



REPUBLIC OF TURKEY  
MINISTRY OF ECONOMY



INDUSTRY



**ELECTRONICS**



**TURKEY**  
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# ELECTRONICS

Worldwide information and data processing technologies have demonstrated remarkable development in recent years. Taking a place among the developed countries in the 21st Century, often called “the information age”, depends upon progress in the electronics and communication sectors. Similarly, the Turkish electronics industry is continuously working to produce innovative, high quality and globally competitive products.

The Turkish electronics industry began to develop rapidly in the second half of the ‘80s. The introduction of colour TV broadcasting and the acceleration in telecommunication investments boosted development. Furthermore, the revolution in telecommunication technologies which took place during those years increased the growth of the sector. Most of the Turkish companies started operations through foreign license agreements. The licensors originated from the Netherlands, Germany, Japan, the USA, Canada, France, the United Kingdom, Denmark and Italy. Today the sector is a mature industry and has reached a significant level in technical knowledge.

The electronics industry is examined in six subsectors:

- Telecommunications equipment,
- Consumer electronics,
- Computers,
- Defence industry electronics,
- Professional and industrial equipment,
- Components.

The telecommunications subsector comprises telecommunication cables and wires, transmission equipment, telephone and telegraph automatic exchanges, enduser equipment (telephone, teleprinters, telefax etc.), transmitters and receivers for wireless telephone/telegraph equipment, receiver/transmitter antennas for wireless telephone equipment. The Turkish telecommunications subsector’s products form the infrastructure of communications all over the world.

The consumer electronics subsector consists of colour televisions, audio appliances, video players, cash registers, audiovideo cassettes, television satellite receivers and antennas, electronic scales and electronic calculators. The Turkish consumer electronics subsector, after many years of hard work, has achieved a market share of more than 50% in the European market for CRT TV sets. Moreover, in order to protect its leading position, investments in LCD display technology and application specific integrated circuit-ASIC technology are increasing in Turkey.

The products of computer subsector are hardware, software, services and supplies. The increasing utilization of IT has greatly enhanced the technical capabilities and knowledge of Turkish computer subsector firms.

The professional and industrial equipment subsector is composed of uninterrupted power supplies, induction ovens, rectifiers, automation systems, signalization and alarm systems, automotive electronics, test and measuring equipment, medical electronics, audiovisual systems, industrial electronic equipment, fire alarm and security systems. It is a key subsector that contributes to many diverse industries.

The components subsector includes circuit elements, printed circuit boards, picture tubes, coils and transformers, acoustic elements, connection elements, electronic relays. The investments in the components subsector have continued to increase in line with the activities of other subsectors of the electronics industry.

## PRODUCTION

According to the data from “Turkish Electronic Industrialists’ Association - TESID, Turkey’s total electronics industry production was US\$ 12 billion in 2011. Consumer electronics have the largest share (32%) in total electronics production in Turkey. Professional and Industrial Equipment, which is another important subsector, accounts for 20% of the total production in the electronics sector.

### *Production of Electronics Industry by SubSectors (US \$ Thousand)*

Products	2005	2006	2007	2008	2009	2010	2011
Components	225.000	300.000	494.920	587.314	597.636	640.141	680.482
Consumer Electronics	4.923.500	4.725.000	4.285.117	3.582.601	3.265.924	3.655.753	3.950.753
Telecommuni- -cation Equipment	975.000	1.250.000	1.506.912	1.622.299	1.770.929	2.112.534	2.280.518
Other Professional and Industrial Equipment	650.000	965.000	1.595.022	1.769.684	1.756.138	2.374.201	2.452.285
Military Electronics Equipment	433.400	450.000	667.373	840.605	945.955	950.000	1.040.181
Computers	427.740	460.000	963.689	1.105.067	1.199.949	1.554.223	1.642.724
<b>Total</b>	<b>7.004.460</b>	<b>8.150.000</b>	<b>9.513.032</b>	<b>9.507.571</b>	<b>9.536.531</b>	<b>11.286.85</b>	<b>12.046.943</b>

Source: Turkish Electronics Industrialists Association (TESID)

The electronics industry in Turkey has developed considerable capacity in two subsectors: consumer electronics and telecommunication equipment. Television sets are the most significant product group in the consumer electronics subsector. In terms of quantity, production of televisions was 10.9 million units in 2011. The shift in customer expectations toward LCD and Plasma TVs is compelling Turkish TV producers to invest in new technologies.

Turkishmade TV sets have excellent reputation among European consumers with respect to price and quality. There are approximately 300 firms operational in the television-radio receivers and audiovisual equipment sectors. The main factories are located in Istanbul and Manisa.

### *Production and Exports of TV sets in 2011 (1000 Units)*

	Production	Export
TV sets	10.901	9.104

Source: Turkish Electronics Industrialists Association (TESID)

Another important subsector of the electronics industry is the telecommunication subsector. Telecommunication equipment production reached US\$ 2.3 billion in 2011. Turkey's main target in this subsector is to establish a rich communication infrastructure, and to this end, considerable knowledge and experience have been accumulated. In addition, research and development activities have played a key role in the success of telecommunication subsector.

The Turkish telecommunication industry is composed of more than 140 companies with large and medium sized companies dominating the industry. Telecommunication cables have the largest share in the total production of the telecommunication equipment subsector.

In the Turkish cables and wires sector, almost every type of electric and telecommunication cables, ranging from electrical shaver coils to large energy transmitting cables and telecommunication optic cables, are produced. Major items include insulated enamelled winding wires, coaxial cables, electric conductors and fibre optic cables. With more than 370 cable manufacturers including the plants of multinational cable companies, Turkey has a large potential for cable production. Most of the large telecommunication cable manufacturers are located in the cities of Istanbul and Kayseri, and a few large companies dominate the industry. Specialization in the production of fibre optic cables is becoming increasingly important.

The production of other important professional and industrial equipment in the subsector such as uninterrupted power supplies (inverters, converters), automation systems, signalization and alarm systems, induction ovens, test and measuring equipment, medical electronic devices, and security systems is carried out by small and medium sized companies in an efficient way.

There are approximately 2,033 manufacturing companies in the field of electronics.

The Turkish electronics industry manufacturers/exporters follow European and international standards and norms. The obligation to affix the "CE Mark" to products began in the local market in 2002. At the same time, Turkish manufacturers have been closely following the developments in international quality and environmental standards.

"Arçelik AŞ", "Vestel Elektronik San. ve Tic. AŞ", "BSH Ev Aletleri San. ve Tic. AŞ", "Vestel Beyaz Eşya San. ve Tic. AŞ", "Aselsan Elektronik San. ve Tic. AŞ", "Siemens San. ve Tic. AŞ", "HES Hacılar Elektrik San. ve Tic. AŞ" and "Vestel Dijital Üretim AŞ" are some of the Turkish electronics companies which have been listed in the "Istanbul Chamber of Industry's Top 500 Companies List of 2011".

## EXPORTS

The Turkish electronics industry, founded on high added value, innovation, creativity, and extensive research, develops products not only for the local market but also for overseas. The exports of the sector have demonstrated a constant increase since 1990. This is mainly due to intensive R&D efforts and production aligned with the needs of the export markets.

Electronics industry products having the most recent technology are supplied to the Turkish market simultaneously with Europe. Turkish electronics industry exports are primarily directed to European markets. In 2011, the Turkish electronics industry realized exports to nearly 200 countries. The total value of electronics exports reached about US\$6.5 billion in 2011. As in production, consumer electronics and telecommunication equipment were the main items in exports.

### *Turkish Electronics Industry Exports by SubSectors (US \$ Thousand)*

Products	2005	2006	2007	2008	2009	2010	2011
Components	131,322	486,999	687,118	1.039.776	891.802	920.185	960.877
Consumer Electronics	3,083,900	3,047,002	2,150,157	2.103.016	1.850.895	1.843.062	1.998.151
Telecommunication Equipments	765,871	1,218,523	1,723,598	2.261.092	1.529.613	1.932.553	2.488.765
Other Professional and Industrial Equipments	407,109	246,442	282,774	415.300	527.813	769.862	931.930
Computers	57,287	63,991	93,989	135.897	85.631	120.142	118.459
<b>Total</b>	<b>4,445,489</b>	<b>5,062,957</b>	<b>4,937,636</b>	<b>5.955.081</b>	<b>4.885.754</b>	<b>5.585.804</b>	<b>5.498.182</b>

Source: Turkish Electronics Industrialists Association (TESID)

The export value of the consumer electronics subsector reached US\$ 2.0 billion in 2011. The most important consumer electronics product is TV sets. Television exports were about US\$ 1.88 billion in 2011. The share of TV sets is 94% in the consumer electronics subsector exports. Those products were exported to more than 90 countries throughout the world in 2011, the main export destination being the European Union. Turkish TV sets had a share of approximately 50% in the European market.

Developments in the world telecommunications subsector, such as intensive infrastructure investments, were reflected in the telecommunications subsector exports. In 2011, the export value of the telecommunications subsector reached US\$ 2.5 billion. Telecommunication cables have the largest share in the total exports of

telecommunication sub-sector and at present, telecommunication cables exports comprise 94% of the Turkish telecommunication equipment subsector exports.

It is worth mentioning that exports of telecommunication cables reached US\$ 2.3 billion in 2011. At present, the top markets for Turkish telecommunications cables are the United Kingdom, Iraq, Germany, Israel, Belgium, Turkmenistan and Libya. In addition, most of the fibre optic cables (HS6 Code: 854470) produced in Turkey are exported, and the total export value was US\$ 53.2 million in 2011. At present, the major export markets for fibre optic cables are Turkmenistan, Bulgaria, Portugal, Kazakhstan, Iraq and the U.A.E.\*

The export performance of the young and dynamic Turkish electronics industry has been increasing with high quality products at reasonable prices. Although, the present export value is not high on a global scale, it is believed that Turkish electronics will attain significant market shares in foreign markets with their broad range of products, continuous R&D activities, engineering quality and efficient after sales services.

## TRADE FAIRS

The full list of the fairs which will be held in 2012 can be reached through the official website of the Union of Chambers and Commodity Exchanges of Turkey (<http://www.fuarrehberi.org.tr>).

### *Fair City Date (2012)*

Fair	City	Date (2012)
International Lightech 2012	Istanbul	08.03-11.03
Information And Technology	Trabzon	27.03-01.04
Win Electrotech'12 13th Energy, Electric Ve Electronic Technologies Fair	Istanbul	29.03-01.04
Win Automation'12 19th Industrial Automation Fair	Istanbul	29.03-01.04
Konelex 2012 - Konya 7. Electric, Electronic, Electromechanic, Energy Generation, Automation And Illumination Fair	Konya	26.04-29.04
1th E-COMMERCE EXPO	Istanbul	30.05.2012
Side Industry By Subconist 2012 10. International Oem Suppliers Exhibition	Istanbul	30.05-02.06
Home Technologies Fair	Gaziantep	20.09-23.09
1st Isaf Smart Houses Fair	Istanbul	20.09-23.09
8th International Led & Led Lighting Exhibition	Istanbul	27.09-30.09
Elektronist Fuarı	Istanbul	27.09-30.09
Elex Fair	Istanbul	27.09-30.09
Best Building Electrical, Electronic, Mechanical And Control Systems Fair 2012	Istanbul	08.11-11.11
K.Enerji 2012 Kayseri Electric, Electronic, Automation Energy Production And Distribution Fair	Kayseri	08.11-11.11
Belex 2012 10th Electric, Electronic, Automation, Illumination And Communication Fair And Symposium	Bursa	06.12-09.12

Source: The Union and Chambers of Commodity Exchanges of Turkey

\* Source: Trademap (www.trademap.org)

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## USEFUL LINKS

- General Secretariat of Istanbul Minerals and Metals Exporters' Union:  
<http://www.immib.org.tr/en>
- Turkish Electronics Industrialists Association  
<http://www.tesid.org.tr>



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# go further with Turkey

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