

Winning connections beyond borders

Spanning both Asia and Europe, Turkey has long fascinated the world with its unique culture, glorious history and beautiful natural scenery. In recent years, as the Belt and Road Initiative develops, more and more Chinese companies are going global as EPC contractors. Turkey is also opening its arms to embrace this trend.

In Kazan, northwest of Turkey's capital city Ankara, China Tianchen Engineering Corporation (TCC) has helped construct one of the world's largest soda ash factories as turnkey EPC contractor. The project owner is Turkey's energy and chemicals company CINER Group. The project consists of three parts, namely solution mining, soda processing and the cogeneration power plant. It started construction in 2015, and successfully commenced operation at the end of 2017.



Kazan soda ash project in Turkey is one of the largest in the world.

After coming into operation, the soda ash factory produces 2.5 million tons of dense soda ashes and 200,000 tons of sodium bicarbonate annually with advanced and environment-friendly methods. Most of these top-quality products are exported to Europe and other regions as base materials for the manufacturing of glass, food, paper and other products.

The Kazan combined heat and power (CHP) plant, with an installed electrical capacity of 379 MW, supplies process steam and electricity for the soda ash plant. The surplus electricity is fed into the grid to power local economy and people's lives. Using Siemens' advanced technologies and reliable services, TCC helps ensure efficient and stable operation of the soda ash plant. The Kazan CHP Plant successfully passed the performance and reliability tests and started commercial operation in November 2017.

In ancient times, Turkey was an important part of the old Silk Road and the destination of traders. Today it has again become a crucial bridge linking the West and the East along the "Silk Road Economic Belt" and the "21st Century

Maritime Silk Road". Currently Turkey has been actively participating in the Belt and Road Initiative as a member of the Asian Infrastructure Investment Bank.

Tailor-made offerings

TCC integrates engineering, industry and R&D. It is a leading engineering company in China in industries such as coal chemicals, alkali chemicals and salt chemicals.

Kazan soda project set a new record for project contract value of Chinese companies then in Turkey. It is also one of TCC's largest overseas EPC projects, and marks the start of cooperation between Siemens and TCC. The project has also significantly boosted the market share of Siemens power EPC business in Turkey.

The Kazan CHP Plant, as the source of process steam and electricity, is the key to successful operation of the soda ash plant.



Using Siemens advanced technologies, the Kazan CHP Plant provides process steam and electricity for the soda ash plant.

Siemens supplied a tailor-made cogeneration solution including an SGT5-4000F gas turbine, an SST-800/600 steam turbine, two generators, SPPA-T3000 DCS system, transformers and related electrical equipment.

The upgraded solution provided a superior answer to the customer's requirements, compared with the original standard solution incorporating two gas turbines and two steam turbines. This guaranteed steam supply and maximized cost performance for the customer. In addition, Siemens' leading industrial drive and control systems are also crucial for stable operation of the soda ash plant.

"The Kazan project is critical for us to expand into the Turkish market. We need a reliable partner with innovative technologies, deep vertical expertise and flexible service models. Siemens is undoubtedly the partner of choice," said Deng Zhaojing, Vice President and Chief Engineer of TCC.

Meanwhile, Siemens' global network has generated value-added for the customer. With comprehensive knowledge of the local market environment and laws and regulations, Siemens Turkey team has also played an active role in understanding customer needs and project coordination.

Value-adding services

For TCC, how to effectively implement a project in this distant and exotic country was a daunting challenge. So Siemens dispatched four TFAs (technical field advisors) from China to provide technical support in six disciplines throughout the entire installation and commissioning phase.

Among them is Zhang Xiandong, who was responsible for gas turbine air inlet system installation and gas turbine commissioning in the Kazan project.

Zhang had already accumulated 18 years of experiences as a senior gas turbine commissioning engineer. To meet the requirements of the Kazan project, he received nearly six months of training in South Korea, and then worked as a TFA in the same discipline at a CCPP in Qatar.

“I’ve been working as a TFA since 2013,” said Zhang. “Our experience and expertise can help customers avoid delays in installation and commissioning.”

“Chinese TFAs facilitate communications in both language and cultural aspects,” said Wu Xiaodong, Field Service Manager of Power Generation Services Division of Siemens China. “Through the Kazan project, we have also greatly enhanced global service capabilities of Chinese TFAs.”

“Our factory and power plant are running at a high level of stability and efficiency. This can’t be achieved without the advanced technologies and professional services of Tianchen and Siemens. Our project has created around 2,000 jobs and will continue to make greater contributions to the Turkish economy,” said Ismail Duru, Operating Engineer of Kazan Soda Elektrik of CINER Group.



Kazan soda project has boosted exports of Turkey and also created around 2,000 jobs.

