

# **REFERENCE LIST**

# of Projects Developed and Implemented for the Period since 1995









**URAL ENGINEERING CENTER** is a managing company of the Research and Production Holding CHELTEC. Currently the holding is a group of companies that solves comprehensive tasks to create process equipment and production lines and integrates research and development, production, installation, service and training subdivisions.

Ural Engineering Center has its own production, research and development base in the city of Chelyabinsk. In addition, there are representative offices in Moscow and Cherepovets, as well as an enterprise for equipment servicing at Nizhny Tagil Metallurgical Plant.

The main competitive advantage of the holding is a high professional level of employees which can use an integrated approach to solve problems – manufacturing of turnkey complex process equipment, including engineering, software, production, installation, start-up, training and subsequent service support. We have obtained over 80 patents for the development of different units and assemblies.

The main strategic direction of growth is the development of radically new technologies and process modules for mining and smelting, military and industrial, machine-building complex, rail transportation, oil and gas, aviation, aerospace, and shipbuilding industry enterprises.

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## 1. Mining and Smelting Complex.

#### Iron-and-Steel Industry.

#### **Rolling Production**

## 1.1. Flat Rolled Product Manufacturing

#### PJSC MMK Group Magnitogorsk Metallurgical Plant, JSC (Magnitogorsk)

| 1995-<br>1997 | Electrical hydraulic system for work roll bending of hot rolling mill 2000 (Patent RU No.2122907)                                     |
|---------------|---|
| 1997          | Electrical hydraulic strip edge servo system for longitudinal cutting unit <i>ЭГСС-P-10-45</i> (Patent RU No.2173412 and 2180056)     |
| 1998          | Hydraulic power unit of continuous pickling line NTA-1  |
|               | Hydraulic power units of the head and tail parts of longitudinal cutting unit APR-4,5   |
|               | Service fluid treatment system in Sheet Rolling Shop-10   |
| 2000          | Hydraulic power unit of continuous pickling line NTA-3  |
|               | Service fluid treatment system in Sheet Rolling Shop-4  |
| 2001          | Pumping station of electrolytic degreasing unit in Sheet Rolling Shop-3   |
|               | Hydraulic power unit of binding machine   |
| 2002          | Hydraulic power unit of diverter tool with coil tilter of double-stand reversing mill SMS Demag                                       |
| 2003          | Hydraulic system of butt-welding machine MCO-100.06 No.1 and No.2   |
|               | Electrical hydraulic servo system of lifting platform for continuous hot dip galvanizing line   |
|               | Electrical hydraulic servo system of strip edge in electrolytic tinning unit  |
| 2004          | Hydraulic drive of lift and turn device and coil tilter NTA-1   |
|               | Hydraulic power unit of loading drive in heating machine of section rolling mill 300-3  |
|               | Hydraulic power unit of balancing system for backup rolls of temper mill NTA-2  |
|               | Hydraulic drive for covers of pickling and rinsing baths NTA-2  |
|               | Hydraulic power unit of bundle packing mechanism for mill 300-3   |
| 2006          | Electrical and hydraulic systems of centering devices for butt-welding machines NTA-1, NTA-2 (five centering devices in each machine) |
| 2007          | Servo system for reel strip edge  |
|               | Hydraulic drive of shears made by FIMI company  |
| 2010-<br>2011 | Electrical hydraulic system of exit stand bending in cold-rolling mill 1200 in Sheet Rolling Shop-3                                   |
| 2016          | Hydraulic strip servo system HS-000219  |
| 2018          | Equipment supply for hydraulic descaling system of mill 2000 in Sheet Rolling Shop-10, project together with SIGMA DIZ SPOL.S.R.O.    |









#### Severstal Russian Steel Division. Severstal, OAO (Cherepovets)

| 2002          | Electrical hydraulic system of work roll bending of rolling mill 1700 in Sheet Rolling Shop-1                |
|---------------|--|
| 2003          | Pumping station of work roll balancing system for mill 2000 in Sheet Rolling Shop-2                          |
| 2016-<br>2018 | Hydraulic drive unit for 6, 8, 9, 10 stand movement. Mill 350  |
| 2017          | Upgrading of lubricating system for oil-lubricated bearings. Mill 1700                                       |
| 2018          | Installation of barrier fluid system on motor bearings in mill 2800 in Sheet Rolling Shop-1                  |
| 2018          | Installation of barrier fluid system on motor shaft bearings 1D, 2D, 4D of mill 2800 in Sheet Rolling Shop-1 |

| 2017 | Manufacture of strip edge servo systems for decarburizing annealing unit |
|------|--|
| 2018 | Restoration of two servo systems for roll preparation units APR-8        |
|      |  |

## 1.2. Shape and Bar Production

#### NLMK-Ural Group. Nizhneserginsky Metalware and Metallurgical Plant, JSC (Nizhniye Sergi)

| 2006-<br>2007   | Hydraulic equipment and control system of the left and right finishing lines of bar and shape mill 250 |
|---|--|
| 2007  | Upgrading of binding machines for bar and shape mill 250   |
| PJSC MMK Group Magnitogorsk Metallurgical Plant, JSC (Magnitogorsk) |  |
| 2004  | Hydraulic power unit of loading drive in heating machine of section rolling mill 300-3                 |

## Hydraulic power unit of bundle packing mechanism for mill 300-3

## **1.3. Pipe Rolling Production**

#### Group of Chelyabinsk Pipe Plant Pervouralsk New Pipe Plant, JSC (Pervouralsk)

| 2008          | Upgrading of Bracker press for hydraulic testing of pipes with pressure up to 1,000 bar and productivity up to 144 pipes/hour |
|---------------|---|
|               | Pumping stations of the end facing machine of shop 38   |
|               | Pumping station of leveller for cut-to-length section bundle  |
| 2010-<br>2011 | Test bench for oil and gas supply pipes Ø57-Ø219 with pressure up to 400 atm.   |
| 2017          | Set of test heads for press BRAKKER   |
| гмк. ЈЅС      | Sinarsky Pipe Plant (Kamensk-Uralsk)  |

| 2011-<br>2013                            | Hydraulic descaling system of hot cutting line mill for hot rolling area of pipes, shop T-3, for pipe shell Ø120-<br>Ø160 mm |  |
|--|--|--|
| TMK. JSC Seversky Pipe Plant (Polevskoy) |  |  |
| 2013                                     | Installation, pickling, flushing and pressure testing hydraulic and liquid lubrication pipelines, Tube Rolling Shop-1.       |  |
| 2014                                     | Comprehensive restoration of pipe production with the installation of continuous mill DANIELI                                |  |
| 2016                                     | Installation, washing and hydraulic tests of hydraulic and lubrication pipelines   |  |
|  |  |  |









#### TMK. Tagmet, JSC (Taganrog)

| 2014-         | Calculation of work-cycle time for hydraulic drive of walking beam furnace  |
|---------------|---|
| 2015          |   |
| 2016          | Checking calculation of main power control parameters for hydraulic systems of pipe rolling line to provide for rolling cycle of 27, 25 and 20 seconds                      |
| Group of      | Chelyabinsk Pipe Plant. Chelyabinsk Pipe Plant, JSC (Chelyabinsk)   |
| 1998-<br>1999 | Hydraulic power unit for pipe cutting machines, models KZH-45D, KZH-45E, KZH-45K, 91A15-1, 91A25-1, 91A38-1, 91A53-1  |
| 2001          | Upgrading of hydraulic test press hydraulic system for pipes with diameter up to 550 mm and pressure up to 25 MPa   |
| 2002          | Upgrading of hydraulic control system for straightening press Π6242 (shop No.1), force 1,500 ton-force  |
| 2003          | Pump station for circular saw of Margegali machine, shop No.9   |
| 2004          | Upgrading of electrical and hydraulic system for moulding press PO753 of tube-welding mill, force 20,000 ton-<br>force in shop No.6   |
|               | Upgrading of electrical and hydraulic system TPA-140 for hydraulic testing of pipes with diameters up to 114 mm, pressure up to 47 MPa and productivity up to 40 pipes/hour |
| 2006          | Upgrading of pushing device hydraulic system for Pilger rolling mill, Tube Rolling Shop-1 (1 stage)   |
| 2008          | Upgrading of hydraulic system for No.7 pipe hydraulic testing press, shop No.6 (2 stage)  |
| 2009-<br>2010 | Upgrading of pushing device hydraulic system for made by SMS MEER for Pilger rolling mill 8"-16", shop No.1   |
| 2010-<br>2011 | Operating pressure and oil level maintenance system in braking chamber of pushing device made by SMS MEER for Pilger rolling mill No.1 Tube Rolling Shop-1                  |

## **1.4. Ring-Rolling Production**

Ruspolymet, JSC (Kulebaki)

| 2008          | Upgrading of electrical and hydraulic system to control ring-rolling mill KPS-1000 |
|---------------|--|
| 2008-<br>2015 | Restoration (creating) of ring rolling mill H 160-S made by Banning                |
| 2014          | Heavy upgrade and commissioning of robot manipulator                               |

## Hydraulic Descaling System

EVRAZ-NTMK. NTMK JSC (Nizhny Tagil)

| 2018                 | Upgrading of hydraulic descaling system for Wheel Tyre Shop  |
|----------------------|--|
| PJSC MMK (           | Group Magnitogorsk Metallurgical Plant, JSC  |
| 2002                 | Manufacturing, repair, restoration of hydraulic descaling spray valves on mill 2000, Sheet Rolling Shop-10   |
| from 2007<br>to 2017 | Manufacturing, repair, restoration of hydraulic descaling spray valves and plunger type pumps for bar and shape mills 170, 370 and 450 made by Danielli                                  |
| from 2008            | Upgrading of hydraulic descaling spray valves for mills 4500 and 2350  |
| 2013                 | Manufacture and supply of hydraulic descaling manifolds for roughing train in Sheet Rolling Shop-4, Sheet Rolling Shop-10, primary hydraulic descaling manifolds in Sheet Rolling Shop-9 |









| 2012 | Upgrading of hydraulic descaling system for hot rolling mill 2500  |
|------|--|
| 2013 | Upgrading and repair of hydraulic descaling spray valves 5000  |
| 2014 | Hydraulic descaling system for hot rolling mill 2000 (system upgrading set)  |
| 2018 | Equipment supply for hydraulic descaling system of mill 2000 in Sheet Rolling Shop-10, project together with SIGMA DIZ SPOL.S.R.O. |

#### TMK. JSC Sinarsky Pipe Plant (Kamensk-Uralsk)

| 2011- | Hydraulic descaling system of hot cutting line mill for hot rolling area of pipes, shop T-3, for pipe shell Ø120- |
|-------|---|
| 2013  | Ø160 mm   |

#### Mechel. Chelyabinsk Metallurgical Plant, JSC (Chelyabinsk)

| 1997 | Manufacture and supply of hydraulic descaling spray valves for mill 1700 |
|------|--|

## Benches for roll assembly and disassembly (ferrous and non-ferrous metal industry)

#### UMMC. Kirov Non-Ferrous Metals Processing Plant, JSC (Kirov)

| 2016 | Bench for removal and assembly work-roll chocks   |
|------|---|
|      | Bench for removal and assembly backup roll chocks |

#### **Steelmaking Production**

#### IZHETMASH. BUMMASH JSC (Izhevsk)

| 2001          | Electrical and hydraulic control system of Arc Steel Furnace DSP-25 with automatic arc control devices   |  |
|---------------|--|--|
| MECHEL.       | Ductil Steel, JSC (Romania)  |  |
| 2010-<br>2011 | Technical support for hydraulic system restoration for Arc Steel Furnace No.2  |  |
| 2011          | Hydraulic system restoration in Arc Steel Furnace No.2   |  |
|               | Technical support for hydraulic system in Arc Steel Furnace No.2 and KOSS  |  |
| NLMK-Ura      | al Group. Nizhny Tagil Metallurgical Plant, JSC (Nizhny Tagil)   |  |
| 2006          | Repair of steel ladle hydraulic drive  |  |
|               | Overhaul of mechanical equipment for blast furnace No.5  |  |
| 2010          | Overhaul of mechanical equipment for blast furnace No.6  |  |
| 2011          | Overhaul of mechanical equipment for converter shop  |  |
|               | Overhaul of mechanical equipment for blast furnace No.6  |  |
| PISC MM       | K Group Magnitogorsk Metallurgical Plant, JSC (Magnitogorsk)   |  |
| 2003          | Electrical and hydraulic arc control device of ladle furnace with capacity of 375 tons   |  |
| 2005          | Hydraulic and power unit for sliding gate control  |  |
|               | Continuous steel casting machine: Continuous Steel Casting Machine No.5. Detailed design for arrangement of lubrication and cooling system pipelines for continuous steel casting machines No. 5 based on URALMASH basic engineering |  |
| 2006          | Hydraulic drive of coke pushers No. 1, 3, sets No. 7, 8  |  |









|            | Hydraulic power unit of gas shaft furnace No. 2 of dolomitic production  |
|------------|--|
| 2008       | Hydraulic power unit of quencher   |
| Metalloin  | vest. Oskolsky Plant of Metallurgical Machinery JSC (Stary Oskol)  |
| 2004       | Electrical and hydraulic control and diagnostics system No. 6 of Arc Steel Furnace DSP-6 with automatic arc control devices  |
| 2006       | Hydraulic power control unit No. 1 for Arc Steel Furnace DSP-14  |
| 2007       | Hydraulic power control unit No. 3 for Arc Steel Furnace DSP-14  |
|            | Hydraulic control drive for complex steel processing unit with capacity of 15 tons   |
|            | Electrical and hydraulic control and diagnostics system of Arc Steel Furnace No. 4 DSP-6 with automatic arc control devices  |
| 2008       | Electrical and hydraulic control and diagnostics system No. 5 of Arc Steel Furnace DSP-6 with automatic arc control devices  |
| Ruspolym   | et, JSC (Kulebaki)   |
| 2011       | Hydraulic system of steelmaking complex in electrical and mechanical production  |
|            | Vacuum pipelines of vacuum steel casting plant for steelmaking complex in electrical and mechanical production   |
| everstal   | Russian Steel Division. Severstal, OAO (Cherepovets)   |
| 2004       | Emergency turning system for steel casting benches URNS 1-5  |
| Eurasian F | desources Group (ERG). Sokolovsk-Sarbaysk Ore Mining Production Association (Rudny, Kazakhstan)  |
| 2010       | Electrical and hydraulic control and diagnostics system of Arc Steel Furnace DSP-6 with automatic arc control devices  |
| Metalloin  | vest. Ural Steel, JSC (Novotroitsk)  |
| 2006       | Arrangement of pipelines in hydraulic system of ladle furnace UPK-120 No.1. Design, manufacture and supply of equipment  |
|            | Arrangement of pipelines for hydraulic systems, cooling water, compressed air and argon No. 1 in Arc Steel<br>Furnace DSP-120. Design, manufacture and supply of equipment |
| 2008       | Arrangement of pipelines for hydraulic systems, cooling water, and compressed air No. 2 in Arc Steel Furnace DSP-<br>120. Design, manufacture and supply of equipment      |
| Holding C  | reative Machines and Accessories, LLC. Tsentrolitó JSC (Saransk)   |
| 2004       | Hydraulic control drive No.1 and No.2 of Arc Steel Furnace DSP-15  |
| Mechel. C  | helyabinsk Metallurgical Plant, JSC (Chelyabinsk)  |
| 1999       | Electrical and hydraulic control system for complex steel processing facility with capacity of 130 tons with automatic arc control devices (Arc-Furnace Melting Shop-6)    |
| 2003       | Electrical and hydraulic control system for complex steel processing facility with capacity of 160 tons with automatic arc control devices (oxygen-converter plant)        |
| JMMC-H     | blding. UMMC Steel, JSC (Tyumen)   |
| 2013       | Hydraulic system flushing and pressurization for arc steel furnace DSP-80  |
|            |  |

#### Izhevsk Machine Building Association, JSC (Izhevsk)









| 2015-<br>2016             | Upgrading of control system for DSP-25                                |  |
|---------------------------|---|--|
| NLMK. NLMK, JSC (Lipetsk) |   |  |
| 2015<br>2017              | Technical re-equipment of control system for arc steel furnace DSP-25 |  |

#### **Ore-Heating Production**

#### ChEMK. Serov Ferrous Alloy Plant, JSC (Serov)

| 2004      | Hydraulic power unit of moulding machine SDK-98A   |  |
|-----------|--|--|
| Mechel. C | helyabinsk Electrical Metallurgical Plant, JSC (Chelyabinsk)   |  |
| 1998      | Hydraulic clamping system for contact clamps of electric arc ore smelting furnace No.57                          |  |
| 1999      | Electrode movement and slip system of electric arc ore smelting furnace No.56                                    |  |
|           | Hydraulic clamping system for contact clamps of electric arc ore smelting furnace No.56                          |  |
| 2000      | Electrode movement and slip system of electric arc ore smelting furnace No.42                                    |  |
|           | Hydraulic clamping system for contact clamps of electric arc ore smelting furnace No.42                          |  |
| 2004      | Electrode movement and slip system of electric arc ore smelting furnace No.47                                    |  |
|           | Hydraulic clamping system for contact clamps of electric arc ore smelting furnace No.47                          |  |
|           | Electrode movement and slip system of electric arc ore smelting furnace No.55                                    |  |
|           | Hydraulic clamping system for contact clamps of electric arc ore smelting furnace No.55                          |  |
| 2006      | Electrode movement and slip system of electric arc ore smelting furnace No.51                                    |  |
|           | Hydraulic clamping system for contact clamps of electric arc ore smelting furnace No.51                          |  |
| 2018      | Hydraulic clamping system for contact clamps of electric arc ore smelting furnace No.42 (supplied by SAC, Korea) |  |

## Non-Ferrous Metal Industry

Rostec State Corporation. VSMPO-AVISMA PJSC (Verkhnaya Salda)

| 2003 | Electrical hydraulic system of radial forging machine R800 made by SACK company  |
|------|--|
|      | Electrical hydraulic system of manipulator with loading capacity of 4 tons for forging complex of radial forging machine |
| 2004 | Self-contained pumping unit for vacuum-arc furnaces DTV-8,7-G10, 6DTV-10-G10   |
| 2005 | Upgrading of hydraulic drive for punching press bed with force 160 and 250 ton-force made by LITOSTROJ company           |
|      | Upgrading of oil control system for press with force of 10,000 ton-force   |
|      | Hydraulic unit of mould clamping pressure stabilization for vacuum arc furnaces DTV-8,7-G10, 6DTV-10-G10                 |
|      | Overhaul of hydraulic drive for 20-roll mill 1200  |
|      | Pumping unit for a complete set of straightening machine, model WRPH80/110   |
|      | Pumping unit and control panel for peeling machine Ш7-05   |
|      | Upgrading of centerless turning machine 9340K  |
|      |  |









| 2006          | Electrical and hydraulic servo system for position and reel adjustment relative to strip edge of SKET line   |
|---------------|--|
|               | Upgrading of 17-roll sheet straightening machine 17x75x2,000   |
| 2008          | Upgrading of hydraulic system for punching press NP-130 with force 30,000 tons in shop No.32   |
| 2007          | Repair of hydraulic station for machine KRMT 22-24   |
| 2008          | Hydraulic pressing unit and automatic gauge control system of mill 1200  |
| 2009-<br>2011 | Upgrading of hydraulic and control system for forging press 103 with force of 3,000 ton-force  |
| 2011          | Manufacturing of hydraulic plate for slide drive of forging press with force of 160 ton-force made by LITOSTROJ company  |
|               | Overhaul of hydraulic system for sheet shears HBP 40x4,000, force 350 ton-force  |
| 2010-<br>2012 | Hydraulic equipment for forging presses operating with water and water emulsions (shut off control valves to control moving crosshead of presses, two-valve hydraulic control valves with hydraulic and electrical-mechanical control, bypass valves for prefill tanks, safety and check valves) |
| 2017          | Hydropneumatic accumulator charging unit   |
|               | Upgrading of 20-roll cold rolling mill 400, shop No.16   |

| 2003 | Hydraulic cooling system for work rolls of aluminum direct rolling unit APB-1600  |  |
|------|---|--|
| 2015 | Upgrading of hydraulic systems for single-stand rolling mill KVARTO-1800  |  |
| 2016 | Delivery of pump-and-accumulator station, installation of equipment and pipelines, commissioning of equipment supplied for KVARTO-1800 mill |  |

#### Sual International. Siberian-Ural Aluminum Company, JSC (Novodvoitsk, Republic of Karelia)

| _ | 2005 | Hydraulic drive to control mixer tilt CAMΠ-15 |
|---|------|---|
|   |      |   |

| 2007 | Hydraulic drive to control mixer tilt CAMΠ-50 |
|------|---|
|------|---|

#### Alcoa. Samara Metallurgical Plant, JSC (Samara)

| 2007          | Restoration of pump and accumulator station of forging and press production   |
|---------------|---|
| 2008          | Upgrading of electrical and hydraulic control system for horizontal press PB 8841 force 1,250 ton-force   |
| 2014          | Mill 2300, detail design of process pipelines: hydraulic system 250 bar (FPOHCY-PH01-H5101), hydraulic system 90bar (FPOHCY-PH01-H5001), compressed air system, roll cooling system |
| 2014-<br>2015 | Installation,, flushing and pressurization of process pipelines in hydraulic systems in the scope of technical re-<br>equipment of rolling mill 2300 in shop No.2                   |
|               | Project works based on basic engineering DANIELI in the scope of technical re-equipment of single-stand rolling mill 2300   |
| 2015          | Design works on the replacement of high-pressure pipeline (water) in the scope of technical re-equipment of pump and accumulator station sections No.4 and No.5 of press 170        |
| 2017          | Execution of the project on installation of liquid bleeding valves (upgrading of pump and accumulator station, Inv. 404067)   |
| 2018          | Upgrading of central pusher control system for press 170  |

Rusal. Ural Foil, JSC (Mikhailovsk)









| 2008          | Hydraulic cooling system for work rolls of aluminum direct rolling unit APB-1600  |
|---------------|---|
| 2015          | Upgrading of hydraulic systems for single-stand rolling mill KVARTO-1800  |
| 2017-<br>2018 | Upgrading of strip slitting line Slitting Line-1600   |
| UMMC. Ura     | ilelektromed JSC (Verkhnyaya Pyshma)  |
| 2010-<br>2011 | Upgrading of starting-sheet blank No.2 Wennberg, Copper Electrolysis Shop   |
| 2018-<br>2019 | Upgrading of hydraulic control system for press of automatic packaging in plastic tape, copper wire rod production shop |
| UMMC. Ura     | lelektromed, JSC, Branch of Polymetal Production (Kirovgrad)  |
| 2014          | Installation of pipelines and pre-commissioning of roll press 4034 Ludman hydraulics                                    |
| UMMC. Ch      | elyabinsk Zinc Plant, JSC (Chelyabinsk)   |
| 2000          | Pump station of zinc pig stacker NS 07-00   |
| 2002          | Cathode production for electrolytic deposition of non-ferrous metals  |
| VSMPO-AV      | ISMA PJSC (Beresnyaki)  |
| 2018          | Overhaul of press ДЕ2432.01 (2 pieces) in shop 48   |

## 2.Works Performed for Different Branches of Industry

### **Press Forging Production**

IZHETMASH. BUMMASH JSC (Izhevsk)

| 2001          | Electrical and hydraulic control and diagnostics system for forging complex 2,000 tons                                   |
|---------------|--|
| 2011          | Technical audit of electronic hydraulic and mechanical equipment for forging complex No. 2                               |
| Volgograd     | l Metallurgical Plant "Red October" "PP "Barricades ", JSC (Volgograd)   |
| 2008-<br>2009 | Repair and maintenance of hydraulic equipment for DeviMacchi 8/13 ton-force automated forging complex                    |
| Rostec St     | ate Corporation. VSMPO-AVISMA JSC (Verkhnaya Salda)  |
| 2003          | Electrical hydraulic system of radial forging machine R800 made by SACK company  |
|               | Electrical hydraulic system of manipulator with loading capacity of 4 tons for forging complex of radial forging machine |
| 2005          | Upgrading of hydraulic drive for die press bed with force 160 and 250 ton-force made by LITOSTROJ company                |
|               | Upgrading of oil control system for press with force of 10,000 ton-force   |
|               | Upgrading of centerless turning machine 9340K  |
| 2007-<br>2008 | Upgrading of hydraulic system for die press NP-130 with force 30,000 tons in shop No.32                                  |
| 2009-<br>2011 | Upgrading of hydraulic and control system for forging press 103 with force of 3,000 ton-force                            |









| 2011          | Manufacturing of hydraulic plate for slide drive of forging press with force of 160 ton-force made by LITOSTROJ<br>company   |
|---------------|--|
| 2010-<br>2012 | Hydraulic equipment for forging presses operating with water and water emulsions (shut off control valves to control moving crosshead of presses, two-valve hydraulic control valves with hydraulic and electrical-mechanical control, bypass valves for prefill tanks, safety and check valves) |
| 2018          | Upgrading of 20-roll cold rolling mill 400, shop No.16   |
| 2018          | Overhaul of presses ДЕ2432.01 (2 pcs.)   |

#### Rostec State Corporation. VSMPO-AVISMA PJSC (Beresnyaki)

2018 Overhaul of press ДЕ2432.01 (2 pieces) in shop 48

#### Alcoa. Samara Metallurgical Plant, JSC (Samara)

ī

| 2007 | Restoration of pump and accumulator station of forging and press production                                     |
|------|---|
| 2008 | Upgrading of electrical and hydraulic control system for horizontal press PB 8841 with force of 1,250 ton-force |
| 2018 | Upgrading of central pusher control system for press 170  |

#### Severstal Russian Steel Division. Severstal PJSC

| 2006 | Electrical and hydraulic control system for baling press CPA-1250 (Patent RU No. 212163318) |
|------|---|
| 2017 | Upgrading of press complex with force 20 MN   |

#### Serov Ferrous Alloy Plant, JSC (Serov)

| 2004 | Hydraulic power unit of moulding machine SKD-98A |
|------|--|
|------|--|

#### **MI Kalinin Machine Building Plant JSC**

#### 2017 Upgrade of 630 tf hydraulic punching press P315V

Upgrade of 2000 tf hydraulic press CMC CLEARING HYDRAULIC H-2200-80-D

Overhaul of sheet straightening machine UBR

#### OMK. Trubodetal, JSC (Chelyabinsk)

2008 Emergency troubleshooting of Roundo sheet bending press

#### United Heavy Machinery Plants Uralkhimmash, JSC (Ekaterinburg)

| 2007          | Repair of 400 tf press P3236  |
|---------------|---|
| 2011-<br>2012 | Upgrading of double-acting vertical hydraulic punching press with force 4,000/6,500 ton-force |
| 2013          | Upgrade, assembly and installation of TvedI press   |

#### Metallurgical Plant "Electrostal", JSC (Electrostal)

| 2011          | Upgrading of hydraulic and control systems for horizontal profile press with force of 6,300 ton-force, model Π8148            |
|---------------|---|
| 2011-<br>2012 | Upgrading of hydraulic and control systems for moving crosshead of press with force of 6,300 ton-force, model P8148 (1 stage) |
| 2013          | Upgrading of auxiliary mechanisms of press with force of 6,300 ton-force, model P8148 (2 stage)                               |
| 2014-<br>2015 | Upgrading of auxiliary mechanisms of press with force of 6,300 ton-force, model P8148 (3 stage)                               |









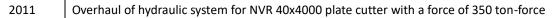
#### EVRAZ-NTMK. NTMK JSC (Nizhny Tagil)

| 2012   | Upgrading of pressing and rolling line for wheels made by SMS Eumuco company in Wheel Tyre Shop                                   |
|--|---|
| 2014   | Overhaul of floor robot manipulator   |
| Brick Pla  | nt Athena, LLC (Chelyabinsk)  |
| 2014-<br>2015  | Upgrade of press for production of ash and one-and- half solid bricks, 6 DOP-CKO Mitsuishi Fukai press (increase in productivity) |
| Northerr   | Metal Center, LLC, St. Petersburg   |
| 2015   | Upgrade of 2000 tf UNITED press   |
| 2018   | Dismantling, overhaul of P156 press and manipulator   |
| Production Association UralVtorMet, LLC, Yekaterinburg |   |
| 2017   | Production of support finger for Genesis IX200 press scissors   |
| Stankom  | ash, LLC, Chelyabinsk   |
| 2017   | Refurbishment and upgrade of 800 tons hydraulic press P3239, inv. No. 49  |
| Mechel.  | Chelyabinsk Metallurgical Plant, JSC (Chelyabinsk)  |
| 2002   | Electro-hydraulic control system of forging complex manipulator with a load capacity of 20 tf (Press shop)                        |
| Chelyabi   | nsk Forge-and-Press Plant, PJSC (Chelyabinsk)   |
| 2017   | Repair and Upgrade of 1000 tf press P075  |
| 2018   | Overhaul and Upgrade of DE2238 press control system   |
| 2018   | Upgrade of rotary drawing machine   |
|  |   |

#### Auxiliary mechanical equipment for productions

Interves, LLC (Novosibirsk)

| -             |  |
|---------------|--|
| 2010          | Hydraulic system of table-type scales for metal-roll weighing                      |
| 2011-<br>2012 | Hydraulic system of table-type scales for metal-roll weighing                      |
| Mechel. C     | helyabinsk Metallurgical Plant, JSC (Chelyabinsk)                                  |
| 1997          | Hydraulic power unit for CBKh-80M centerless turning machine (Rolled product No.1) |
| 2000          | Hydraulic power unit for CBKh-80M centerless turning machine (Rolled product No.1) |
| 2001          | Hydraulic power unit for CBKh-80M centerless turning machine (Rolled product No.1) |
| Energetik-    | 1, LLC (St. Petersburg)  |
| 2009          | Pumping station for KZh 3404 roll grinding machine                                 |
| Rostec Sta    | te Corporation. VSMPO-AVISMA Corporation, JSC (Verkhnaya Salda)                    |
| 2005          | Upgrade of 9340K centerless turning machine  |
| 2007          | Repair of hydraulic unit for KRMT 22-24 machine                                    |











## Systems of grease and oil lubrication, treatment station for working fluids

OMK. Vyksa Steel Works, JSC (Vyksa)

| 2012  | Installation of greasing unit for rolling table of the gas cutting machine at 5000 mill                            |  |
|---|--|--|
| NLMK-Ura  | NLMK-Ural Group. CJSC Nizhneserginsky Metalware and Metallurgical Plant (Berezovsky)                               |  |
| 2008  | Etching, flushing and pressure testing of pipelines for oil and grease lubrication systems of DANIELI section mill |  |
| Severstal   | Russian Steel Division. Severstal, PJSC (Cherepovets)  |  |
| 2017  | Development, design and supply of PZhT lubrication system for 1700 mill 1700 in Plate Rolling Shop-1               |  |
| Transneft. Transneft. Oil Pumps, JSC (Chelyabinsk), Konar JSC (Chelyabinsk) |  |  |
| 2015  | Multi-purpose pumping assembly for oil lubrication and cooling for sliding bearings of mainline pumping units      |  |
| Uralasbes   | t, LLC (Asbest)  |  |
| 1999  | Multistage Oil Treatment Station   |  |
| 2008  | Multistage Oil Treatment Station   |  |
| Mechel. Chelyabinsk Metallurgical Plant, JSC (Chelyabinsk)                  |  |  |
| 2002  | Multistage Oil Treatment Station   |  |

#### Installation and washing of hydraulic equipment and pipeline systems

#### Bosch Rexroth AG (Germany)

| 2009-         | Hydraulic system piping for Project of the second stage of reconstruction and restoration of the State Academic  |
|---------------|--|
| 2011          | Bolshoi Theater of Russia  |
| 2011          | Installation of steel structures and industrial equipment in the upper and lower mechanization zones for the State Academic Bolshoi Theater of Russia  |
| ОМК. Vy       | ksa Steel Works, JSC (Vyksa)   |
| 2011          | Flushing and hydraulic testing of pipelines of hydraulic and oil lubrication systems at section of reheat furnaces<br>No. 1, 2 – PM01 and at section of cutting line – PM04 at the facility: Complex of 5000 Plate rolling mill for<br>production of flat-rolled products from low-alloyed steel |
|               | Commissioning of hydraulic systems No. 9, 10, 11 at the section of the cutting line – PM04 at the facility: Complex of 5000 Plate rolling mill for production of flat-rolled products from low-alloyed steel   |
| 2012          | Installation of greasing unit for rolling table of the gas cutting machine at 5000 mill  |
| Evraz Cas     | pian Steel LLP, Kazakhstan, Kustanai   |
| 2014          | Etching and washing of oil lubrication pipelines for small section mill with a capacity of 450 thousand per year   |
| PJSC MM       | K GROUP. Magnitogorsk Iron and Steel Works, OJSC (Magnitogorsk)  |
| 2004-<br>2005 | Pipeline Washing Station   |
| 2009          | Hot Rolling Mill 5000: Installation and flushing of the hydraulic and lubrication system of oil base No. 5   |
|               | Coke chemical battery No. 4: installation of hydraulic power unit for riser opening  |
| 2010          | Coke chemical battery No. 3: installation of hydraulic power unit for riser opening  |
| 2011          | Cold rolling mill 2000: Installation and flushing of hydraulic piping system at Plate rolling Shop-11  |









#### NLMK-Ural Group. CJSC Nizhneserginsky Metalware and Metallurgical Plant (Nizhniye Sergi)

| 2007 | Installation, etching, flushing and pressure testing of hydraulic pipelines of section mill 250                    |
|------|--|
| 2008 | Etching, flushing and pressure testing of pipelines for oil and grease lubrication systems of DANIELI section mill |

#### JSC Ruspolimet (Kulebaki)

|              | Installation of vacuum lines for steel degassing plant of steel making complex   |
|--------------|--|
|              | Installation, flushing and pressure testing of hydraulic pipelines of DANIELI steel making complex:  |
|              | Arc melting furnace DSP-6  |
|              | Ladle-furnace, 6 t   |
| 2012         | Degasser, 6 t  |
|              | Installation, flushing and pressure testing of hydraulic system and grease lubrication pipelines of DANIELI forging complex 1600 t                               |
|              | Installation of piping for wire feeding machines of steel degassing unit in electric magnet furnace  |
|              | Installation of off-gas samplers and piping of the preparation system for gas VOD analysis using Thermo Fisher mass spectrometer for steel degassing unit in EMF |
| 2015<br>2016 | Etching, flushing and pressure testing of hydraulic system pipelines of 35 MH DANIELI forging press  |

#### Alcoa. CJSC Alkoa-SMZ, Samara

| 2014 | Installation, flushing and pressure testing of process pipelines for hydraulic system within the frame of technical |
|------|---|
| 2015 | upgrading of rolling mill 2300 in Shop No.2   |

Severstal Russian Steel Division. JSC Severstal-The Balakovo Sorting Plant, Saratov region, Balakovo district

| 2013 | Installation, flushing and pressure testing of hydraulic system (pipeline system), and lubrication system of PShB- |
|------|--|
|      | 200 reheat furnace and DANIELI hot and cold charging section   |

#### TMK. Seversky Pipe Plant, JSC (Polevskoy)

| 2013 | Installation, etching, flushing and pressure testing of hydraulic and oil lubrication pipelines of Pipe Rolling Shop-1. |
|------|---|
| 2014 | Complex reconstruction of pipe rolling production with the installation of DANIELI continuous rolling mill              |
| 2016 | Installation, flushing and hydraulic tests of hydraulic and lubrication pipelines                                       |

#### NLMK. OJSC Stoylynsky GOK (Stary Oskol)

| 2016       | Pelletizing plant Integrated flushing and pressure testing of lubrication and cooling system pipelines of rolling crushers and fans for |
|------------|---|
| Transneft. | Transneft. Oil Pumps, JSC (Chelyabinsk), Konar JSC (Chelyabinsk)  |

#### 2015 Installation for flushing of piping internal cavity

| Industrial and metallurgical holding. PJSC TulaChermet (Tula) |  |
|---|--|
| 2017  | Installation of hydraulic and grease lubrication pipelines for reheat furnaces of Mill 9501 and Mill 9511 of foundry-<br>rolling complex |
| UGMK.   | OJSC Uralelectromed (Verkhnyaya Pyshma)  |
| 2011  | Installation of hydraulic equipment of anode machine at copper smelting shop   |
|   | Installation of hydraulic equipment made by Outotec (Finland) Copper Electrolysis Shop No.2  |
|   |  |











#### UGMK. OJSC Uralelectromed, Polymetallic Production branch (Kirovgrad)

| 2014         | Pipeline installation and commissioning of Ludman 4034 roller press  |
|--------------|--|
| UGMK. UG     | GMK-Steel OJSC (Tyumen)  |
| 2013         | Etching, flushing and pressure testing of hydraulic and lubrication system pipelines:<br>arc-melting furnace DSP-70, ladle furnace 70t, vacuum generator 70t, continuous casting machine, rolling mill,<br>some finishing sections |
| 2016         | Integrated flushing and pressure testing of lubrication and cooling system pipelines for finishing line for hex-<br>shaped rolled products (KE52), bar straightening line (KE31), bar finishing line (KE51)                        |
| Kliver, LLC  | r, Kalinigrad  |
| 2015<br>2016 | Installation and commissioning of systems of BUK 320E-BM drilling rig  |
| 2018         | Installation of the hydraulic circuit for BUK 2007 drilling rig, including installation materials and accessories.   |

#### Test complexes

#### Rostec State Corporation. Aviaagregat, JSC (Samara)

| 2012-         | Long-run test bench for main landing gear of TU-214 aircrafts                          |
|---------------|--|
| 2015          | Long-run test bench for nose landing gear of TU-214 aircrafts                          |
|               | Long-run test bench for main landing gear of KA-62 helicopters                         |
|               | Long-run test bench for tail landing gear of KA-62 helicopters                         |
| 2016-<br>2019 | Bench for repeated static and long-run tests for main landing gear of IL 112V aircraft |
|               | Bench for repeated static and long-run tests for nose landing gear of IL 112V aircraft |

#### Baker Hughes B.V. (Netherlands)

| 2010- | Bench for acceptance and process tests of power cables |
|-------|--|
| 2011  |  |

#### TMK. Volzhsky Pipe Plant, JSC Volzhsky

| 2014- | Testing complex for equipment set up and repair (servo, proportional and discrete equipment and pumps) |
|-------|--|
| 2015  |  |

#### Gazprom. Gazprom-Transgaz, JSC (St. Petersburg)

| -             |   |
|---------------|---|
| 2008          | Bench for static and long-run tests for new generation pipes for main gas pipelines with a diameter of up to 1,420 mm and pressure up to 40 MPa |
| 2009-<br>2010 | Technical support of prototype pipes testing at the bench   |
| ОМК. Vy       | ksa Steel Works, JSC (Vyksa)  |
| 2016          | Technical support of prototype pipes testing at the bench of Gazprom-Transgaz, JSC  |
| 2017          | Technical support of prototype pipes testing at the bench of Gazprom-Transgaz, JSC  |
| Transnef      | t. Konar JSC (Chelyabinsk) Transneft JSC Oil Pumps, JSC (Chelyabinsk)   |
| 2015          | Testing center Construction of plant to localize pumping equipment production.  |
|               | Bench for pressure and strength hydraulic testing of pump houses  |









#### Transneft. Transneft, PJSC (Moscow)

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| , Krasnoyarsk    |
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#### Remmatra, JSC (Rasskazovo, Tambov region)

| 2006          | Test bench for mobile machine pumps for gas and oil pipelines   |
|---------------|---|
| RMK Rev       | yakinsky metalrolling plant, JSC (Tula region, Yasnogorsky district, Revyakino settlement).   |
| 2013          | Test bench for discrete hydraulic equipment   |
| 2014          | Production and supply of the adapter plate for previously installed test bench for hydraulic equipment  |
| TMK. Sev      | rersky Tube Works, JSC (Polevskoy)  |
| 2007          | Multipurpose test bench for servo-, proportional and discrete equipment   |
| 2016          | Installation, washing and hydraulic tests of hydraulic and lubrication pipelines  |
| TMK. Sin      | arsky Tube Works, JSC (Kamensk-Uralsk)  |
| 2017-<br>2018 | Testing complex for equipment set up and repair (servo, proportional and discrete hydraulic equipment, pumps, hydraulic cylinders, high-pressure hoses) in shop T-2 |
| Surgutne      | ftegaz, JSC (Surgut)  |
| 2010-<br>2011 | Test bench for towers (masts) of lifting units for Talakan Process Transport Department UTT No 1  |
| 2011-<br>2013 | Test bench for cargo lifting units  |
| Rosneft (     | Dolgano-Nenets Autonomous Area)   |
| 2018          | Test bench for towers (masts) of lifting units  |
| PO TREK       | (Miass)   |
| 2015          | Bench for the endurance tests of Ford car racks   |
| Uraltech      | Trans, LLC (Chelyabinsk)  |
| 1998          | Test bench for pumps and hydraulic motors of road-building machines   |
| Ural Stee     | I, JSC (Novotroitsk)  |
| 2005          | Multipurpose test bench for servo-, proportional and discrete equipment   |
| 2010-<br>2011 | Testing complex for equipment set up and repair (servo, proportional and discrete equipment, pumps, batteries and hydraulic cylinders)                              |
| Ural Plan     | t of Electrical Machines, CJSC (Lysva)  |
| 2010-<br>2011 | Supply of press equipment for pressure check of active iron cores of electrical machine stators by a force of 1100 kN   |
| Uraltrub      | brom, JSC (Sverdlovsk region, Pervouralsk)  |
| 2013          | Design, manufacture and supply of hydraulic press for pressure and strength testing of pipe socket-and-spigot joints for Section of casing threading                |
|               |   |

## 2.Machine Building Complex

Volgogradneftemash, JSC (Volgograd)

| Drobmash, CJSC (Vyksa) |   |  |
|------------------------|---|--|
| 2016                   | Upgrade project of the pump unit three-roll plate bending machine DWVH-3600/253-V |  |
| 2015                   | Overhaul of VERRINA three-roll plate bending machine                              |  |









| 2017                   | Stepladder hydraulic lifting system   |
|------------------------|---|
| United he              | avy machinery plants Uralkhimmash, JSC (Ekaterinburg)   |
| 2007                   | Repair of 400 tf press P3236  |
| 2011-<br>2012          | Upgrade of 4000/6500 tf double-acting vertical hydraulic punching press   |
| 2010-<br>2011          | Upgrade of Verrins plate bending rolls in Shop No.15  |
| 2013                   | Upgrade, assembly and installation of TvedI press   |
| PO TREK (              | Miass)  |
| 2015                   | Bench for the endurance tests of Ford car racks   |
| Rostec Sta             | ate Corporation. ChTZ-UralTrak, LLC (Chelyabinsk)   |
| 2008                   | Development and production of commercial prototype for new model of backhoe loader (3 pcs.)   |
|                        | 3. Railway Complex  |
| Russian R              | ailways, JSC (Asbest)   |
| 2000                   | Hydraulic equipment of straightening, trimming and leveling machines  |
| Car Buildi             | ng Research Institute, JSC (Moscow)   |
| 2011                   | Hydraulic equipment of static test bench for SI-400 railway cars  |
|                        | 4. Military-Industrial Complex  |
| Rostec Sta             | ate Corporation. Aviaagregat, JSC (Samara)  |
| 2012-                  | Long-run test bench for main strut of TU-214 aircrafts  |
| 2015                   | Long-run test bench for nose strut of TU-214 aircrafts  |
|                        | Long-run test bench for main strut of KA-62 helicopters<br>Long-run test bench for tail strut of TY-62 helicopters  |
| 2016                   | Bench for repeated static and long-run tests for main strut of IL 112V aircraft   |
| 2010                   | Bench for repeated static and long-run tests for nose strut of IL 112V aircraft   |
| Almaz-An               | tey Concern. MI Kalinin Machine Building Plant JSC  |
|                        |   |
| 2017                   | Upgrade of 630 tf hydraulic die press P315V   |
| Roscosmo<br>gorodok)   | Upgrade of 2000 tf hydraulic press CMC CLEARING HYDRAULIC H-2200-80-D<br>os State Corporation Federal State Organization Gagarin Research and Test Cosmonaut Training Center (Zvezdny |
|                        |   |
| 2012                   | Hydraulic drive for emergency turning of centrifuge for training cosmonauts   |
| Roscosmo<br>Territory) | os State Corporation Academician M.F. Reshetnev Information Satellite Systems JSC (Zheleznogorsk, Krasnoyarsk   |
|                        |   |
| 2018-<br>2020          | Air supply system of ARC-1500 acoustic reverberation chamber  |
|                        | Air supply system of ARC-1500 acoustic reverberation chamber         Supply of photogrammetric system (FS-1)  |









#### servo-hydraulic vibro-bench

|               | Rosatom State Corporation. N.A. Dollezhal Scientific Research and Design Institute of Energy Technologies, JSC (NIKIET)<br>(Moscow)   |  |  |
|---------------|---|--|--|
| 2008-<br>2009 | Production of prototypes and researches to determine the hydraulic parameters and visualize the flow in the internal channels of cooling system elements of ITER fusion reactor |  |  |
| United R      | ocket and Space Corporation. Proton PM, JSC (Perm)  |  |  |
| 2014-<br>2016 | Manufacturing of process equipment prototypes- hydraulic test bench   |  |  |
| 2014-<br>2016 | Manufacturing of process equipment prototypes- temporary frame  |  |  |
| 2014-<br>2015 | Manufacturing of prototypes of technological equipment - rolling pad  |  |  |
| "Volgogr      | ad Metallurgical Plant" Red October "PP" Barricades ", CJSC (Volgograd)   |  |  |
| 2008-<br>2009 | Repair and maintenance of hydraulic equipment for "DeviMacchi" 8/13 ton-force automated forging complex   |  |  |
| Stankom       | ash, LLC, Chelyabinsk   |  |  |
| 2017          | Refurbishment and upgrade of 800 tons hydraulic press P3239, inv. No. 49  |  |  |

## 5. Fuel and Power Complex and Oil and Gas Complex

#### Baker Hughes B.V. (Netherlands)

| Baller Hug   |   |  |  |  |
|--|---|--|--|--|
| 2010-<br>2011  | Bench for acceptance and process tests of power cables  |  |  |  |
| RusHydro.  | RusHydro. Volga and Dagestan Hydroelectric Stations   |  |  |  |
| 2002-<br>2003  | Electro-hydraulic regulators for hydro turbines at Volga and Dagestan hydroelectric stations  |  |  |  |
| Gazprom.   | Gazprom-Transgaz, JSC (St. Petersburg)  |  |  |  |
| 2008   | Bench for static and long-run tests for new generation pipes for main gas pipelines with a diameter of up to 1,420 mm and pressure up to 40 MPa |  |  |  |
| 2009-<br>2010  | Technical support of prototype pipes testing at the bench   |  |  |  |
| Gazprom.   | Kopeisk Pipe Insulation Plant, JSC (Kopeisk)  |  |  |  |
| 2005-<br>2006  | Hydraulic test bench for pipes Ø530- Ø1420 of main gas pipelines  |  |  |  |
| Kärcher, Ll  | Kärcher, LLC (Chelyabinsk)  |  |  |  |
| 2015-<br>2016  | Positioning and feeding device for hydrodynamic cleaning heads of vertical shell-and-tube heat exchangers                                       |  |  |  |
| Kliver, LLC (Kaliningrad) for SGK-Burenie, LLC and Eurasia Drilling Company, LLC |   |  |  |  |
| 2013-  | BUK-200 GSA 153-00.00.000 RE Hydraulic system for drilling rig moving and leveling  |  |  |  |
|  |   |  |  |  |









| 2014   |  |  |  |
|--|--|--|--|
| 2015-<br>2016  | Production of hydraulic equipment sets for GSA drilling rig 153-13.00.000  |  |  |
| 2017   | Design, manufacture and supply of hydraulic equipment sets of GSA 186 drilling rig   |  |  |
| 2018   | Design, manufacture and supply of 7 hydraulic equipment sets for GSA 186 drilling rig; 2 sets of hydraulic cylinders, control panels   |  |  |
| 2018   | Installation of hydropneumatic circuits  |  |  |
| EVRAZ-NT   | MK. Nizhny Tagil Metallurgical Plant, JSC (Nizhny Tagil)   |  |  |
| 2010   | Heat supply to the building sections of Railway Wheel Tire Shop  |  |  |
|  | Heat supply and section fencing system of Converter Shop   |  |  |
| Rosatom S  | State Corporation. FSUE Instrument-Making Plant (Trekhgorny)   |  |  |
| 2009-<br>2011  | Control system of drilling rig floor wrench  |  |  |
| Transneft.   | Stankomash Industrial Park. Russian electric motors, JSC   |  |  |
| 2017 -   | Copper Wire Unwinder   |  |  |
| 2018   | Sliding protective cover of the balancing machine pit  |  |  |
|  | Forming press for rotor coils  |  |  |
|  | Hydraulic test chamber   |  |  |
| Surgutneftegaz. Surgutneftegaz, JSC (Surgut)                       |  |  |  |
|  |  |  |  |
| 2010-<br>2011  | Test bench for towers (masts) of lifting units for Talakan Process Transport Department UTT No 1   |  |  |
| 2010-  |  |  |  |
| 2010-<br>2011<br>2011-<br>2013                                     | Test bench for towers (masts) of lifting units for Talakan Process Transport Department UTT No 1   |  |  |
| 2010-<br>2011<br>2011-<br>2013                                     | Test bench for towers (masts) of lifting units for Talakan Process Transport Department UTT No 1<br>Test bench for cargo lifting units   |  |  |
| 2010-<br>2011<br>2011-<br>2013<br>Rosneft (D<br>2018               | Test bench for towers (masts) of lifting units for Talakan Process Transport Department UTT No 1<br>Test bench for cargo lifting units<br>Polgano-Nenets Autonomous Area)  |  |  |
| 2010-<br>2011<br>2011-<br>2013<br>Rosneft (D<br>2018               | Test bench for towers (masts) of lifting units for Talakan Process Transport Department UTT No 1 Test bench for cargo lifting units Polgano-Nenets Autonomous Area) Test bench for towers (masts) of lifting units   |  |  |
| 2010-<br>2011<br>2011-<br>2013<br>Rosneft (D<br>2018<br>Transneft. | Test bench for towers (masts) of lifting units for Talakan Process Transport Department UTT No 1 Test bench for cargo lifting units Polgano-Nenets Autonomous Area) Test bench for towers (masts) of lifting units Transneft. Oil Pumps, JSC Konar CJSC  |  |  |
| 2010-<br>2011<br>2011-<br>2013<br>Rosneft (D<br>2018<br>Transneft. | Test bench for towers (masts) of lifting units for Talakan Process Transport Department UTT No 1 Test bench for cargo lifting units Polgano-Nenets Autonomous Area) Test bench for towers (masts) of lifting units Transneft. Oil Pumps, JSC Konar CJSC Design of process part for pump test bench. Manufacture and supply of process equipment for the pump test bench  |  |  |
| 2010-<br>2011<br>2011-<br>2013<br>Rosneft (D<br>2018<br>Transneft. | Test bench for towers (masts) of lifting units for Talakan Process Transport Department UTT No 1 Test bench for cargo lifting units Polgano-Nenets Autonomous Area) Test bench for towers (masts) of lifting units Transneft. Oil Pumps, JSC Konar CJSC Design of process part for pump test bench. Manufacture and supply of process equipment for the pump test bench Design, supply, installation and commissioning of equipment for test center cooling tower  |  |  |
| 2010-<br>2011<br>2011-<br>2013<br>Rosneft (D<br>2018<br>Transneft. | Test bench for towers (masts) of lifting units for Talakan Process Transport Department UTT No 1 Test bench for cargo lifting units Dolgano-Nenets Autonomous Area) Test bench for towers (masts) of lifting units Transneft. Oil Pumps, JSC Konar CJSC Design of process part for pump test bench. Manufacture and supply of process equipment for the pump test bench Design, supply, installation and commissioning of equipment for test center cooling tower Device for assembly and disassembly of pump rotors   |  |  |
| 2010-<br>2011<br>2011-<br>2013<br>Rosneft (D<br>2018<br>Transneft. | Test bench for towers (masts) of lifting units for Talakan Process Transport Department UTT No 1 Test bench for cargo lifting units Polgano-Nenets Autonomous Area) Test bench for towers (masts) of lifting units Transneft. Oil Pumps, JSC Konar CJSC Design of process part for pump test bench. Manufacture and supply of process equipment for the pump test bench Design, supply, installation and commissioning of equipment for test center cooling tower Device for assembly and disassembly of pump rotors Multi-purpose pumping assembly for oil lubrication and cooling for sliding bearings of mainline pumping units   |  |  |
| 2010-<br>2011-<br>2013<br>Rosneft (D<br>2018<br>Transneft.<br>2015 | Test bench for towers (masts) of lifting units for Talakan Process Transport Department UTT No 1 Test bench for cargo lifting units <b>Dolgano-Nenets Autonomous Area)</b> Test bench for towers (masts) of lifting units <b>Transneft. Oil Pumps, JSC Konar CJSC</b> Design of process part for pump test bench. Manufacture and supply of process equipment for the pump test bench Design, supply, installation and commissioning of equipment for test center cooling tower Device for assembly and disassembly of pump rotors Multi-purpose pumping assembly for oil lubrication and cooling for sliding bearings of mainline pumping units Bench for pressure and strength hydraulic testing of pump houses                                  |  |  |
| 2010-<br>2011-<br>2013<br>Rosneft (D<br>2018<br>Transneft.<br>2015 | Test bench for towers (masts) of lifting units for Talakan Process Transport Department UTT No 1 Test bench for cargo lifting units Dolgano-Nenets Autonomous Area) Test bench for towers (masts) of lifting units Transneft. Oil Pumps, JSC Konar CJSC Design of process part for pump test bench. Manufacture and supply of process equipment for the pump test bench Design, supply, installation and commissioning of equipment for test center cooling tower Device for assembly and disassembly of pump rotors Multi-purpose pumping assembly for oil lubrication and cooling for sliding bearings of mainline pumping units Bench for pressure and strength hydraulic testing of pump houses Washing Installation of piping internal cavity |  |  |









| 2018  | Production of pipe durability test bench (Transneft-Diascan)      |  |
|---|---|--|
| Uralmash-NGO Holding. Uralmash-Drilling Equipment CJSC (Ekaterinburg) |   |  |
| 2007  | Mobile modular electric steam generator PGM 500                   |  |
| Innovative development for well testing                               |   |  |
| 2013  | Hydraulic unit for oil production by submersible sucker rod pumps |  |









#### **Quality Policy**

Ural Engineering Center is a specialized engineering enterprise for the development of both individual technological units and integrated lines for various industrial complexes.

The company is aimed to design and manufacture equipment meeting requirements and expectations of consumers in terms of quality, functional characteristics and purpose.

#### Main activities in the field of quality:

- Keeping and strengthening the position of high-quality product manufacturer;
- Provision of consumers with products of adequate quality and in terms established by contracts;
- Development and implementation of new products and services;
- Development of partnerships and strengthening the prestige of a reliable partner;
- Making sustainable profits to improve financial stability of the company and welfare of each employee.

#### Implementation of the quality policy through:

- Improvement and provision of compliance with ISO 9001: 2015;
- Leadership of top management and managers of each department in quality improvement activities, permanent demonstration of commitment to quality improvement through personal example and involvement of staff in the quality management process;
- Systematic study of consumer demand to meet customer requirements and expectations more completely and expand markets;
- Application of modern technologies, new equipment and production upgrades;
- Product quality control at all stages, taking corrective and preventive measures timely;
- Empowering each employee with required authority and responsibility for the quality of the work performed;
- Maintaining the required level of staff competency through certification, retraining and professional development.

Quality management system of Ural Engineering Center, LLC is certified and successfully applied in accordance with ISO 9001: 2015.

#### TUV certificate of quality management system by ISO 9001:2015

#### **Certificates**, licenses

Ural Engineering Center, LLC is certified by:

<u>SSRO</u> and <u>PSRO</u> certificates of admission to the some kind works for self-regulating organization

Ural Engineering Center, LLC is a member of UralZhilKomStroy, Union of self-regulating organizations, Registration No. 0264 dated January 13, 2012

Ural Engineering Center, LLC is a member of REPRA non-commercial partnership of self-regulating organizations, <u>Certificate of conformity for hydraulic cylinders</u>

Certificate of conformity for the hydraulic electric stations

certificate of registration as "Leading organizations of Russia" http://www.cheltec.ru/Licenses/ - ved









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