

## DEFENSE INDUSTRY

### New developments and implications

- **New defense procurement strategy**, which was announced in May 2004 involves Turkey making greater use of its national resources and technology, and seeking a greater contribution from Turkish firms in defense projects. The aim is to increase the rate of domestic inputs into defense procurement, presently 25%, to 50% in the next five years. The Defense Industry Undersecretary, Murat Bayar, has said: *“An investment of \$3-3.5 billion is being made - apart from logistics - on an annual basis, 25% of this corresponds to manufacturing in Turkey and 75% is foreign. This ratio is a minimum of 50% in the countries similar to us. This is a failure for Turkey.”*

The new procurement strategy:

- Excludes co-production deals. Defense requirements are to be met through direct purchases from abroad, or, increasingly, from local firms. Emphasis will be put on developing own-designed products rather than transfer of technology.
- Encourages the domestic defense industry to undergo a restructuring, through consolidation of state-owned companies, and encouraging private companies to consolidate and/or specialize. This is expected to result in economies of scale.

In the first implementation of the new strategy, the Defense Ministry signed a contract with three Turkish companies in 2004 for producing 250 tanks worth some \$2.5 billion. Among major deals signed in 2005 included those with TAI for conceptual design studies under beginner and basic training aircraft development and for the development of unmanned air vehicle platforms, with Aselsan for producing warfare suites for the helicopters of the Turkish armed forces (\$576 million), and for producing air defense early warning command control system (\$9.5 million). The Defense Industry Undersecretary Murad Bayar said that the unmanned air vehicle production activities were an opportunity caught by the Turkish aviation history and that Turkey would have a flying air platform as from 2008.

The new procurement strategy is based on the competency level, which local companies have been developing over the years. Although functioning mainly as assemblers, local aircraft production facilities have now developed the capacity to build 95-100% of the aircraft body and to conduct the structural design including of the AWACS and JSF-F136 engine projects. The major local companies are TEI and TAI:

- **TAI** Tusas Havacilik (Turkish Aerospace Industries Inc)

TAI is mainly a system integrator, rather than a spare part producer. It has co-produced and assembled 286 F-16 fighter jets, built 60 CN-235 transport planes with CASA and 30 AS-532 Cougar utility helicopters with Eurocopter. With its last project, known as Phoenix-II, which

included an offset rate of 30%, TAI has gained the capability to build the whole body of Super Pumas. TAI manufactures parts for Boeing and Sikorsky Aircraft. It is also a participant in the multinational Joint Strike Fighter and Future Large Aircraft programs.

□ **TEI, Tusas Motor (Tusas Engine Industry)**

It produces 440 parts for 23 types of aircraft engines and exports over 90% of its production. TEI has joined in the design, system development and production of the JSF-F136 engines developed by General Electric and Rolls Royce and signed an industrial partnership agreement with Industria de Turbo Propulsores [ITP], which will allow it to participate in the design, development and production phases of the Euro-Prop International TP400-D6 engine for the A400M. The company will also participate in the engine localization phase of the Attack Helicopters.

□ **Havelsan**

This is a software company and realized Turkey's first high-tech product export in February 2006, selling to South Korea a CN-235 airplane full flight simulator - a15-tons and \$30 million product. Havelsan has previously constructed the same simulator type for the Turkish Air Forces.

□ **Aselsan**

This is a leading company in design, development and production of critical and strategic electronic technologies in the areas of command control and communications, electronic warfare, microwave, radar, electro-optics and microelectronics. Its recent projects include and a contract valued at \$17.4 million with the Israeli IUP company in 2005 under the Turkish Unmanned Air Vehicle Project and another contract valued at €22.7 million under the air defense system procurement tender announced by the Dutch Ministry of Defense.

- Together with the new procurement strategy, a **restructuring policy**, which was aimed at creating a competitive industry, was unveiled. Some mergers, including of software company Havelsan, military electronics manufacturer Aselsan, and missile manufacturer Roketsan are on the way in order to create a combined holding company with a targeted turnover of \$1 billion per annum, being modeled on the Italian Finmeccanica management structure. In addition, TAI and Turkish Aircraft Industries (TUSAS), TAI's parent company, are to merge under a single corporate identity.
- In addition to the new procurement strategy of 2004, another development in 2005, which may have implications for the traditional defense relations Turkey has had so far, is **Turkey's starting negotiations on EU membership** in October 2005. While Turkey has been a major customer of the U.S. defense and aerospace industry, partners from many other countries, both EU members and non-Western countries, may play a greater role. Alignment measures with the EU marked a reform in civil-military relations as well. Military expenditures came under parliamentary scrutiny through the Court of Accounts. In the longer

term, in particular, Turkey's progress on the EU membership may change the priorities of the country. Turkey invariably tops the league of NATO nations measured by defense spending as a percentage of national income: it allocated 4.9% of GDP in 2003 to military expenditure, a figure well above the NATO average. However, EU membership - even the process of becoming a member - could lead to a cutback in this relatively high level of defense expenditure. The reduction could be offset to some degree by Turkey's goal of a smaller but better-equipped army, which may result in a higher proportion of defense expenditures going on purchases of equipment.

<b>TOP 15 MILITARY EXPENDITURES, 2003-2004</b>		
<b>\$ Billion</b>		
	<b>2004</b>	<b>2003</b>
U.S.A.	455.3	414.4
U.K.	47.4	51.1
France	46.2	45.4
Japan	42.4	42.7
China	35.4	33.1
Germany	33.9	34.8
Italy	27.8	27.6
Russia	19.4	18.5
Saudi Arabia	19.3	18.9
South Korea	15.5	14.9
India	15.1	12.7
Israel	10.7	10.0
Canada	10.6	10.0
<b>Turkey</b>	10.1	10.3
Australia	10.1	9.7

*Source: SIPRI*

Further, Turkish officials want to be closely involved with the defense initiatives of the EU. European defense equipment suppliers have arguably been disadvantaged in Turkish defense equipment tenders because of the difficulties they have faced in obtaining political clearance in view of Turkey's human rights record. Turkish officials now assume that this situation has improved and look forward to closer integration between Turkish and European defense industries. Already, Turkey has a growing involvement in the European aerospace sector. It has joined the Airbus A400M military transport consortium and has ordered 10 craft. Turkey is a partner in the US-led Joint Strike Fighter consortium, but a role in an alternative Eurofighter consortium is not ruled out.

## **COMPETITIVENESS OF THE DEFENSE INDUSTRY**

“Though started as a subcontractor and input supplier to the foreign contractors, the Turkish defense industry has now attained the capability to function as the main contractor and system integrator, particularly in aviation. Currently, it can meet only 25% of the requirement of the Turkish Armed Forces and needs to focus on technology design and development as foreseen by the new procurement model of “local main contractor / foreign subcontractor. “

The main obstacle to moving in this direction is that defense spending and planning of the Armed Forces does not allow the local players to benefit from economies of scale. Accordingly, the Turkish defense companies’ competitive power currently lies in fields which are labor intensive and allow production at economies of scale.

Benefits from foreign companies could be in terms of product and systems know-how and technology. Collaboration with foreign defense companies would be either through direct transfer of technology or involving Turkish companies in the subcontractor capacity in the multinational design and development projects.”

*Source:* Murad Dural, Altay Group of Companies

### **Status of major projects**

The military has been undertaking a series of modernization projects to upgrade its ageing fleet. The main projects include the following:

- Phoenix II program (the depot level maintenance capabilities of 30 Eurocopter AS 532 UL/AL Cougars);
- Purchasing of 16 Sikorsky S-70B Seahawk helicopters;
- Helicopter Electronic Warfare Suite (HEWS) Upgrade for 145 new attack helicopters;
- Procurement of 30 new attack helicopters followed by an extra 29 with 41 optional;
- A \$1.1 billion deal in April 2005 to upgrade F-16 fighter jets;
- Plans to buy nearly 100 F-35s to replace aging F-16s by around 2015 (about a \$10 billion deal);
- The upgrade of the second batch of 48 F-4 planes;
- Structural and avionics modernization of 50 NF / F-5 A/B;
- Replacement of SF-260D and T-37C by a T-X single primary and basic trainer aircraft.
- Participation in the Military Transport Aircraft (A400M), taking a 9% stake.
- Production of tanks using national resources
- Procurement of 12 light –middle class reconnaissance observation helicopters
- Procurement of 16 new patrol boats

### **Prospects**

- The 2023 Vision study<sup>3</sup> of the Defense, Aeronautics and Space Industries Group recommends definition and implementation of programs under three main headings:
  - Low altitude space vehicles and systems
  - Manless land, marine and aircraft
  - Technologies and components for joint use

A fund of \$700 million has recently been allocated for the National Aeronautics and Space Project which was designed under this Programme.

The Defence, Aeronautics and Space Industries Group envisage the following targets for 2023:

<b>TARGETS FOR THE DEFENSE INDUSTRY</b>		
	<b>2002</b>	<b>2023</b>
Defense expenditure per capita (\$)	130	534
Defense spending (\$ billion)	9	48
Defense spending /GDP (%)	0.05	0.03
Ammunition, equipment spending (\$ billion)	5	14.4
Local equipment and R&D spending (\$ billion)	0.9	11.5
Production per employee in the sector (\$/ man year)	50,000	250,000
Exports per employee in the sector (\$/ man year)	10,000	58,500
Personnel employed in the sector	25,000	60,000
Defense R& D personnel	1,500	10,000

- Turkey is likely to continue to be one of the leading markets for the arms exporters in the short-to-mid term given that:
  - It will take time to develop its own R&D and production capability through a restructuring in both public and private segments of the defense industry. This would require addressing to the economies of scale issue and the defense spending to increase in the short-to-mid term.
  - Some of the defense spending has been cancelled or postponed due to the 2000-2001 economic crises and IMF pressure for spending cuts.
- Under the new procurement model launched in 2004,
  - A larger proportion of defense equipment spending may remain in Turkey, and
  - Defense industry companies other than American companies can hope for a larger share of this business than they have enjoyed in the past.

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<sup>3</sup> The “Vision 2023: Strategies for Science and Technology” project involves the first-ever national foresight exercise of Turkey, together with three more sub-projects that aim at collecting and evaluating data on the current science, technology and innovation capacity of the country. It is an ongoing project, which aims to build an S&T vision of Turkey, and to develop S&T policies for a time period of 20 years.

- At the same time, defense equipment exports may rise above recent modest levels of \$300-400 million per year. The sector sets its export potential as \$2 billion for 2006.
- The existing military fleet has been undergoing large-scale upgrades and modernization/modifications as well as new rotary and fixed wing procurements are on the agenda, offering lucrative opportunities for sales of parts.