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STRONGER THAN STEEL

TMK successfully tests high-strength pipe

COMPLEX SERVICES

New plant provides integrated engineering solutions

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GOING FOR OLYMPIC GOLD

TMK's battle of its own best and brightest



BUSINESS SCALING

TMK OILFIELD SERVICES EXPANDS ITS COMPETENCIES



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PRODUCTION A PLANT-MAKING PLANT

TMK's new asset, the Chelyabinsk Steel Structure Plant, expands the company's capabilities to provide integrated engineering solutions to clients.

SUSTAINABILITY GOING FOR OLYMPIC GOLD, TMK-STYLE young minds spar in intellectual

The Company's best and brightest and physical competitions off the Black Sea coast.

YOURTUBE #2 (41) 2023

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INTERVIEW EXPANDING SERVICE CAPABILITIES Evgeny Gaas, CEO of TMK Oilfield Services, sits down to talk about the Company's updated development strategy, new opportunities for customers

TECHNOLOGY

and competitive edge.

NEWS

STRONGER THAN STEEL TMK successfully tests high-strength pipe that can withstand earthquakes, freezing temperatures and other climactic extremes with pressures of up to 14.7 MPA.





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A ROBOT TO HELP WITH REPAIRS

TMK's Volzhsky Pipe Plant (VTZ) has commissioned a mobile robotic system at its electric arc furnace shop. The system will significantly reduce the amount of manual labor and repair operations needed while improving employee safety.

The new solution is designed for the automated removal of protective internal brick lining of an electric arc furnace (EAF) during regular repairs. The robot's high heat resistance and powerful attachments translate to stronger performance when removing spent lining.

Sergey Chetverikov, Managing Director of VTZ, said: "TMK consistently upgrades steelmaking equipment across its production sites to improve the quality of pipe billets. VTZ was the first enterprise to launch such a robotic system, purchased under the Company's overall investment program. Shop employees have already noted that tools like this improve working conditions and enhance performance while cutting repair times and increasing furnace capacity."





TMK contributes to replenishing biological resources

Two TMK enterprises, Volzhsky Pipe Plant (VTZ) and Taganrog Metallurgical Plant (TAGMET), ran campaigns to restore aquatic biological resources. TAGMET employees released 28 thousand Russian sturgeon fry into the Sea of Azov while VTZ helped put more than 14 thousand fish of the same species into the Volga River.

TAGMET ran the environmental campaign for the fourth time as part of its program to replenish the biological resources of the local region's ecosystem. In four years, TAGMET has released about 110 thousand Russian sturgeon into the Don River downstream of the Tsimlyansk hydroelectric complex.

Meanwhile, VTZ participated for the first time in a major

environmental project, Protect! Save! Replenish!, to replenish the Russian sturgeon population in rivers of the Volga–Caspian basin. Specialists from the Volgograd Sturgeon Fish Hatchery supervised the fry release. Boris Pyankov, TMK

Deputy General Director – Technical Director, said: "While consistently reducing its environmental footprint, TMK also directly improves the environment across its regions of operation. Programs to preserve biodiversity are a prime example of these efforts. Higher output and increased economic efficiency require us to pay more attention to conserving and restoring natural resources. Our ultimate goal is to achieve the best possible balance between resources spent and replenished."



MASTER GAMES

TMK held its 5th Master Games corporate vocational skills competition. A total of 355 people, including TMK employees as well as students from partner educational institutions, tackled the competition's various tasks.

The competition was organized by TMK2U Corporate University and held at nine locations this year in several regions where TMK operates. Participants competed in 22 skills that are in high demand at TMK enterprises; their performance was rated by 224 experts.

Participants solved their tasks at training facilities and in workshops using real equipment or training simulators that model the production process. Winners were named in two age categories: young (up to 28 years old) and seasoned (29+ years old) specialists. On top of the competitions, Masters Games offered business and entertainment programs for the participants: development and



team-building activities.

2018. Over this time, the event

UPGRADING LABELING TECHNOLOGY

TMK's Chelyabinsk Pipe Plant (Chelpipe) has launched a digital system for pipe labeling using dot peen markers. The project will help automate mandatory labeling of pipe and tubular products.

The digital solution has been implemented at the finishing line of Chelpipe's Rolling Shop No. 1, allowing pipe to be labeled with information that a customer needs, including steel grade, TMK trademark, etc. For this purpose, Chelpipe's quality assurance experts teamed up with the Company's IT division (TMK++) to develop a software that regulates interaction with relevant equipment and data transfer to dot peening devices. This same program manages the templates that feature the characteristics and identification data of finished pipes.

Evgeny Gubanov, Managing Director of Chelpipe, said: "Chelpipe continuously drives operational efficiency gains, improves proprietary technologies and rolls out the latest solutions. Switching to an automated pipe labeling system in a shop that handles up to 500 different pipe products every shift will improve working conditions while eliminating the human factor and the risk of inaccurate labeling. This will provide an additional quality guarantee for our pipe and tubular products."

creative master classes by TMK2U business coaches, guided tours, and

TMK has been holding the Master Games corporate vocational skills competition since

has grown 20 times its initial size. The competition's key objective is to build strong technical skills among the Company's operational staff, increase labor productivity, foster a manufacturing culture, and put a spotlight on blue-collar jobs.

TMK OILFIELD SERVICES (TMK NGS) HAS BEEN FOR 15 YEARS WHILE BUILDING A REPUTATION AS A RELIABLE SUPPLIER OF OILFIELD SERVICE SOLUTIONS TO RUSSIA'S LEADING ENERGY COMPANIES. EVGENY GAAS, CEO OF TMK NGS, SAT DOWN WITH US TO TALK ABOUT HIS COMPANY'S UPDATED DEVELOPMENT AND COMPETITIVE EDGE.

Mr. Gaas, two years ago, an ambitious transformation of the oilfield services business was launched under your leadership as new assets were integrated into TMK Oilfield Services and the company expanded its presence in the Urals and Siberia. How do you gauge the outcome of these efforts?

We really have something to be proud of here. Over the past few years, TMK NGS successfully overcame some major challenges such as almost doubling its production volumes, strengthening its position in key oil and gas production regions, expanding its footprint, and launching new, in-demand services and products into the energy market. Today, the oilfield services division contributes to the end-to-end service support for TMK's pipe and tubular products. External customers make up 35% of TMK NGS's total order book, which shows just how competitive our services are and how optimal the company's business processes are.

Is it fair to say that you have reached the end of your transformation journey? No, it's ongoing. With each passing year, TMK NGS reaches a new stage in its development, which allows us to deliver such stellar results in the shortest timeframe.

The modern oilfield services market and

ERVIC



DEVELOPING SERVICE SUPPORT FOR TMK PRODUCTS STRATEGY, NEW OPPORTUNITIES FOR CUSTOMERS

the broader oil and gas market respond meaningfully to external factors: our partners' needs and demands change, which affects the company's tactics, actions, and range of products and services.

When the relevant assets were merged into TMK NGS, the capabilities of all units within the oilfield services were fully reviewed and a thorough market analysis was conducted, with growth areas identified at each production site. In 2022, we started implementing measures to grow the oilfield services in demand among customers and launch new products. We do not expect any immediate results at this stage – such are the specifics of the oilfield services market. We have to build long-term relationships with clients, meaning tactics can be developed for years and years ahead.

At the same time, we centralized some of our functions and completed a major benchmarking exercise across our units. This has raised the level of communication within TMK's oilfield services division and helped to develop common approaches to handling important tasks.

How do you build relationships with your clients now? What services and products offered by TMK NGS are in demand? What are the latest achievements in this field? Fast response times to customer requests are a key competitive advantage in the

energy market. All our partnerships are geared toward long-term collaboration and delivery of commitments within clearly specified timelines. This is the most important principle underpinning our work. Today, TMK NGS has a presence in 15 cities and towns across Russia: these are production shops, facilities, and sites located directly in fields. There are also standalone, remote locations which are accessible to our employees by helicopter or water transport. This approach allows us to take into account all the requirements of our clients, reduce logistics costs, and promptly, within a few hours, deliver highquality oilfield services to our partners.

Today, along with finished products, the company provides its partners with a range of engineering supervision services for running oilfield services equipment into a well. To deliver these services, TMK NGS has specialized all-terrain vehicles and unique specialists present at well pads

Particular attention is paid to expanding the product line

production enterprises 15 host cities in Russia 2500 TMK NGS employees

around the clock, because oil and gas production never sleeps.

For 15 years, our company has focused on offering customers a wide range of equipment for oil and gas production: pup joints, crossover subs, landing joints, and pile products. The production facilities of TMK NGS enterprises provide the capability and capacity to offer coating services for pipes of various types and sizes, ranging from 57 mm to 1,020 mm, as well as shaped goods and large elements of tubular products. Every year, the company launches the production of new products from a category that enjoys strong demand in the market – downhole filters.

In addition, we are scaling our business focused on manufacturing thermally insulated casing pipe and premium threaded couplings. In 2022, TMK NGS started offering a new soughtafter service for downhole equipment rental. The company already has long-term contracts in place with key partners, which provide for the support of a customer's service function across all stages of operating this equipment. Future plans include growing new oilfield services and expanding our proprietary product lineup.

TMK NGS encourages its employees to take advantage of all the opportunities for career growth and development offered University



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TMK NGS is scaling up the production of thermal cases and couplings with Premium connections



by TMK2U Corporate

What are the key areas to further grow TMK's oilfield services business?

As part of our development strategy, we plan to boost the company's production capabilities; expand its footprint, including in new foreign markets; offer our partners unique end-to-end services; and launch the production of new products. To deliver on these ambitious plans, a roadmap of initiatives has already been created, and key goals and objectives have been set.

In essence, we have broken one broad supertask into many different strategies applicable to each particular region, which

have their own specifics, their own competition, and even specific climatic features.

When developing business processes, the company's first priority is to tap internal talent. The company offers every opportunity for the professional development and career growth of its employees, including through training under programs offered by TMK2U Corporate University. Today, the TMK NGS team brings together more than 2,500 people and is expected to grow to 3,000 by the end of 2023 given our current productivity targets.

If we talk about short-term planning, what are the tasks currently facing TMK NGS? There are a lot of tasks. In particular, we plan to grow business volume for the downhole equipment rental and engineering supervision services. We are working on launching production lines and operationalizing technologies for the production of new types of

1.5 million units per year – the volume of tubing

repair operations

250 thousand tonnes per year – the volume of anti-corrosion coating services

56 thousand units per year – production of elements of casing and tubing strings downhole filters, and we are also ramping up two coupling production sites to meet their targets. In addition, the company plans to boost the production of elements of casing and tubing strings and grow anti-corrosion coating services, which are in great demand in the market today.

You mentioned that TMK NGS is planning to enter new foreign markets. What services might be in demand there? To give an example, our new tube rental service may see demand from As part of the strategy, it is planned to increase the production potential of the oil service unit

The territory of the "Uralchermet" enterprise in the Sverdlovsk region





TMK NGS plans to boost the company's production capabilities and expand its footprint, including in new foreign markets

oil companies, particularly in the UAE market. This is all the more likely given that recently we have seen a positive momentum in the development of relations and expansion of trade ties between our two countries. The rental service involves us providing the customer with tube, including elements of tubing strings. In this way, the customer has the opportunity to renew its tube fleet during repairs or when defects are identified. This enables the customer to extend the useful life of its products, accelerate deliveries, and reduce operating costs. In addition, we can relieve the customer of some of its noncore workload by providing tube repair, dispatching, and warehousing services. YT

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STRONGER THAN STEEL

as trunk pipelines are critical infrastructure facilities that can be constructed in areas with challenging geology. Grades of pipe up to K65 for operating pressures

of up to 11.8 MPa were previously used in such areas. However, they have very limited scope for application, particularly when gas needs to travel large distances.

Options to address this challenge include installing dozens of additional compressor stations, increasing pipe wall thickness, or increasing operating pressure inside the gas pipeline. While the first two options are costly and metal consuming, the third one, at the very least, brings safety concerns. The country's top research institutes are involved in designing solutions to increase the throughput and profitability of gas pipelines. TMK has not only joined the pool of designers contributing to this effort but has also managed to achieve important breakthroughs.

The Company has designed K70grade pipe, which offers operating pressures of up to 14.7 MPa (150 atmospheres) at the same wall thickness. Pilot batches with a diameter of 1,420 mm and wall thicknesses of 26.3 mm and 31.6 mm have been manufactured at the Company's Vysota 239 shop in Chelyabinsk.

It is hard to predict the demand for high-strength pipe, as this project, designed for operating pressures of up to 150 atmospheres, is unique not only for Russia but also for the entire world. Such products, however, will certainly find application in environments that preclude the use of a large number of compressor stations. Another competitive edge of these products is that they reduce the metal intensity of pipeline transport projects.

TMK HAS SUCCESSFULLY **TESTED HIGH-STRENGTH K70** PIPE, WHICH CAN WITHSTAND PRESSURES OF UP TO 14.7 MPA AND WILL BECOME PART **OF FUTURE GAS PIPELINES** IN HIGHLY SEISMICALLY ACTIVE AREAS WITH CHALLENGING TERRAIN AND EXTREME CLIMACTIC CONDITIONS.



YOURTUBE

BY TRIAL AND ERROR

Testing of higher strength pipe production technology was started with rolled steel produced by Magnitogorsk Iron & Steel Works. First, TMK specialists teamed up with steelmakers to explore the properties of metal across four heats. rolled into sheets in 11 different ways. They were then delivered to the Vysota 239 shop and fed into a JCOE forming mill. Next, the billet's longitudinal seams were welded using two methods: standard submerged arc welding (wall thicknesses of 26.3 and 31.6 mm) and a completely unique hybrid laser-arc welding technology that is not used anywhere else in the world (wall thickness of 31.6 mm).

Anton Gizatullin, Deputy Director for Research Development at TMK, said, "The advantage of hybrid laser-arc welding involves focusing the beam to a small spot at a low heat input, which enables the thermal impact area to be reduced and, accordingly, ensures the entire length of the welded joint has high-quality mechanical properties.

Products made using this technology offer high strength to improve pipe bearing capacity and ductility to reduce gas pipeline accident risk.

PROVEN STRENGTH

To check conformity to predefined standards, each new product undergoes three testing phases: a structural strength test, a field pneumatic test, and a hydraulic test.

Products that have successfully passed structural strength tests include 1,420-mm pipes with wall thicknesses

High-strength large-diameter pipes have proven their durability and resistance to extended fracture





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of 26.3 and 31.6 mm that are welded by submerged arc welding, and 1,420 x31.6 mm pipes welded by hybrid laser-arc welding.

The tests involve filling the pipes, with blanks welded to their ends, and increasing water pressure until ultimate failure. The results are entered into a test report, listing the pressure in atmospheres at the time of failure, the place of failure, and the nature of the fractures.

The tests showed that in all cases it was the pipe's parent metal that failed at a distance from the welded joint, and at that, at the pressure assumed by experts.

The next step involved pneumatic testing. A complex pipe string was manufactured for this purpose. A pipe with a special incision and a cumulative charge was placed within its center to trigger the rupture. A test pipe section and a buffer pipe section, each comprising

three pipes and measuring at least 32 and 65 meters overall, respectively, were connected to this pipe from the two ends. The string was put into a trench, with air pumped into it to the test pressure. Then an explosion was initiated at the rupture initiating pipe to trigger a fracture in the gas pipeline.

The test demonstrated impressive performance as the rupture length did not exceed the predefined limits.

The high-strength pipes were also subjected to hydraulic testing. The test involved making a deep incision at the center of the welded joint and at the parent metal, with the pipe then brought to failure by applying hydrostatic pressure.

The laser-welded seam proved highly reliable, preventing the pipe's full failure. On top of this, the seam also withstood a higher pressure versus the traditional welded joint.

Hybrid laserelectric arc welding technology minimizes the affected area of pipe

Pipe manufacturers generally apply electric arc welding technology in submerged conditions



To launch the manufacturing of K70 pipe, TMK's Chelyabinsk-based specialists and its Directorate for Research Development team have designed two versions of forming and welding solutions: standard electric arc and hybrid laser-arc welding. Before the target outcome was achieved on the shop floor, manufacturing processes were digitally simulated and then tested in a laboratory. Over 20 pilots were performed and over 5,000 samples tested during the last year alone.

Anton Gizatullin said, "These tests are meant to demonstrate the seam's behavior at critical pressures. As pressure builds up, fracture propagation almost immediately goes elsewhere outside the joint area, which proves its considerable strength margin. In other words, our pipes are stronger than steel."

The advantages of these specially welded high-strength pipes are evident. They can be effectively used both to partially replace existing networks and to construct new networks. TMK's K70 pipe will make gas trunk pipelines more reliable, including those operated in challenging environments. YT

Next-gen gas trunk pipelines



reduction in metal intensity of gas pipelines due to thinner walls



greater distance between compressor stations as the operating pressure increases



lower resource consumption in welding and assembly operations

decrease in gas pipeline operating costs due to fewer compressor stations and lower resource costs and transportation expenses

A PLANT-MAKING PLANT

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The company's team of professionals is led by Yaroslav Kuzmin, CSSP's Managing Director (second from right in foreground)

CHELYABINSK STEEL STRUCTURE PLANT (CSSP) HAS JOINED TMK ETERNO, A DIVISION OF TMK. THE NEW ASSET HAS EXPANDED THE COMPANY'S CAPABILITIES AS A PROVIDER OF INTEGRATED ENGINEERING SOLUTIONS. employees 5 engineering design offices

tonnes per month production capacity

Located in the Urals, close to Russia's major steelmakers, CSSP enjoys the lowest possible procurement logistics costs for rolled steel, the key feedstock for its steel structures.



his 80-year-old industrial enterprise is leading the Russian market for manufacturing of steel structures for the construction industry. CSSP is known as a "plant-making plant", as its products have been used in the construction of many large-scale and milestone industrial projects across the country and abroad, including Chelyabinsk Pipe Plant and

Pervouralsk Pipe Plant, now both part of TMK.

Denis Makienko, CEO of TMK ETERNO said: "By joining TMK ETERNO, CSSP has considerably expanded the division's capabilities. As we integrate the new asset, we enable our partners to order turnkey technology solutions from us for their infrastructure projects that are perfectly tailored to their needs. The development and delivery of construction projects will accelerate as a result. The plant will expand its product range and order book. In turn, TMK will diversify its sales markets and product lineup."

FROM IDEA TO DELIVERY

One of CSSP's key focus areas is unique large-size structures that require high-precision manufacturing.

The plant's engineering design offices design steel structures for industrial enterprises, landmark sports projects, and for other facilities. Detail drawings are created using advanced information modeling software. The enterprise's highly skilled designers leverage cutting-edge digital technology to deliver ingenious engineering solutions that drive savings on materials, accelerate manufacturing, and increase the reliability of steel structures.

The quality of everything made at the site is checked across all manufacturing stages, starting with inspection of incoming materials. The routine includes advanced One of the key activities of Chelyabinsk Steel Structure Plant is the production of unique large-sized structures that require high manufacturing precision

non-destructive testing such as X-ray scans, flaw detection, ultrasonic inspection, magnetic particle inspection, electrical inspection, and leak detection.

The welding assembly shop manufactures structures of any dimension, leveraging standard and custom-made tooling equipment. High-precision measurements are carried out using cutting-edge laser trackers, which allow test assemblies to be carried out virtually and ensure that 100 percent of the parts can be put together on the actual construction site.

The final link of the production chain is the painting and shipping shop, where products are covered with various protective materials to prepare them for future operation, including in aggressive environments. Finished products are shipped according to the needs of each specific customer, including through seaborne container transportation. The plant's specialists also

5 500 000 tonnes of steel structures for global

and Russian projects

design loading configurations to accommodate for the requirements of shipping companies.

Yaroslav Kuzmin, Managing Director of CSSP, said: "Our systematic approach to quality assurance and commitment to delivering the best solutions for our customers are our key competitive edges. We enjoy a robust position in the market, with the plant leveraging almost unlimited capabilities in metal processing and manufacturing steel structures of any complexity and size. Becoming a part of TMK unlocks new opportunities for us. We are planning to undergo certification and launch the manufacturing of products for the energy sector. This will require us to introduce an entire lineup of products for TMK's own enterprises."

TO KAMCHATKA AND BACK AGAIN

A total of 5.5 million tonnes of steel structures were manufactured by CSSP since it first opened for business. If all of them were loaded into a freight train, it would stretch from Chelyabinsk in central Russia to Kamchatka in Russia's far east and back again.

The plant was founded during the early years of the Great Patriotic War, when many defense industry enterprises were evacuated from the west of the Soviet Union to the Urals. A large amount of construction materials was urgently needed to construct new production buildings. The budding plant-making plant was tasked with this challenge.

TMK ETERNO was set up as a division of TMK in September 2021 to include enterprises from the Chelyabinsk and Belgorod Regions: TMK Steel Technologies (Chelyabinsk), Pipeline Bends (Kopeysk, Magnitogorsk), Rakityansky Valve Plant (Rakitnoye), and (from late 2022) Chelyabinsk Steel Structure Plant (Chelyabinsk). The division offers bundled supplies of finished products to customers in the energy sector, manufacturing steelmaking equipment for Russia's largest plants (including for internal cooperation commitments between plants) and steel structures for industrial civil construction. It also provides integrated engineering services tailored to clients' specific requirements, including design, kitting, procurement and manufacturing, implementation and delivery to the project site, and engineering support at all project stages. TMK ETERNO's management company is headquartered in Moscow

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CSSP's highly skilled designers leverage cutting-edge digital technology to deliver ingenious engineering solutions that lead to savings on materials, accelerate manufacturing and increase the reliability of steel structures



The weapons that won the war were forged in the Urals, with every third airplane manufactured from steel made by steelmakers in the Urals, which themselves were built using CSSP's products.

After the war, the demand for construction materials grew exponentially as the country needed to rebuild its ravaged cities and factories. The plant reached its production peak in 1975 when its annual output exceeded 127,000 tonnes of products. Another milestone – the 5-millionth tonne produced – was reached in 2007.

Currently, the plant's monthly output tops 5,000 tonnes.

Yaroslav Kuzmin said: "It is noteworthy that CSSP's products can be found throughout the country, in former Soviet republics, and abroad. By joining TMK ETERNO, CSSP will undoubtedly boost its capabilities in complex construction projects while also expanding our presence in the country's infrastructure projects."



Structure Plant

gantries to weld T-joints Į٥ OIL AND GAS FOCUS • gas and plasma cutting machines CIVIL CONSTRUCTION PROJECTS manufacturing of • wheel blasting machines to clean incoming rolled steel steel structures for the shot blasting cabinets to clean structures to Sa 2.5+ (ISO 8501-1) construction industry Chelyabinsk TRANSPORT INFRASTRUCTURE latest painting equipment CHELYABINSK REGION mobile drying cabinets BRIDGES AND BEAMS • equipment to round sharp edges of ((- c))OVER incoming rolled steel to prevent paint chipping CELL TOWERS COMPLETED PROJECTS ALC: NO. 1 Ton & THE REAL PROPERTY AND ADDRESS OF THE PARTY OF du Am 區回 Contract of the local division in the local

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STATE-OF-THE-ART

EQUIPMENT

automated production lines

INDUSTRIES

METALLURGY

SELECTED **PROJECTS**









EXPO 2017 Main Exhibition Pavilion, Astana

• Cathedral of Christ the Savior, Moscow



Lakhta Center, St. Petersburg



Moscow International House of Music, Moscow





GOING FOR OLYMPIC GOLD, TMK-STYLE

EVERY YEAR, HUNDREDS OF TMK EMPLOYEES, INDUSTRY EXPERTS AND THE OCCASIONAL CELEBRITY GATHER AT THE SEASIDE RESORT OF BURGAS IN SOCHI FOR A WEEK TO EXCHANGE IDEAS AND BEST PRACTICES IN AN EVENT KNOWN AS HORIZONS. THE COMPANY'S TOP YOUNG MINDS DEFEND PROJECTS ON IMPROVING WORKFLOW, TECHNOLOGY AND OTHER ASPECTS OF THE BUSINESS. YET LIKE THE ANCIENT GREEKS MILLENNIA AGO, MODERN HORIZONS PARTICIPANTS SPAR IN PHYSICAL COMPETITIONS AS WELL. YOURTUBE OFFERS A ROUNDUP OF HORIZONS 2023.

This year's Horizons featured presentations across four key topics -Business, Digital, SMART Metallurgy and Sustainable Development





very year Russia's Olympic-host city of Sochi becomes the site of TMK's battle of its own best and brightest. The Black Sea coastal town hosts Horizons, a companywide bacchanalia of ideas, discussions and athletics at the time-honored resort of Burgas. Over

700 TMK employees participated in this year's Horizons event, which was organized, as in years past, by the company's TMK2U corporate university.

"At Horizons we try to identify and support active and promising TMK employees," explained Elena Pozolotina, TMK Deputy General Director for Human Resources and Director of the TMK2U Corporate University. "With each passing year, we see the professional level of the projects improve as well as the participants' presentation skills. Most of the projects we saw will be implemented across the company's various production sites and included in TMK's official program for improving operational efficiency. This year's winners will join our management reserve pool and enjoy great opportunities for career growth."

Horizons 2023 featured presentations across four key segments – Business, Digital, SMART Metallurgy and Sustainable Development – as well as another 18 "tracks." Among the winners were projects to improve the quality of stainless steel pipes, develop technology for welding largediameter pipes made of high-strength steel grades, optimize production costs, increase the energy efficiency of equipment and organize a single company-wide center for occupational safety. As part of an updated five-day IT track, TMK tech gurus presented solutions for HR and marketing services and honed their anti-hacking skills via a training session on repelling attacks on IT infrastructure. This year's Horizons projects are expected to save TMK over 2 billion rubles after being implemented





Elena Pozolotina, TMK Deputy General Director for Human Resources and Director of the TMK2U Corporate University:

"At Horizons we try to identify and support active and promising TMK employees... This year's winners will join our management reserve pool and enjoy great opportunities for career growth."



Maxim Tarasenko of TMK's Rakityansky Valve Plant and Alexei Lipatov of ETERNO took first place with their joint project in the New Types and Properties of Products track. While the project initially seemed complex and nearly impossible, "We had a complete mutual understanding of everything," explained Tarasenko. "When everybody knows what he's doing, there's no problem communicating the ideas to an audience."

This year's Horizons also featured a contest called the Park of Ideas for managers aged 35 and older. Galina Tushentsova of the Seversky Pipe Plant won over the jury with her E-Secretary integrated program that automates much of the routine paperwork faced by TMK's administrative assistants. Meanwhile younger managers at Horizons honed their leadership skills via workshops, including Toastmasters-style oratory competitions and debates.

Horizons participants also had the chance to attend lectures and master classes by worldrenowned speakers and experts, including chess grandmaster Alexander Ryazantsev.

This year's Horizons projects are expected to save TMK over 2 billion rubles after being implemented, while next year the event will turn 20 years old.

FEELING THE HEAT

A mini-soccer tournament between TMK's various plants and offices has been a beloved feature of Horizons for the past 17 years. The contest has become so popular that this year 20 teams from This year's Horizons featured a chess tournament for the second time in the event's history

TMK's Leadership Workshop is considered one of the most difficult competitions at Horizons. This year, 23 participants applied their skills to various business tasks



TMK's General Director Sergei Chikalov addressed Horizons 2023 participants in a keynote speech

across the country sparred in 71 games over the course of three days before the top four made it to the championship in Sochi. The Sinara Bank, STM Service, Volga and NGS teams would compete for the top prize in five games that took place over two days under the penetrating tropical sunlight with temperatures reaching 30 degrees Celsius and the Black Sea's waves breaking up in the background. In the end, Volga took the top prize.

"Soccer provides a great model of life," explained TMK VP Andrei Kaplunov. "You train hard and try to devise the best strategy, but in the end, a lot comes down to chance. That's why we love the sport so much!"

NO LAUGHING MATTER

It all started as a prank in 1961, when a group of Moscow students put on a series of comedic sketches satirizing everyday dorm life on TV. The "KVN" ("Club of the Funny and Inventive") movement

Horizons 2023:

Over 700 TMK employees participated in this year's event 18 tracks and 2 contests 275 projects 70 experts



Six teams tried to win over the jury with hilarity

A mini-soccer tournament between TMK's employees has been a beloved feature of Horizons for the past 17 years



has since gone international, with teams from across the former Soviet Union competing in nationwide comedy routines that lampoon everything from politics to office culture. Horizons is no exception, with teams from various TMK factories competing against each other before a live audience.

For the six teams trying to win over the jury with hilarity, humor was no laughing matter. They'd spent months devising skits and experimenting with jokes back home. Konstantin Smirnov, a nationally famous KVN participant, helped prepare the jury as the teams further developed their skills in an acting class. The teams satirized both nationally famous books and movies, as well as their own line of work in SNL-style performances. In the end, the Gorniy Krai ("Mountain region") team took first place.

"It wasn't easy preparing for the competition," said electrician and Gorniy Krai team member Nikolai Gareev. "But we stuck to our plan and believed in ourselves. What a great festival!"

The Black Sea coastal town of Sochi hosts Horizons, a company-wide bacchanalia of ideas, discussions and athletics at the time-honored resort of Burgas every year

Your Dependable Tool for the Energy Transition

Improving and developing effective and innovative solutions is TMK's key focus in the energy transition.

TMK is offering the energy market two new pipe solutions: the Sputnik H and C lineups for the production, transportation and storage of hydrogen and its by-product, carbon dioxide.







Learn more at TMK-GROUP.COM