



TEMSAN

COMPANY PROFILE



Establishment Of Company

TEMSAN, Turkish Electromechanical Industry whose all capital belongs to Republic of Turkey Under secretariat of Treasury is a related institution of Republic of Turkey Ministry of Energy and Natural Resources.

General Directorate of TEMSAN carries out its activities as a state owned enterprise in Yenimahalle ANKARA since 1985.



1977
GENERAL DIRECTORATE



1982
DIYARBAKIR FACTORY



Establishment Of Company

Diyarbakir Factory consisting of welded assembly hall, manufacturing hall for turbine and manufacturing hall for generator was established in 1982.

- ❑ 30.000 m² Covered area
- ❑ 13.000 m² Production hall
- ❑ 100 MW Annual production capacity

✈ 30 minutes

🚂 30 minutes



 **1977**
GENERAL DIRECTORATE

 **1982**
DIYARBAKIR FACTORY


 **1984**
ANKARA FACTORY



Establishment Of Company

Ankara Factory is located near premises of General Directorate of TEMSAN

- ❑ 98.349 m² Area
- ❑ 25.889 m² Covered area
- ❑ 16.000 m² Production hall

 30 minutes

 30 minutes

Our Potential

We are at your service with 42 years of experience and our employees most of whom are technical

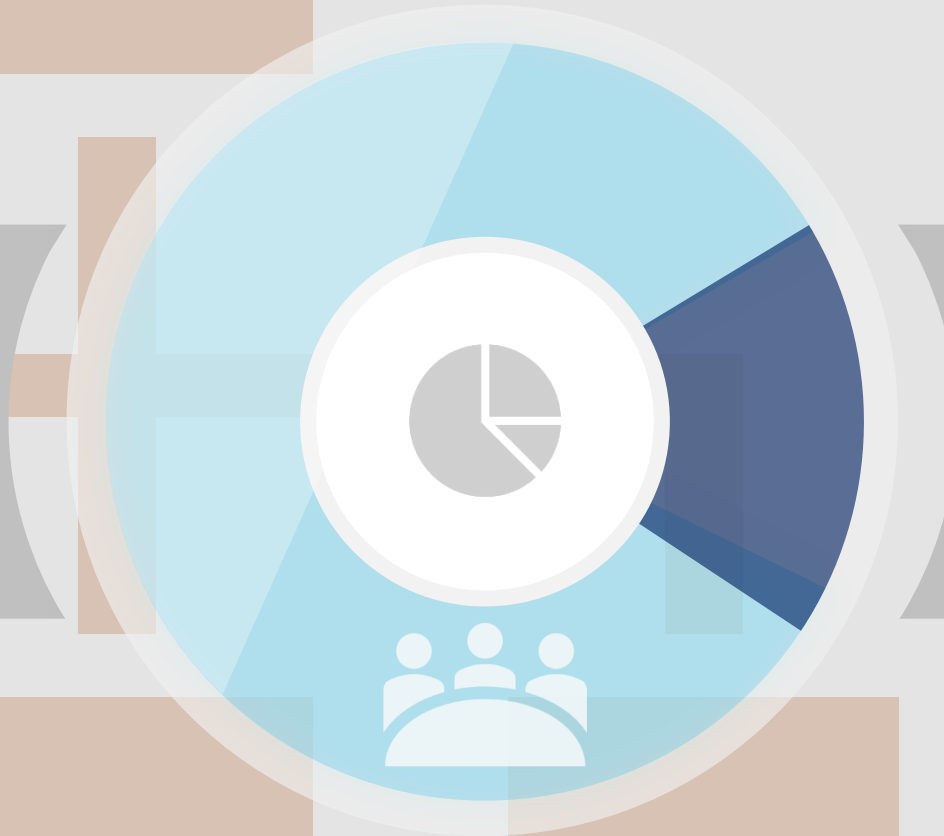
Technical
personnel

80%



Administrative
personnel

20%



Financial Condition

Sales

Our Company having showed successful performance between 2015 and 2018 has increased its sales 4 times



Turnover

Success in sales was also reflected in turnover and our turnover in 2018 increased by 7 times as compared to 2015



Market Share

While increasing its share in Petroleum - natural gas and fossil fuels markets, our company has continued to protect its share in renewable energy



2019

2018

2017

2016

2015

MISSION - VISION

SUPPLY SECURITY

To provide support to national supply security on energy need

PRODUCT

- Manufacturing original products

GLOBAL BRAND

To be a global brand in the energy sector

COMPETITIVE

Having global competitive power

PROVIDING ADDED VALUE

To operate in activities setting added value to the national economy in the energy sector

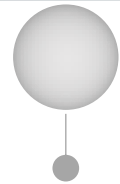
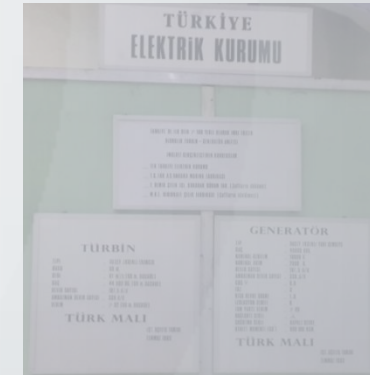
RIGHT INVESTMENT

To manufacture most right product, not market-ready product for your project



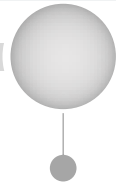
MILESTONES

SINCE ITS FOUNDATION, TEMSAN



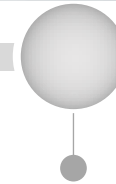
1954

**General
Directorate of
State Hydraulic
Works**



1975

**Decision on
establishment
of TEMSAN**

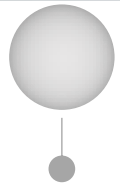


1978 - 1983

**Design, Building of 4th Unit
Hirfanlı HEPP with local
resources**

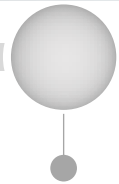
MILESTONES

SINCE ITS FOUNDATION, TEMSAN



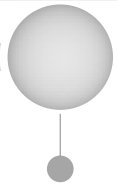
1977

**Establishment
of company**



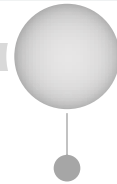
1982

**Diyarbakir
Factory started
production**



1984

**Ankara
Factory started
production**



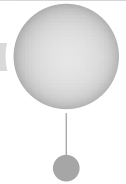
1986

**First HEPP
was
commissioned**



2000

**Contribution to
electricity
generation was over
1 billion kWh**

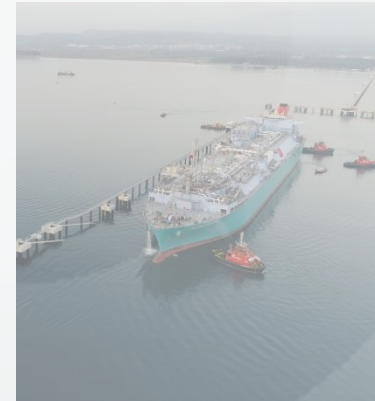
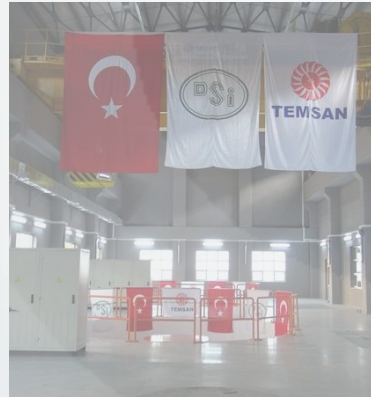


2001

**Private Sector
Projects**

MILESTONES

SINCE ITS FOUNDATION, TEMSAN



2010

Target: 100% domestic equipment



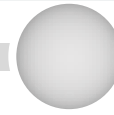
2013

Domestic manufacturing incentive share of 2,3 dollar cent/kWh.



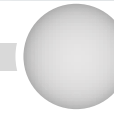
2015

Contribution to electricity generation was over 20 billion kWh



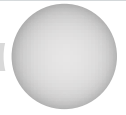
2017

Turkey's Largest FSRU facility



2020

TARGET: To be in the top 500 Industrial Enterprises



2023

Global Brand



SECTORS and Activities

Projects in energy sectors

Design, Production, Installation,
Test and
Commissioning

SOLUTIONS

Solutions

Long-lasting, Environment and Investor Friendly Applicable Solutions

Engineering and Design

The way of the most efficient use of investment is right design and perfect production. Also right design is possible with right team and experiment.

In addition, we provide service for engineering and design in our projects.

Design

Solutions

Long-lasting, Environment and Investor Friendly Applicable Solutions



Vast Opportunities For Manufacturing

Our company that has comprehensive experience especially in welded and machining manufacturing processes has processing capacity of 100 tonnes

Our company provides service with total production area of 30.000 m² in Ankara and Diyarbakır

Manufacturing

Solutions

Long-lasting, Environment and Investor Friendly Applicable
Solutions

Perfect Production

Our Personnel who carry authority to be able to
control for **PT – MT and UT in EN473 and ISO**

9712 standards on Level 2

Solution partnerships with independent
international organizations in quality control
processes

Quality Control

Solutions

Long-lasting, Environment and Investor Friendly Applicable
Solutions



Proper Delivery

Installation service, after-sales service and warranty
for all systems and supplied equipment in
accordance with international standards (IEC etc)
Installation of mechanical and electrical systems
through the use of proper test instruments under
control of supervisor

**Installation-Test-
Commissioning**

Solutions

Long-lasting, Environment and Investor Friendly Applicable Solutions



365/7/24

Unlimited support

Response in 24 hours

Spare parts procurement

Skilled response personnel



After-sales service

CUSTOMER RELATIONSHIP AND SUPPLY CHAIN MANAGEMENT



Design

Supply and
Implementation

After-sales
Service



Sectores and activities

Projects in energy sectors

Design, Production, Installation, Test
and
Commissioning

PROJECTS

117 Units



**63 New
4 Rehabilitation
Projects**



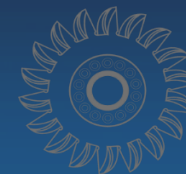
**TOTAL
CONTRIBUTION**
20.000.000.000
kWh/year



FRANCIS
64 Units



KAPLAN
12 Units



PELTON
26 Units

1800MW

It is 3rd largest power plant of Turkey with installed capacity of 1,800 MW.

SECOND LARGEST

It is 2nd largest hydroelectric power plant (HEPP) of Turkey.

5720mm

It has the largest turbine runner in Turkey and the diameter of runner is 5720 mm.

7.500.000.000kWh

It can meet all electrical energy requirements which 2.000.000 people need in their daily life (housing, industry, metro, government office, environmental luminance etc.).

6 x 300MW

Nominal Flow rate: 235 m³/s

Net Head: 144m

Maximum water level of Karakaya Dam which is 2nd largest dam built on river after Atatürk Dam on The Euphrates (River) is 693 m, also minimum water level of it is 675 m.

1987

Karakaya HEPP built by DSI was put into operation in 1987.

KARAKAYA HEPP

TURBINE REHABILITATION PROJECT



KARAKAYA HEPP

TURBINE REHABILITATION PROJECT

%94,7

HEPP whose current efficiency is below %92 will generate electricity with efficiency of 94.7% after rehabilitation.

+200GWh/y

With the rise of efficiency, Increase of 200 million kWh will be in annual power generation.

10.000.000 €/y

Income of 6 million € in year will be gained through only increase in power generation and the project will amortise itself in 4 years. The contribution with domestic manufacturing will reach 10 million €.



85 tonnes

Weight of each runner in units is 85.000kg. 6 units with contribution of native engineers and 4 units with possibilities of domestic industry will be built. The resources more than 20 million € will remain in our country.

960 tonnes

The total rotating mass weight of the system whose maintenance will be conducted with local means is 960 tonnes.

Domestic Manufacturing Incentive

Value-Added

As it is known, in case of usage of domestic turbine and generator, domestic manufacturing incentive is applied in purchase of energy within scope of YEKDEM .

2,3 Dollar Cent Incentive Share

The investors who prefer TEMSAN products will be able to sell the electricity as 9,6 dollar cent/kWh per unit by also adding domestic manufacturing incentive share of 2,3 dollar cent/kWh to the their electricity sale price of 7,3 dollar cent/kWh .



ÇİNE HEPP

OUTDOOR SWITCHYARD

HV Circuit Breakers

170 kV 1250 A 31,5 kA SF6 gas HV circuit breaker

HV Disconnectors

170 kV 1250 A 31,5 kA HV disconnector

HV Transformers

170 kV HV current and voltage metering transformers

Power Transformer

11/154 kV 25,7 MVA

Surge Arrester

144 kV 10 kA surge arrester

Control

MV Cubicles and Command & Control Building

Rehabilitation

- Changing of Flue Gas ID Fan of Afşin Elbistan. B power plant
- Optimization of main boiler
- Maintenance of motor

Operation

- Afşin Elbistan A Power Plant Operation, Maintenance and Repair
- Afşin Elbistan B Power Plant Operation, Maintenance and Repair
- Afşin Elbistan B Power Plant “C” Operation of Coal Conveying System
- Afşin Elbistan Lignite Operation Management .Operation of belt conveyor road

AFŞİN – ELBİSTAN TEPP Operation – Maintenance-Repair and Rehabilitation Projects

1600 MVA

56 ITM SUBSTATIONS

21 New

35 Extension

1355MW

It is 8th largest power plant of Turkey and 2nd largest power plant of Kahramanmaraş with installed capacity of 1355 MWe.

SECOND LARGEST

It is 2nd largest thermal power plant fuelled by lignite in Turkey

EIGHT LARGEST

It is also 8th largest power plant of Turkey

2.800.000.000kWh

It can meet all electrical energy requirements which 900.000 people need in their daily life.

500 Staff

The service is performed to The Afşin-Elbistan Thermal Power Plant, one of the largest plants in the region, by maintenance & repair and site team of 500 people

1984

Afsin-Elbistan TEPP was put into operation in 1984.

AFŞİN – ELBİSTAN TEPP Operation – Maintenance-Repair and Rehabilitation Projects





HATAY – DÖRTYOL

FSRU FACILITY

2400m

The total length of the plant which consists of two parts, 1600 m and 800 m, is 2400 m

Turkey's Largest FSRU Facility

Turkey's largest FSRU facility whose construction commenced in 2017 commissioned in 8 months.

263.000m³

The facility is the largest in turkey in terms of vessel capacity that the facility will provide service.

200 Steel Piles

During the installation, 200 steel pile driving operations were carried out.

25x30m Loading Platform

The largest loading platform of our country and of the region in terms of size.

14 Dolfen Docks

There are 14 dolfen docks with catch hooks with a capacity of 150 tonnes in facility.

HATAY – DÖRTYOL FSRU FACILITY

Minister of Energy and Natural Resources, Berat ALBAYRAK opened the FSRU (Floating LNG Storage and Gasification Unit) terminal in BOTAŞ Dört    .

Albayrak said in his speech at the opening ceremony that they had closed 2017 with great achievements and records in the field of energy and they had started to this year ,2018, by promising that they would work harder.

He expressed his thanks to everyone who laboured day and night with great devotion, and continued;

“We started laying the critical building blocks at the security of energy supply, one by one in Turkey. We commission here in D      , Hatay, the second FSRU terminal of Turkey which we proudly heralded on every platform. We present a facility with such a record size along with its capacity to the service of our nation. This facility, with 263 thousand cubic meters of LNG storage capacity as of the world's largest, is very crucial in terms of energy supply security in Turkey, and as the one with a daily capacity of min 15 million up to 20 million cubic meters of liquefied gasification, and with volumes in the form of 167 million cubic meters of LNG, it is a great deal on top of the world standards..may it be auspicious!” he said.



Efficiency Enhancement of Electromechanical Equipment And Localization

300 MW Vertical Francis

Corrosion prevention and Efficiency enhancement

Pelton

Turbine Development Project

Banki - Michell

Turbine Development Project

COUPLING

300MW_V_85t_d5,27_h2,5

SHAFT

300MW_V_85t_d5,27_h2,5

V. GATE

300MW_V_85t_d
5,27_h2,5

BLADE

FRNCS_300MW_V_85t_d5,27_
h2,5

RUNNER

FRNCS_300MW_V_85t_d5,27_
h2,5



MILHES

Design and production of critical components of power plant (turbine, synchronous generator, governor, excitation system, SCADA system and auxiliary systems) by being used local means in the manner that increase efficiency and availability of power plant.

KEPEZ-1 HEPP

Rehabilitation or modernisation of all components of KEPEZ-1 HEPP which belongs to EUAS for this purpose in this project



Research and Development



170 kV SF6 Gas High Voltage Circuit Breakers

3150 A, 31,5 kA

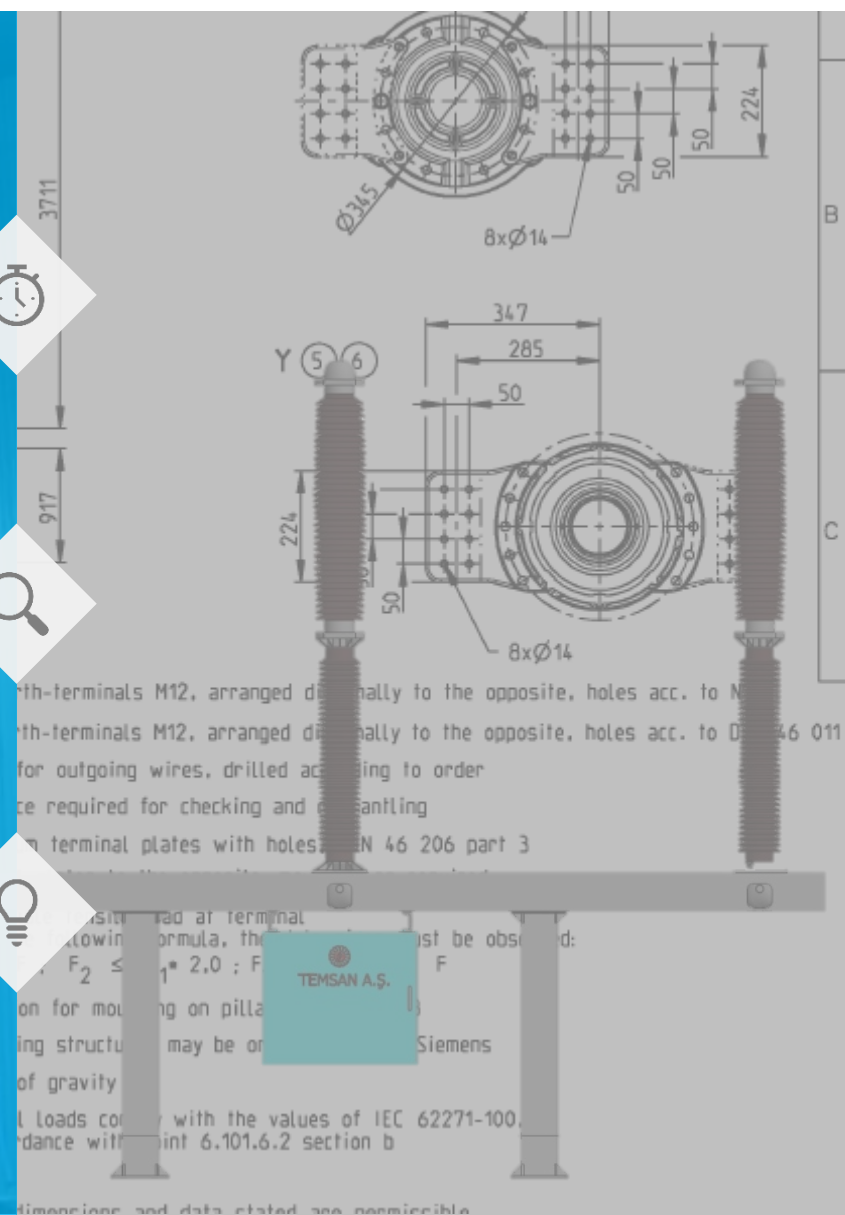
170 kV SF6 Gas

3150 A, 31,5 kA -40/+45°C

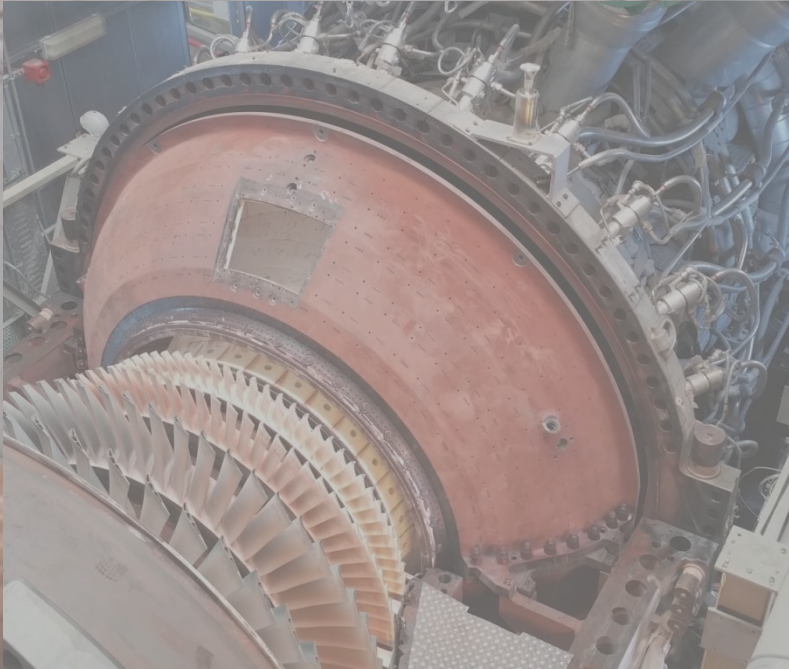
170 kV SF6 Gas
3150A, 31,5 kA -40/+45OC

In accordance with IEC 62271-100 standards and TEİAŞ technical specifications

HV Test Laboratory where
420 kV circuit breakers are
also tested



2X280MW MAINTENANCE OF GAS TURBINE



20.000 Hours

Hot Gas Path Maintenance of 2 gas turbines in İstanbul Fuel-Oil and Natural Gas Combined Cycle Power Plant-B, Commissioning of system trouble-free

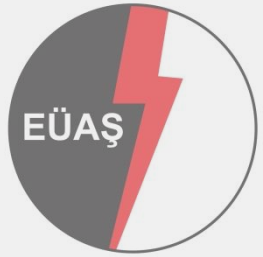
12.000 EOH Guarantee

After commissioning of facility , 2 years or 12.000 operating hours are under our warranty

8.000 EOH Guarantee

8.000 operating hours or 2-year-stock warranty in spare parts

Stakeholder



Memberships



World Energy Council

CONSEIL MONDIAL DE L'ENERGIE

Turkish National Committee

COMITE NATIONAL TURC

Dünya Enerji Konseyi

Türk Milli Komitesi Derneği



Nuclear Industry
Association of Turkey



Contact Information

General Directorate and Factories



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