## OUTUDE Technology Motion Knowledge

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TECHNOLOGY

**GREENWELL: EVOLUTION** 



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## IPSCO WINS FOR BEST INNOVATION AT AMM STEEL AWARDS

TMK IPSCO was selected as a finalist in three categories at this year's AMM Awards for Steel Excellence, which took place in New York City in June. The categories were: Best Innovation – Product; Best Operational Improvements; and Tube and Pipe Producer of the Year. The company took home the prize for Best Innovation for the development and launch of the TORQ® family of connections. Chairman and CEO, Piotr Galitzine commented, "I am very proud of the team for winning this prestigious award. The TORQ series of Ultra Premium connections has been very well received in the shale plays by customers."



## BEST SUPPLIER FOR OFFSHORE PRODUCTION

For the fifth year in a row, TMK has been rated the top supplier of industrial products and services, in the Tubular Products category, for offshore oil and gas development, ahead of its Russian and foreign competitors. The 2018 results were announced and awards presented at the 13th annual conference of Offshore Oil and Gas Contractors (Neftegazshelf 2018).

The rating has been maintained since 2013 to support the import substitution drive in offshore oil and gas production, broaden information support for the market and improve its transparency and openness. The assessment is made by an annual poll of the major oil and gas companies.

On June 21, 2019, the TMK Board of Directors elected a new President and CEO, Igor Korytko, who has served as TMK's Vice President for Performance Management since August 2018. The appointment took effect on June 22. Before joining TMK, Mr. Korytko held senior management

roles at Mechel, one of Russia's leading mining and metals companies, and at the Petrostal Metallurgical Plant. He graduated with a B.S. degree in Engineering from Chelyabinsk State Technical University in 1997 and holds a B.A. degree in Economics & Management from South Urals State University.

Alexander Shiryaev, who served as TMK's President and CEO for eleven years, has stepped down but will continue on as a member of the Board of Directors. Dmitry Pumpyanskiy, Chairman of the Board of Directors of TMK, praised Mr. Shiryaev's leadership and his critical role in the transformation of TMK into a true global company and one of the world's largest producers of steel pipe.

Also elected by the Board of Directors was the new Management Board: Igor Korytko (Chairman), Denis Nesterov, Vyacheslav Popkov, Vladimir Oborsky, Tigran Petrosyan, Andrey Zimin and Sergey Chikalov.

## TRAINING CENTER OPENS AT SINTZ

A modern training center has opened at the Sinarsky Pipe Plant (SinTZ) as part of the TMK Corporate University (TMK2U) campus. It will expand the number of fields in which trainees, including students from specialized vocational schools, can be trained for the jobs in demand at the Sinarsky plant. The classrooms in the center are equipped with the latest training simulators, notebooks and tablets, and a production area that contains a wide range of training equipment used by metallurgical plants. The opening ceremony was attended by TMK and Sinarsky plant managers, regional government officials and directors and students of vocational training schools in the city.



### **2018 LIVING OUR VALUES WINNERS ANNOUNCED**

On March 27, the Executive Leadership team announced the winners of the Living our Values program for 2018. "This year, the task was made particularly difficult by the sheer number of landmark projects that created value for the company," said IPSCO Chairman and CEO Piotr Galitzine. Awards were given in five categories corresponding to the IPSCO values of Innovation, People, Safety and Sustainability, Outstanding Quality and Customer Focus, in addition to the Business Savvy award for achievements in cost-saving and the overall TMK IPSCO Way! award for the project that best exhibits all of the company's desired behaviors.

In Innovation, there were two co-winners: the SF TORQ<sup>®</sup> team and the Wilder ULTRA coating plant start-up team. Both garnered the same number of votes, as both were of major importance for the company. The SF TORQ team included Steve Green, Zachary Smith, Ravi Mokirala, Michelle Loomis, Alejandro Juarez, Halit Dilber, Nishikant Raje, Edith Martinez, Larry Bush, Ryan Broussard, Jeff Fuller, Ron Huber, Angel Hernandez, Gerardo Aceves, Branko Markulin, Moises Jimenez, Manish Nawal, Khoi Nicholson, Tu Dinh and Ian Carillo. The Wilder ULTRA coating plant start-up team included Randy Van Kley, Jennifer Watson, Jerry

Hinnekamp, Steve Mason, Hank Yih, Dan Allen, Kathy Samsa, Rich Arndts, Keith Brown and Alif Patel.

In **People**, the award went to Pete Sellers, Ruth Honacki, Barbara Yamulla, Josh Novak, Charlie Van Horn and Reagan Kinser for their hard work on and ultimately successful negotiation of the new Koppel/Ambridge collective bargaining agreement.

In **Safety and Sustainability**, the winners were the Baytown team of Rafael Patron, Jaime Guzman, Ascencion Rodarte, Yuren Delgado and Uriel Rojas for their development of a new safety practice at Baytown that resulted in a remarkable ZERO recordable incidents in 2018 at a facility with over 775,000 manhours worked and 446,000 tons produced. Compared to that, the incident rate was 1.71 in 2016 and 0.79 in 2017.

In **Customer Focus**, the award went to Vivek Kashyap, Sharon Zipprian, Nick Marsalia, Mike Bergfeld, Kirsten Augsback and Jack Festing-Smith for their work with a first-time customer, Delek, which resulted in a great working relationship and multiple orders.

In **Outstanding Quality**, the award will travel to Brookfield and its team of Ernie Sexton, Nick



Ambridge Plant Manager Frank Corona with IPSCO Chairman and CEO Piotr Galitzine

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Drakulic, Brian Bradford, Vince Falconi, Steve Green, Branko Markulin, Adam Young, Aron Brenner, Bill Bobbitt, John Allen, Tyler Fusselman, Mark Eddy and Mitchell Robinson for their focus on continuous improvement in quality and safety that resulted in an annual production record of 164,135 tons in 2018 and a thread reject rate of only 1.2%.

The Business Savvy award went to the Ambridge Intensification Project team of Frank Corona, Ed Kuhn, Mike Hvostal, Kent Li, Rick Bender, Jason Kelderhouse, Roger Lamb, Todd Netzel, Lictor Guzman, Mark Diamond, Ken Lersch, Jim Marburger, Nick Mills, Joe Solomon, James Wharrey, Carl Lytle, Melissa Sprouse, Paul Rudnicki, Phil Huseman, Jon Lughlin, Mike Coley, Patricia Butler and Suzanne Broge for their success in bringing the hot mill to its nameplate capacity for the first time in history and achieving a record 449,131 tons produced in 2018, an 8% increase over the 2017 record.

This was not the last time that Ambridge Plant Manager Frank Corona made a trip to the stage to accept an award on behalf of his team. Executive Leadership also conferred the *TMK IPSCO Way!* award on the Ambridge Intensification Project team.

Congratulations to the TMK individuals and teams that were recognized by the 2018 Living our Values program!



### SAFETY RECOGNITION FOR BLYTHEVILLE

During the recent Steel Safety Day observations, which took place in early May, the Blytheville plant received an award from the Arkansas Department of Labor for logging over 4 million manhours worked without a lost-time accident. "This became possible only through daily commitment to safe practices by every plant employee and contractor and by believing that ZERO is Achievable! Congratulations to the amazing team at Blytheville, they deserve it," says IPSCO Director of HSE Chakeyla Manuel.

## IATF CERTIFICATE

Taganrog Metallurgical Plant (TAGMET) earned a certificate of conformity of its quality management system to the reguirements of the International Automotive Task Force (IATF) standard 16949:2016. This certificate enables the plant to begin deliveries of continuously cast billets made of carbon and alloved steels with a circular profile for international manufacturers of car components. In doing so, TAGMET is diversifying the sales markets for its products. The certification audit was carried out by specialists of URS-RUSSIA Ltd. - the Russian office of URS Holdings.

### **APPOINTMENTS**



#### **Denis Nesterov**

Appointed, effective March 1, 2019, as Vice President of Organizational Development / Director of HR and Social Policy at TMK and TMK Trade House. He previously worked as Director of Personnel Management at the Sinarsky Pipe Plant (SinTZ).

## BEST IN HEALTH AND SAFETY

TMK-Kaztrubprom was declared the regional winner of the Paryz-2018 business social responsibility competition in the "Best company for health and safety" category. The competition is held annually in two stages. This victory means TMK-Kaztrubprom can now go on to the finals at the national level. "Paryz" is Kazakhstan's most prestigious business competition and has been held since 2008 at the initiative of the country's president.



## A BET ON HARDBANDING

Orsky Machine-Building Plant (OMZ) has acquired a new Skye HB101-8 hardbanding unit for the production of tool joints. With this new state-of-the-art equipment for hardfacing tool joints, the plant will be able to offer better product quality and higher output.

The plant has been implementing a project to retrofit the tool joint hardbanding area since 2014. Three tool joint hardbanding units have been put into operation so far.

### BROOKFIELD ACHIEVES ANOTHER SAFETY MILESTONE



On June 21, the Brookfield team celebrated another safety milestone - 2,000 days, or over 1.195 million manhours, without a recordable injury. This is a remarkable achievement for a plant that opened in 2009 and has operated incident-free for eight out of ten years. The strong safety culture is one of the pillars of the IPSCO values system, according to Plant Manager Ernie Sexton. "But it's also a reflection of how we always approach things as a team, whether they involve safety, quality or operations." Congratulations to the tightly-knit Brookfield team!

### SHARING DIGITAL EXPERIENCE

Sponsored by the Russian Union of Industrialists and Entrepreneurs (RSPP), in early November a delegation from TMK and the Sinara Group took part in a Russian business mission visiting Germany under the German-Russian Initiative to Digitize the Economy (GRID). The delegation was headed by Dmitry Pumpyanskiy, Chairman of the TMK and Sinara Group Boards of Directors and member of the RSPP Management Bureau. The meeting discussed the prospects for developing digital cooperation under the GRID project. The delegation visited the MHP Digital Lab (Porsche), the Daimler AG offices, the Bosch IT campus and factory in Stuttgart-Feuerbach and the Siemens digital continuous manufacturing center in Karlsruhe. The visits provided an opportunity to share notes on applying Industry 4.0 solutions at Russian and German manufacturing plants.



## AGIBA PETROLEUM COMPANY

/October-November/

#### 🕐 Egypt, Suez Canal

TMK shipped its first batch of casing – around 2,000 tonnes of 13 3/8" K55 and 9 5/8" L80-1 pipe – to Agiba Petroleum. The purchase order was supplied by the Volzhsky Pipe Plant after it successfully passed its certification.

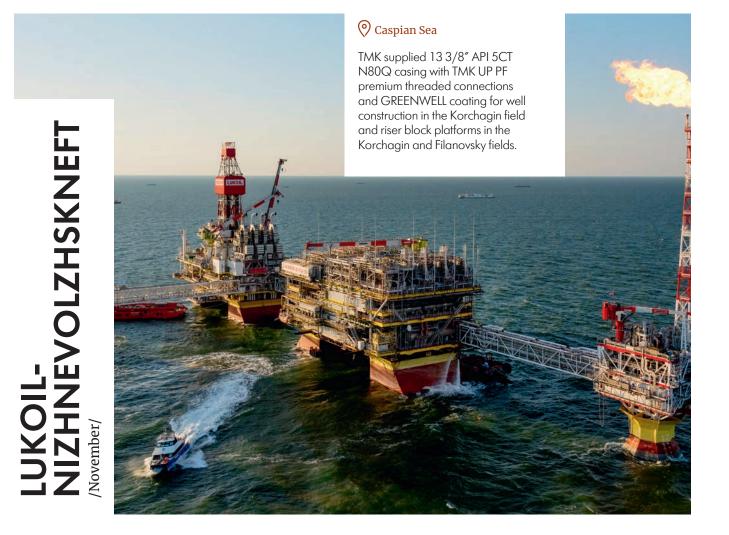


## TATNEFT /November/



The company supplied over 3,000 tonnes of 9 5/8" casing with TMK UP GX premium connections to TATNEFT, one of Russia's largest oil companies, for directionally drilled wells in the Novo-Elkhovskoye field.







## KUWAIT OIL COMPANY

#### 🔗 Kuwait

The oil company took delivery of seamless casing with TMK UP PF ET premium threaded connections to be used for oil production at Southern and Northern fields of Kuwait. This was the first delivery of TMK premium tubulars to this customer.

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## SERGEY CHIKALOV: "PIPE FOR EVERY WELL"

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IN RESPONSE TO MARKET CHALLENGES, TMK IS OFFERING ITS BUSINESS PARTNERS A TOOLBOX FOR EVERY EVENTUALITY – FROM PRODUCT DEVELOPMENT TO INTEGRATED DELIVERIES AND CONCEPTUAL ENGINEERING. HERE'S WHAT SERGEY CHIKALOV, TMK'S VICE PRESIDENT FOR RESEARCH & DEVELOPMENT AND TECHNICAL SALES, HAD TO SAY.

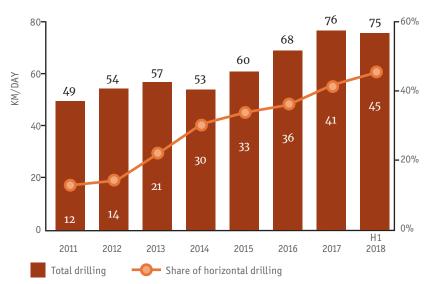
## How does TMK feel about the market today? What are the challenges facing it?

The path that is crucial and instrumental for us is the one our business partners follow – the oil and gas business. And they are moving increasingly further away from the conventional areas of oil and gas production into regions with challenging environmental conditions on the continental shelf, including the Arctic region.

We are moving in the same direction, sometimes even ahead of our customers, in order to be as ready as we can for the constantly changing and growing requirements. At this point in time we have put virtually the entire spectrum of high-tech tubular products into commercial production. What's more, we are ready to make certain products but our customers are not yet ready to use them. Pipe may be an important part but it is not the only part of the oil and gas production process, which requires suitable technologies and equipment that are not always available. Nevertheless, we have been successfully resolving product supply issues for projects to recover hard-to-extract reserves for the past 10 years. An important recent step for us has been the active push further out onto the continental shelf. TMK has a presence in all the projects to develop Russia's continental shelf, including the Arctic region, the Caspian fields and the Sakhalin Island. We already supplied our first tubulars to Sakhalin Energy and will soon be shipping our products to Exxon Neftegas.

## What new products has TMK recently introduced to the Russian market?

Perhaps the biggest breakthrough in the past few years has been the successful introduction and complete domination of the market by our 13Cr steel tubulars for onshore and offshore projects. We supply about 90% of this market segment, and no other Russian manufacturer makes such pipe. We are also the first, and so far the only, company in Russia to commercially produce underwater reel-laid pipe. The range of our premium threaded connections has been expanded with the TMK UP CENTUM connection, which has the same strength as the pipe itself, thus considerably enhancing casing durability for complex well profiles. Only TMK sells large diameter threaded pipe with TMK UP KATRAN HD premium connections, made entirely in Russia. We are also the sole suppliers of casing and tubing pipe with GREENWELL dry coating. TMK has a wide range of products that no one else in the country makes.



#### DRILLING IN RUSSIA

## We already offer conceptual engineering services to our partners.

## Do western companies show interest in TMK products, and what have you supplied lately?

Reserves depletion in the traditional hydrocarbon producing regions is a worldwide problem. Oil and gas companies elsewhere are facing the same challenges and are therefore actively studying world practices of enhanced oil recovery along with new procedures and advanced products. Interest is being shown in TMK products, and rightly so, because they have proved themselves here in Russia and abroad. This year for the first time we supplied one of our unique developments – vacuum insulated tubing (VIT) – to an Indian company, Oil India Ltd. Our engineers provided support for running the VIT in a well in the Baghewala field. And our colleagues in the Middle East Division are now reporting interest in VIT from other companies in India and regionwide. We are also getting similar signs of potential customer interest from other regions. We believe our oil and gas line pipe for offshore projects, especially corrosion resistant pipe, shows great export promise. It meets stringent requirements for pipe geometry and is suitable for reel laying. We supplied that product to Petrobel in Egypt for the Zohr project and we can see the demand for it. We are currently in the process of selecting and testing a new steel chemistry and heat treatment schedule for this product to further improve its performance.

#### How do you build relationships with your clients? Do you present them with a finished product, or do you focus more on customizing the product to meet their individual requirements?

Various mechanisms are at work here. The market, of course, largely operates on the principle of choosing from what is available based on current regulatory requirements. But all our major clients have already established defined equipment operations at their facilities, from which they are writing their own technical specifications for products they plan to use in specific hydrocarbon fields. And as time goes on, it becomes clearer what the supplier must do – either apply the client's proprietary standard or use separate specifications to achieve the technical solutions required for a specific project.

### So, collaboration is becoming more common. Does this guarantee success?

Collaborating with business partners is a creative process, something that requires continuous immersion in the problems facing both parties. The market situation is becoming increasingly complex as a result of intense competition and growing market requirements relating to specific projects. But the very thing we have been steadily developing over the past few years - the practice of working more closely with our clients - is providing a solid foundation for rapidly responding to the new challenges. We are currently offering our partners a new and largely revolutionary approach conceptual engineering for new hydrocarbon production and transportation projects. This means that if you have challenging field development and operating conditions, TMK can offer its own engineering solutions. This could involve making a preliminary steel selection that will enable surface infrastructure or downhole equipment to withstand difficult operating conditions, or that will have the right corrosion properties for specified downhole environments. It could involve casing design or strength analysis to make the right choice



TMK supplies a full range of pipe for LUKOIL's projects in the Caspian Sea

of threaded connection. In other words, we are not simply arriving with products made to client specifications but are offering a ready-made package of engineering solutions that have been derived from thorough engineering analyses. Offering engineering expertise is a new field for TMK, but we have a very clear awareness of the promise it holds and are joining forces with RosNITI and TMK Premium Service to actively develop it. We will also be involving the Houston R&D Center in this important effort, as well as our Skolkovo site, which we opened in 2019, where the company's main R&D expertise resides.

### Are there any examples of TMK conceptual engineering in action right now?

We offered our technical solutions for the Yuzhno-Kirinskoye field, as well as the Power of Siberia gas pipeline and the Chayandinskoye and Kovyktinskoye fields. One example of our engineering expertise is the Eternal Well project, in which we propose new approaches to injection well construction and workover to enhance the wells' operational reliability. We developed several design options for the project, including construction of a new horizontal well and casing repair using tubing with a retrievable packer in injection wells. All of the options are designed so that the downhole equipment will operate trouble-free for 15 years. We also arrange for the company's engineering specialists to visit clients' work sites, regardless of location, to conduct special workshops on our tubular products. We are also happy to supply casing hardware components, casing makeup and casing accessory supply services, or well completion services.

#### Are digital solutions also something that TMK offers?

Definitely. We came to the field of digital design deliberately by developing profound expertise in the area. For instance, we used to simulate how threaded connections behave under service conditions by means of mathematical analysis, but now use 3D digital twin technology. This provides a considerable cost and time benefit and makes the process of fine tuning a product to meet client requirements considerably faster. We are now making active use of digital twins to design threaded connections.

Digital analysis will never replace product testing under real conditions, but it will significantly reduce the effort required to create certain ideal processes and designs. We are also focusing on our testing facilities. The ability to do our own product testing is one of TMK's strong competitive advantages. Our main testing sites are located at the R&D centers in Houston and Skolkovo in Moscow.

#### What are TMK's expectations for the future?

As positive as can be. We have a lot of products to offer this demanding market. The client always has the right to choose, but it is always our job to demonstrate that choosing us will be the best solution. **YT** 

NEW PRODUCTS BY TMK FOR PRODUCTION AND TRANSPORTATION OF HYDROCARBONS AND THE AUTO INDUSTRY TOP 10 FOR 2018/2019



Premium connection **TMK UP CENTUM** 

2<sup>Premium</sup> connection TMK UP QX TORQ

3<sup>Premium</sup> connection TMK UP SF TORQ







#### Premium LD connection TMK UP KATRAN HD

**5** Mechanical pipe for **auto parts and components** 

6<sup>Pipe for</sup> underwater reel-lay installation

**713Cr** casing and tubing

8 Casing and tubing with GREENWELL **Q**Line pipe with for **L450QO** three-layer coating for underwater pipelines **10 TMK-C corrosion- resistant** casing and tubing



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YOURTUBE



**3y IGOR PYSHMINTSEV, RosNITI President** 

The new coating is reliable, effective and meets the most stringent environmental and safety requirements.

> MK started marketing GREENWELL coated threads several years ago. The

coating provides a state-of-theart alternative to the standard way of making up connections with thread dope that has been used for years. The new solution is reliable, effective and meets the most stringent environmental and safety requirements. The material has excellent antifriction properties, enabling the connection to be made up and broken out multiple times. The coating has to be thin in order for the joint assembly to work, while at the same time it must reliably protect the thread against corrosion during transportation, prolonged storage and service. Furthermore, it must bond strongly to the metal surface, withstand extreme thermal cycles, retain

THE GREENWELL

SPECIAL COATING

FOR THREADED PIPE

CONNECTIONS IS A

UNIQUE PRODUCT

HIGHLY COMMENDED

THAT HAS BEEN

BY USERS. WE ARE

**CONTINUING TO** 

TECHNOLOGY.

**DEVELOP THIS NEW** 



its integrity when high pressure is suddenly released and be resistant to percussive forces. It is also important for the coating material to be workable enough for it to be applied without limitation during an ongoing production process.

We found the solutions to these challenges and successfully tested 7" casing produced with the new coating at TAGMET Rosneft's Vankor field in 2013. A year later, a TMK UP PF threaded connection with GREENWELL coating was successfully tested to ISO 13679:2002, CAL IV, the highest requirement level. Threaded connections with **GREENWELL** were tested at TMK's R&D Center in Houston by an independent party -Texas International Engineering Consultants.

The GREENWELL material is a high-strength polymer matrix with various functional components that give the coating the desired

antifriction components enables a threaded connection coated with the material to be made up multiple times. The coating's low friction factors and high abrasion resistance prevent damage to the thread surface when the connection is broken out.

A trial GREENWELL application area was set up at Seversky Pipe Plant in late 2017 to practice the application technique on various premium products. A time-and-motion analysis showed that using the GREENWELL process cut the time spent on thread preparation and running the string by 40%. YT

## SPECIAL FORUM

THE 24TH INDUSTRY EXHIBITION METAL-EXPO 2018 TOOK PLACE IN MOSCOW NOVEMBER 13–16 AND, AS IN PREVIOUS YEARS, WAS THE MAIN FORUM FOR THE ENTIRE METALLURGICAL INDUSTRY.



he week-long expo broke records for visitor numbers. Taking part in the forum were 560 leading companies from 32 countries that account for 10% of global metals production. More than 30,000 visitors from over 60 countries and 300 Russian cities

attended the exhibition. The growing popularity of Metal-Expo simply confirms the exhibition's already high status as the metallurgical industry's chief event of the year.

The forum's hectic business program contained over 50 business events to discuss the most pertinent issues in all segments of the metallurgical industry. The week kicked off with the 21st international conference, The Russian Metals Market, which drew over 140 participants representing industry and government leaders and analysts. Sergei Alexeev, Director of TMK Marketing Directorate, delivered a report to the conference on the Global and Russian Tubulars Market in 2018–2019: TMK Development Plans on the Russian Tubular Products Market.

The forum served as a platform for traditional TMK events – presentation of the 2019 official company distributor certificates and awarding of A. Deineko scholarships to National University of Science and Technology students for academic and research achievements. This year Igor Pyshmintsev, TMK Vice President for Research Development, awarded the Deineko scholarships to three students in the Pressure Metal Treatment Department – Mikhail Ashikhmin, Kristina Lyulchenko and Sergei Medvedev. Visitors could not miss the huge video screen and the reception area formed by the letters T-M-K.



TMK also collected several awards at Metal-Expo 2018. The company won the Best Russian Sales Network 2018 competition in the category of Best Trade House for Metal Product Sales. The company's online sales platform TMK eTrade won two awards – one in the E-commerce category and an Audience Favorite prize in the Best Internet Project 2018 competition.

#### **CENTER OF ATTENTION**

Welcoming visitors was the TMK Metal Expo 2018 exhibition stand, located near the main entrance. Visitors could not miss the reception area formed out of the letters T-M-K and the huge video screen stretching all the way across the stand. "We had over 40 TMK employees working the stand, making presentations on company products and

answering questions," said TMK Brand Director

As always, a key event for TMK at the forum was the meeting with regional trade partners at which the official 2019 distributor certificates were presented. As it continues to develop its distributor network, TMK will remain focused on enhancing its quality. In 2019, TMK's regional trade network will consist of 81 metal traders, including 20 with platinum certificates. The number of distributors is fewer than in 2018, which was expected. As TMK Regional Sales Director Oleg Malarschikov explained, criteria for selecting metal traders for inclusion in TMK's distributor network have been tightened, which has already proven effective. The new approach means that the company is ready to provide certified distributors with considerable preferential benefits in the expectation they will make a high-quality contribution to the company's performance.

In 2019, TMK plans to expand the product range and client services available in the TMK eTrade system, its online sales platform originally launched in 2017. The development of online sales is one aspect of the company's digital transformation. "This new IT-based tool will bring the quality of communication between seller and client to a new level.," said Oleg Malarshchikov. YT

# BREAKTHROUGH TO SAKHAL

()2'

LATE LAST YEAR, TMK SHIPPED GOODS TO SEVERAL SAKHALIN PROJECTS AT ONCE, THEREBY SOLIDIFYING ITS STATUS AS THE ONLY DOMESTIC SUPPLIER OF PREMIUM PIPE FOR THE ISLAND'S OFFSHORE PROJECTS.

> t is common knowledge that the future of global oil production hinges on development of the continental

shelf. Hydrocarbon reserves previously considered unrecoverable are now being developed the world over.

While development of the Russian shelf began not so long ago, the key aspects have already taken shape. These are projects in the Caspian Sea, in the Arctic region, which is the least accessible today, and – one example of more extensive development – the shelf of Sakhalin Island where several ambitious projects are being implemented with the involvement of leading major multinationals.

Sakhalin offshore projects are highly challenging in engineering terms. The sea in the vicinity of Sakhalin Island is covered in ice for about seven months a year. Offshore fields are being developed from both offshore drilling rigs and land rigs, with the use of directional and horizontal wells. It is no accident that Sakhalin projects, in particular, have been setting world records for the longest wells and the bestperforming drilling rigs. "Standard requirements for tubular goods for offshore projects are much higher



First shipment of premium products delivered to the Sakhalin-2 Project. than for onshore projects," says Andrey Pushkaryov, TMK Director of Pipe Sales to the Fuel and Energy Sector. "Pipe used here must have additional reliability features even when a particular project does not specifically require them from an engineering perspective."

#### PIPE FOR OFFSHORE PROJECTS

The bulk of pipe used by major international and Russian oil and gas companies for Sakhalin undersea production is imported. Of all domestic pipe manufacturers, TMK is the only one to be currently supplying its premium goods for Sakhalin offshore projects. The breakthrough came in 2018. "TMK is currently involved in almost all Sakhalin offshore projects because the company possesses the appropriate engineering solutions," Andrey Pushkaryov comments.

For offshore projects, TMK supplies OCTG threaded pipe with premium threaded connections, including 13Cr grades. The company also offers a proprietary GREENWELL coating for threaded connections that replaces the standard thread lubrication process. The use of GREENWELL reduces the time it takes to prepare the thread and run the casing string by 40%, thereby helping cut project costs.

#### IN THE SAKHALIN-2 POOL

TMK scored a major win by becoming a supplier to the Sakhalin-2 project in 2018. The Sakhalin-2 operator, Sakhalin Energy Investment Company Ltd. (Sakhalin Energy), took delivery of the first shipment of TMK premium products – 9 5/8" L80 casing with TMK UP PF threaded connection produced at the Volzhsky Pipe Plant. In late November, a casing string was successfully run from the Molikpaq offshore platform at the Piltun-Astokh Field in the Sea of





Okhotsk with the participation of TMK supervisors.

While TMK had previously supplied tubular goods to Sakhalin Energy, it was the first time that it delivered pipe with premium connections. It was also the first time that pipe with premium connections by a Russian manufacturer was used at an offshore field off Sakhalin.

#### **NEW SOLUTIONS**

TMK's future prospects in Sakhalin hinge on growing shipments for offshore projects. The company

plans to deliver a second shipment of casing with TMK UP PF connections to Sakhalin Energy in 2019. As part of TMK's involvement in the Sakhalin-2 Project, the company has qualified its 7" casing with TMK UP CENTUM premium connection as being compliant with the API 5C5:2017 standard.

Also, as part of the tenders it won, TMK will continue supplying tubular goods to Rosneft to be used at the Odoptu-More Field this year.

Addressing the 22nd

International Conference "Oil and Gas from Sakhalin 2018", TMK Vice President of Sci-Tech Development and Technical Sales Sergey Chikalov pointed out, "TMK offers wide-ranging solutions for offshore projects. They have been rated highly by major oil and gas companies that put reliability and cost effectiveness front and center. We continue developing new products and coming up with new services that will meet any - even seemingly impossible - requests from our customers." YT

13Cr casing for Sakhalin projects.



TMK COMMANDED A 71% SHARE OF RUSSIA'S PREMIUM TUBULAR GOODS MARKET IN 2018.



## TMK shipped its first products for Sakhalin offshore projects in 2015.

TMK pipe is used in all offshore projects on the Russian shelf.

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Running of string under supervision of TMK specialists.





## 026

## OIL AND GAS FROM SAKHALIN

RICH IN UNIQUE FLORA AND FAUNA, SAKHALIN ISLAND IS ALSO ONE OF THE KEY RUSSIAN PETROLEUM PROVINCES. DESPITE INTENSE PRODUCTION OF SAKHALIN "BLACK GOLD" IN THE PAST CENTURY, NOT ALL OF ITS ONSHORE RESERVES HAVE BEEN DEPLETED YET. AND THE CONTINENTAL SHELF STILL POSSESSES A TREMENDOUS OIL AND GAS POTENTIAL.





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ccording to official data, there are 82 confirmed hydrocarbon fields (64 onshore and 18 offshore) on Sakhalin Island and its shelf. Of these fields, 30 and 9 are under development, respectively. The prospects of continued oil and gas production growth in this strategic region of the Far East hinge on implementation of offshore projects. The largest continental shelf

development projects – Sakhalin-1 and Sakhalin-2 – already account for the bulk of hydrocarbon production in the region: 89% of oil and condensate and 86% of gas.

#### SAKHALIN-1

The Chayvo, Odoptu and Arkutun-Dagi fields on the northeastern shelf of Sakhalin in the Sea of Okhotsk are being developed as part of this project.

The project is being implemented on the terms of a Production Sharing Agreement in partnership with Rosneft (20%), ExxonMobil (30%), the SODECO consortium of Japanese companies (30%) and the Indian state oil company ONGC Videsh (20%). The project operator is Exxon Neftegas Limited.

Oil was first produced at the Odoptu Field. The field was discovered in 1977, but its development commenced 20 years later. The launch of the first well, No. 202, at the Odoptu-More Field in 1998 is considered the starting point of Russian shelf development in the Far East.

## The first Sakhalin shelf oil was produced at the Odoptu Field.

The Odoptu Field is being developed from the Northern wellsite by ERD wells as well as directional and horizontal wells. The Chayvo Field has been developed since 2005 from the onshore site as well as the Orlan Offshore Platform. Development of the project's third field, Arkutun-Dagi, started last in 2015. A unique oil production platform called Berkut with a gross weight of more than 200,000 tonnes was deployed in Arkutun-Dagi. Multiple world records were set during development of Sakhalin-1 project fields, with every subsequent record exceeding the previous one. In 2011, an Odoptu-More Field oil well drilled at a sharp angle to the surface of the earth at 12,345 m became the world's longest well at the time. In 2017, an even longer well (15,000 m) was successfully drilled from the Orlan Platform at the Chayvo Field.

Oil and condensate produced as part of the Sakhalin-1 project are sent to the De-Kastri terminal via an export pipeline and shipped for export.

#### SAKHALIN-2

The project operator is Sakhalin Energy Investment Company Ltd., in which Gazprom (50%), Shell (27.5%), Mitsui (12.5%) and Mitsubishi (10%) own shareholdings. The company is developing the Piltun-Astokh and Lunskoe Fields from three offshore drilling rigs.

Sakhalin-2 is one of the world's largest integrated oil and gas projects and includes Russia's first liquefied natural gas plant. Meanwhile, the Lunskaya-A Platform (deployed 14 km offshore in an area with a water depth of 48 m in 2006) is Russia's first offshore gas production platform. The plant was launched in 2009, and the first shipment of Russian liquefied natural gas (LNG) was delivered to Japan. The plant currently produces close to 4% of the world's LNG volume. Its major customers are countries in the Asia-Pacific region.

#### **SAKHALIN-3**

This GAZPROM project consists of three blocks: Kirinskiy, Ayashskiy and East-Odoptu. Gas from Sakhalin-3 fields is the primary resource for the Sakhalin-Khabarovsk-Vladivostok gas transportation system.

Kirinskoe – the first of the Kirinskiy Block fields – was discovered in 1992, and development began in October 2013. Three more gas condensate fields were discovered between 2010 and 2016 in the Kirinskiy Block during geologic exploration operations: Yuzhno-Kirinskoe, Mynginskoe, and Yuzhno-Lunskoe.

The Kirinskoe Field is the only Russian offshore field where subsea production technologies are used. Production is carried out using a subsea production complex without the use of platforms or other abovewater structures. This complex allows producing hydrocarbons under the most challenging climatic conditions and even under the ice pack.

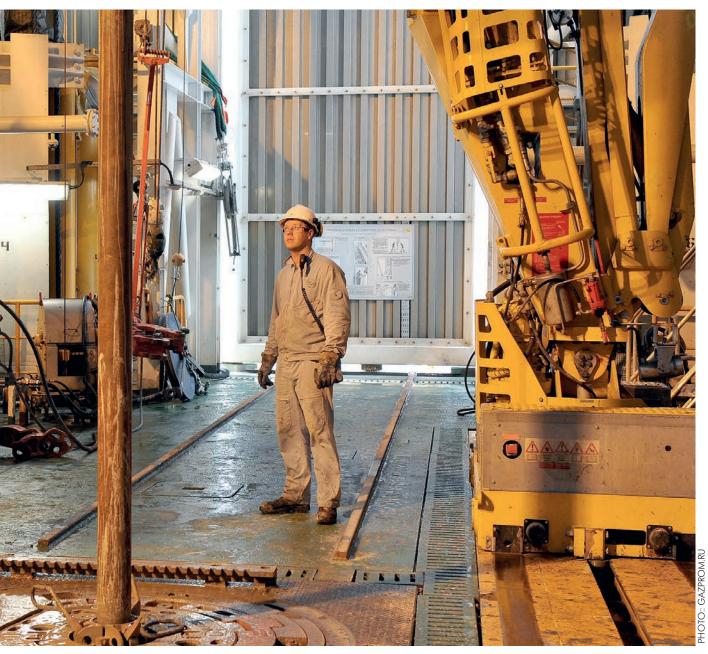
The Yuzhno-Kirinskoe Field is being prepared for development, with geologic exploration completed along the primary outline of the field. Construction of development wells began in 2018 with the use of the Northern Star and Northern Lights semi-submersible floating drilling rigs. Subsea development is planned here just like at the Kirinskoe Field.

#### **ONSHORE PRODUCTION**

Onshore fields are being developed alongside the offshore projects. Rosneft-Sakhalinmorneftegaz, the biggest in this sector, is developing 26 fields in the Northern part of Sakhalin. Oil produced here is delivered to Komsomolskiy Oil Refinery, and gas is supplied to consumers in the region.



Petrosakh – the region's only integrated oil company with a full-cycle oil business from oil extraction to production of petroleum products at its own oil refinery – is developing the Okruzhnoe Field. It also plans to develop the South Dagi Field. Sakhalin Oil Company is developing small gas fields in the south of Sakhalin. The operator's future prospects are associated with increasing the production capacities of the Anivskoe Gas Field. **YT** 



Drilling of exploratory wells in Yuzhno-Kirinskoye field.

Molikpaq is the first offshore oil production platform in Russia.

#### SAKHALIN ISLAND OIL HISTORY

The first oil on Sakhalin Island – then dubbed "kerosene water" from the "black lake" – was discovered in 1879 in the north of the island, in the valley of the River Okha. Grigory Zotov, a retired lieutenant of the Navy, was the first to begin exploration of the Okha fields. He established the first joint-stock company – Sakhalin Oil Field Partnership G.I. Zotov and Co. A well was drilled at the Okha Field and first commercial oil recovered from a depth of 91.5 m in 1910. Dutch, British and Japanese companies began showing an interest in Sakhalin oil in the early 20th century. The Sakhalinneft state company was established in 1928 and began full-scale development of the island's mineral resources.

The first attempts at developing the shelf of the Sea of Okhotsk were made in the late 1960s. Major oil and gas fields were discovered in 1970-1980 on the Northeastern shelf of Sakhalin Island: Odoptu, Chayvo, Lunskoe, Piltun-Astokh, and Arkutun-Dagi.

# 030 THE UNIVERSITY **OF OPPORTUNITY**



TMK2U CORPORATE UNIVERSITY WAS FOUNDED JUST A YEAR AND A HALF AGO, BUT IT NOW SPEARHEADS A STRONG DRIVE IN THE COMPANY FOR PROFESSIONAL AND PERSONAL DEVELOPMENT.



TMK2U Corporate University is an integral part of company life, putting the most advanced tools for achieving professional and career growth into the hands of employees. The time came when we could no longer effectively develop our talent pool at an individual plant level.

he idea of

creating a

corporate

university as a unifying

platform for employees

in all of the company's divisions was launched and supported at the very highest level – by TMK Board of Directors Chairman Dmitry Pumpyanskiy. In defining the mission and goals of TMK2U, the company reviewed the best practices both in Russia and abroad.

"The time came when we could no longer effectively develop our talent pool at an individual plant level," said Board member Andrey Kaplunov. "We needed to bring knowledge, expertise and experience collected over the years by the plants under a single umbrella and utilize their resources to achieve the corporate-level goal of creating a company-wide employee training and development system."

#### **CHOOSE YOUR CAREER**

Now, TMK2U Corporate University is an integral part of company life, putting the most advanced tools for achieving professional and career growth into the hands of employees. As TMK2U Director Elena Pozolotina told us, the university provides three services that encompass all the basic competency management processes. The first involves classroom and distance learning based on Corporate Universitydeveloped courses that follow the lines of UniPro, UniCom, UniUp and UniEx programs. Second is the development of engineering

study courses along the lines of the UniTech program, based on the principle that a manufacturing company's success largely depends on developing hard skills. The people engaged in this effort are engineering specialists who are directly involved in the manufacturing process. The third service – HR support – focuses on creating corporate professional standards that will form the basis for assessing employee skills and identifying areas for employee development. The university is also working to create a national system of qualifications by developing professional standards and making an independent assessment of the qualifications. The specialists in this area also curate the processes of employee selection, adaptation and assessment, evaluate the top-level managerial talent pools at the plants, and are involved in projects for junior engineers such as the "Horizons" Forum and the "WorldSkills" competitions. The staff and resources of five training centers at the company's larger plants are heavily involved in corporate university activities. They organize all the internal training at their plant as well as corporate programs.

The Corporate University organized over 90 training programs.

### DIRECT QUOTE

#### Elena Pozolotina, TMK2U Director:

"We've put together an outstanding, coordinated team consisting solely of competent, motivated people. We are focused on developing our company through the development of each individual."

#### LESSONS FROM TOP MANAGERS

In 2018 alone, almost 15,000 employees underwent some type of training. Most popular were the webinars on Excel. Word and PowerPoint, in which 1,263 employees took part. Also drawing large numbers were webinars from the UniCom cycle, which are given by the company's top managers. On average, 260 people take part in each webinar. This part of the corporate university's operation, named M2B (management to business) is where real managerial experience and strategic managerial vision is relayed to all tiers of management in the company, and the example of personal success motivates all employees to strive for their own achievements.

The corporate university is building relationships with leading specialized schools such as Urals Federal University, National University of Science and Technology, Moscow Institute of Physics and Technology and the International Institute of Technical Innovations, along with professional associations such as the World Steel Association. They work together to produce programs that are adapted as far as possible to match company requirements.

#### TRAINING IN DIGITAL TECHNOLOGIES

Future plans of the Corporate University involve the active introduction of digital technologies, which their advocates believe will considerably enhance the efficiency of all processes. This primarily concerns the development of the L&D\_SOTA electronic platform. This new digital platform will become the central point of access to all the basic functions that TMK2U has to offer, including online courses and webinars. It will also host assessment, adaptation and talent pool modules. Every employee, using their personal profile in the L&D\_SOTA system, will be able to see their job requirements, assess their skills, build a personal development plan and sign up for training activities.

The new service will be accessible from either a PC or a mobile device. "In this way we are hoping to create an all-encompassing, stimulating environment that every employee will want to be involved in," said Elena Pozolotina. The name of the platform was chosen for a reason. L&D stands for learning and development, which is its main function, and SOTA is an acronym of the development-inspiring words: Skills, Opportunities, Training and Achievements.

One focus area directly

linked to the company's digital transformation are courses in advanced digital technologies such as BigData, Blockchain, IoT-technology and project management programs, which will be included in the training program block. A master's program in cooperation with Urals Federal University, one of the company's leading higher education partners, is already being developed to train the top management tier at the plant level (one group per year). Work has also started on a program to standardize blue collar worker training so that the body of knowledge in different plants and divisions can be in the same format. The corporate university has already begun

MOST POPULAR WERE THE WEBINARS ON EXCEL, WORD AND POWERPOINT, IN WHICH

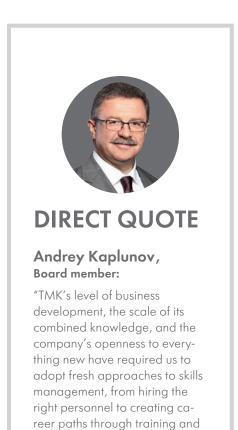




### **DIRECT QUOTE**

#### Igor Pyshmintsev, TMK2U Corporate University President:

"TMK2U is successfully carrying out its mission to develop the company's intellectual strengths. Our program lineup covers all areas of our operation, and we have engaged top instructors from numerous research and educational centers to work with us."



development."

L&D\_SOTA will become the central point of access to all functions that TMK2U has to offer.

training employees from TMK divisions outside Russia. In 2019, TMK2U is expecting another milestone event – the move of its headquarters into the TMK research and development center in Skolkovo, which will bring all the company innovations under one roof – "So that we can become even more closely involved with research and frontline TMK development projects and utilize the synergy we will draw from that ambience to the fullest," Elena Pozolotina added. **YT** 

## 034 **TAKING A FAST TRACK UP THE CAREER LADDER**

АНАЛИТИК

TMK TEAMED UP WITH URALS FEDERAL UNIVERSITY (URFU) TO HOST WINTER SCHOOLS OF THE NATIONAL "I AM A PROFESSIONAL" COMPETITION FOR ENGINEERS, CONSTRUCTION WORKERS, MATERIALS SCIENCE EXPERTS, **PROGRAMMERS AND** RADIOELECTRONIC SPECIALISTS AS WELL AS CORPORATE TRAINING AT SOTA SCHOOL IN SOCHI.



YOURTUBE

February and early March, various Russian cities hosted the winter schools of the

hroughout

national "I Am a Professional" student competition as part of 24 educational forums in 54 specialty areas. This year, more than 300,000 students who successfully passed the screening stage of the competition were able to receive training from the country's top professionals in a variety of sectors ranging from health care to pedagogics, nuclear physics and artificial intelligence. Some of the school participants were also able to successfully choose their future employer.

#### ATTRACTING THE BEST

It was the second time that TMK jointly participated with Urals Federal University (UrFU) in this ambitious educational

24 EDUCATIONAL FORUMS

in 54 SPECIALTY AREAS

over **STUDENTS**  project alongside other country's leading schools and companies. This year the partners organized two schools that combined four specialty areas: Materials Science and Material Technologies, Construction, Software Engineering, and Radioelectronics.

For the first time, TMK partnered with the Artificial Intelligence Winter School of Moscow Physics and Technology Institute (MFTI). Igor Korytko, TMK President and CEO, gave a lecture on TMK's path to digital transformation. A business assignment prepared by TMK was also chosen for the finals of the artificial intelligence competition. To complete the assignment, contestants had to present the results of an AI-powered comparison of nomenclature directories.

"TMK attaches great importance to supporting the 'I Am a Professional' initiative. For us, this is not only an opportunity to attract the best of the best for our company but also a contribution to the development of specialized industries and implementation of a system of social elevators in the country," says Dmitry Pumpyanskiy, Chairman of the Board of Directors of TMK and Sinara Groups, who also serves as chairman of the UrFU Supervisory Board.

The "I Am a Professional" competition is a completely different educational format. It is not a test of knowledge, but a social elevator that helps young professionals build a career. Depending on their results, winners can get an internship with a major company and earn preferences when enrolling for post-graduate studies at leading Russian universities.



"The format of this cooperation between businesses and leading colleges and universities offers an excellent opportunity for promoting the company's HR brand and finding promising alumni. Of course, we are interested in the best human resources," says Elena Pozolotina, Director of the TMK2U Corporate University.

#### FROM PROFESSIONALS TO STUDENTS

Both schools arranged by TMK2U Corporate University and UrFU were hosted by the Burgas resort in Sochi. This is the traditional venue of the youth forum of TMK and Sinara Groups, except that this time it drew students from all over Russia – some 300 attendees from 22 regions.

The six-day crash course, as part of each school, included master classes and trainings by UrFU instructors and TMK2U business coaches as well as lectures by guest speakers. Winter school participants completed a series of soft skills trainings by Corporate University business coaches, which included a master class on negotiation techniques and conflict studies. They also acquired resume writing and job interview skills. **YT**  The most active teams received prizes from forum organizers.

The "I Am a Professional" all-Russia student competition is a large-scale educational olympiad of a new format for students in various specialty areas: technical, humanitarian, and natural sciences. The olympiad is one of the projects of the "Russia – a Land of Opportunities" platform launched in 2018 at the initiative of the Russian government. It unites social and educational projects. In addition to the "academic" program, students were actively involved in intellectual games, team competitions and contests.





Best participants are entered into the national database of young professionals.

The first competition was held in 2017 with the participation of 10 hosting colleges and universities in 27 specialty areas. The number of hosts increased to 21 and specialty areas to 54 in 2018. TMK has been a partner of the competition for two consecutive years.

Director of the Corporate University Elena Pozolotina.



SERGEY CHIKALOV

## TMK VICE PRESIDENT FOR RESEARCH DEVELOPMENT AND TECHNICAL SALES

- 1. By going over my plans and schedule for the day in my head on the way to work.
- 2. Maybe a black cat running across the road. But everyone knows that one, of course.
- My father, as a professional who instilled in me a love of the pipe industry. And people who have overcome illnesses, circumstances or – most important – their own fears.
- Traveling, as a way of quickly switching off. A nice sauna. Long walks in the park, and meetings with friends.
- 5. With Mick Jagger about the music of the 1960s and music since 2010. And with Victor Pelevin about his extravaganza of story plots. I'd ask Donald Trump what exactly he's trying to achieve, or is it just the way things are turning out?
- 6. I am fascinated by a book called "Gut. The Inside Story of Our Body's Most Underrated Organ" by the German doctor, Giulia Enders.
- 7. Italian, but I keep on experimenting. My favorite dish is well-made borscht.
- 8. The birth of my grandson and the sheer joy of being with him.
- Iceland, New Zealand, Kamchatka, Tierra del Fuego, the Grand Canyon, and the Himalayas – where the influence of man is least felt.
- 10. St. Petersburg. I'm entranced by the European landscape juxtaposed with Russian history and literature.
- 11. To slow the world down and add perhaps just another 8 hours to the day.
- 12. Experience, opportunity, and success.

- How does your work day begin?
- 2. Professional superstitions or superstitious beliefs?
- 3. Who in the past or present particularly inspires you?
- **4.** Favorite habits or rituals?
- 5. Whom would you invite to a dinner party? What would you like to talk about?
- 6. The last book that thrilled you?
- **7.** Favorite ethnic cuisine or dish?
- 8. Most memorable impression recently?
- 9. What is the most interesting place in the world that you've visited?
- **10.** Your favorite city, and why?
- 11. If you were given the chance to change just one thing in this world, what would it be?
- What does TMK mean to you? Describe it in just three words.

## 038

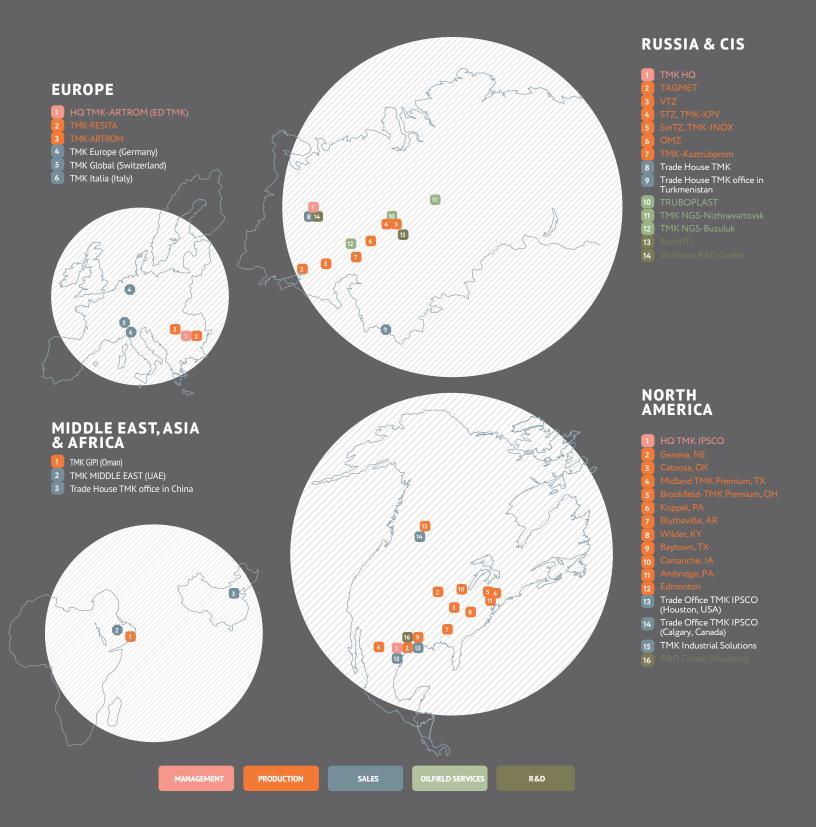


## OLEG MALARSHCHIKOV

#### TMK REGIONAL SALES DIRECTOR

- 1. By turning over in my mind my plans and tasks for the day.
- 2. If the sun rises, that means it'll be a good day.
- 3. First and foremost my father. But also the outstanding American industrialists Henry Ford and Andrew Carnegie.
- 4. Relaxing on weekends in my own sauna in the company of my father and my son.
- All my close friends and relatives, of course. Just to enjoy each other's company.
- 6. "The Buried Giant" by Kazuo Ishiguro and "The Secret Year" by Mikhail Gigolashvili. I love reading because every book contains its own piece of wisdom.
- 7. Pilaf that I make myself.
- 8. The realization that you're already on the wrong side of 50!
- 9. I'm hoping I haven't visited it yet, and that for me it's all yet to come.
- I'm ready to fall in love with every city with a long history that I visit. I love breathing in the smell of ancient cobblestone pavements.
- 11. I would fix things so that parents never outlive their children.
- 12. The work that I love, exciting projects, and bold challenges.

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