

Comprehensive solutions
for industrial engineering

RESEARCH AND PRODUCTION ENTERPRISE
TECHVAGONMASH



Special process equipment for transport
machine building enterprises



Research & Production Enterprise «Techvagonmash» has a forty-year experience of design and manufacturing of special process equipment for enterprises of transport machine building.

Our company is a legal successor of VNIPTIvagon (All-union scientific research design technological institute of railway car building) – head technological organization on design of transport machine building enterprises.

The main areas of the company's activity are:

- ▶ comprehensive design and equipping of transport machine building enterprises;
- ▶ design and manufacturing of special process equipment for railway cars manufacture;
- ▶ process equipment for railroad cars repair;
- ▶ robot-operated welding units;
- ▶ shotblasting equipment;
- ▶ paint and drying booths;
- ▶ filter-ventilating equipment.



Independent audit, performed by the representatives of Quality Austria – a world leader in the sphere of quality management systems certification confirmed the compliance of the Research and Production Enterprise «Techvagonmash» quality management system to the requirements of international standard ISO 9001:2008.



Research and Production Enterprise Techvagonmash is certified for compliance to the following requirements of international standards:

- ISO 3834-2:2005 – «Quality requirements for fusion welding of metallic materials – Part 2: Comprehensive quality requirements»;
- EN 1090-1:2009+A1:2011 – «Execution of steel structures and aluminium structures. Requirements for conformity assessment of structural components».



TURNKEY PROJECTS

Vast experience, technological and manufacturing abilities allow us implementing turnkey projects in the following areas:

- Vessels manufacturing.
- Manufacturing of towed vehicles and attached implements for commercial transport.
- Rail social transport manufacturing.
- Freight cars manufacturing.



Our competitive advantage is that the company renders a full package of services: from designing stage to supervised installation and commissioning stage including manufacturing of special process equipment.

01

PRE-DESIGN WORKS

Pre-design works allow to assess the feasibility of the project in certain conditions, evaluate the cost and the terms of the work performance, and discover the problems which may occur in the process of project implementation.

02

PROCESS ENGINEERING PART OF THE DESIGN

When developing the process design, the issues of main equipment choice are determined as well as process engineering, labor intensity calculation, flow process chart, schematic diagrams of production mechanization, functional and organizational structures development.

03

SPECIAL PROCESS EQUIPMENT DESIGN

All the developments and designing of the output products are carried in automated way using up-to-date CAD-systems.

04

PROCESS EQUIPMENT MANUFACTURING

The company has its own production facilities which allows manufacturing high-quality, high-tech equipment.

05

SUPERVISED INSTALLATION AND COMMISSIONING

- installation and commissioning;
- designer supervision;
- training of the Customer's specialists;
- adjusting of engineering processes and output of a product trial lot.

06

PERSONNEL TRAINING

Customer's personnel are trained to operate the equipment, carry out its setting, diagnostics and servicing.

07

PROVING OUT OF TECHNOLOGY

Techvagonmash in cooperation with the Customer carries out the technology proving out and trial consignment production.

08

SERVICE MAINTENANCE

We provide the full range of aftersales services, immediate delivery of spare parts, and remote diagnostics of equipment.

PRODUCT RANGE

SHOT BLASTING AND PRESERVATION LINES FOR METAL-ROLL



Shot blasting and preservation line for metal-roll



Shotblasting chamber for cleaning of metal-roll



Spray chamber

SHOT BLASTING EQUIPMENT



Overhead rail conveyor shot blasting machine



Roller Conveyor Shot Blast Machines



Pipe shot blasting machine

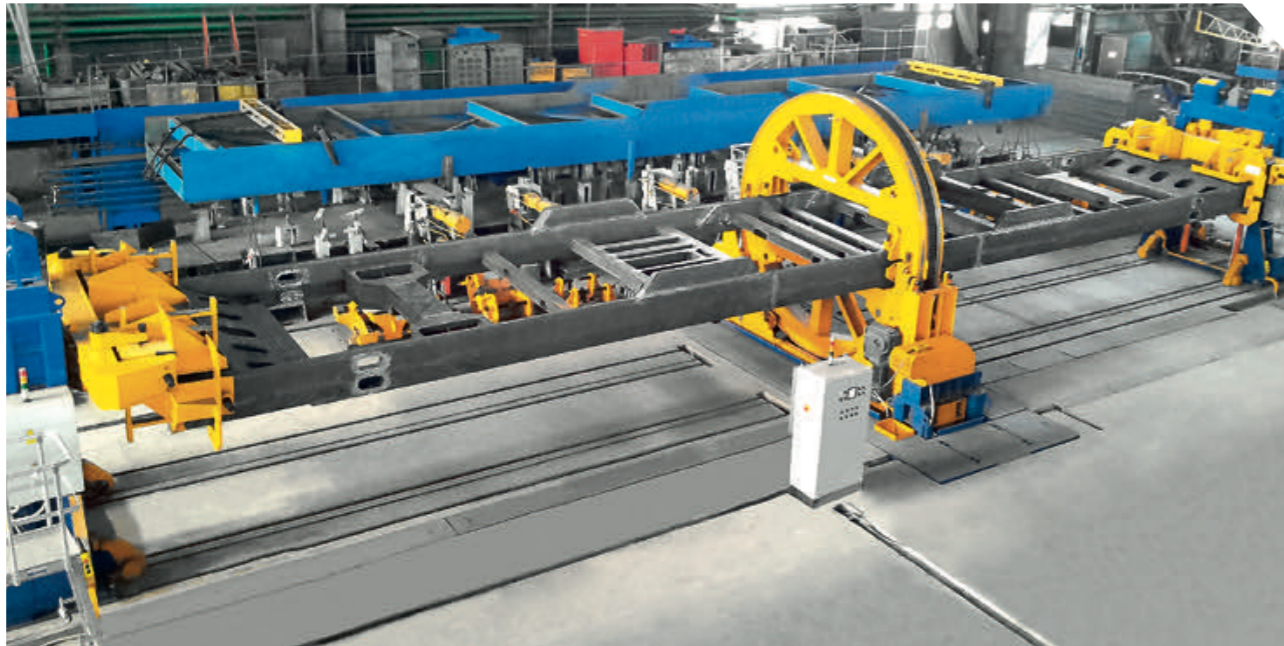


Shot blasting chamber for welded structures blast cleaning



Shotblasting chamber with a turntable

ROTATORS AND POSITIONERS



Positioner with vertical lift for electric locomotive underframes welding, load carrying capacity 40 t



Positioner with vertical lift, load carrying capacity 15 t



Positioner stand with vertical lift and a support ring (for long and non-rigid products)



Positioner with vertical lift, load carrying capacity 4,5 t



Positioner with vertical lift for passenger cars roofs welding



Overhead rotator



Ring type rotator



Chain rotator



Chain rotator



Welding rotator

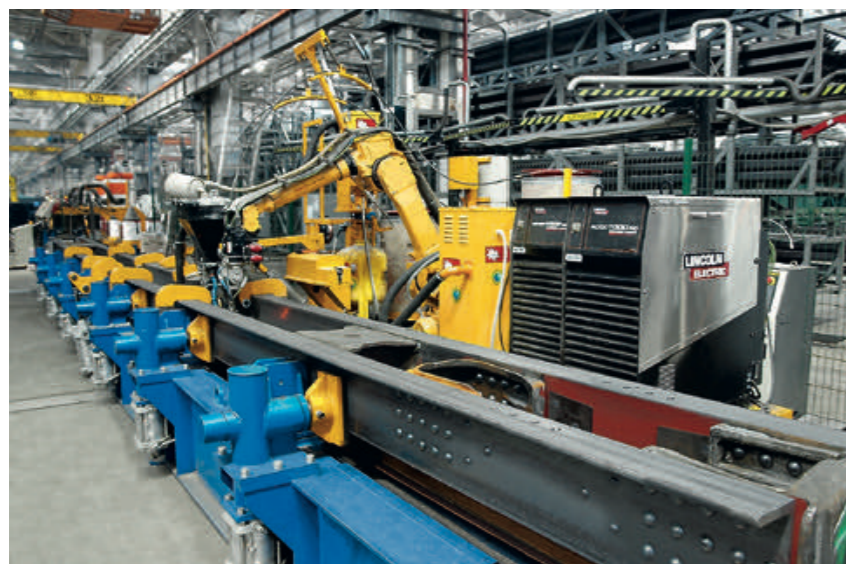


Roller rotators

CENTER SILL ASSEMBLY LINE



ROBOTIC CENTER FOR CENTER SILL LONGITUDINAL SEAM WELDING



STAND FOR AUTOMATIC WELDING OF A CENTER SILL WITH I-BEAM



EQUIPMENT FOR RIVETING



Riveting plant



Rivets heating furnace

STANDS FOR ASSEMBLY AND WELDING OF CAR CROSSBEARERS



Bolsters assembly and welding line



Front beams assembly stand



Intermediate beams assembly and welding line

ROBOTIC CENTER FOR ASSEMBLY AND WELDING OF FREIGHT CAR CROSSBEARERS



EQUIPMENT FOR RAILWAY CAR UNDERFRAMES ASSEMBLY AND WELDING



Overhead rotator



Overhead Positioner for underframe welding



Gondola car underframes assembly and welding stand

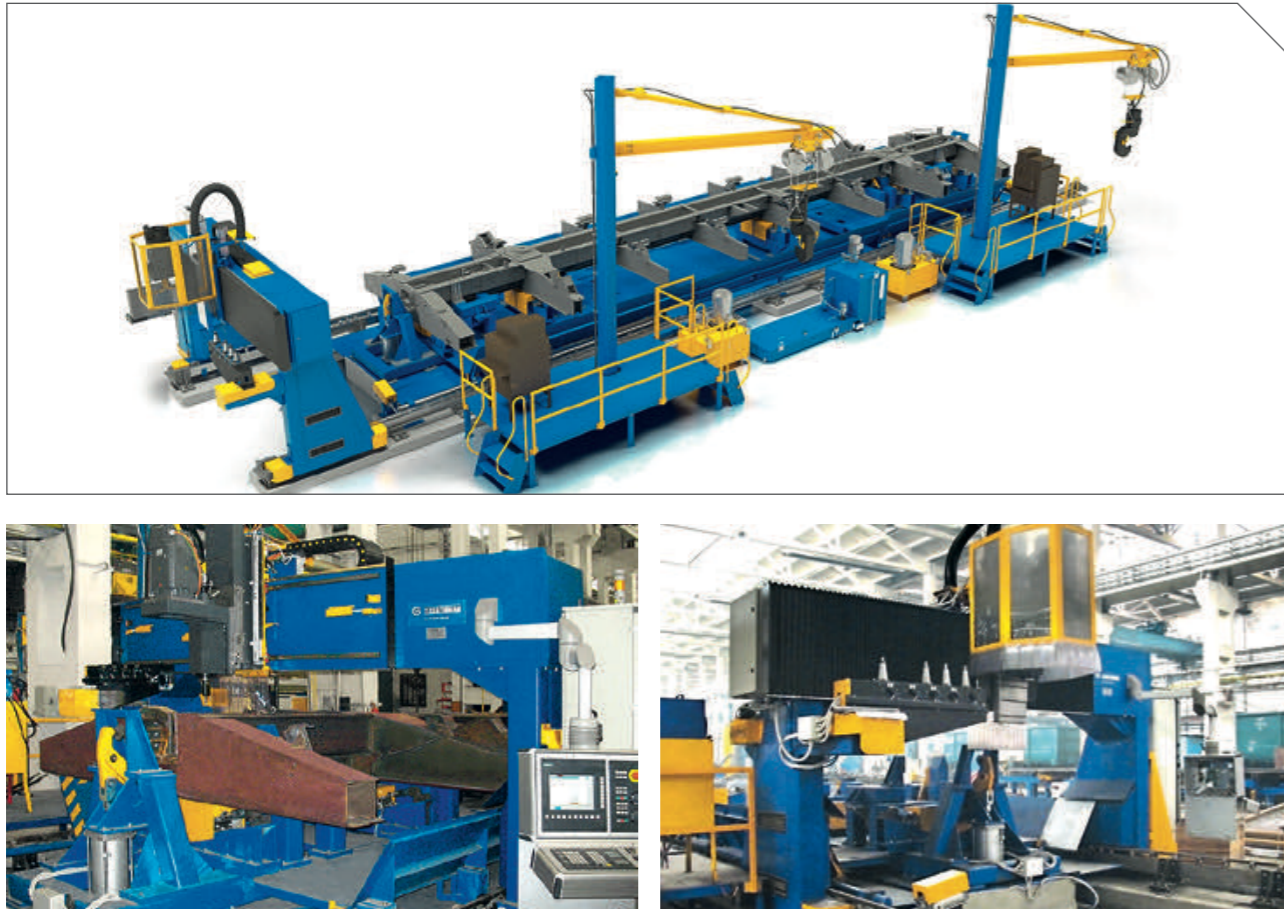


Multipurpose stand for diesel locomotive frames assembly



Multipurpose jig for assembly of freight car underframes

CAR UNDERFRAMES DRILLING AND RIVETING LINE

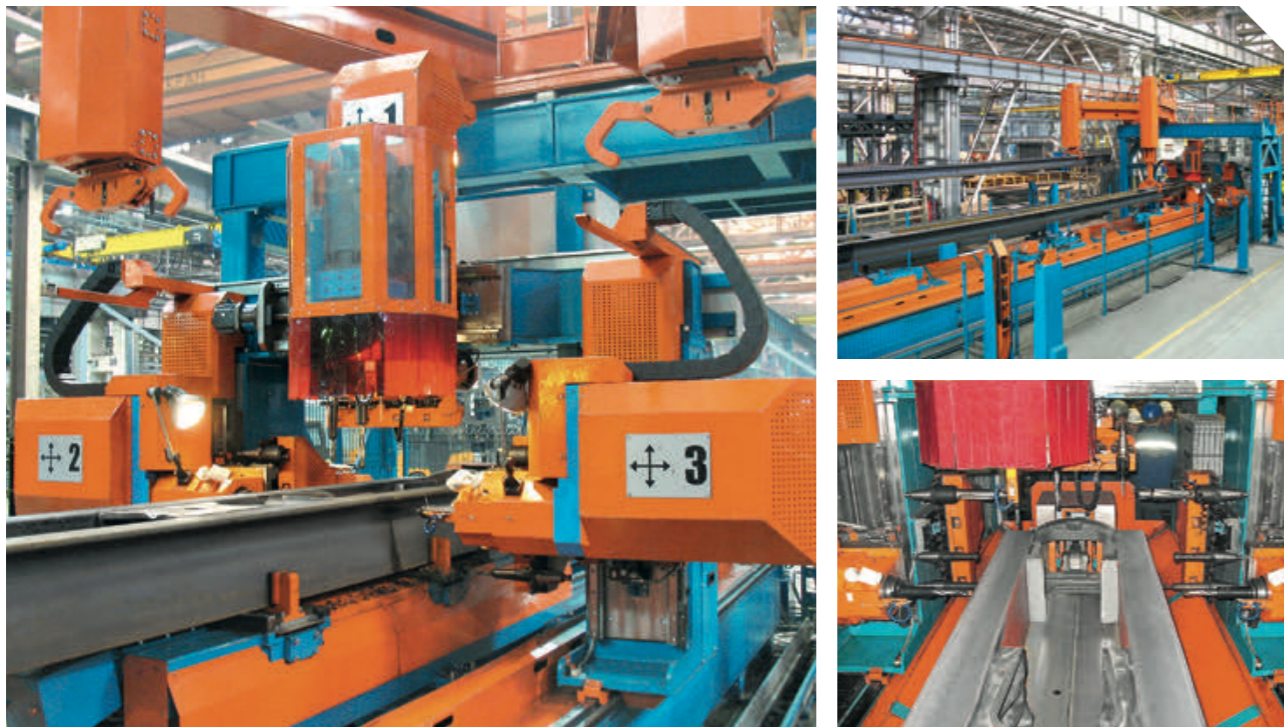


EQUIPMENT FOR ASSEMBLY AND WELDING OF GONDOLA CARS SIDE WALLS



Gondola car side walls automated welding center

AUTOMATED LINE FOR FREIGHT CARS CENTER SILL DRILLING



ROBOTIC CENTER FOR WELDING OF GONDOLA CAR END WALLS



EQUIPMENT FOR BODY ASSEMBLY AND WELDING



Gondola car body assembly and welding stand



Rotator for body welding



Stand for hopper cars bodies assembly

EQUIPMENT FOR GONDOLA CAR HATCH COVERS MANUFACTURE



Integrated mechanized line for assembly and welding of gondola car hatch covers



AUTOMATED LINE FOR CENTER SILL I-BEAM AND SIDE SILL MANUFACTURE



JACKS



Mobile jacks for locomotives



Mobile jacks

EQUIPMENT FOR TANKS AND VESSELS MANUFACTURE



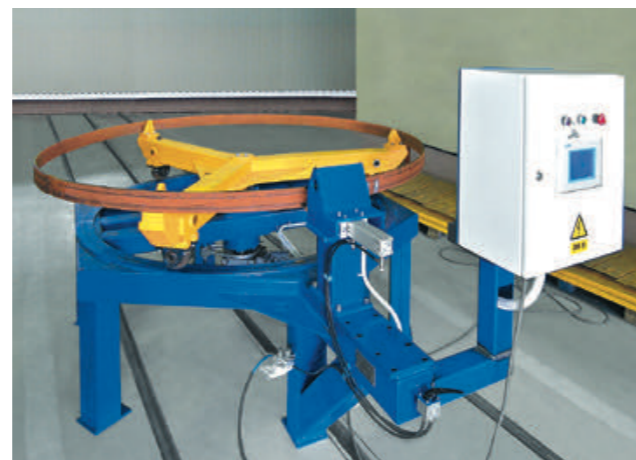
Tank assembly and welding line



Head-to-shell assembly stand



Stand for recess making



Heads measuring and selection stand



Sheet assembly and welding line



Tank head assembly and welding, edges

EQUIPMENT FOR TANKS AND VESSELS MANUFACTURE



Hydrotest stand

EQUIPMENT FOR TANKS AND VESSELS MANUFACTURE

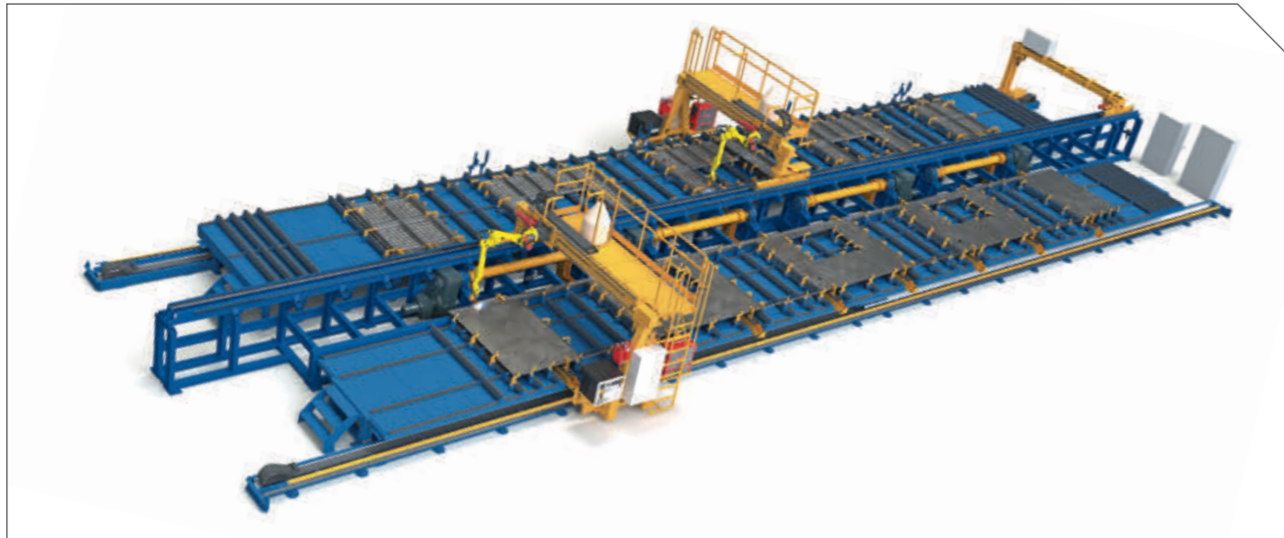


Shells welding stand

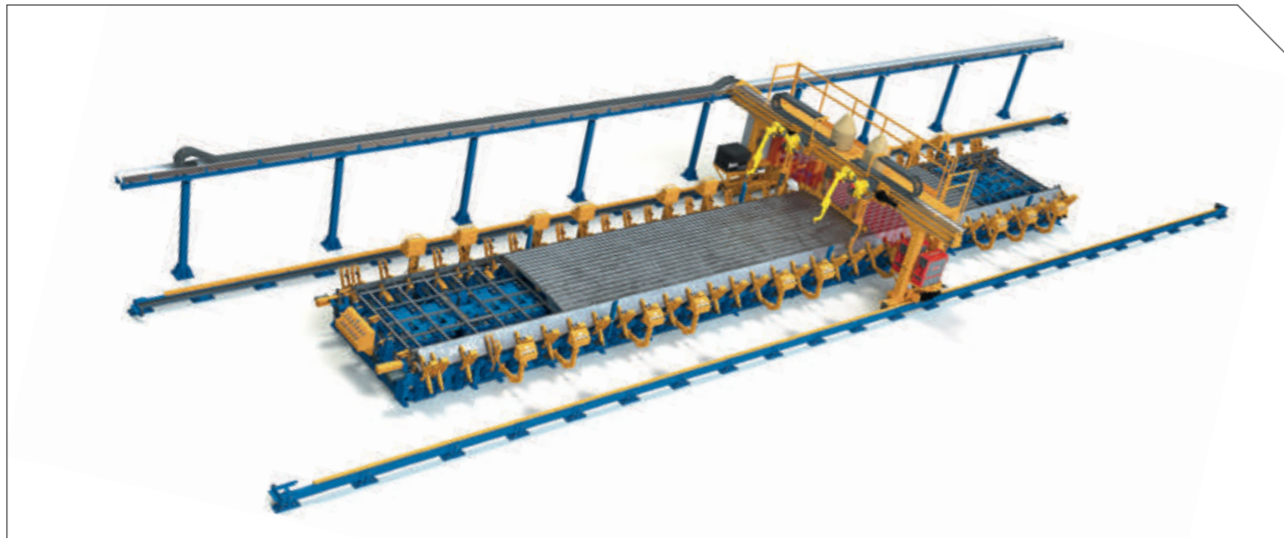


Carrying rollers with different load capacity

PUBLIC TRANSPORT MANUFACTURING EQUIPMENT



Robotic center for metro car side walls welding



Robotic center for metro car roof welding



Multipurpose stand for assembly and welding of passenger car underframes

PUBLIC TRANSPORT MANUFACTURING EQUIPMENT

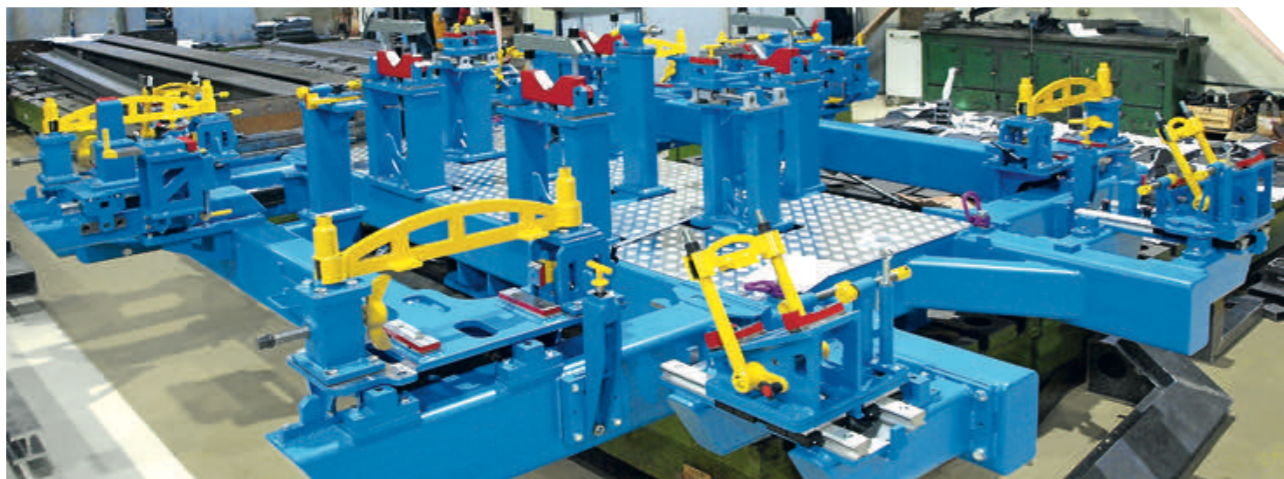


Multipurpose stand for passenger car roofs assembly and welding



Elevating scaffold

PUBLIC TRANSPORT MANUFACTURING EQUIPMENT



Bogie frames assembly stand



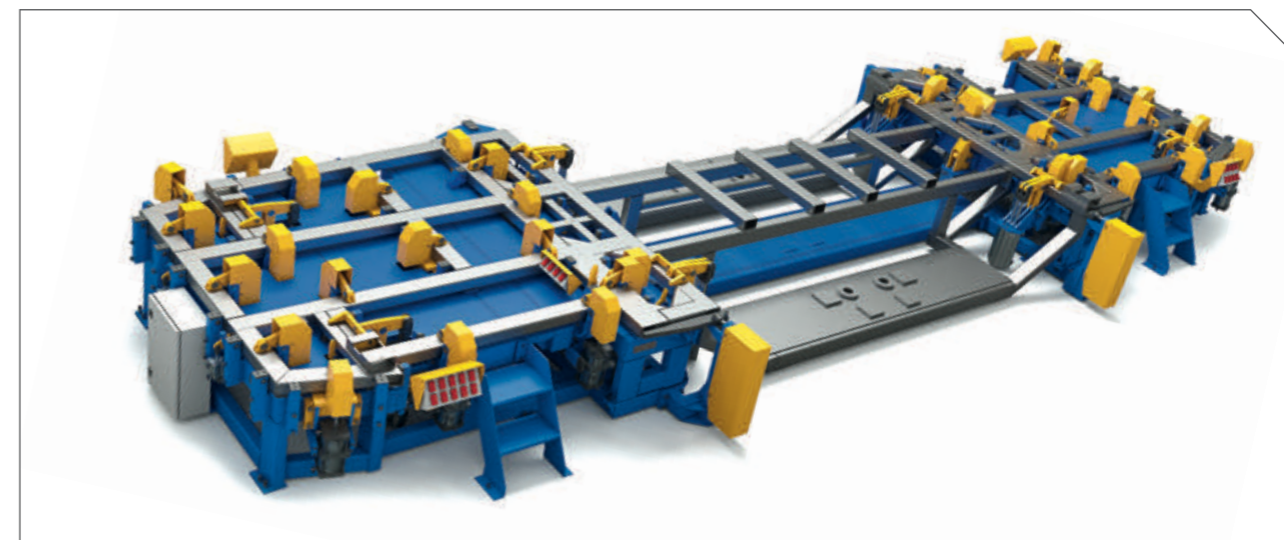
Bogie frame beams assembly stand



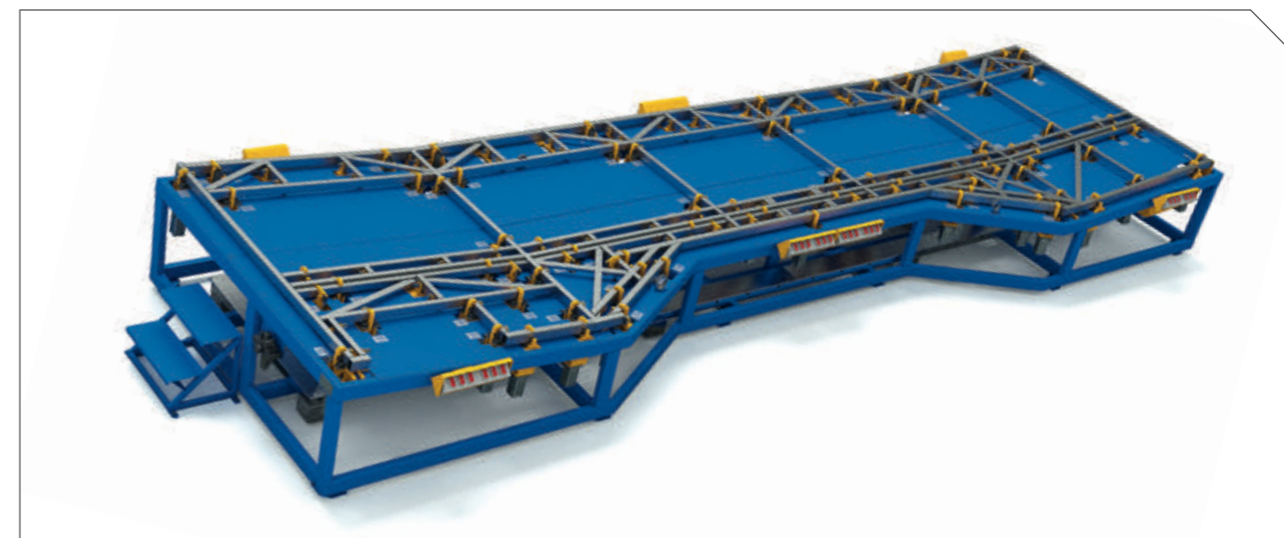
Robotic center for tram roof welding



Tram sections joint frames welding and drilling stand



Multipurpose stand for assembly of front and rear frames



Multipurpose stand for sidewalls assembly

EQUIPMENT FOR SURFACE PREPARATION AND PAINTING



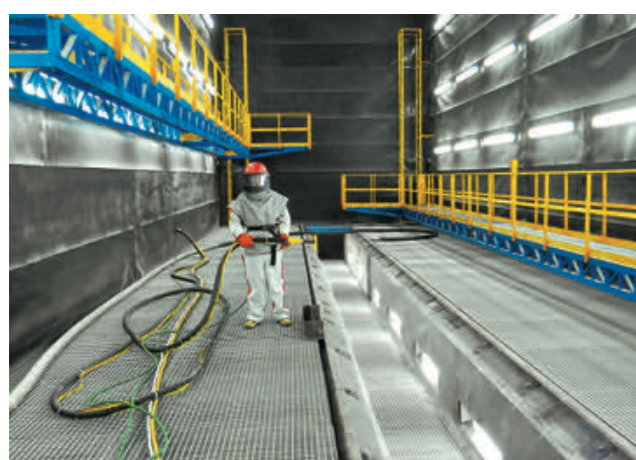
Spray and drying booth



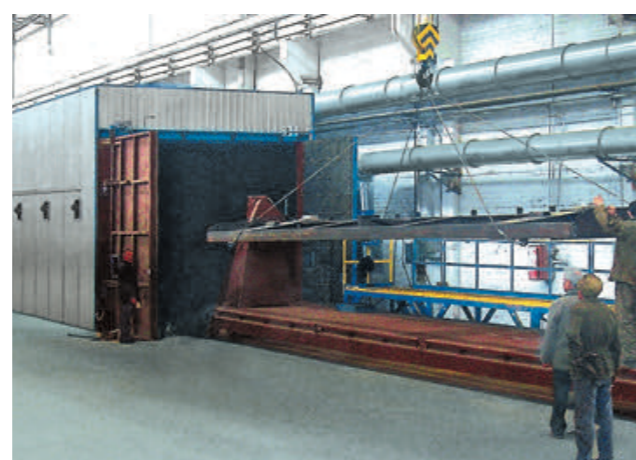
Elevated access platforms for operators



Spray and drying booth



Shotblasting chamber with elevated access platforms



Shotblasting chamber

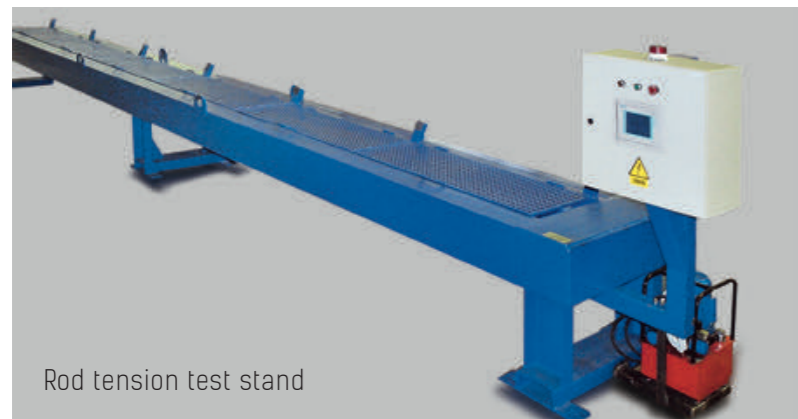
WHEELS PAINTING LINE



AXLES PAINTING LINE



EQUIPMENT FOR RAILWAY CARS BRAKE SYSTEM MANUFACTURE



Rod tension test stand



Stand for automatic head-to-shell welding



Car brake system test stand



Head-to-shell assembly stand



Shotblasting plant for cleaning of pipes inner surface



Pipes magnetic particle inspection stand



Bath for pipes testing

UTILITY VEHICLES



Traverser



Traverser



Transporting carriage



Traverser



Turntable

AUTOMATED RACK-TYPE STORAGE SYSTEM



AUTOMATED STORAGE SYSTEMS FOR METAL-ROLL



Automated storage system for section material



Automated storage system for sheet products

QUALITY SYSTEM

COMPANY'S POLICY IN THE SPHERE OF QUALITY ASSURANCE IS AIMED AT MEETING THE HIGHEST REQUIREMENTS OF THE CUSTOMERS, AND IT IS BASED ON OVERALL OBSERVATION OF NATIONAL AND INTERNATIONAL QUALITY STANDARDS, ON PRODUCTION CERTIFICATION AND ALL PRODUCT TYPES CERTIFICATION.

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PATENTS

Research & Production Enterprise «Techvagonmash» owns a great number of know-how, patents and engineering solutions related to constructive decisions of output and developed products.



REFERENCE LIST

Our customers are large-scale enterprises of transport machine-building, metal structures manufacture plants, power machine building enterprises.

During the last years our enterprise has developed a number of projects and has taken part in equipping of all railroad car building plants which are under construction.





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