# YOURTUBE




#1 (44) 2025

CORPORATE MAGAZINE


# ENGINEERING SYNERGY, DELIVERED

## TMK EXPANDS SERVICES FOR OIL AND GAS COMPANIES

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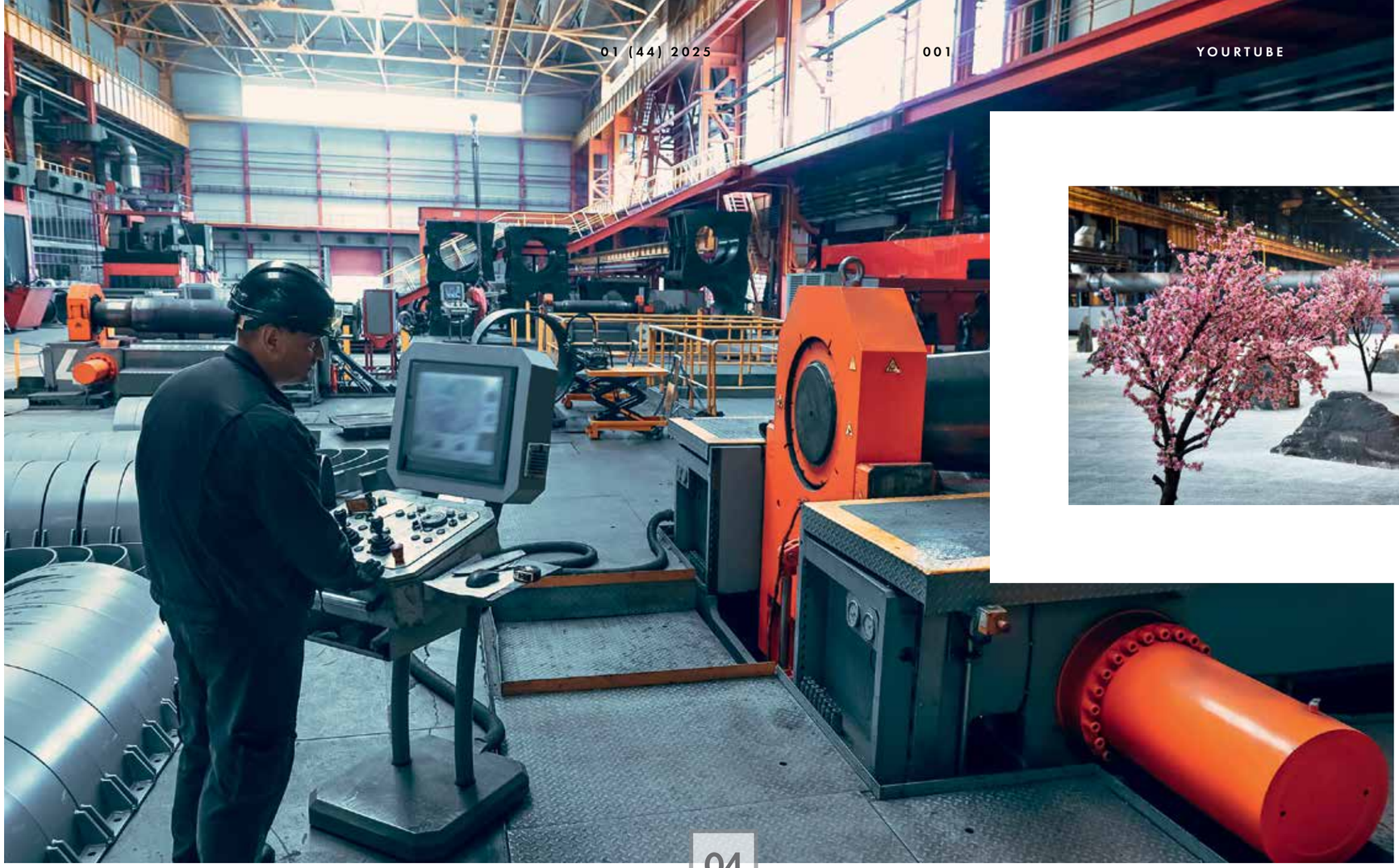

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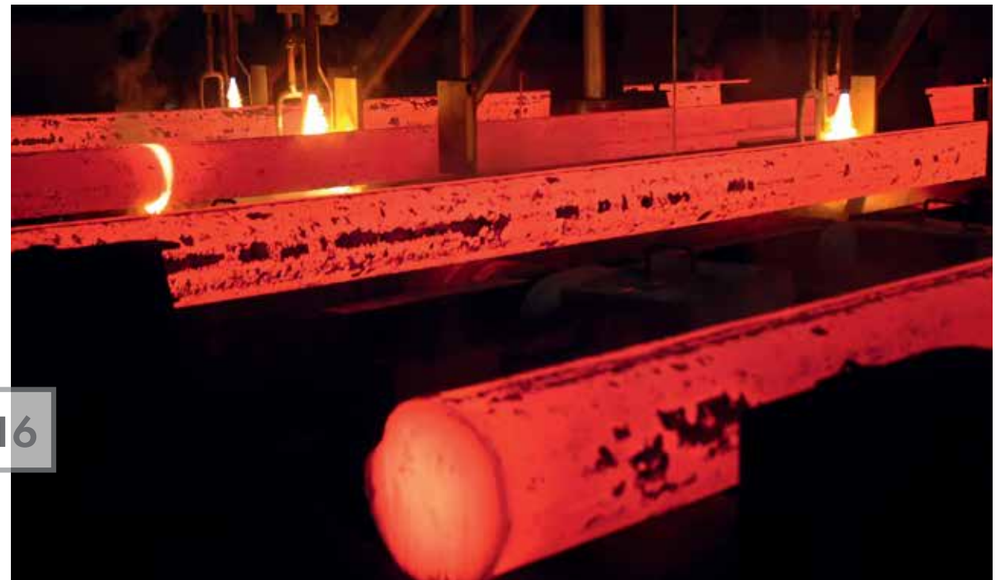

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# PIPES FOR CHALLENGING OILFIELD OPERATIONS

Taganrog Metallurgical Plant (TAGMET), part of TMK, has launched new equipment to expand its offering of drill pipes designed for complex oil extraction conditions. As part of a capacity modernization effort, a state-of-the-art thermal treatment unit has been installed on the drill pipe finishing line at the plant's pipe rolling shop.

The newly commissioned system is designed for heat treatment of the welded joint area of drill pipes with friction-welded tool joints. The process includes quenching and tempering using a polymer quenching fluid, which enhances the strength and internal structure of the welded area. The result is improved performance and reliability under demanding operational loads.

The new equipment also enables processing of drill pipes with extended tool joints up to 700 mm in length – an increasingly in-demand product for the oil and gas industry.

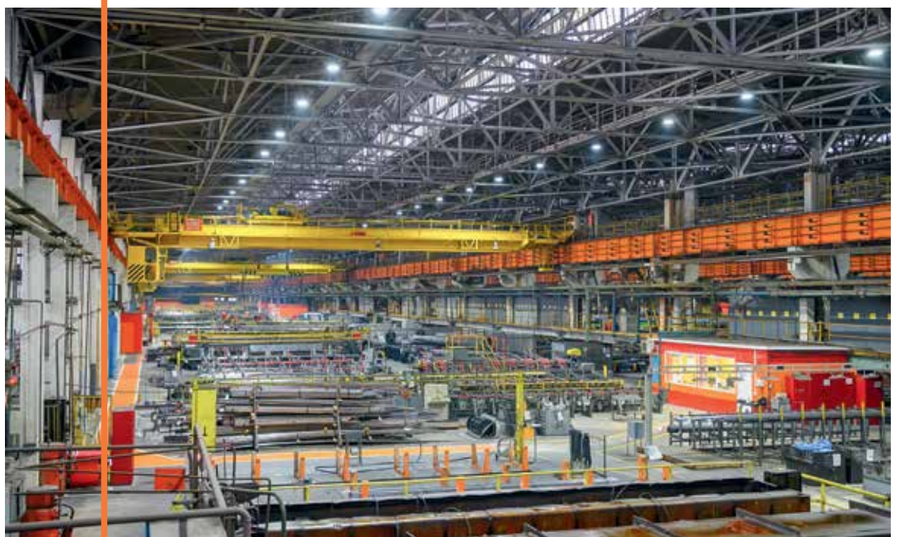
The first batch of heat-treated drill pipes produced using the new technology has already been shipped to customers.

## QR code tracking

TMK has begun marking tubular products with durable QR codes that remain scannable even if partially damaged. Developed by TMK-Premium Service, the system allows full lifecycle tracking of each pipe, integration with inventory systems and offline data access. The first batch – casing pipes with TMK UP PF connections – was manufactured at the Volzhsky Pipe Plant and delivered to customers. A dedicated app recovers damaged codes using proprietary algorithms. TMK plans to roll out QR-based marking across additional production sites.

## TMK production sites receive integrated environmental permits

All of TMK's major production facilities have received Integrated Environmental Permits (IEP), confirming compliance with the best available technologies. The IEP replaces multiple regulatory documents and standardizes limits on environmental impact. Following Taganrog Metallurgical Plant's acquisition of a permit in 2021, IEPs were issued in 2024 to TMK's plants in Volzhsky, Seversky, Kamensk-Uralsky, Pervouralsk and Chelyabinsk. Preparation involved emissions inventories, environmental performance programs, and regulatory assessments. The permits reflect TMK's long-term commitment to sustainable operations and environmental stewardship.



## NEW AIR FILTRATION SYSTEM LAUNCHED AT PNTZ

TMK has commissioned a high-performance air filtration unit at Pipe Drawing Shop No. 14 of the Pervouralsk New Pipe Plant (PNTZ). Designed to capture up to 98% of dust generated during pipe cutting, the system processes up to 6,500 cubic meters of air per hour. Equipped with pressure differential sensors, the filters are automatically cleaned with compressed air pulses. Independent testing confirmed the installation's high efficiency, contributing to cleaner working conditions and improved environmental performance.

# INTEGRATOR OF ENGINEERING SOLUTIONS

**SERGEY REKIN,** CEO OF TMK-PREMIUM SERVICE, SHARES HIS THOUGHTS ON THE COMPANY'S TRANSFORMATION INTO AN ENGINEERING CENTER, EXPANSION OF SERVICES AND NEW PRIORITIES FOR THE OIL AND GAS SECTOR.

**How did TMK-Premium Service get started, and how have the company's priorities evolved over the years?**

TMK-Premium Service was established in 2007 to develop and promote oil and gas-grade tubular products, particularly those with premium threaded connections. In essence, we were at the forefront of shaping the Russian premium pipe market. Initially, we did not provide any additional support services.

Over time, it became clear that the market required a more integrated approach. That's when we began offering one-stop-shop services – supporting the product from the plant to the wellsite. This included supply chain management, logistics, storage, preparation, pipe assembly, and technical support at the point of operation. This approach enabled us to synchronize production schedules with customers' drilling programs and significantly improve coordination and efficiency.

**What prompted the decision to transform the company into an engineering center?**

In recent years, TMK has acquired several new assets and expanded its competencies. To maximize the impact of these developments, it was necessary to consolidate them under a single structure. The market today demands complete engineering solutions rather than just product deliveries. That's why we initiated a transformation into an engineering-focused company, concentrating on three core areas: well construction, oil and gas production and transportation, and downstream processing.



# We support casing and tubing products at every stage – from design and production to on-site assembly at the drilling rig

TMK premium products ensure efficient well operation

**What services does the company currently offer?**

One of our key areas is what we call "Pipe-Centered Services." We support casing and tubing products at every stage – from design and production to on-site assembly at the drilling rig. We have our own equipment for assembling pipe strings on-site, which enhances installation quality and reduces operational risks. In 2022, we signed our first service contracts under which customers receive pipe already run into the well. Our team – along with TMK's sales division – manages everything from placing the order at the manufacturing plant, to production, delivery, make-up, and downhole support. We've had very successful cases and received strong feedback from our clients.

We're also actively developing services related to casing-while-drilling. Our specialists have designed a proprietary drill bit and successfully completed pilot projects using this technology. Several ongoing projects are aimed at reducing well construction times.

Another offering we've launched is a mobile service for repairing pipe threads and manufacturing crossovers and couplings for oilfield-grade pipes using a mobile lathe unit. This equipment can be deployed to any customer site and made operational within 96 hours – then quickly relocated as needed.

We're also working on a project for the construction of rapid-assembly pipelines. When it comes to developing oilfields, the faster you can start production, the better. Pipelines, compressor stations, and aboveground infrastructure are often the most capital-intensive elements. While drilling wells is costly, the surface infrastructure can be even more expensive. We plan to implement a technological solution that will allow us to connect pipes without any welding. We're currently developing quality certification standards to enable its use in official construction projects. This solution would allow us to build up to 100 kilometers of pipeline over a single winter road season. We'll offer clients a full package: rapid-assembly pipe solutions, engineering services, calculations, and on-site assembly.

We are also developing mobile oil treatment units and comprehensive field corrosion protection solutions.

In the downstream and petrochemicals segment, we're assembling service packages in collaboration with several of our facilities and oil and gas companies. We're leveraging our

Vladimir Endovitsky/Shutterstock/FOTODOM

Engineering support for the descent of TMK tubular products with premium threaded connections is an integral part of the comprehensive solutions of TMK-Premium Service

Our specialists have designed a proprietary drill bit and successfully completed pilot projects using this technology

equipment manufacturing capacity for the energy sector and working closely with research institutes to develop new LNG production technologies.

**Would you say TMK-Premium Service acts as an integrator of internal and external engineering expertise?**
Absolutely. As an engineering center, we engage design institutes for project work and bring in external expertise in areas like structural and process engineering. Each project presents unique challenges, and we find the right partners to meet them. We also have an in-house engineering and design team with the capability to execute field development and infield transportation projects.

**What engineering services are currently most in demand among oil and gas companies?**
The most in-demand solutions today include well design engineering, casing optimization, risk reduction during pipe running, and on-site technical support at the wellsite. Another key area is digitalization – we are implementing real-time monitoring technologies for pipe assembly quality and performance. Increasingly, companies are outsourcing engineering functions to us, from design to technical oversight.

**Why do customers choose TMK-Premium Service? What are your key competitive advantages?**
First, we have strong production capabilities and a broad product range – both tubular and non-tubular. Second, we have deep expertise in material selection and corrosion testing. Third, we offer engineering services tailored to our clients' specific needs – from design and manufacturing to assembly. We take full responsibility for outcomes and provide performance guarantees.

It's also important that TMK-Premium Service works in close partnership with TMK's R&D Center in Moscow and production sites. TMK has historically developed as a universal supplier of a wide range of products and services – that's a competitive advantage we intend to strengthen and expand.

**What are your strategic goals for the coming years?**
Our goal is to become a full-cycle engineering solutions integrator for the oil and gas industry. We're not just supplying products – we're fully engaged in the customer's project at every stage. We're expanding our geographic footprint, strengthening our capabilities, advancing digital tools and delivering integrated solutions aligned with our customers' business needs. **YT**

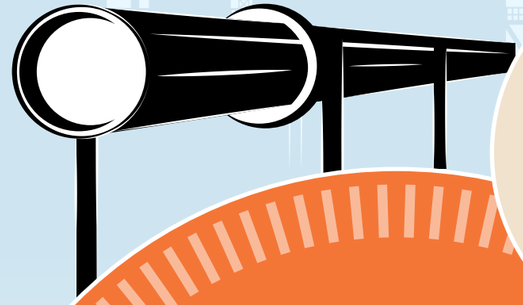
TMK provides comprehensive services for the design and manufacture of unique products

## TMK-Premium Service works in close partnership with TMK's R&D Center in Moscow and production sites

TMK produces premium threaded connections under the TMK UP™ brand

# TMK-PREMIUM SERVICE: DEVELOPMENT VECTOR

The company provides a full cycle of services: from technical solution design and product manufacturing to installation and commissioning.



## WELL CONSTRUCTION

**Well design**

**Manufacturing of technological equipment**

**Provision of well construction services**

**Integrated supply of pipes and equipment**

- Design of complex wells
- Casing-while-drilling technology
- Directional and horizontal drilling
- Pipe running and handling systems
- Driveable connectors for offshore drilling
- Quick-assembly connectors for shelf operations
- Services: drill pipe and rig inspection, supervision

## TMK-PREMIUM SERVICE ENGINEERING COMPANY

## OIL AND GAS PRODUCTION, TREATMENT, TRANSPORTATION

**Design of pipeline systems**

**Manufacturing of technological equipment**

**Well cluster development**

**Pipeline construction**

**Oil and gas treatment**

- Comprehensive pipe equipment protection at the field
- Supply of pipes, fittings, and valves
- Corrosion control and monitoring
- Quick-assembly pipelines
- Mobile oil gathering solutions for early-stage field development
- Software and hardware diagnostics and life prediction systems
- Pipeline construction

## OIL & GAS PROCESSING

**Plant equipment design**

**Process calculations**

**Manufacturing of individual modules of technological equipment**

**Equipment supply**

**Construction and installation works**

- Pipes, fittings, valves, and metal structures
- Storage and transportation tanks for LNG
- Consulting on equipment for oil refining and LNG plants
- Supply of equipment, units, and materials

SOLUTIONS

# PIPE RENTAL SERVICE

012

TMK'S OILFIELD SERVICES DIVISION, TMK NEFTEGAZSERVICE (TMK NGS), HAS INTRODUCED A NEW TUBING RENTAL SERVICE FOR RUSSIAN UPSTREAM COMPANIES LOOKING TO REDUCE OPERATIONAL COSTS BY UP TO 20% AMID GROWING DEMAND FOR EFFICIENT FIELD DEVELOPMENT SOLUTIONS.

New rental service of TMK covers stock tubing and tubing for hydraulic fracturing (fracking) operations, and includes engineering support throughout the service cycle. TMK NGS says the rental model can reduce clients' total costs by 10–20% compared to outright purchases.

"TMK NGS takes full responsibility for maintenance, repair, and logistics," said Maksim Melnichenok, head of the engineering support service for tubing run operations. "When the service life ends, we manage the pipe's removal and disposal."

**SCALING DEMAND**

In 2023, TMK NGS leased 64 tubing strings to clients. That figure more than doubled to 160 strings in early 2024, driven by heightened interest from oil producers facing the challenge of developing hard-to-recover reserves (HRR), which now account for over 60% of Russia's proven hydrocarbon resources.

"Cost optimization is a priority as companies develop more complex reservoirs," said TMK NGS CEO Yevgeny Gaas. "Our rental service helps them avoid large upfront investments in pipe, shifting to predictable monthly payments."

**COMPANY PROFILE**

TMK Neftegazservice provides oilfield services across the fuel and energy sector, with operations in the Urals, Western Siberia, the Volga region and beyond. The company offers repair and coating of OCTG, thread cutting, tubing rental with maintenance, and on-site services including transportation, product storage and supervision. The division also manufactures heat-insulated pipe and components for hydrocarbon production.

# TMK Neftegazservice continues to expand its capabilities in line with a client-focused strategy

He added that the model also reduces logistics, storage and maintenance costs, while freeing clients from non-core functions. Working with a single service provider allows for technical solutions to be tailored to field conditions, lowering failure rates and optimizing inventory.

TMK NGS has ramped up staffing at its Novy Urengoy production site to meet demand. "We conducted large-scale training for rental operations," Gaas said. "Some quality control staff transitioned to our new engineering support team for tubing, becoming multi-skilled specialists."

TMK NGS held large-scale training exercises for personnel in providing tubing rental services

Employees at the TMK NGS-Buzuluk plant mastered the technological process of repairing coated oil well pipes

## REGIONAL EXPANSION AND NEW SERVICES

TMK NGS continues to expand its capabilities in line with a client-focused strategy. The company recently launched an anti-corrosion coating service for oil and gas pipelines at its Buzuluk facility, helping extend pipe life and reduce repair frequency. The coating is already in demand among producers in the Volga region, where TMK NGS sees growing inter-plant cooperation.

In parallel, the Buzuluk site has also mastered repairs of coated tubing – a service gaining traction as operators increase their use of protective coatings. TMK NGS now also offers mechanical cleaning of tubing interiors from asphalt, resin, and paraffin deposits, further expanding its wellsite service portfolio.

Geographical proximity to key oil-producing regions, including the Khanty-Mansiysk and Yamalo-Nenets Autonomous Districts in Western Siberia, gives TMK NGS another competitive edge by enabling rapid on-site deployment of engineers and technicians.

"Since our founding, TMK NGS has played a key role in landmark oil and gas projects," Gaas said. "Through this long-standing collaboration, we've developed new solutions for servicing oilfield equipment – and we're continuing to grow our portfolio and improve our processes." **YT**



# STEEL'S GREEN TURN: HOW THE INDUSTRY IS RESPONDING TO THE CLIMATE CHALLENGE

STEEL IS THE BACKBONE OF MODERN CIVILIZATION, ESSENTIAL FOR EVERYTHING FROM BUILDINGS AND TRANSPORT TO HOUSEHOLD GOODS. YET THE INDUSTRY THAT POWERS PROGRESS IS ALSO AMONG THE WORLD'S LARGEST CONTRIBUTORS TO CARBON EMISSIONS. AS CLIMATE CONCERNS MOUNT, GLOBAL STEELMAKERS ARE UNDER GROWING PRESSURE TO DECARBONIZE – AND MANY, INCLUDING TMK, ARE STEPPING UP WITH BOLD STRATEGIES AND INVESTMENTS.

VTT Studio/Shutterstock/FOTODOM

According to the World Steel Association (worldsteel), global steel production reached 1.883 billion tons in 2024, or about 219 kilograms per person. In Russia, that figure is higher, at 309.1 kilograms per capita. Construction accounts for over half of steel demand worldwide, followed by machinery (16%) and the automotive sector (12%). As developing nations continue to industrialize, demand is expected to climb, potentially exceeding 2 billion tons annually by 2030.

At the same time, the steel industry accounts for roughly 7–9% of global $CO_2$ emissions – comparable to all the world's cars combined. The dominant blast furnace method, which relies on coal to extract iron from ore, produces around 2.32 tons of $CO_2$ per ton of steel. By contrast, electric arc furnaces (EAFs) that melt recycled scrap emit just 0.67 tons of $CO_2$ per ton.

This disparity underscores a key pathway to greener steel: switching to scrap-based production and low-carbon technologies. But making the leap will take time, investment, and government support. The International Energy Agency (IEA) projects that fully carbon-free steelmaking won't be feasible before 2070, though the European Union aims to reach carbon neutrality in the sector by 2050.

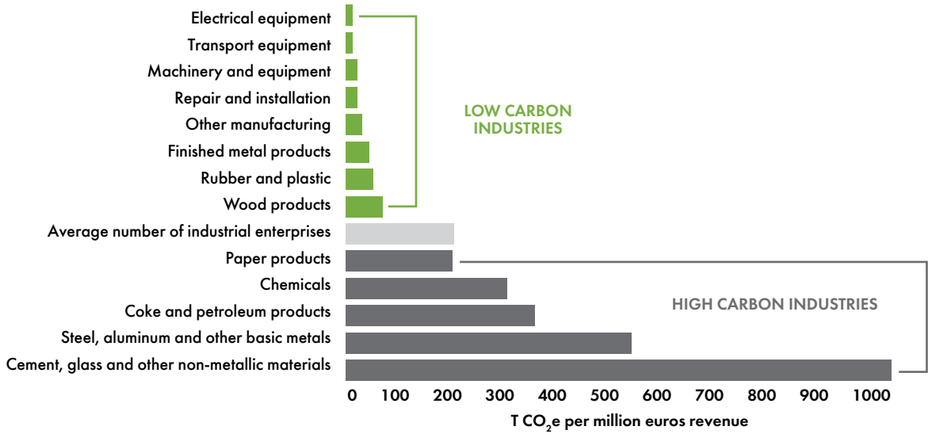
## FROM COAL TO HYDROGEN

New low-emission technologies are already being tested and deployed. Direct reduced iron (DRI) methods, which bypass coke-based blast furnaces, offer a cleaner alternative. Instead of coal, DRI relies on natural gas or hydrogen to extract iron. Projects based on this method are gaining traction around the world.

Germany's ThyssenKrupp, for example, is building out its Carbon2Chem initiative, aiming to cut $CO_2$ emissions by 30% by 2030 through carbon capture and utilization. In Sweden, SSAB, Vattenfall, and LKAB have launched the world's first pilot hydrogen-powered steel plant in Luleå. Meanwhile,

Scrap plays a key role in reducing industrial emissions and resource consumption. Every ton of scrap metal used to produce steel reduces carbon emissions by 1.5 tons and the consumption of 1.4 tons of iron ore, 740 kg of coal and 120 kg of limestone. The only limitation is the availability of scrap, especially in developing countries (according to worldsteel).

# High and low carbon industries




Source: Lombard Odier, Kaminker and Hohne-Sparborth, 2020.




China's HBIS has commissioned a DRI facility using hydrogen with emissions as low as 250 kg $CO_2$ per tonne – less than one-seventh that of a conventional blast furnace.

Other technologies also show promise. Tata Steel is piloting its HISARNA smelting process, which eliminates the need for iron ore pellets and coke, potentially lowering carbon emissions by 20%. U.S.-based EVRAZ Pueblo has been using solar power in steel production since 2021, and Emirates Steel Arkan in Abu Dhabi is experimenting with electrolysis-based methods.

While these innovations point toward a low-carbon future, they come with a price. worldsteel estimates that green steel production could cost 10–50% more than traditional methods. As a result, government incentives, regulatory frameworks, and cross-border cooperation will be essential to accelerate adoption.

## RUSSIA'S ROLE IN THE TRANSITION

Despite global headwinds, Russia remains one of the world's top steel producers, turning out 70.7 million tons in 2024. Though output fell 7% year-on-year amid shifting trade patterns and economic pressures, the sector continues to invest in greener technologies.

Leading Russian steelmakers are developing DRI (direct reduced iron) facilities and integrating more recycled content into their processes. Metalloinvest, for instance, operates both hot-briquetted iron (HBI) and DRI plants, while NLMK uses metallurgical gases for power generation. MMK is investing in advanced blast furnace and coke battery technologies.

In the city of Vyksa, OMK is building a 1.8 million-ton electric steel plant based on DRI. The company expects its new facility to emit only one-third of the greenhouse gases produced by conventional operations.

Meanwhile, Gazprom Neft, Severstal, and EVRAZ are jointly testing hydrogen's use in metallurgy.

## TMK'S DECARBONIZATION DRIVE

TMK is also playing its part. In 2023, the company invested more than 240 million rubles ($3 million) in energy efficiency and emissions reduction projects, cutting $CO_2$-equivalent emissions by 43,200 tonnes. TMK's steel is nearly 100% recycled, produced in electric arc furnaces using limited amounts of pig iron, coal, and HBI.

As part of its low-carbon strategy, TMK supports power generation from gas and renewables and is ready to supply products for hydrogen energy, green ammonia, biodiesel, and biogas infrastructure. The company's portfolio also includes tubular solutions for carbon capture, transportation, and storage projects.

"In a carbon-constrained economy, sustainable technologies are becoming the global norm," a TMK spokesperson said. "By investing in energy efficiency and clean production, we not only reduce our environmental footprint but also strengthen our competitiveness."

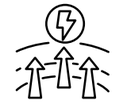
## LOOKING AHEAD

As demand for steel continues to grow, so does the urgency to decarbonize its production. From hydrogen to carbon capture, use, and storage, from recycled scrap to renewable power, the industry's transformation is already underway. And though challenges remain, the transition offers opportunities for innovation, collaboration and leadership.

Reducing the carbon footprint of steel is not just a challenge – it's a chance to build a cleaner, smarter and more sustainable industry that supports progress while respecting the planet. **YT**

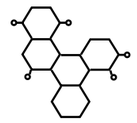
# Paths to Green Steel

**To accelerate the green transition, the steel industry is pursuing multiple approaches:**



Boosting energy efficiency and cutting indirect emissions at all production stages


Phasing out outdated, high-emission facilities



Expanding the use of scrap and DRI with natural gas or hydrogen as reductants. Adopting carbon capture, storage, and reuse (CCUS) technologies

Switching to low-carbon energy sources, including renewables and biofuels

Embracing circular economy principles

Skylines, linear_design/Shutterstock/FOTODOM

# FROM HELMETS TO HIGH-TECH: TMK'S NEXT-GEN APPROACH TO WORKPLACE SAFETY

TMK REAFFIRMED ITS UNWAVERING COMMITMENT TO HEALTH AND INDUSTRIAL SAFETY THIS YEAR AT ITS ANNUAL WORK SAFETY DAY, DEMONSTRATING A 24% REDUCTION IN WORKPLACE TRAUMAS AND A LOST TIME INJURY FREQUENCY RATE (LTIFR) OF 0.58, NEARLY HALF OF WORLDSTEEL'S INDUSTRY AVERAGE. A HIGH-TECH APPROACH TO SAFETY, INCLUDING AUTOMATED MOTION DETECTORS AND VR SIMULATORS, LIES AT THE CORE OF THIS YEAR'S IMPROVEMENTS.

TMK's top management held team meetings and toured workshops

Work Safety Day has been held by TMK annually since 2016. In 2025, the event took place for the tenth time. Its goal is to foster a sustainable culture of occupational health and industrial safety, achieve zero injuries and create safe and comfortable conditions for every employee.

VR simulators help Volzhzky Pipe Plant employees hone their work safety skills

This year, TMK took its commitment to safety to the next level with an ambitious cross-company audit spanning 25 production sites. Expert commissions made up of top executives and plant leaders rolled up their sleeves for a deep dive into safety systems. Months of meticulous preparation, involving both TMK employees and external contractors, set the stage. The inspections didn't just tick boxes – they scrutinized every aspect of safety compliance, identified potential risks and tracked progress on previous improvement plans. Wherever gaps were found, swift and targeted action plans were put into motion to raise the bar even higher.

The company focused on four key areas: housekeeping and facility upkeep, on-the-job instruction and mentorship, prevention of falls and the safety of technological processes.

At the Pervouralsk New Pipe Plant (PNTZ), the spotlight was on workplace order and visual safety. Pipe Rolling Shop No. 8 saw rapid improvements – from sleek new safety fencing and freshly levelled floors to revitalized floor markings and upgraded tool storage systems. Across the plant, shop managers unveiled standout innovations. In Shop No. 5, a cutting-edge 3D safety fence now guards loading zones, while overhead cranes are equipped with automated light-and-sound alerts that activate without operator input – turning everyday operations into smart, seamless safety routines. Meanwhile, Drawing Shop No. 14 introduced real-time personnel boards that empower supervisors to track staffing and respond instantly to shifting needs, keeping both people and productivity on point.

## Results for 2024:

**Lost Time Injury Frequency Rate (LTIFR) – 0.58** (industry average — 1,01*)

↓ **Minor injuries 43%**

↓ **Severe cases 23%**

↓ **Overall injury reduction 24%**

*According to data from the World Steel Association

**Sergey Chikalov,**
**CEO of TMK**

«TMK is constantly improving its occupational health and safety system and upgrading equipment to ensure comfort and safety in the workplace. Initiatives like Work Safety Day enable us to share experiences and scale up best practices across the company's sites. These include new formats for safety briefings, upskilling employees through virtual reality tools and using digital solutions to monitor workspaces and analyze incidents. Through our collective efforts, we are steadily moving toward a common goal – zero workplace injuries.»

# 2024–2025 projects

01

## Safe Control Panels

This program involves implementing cutting-edge ergonomic standards at production sites and renovating control panels according to best practices across TMK.

02

## PROSafety

TMK launched a new online monthly digest for employees that features everything about events, incidents, new solutions and changes in legislation related to workplace safety.

03

## Safety Culture in Production

This is part of a comprehensive program to develop occupational health and safety standards. TMK assessed the effectiveness of existing organizational measures and behavioral audits. The company launched a pilot project in 2024 at its PNTZ plant, with plans to expand to other sites.

Uniconlabs, linear_design/Shutterstock/FOTODOM


In the Quest Room at VTZ foundry, knowledge of labor protection is tested in the format of a business game

**ENGINEERING EXCELLENCE, SAFETY-FIRST**

At the Chelyabinsk Pipe Rolling Plant (ChTPZ), engineering innovation and safety came together in high style. This year's focus: protecting people at the heart of high-tech operations. One standout upgrade was the installation of motion-activated light barriers – smart sensors that instantly halt machinery if someone enters a danger zone. First introduced in Shop No. 2, these sleek systems are now being adopted across other facilities. ChTPZ also doubled down on visual tools to boost awareness and accountability, deploying everything from high-impact safety boards to real-time video monitoring that captures and helps correct rule violations on the spot.

But it's not just about machines – it's about people. ChTPZ has upgraded team meeting spaces, overhauled shower facilities and installed modern two-story modular units that offer team leaders a more comfortable, functional workspace.

At the Seversky Pipe Plant (STZ), a cutting-edge non-destructive testing area captured the commission's attention. Designed from the ground up with safety in mind, it minimizes human-equipment interaction and ensures intuitive, hazard-free navigation. As TMK Technical Director Boris Pyankov noted, only two plants in the country – STZ and the Volzhsky Pipe Plant (VTZ) – can boast such advanced safety integration.

Safety Day is an important element of TMK's corporate culture

At PNTZ, bright yellow helmets are issued to interns and new employees

**BEYOND THE CHECKLIST**

At the Sinarsky Pipe Plant, smart design enhancements are helping turn everyday routines into seamless safe operations. Workers benefit from clearly marked, reinforced walkways, new warning signage at transport intersections, and improved barrier systems – including a 3D protective enclosure with a gated access point at the hydraulic test press. In the threaded pipe production zone, a new metal-grated bridge replaced older infrastructure, offering safer and more stable passage.

TMK's annual Work Safety Day has evolved into a year-round movement – a living safety ecosystem powered by interdepartmental audits, digital tools, and cross-plant knowledge-sharing. And the results speak volumes: in 2024, overall incidents of injury and microtrauma dropped 24% compared to the previous year. Microtraumas were down by 43%, and serious injuries fell by 23%. TMK's Lost Time Injury Frequency Rate (LTIFR) hit just 0.58 – significantly better than the global industry average of 1.01 reported by worldsteel. Several production sites – TMK-INOX, the Rakitny Fittings Plant and TMK Steel Technologies – proudly reported zero injuries in 2023–2024.

**SMART TECH, SAFER TEAMS**

TMK is embracing the digital future of workplace safety with powerful results. The company's Incident Library – a robust archive of all recorded accidents since 2015 – empowers specialists to track patterns, pinpoint risk hotspots and streamline investigations.

AI is also on the job. At the Taganrog Metallurgical Plant, a sophisticated computer vision system flagged over 2,200 safety violations last year – from missing PPE to unsafe routes – helping teams take swift corrective action.

Learning at TMK has also gone immersive. Employees now train using state-of-the-art VR simulators, including full safety quest rooms at VTZ that make complex scenarios feel real, memorable and actionable. These tools are now core to TMK's ongoing safety education programs.

Digital solutions extend to the field as well. The OTP5. Online system is now the go-to tool for mobile inspections, enabling quick violation logging and assigning of accountability in real time. In 2024, it expanded to the oil and gas division, with a new module in development to log high-risk facilities, track equipment certifications, and monitor regulatory checks.

Employees stay up to date with the monthly PROSafety digest – an informative, engaging roundup of incident insights, regulatory updates and front-line safety innovations shared across all TMK sites.

**RAISING THE BAR: CULTURE AND CONTROL**

The Safe Control Panels project is redefining industrial ergonomics, with upgraded control panels and operator areas that meet new standards in safety, comfort and equipment access. Meanwhile, the Safety Culture in Production pilot program launched at PNTZ in 2024 is testing fresh approaches to employee engagement – from behavioral audits and enhanced briefing formats to more dynamic cross-shift communications. The aim: to embed a proactive safety mindset across every level of the organization.

This initiative feeds into TMK's broader roadmap – its Integrated Health, Safety and Environment Function Development Program, which runs through 2026 and focuses on competency building, behavioral change and high-impact safety leadership.

As Boris Pyankov summed it up, the formula for success is simple but powerful: safety only works when everyone – from senior executives to machine operators – takes ownership. And at TMK, that commitment is transforming safety from a checklist into a culture. **YT**

# TMK OPENS ITS DOORS

TMK, ONE OF THE WORLD'S LEADING SUPPLIERS OF STEEL PIPES FOR THE OIL AND GAS INDUSTRY, IS RAPIDLY EXPANDING ITS INDUSTRIAL TOURISM OFFERING, ATTRACTING MORE THAN 50,000 VISITORS TO ITS KEY PRODUCTION SITES OVER THE PAST YEAR.

From 19th-century blast furnaces to state-of-the-art rolling mills, TMK's factories are becoming destinations for a growing number of tourists, students, business partners and local residents drawn to the aesthetic and innovation of modern industry.

"Even those unfamiliar with the world of metallurgy find something to admire," said Anna Trepalova, head of industrial tourism at TMK. "Each location offers a unique blend of history, technology, and creativity – a living testament to our industrial legacy and future."

TMK's industrial tourism program is now active across its major plants, each with curated routes designed to showcase the technological processes behind steelmaking while dispelling outdated myths about life on the factory floor.

## BLAST FURNACE TO DIGITAL PLANT

A highlight of TMK's offering is the Northern Urals-based Seversky Pipe Plant (STZ), where the Severskaya Domna museum complex blends restored 19th-century industrial architecture with modern exhibition spaces. A new tour, Metallurgy Through the Ages, leads visitors from a preserved 1860s blast furnace to modern electric arc furnaces and seamless pipe mills.

The tour, which originally catered to students and partners, is now open to the public from the age of 14. TMK expects over 2,000 guests to explore STZ's facilities this year.


The history of TMK's plants is as captivating as their architectural landmarks


## FUTURE WORKERS GET HANDS-ON

At Sinarsky Pipe Plant (SinTZ), TMK has transformed its training ground into a tourist draw. The site includes TubeHiTech, an interactive learning center displaying over 160 samples of TMK's products, from vintage cast-iron pipes to modern heat-insulated and drilling solutions. The center is popular with students and locals, thanks in part to large murals of Russian football stars created as part of the Play for Us! initiative.

Open days and tours of SinTZ draw thousands annually, with visits blending technical demonstrations and professional orientation activities.

At SinTZ, visitors can explore the plant's educational infrastructure and tour production sites currently in operation


## BUILDING THE NATION

The Chelyabinsk Steel Structures Plant (ChZMK), famed for its role in landmark projects such as Moscow's Ostankino Tower and Sochi's Fisht Stadium, offers two themed tours. One explores the company's legacy through digital archives and video guides, while the second, called "Find Yourself, Be the Best," takes the form of a production-themed quest for students interested in welding.

These immersive formats, popular with local youth, have already brought dozens of young welders into the plant's ranks.

ChZMK proudly displays national landmarks it helped to build at its on-site gallery

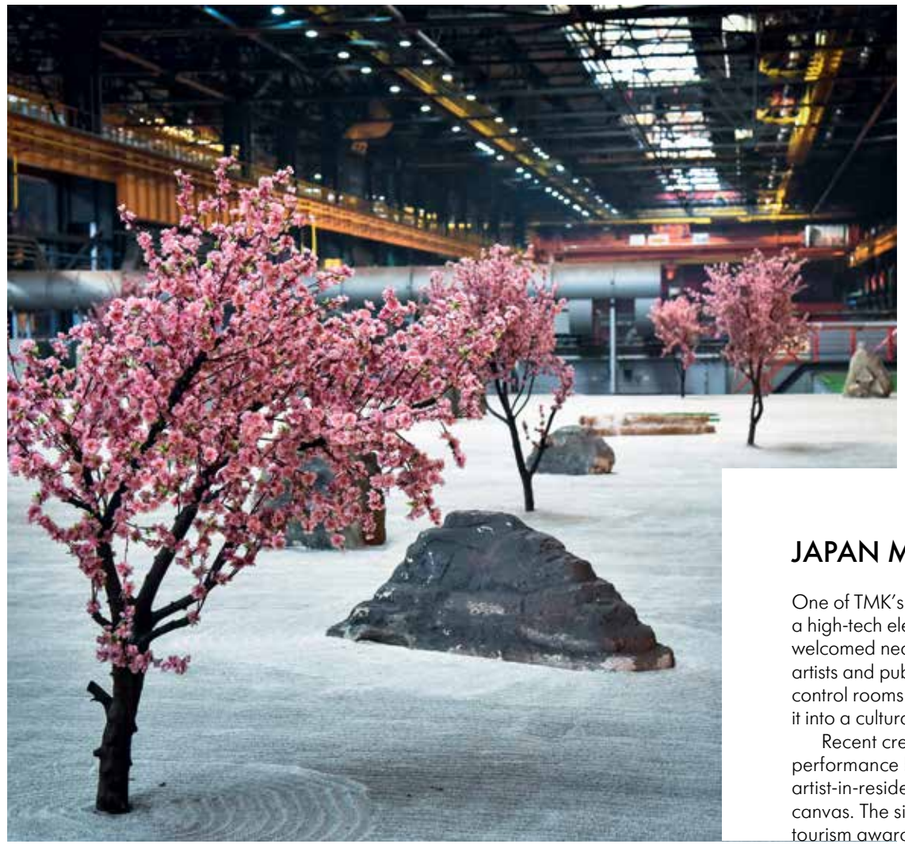


## HERITAGE AND INNOVATION IN THE URALS

The industrial heritage of TMK is also celebrated at the Pervouralsk New Pipe Plant (PNTZ), where the newly established museum and exhibition center has become the entry point for guided tours. The space features archival documents, rare machinery and interactive exhibits. From there, visitors embark on the "The Pipe Calls" route, which includes modern workshops and digital learning stations.

In a nod to design, the tour ends at a module-style innovation center combining modern aesthetics with hands-on learning – an effort to present the steel industry as both creative and future-oriented.

PNTZ's museum tells the history of the plant and the city




## JAPAN MEETS CHELYABINSK

One of TMK's most recognizable industrial tourism sites is Vysota 239, a high-tech electric-welded pipe shop in Chelyabinsk. The plant has welcomed nearly 300,000 visitors since opening, including notable artists and public figures. Its striking design features – from glass control rooms to a rooftop Japanese rock garden – have turned it into a cultural venue in its own right.

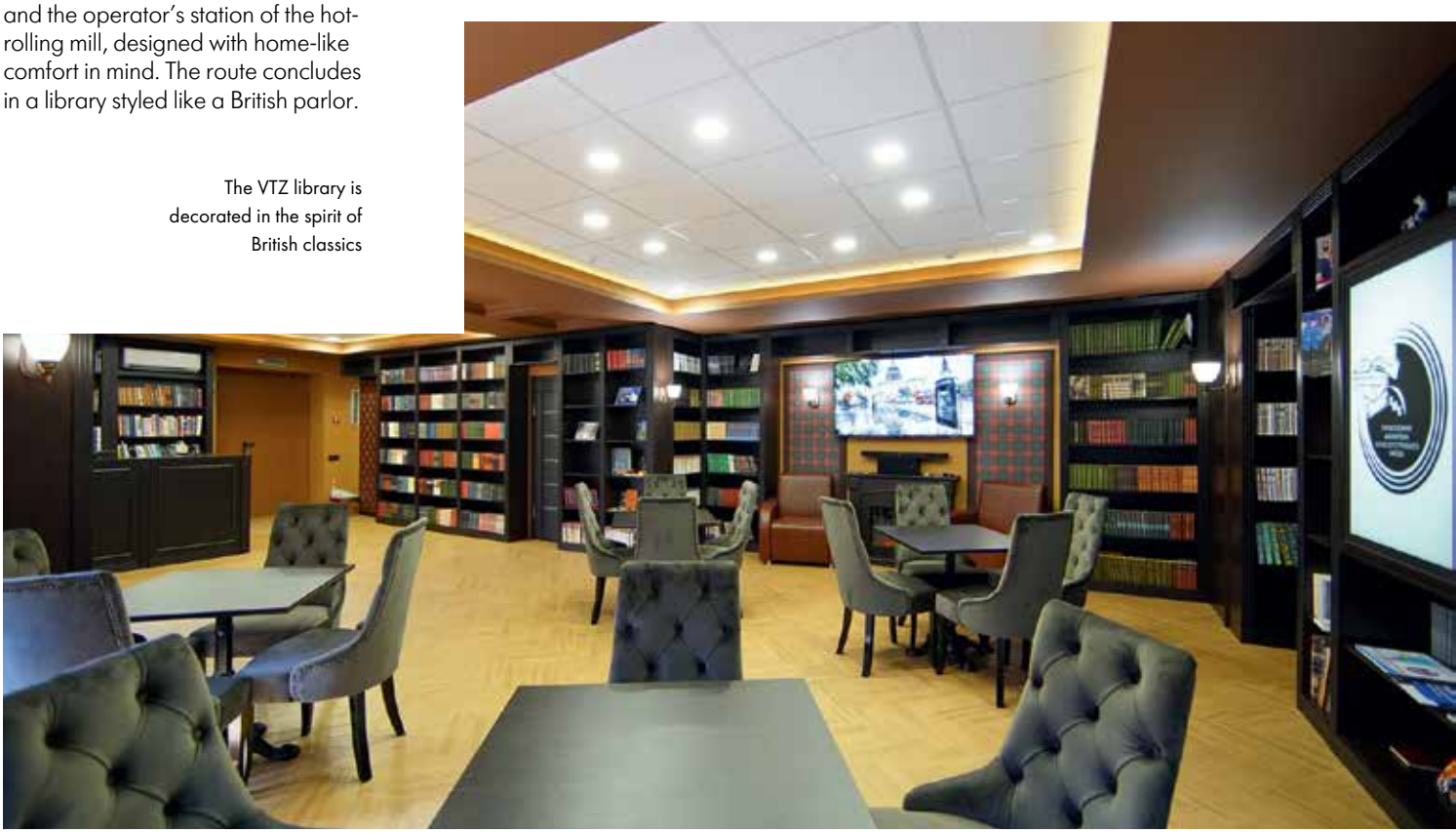
Recent creative events hosted at Vysota 239 include a theatrical performance by the New Stage of the Alexandrinsky Theatre and an artist-in-residence program capturing the workshop's geometry on canvas. The site also won top honors in the 2024 "Route Mapped" tourism awards following a public vote.

Vysota 239 is a landmark site for industrial tourists in Chelyabinsk

## THE ART OF SAFETY

At the Volzhsky Pipe Plant (VTZ), guests begin their journey in the Steel Safety Room, an immersive multimedia space where safety rules are presented through sound and visuals. The plant's artistic installations – including the Perspicillum art project and the Leonardo da Vinci-themed Center for the Invention of Safety – are designed to challenge stereotypes about factory life.

Other stops include the architecturally striking ECO HOUSE, a shrine to environmental balance, and the operator's station of the hot-rolling mill, designed with home-like comfort in mind. The route concludes in a library styled like a British parlor.

The VTZ library is decorated in the spirit of British classics

# VTZ's Steel Safety Room opened its doors in 2020

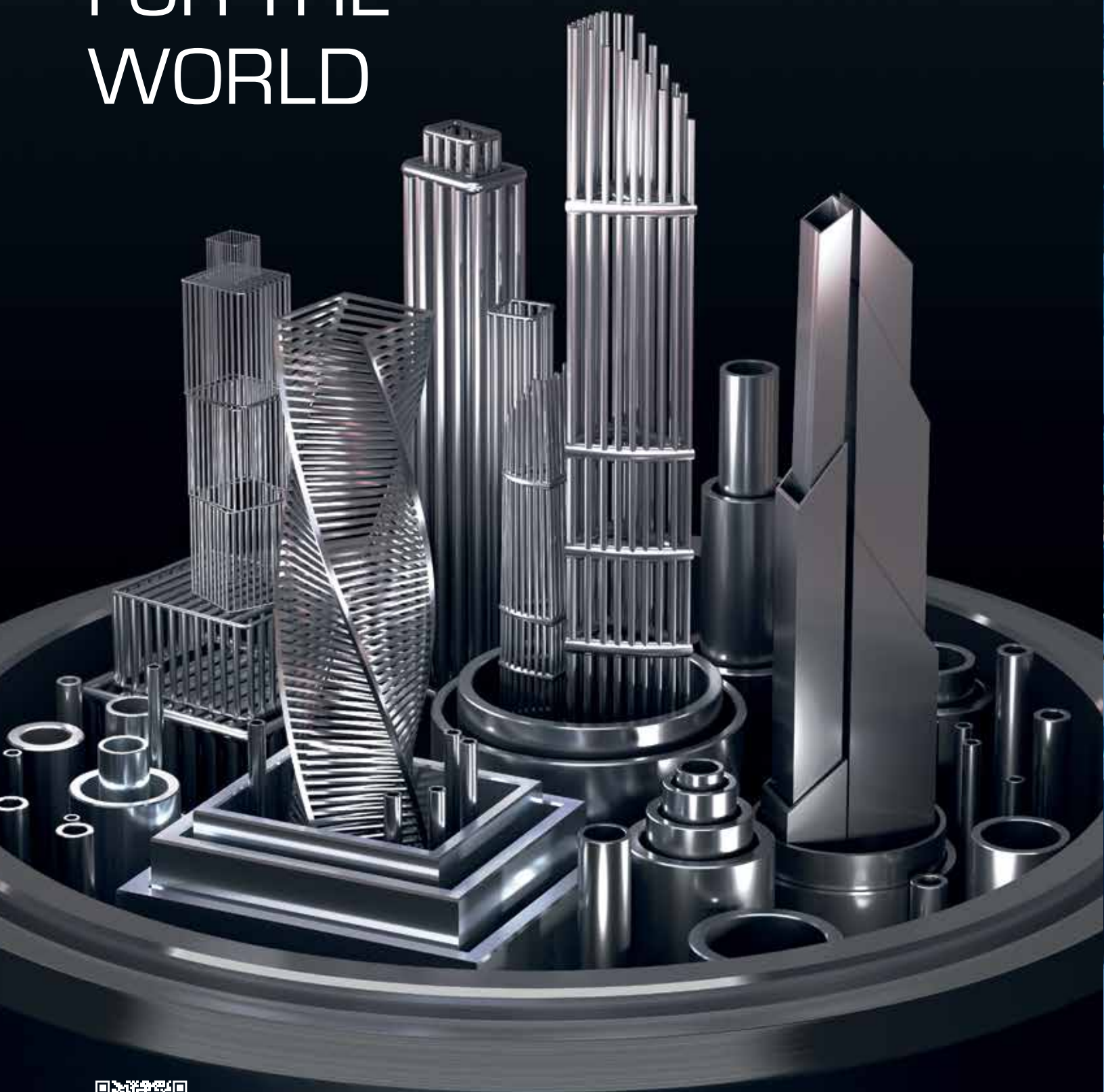
## INVESTING IN TALENT

At Taganrog Metallurgical Plant (TAGMET), industrial tourism is directly tied to workforce development. The My First Profession initiative introduces 8th-grade students to careers such as maintenance technician and computer numerical control operator. In partnership with local colleges, the two-year program leads to formal certification and a potential career path with TMK.

"Industrial tourism for us is about more than just factory tours – it's strategic communication," said Trepalova. "We are promoting industrial heritage, showing care for the environment, and engaging with our communities to support the local economy."

TMK's efforts reflect a broader trend in Russia's steel and machine-building sectors, where industrial tourism is growing both in scale and in ambition. From performance art to career planning, TMK's factories are becoming more than production centers – they are hubs of education, culture and national pride. **YT**

# PIPE FOR THE WORLD



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