AWACS AIRCRAFT

TUSAŞ Aerospace Industries, Inc. (TAI) and International Aerospace Management Company (IAMCO) signed a contract on 6 December, 2005, under which TAI shall carry out the refurbishment of the Outer Wing Section of a total of 16 NATO-AWACS E-3A aircraft. IAMCO is the Industrial Prime Contractor for the management of NATO's Depot Level Maintenance (DLM) and contractor support services for the

E-3A AWACS aircraft.

The contract was signed at TAI's facilities in Ankara by TAI General Manager Mr. Muharrem Dörtkaşı and Business Development Director Mr. Ahmet Metan on behalf of TAI and Deputy General Manager Mr. Richard Bowes on behalf of IAMCO.

The refurbishment activities, which will start in 2006 at TAI's facilities, are scheduled for completion in 2012.



## TAI TO MANUFACTURE PARTS FOR JUMBO A380

As a result of negotiations initiated in 2004 under an agreement signed between TAI and RUAG Aerospace (RA) on 3

November, 2005, the D-Nose Panel Stretching Shells of the Airbus A380 are to be manufactured at TAI's facilities.



## TAI SUPPORTS LIGHT COMMERCIAL HELICOPTER DEVELOPMENT PROJECT

TAI is continuing its involvement in the "Aviation R&D/Light Commercial Helicopter" (HTH) project being executed by Istanbul Technical University (ITU). TAI has successfully completed the works covered by the "1st Phase Agreement," signed with ITU in 2004, for the conceptual design of the fuselage

infrastructure and is now embarking on the works covered in the "2nd Phase Agreement." Signed in

September 2005, Phase 2 covers the detailed design of the fuselage infrastructure.

The aim of the ITU-HTH project is to "establish a research

infrastructure on rotary wing air platforms in Turkey, prepare the inventory of sub-contractors and explore the potential for realization in Turkey." Under the project, a helicopter is being designed that can carry 6-8 passengers, but may also serve as an ambulance / transport helicopter.





# Capabilities

## INTEGRATED PRODUCT SUPPORT

The Integrated Product Support Department, which was established in 1999 under the Programs Directorate of TAI, provides support to air platforms such as F-16, CN-235, AS-532 Cougar, Peace Eagle AEW&C, A400M, MELTEM II, YARASA and Unmanned Aerial Vehicles (UAV).

Since the life cycles of air platforms are generally long (averaging 30 years), and operating and support costs over this period are equal to almost twice the research and development (R&D) and procurement/production costs, after sales support in the aerospace sector is

training and training equipment, facilities, manpower and personnel, PHS&T

- Provision of the required support resources in a cost effective manner.

In order to perform Integrated Product Support activities, there is a need for an integrated process called Logistics Support Analysis (LSA), which uses a standardized single database.

### Logistics Support Analysis

Considering the main tasks of MIL-STD-1388-1A defined below, the Logistics Support Analysis can be applied to programs within the scope of

303.2.7 Level of Repair Analysis (LORA)

401 Maintenance Task Analysis (MTA)

Records of the Analysis performed according to the defined tasks are kept in a database as per MIL-STD-1388-2B.

In the cases where defining supportability parameters are realized without performing Logistics Support Analysis, these parameters can be reached more economically depending on the requirements of the program by using Maintenance Allocation Charts (MAC).

extremely important.

For this reason the integrated management of technical and logistic disciplines in planning and development, and the provision of the support resources needed to meet customer requirements in a cost effective manner, are vital.

### The Aims of Integrated Product Support

- To bring the system's design properties and planned logistics resources to a state that can support the system's operational and utility requirements,
- To define the support resources, such as supply support, support equipment, technical publications,

the main tasks agreed between Customer and Contractor.

The main tasks of MIL-STD-1388-1A can be defined under five headings:

- 100 Program Planning and Control
- 200 Mission and Support Systems Definition
- 300 Preparation and Evaluation of Alternatives
- 400 Determination of Logistics Support Resource Requirements
- 500 Supportability Assessment

Some of the important subtasks performed by TAI Integrated Product Support Management for Logistics Support Analysis are given below:

301.2.4 Reliability Centered Maintenance (RCM)

### Customer Support

Within the scope of Customer Support activities, Integrated Product Support Management acts as focal point for the follow-up of the end item, spares and support equipment for the warranty period, and provides support during the period defined in the contract. In addition to this, taking action to all of the customer requests, collection and review of operation data within and out of warranty period is under the responsibility of the Management.

Besides the planning and coordination of trainings for pilot and maintenance personnel of the customer, as defined in the contracts, management of technical representatives located in

# Capabilities

bases for long periods in the fields of mechanics, avionics/electronics are among the responsibilities of Customer Support.

## **Technical Documentation**

Technical Documentation of air platforms that will be delivered to the customer are prepared by using the Logistics Support Analysis Records, results of Maintenance Task Analysis and other Design/Procurement/Sub-contracts vendor documents.

Depending on the program and Customer requirements, Technical Documentation of air platforms, not less than those listed below, that will be delivered to Customer are prepared by

Peace Eagle Program: For the Maintenance Manual, design source data/LSA are converted into SGML format and Arbortext Epic software is used. For the Illustrated Parts Catalogue CATIA, Corel Draw 12 together with Linkone is used and Xyvision Content@ is used for the publishing system.

Meltem II Program: THALOG/BALAD software and ILS Maintenance Manual Preparation software developed by TAI are used.

Yarasa Program: For the text MS Word and for the drawings UG and Corel Draw 12 are used.

Depending on the program requirements, Technical Publications

logistics activities per the ILS schedule is performed.

## **Spare Parts and Ground Support Equipment**

With the use of Maintenance Task Analysis outputs, the depth and range of spare parts and ground support equipment pertinent to the related air platform are determined. Standardization is the main goal in this analysis.

Integration, test and evaluation activities to provide compatibility between the main elements of the system and support elements (material, software, personnel, and procedures) are also realized.

the Integrated Product Support Management:

- Operations Manual
- Maintenance Manual
- Illustrated Parts Catalog
- Fault Isolation Manual
- Flight Manual
- Weight and Balance Manual
- Pilot's Manual/Pilot's Check List
- Wiring Diagrams
- System Schematics

Moreover, customer requests regarding technical documentation are reviewed and necessary activities/updates are carried out.

For the time being, the software that is necessary for the preparation of technical publications are as follows:

can be developed in ATA iSpec2200 and ATA 100 formats.

## **Integrated Logistics Support Management**

During TAI proposal preparation activities, before the contract signature, not only customer ILS requirements are reviewed but pricing data is supplied, together with manpower and other requirements as well. Additionally, contract negotiations with customer and vendors for ILS activities are carried out.

Following the effectivity of the contracts, the ILS Program Plan is prepared and submitted to the customer for approval. The preparation of the ILS schedules of the effective programs, as well as the program management of

Under the programs with a spare parts provisioning responsibility, in order to supply parts under categories of Aircraft on Ground (AOG), "Class I" and "Expedite" within 48/72 hours, spare parts warehouses are being established at TAI and/or by related subcontractors.

Packaging, handling, storage and transportation activities for the spare parts and ground support equipment are planned for the life cycle of the system. Spare parts and ground support equipment are delivered to customer within the contract schedule.

In addition to the codification activities of materials, Spare Part Optimization is carried out using OPUS10 software.



# Capabilities

## SYSTEMS INTEGRATION CAPABILITIES

Rapid technological developments and the subsequent continuous evolution of user requirements increase the importance of systems integration projects on air platforms, and constitute a large portion of the international market. Many international aerospace companies are willing to install system integration infrastructure onto both their own products and platforms of other manufacturers.

Air platforms, it can be clearly seen, are a combination of many systems. While accomplishing their tasks, these systems, being part of a whole in general, work harmoniously with other systems. An integrated system should cause neither a decrease in the operational efficiency nor a phase out of other systems.



Depending on the content of the project, the definition of systems integration is occasionally confused. However, it should not be considered separately from the platform. Different systems carry out their activities through data transfer in an interactive mode. The compatibility of the platform and system should always be considered, a one-sided integration will effect the performance and reliability of the system and/or the platform.

Under the systems integration

concept, all activities regarding sub-systems should be evaluated at the level of the platform, however the integrity of the platform must remain a priority.

Generally, the following topics should be considered as necessary in an air platform systems integration project:

- Air worthiness and safety,
- Performance of the platform, requirements of the pilot,
- Structural integrity,
- System integrity and the operability of system functions,
- Man-machine interface design.

Upon the completion of the integration project, the final product is a qualified/certified system.

Furthermore, the most important requirement after integration is the obligation to protect the basis of airworthiness of the air vehicle/platform and ensure flight safety.

In order to ensure the safety of the flight system, which is defined as the ability of a platform or any system to carry out its duty safely and securely, in the scope of the designed limits and conditions:

- The safety issue should be considered as part of the system,
- The planning of the safety activities should be realized, their dangers, which should be foreseen, should be defined, analyzed and evaluated.

- Activities should be evaluated by a third party who is not involved in the project.

The integrity and protection of the systems should be realized under the responsibility and control of aviation companies that are experienced in the design of air platforms.

Being aware of its responsibilities, TAI, in its past and present design and development projects, has established a system

integration infrastructure that meets all of these requirements.

### **Agricultural Aircraft (ZIU) Development Project**



Under this program the design and integration of flight controls, fuel, brakes, heating and air conditioning of an agricultural spray system were realized. The ZIU prototype, which made its maiden flight in June 2005, has undergone 15 hours of flight testing.

### **Cougar AS-532 SAR/CSAR Systems Integration**

Personnel of TAI directly participated in the systems integration and qualification operations on SAR and CSAR types of Eurocopter Cougar AS-532 helicopters. Under the program, the integration and qualification of FLIR, IFF, INS/GPS, PLS, EFIS, Radio and weapon systems were carried out.

#### **HEWS/IRCM Project**

This program consists of the integration design of Helicopter Electronic War System (HEWS)-Infrared Counter Measure (HEWS/IRCM) systems on Cougar AS-532 helicopters in the inventory of the Turkish Land Force and Air Force Commands, the integration and installation of the IRCM system as a prototype onto two helicopters and the design and production of a total of 33 Group A kits. The program was successfully completed with the delivery of the Group A kits to the Turkish Land Forces Command in 2003.

# Capabilities

## **Sikorsky S-70A-28 Digital Cockpit Modification**

TAI carried out the Digital Cockpit modifications to S-70-28A helicopters of the Turkish Land Forces (TLF), transforming them into a S70-28D configuration, thus gaining experience in assembly, ground and flight tests as well as problem diagnosis and repair of the platform's Line Replaceable Units (LRU). The program was successfully completed with the delivery of the last helicopters to the TLF Command in February 2002.

## **YARASA Program**

With the program that became effective in May 2003, besides the additional fuel tank integration on the S-70-28A helicopters in the inventory of Special Forces Command, TAI gains a full systems integration capability with avionics system design, software development and the establishment and operation of a systems integration laboratory. The avionics systems to be integrated are: multi-functional indicators, FLIR, air radar, vision goggles (night and day) integrated into the pilot's helmet, auto pilot, developed communication and navigation systems as well as the central mission computer.

## **A400M Program**



Being first level responsible for the Lighting (ATA-33) and Water/Waste Water (ATA-38) systems on the A400M, TAI is cooperating with Airbus France, which is second level responsible

for cockpit lighting. Moreover, system installation designs are realized for door mechanisms and the Forward Center Fuselage at a second level. TAI is responsible for the design and certification of the sub-systems of ATA-33 and ATA-38.

With this program TAI is taking on design and production activities, as well as service life-cycle Integrated Logistics Support on the aircraft.

## **MELTEM II Program**



The Meltem II program contract, signed in December 2002, is for the modification of nine Turkish Navy CN-235 aircraft, six into Maritime Patrol Aircraft (MPA) and three into Maritime Surveillance Aircraft (MSA). Under Meltem II, the electronic power distribution and management system, the internal cabin arrangement and lighting system, and the production of all A-type kits, tools and harnesses, as well as all ground tests, are being realized by TAI.

## **Remote Controlled Target Drone Program**

The Turna and Keklik target drones, as well as their launchers and ground equipment, were designed and produced to meet the firing/target tracking requirements of the Turkish Armed Forces (TAF). In addition to these platforms, which entered the inventory of TAF in 2001, activities regarding payload integration and autopilot development are ongoing for a Medium-Range Tactical Unmanned Aerial Vehicle (UAV) named

“Baykuş” and a half scale version Short-Range Tactical UAV “Pelikan.” The development activities of the Short-Range Unmanned Aerial Vehicle “Martı,” designed for governmental institutions and civilian roles, have almost been completed.

## **Indigenous Turkish Unmanned Aerial Vehicle (UAV) Development Project**

Under the agreement signed with the Undersecretariat for Defense Industries (SSM) in December 2004, EO Day Camera, EO/FLIR/LRF/LD and SAR/GMTI payloads will be integrated onto the Medium-Altitude Long-Endurance (MALE) Unmanned Aerial Vehicle, currently under development by TAI. The software for the mission computer, automatic landing system, air and ground data terminal, portable image exploitation system, remote image terminal and ground system, designed with a capability to perform 24-hour missions to a range of 200 km, are being developed by national resources under the leadership of TAI.

TAI, besides these completed and ongoing programs, is continuously developing its systems integration infrastructure capability with projects such as R&D-2004 and the Independent Research and Development project carried out with the support of TUBITAK.

TAI plans to use its current capabilities in the Indigenous Unmanned Aerial Vehicle Development and the Primary Training Aircraft Development projects.

With the infrastructure activities realized in this area and the capabilities gained from past and current programs, TAI is aiming to take part in both national and international projects as prime contractor.



# From the Facilities

## TAI REALIZES ANOTHER TARGET IN A400M PROGRAM

TAI has passed another important milestone in the A400M program with the granting of Production Organization Approval (POA) to TAI. The POA is recognition that the company can

design and manufacture commercial aircraft parts in compliance with the regulations of the European Aviation Safety Agency (EASA).

TAI's efforts to obtain POA

began in September 2003 with an approval application made to the Civil Aviation Department of the Turkish Ministry of Transportation, which is the Civil Aviation Authority in Turkey. Following the completion of the necessary training programs an audit was carried out at TAI's facilities by the Italian Commercial Aviation Authority (ENAC) on 11-14 October, 2005.

As a result of the efforts of TAI's employees in the Production, Quality, Engineering, Facilities and Training departments, the audit was successfully completed.

As the TAI family, we extend our gratitude to all the dedicated employees that played a role in this achievement, a first in civil aircraft production in Turkey.

## TAI INITIATES GROUND VIBRATION TEST ACTIVITIES

The Ground Vibration Test infrastructure at TAI's facilities is to be upgraded to allow TAI to carry out testing for the Turkish Air Force (TuAF) under the external load development project. TUBITAK SAGE, the prime contractor in the "Ground and Airborne Vibration Tests" program, signed a deal with TAI in October 2004, assigning TAI with the responsibility of carrying out the tests.

Realized for the first time in Turkey, the Ground Vibration Tests began at TAI's facilities in December 2004. Following the completion of the tests, TAI is expected to take

part in the "Airborne Vibration Tests," planned to be realized at the Flight Test Center of 1st Air



Maintenance and Supply Center Command in Eskişehir under the same program.

TAI is planning to take responsibility in Ground Vibration Tests in such programs as A400M (with EADS-CASA), Primary Training Aircraft, Yarasa, Meltem III and Unmanned Aerial Vehicle. With the capability and experience gained in the ground vibration tests, TAI will attain the capability to carry out all development and certification tests that may be required in the development of new products, or future modification and modernization programs.

# From the Facilities



## TAI PREPARES FOR MODERNIZATION OF ROYAL JORDANIAN AIR FORCE F-16S

Following the selection of TAI by the Royal Jordanian Air Force [RJAF] for the modernization of 17 Block 15 F-16A/Bs, preliminary studies have now been launched following contract effectivity on September 29.

Under the contract, signed on July 27 at TAI's facilities, TAI will carry out Falcon-Up, Falcon-Star and Mid-Life Upgrade (MLU) modifications, as well as ground and flight tests, of the first 12 aircraft at its facilities, with the remaining five aircraft to be modernized at a local military base in Jordan by the RJAF under the supervision of TAI. Lockheed Martin

will provide engineering support and the necessary upgrade kits during the modification period of the three initial "Lead The Fleet" aircraft, two F-16 A types and an F-16 B type. More than 40 RJAF personnel will receive theoretical and on-the-job training at TAI's facilities. The modification of the first aircraft is scheduled to be started in June 2006. After modernization the 12th aircraft will be delivered to the RJAF in February 2009. The project is due for completion in October 2009 with the delivery of the 17th aircraft, to be modernized in Jordan under the responsibility of the RJAF.

The personnel to be trained at TAI's facilities will arrive in Turkey in May 2006. In order to carry out preliminary studies for management activities, a Program Management Review (PMR) was realized at TAI's facilities on 14-18 November, 2005 with the participation of all parties.

The Falcon-Up and Falcon-Star modifications, which will extend the service life of the platforms to 8,000 flight hours and allow the aircraft to remain in service for another 20 years, will include structural development activities. The MLU modification will include the modernization and development of the avionic systems.

## 25 TLF PERSONNEL COMPLETE TARGET DRONE MAINTENANCE TRAINING

In order to meet the target drone requirements of the Turkish Land Forces Command, the procurement contract for the Keklik and Turna Target Drone



Systems was signed on 24 December, 2004.

In compliance with the agreement, a total of 25 TLF personnel began their training at

TAI's facilities on 23 August, 2005. The personnel began with theoretical training until 31 August, after which they continued with computerized simulation training until 7 September.

When the results of the written exams and simulation grades were evaluated, 14 personnel were selected as flight operator, one as standby flight operator and 10 as repair and maintenance personnel. Following the repair, maintenance and flight trainings, the selected personnel attended a 20-hour repair and maintenance training session given by design technicians. Following the primary trainer aircraft training they also received

flight training for the target drone Keklik.

A total of 10 TAF personnel who completed the "Maintenance and Repair Personnel" and "on-the-job" trainings received certificates on 26



October, 2005. Flight training for the Keklik system was given simultaneously at two locations until 16 December, 2005.



# From the Facilities

## TAI'S BVQI CERTIFICATION REVISED

TAI's ISO 9001:2000 and AS EN 9100 certificates have been revised to Rev. B as a result of an interim audit carried out by the Bureau Veritas Quality International (BVQI) certification company on 20-22

September, 2005. The audit, which was carried out in accordance with the change in British Standard TS 157, has also brought about an alteration in the scope of the certification.



## TAI HOSTS MINI UAV PERFORMANCE DEMONSTRATIONS

The Undersecretariat for Defense Industries (SSM) issued a Request for Proposal (RfP) on 26 July, 2005 for the development and production of an Unmanned Aerial Vehicle (UAV) for the Turkish Land Forces with maximum use of national resources. The RfP called for the indigenous development of the fuselage and/or autopilot of the Mini UAV system. Four companies submitted their responses to the RfP on 3 October, 2005, namely

Aerospace Engineering Department of the Middle East Technical University; BAYKAR Makina San. ve Tic. A.Ş.; Global Teknik Elektronik Yaz. Müh. Hava. San. Tic. A.Ş. and the Vestel Savunma Sanayi A.Ş.

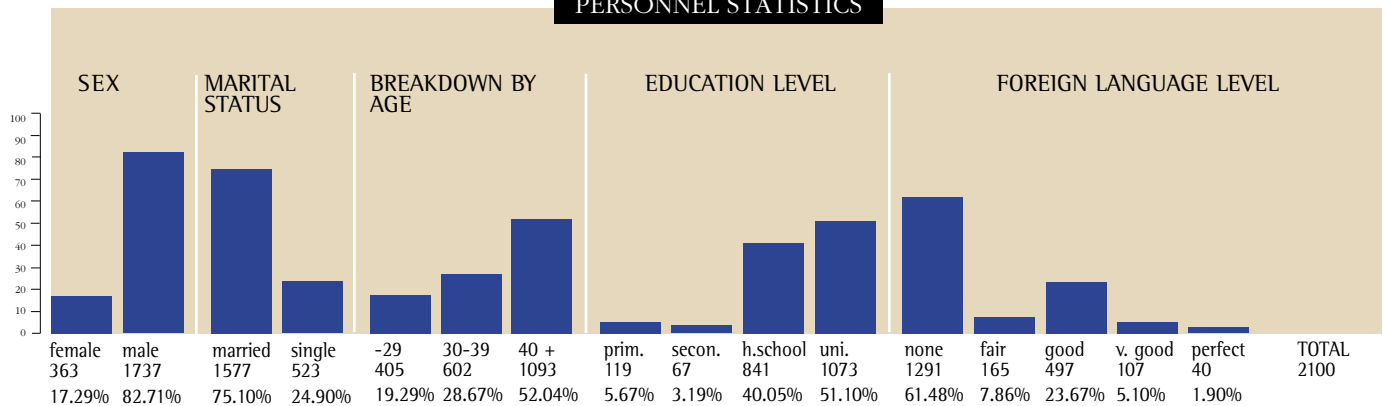
TAI hosted an Evaluation Team at its facilities, comprising SSM officials and representatives from Turkish Land Forces (TLF) Command, for the flight demonstrations of the four bidders

on 20-25 October, 2005 and 28-30 November, 2005.

During the demonstrations, a pre-evaluation and testing of the indigenously developed and manufactured fuselage and/or autopilots was carried out by the Evaluation Team, with TAI providing support to the SSM.

TAI would like to wish continued success to the bidding companies in their development and manufacturing activities.

## PERSONNEL STATISTICS



As of February 2006

Total number of personnel: 2100  
Number of engineers: 637

Number of technical personnel: 1451  
Number of administrative personnel: 649

# Organizations, Fairs and Exhibitions



## IDEF'05

7nci Uluslararası Savunma Sanayii Fuarı  
7th International Defence Industry Fair

Ankara Hipodromu/Hippodrome-Eryaman-ANKARA-TURKEY  
27 - 30 Eylül / September 2005

### TAI AT IDEF 2005

TAI had a successful participation at the "7th International Defense Industry Fair" (IDEF 2005), held at the 75th Year Hippodrome in Ankara between 27-30 September, 2005.

During the exhibition, TAI, with

exhibition.

IDEF 2005 also saw the signing on 28 September of two separate protocols between TAI and the Undersecretariat for Defense Industries (SSM), for the "Structural Design Activities for the Design and

was assigned as the "Coordinator Company" by the SSM on behalf of Turkish industry, also participated in IDEF 2005 at TAI's stand.

During the exhibition TAI's stand was visited by numerous dignitaries, including Chief of General Staff



260 m<sup>2</sup> of exhibition area, promoted not only its manufacturing capabilities, current and future programs, but also displayed samples of aerostructures manufactured for leading commercial aerospace companies in the world. In particular, the models of TAI's New Generation Recoverable Aerial Target System Turna/G, A400M, Unmanned Aerial Vehicle "Pelikan," F-16, AS-532 and CN-235, displayed at TAI's stand, drew great attention during the

Development of Primary Trainer Aircraft" and "Development of Unmanned Aerial Vehicle Platforms" programs. With the two protocols TAI shifts from a co-production concept to an indigenous design and production concept based on national resources.

The TIPS group, for which TAI



Gen. Hilmi Özkök, Minister of Defense H.E. Vecdi Gönül and Undersecretary for Defense Industries Mr. Murad Bayar. Furthermore, international delegations from Azerbaijan, the United Arab Emirates, South Korea, the United Kingdom, Spain, Italy, Malaysia, Pakistan and Jordan visited TAI's stand and received detailed information on the Company's activities and pre-arranged meetings were held with TAI's business partners.



# Organizations, Fairs and Exhibitions

## HIGHLIGHTS OF IDEF 2005

- The 7th International Defense Industry Fair (IDEF 2005) took place at its new site in Ankara on 27-30 September, 2005.

- Northrop Grumman signed a long-term agreement with KaleKalip Defense and Aerospace on 28 September, under which the Turkish firm will provide support equipment associated with the Turkish Air Force Peace Eagle Airborne Early Warning Program.

- As announced by EADS during IDEF 2005, EADS Defense Electronics has signed a cooperation agreement with Aselsan on 30 September, under which Aselsan, as a subcontractor of EADS-Deutschland GmbH, will be involved in the development and manufacturing process of the Missile Warning System-Passive Element, and will deliver core components of the most modern infrared missile warning system Multi-color InfraRed Alerting Sensor (MIRAS) of the A400M transport aircraft, which will be integrated by EADS Defense Electronics.

- On 29 September, Northrop Grumman announced contracts with Australian firm CSC Australia Pty Ltd. and Turkish firm MIKES (Mikrodalga Elektronik Sistemler Sanayi ve Ticaret A.Ş.) for work on the F-35 Joint Strike Fighter program.

- Speaking during a press conference held on 28 September, Finmeccanica CEO Mr. Giorgio Zappa noted that Finmeccanica and its subsidiaries (namely AgustaWestland, Alenia Aeronautica and Aermacchi) have well-established long-term relationships with the Turkish Armed Forces.

Having won the contract for the Maritime Patrol Aircraft (MPA) program, Finmeccanica is now seriously assessing all opportunities for collaboration with Turkish defense and aerospace companies in large-scale programs to modernize TAF.

- On 28 September, TAI and the Undersecretariat for Defense Industries (SSM) signed two separate protocols for the "Conceptual Design and

Development Activities for the Primary Trainer Aircraft" and "Development of Unmanned Aerial Vehicle Platforms" programs.

- On 29 September, the SSM awarded Aselsan (main contractor) a US\$576 million contract for the local production and integration of Electronic Warfare (EW) systems for nine different types of rotary wing platforms (281) and for the CN-235-100M aircraft (2) in the inventory of the Turkish Armed Forces and Turkish Special Forces Command

respectively.

- On the sidelines of IDEF 2005, the "JSF Industry Day Reception" was held at the show site, hosted by the SSM for local and international companies involved in the JSF program.

- During a press conference held on the eve of IDEF 2005, Alenia Aeronautica CEO Mr. Giovanni Bertolone, on behalf of the four partner companies forming Eurofighter, has confirmed an invitation to Turkey and its aerospace industry to consider joining the program very soon, exploiting the opportunity to become the fifth full-partner in the program. Turkey would be involved not only in the manufacture of parts for the aircraft but also in the development of new technologies and systems and their integration into future systems.

- On 29 September, Italian Undersecretary for Defense Mr. Filippo Berselli, German Secretary of State for Defense Dr. Peter Eickenboom and UK Minister of Defense Procurement Lord Paul Drayson met with Turkish Minister of Defense H.E. Vecdi Gönül and Undersecretary for Defense Industries Mr. Murad Bayar to discuss the Eurofighter program.

- A Eurofighter Typhoon made its first ever appearance in the skies over Turkey at IDEF 2005.

# Organizations, Fairs and Exhibitions

## TAI AND SSM SIGN TWO PROTOCOLS DURING IDEF 2005

On 28 September, during IDEF 2005, TAI and the Undersecretariat for Defense Industries (SSM) signed two separate protocols for the “Conceptual Design and Development Activities for the Primary Trainer Aircraft” and “Development of Unmanned Aerial Vehicle Platforms” programs.

With the two protocols, inked by Undersecretary for Defense Industries Mr. Murad Bayar and TAI Chairman of the Board Maj.Gen. (R) Hasan Peker Günel, TAI's role shifts from co-production to indigenous design and production programs based on national sources.

Having successfully realized the production of many air platforms, avionics integration, modernization and modification programs, TAI has advanced through the acquisition of technology to design and manufacture aircraft. As a partner of Airbus Military S.L., TAI has been participating in the design and development activities of the A400M aircraft.

The SSM has awarded TAI with the Primary Trainer Aircraft Design R&D, which is the first step of the Primary Trainer Aircraft Development Program.

With the know-how and experience gained in the design, development and production of the Firing Target Drone “Turna” and the Tracking Target Drone “Keklik” systems, which are the first Turkish-designed and produced aerial vehicles to enter the inventory of the Turkish Armed Forces, TAI has also advanced in acquiring the technology to design and manufacture an indigenous unmanned aerial vehicle (UAV).

Following the approval of the “UAV Platform Development Program” by the Defense Industry Executive Committee (DIEC), TAI was designated as the Prime Contractor.

The indigenous Turkish UAV Program covers the design and production of a Medium-Altitude Long-Endurance Long-Range UAV that can operate in all weather conditions. The UAV, the flight tests of which are planned for 2008, will be delivered in 2009 following the integration of payloads.

Speaking at the ceremony, TAI Chairman of the Board of Directors Maj.Gen. (R) Hasan Peker Günel extended his gratitude to the Turkish Armed Forces, SSM and TAI's main shareholder, Turkish Armed Forces Strengthening Foundation, for “supporting TAI and giving us the opportunity to improve in compliance with our mission statement.” Günel, who mentioned that TAI is determined to realize both the UAV and training aircraft development projects with maximum contribution from local industry, added that technical activities had been carried out with various companies and institutions in this regard. He thanked the SSM on behalf of TAI's employees for their support and trust in meeting the defense requirements of Turkey, also underlining that TAI would do its best to deserve this trust and support.

In his speech, SSM Bayar stated: “The SSM, considering technology acquirement and R&D as vital for national benefit, decided to realize the UAV and Primary Trainer



Aircraft projects, which are among the most important defense projects of Turkey, under TAI's leadership.” He said that Turkey would be more powerful with R&D activities, and underlined that Turkey must produce its own technology in order to compete in the international markets. “Rapidly progressing UAV technology is expected to create many important market opportunities. The task given to TAI for meeting the UAV requirements of the Turkish Armed Forces carries also an important role in meeting the requirements of allied countries in the future,” he continued.

Calling the program “a historic step in aviation for Turkey, to have an indigenously designed primary trainer aircraft,” Bayar said that the SSM was glad to be initiating the Indigenous Primary Trainer Aircraft project, which will be executed with the design and integration capabilities of TAI.

During the ceremony, TAI Chairman of the Board of Directors Maj.Gen. (R) Hasan Peker Günel presented a plaque to Bayar for his support in both the presentation and export of the products of Turkish defense companies.

Additional plaques were presented to the Head of SSM Foreign Affairs and Export Department Ms. Asuman Vangözü and expert Mr. Mahmut Şener for their support in both the presentation and export of products of Turkish defense companies.





# Organizations, Fairs and Exhibitions

## JSF INDUSTRY DAY ORGANIZED AT IDEF 2005

In the sidelines of the 7th International Defense Industry Fair (IDEF 2005) Undersecretary for Defense Industries Mr. Murad Bayar organized a "Joint Strike Fighter Industry Day Reception" on 28 September, 2005.

The reception brought together many civilian and military authorities from local and international firms taking part in the JSF program, which is considered as the last manned fighter of the 21st century.

Speaking at the reception, Bayar said that cooperation between both countries and firms would be an important part of the efforts to find cost-effective solutions, being a major factor in the program, and that activities such as JSF Industry Day would contribute to the

acceleration of the program.

Stressing the importance that the Turkish Government attributed to the JSF program, Bayar said that Turkish Industry had a privileged place in aviation, with its competitive prices, credibility and technological capabilities, and that the local participation in the program would be critical in the final decision-making process.

He went on to say that the international Memorandum of Understanding (MoU) regarding the



transformation to the production and support phases of the program would be finalized mid-2006, adding that during that period Turkey would also be considering other aircraft systems, such as Eurofighter.

Turkey joined the JSF project during the ongoing development phase in July 2002 as a Level 3 partner with a USD 175 Million contribution, giving Turkish defense companies an opportunity to take part in the development and production stages of the most advanced fighter aircraft ever. Turkey is partnered with the United States, Australia, Denmark, the Netherlands, Great Britain, Italy, Canada and Norway in the project, in which a total of 25 Turkish companies are currently involved.



## UNDER THE LEADERSHIP OF SSM, TURKISH DEFENSE INDUSTRY COMPANIES VISIT GULF COUNTRIES AND REPUBLIC OF SOUTH AFRICA



In recent months, under the leadership of Undersecretary for Defense Industries Mr. Murad Bayar, delegations comprising representatives from Turkish defense industry companies made official visits to a number of Gulf countries and the Republic of South Africa. The main objective of the visits was to present Turkish defense industry products, increase exports and search for new cooperation opportunities.

The visit to the Gulf was made between 2-11 September, 2005 took in Kuwait, Qatar, Oman and Bahrain, and was attended by representatives from 13 Turkish defense industry companies (Aselsan, Coşkunöz, Eta-Target, FNSS, Gate Elektronik, Havelsan, Mikes, MilSoft, Otokar, Roketsan, STM, TAI and Yonca Onuk).

The tour was arranged as a follow-up to the successful contacts realized during IDEX 2005, held in Abu Dhabi, UAE, in February 2005.

The South Africa visit was held between 4-9 February, 2006, with the participation of 11 Turkish defense industry companies (Alp Havacılık, Coşkunöz, FNSS, Gate Elektronik, Havelsan, Likom, MilSoft, MKEK, Nurol Makina, Otokar and TAI).

During official talks, held with the Chiefs of General Staff, Ministers of Defense, Commanders of Armed Forces, procurement officials and heads and members of chambers of commerce and industry, the capabilities of Turkish defense companies were presented. The companies were also able to take part in official meetings and make direct contacts during the visit.



# Organizations, Fairs and Exhibitions

## 2005 INTERNATIONAL DEFENSE INDUSTRY CONFERENCE

On the occasion of the 20th anniversary of the establishment of the Turkish Undersecretariat for Defense Industries (SSM), the “2005 International Defense Industry Conference” was held at Bilkent Hotel in Ankara on 14-15 November, 2005. The Conference was attended by many national and international military and civilian delegations.

During the conference topics such as: “Policies of EU Defense Industry,” “Structural Changes in Global Defense Industry,” “Integrated Acquisition Management,” “University Research Center and Industry Relations within the Frame-work of the Defense Sector,” “Increasing

the Domestic Content in Defense Equipment Procurement for TAF” as well as “Export in Defense Industry” were discussed, and TAI Business Development Director, Mr. Ahmet Metan, submitted a presentation on “Meeting the Future Requirements of the Turkish Armed Forces with Indigenous Solutions.”

In gratitude for TAI's



sponsorship of the event Undersecretary for Defense Industries (SSM) Mr. Murad Bayar presented the TAI Chairman of the

Board of Directors Maj.Gen. (R) Hasan Peker GÜnal a “Letter of Appreciation.”

As the TAI family, we celebrate the 20th anniversary of the foundation of the SSM and extend our gratitude for their continuous support of all Turkish defense industry companies.

## HUMANITARIAN AID FOR PAKISTAN FROM TAI AND ITS EMPLOYEES

A humanitarian aid campaign launched among the employees of TAI, for the victims of the earthquake that struck Pakistan on 8 October, 2005, has brought in donations totaling USD 10,700.00, which has been passed to the Embassy of Pakistan in Ankara. In addition, the TAI Board of Directors made a corporate donation of 32 tents and 540 blankets, with a value of 20,000 YTL, which was delivered to the 11th Air Transportation Main Base Command of the Turkish Air Force for shipment to Pakistan.

During a courtesy visit paid to Ambassador of Pakistan to Turkey Lt.Gen. (R) Syed Iftikar Hussain SHAH on 21 December, 2005, TAI



Chairman Maj.Gen. (R) Hasan Peker GÜNAL and General Manager Mr. Muharrem DÖRTKAŞLI conveyed the sympathy of TAI's employees to the people of Pakistan for the destruction caused by the earthquake, and presented the ambassador delivery receipts of the donations.

We would like to thank the Board of Directors and the employees of TAI for their sympathy and their contributions to the humanitarian aid campaign. We all share the grief and sorrow of the people of Pakistan.



# TAI People

## NEW GENERAL MANAGER AT TAI

In accordance with the 12 October, 2005 resolution of the TAI Board of Directors, Mr. Muharrem

Dörtkaşlı was appointed to the post of TAI General Manager, effective as of 13 October, 2005.

Mr. Dörtkaşlı replaces Maj.Gen.

(R) Oktay Tezsezen, who had held the post of General Manager since July 2003, and who resigned from the position on 23 September, 2005.



Born in Çankırı in 1961, Muharrem Dörtkaşlı completed his primary and secondary education in Çankırı. After graduating from the Mechanical Engineering Department of the Middle East Technical University in 1983, Dörtkaşlı, joined at İşbir Holding Optics Inc. as Operations Engineer. He completed his military service as Quality Assurance and Project Liaison Officer at MKEK Maksam between 1985-1986, after which he worked at the Turkish office of Leyland & Birmingham Rubber (LBR) Co. Ltd. (UK) until 1991 as the Project Coordinator of the Turkish Armed Forces NBC Gas Mask program.

Dörtkaşlı started working at the Turkish Aircraft Industries, Inc. (TUSAŞ) as Project Control Chief in 1991, and performed Quality

## MUHARREM DÖRTKAŞLI

Assurance, Configuration and Industrialization and Technology Transfer follow-up tasks on the CN-235, SF-260 programs on behalf of the Undersecretariat for Defense Industries (SSM).

Between 1993-1997, while working as Technical Services Manager at TUSAŞ, he also held the posts of Local Industry Coordinator for the A400M program and Representative of Turkish Industry in the European Industry Consortium. Additionally, on the Attack Helicopter Program, he was a member of the Technology Transfer and Local Content Commissions as well as the Project Coordination Board during the RfP preparation activities.

While working as the Deputy General Manager of TUSAŞ between 1997-2003, he also served as Deputy Chairman representing the Industry on Aviation Sector Expert Commission of the Eighth 5-Year Development Plan of the Turkish

Government.

Dörtkaşlı, who was appointed as General Manager of TUSAŞ on 16 March 2003, kept his post until the merger of TAI and TUSAŞ companies. He was also on the boards of TUSAŞ Engine Industries, Inc. (April 1997-April 2000); TUSAŞ (April 2003-April 2004); and TAI (April 2004-12 October 2005).

Dörtkaşlı has participated in various training programs, such as the Certificate Program of MBA Management for Engineers at the Political Sciences Faculty of Ankara University, Defense Procurement Agreement Management at DLS Jusmmat, Customer Quality Assurance at the Spanish Ministry of Defense, Project Management at LBR, UK and Manufacturing Technologies in Germany.

Muharrem Dörtkaşlı was appointed as TAI General Manager on 13 October, 2005. He is married, has two children and speaks English.

## APPOINTMENTS

**Ali Haydar BÜYÜKCAN** was promoted to the position of "Head of the Internal Audit and Assessment Committee" on 13 September 2005.

**Adnan AYDOĞAN** was appointed to the position of "Finance and Accounting Manager" on 13 October 2005.

**Mustafa Erdal KAZANCI** was promoted to the position of "Material and Production Planning

Manager" on 13 October 2005.

**Kemal ÖZMEN** was promoted to the position of "Procurement Manager" on 13 October 2005.

**Cüneyt SOHTA** was appointed to the position of "Program Manager" on 19 December 2005.

**Sarp BAŞ** was promoted to the position of "Quality System Manager" on 13 September 2005.

**Murat TAŞPINAR** was promoted

to the position of "Quality Inspection Manager" on 13 September 2005.

**Gülşen BAYRAMUSTA** was promoted to the position of "Information Support Manager" on 13 October 2005.

**Alper KÖKSAL** was promoted to the position of "Information Services Manager (Internal Project)" on 13 October 2005.

# TAI People



## ÖZCAN ERTEM

Özcan Ertem was born in Ankara in 1962. After completing his secondary and high school education in TED Ankara College, Ertem continued his education in the METU Aeronautical Engineer Department, from where he graduated in 1984 with 3.54/4.00 Cum.GPA (Rank:1st). He took his M.S degree on "Finite Element Simulation of Aircraft Structures" between 1984-1987 and his Ph.D. degree on "Aircraft and Automatic Flight Control Systems Simulation"

between 1987-1996 at the same university. He was responsible for the maintenance of 70 aircraft of 15 different types between 1987-1990 at the Turkish Air League-Türkkuşu General Directorate, where he worked as Maintenance Manager and took his pilot's license. Ertem started working in the TAI Design and Development Department as senior designer in 1990 in the Unmanned Aerial Vehicle development program. He worked at TAI as Project leader of the group assigned for the TAI CAD/CAM System Infrastructure Analysis and as Chief Design Engineer and Project Leader on the Remotely Operated

Target Drone Development Project. Ertem started working at Turkish Aircraft Industries, Inc. (TUSAŞ) in 2000 as Engineering Chief on the Turkish Unmanned Aerial Vehicle (TİHA) and C-130E Modernization (Erciyes) Programs, and in 2003 was appointed as Manager of the Design and Development Department. In 2005, during the merger of TAI and TUSAŞ, he gave flight and ground instruction courses to students taking their Air Transport Pilot Licenses. Ertem, who was appointed as Director of Design and Engineering at TAI on 5 January, 2006, speaks English and French. He is married and has two children.



## AHMET TOKMAKÇIOĞLU

Ahmet Tokmakçioğlu was born in Ankara in 1960 and completed his primary, secondary and high school education in Germany and Istanbul, Turkey.

After graduating from the Metallurgical Engineering Faculty of the Middle East Technical University (METU) in 1982, he obtained his M.S. degree from the same university

in 1985, and in 1995 completed the Masters of Business Administration Certification Program in METU.

Tokmakçioğlu started working in the TAI Quality Assurance department in 1987 with the title of Metallurgist, responsible for Non-destructive Tests and Fabrication Processes. He worked in the same department for 18 years at various levels and assumed roles during the establishment and execution of the Non-destructive Test, Process Control Laboratories, Quality

Systems and Control of Metallurgical, Chemical and Composite Fabrication Processes.

Tokmakçioğlu was promoted to the post of Quality Assurance Group Manager on 13 September, 2005.

He holds ASNT NDT Level III certificates in the main NDT Techniques, comprising Radiography, Magnetic Particle, Eddy Current, Penetrant and Ultrasonic Testing. Tokmakçioğlu is married and is fluent in both German and English.



## OKTAY İNCE

Oktay İnce, born in 1958 in İstanbul, completed his primary and secondary education in the TED Ankara College. Graduated from METU, Faculty of Administration, Department of Applied Statistics in 1981. He completed his Executive MBA in 1995 in METU.

İnce, who started working at İş Bank, Automation Department as a

Programmer in 1981, played an active role in the development of budgeting and social services systems. After having completed his military service in the Turkish Land Forces-Information Systems Division as a Second Lieutenant, he worked in Enka Saudi Arabia (Arabia-Riad) Head Office as Planning Engineer in 1984.

He worked in SAPTCO (a Saudi-American joint venture company) between 1985-1987 as Systems Analyst, Head Programmer and Assistant Manager of IT Department

respectively. While working at SAPTCO he took part in the development and adaptation of Financial Systems, Operations, Material and Logistics Modules.

İnce, who joined TAI at the end of 1987 as an ERP Programmer, became Chief of ERP in 1990, Project Leader of ERDEMİR Financial Systems in 1993 and TAI MIS Manager in 1994. Oktay İnce was assigned as IT Group Manager on September 13, 2005.

He is married and has one child.