

## Metinvest launches a state-of-the-art blast furnace at Yenakieve Steel

Metinvest, an international vertically integrated steel and mining group of companies, has commissioned a modern blast furnace at its Yenakieve Iron and Steel Works (Yenakieve Steel) subsidiary. The new furnace will add 1.2 million tonnes of capacity to the plant's annual hot metal production, which will eventually total 3 million tonnes of pig iron per year. The new furnace (referred to as BF-3) was installed as part of Metinvest Group's strategy to technologically develop its steelmaking assets. Construction of the furnace required an investment of more than US \$220 million.

The new BF-3 is one the plant's largest facilities, and differs from the other two blast furnaces operating at Yenakieve Steel. A first for Ukraine's steel industry, the new blast furnace applies a number of state-of-the-art technologies and utilizes the latest industrial control systems. The innovative solutions are designed to improve the unit's performance while reducing operating cost. For example, the furnace's bell-less charging unit, made by Paul Wurth (Luxemburg), reduces coke consumption by five percent while simultaneously increasing the blast furnace's productivity by five percent. In addition, a new refractory lining applied to the blast furnace hearth walls is designed to quadruple the service life of the furnace, providing 15 years of maintenance-free operation.

The furnace's environmental reliability is assured by aspiration and gas cleaning systems. For the first time in Ukraine, a blast furnace has been equipped with Paul Wurth's gas cleaning unit, which helps the plant efficiently resolve economic and environmental issues and improve the plant's cleanliness and environmental performance. The gas cleaning unit not only purifies the blast furnace's gas, removing 99.9% of the harmful contaminants, but also uses it as a fuel for the plant's production facilities, providing a substitute for natural gas.

Technological process control at BF-3 is based on a modern Siemens VAI (Austria) industrial control system. This is a fundamentally new integrated control network based on processing more than 5,000 validation parameters.

The Industrial Control System now also encompasses the heat and power plant steam and air blowing station, which was modernized along with the BF-3 construction project. At the Heat and Power Plant, a turbine and compressor unit (Turbine Air Blower № 6) made by CKD Nove Energo (Czech Republic) and a recycled water supply unit with two ventilated cooling towers and German-made pumping equipment were installed. The substantial upgrade of power generating facilities ensure an uninterrupted supply of blast air to the Yenakieve Steel blast furnaces.

"The modern technology and equipment we have introduced at our enterprise over the past five years demonstrate the sustainable dynamics of the plant's development," said Alexander Podkorytov, director general of Yenakieve Steel. "Together with the improvements to our production capacity, we are creating a new human resources potential that focuses on young people. For example, 90 percent of the crew of the new BF-3 facility are young specialists who passed an examination and were selected to work with this unique equipment. More than 120 people served internships at leading metallurgical enterprises in Russia and Europe."

Editorial note:

**Yenakieve Steel** is a world leader in commercial billet production. The company produces cast billet, bar products and various section rolled products (beams, channels, angles, etc.) as well. Yenakieve Steel is part of Metinvest Group's Metallurgical Division.

**Metinvest** is a vertically integrated group of mining and steel companies managing assets in every link of the production chain, from iron ore materials and coal mining to coke production and finishing with semi-finished and finished products manufactured from steel, pipe products and coil production, as well as other high-value-added products. The Group consists of mining and steelmaking facilities in Ukraine, Europe and the USA, and its sales network covers all key world markets. Major shareholders are SCM Group (71.25%) and Smart-Holding (23.75%), which take part in Metinvest Group's management on terms of partnership.

**Metinvest Holding** is the managing company of Metinvest Group.