Techwagonmash

COMPREHENSIVE SOLUTIONS

# Special-purpose technological equipment for companies in the transport engineering sector




# CONTENTS

# TURNKEY PROJECTS

Extensive experience, technological and production capabilities allow us to implement turnkey projects in the following areas:

- tanks production;
- production of mounted and trailed equipment for commercial vehicles;
- production of rail-based public transport;
- production of freight wagons.



One of our key competitive advantages is the ability to deliver a comprehensive range of services — from design and engineering to supervision installation and commissioning — including the in-house production of specialized technological equipment.

01

## PRE-PROJECT STUDIES

Pre-project studies allow the Customer to assess the feasibility of the planned work under specific conditions, to obtain a preliminary estimate of the project's cost and timeline, and to identify potential challenges and ways to address them.

02

## DEVELOPMENT OF THE TECHNOLOGICAL PART OF THE PROJECT

During the development of the technological part of the project, the following issues are addressed: selection of main equipment, justification of technical solutions and technological processes, data on production organization, information on the labor intensity of manufacturing processes, basic diagrams of technological processes and production mechanization, material flow diagrams, and the functional and organizational structure scheme.

03

## DESIGN OF SPECIALIZED TECHNOLOGICAL EQUIPMENT

All development and design of the manufactured equipment are carried out using automated methods with the application of state-of-the-art CAD systems.

04

## MANUFACTURING OF SPECIALIZED TECHNOLOGICAL EQUIPMENT

The enterprise operates its own manufacturing base, which allows for the production of high-quality, technologically advanced equipment.

05

## SUPERVISED INSTALLATION AND COMMISSIONING SERVICES

- installation and commissioning;
- construction supervision by the design team;
- training of the Customer’s specialists;
- fine-tuning of technological processes and pilot production run.

06

## PERSONNEL TRAINING

Customer personnel are trained in equipment operation, adjustment, diagnostics, and maintenance.

07

## PROCESS VALIDATION

RPE «Techvagonmash», in collaboration with the Customer, fine-tunes technological processes and manufactures a pilot batch of products.

08

## AFTER-SALES SERVICE

We offer comprehensive after-sales support, guarantee timely spare parts supply, and perform remote equipment diagnostics.

# Equipment for the production of cross beams

Techwagonmash offers a full range of cutting-edge equipment, enabling efficient and high-quality manufacturing of cross beams for freight wagons.

The fixtures are designed taking into account the following parameters:

- allowable geometric deviations of the structure;
- load characteristics of the fixation points;
- types of welding technologies used (manual, semi-automatic, robotic);
- ergonomics and safety of the work areas.

Modular solutions with quick reconfiguration for different beam sizes are also available.

Robotic center for welding of freight wagons cross beams

Wagons cross beam welding fixture

Multipurpose stand for wagon underframes assembly and welding

Assembly stand for end beams of gondola wagons

Assembly and welding line for body bolster beams

Robotic center for welding of cross beams

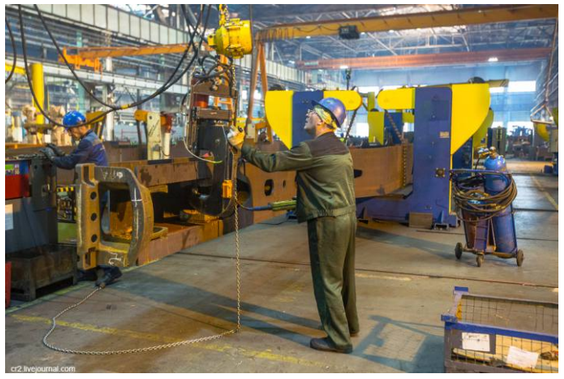
# Equipment for the production of center sills

Our equipment is engineered for the precise assembly, secure fixation, and high-quality welding of center sills for a wide range of freight wagon frame models. It guarantees exceptional geometric accuracy, superior weld integrity, and consistent, reliable production efficiency.

Our solutions include:

- automated and semi-automated lines for the assembly of profile components, ensuring high-precision positioning;
- welding modules utilizing MIG/MAG and submerged arc welding (SAW) technologies, including options for process robotic automation;
- fixation and centering systems that prevent deformation and deviations from specified geometry during welding;
- inspection and measurement equipment for prompt verification of finished product parameters;
- integration into existing production workflows, considering logistics, labor intensity, and the Customer's technical requirements.

Automated robotic welding complex for center sills of freight wagons



Chain rotator

Ring-type rotator

Assembly stand for center sills of tank wagons

Automated welding fixture for center sills of tank wagons

Automatic welding stand for center sill and I-beam welding

Center sill assembly fixture

Assembly jig for center sills

Automatic welding stand for center sill and I-beam welding

Automatic welding stand for variable cross-section I-beams

# Equipment for the wagon frames production

Our company specializes in the design and production of custom assembly and welding stands for freight and passenger rail wagon frames, fully adapted to the customer's technical specifications and design constraints.

Our solutions ensure high geometric accuracy, ease of operation, and maximum reliability under the demanding conditions of heavy-duty manufacturing environments. The fixtures are designed using advanced 3D modeling technologies, and manufacturing is carried out in full compliance with all quality and safety standards.

Key advantages of our stands:
- high precision in component positioning;
- robust and reliable structural design;
- adaptability to different frame types;
- easy maintenance and upgrade options.

Gondola wagons underframes assembly and welding stand

Drilling and riveting stand for underframes

Hopper car frame positioner

Hanging rotator

Headstock and tailstock positioners

Multipurpose stand for wagon underframes assembly and welding

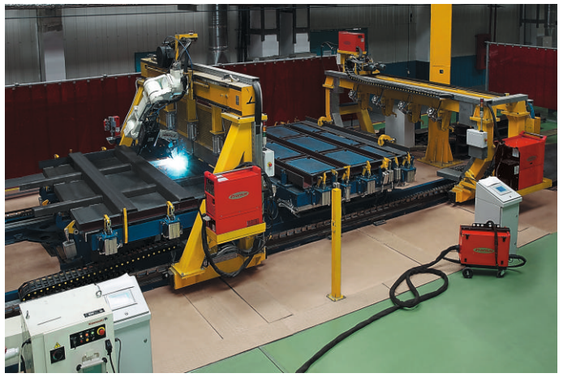
Robotic complex for welding frames

# Equipment for the production of walls

We offer specialized equipment for mechanized and automated assembly and welding of freight wagon sidewalls.Our solutions are focused on high productivity, assembly precision, and the long-term durability of welded joints.

Our product range includes:
- assembly stands for side and end wall structures;
- welding units;
- fixation and positioning systems for structural components;
- custom solutions for both standard and non-standard railcar platforms.

The equipment is designed for intensive operation in serial and large-scale production environments.Customization is available to meet specific customer requirements, including dimensions, weight, assembly layout, and applicable welding standards.



Robot-aided stand for gondola wagon end walls assembly and welding

Robot-aided stand for gondola wagon end walls assembly and welding

Plant for assembly and automatic welding of gondola wagon side walls

Plant for assembly and automatic welding of gondola wagon side walls



# Equipment for the production of roofs

Techwagonmash offers comprehensive solutions for the design and manufacturing of specialized equipment for the assembly and welding of freight wagon roofs of various types — including hopper wagons, boxcars, and baggage wagons.

Our technologies ensure:
- high precision of welding operations in full compliance with the stringent requirements of the railway industry;
- increased productivity of assembly lines through automation and ergonomic design;
- reliability and operational safety of the equipment;
- a tailored approach to each project — we develop solutions based on the specific needs of your production process.

We offer both individual welding stations and fixtures, as well as fully integrated turnkey assembly lines.Our team has extensive experience in delivering projects for leading rolling stock manufacturers and provides a high level of technical support throughout all stages of cooperation.

Multipurpose stand for assembly of boxcar roofs

Multipurpose stand for hopper cars roof assembly and welding

Multipurpose bench for assembly and welding of baggage wagon roofs

Multipurpose stand for hopper cars roof assembly and welding

# Riveting equipment

When it comes to manufacturing freight components where structural strength and longevity are paramount, reliable riveting is key.
Our purpose-built riveting machines guarantee consistent joint quality and significantly boost production efficiency.

Center sill riveting plant

Riveting installation

Rivet heater

Hydraulic clamp

# Gondola wagon hatch production lines

This production line is intended for the assembly and welding of hatch covers for freight wagons. The workflow is organized as a conveyor-based continuous assembly process.

Gondola wagon hatch production line

Gondola wagon hatch production line

Hatch cover welding positioner

# Equipment for the production of wagon bodies

The company delivers a full-cycle solution — from design and manufacturing to implementation of specialized technological equipment, including:

- assembly jigs and fixtures for the construction of frames and body panels;
- welding systems offering automatic, semi-automatic, or manual welding capabilities, tailored to the dimensions and geometry of the products;
- transport and positioning systems for precise movement and fixation of components during assembly and welding processes;
- modular and robotic stations seamlessly integrated into existing production lines.

Stand for hopper cars bodies assembly

Assembly stand for gondola wagon body

Positioner for wagon body

# Lifting jacks

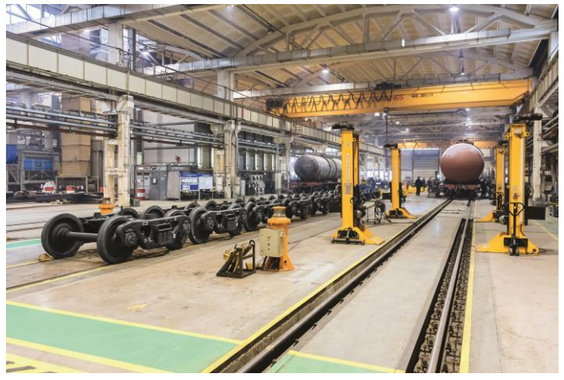
Lifting jack systems are designed to perform technological operations involving the lifting of equipment during manufacturing, repair, and maintenance of rolling stock.

- Lift control is operated via one of four control panels, selectable by the operator;
- full synchronization of lifting drive units ensures smooth and balanced operation;
- the control and signaling system's component base includes automatic circuit breakers, contactors, and overload relays from Moeller and Siemens (Germany);
- lifting jack systems are suitable for both outdoor (specialized weatherproof design) and indoor use;
- equipped with visual and audible alert systems and sensor arrays to guarantee uniform lifting performance.

Stationary jacking unit — 60 ton capacity

Stationary jacking unit — 160 ton capacity

Mobile jacking unit — 28 ton capacity



Mobile jacking unit — 28 ton capacity

# Automated drilling complexes

Techwagonmash offers advanced automated drilling complexes specially designed to meet the needs of rolling stock manufacturing enterprises. Our equipment incorporates cutting-edge technologies, delivering high productivity, precision, and reliability in component processing.

**Advantages of Automated Drilling Complexes from Techwagonmash:**

**High Productivity**
Our drilling complexes efficiently process large batches of components at high speed with minimal downtime. Automation eliminates equipment idle time, significantly increasing overall production output.

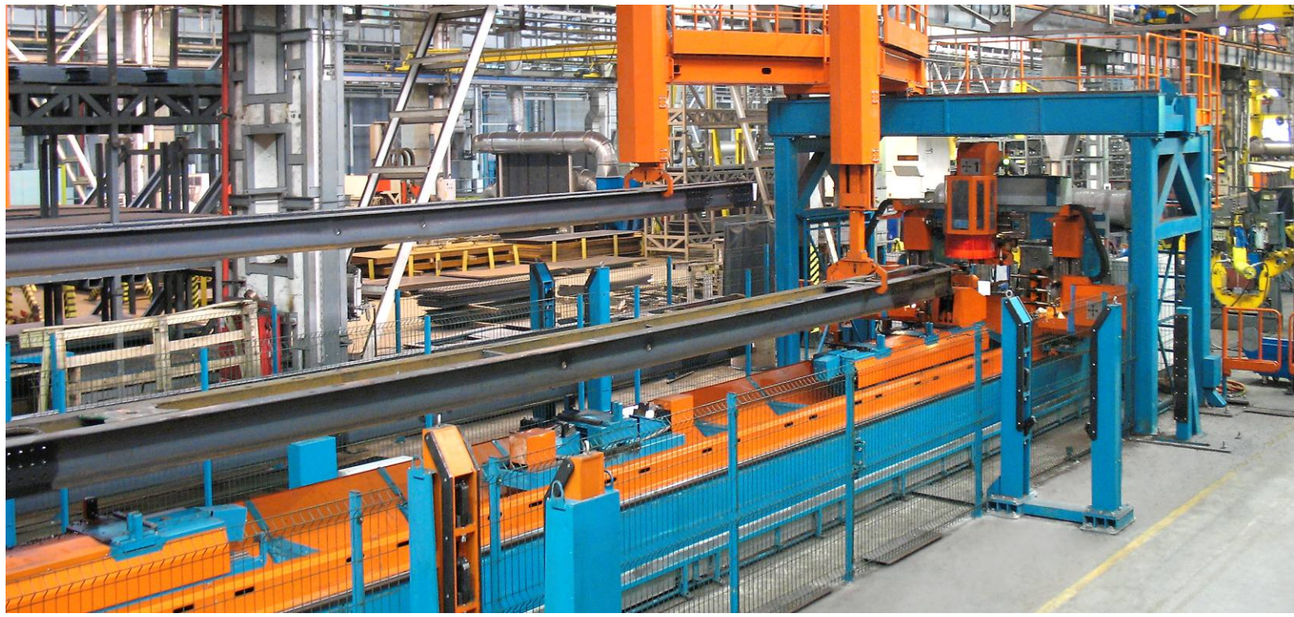
**Maximum Precision**
Equipped with advanced CNC systems and high-quality components, our complexes ensure precise drilling accuracy — critical for rolling stock manufacturing where every millimeter counts.

**Resource Efficiency**
Automation reduces energy and material consumption, optimizing production costs. Additionally, automatic process control minimizes errors and defective products.

**Flexibility and Adaptability**
Our complexes easily adapt to specific production needs. You can configure the equipment to drill components of various sizes and shapes, meeting any customer requirements.

**Reliability and Durability**
Constructed from high-strength materials, the equipment offers a long service life with minimal maintenance expenses.

**Seamless Integration into Production Lines**
Our drilling complexes integrate smoothly into existing automated lines and can be part of comprehensive production modernization solutions.



Automated complex for drilling of freight wagon centre sills (2 drilling gantries)


Automated complex for drilling of freight wagon centre sills (drilling gantry)

Automated complex for drilling of freight wagon frames

Automated complex for drilling of freight wagon centre sills

Line for center sill I-beam and bottom chord manufacturing

# Equipment for the production of tanks

Techwagonmash has many years of experience in manufacturing specialized technological equipment for tank shell production.

We provide integrated solutions for tank shell manufacturing automation projects, including conveyor systems for the transportation of workpieces and finished products, automated welding lines for sheet panel assemblies, assembly equipment for welding shells to end caps, fully automated tank shell welding lines.
All equipment is engineered in accordance with the customer's production program and specific facility conditions.

Tank shell assembly and welding line

Tank shell assembly and welding line

Sheet welding jig

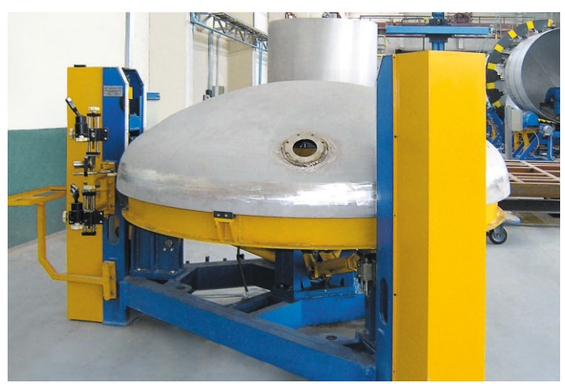
Stand for hydraulic and pneumatic tests of tanks

Plant for making drains in the bottom of tank shells

Tank shell-to-end cap assembly station

Roller beds

Stand for welding tank shells



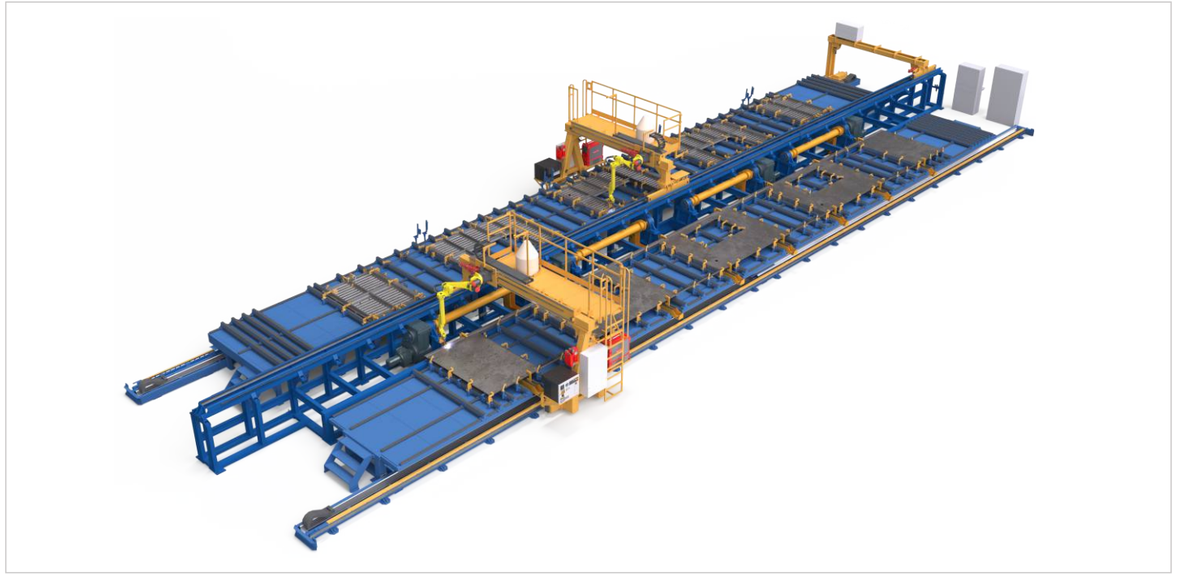
Stand for assembly, welding and trimming of tank container heads

# Robotic complex for welding metro car roofs

This flexible robotic system is engineered for high-precision assembly and welding of metro car roofs. With rapid retooling functionality, it seamlessly adapts to produce two distinct roof models. Interchangeable fixtures enable efficient and accurate assembly of both roof frame types, ensuring optimized throughput and production versatility.

# Robotic complex for assembly and welding of sidewalls of metro car bodies

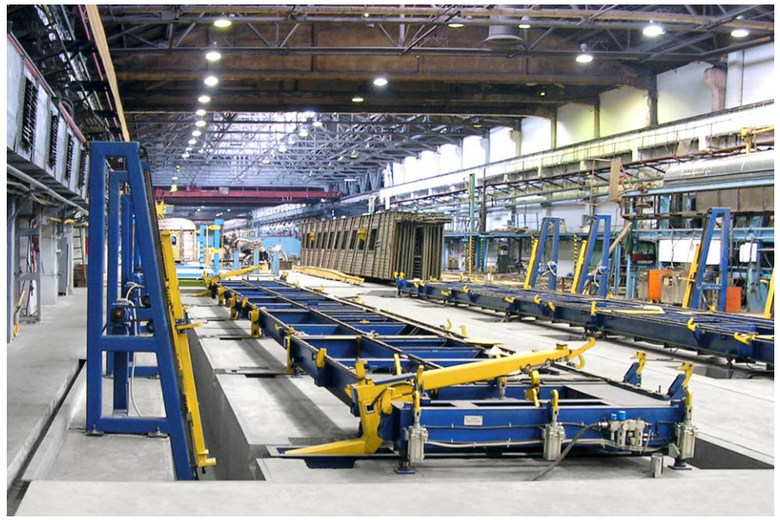
The robotic system is designed for automated assembly and welding of metrowagon body sidewalls, delivering high precision, repeatability, and production efficiency. This solution provides full integration of clamping, positioning, welding, and quality control processes within a unified production cycle.



## Multipurpose automated welding station for metro wagon roof panel sections

## Multipurpose stand for metro wagon roof assembly

## Jig for assembly and welding of passenger wagon side walls

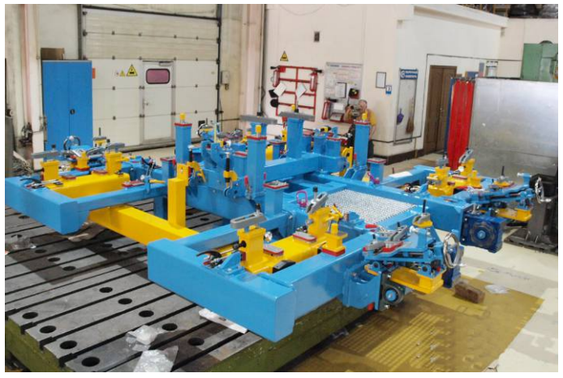


## Multipurpose stand for assembly and welding of passenger wagon underframes

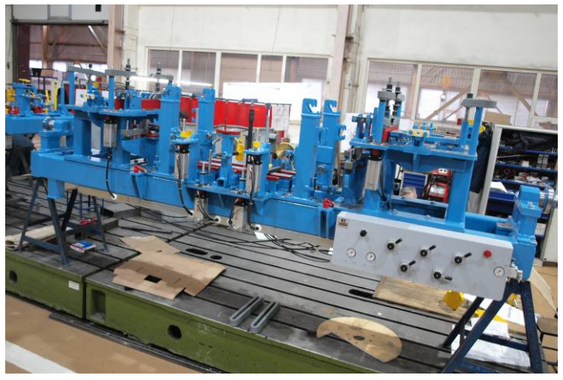
# Equipment for tram production

Assembly stand for railway bogie frames

Assembly stand for railway bogie frames



Assembly stand for railway bogie frames

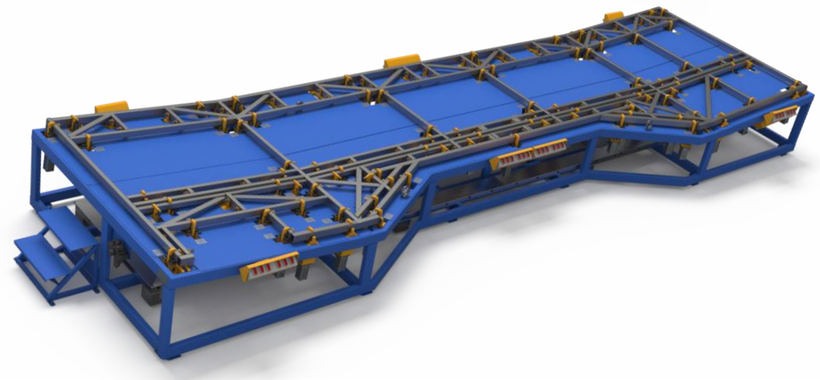


Assembly station for railway bogie frame beams

Robotic center for tram roof welding

Welding and drilling stand for tram sections coupling frames

Multipurpose assembly stand for front and rear tram frame structures



Multipurpose assembly stand for side walls

# Positioners

Welding positioners are designed to securely lift, rotate, and position metal structures for optimal access during welding operations.

Welding positioners provide optimal workpiece orientation, allowing welders to operate in a comfortable position — significantly improving both weld quality and overall productivity.The positioner is equipped with visual and audible warning signals for enhanced operational safety. A ball screw lift mechanism with a safety nut ensures smooth and secure vertical movement.The control system synchronizes the lifting drives for precise and stable positioning.To accommodate frames of varying lengths, one of the positioner support columns is equipped with a motorized travel mechanism.

Headstock and tailstock positioners, load capacity 4 tons

Headstock and tailstock positioners, load capacity 30 tons

Headstock and tailstock positioners, load capacity 10 tons

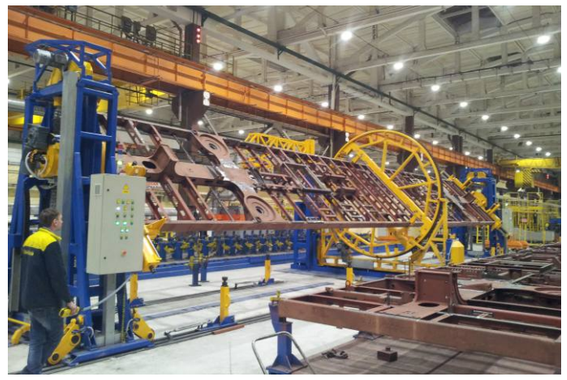
Headstock and tailstock positioners, load capacity 15 tons

# Positioners (special design)

We offer both standard, serially produced equipment and customized solutions — designed and manufactured taking into account the specific structural features of the product and the customer's production conditions.

40-Ton frame positioner for electric locomotives

Positioner stand for floor deck welding and under-carriage equipment assembly



Multipurpose positioner for metro wagons frames welding

Positioner for passenger wagon roof

# Automated storage systems for metal products

Automated metal storage systems are an advanced solution for organized, high-capacity storage and real-time control of diverse metal stock.

In automated storage systems, metal products are stored in dedicated trays that, once loaded, are automatically transferred to designated storage locations.This innovative storage method enables the creation of substantial raw material reserves directly adjacent to processing equipment, significantly streamlining production workflows.

**Key advantages of implementing an automated metal storage system include:**

- optimization of in-plant logistics;
- simplification of the production flow;
- reduced lead time for delivering metal stock to the production line;
- automated inventory control and monitoring;
- significant reduction in required storage space;
- decreased demand for manual labour and warehouse personnel.

Automated storage systems

Automated sheet metal storage system

Automated storage system for structural steel profiles

Automated sheet metal storage system

Automated sheet metal storage system

# Automated storage systems

Automated storage systems are an innovative solution for modern businesses, significantly simplifying and accelerating the processes of storing and handling goods.
These systems ensure optimal use of warehouse space, boost productivity, and minimize the risk of human error.

**Advantages of automated storage systems:**

**Maximum capacity.**
Rack-based systems utilize vertical space to its fullest, significantly increasing usable storage area.
**Speed and precision.**
Robotic mechanisms and automated conveyors ensure fast and accurate handling of goods.
**Resource efficiency.**
Reduced manual labour lowers staffing costs and minimizes handling errors.
**Integration with IT Systems.**
Seamless connection with ERP and WMS platforms enables full real-time control and monitoring of inventory movement.
**Safety.**
Minimizing manual operations reduces the risk of workplace injuries and improves employee safety.

**Where automated storage systems are used:**
- Logistics centers
- Manufacturing facilities
- Retail chains and distribution hubs
- E-commerce businesses

**Why choose us:**
- Tailor-made solutions to meet your specific business needs.
- Cutting-edge technologies and reliable systems from leading global manufacturers.
- Guaranteed quality and support at every stage — from design to maintenance

Automated racking storage systems are your path to reducing operational costs, accelerating order processing, and boosting your competitiveness on the market!

Automated rack-type storage system

Automated lift-type storage system

# Shot blasting equipment

Our enretprise specializes in the design and manufacture of shot blasting machines for various applications.The equipment is intended for abrasive treatment of metal surfaces, including removal of scale, rust, and burrs, as well as surface strengthening and preparation for coating.

**Key areas of expertise:**

- designing shot blasting systems tailored to customer requirements, product specifications, and operating conditions;
- manufacturing equipment of various types: suspended, roller conveyor, and chamber systems;
- developing customized solutions for specialized cleaning, strengthening, or surface preparation tasks;
- integrating equipment into production lines, automating processes, and selecting and configuring abrasive feed and recycling systems;
- providing comprehensive technical support including commissioning, staff training, and maintenance services.

Shot blasting machine for cleaning sheet and profiled metal products

Shot blasting and preservation line

Shotblasting chamber with a turntable

Shot blasting chamber with hanging workpiece

Shot blasting chamber for blast cleaning of welded metalwares

# Blast rooms

Blast rooms provide efficient and reliable abrasive treatment of metal surfaces — ideal for removing rust, scale, old paint, and preparing components for high-quality coating.

**Key features:**

- chamber dimensions are customized to project specifications
- integrated ventilation and air purification systems
- abrasive recycling and separation units
- lighting, noise reduction, and operator safety systems
- optional automation and integration with material handling lines

**Applications:**
Mechanical engineering, shipbuilding, steel structures, railcar refurbishment, aerospace industry, and more.

**Available options:**

- floor conveyors, carts, and roller conveyors
- rotary tables and manipulators
- dust collection systems (cartridge or bag filters)

Blast rooms

Blast rooms with lifting platforms

Shot blasting machines


Filter ventilation unit

Wagon frame transfer trolley

# Painting and drying chambers

One of the core areas of Techwagonmash is the design and manufacture of painting and drying chambers.
Our clients include major transportation engineering enterprises, metal structure manufacturing plants, and energy engineering companies.
The chambers are custom-designed and built to meet the specific requirements of each customer, tailored to their product range and production conditions.

**Efficient filtration system**
The chamber's filtration system is designed for use with both water-based and solvent-based paints. To remove solvent vapors from the air, the chamber is equipped with activated carbon filters.

**High thermal capacity**
The heat generators are rated for operation in harsh climatic conditions with air temperatures as low as -40°C.

**Reliability**
The chamber electric motors are resistant to unstable power supply. Chambers feature roller-type doors with electromechanical drives.

**Effective ventilation system**
The ventilation system is designed to maintain an airflow velocity of 0.2–0.3 m/s, ensuring high-quality coating application and efficient removal of paint overspray.

**User-friendly operation**
Equipped with roller-type doors powered by electromechanical drives, these chambers avoid the misalignment issues common with traditional swing doors during operation.

**Advanced materials**
The chamber body is a load-bearing structure made from aluminum tubing and double-layer galvanized steel panels insulated with polyurethane foam.Panels are assembled using a tongue-and-groove system, which significantly reduces installation time.

Painting and drying booth for wagons

Painting and drying booth (with degreasing feature)

Transfer trolley

# Integrated lines for surface preparation and painting

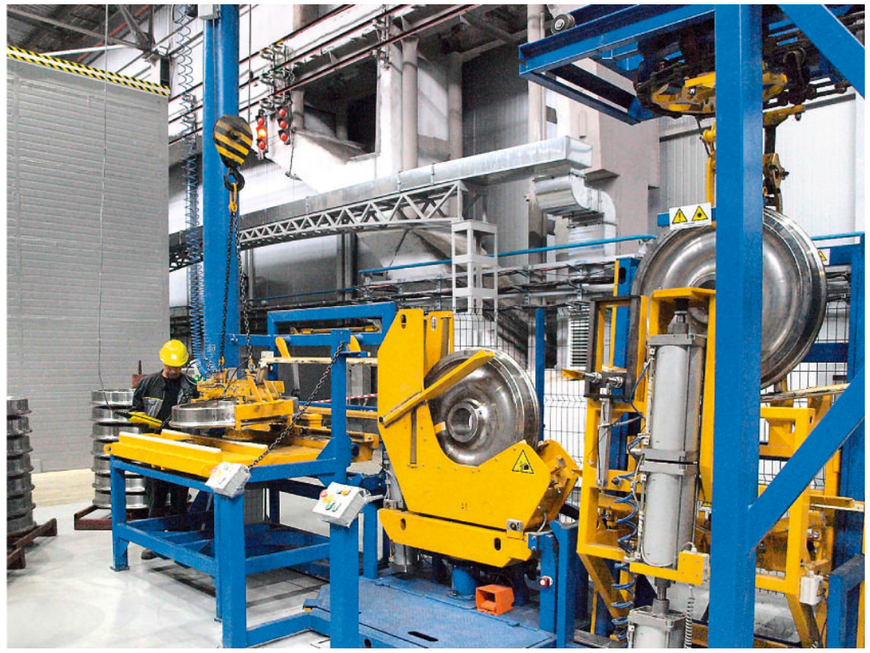
Techwagonmash is a leading manufacturer of innovative integrated lines for surface preparation and painting of industrial products. Our solutions ensure high-quality treatment, durable coatings, and optimized production processes.

**Our lines include:**

- automated surface preparation, which covers cleaning, degreasing, phosphating, and other pretreatment stages;
- advanced painting systems that ensure coatings with superior adhesion, uniformity, and resistance to environmental factors;
- energy-efficient and environmentally friendly technologies aimed at reducing material consumption and minimizing emissions;
- flexibility adapted to your needs through designing and manufacturing lines based on the specific features of your production.

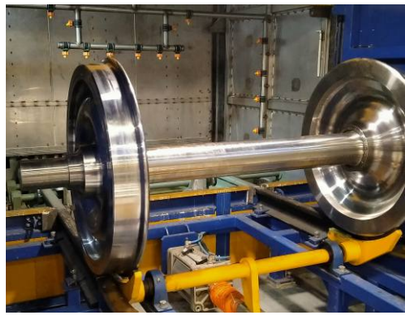
Techvagonmash has successfully completed projects manufacturing painting lines for:

- railway wheels;
- wheelsets;
- railway axles.



Railway wheels painting line

Wheelset painting line



# Rail transport transfer systems

Traversers are modern high-tech devices designed to transfer railway trains between tracks at industrial facilities, depots, and repair workshops. They serve as an indispensable tool for enhancing flexibility and optimizing logistics operations within railway infrastructure.

**Key advantages of traversers:**

**Space efficiency**
Traversers enable the optimal use of railway tracks and facility space by eliminating the need for multiple maneuvering tracks. One traverser can replace complex rail junction systems.

**High performance and speed**
Equipped with automated control systems, our traversers ensure fast and precise movement of railcars and locomotives. This significantly reduces downtime, which is crucial under intensive operation conditions.

**Robust construction and reliability**
Manufactured from high-quality materials, traversers withstand heavy loads and harsh climatic conditions. They are designed for long service life with minimal maintenance costs.

**Safety and precision**
Modern safety systems guarantee reliable traverser operation, preventing accidents. Accurate railcar positioning helps avoid damage to rolling stock and infrastructure.

**Automation and integration**
Our traversers feature advanced automated control systems that allow seamless integration into the overall railway network management system of your facility, simplifying transport flow control and management.

**We offer customized solutions tailored to the specific requirements of your facility. Our traversers are adapted to operate under any conditions — from standard sites to complex logistics hubs with high traffic intensity.**

Traverser for electric locomotive transfer with a load capacity of 150 tons

Traverser for freight car transfer with a load capacity of 60 tons

Traverser for electric locomotive transfer with a load capacity of 120 tons

Traverser for freight car transfer with a load capacity of 60 tons

Traverser for freight car transfer with a load capacity of 60 tons

# Turntables, conveyors, transfer trolleys

Modern transportation engineering enterprises demand highly efficient and reliable solutions for organizing transport processes. We offer next-generation technological transport equipment specifically designed for railcar manufacturing, including turntables, conveyors, and transfer trolleys. Our equipment helps optimize production workflows, enhance logistics, and improve safety at every stage of railcar assembly and transportation.

**Turntables**

Our rotary tables are high-precision systems designed for maneuvering railcar structures within confined spaces. Their capabilities ensure smooth 360-degree rotation of heavy loads, simplifying assembly and movement processes.

- High load capacity: up to 100 tons and above
- Easy operation and seamless integration into existing production lines
- Reliable safety systems that guarantee protection of personnel and equipment

**Conveyors**

Our conveyor systems help automate the transport of components and finished railcars across assembly workshops, reducing transit time and minimizing manual labor. Conveyors are engineered to handle heavy and oversized loads.

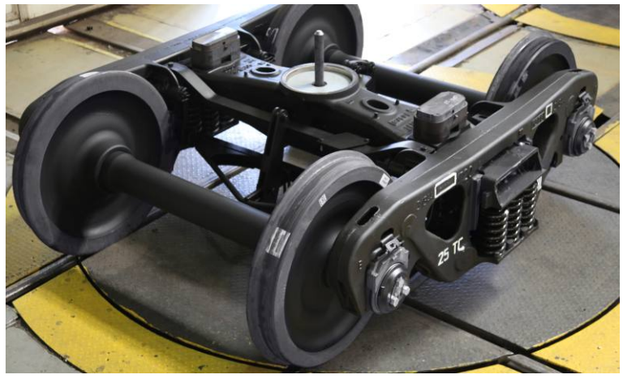
- High speed and throughput
- Modular design allowing easy customization to suit your production needs
- Low operating costs thanks to energy-efficient solutions

**Transfer trolleys**

Transfer trolleys are indispensable tools for moving railcar parts and finished products around the facility. Our trolleys deliver reliable performance even under the most demanding conditions.

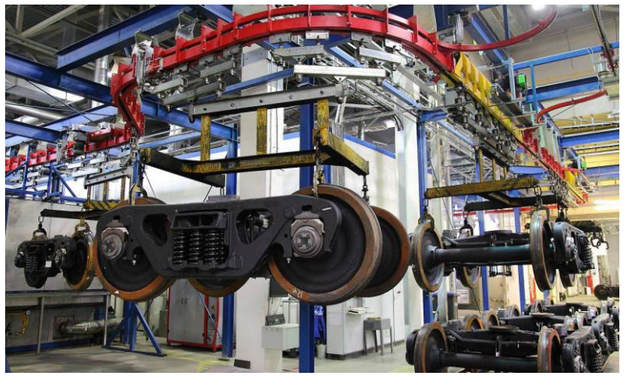
- High maneuverability and precise movement.
- Available in electric and manual drive models.
- Customized solutions for any dimensions and load capacities


Railway turntable



Turntable for bogies

Transfer platform



Suspended conveyor system

Conveyor for moving wagons

# Elevated access platforms

Elevated access platforms are designed to lift and move personnel vertically while performing assembly, filling, and sanding operations on railway wagon bodies. They provide safe and convenient working conditions at height.

The platforms are equipped with two control panels, — one located directly on the platforms and the other installed on the main control cabinet. The control system is designed to ensure safe operation, preventing the platforms from being raised when safety gates are open or transition ladders to the roof are lowered.The lifting platforms feature both audible and visual alarms to signal upward or downward movement. Additionally, a warning indicator alerts personnel when the platforms are elevated and work is in progress, preventing accidental entry or the presence of objects in the lowering zone. Emergency stop buttons are installed on the lifting columns and the platforms themselves.The cabinet-mounted control panel offers secure access via a coded key tag, allowing the operator to raise or lower the platforms from the ground in the event of an emergency or irregular situation.To prevent accidents, the platform structure is specifically designed to eliminate any gaps that could allow foreign objects or personnel to become trapped between adjacent platforms or between the platforms and side/end walkways.Pneumatic connectors are integrated into the platforms, enabling quick and convenient connection of hand-held pneumatic tools.

Elevated access platforms

Elevated access platforms

Explosion-proof elevated access platforms

Elevated access platforms with side extension mechanism

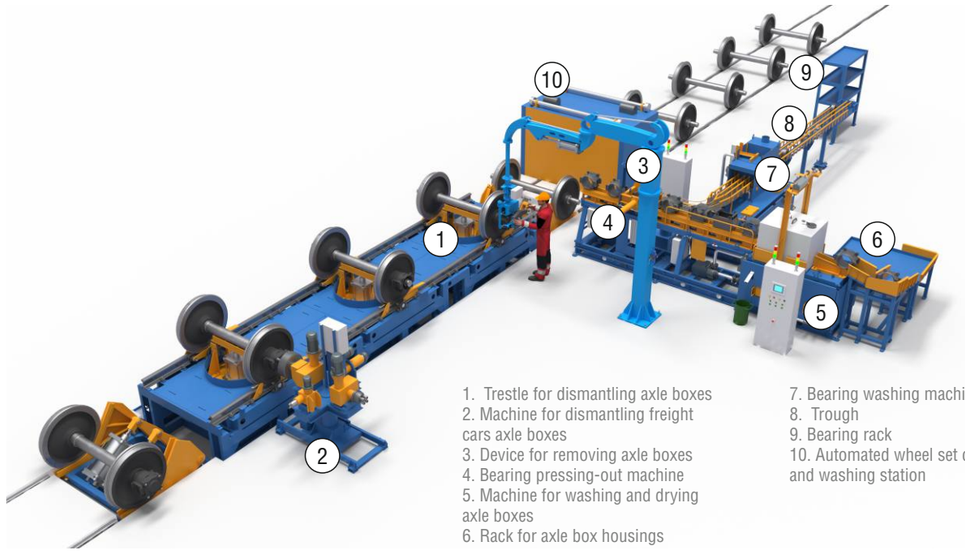
Elevated access platforms with end walkways

# Axle-box unit and bearings dismantling and washing system

This system is designed for use at railcar maintenance facilities, including wagon depots and wheelset repair shops. It provides efficient dismantling and cleaning of axle-box assemblies and bearings, supporting high-quality overhaul processes.

The system performs the following technological operations:

- lifting and transferring the wheelset along the overpass;
- unbolting all fasteners of the axle-box assembly and unscrewing the M110 nut using a dedicated dismantling stand;
- removing both axle-boxes from the wheelset axle and transferring them, via a manipulator, to the station for automated bearing dismounting and washing;
- removing both axle-boxes from the wheelset axle and transferring them, via a manipulator, to the station for automated bearing dismounting and washing;
- pressing out the bearings from the axle-box housing;
- washing the axle-box housings;
- washing the bearings.




1. Trestle for dismantling axle boxes
2. Machine for dismantling freight cars axle boxes
3. Device for removing axle boxes
4. Bearing pressing-out machine
5. Machine for washing and drying axle boxes
6. Rack for axle box housings
7. Bearing washing machine
8. Trough
9. Bearing rack
10. Automated wheel set cleaning and washing station

Axle box unit and bearings dismantling and washing system

Trestle

Bearing cleaning machine

Automated wheelset cleaning system

Axle box removal manipulator

# About the enterprise

With four decades of expertise, Research-and-production enterprise «Techwagonmash» specializes in the design and manufacture of cutting-edge equipment tailored for the transport engineering sector. As the proud successor of VNIIPTivagon —the prestigious All-Union Scientific Research Institute of Railcar Engineering —Techwagonmash continues to lead innovation and set industry standards in the development of transport engineering enterprises.

Our core areas of expertise include:

- comprehensive design and outfitting of transport engineering enterprises;
- design and manufacture of specialized technological equipment for railcar production;
- technological equipment for railcar repair;
- robotic welding complexes;
- shot blasting and abrasive blasting equipment;
- paint spraying and drying booths;
- filtration and ventilation systems.



# Fields of activity

## Painting and drying booths

Design and manufacture of paint spraying and drying booths for coating rolling stock, heavy-duty trucks, and large welded metal structures.


## Shot blasting and abrasive blasting equipment

Equipment for cleaning sheet and profile metal, pipes, welded metal structures, and large-scale castings.


## Automated drilling complexes

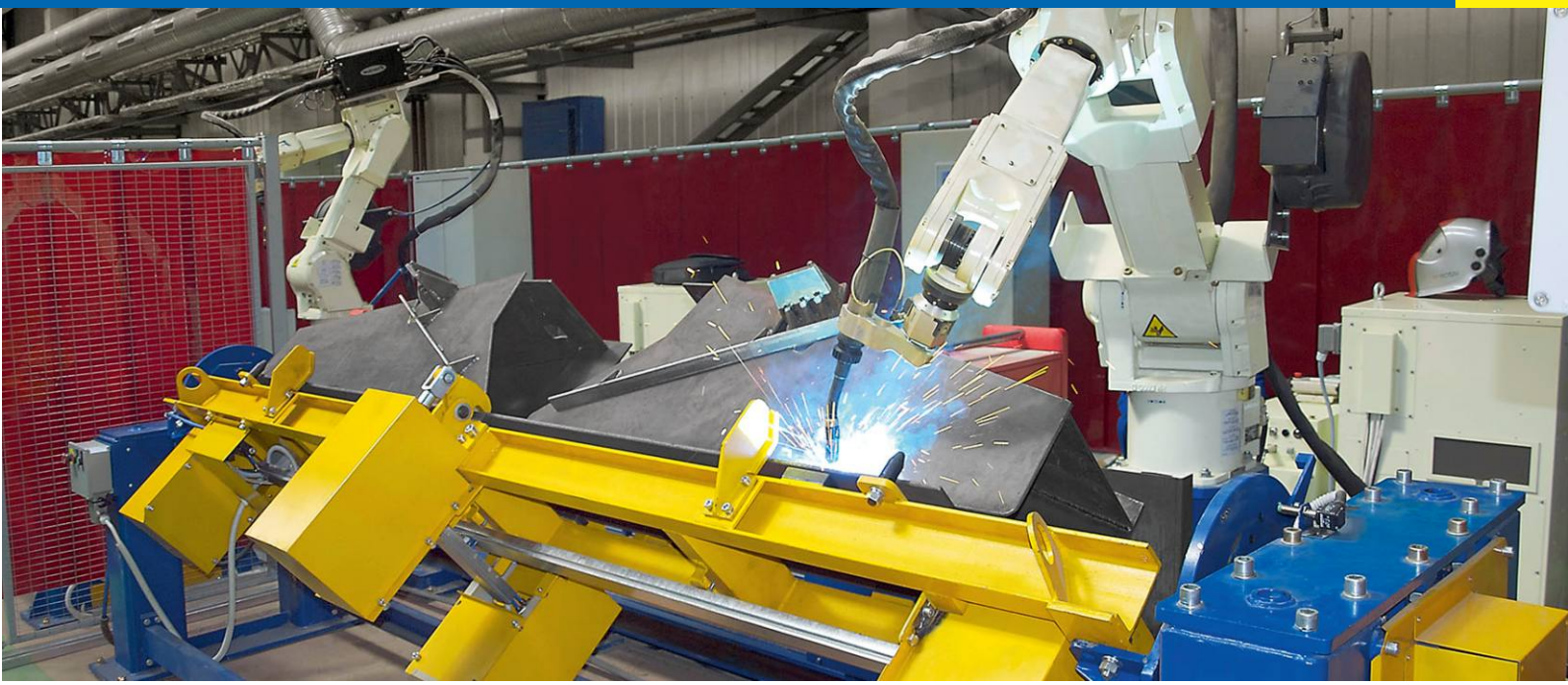
Equipment designed for high-efficiency coordinate machining of parts without the need for preliminary marking or the use of jigs.

Operations performed include drilling, reaming, countersinking, and threading.


## Robotics and automation of welding production

Design and manufacture of specialized technological equipment for the automation and robotic integration of welding processes.

Techwagonmash
COMPREHENSIVE SOLUTIONS



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