

## OPERATIONAL REPORT

## FORGING ONWARD

Having set sights on new horizons in 2017, as the situation in Eastern Ukraine largely stabilised, Metinvest forged ahead with its operations in 2018. The Group is committed to pursuing quality in every aspect of its mining and metallurgical activities: from maintaining efficient operations to providing an integrated tailored solution for each customer.

**STRENGTHENING FOUNDATIONS**

The reporting period marked a new chapter in Metinvest's development, as the Group drew a line under the events of the last four years and progressed decisively in its drive to become one of Europe's leading vertically integrated steelmakers. Certainly, 2018 was not devoid of challenges, including protectionist moves in the global steelmaking industry. Through considered, coordinated and rapid responses from the various business units, however, Metinvest maximised its returns from the present while strengthening its foundations for the future.

One example of the Group's approach to overcoming operational challenges is the ongoing efforts to address logistical constraints, primarily in Ukraine's rail network. The state operator has a monopoly on locomotives on main rail lines and controls a significant part of rolling stock in the country. Much of it is old, while there have also been bottlenecks in allocations. To mitigate the overall impact of the situation, Metinvest decided to invest around US\$70 million in buying 1,800 open rail wagons for transporting raw materials and finished goods.

Another demonstration of the Group's proactive responses to changes in the external environment related to the construction of a bridge across the Kerch strait, which limited the height and draught of vessels passing into the Sea of Azov. Metinvest swiftly adjusted its fleet and redirected some cargo shipments by rail from Mariupol to the Black Sea ports in Odesa Region.

Overall, the Group's policy of distributing cargo flows through various seaborne routes enables Metinvest to redirect shipments to Black Sea ports quickly, minimising disruption. As a result, the sudden developments of November 2018, when access to and from the Sea of Azov became limited temporarily, did not materially affect the Group's operations.

**IMPROVING EFFICIENCY**

One key area maintaining Metinvest's long-term competitiveness is the culture of continuous improvement and lean manufacturing. The Group strives to promote a value mindset among employees and fully engage them in delivering initiatives to increase productivity, reduce operating costs, minimise non-production costs, use machinery and equipment efficiently, improve energy efficiency and enhance safety.

In 2018, Metinvest conducted extensive work to evaluate the overall potential for reducing costs using zero-based budgeting as well as internal and external benchmarking across its enterprises. This helped to identify the main areas for improvement and pursue numerous cost-saving measures. The Group also began to build a system to transform workshops and departments progressively – on a long-term, bottom-up basis – by focusing on developing employees and changing the work culture.

In the reporting period, Metinvest achieved overall operating cost savings of more than US\$20 million. The main measures included reducing the coke rate by adjusting the temperature of hot blast and reducing the consumption rate of raw materials when producing sinter by minimising irrecoverable losses.

**MINING SEGMENT  
IRON ORE**

Metinvest is one of the top 10 iron ore producers in the world and the second largest<sup>1</sup> in Eastern Europe.

The Group's main iron ore extraction and processing enterprises are Ingulets GOK, Northern GOK and Central GOK. Ingulets GOK produces concentrate with a Fe content from 65% to 68.5%. Northern GOK makes concentrate with an average Fe content of 65.7% and pellets with a Fe content from 62.7% to 64.8%. Central GOK produces concentrate with an Fe content from 67.9% to 68.4% and pellets with an Fe content from 62.0% to 67.1%. As at 31 December 2018, the combined long-life proven and probable iron ore reserves of the three assets in Ukraine were 1,190 million tonnes<sup>2</sup>.

In addition, in July 2014, Metinvest acquired 45.9% of Southern GOK, which produces concentrate and sinter and is classified as a joint venture.

All of the Group's iron ore facilities are located in the city of Kryvyi Rih, which is around 450 kilometres away from its Mariupol steelmakers. This helps to ensure the long-term security of iron ore supplies for them.

The Mining segment maintains a quality management system at the iron ore enterprises. It is certified by Bureau Veritas and Ukrainian state authorities as meeting the standards required for producers of merchant iron ore concentrate and pellets. The system is also certified in accordance with the ISO 9001 international standard.

Metinvest currently mines iron ore from open pits at various enterprises (two at Northern GOK, one at Ingulets GOK and three at Central GOK) and one underground operation at Central GOK, drilling, blasting and removing overburden to external dumps. After shipment to onsite crushing, beneficiation and flotation facilities, as well as pelletising plants, the raw material is processed further.

Waste water from the production process, known as 'tails', is sent to the tailing dump at each enterprise. All of the Group's three dumps have capacity sufficient for many years of operations. Strict controls are in place to monitor them. Employees check their dams twice a day, a special commission visits them twice a year and the state authorities analyse the condition of them once a year. To retain the necessary licences, Metinvest meets all regulatory requirements.

In 2018, the Group mined 64,246 thousand tonnes of iron ore. Its output of overall concentrate totalled 27,353 tonnes, almost unchanged compared with 2017. Production at Ingulets GOK rose by 7% year-on-year, as the enterprise increased its capabilities by buying new equipment, including 10 new Caterpillar 785C off-highway trucks.

From the iron ore concentrate, the Group produced 10,751 thousand tonnes of pellets<sup>3</sup> in 2018, up 11% year-on-year, keeping the remaining 14,171 thousand tonnes as concentrate. Metinvest increased its output of pellets, as they offered higher margins than concentrate. At the same time, the share of high-grade pellets (more than 65% Fe content) in its output stood at 28% in 2018, while the share of high-grade concentrate (more than 67% Fe content) reached 45%, 5 percentage points higher than in 2017.

<sup>3</sup> Including production for intragroup consumption.

<sup>4</sup> Iron ore self-sufficiency is calculated as actual concentrate production divided by actual consumption of iron ore products to make hot metal in the Metallurgical segment.

<sup>5</sup> Coal self-sufficiency is calculated as actual coal concentrate production divided by actual consumption of coal concentrate to produce coke required for production of hot metal in the Metallurgical segment. Coal consumption for PCI is included in the calculation.

The Group can more than cover its own iron ore requirements: in 2018, its self-sufficiency ratio for the raw material was above 250%<sup>4</sup>. Metinvest used some 40% of the overall concentrate produced for internal needs and sold 60% to third parties.

Given the shift in favour of pellets and greater intragroup consumption of concentrate, the breakdown of external sales of iron ore products also changed. In the reporting period, Metinvest increased output of merchant pellets by 30% year-on-year to 7,484 thousand tonnes and decreased that of iron ore concentrate by 17% year-on-year to 7,734 thousand tonnes.

As for Southern GOK, the joint venture produced 12,247 thousand tonnes of overall iron ore concentrate in 2018, largely unchanged year-on-year. Production of merchant concentrate also remained flat year-on-year at 10,832 thousand tonnes, while output of sinter declined by 6% year-on-year to 1,746 thousand tonnes.

**COKING COAL**

Metinvest's only coking coal asset is United Coal, a high-quality producer in the US. As at 31 December 2018, its unaudited total coal reserves amounted to 126 million tonnes, and it had coking coal concentrate production capacity of around 3 million tonnes a year.

In 2018, United Coal extracted 7,019 thousand tonnes of raw coal using both underground and surface mining techniques, up 20% year-on-year. Meanwhile, its production of coking coal concentrate equalled 2,683, 9% higher than in 2017, as it commissioned new deposits and upgraded key equipment.

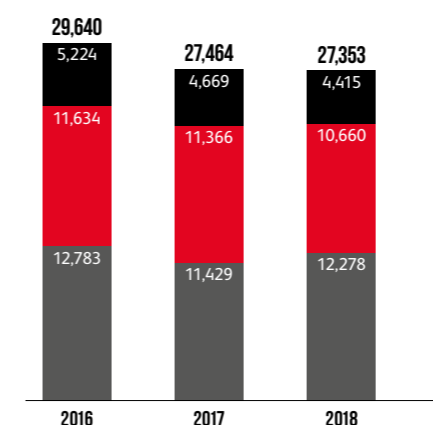
Almost all of United Coal's coking coal goes to the Group's coke production facilities in Ukraine. In the reporting period, Metinvest's coal self-sufficiency ratio was around 40%<sup>5</sup>. Additional coal volumes required for coke production were sourced from Ukrainian and international suppliers, including seaborne coal from the US and Canada. The Group continues to pursue its strategy of improving its coking coal self-sufficiency, including through select M&A transactions. In 2018, Metinvest bolstered this by acquiring a 24.99% stake in the Pokrovske coal business, Ukraine's largest coking coal operation.

**METALLURGICAL SEGMENT  
COKE AND CHEMICALS**

Metinvest's coking assets consist of Avdiivka Coke, Zaporizhia Coke and the facilities at Azovstal, as well as Inkor Chemicals, which makes chemical products. All are located in Ukraine. The Group's overall coke production capacity is around 7 million tonnes a year.

**Iron ore concentrate production**

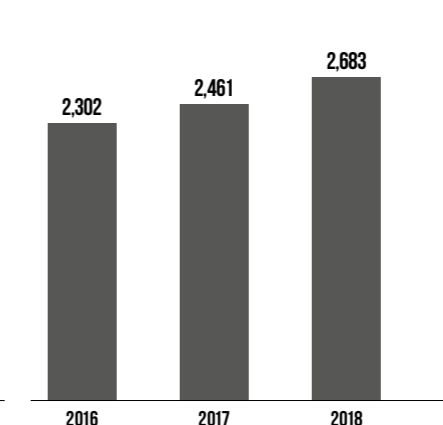
27,353KT  
0%



■ Ingulets GOK ■ Northern GOK  
■ Central GOK

**Coking coal production**

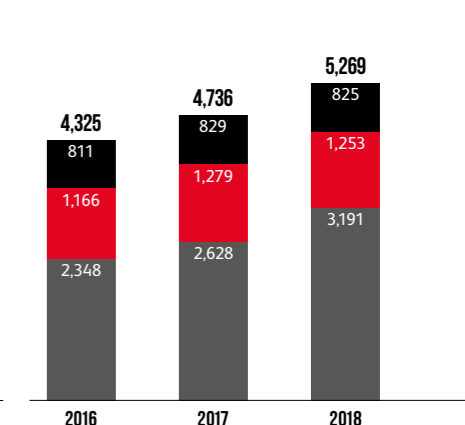
2,683KT  
+9%



■ United Coal

**Coke production**

5,269KT  
+11%



■ Avdiivka Coke ■ Zaporizhia Coke  
■ Azovstal

<sup>1</sup> Metinvest's estimate based on companies' public production information for 2018.

<sup>2</sup> According to JORC methodologies, as at 1 January 2010 and adjusted for production of 676 million tonnes of reserves between 1 January 2010 and 31 December 2018. Ore reserves refer to the economically mineable part of mineral resources.

OPERATIONAL REPORT CONTINUED

In 2018, Metinvest produced 5,269 thousand tonnes of coke, up 11% year-on-year. The main driver was greater production at Avdiivka Coke, which has been operating eight of its coke-oven batteries since May 2017.

In the reporting period, the Group's self-sufficiency ratio for coke was above 100%<sup>6</sup>. In addition, after the reporting date, Metinvest acquired a 23.71% stake in Southern Coke, a Ukrainian metallurgical coke producer, to improve long-term coke availability.

STEEL

The Group is the 42nd largest steelmaker in the world and the fourth in Eastern Europe<sup>7</sup>.

Metinvest's main steelmaking assets are Azovstal and Ilyich Steel, both integrated producers located in Mariupol, Ukraine, near the Sea of Azov. The Group recently increased its overall steel production capacity to 9.6 million tonnes, up 14%, by commissioning the continuous casting machine no. 4 at Ilyich Steel, eliminating a bottleneck there.

In addition, Metinvest has a 49.9% stake in Zaporizhstal, one of the country's largest steelmakers, with annual production capacity of around 4 million tonnes of crude steel, which is classified as a joint venture. The partners have been creating considerable synergies: Zaporizhstal is also one of the Group's top purchasers of iron ore, meaning that additional margin can be captured through Metinvest's share of its steelmaking capacity, while Zaporizhstal's product mix is complementary to Metinvest's. The enterprise is located in Zaporizhia, in southeastern Ukraine, close to

the Group's iron ore facilities in Kryvyi Rih, which is home to Metinvest's Zaporizhia Coke, and on the banks of the Dnipro River, a strategic transportation route.

The Group also has four rolling mills in Europe – Ferreria Valsider and Metinvest Trameal in Italy, Promet Steel in Bulgaria and Spartan in the UK. The flat producers in Italy and the UK use slabs produced by its Ukrainian steel mills to re-roll them into plates and coils closer to local customers, while the Bulgarian long producer re-rolls third-party square billets into rebar, wire rod and other long goods. Metinvest's total re-rolling capacity in Europe is around 2 million tonnes a year.

In addition, in 2018, the Group acquired Unisteel, a producer of zinc-coated hot-dip galvanised coils located in Kryvyi Rih, Ukraine. It can produce up to 100 thousand tonnes of such coils a year.

In 2018, Metinvest's hot metal output totalled 8,205 thousand tonnes, up 3% year-on-year. Amid more stable raw material supplies than in the previous year, Ilyich Steel boosted production by 334 thousand tonnes, up 8% compared with 2017, which more than compensated a decline of 70 thousand tonnes at Azovstal, down 2%.

Meanwhile, the Group's crude steel production amounted to 7,323 thousand tonnes, down 1% year-on-year. Azovstal's output fell by 183 thousand tonnes, down 4% compared with 2017, due to scheduled maintenance work, while Ilyich Steel's production rose by 145 thousand tonnes, up 5%.

Total merchant metal product output amounted to 8,795 thousand tonnes, up 5% year-on-year. Output of semi-finished products rose by 10% year-on-year amid a favourable market trend, while that of finished products increased by 3% year-on-year, driven by two factors: 2% growth in flat product output, due to greater hot-rolled plate volumes at Ilyich Steel in response to recovering demand; and a 14% rise in long product output, as stable supplies of square billets were secured for re-rolling at Promet Steel. All told, finished products accounted for 66% of the steel mix in 2018.

In response to greater requirements from the market and customers, Metinvest launched 39 new steel products at Azovstal and Ilyich Steel in the reporting period. Most were additional types of hot-rolled plates, hot-rolled coils and galvanised and colour-coated rolled products. In addition, the Group has now fully transformed its technical service offerings to adapt products to customers' needs, including in terms of chemical composition and mechanical characteristics, and helps customers to set up their equipment to work best with its products.

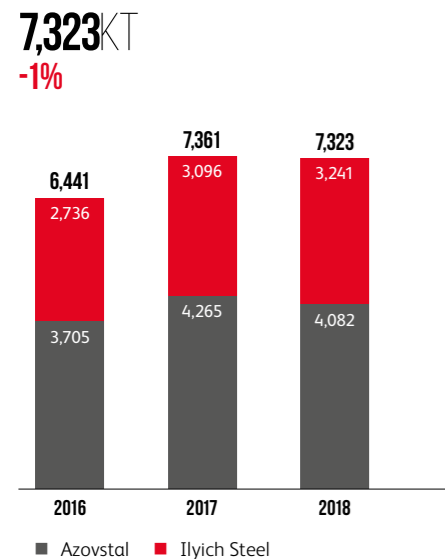
In 2018, Zaporizhstal produced 4,105 thousand tonnes of crude steel, up 5% year-on-year. Finished steel goods – which include coils, plates, joist web, strip and tin – accounted for 81% of the product mix and merchant pig iron for the remaining 19%.

OUTLOOK

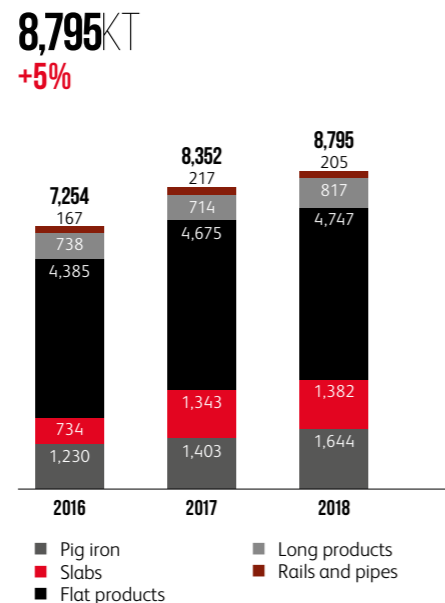
In 2019 and beyond, the Group's top priority will remain health, safety and the environment, where the same strict compliance is required for everyone, from the CEO to line workers and contractors. Another area of focus will be to continue to improve operating efficiency with the aim of reducing costs, including by automating equipment and process management.

In addition, Metinvest will continue its asset upgrade programme under the Technological Strategy 2030, including maintenance to improve operational performance and the expansion of certain facilities. At the heart of this long-term modernisation drive lies the key objective of reducing environmental footprint.

Crude steel production



Metal product mix



DIGITALISATION: TAKING THE BUSINESS TO THE NEXT LEVEL

Recognising the value of digitalisation, Metinvest has created a unified information framework, enhancing its vertical integration, seamlessly combining IT and operations, and establishing a platform for taking the business to the next level. In 2018, the Group made a strategic decision to set up IT company Metinvest Digital to ensure that digital transformation will help to meet its corporate targets as efficiently as possible.

BUILDING A DIGITAL BUSINESS

To remain competitive in today's global marketplace, manufacturing companies must integrate and utilise all of the data involved in value creation. This can be achieved through digitalisation, which entails the transition from analogue business operations to digital ones and, in turn, uses technology to enhance them.

The main reason for digitalisation is straightforward: the Group has a vast trove of data that needs processing to identify ways to optimise the business. As part of this, a paradigm change is required to see IT not as a discreet business function, but as a partner that can help to use resources more efficiently, identify non-value-adding activities and prevent production outages. Most importantly, this provides management with new digital solutions to generate additional value and provide strategic information for making decisions.

Metinvest has long made digitalisation central to its strategy and development plans, implementing SAP solutions across enterprises and sales offices, automating key business processes and ensuring network security. The first migration to an SAP enterprise resource planning (ERP) platform was in 2013. Since then, the Group has worked towards migrating all core Ukrainian production assets to SAP ERP, adding Azovstal in the first quarter of 2019. Metinvest uses 21 SAP systems, which automate its business processes in practically all areas of operations.

The Group has received an SAP Advanced Customer Centre of Excellence Certificate, which recognises its centre's high-quality services and compliance with the best practices and standards in IT system development. Metinvest was the first company in Ukraine to obtain the certificate and has been ranked in the top 50 holders worldwide.

FROM EXTRACTING ORE TO MINING DATA

Metinvest's operating model is built on close vertical integration of mining, steel production, logistics and sales offices across the value chain. To centralise their management, the Group has created an integrated information network designed to capture and utilise all of the data generated across its activities to improve business processes and provide greater insight.

At Metinvest, digitalisation has been an evolutionary rather than a revolutionary process. The primary aim is to build on existing competitive advantages, not change the proven business model. The single information space allows the Group to manage the vast data generated and react to changing conditions in raw material and end markets. Most importantly, it serves the core objective of streamlining processes to deliver products for customers with maximum efficiency.

METINVEST DIGITAL

In September 2018, to spearhead the business' digital transformation, the Group created Metinvest Digital as a standalone entity. It is responsible for overseeing the IT function and all IT processes, as well as improving the quality of services provided. In addition to supporting IT users in the Group, Metinvest Digital will work to identify the best digital practices and solutions to increasing value. The rationale for making it a separate unit is to build strong, customer-focused relationships with all customers. This approach is also meant to foster the entrepreneurial approach needed to manage projects and deliver novel IT solutions for internal customers cost-effectively.

SAP HANA CLOUD

In January 2019, after the reporting period, Metinvest completed the migration of its SAP system to a cloud platform, becoming the first

SAP HANA Enterprise Cloud (SAP HEC) user in Ukraine. The migration was the largest conducted in Central and Eastern Europe to date. The Group now has around 140 systems and more than 18,000 users working in the cloud. The new SAP landscape creates a solid platform for growth and continuous improvement across the business while cutting operating costs.

The migration was a monumental initiative. Implemented in 18 months, SAP HEC represents a disruptive business technology for Metinvest's IT function. It significantly reduces IT costs by eliminating in-house servers and providing necessary resources on demand to respond to innovation. It also enhances cyber security.

In 2018, SAP awarded Metinvest its IT Maturity rating, ranking it number one in Ukraine and among the top 10 global metals and mining companies. The Group continues to deploy new digital technologies across assets, testing RFID (Internet of Things) and mobile plant maintenance at Ilyich Steel and deploying drones at iron ore facilities to monitor operations, to name just a few. Along with efficiency gains, these innovations are already making working conditions safer and enhancing environmental monitoring.

FOUNDATIONS FOR THE FUTURE

Digitalisation remains an ongoing process for the Group, as the global technology landscape continues to develop new opportunities and solutions. Today, Metinvest is paying particular attention to four key building blocks for its future digital transformation: artificial intelligence (AI), blockchain, digital twins and mixed reality. In addition, like any digital leader, it is closely tracking new developments in the global IT sector.

The Group is already engaging AI in its business and sees enormous potential for such processes as predictive analytics and failure recognition. Blockchain is a distributed ledger system allowing secure, automated interactions with third parties such as suppliers. Digital twins are representations of real-world systems that provide valuable information about how systems work and products are used. Mixed reality provides a combination of real-world and virtual representation that can transform everything: from training to managing complex assets.

Metinvest is a proud leader of digitalisation in Ukraine and the global mining and metals industry. The ongoing transition will unlock the potential of its existing business model over the coming years and decades. At the same time, it can help to make the entire industry safer and more efficient, benefiting everyone. The process of unlocking this historic potential has only begun.