



THE ENGINEERING ENTERPRISE
«Engineering & technology enterprise «UKRENERGOCHERMET®»



▶ **1931** Joint stock company «Engineering & technology enterprise «UKRENERGOCHERMET®» is the historical heir of the All-Union Trust Orgenero Ukrainian branch, which was organized in Kharkiv in 1931

▶ **1976** The Project Department was introduced into the structure of the enterprise as the Chief Designer Department.
▶ **1979** The specialized department for steam pipelines, metal reliability of power plants and welding was created.

▶ **1995** The specialized Industry center for nondestructive testing was organized on the basis of the steam pipelines maintenance department.
▶ **2008** The enterprise has been certified according to the ISO 9001-2015 Quality management system.

▶ **2010** The Office of Project Management was established as part of «E&TE «UECHM»
▶ **2017** The ISO 9001-2015 Quality management system certificate of the enterprise was updated

▶ **2018** Currently Joint stock company «Engineering & technology enterprise «UKRENERGOCHERMET®» carries out works at the largest enterprises of the world and Ukraine: “Motor sich”, “ArcelorMittal”, “Isdemir” etc.

1931

1976

1979

1995

2008

2010

2017

2018

- ▶ «E&TE«UKRENERGOCHERMET®»
- is an engineering company,
which is engaged in creation and service of power
facilities and the industrial enterprises for more

- ▶ All types of works are carried out using modern technologies and in compliance with the requirements for energy conservation and environmental protection.



- ▶ Design works
- ▶ Calculations
- ▶ Development
- ▶ Control
- ▶ Erection
- ▶ Maintenance
- ▶ Tests
- ▶ Inspections
- ▶ Rehabilitation works
- ▶ Personnel training
- ▶ Legal requirements
- ▶ Technical inspections



- JSC E&TE «Ukrenergochermet®» has all licenses, certificates and permissions of the corresponding authorities.

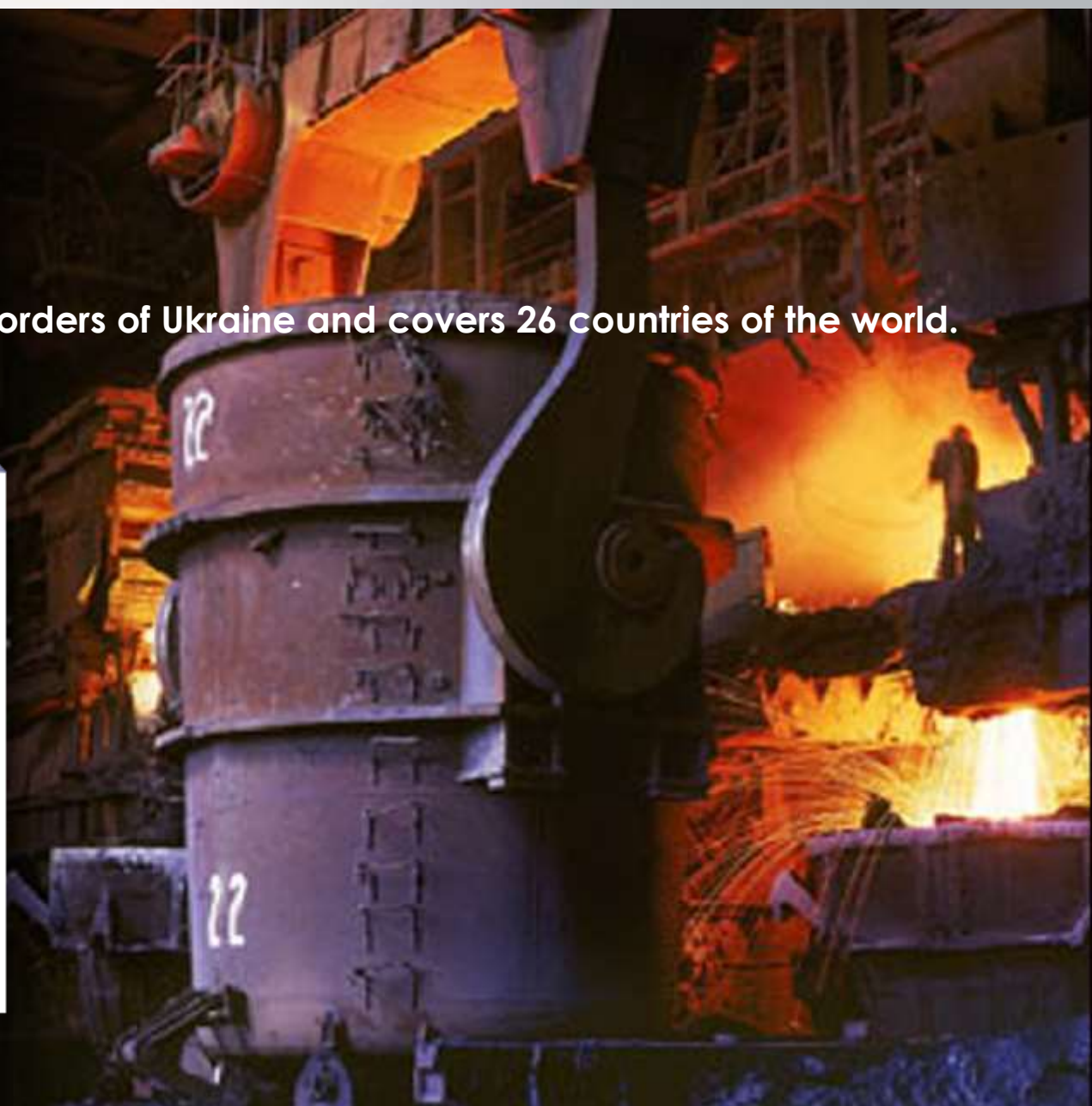


► **377 enterprises of various industries :**

- Metallurgical and coking plants;
- Enterprises of machine building, energy and chemical industries.

► **Works geography goes far beyond the borders of Ukraine and covers 26 countries of the world.**

- **Zaporizhstal** (Zaporizhzhia, Ukraine)
- **Azovmash** (Mariupol, Ukraine)
- **Interpipe** (Dnibr, Ukraine)
- **Pakistan Steel Mills Co. (PAKSTEEL)**, (Pakistan)
- **EVRAZ Group** (Luxemburg)
- **Al Nasr Company for Coke & Chemicals** (Egypt)
- **Egyptian Chemical Industries (KIMA) Co.** (Egypt)
- **Egyptian Iron & Steel Plant (EISCO)** (Egypt)
- **Iskenderun Iron & Steel Plant "ISDEMIR"** (Turkey)
- **Esfahan Iron & Steel Plant "ESCO"** (Iran)
- **POSCO Engeneering and Construction Co., Ltd** (Korea)
- **ArcelorMittal Group** (International)





► **E&TE«UECHM» is ready to perform the main scope of works under EPC contracts using its own resources as a General Contractor.**

The main implemented EPC-contracts



PJSC «Alchevskkoks»

Construction of the generating complex with erection of two P-2,15-1,4 / 06 turbo-generators and rehabilitation of three E-50-14-225 steam boilers with an increase of the superheated steam temperature to 300 ° C , operating on the blast furnace gas.



Alchevsk Iron & Steel Works

Designing, procurement of equipment, erection and commissioning

Of the water treatment plant in the converter shop.

Dnieper Metallurgical Combine

Designing, erection and start-up works of the blast-furnace air blower erection

on the K5500-42-1 compressor and driven type K 19-35-2 turbine at the TPP.



JSC «Motorsich»

► **Construction of the TEK-3 heat and power supply complex**

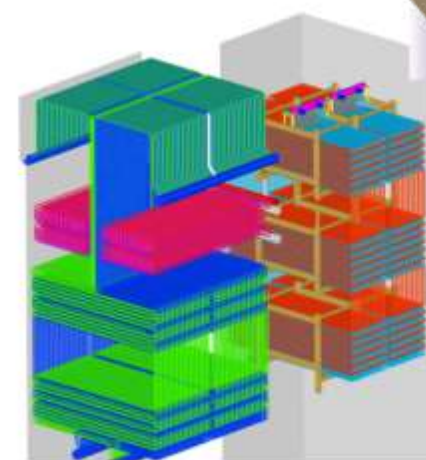
including ПАЭС-2500 and КУ 8/1,4-55-450ГТ waste heat boiler. (development of the E&TE "UECHM")



«ISDEMIR» Turkey

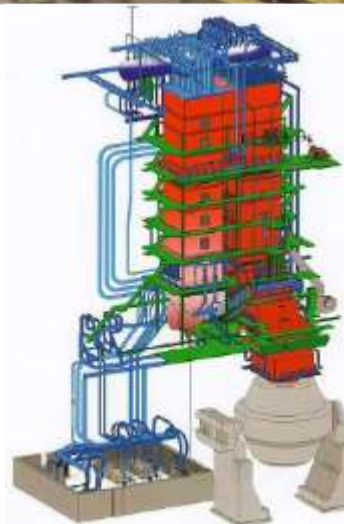
► **Manufacture and supply of the heating surfaces and pipelines**

for revamping of three waste heat boilers and dry coke quenching plants KCTK 25/39 at Iskenderun iron and steel works "ISDEMIR"

**Hadisob Helwan Iron And Steel Works**

► **Manufacture and supply of heating surfaces for the OKF-100-3A boiler**

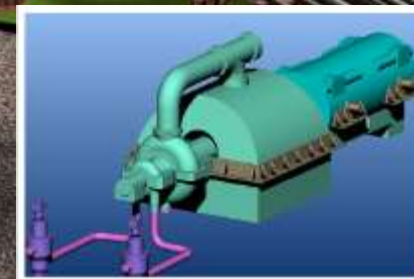
for revamping at Helwan Iron And Steel Works (Egypt).



► The main implemented projects:

- **Project for reconstruction** of power facilities at PJSC Alchevskkok, including construction of the YCTK boiler plant consisting of three units, construction of the turbine hall, expansion of the boiler room No. 2, expansion of the chemical water treatment plant, and construction of the reverse osmosis plant.
- **Project for construction** of the turbine hall consisting three turbo-generators for "Zaporozhkoks".
- **Detailed designing** of the machine hall with the erection of the 9MW steam turbo-generator "Siemens" for PJSC "Alchevskkoks".
- **Process boiler room** with sunflower husk fuel, Volnyansk, Zaporozhye region.
- **Project for construction** of the new power plant at TPP-TBS No. 1 with the erection of the K5500-42-1 turbo-generator with and K19 turbine for PJSC "ILYICH IRON AND STEEL WORKS"
- **Replacement of the «ДЖИИ» turbine generator** with a turbo-generator TA-35-2Y3 including the ПТ-35-2,9 / 0,8 / 0,1 turbine at the station No. 1 for TPP-TBS of the JSC "Zaporozhstal".

E&TE "Ukrenergochermet" solves complex design tasks for the construction of power facilities for industrial enterprises



▶ **E&TE«EUCHM» is developing design documentation for non-standard equipment.**

The enterprise has developed more than 20 types of boilers (power boilers and waste heat boilers).

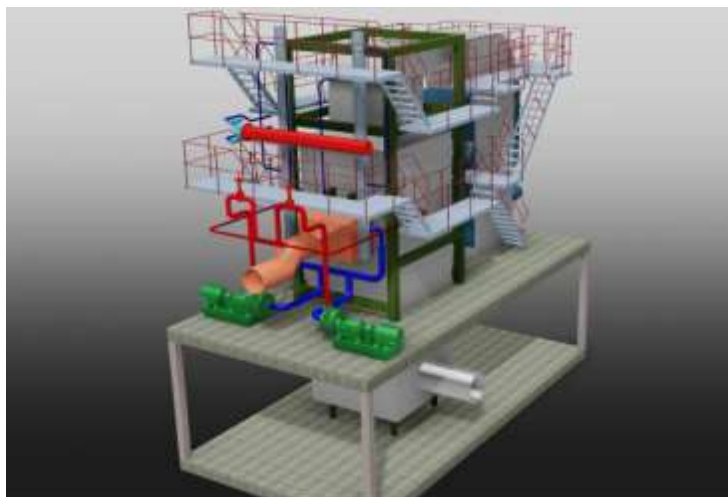
The main implemented projects of cogeneration and combined-cycle plants using the boilers of JSC "E&TE" Ukrenergochermet " development:

- Waste heat boilers K-35 / 2,0-300-450ГТ and KU-8 / 1,4-55-450GT - are designed to produce superheated steam by utilizing the heat of gas turbine plant exhaust gases. Installed at JSC "Frunze SMNPO " and the heat and power complex ТЭК-3 of Motor Sich JSC (Ukraine).
- The boiler-heat recovery boiler KYB-33-33 is designed for the production of hot water by utilizing the heat of the exhaust gases after the gas turbine MS5001 "General Electric" with a capacity of 26.3 MW. Installed at a gas-turbine power plant with a capacity of 200 MW of the Vankor field in the Krasnoyarsk Territory of the Russian Federation.
- Waste heat boiler П-86 is designed for the production of superheated steam and hot water by utilizing the heat of gas turbine plant exhaust gases and additional combustion of natural gas in the gas turbine plant exhaust gas environment. It is installed at the Shakhty gas turbine power station in Russian Federation.



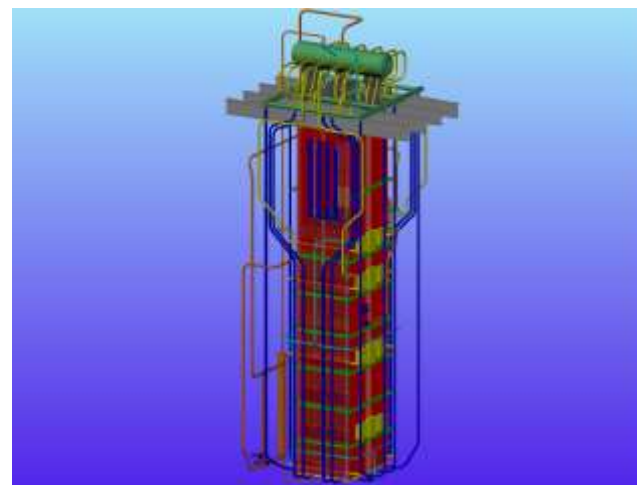
Waste heat boilers

- ▶ **ЭТК-45, ЭТК-30, ЭТК-10 boiler** are designed to utilize the heat of waste gases from the combustion products heating furnaces with the production of superheated steam and heated air. Installed at the Volzhsky Pipe Plant.
- ▶ **УЭЧМ-67** –utilizes the heat of waste gases from grog-firing furnaces (unified, included into the range of the Belenergomash plant).
- ▶ **УЭЧМ-92** –utilizes the heat of waste gases from lime burning furnaces, installed at the Seversky Dolomite Combine.



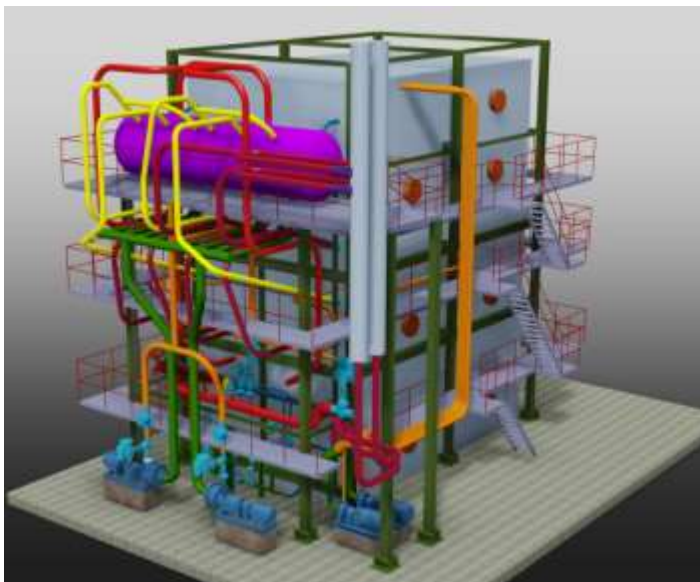
Industrial power boilers

- ▶ **Steam boilers KCT-80, KCTK-25/39, KCTK-35/40, KCT-90** are designed to cool hot circulating gas in dry coke quenching plants.
- ▶ 24 units of dry coke quenching plants (YCTK), serving 37 coke oven batteries **are installed at the plants of the CIS countries** at: Avdeevka Coke Plant, Cherepovets (Severstal), Novolipetsk, and Karaganda Metallurgical plant.
- ▶ **16 dry coke quenching plants (YCTK)** are installed in various countries of the world - Bulgaria, Hungary, Turkey, Egypt, India, Pakistan, China, Japan, etc.



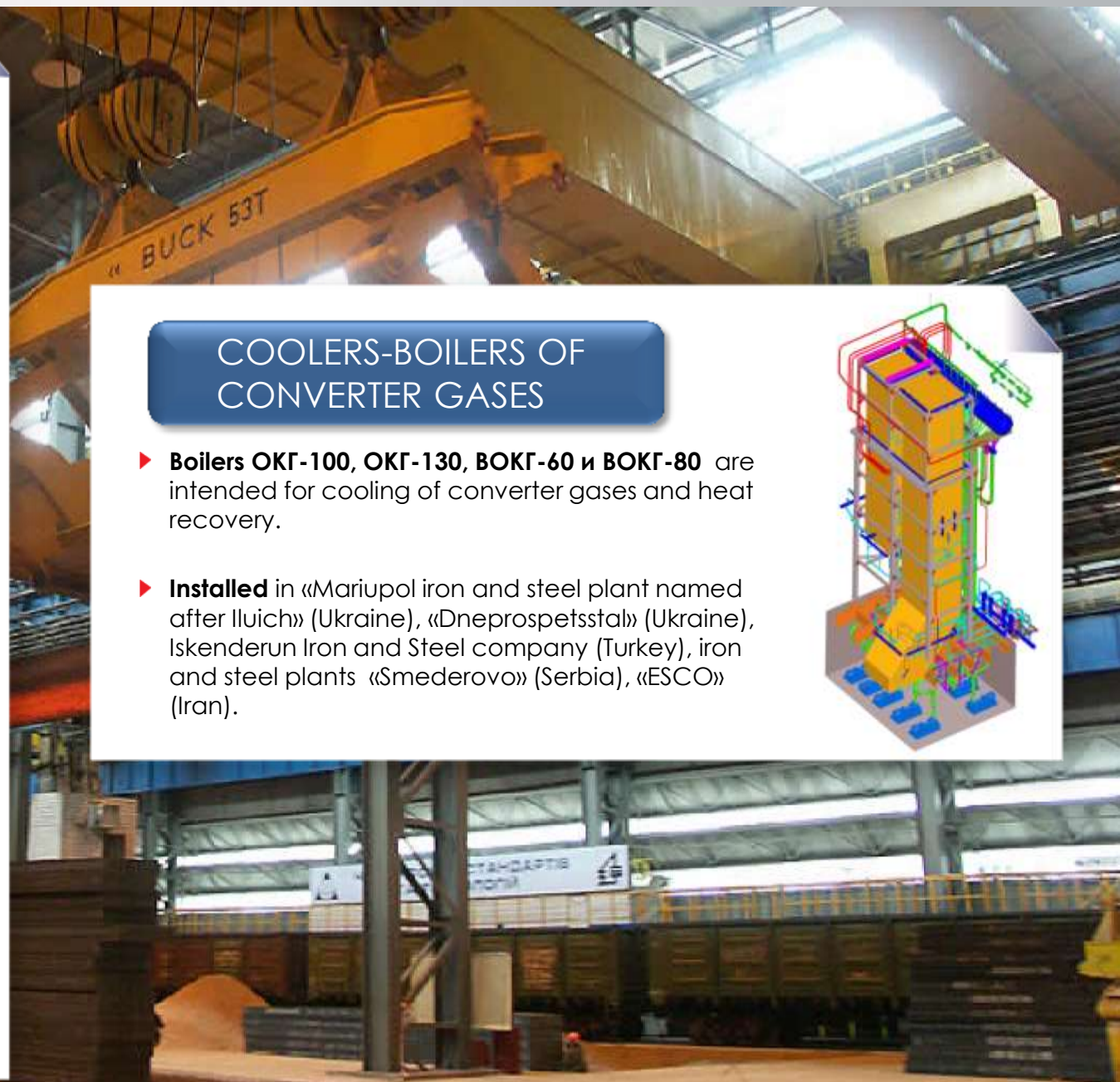
UTILITY BOILERS

- ▶ **Utility boilers** are intended for production of superheated steam of utility values.
- ▶ **Boiler KY-125** produces superheated steam by burning coke and natural gas in the boiler precombustor, installed in Alchevsk iron and steel works.
- ▶ **Boilers Пp-105-9,8-540Г and E-10/45-400Г** are installed in TPP (TPS) - 28 Shebelinka gas processing plant.



COOLERS-BOILERS OF CONVERTER GASES

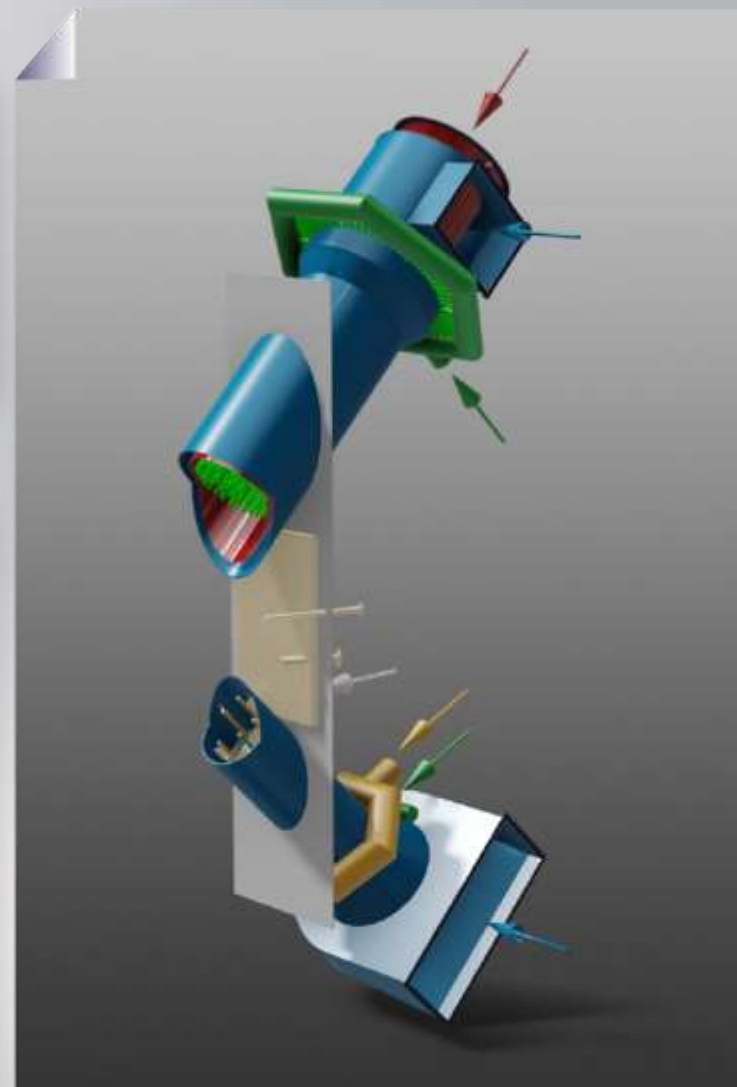
- ▶ **Boilers OKГ-100, OKГ-130, BOKГ-60 и BOKГ-80** are intended for cooling of converter gases and heat recovery.
- ▶ **Installed** in «Mariupol iron and steel plant named after Iluich» (Ukraine), «Dneprospetsstal» (Ukraine), Iskenderun Iron and Steel company (Turkey), iron and steel plants «Smederovo» (Serbia), «ESCO» (Iran).



- ▶ **Overhaul and updating of the boiler plants** using technological gases as fuel (coke, blast furnace, converter, natural and other gases) and using different types of burner devices.
- ▶ **Overhaul of boilers** with increase of steam production and superheated steam values.
- ▶ **Reconstruction of boilers for burning of** alternative types of fuel.

Main fulfilled projects:

- ▶ **Overhaul of the boilers БК3-75-39Д on TPP-2 and БК3-75-39ФБ on TPP** with installation of flat flame burners and increase of steam production capacity for Mariupol iron and steel plant named Illich and Yenakievo iron and steel plant.
- ▶ **Overhaul of two «Radiant» boilers** of TPP with increase of steam production capacity for Orel sugar plant.
- ▶ **Boiler ПК-8 overhaul** with installation of flat flame burners and overhaul of ПК-14 boiler with installation of flat flame burners for PJSC Arcelor Mittal Kryvyi Rih.



► JSC «UECHM» performs erection, startup works, technical assistance during operation of:

- boilers and boiler stations;
- turbine and compressor equipment;
- blast furnace air blowers;
- cryogenic and auxiliary equipment;
- auxiliary equipment of equipment rooms;
- water-treatment equipment;
- furnaces of different technological application;
- electric networks and substations;
- automatic control systems of power equipment;
- gas-supply systems.

We work with all iron and steel, coking and other works in Ukraine and also in Turkey, Egypt, Pakistan, Iran, Romania and many other countries.



► **Industry expertise center of metal diagnostics of JSC “E&TE “Ukrenergochermet” performs the following works:**

- **Initial, periodical and unscheduled** technical investigations of pressure operated equipment;
- **Metal condition monitoring** within estimated life and expert survey of metal beyond the estimated life of pressure operated equipment. At this the following operations are done:
 - Metallographic research, mechanical testing, testing of intercrystalline corrosion and chemical analysis of metal;
 - Metal condition monitoring with non-destructive methods:
 - radiation (RT);
 - ultrasonic (UT);
 - magnetic particle test (MT);
 - capillary (PT);
 - visual-optical (VT).
 - Equipment stress calculations;
 - Remaining life defining, possibility, conditions and term of further operation of the equipment.
- **Work out**, on the basis of designed values of the equipment, standard bills of energies for production of heat and electric energy of pressed air.



The Industry expertise center of metal diagnostics annually makes about 300 technical investigations, more than 500 expert surveys on more than 100 enterprises of Ukraine.

► **Training and attestation centers on non-destructive control.**

2003

accreditation by the Council of personnel certification «Ukrexpert» to the right of special training and attestation of specialists of qualification levels I and II according to НПАОП 0.00-1.27-97.

2005

International accreditation by the Main Council of Accreditation TGA to the right of training and attestation of specialists of qualification level I, II and III according to the requirements of European standard EN 473.

2008

First in Ukraine magnetic method of coercitive force was accredited. The only in Ukraine training and attestation center renders such service.

2010

Establishment of the Authorized qualification council (YKO) – The Council of personnel qualification “Control and Diagnostics” (Moscow) and its accreditation in the Council of accreditation in the Great Britain UKAS.

2011

Accreditation in the National agency of accreditation of Ukraine.



Thank you For your attention!

**We invite you for mutually beneficial
cooperation.**

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