



XAPIKA

Rolling Stock Maintenance & Overhaul

Engineering Excellence & Fleet Reliability

15+

Years of
Experience

720+

Wagons
Modernized

100+

Qualified
Engineers

A Strategic Partner for Modern Rail

XAPIKA is an independent railway service company specializing in the full lifecycle of rolling stock — from daily inspections to heavy capital repairs. With main offices in Warsaw, Poland, we support railways, metros, tram depots, and industrial fleets across Europe, Turkey, and Egypt.



**5 Countries
Global Reach**



Vehicle Subsystems

Development & optimization
of subsystems



Certification

Commissioning, warranty &
modernization



Predictive Maintenance

Condition-based &
predictive tools



Remote Monitoring

Tracking & tracing health
assessments

Our Purpose & Direction



To ensure the safe, efficient, and reliable operation of rolling stock through high-quality maintenance and capital repair services.



To become the preferred and trusted partner for rolling stock maintenance across Europe by offering innovative management solutions.



Professionalism, reliability, sustainability, and modern Technical solutions. We advocate Circular Economy methodologies for a sustainable railway future.

Comprehensive Service Lifecycle



Heavy / Capital Repair

Medium Repair

Routine Maintenance

Preventive Maintenance

Full disassembly & restoration

Wheelset turning / replacement

Bogie overhaul & motor rebuild

Sandblasting, painting, body repair

Full certification & documentation

Wheelset replacement

Gearbox repair

Traction motor overhaul

Structural welding

Worn parts replacement

Suspension servicing

Electrical troubleshooting

Compressor maintenance

Daily inspections & diagnostics

Brake adjustments

HVAC checks

Scheduled condition monitoring

Control & Safety Systems

Ensuring reliability of critical control systems and driver environment



Safety Complex

Verification of ALSN / CLUB-U systems – bench tests, Cable control, insulation measurement, parameter verification.



Communications

Radio station integrity checks – housing, wiring, and Mounting inspection



Visibility systems

Wiper drive maintenance – torque checks, backlash elimination, brush replacement.



Driver Control

Full inspection of control panels and monitoring systems.

Passenger Comfort & Interior Systems

Functional reliability for high-traffic environments



Door Systems

Functional testing of open/close timing, obstacle reaction, emergency opening, pneumatic line status. Cleaning of locking mechanisms and filters



Sanitary Modules

Maintenance of vacuum toilets (diaphragms, pneumatic lines), boilers, dryers, and intercoms.



HVAC & Environment

Inspection of cabin and salon heaters, ventilation systems, and interior lighting.



Information Systems

Passenger information panels and public address systems testing and repair.

High Voltage & Bogie Overhaul



High Voltage & Roof Equipment

Pantograph Protocols

Grounding of contact network before work. Inspection of carbon strips, pneumatic houses, flexible shunts, and collector heads. Static pressure force checks, rise/fall timing, and pneumatic tightness testing.

Electrical Connection

Inspection of high-voltage jumpers (6p/4P/1P) and HSCB (High-Speed Circuit Breakers). Full insulation resistance testing.



Bogie Overhaul & Structure

Full disassembly and cleaning of bogie frames. NDT inspection for cracks, corrosion and structural fatigue.

Suspension

Regulation of primary suspension and pneumatic spring height. Damper control (oil leaks, silent blocks).

Assembly

Torque control of critical nodes – center-pivot, mono-link, bogie frame.

Traction Drive & Wheelset Restoration

Traction Drive & Transmission

Traction motors	Inspection of mounting, power cables, insulation resistance. Full stator/rotor checks.
Gearboxes	Oil analysis & replacement by mileage, gear teeth wear inspection, coupling condition checks.
Speed sensors	Integrity and mounting reliability verification.

Wheelset Restoration



Measurement

Precise back-to-back distance measurement and rim defect detection



Profiling

Reprofiling to correct hollow wear, flange defects, and flat spots



Pressing

Hydraulic pressing/depressing of wheel centers and gears



Balancing

Dynamic balancing to reduce vibration and track wear

Electronic Lab & In-House Manufacturing



Electronics Lab

Deep-level diagnostics for control units, ensuring sustainability and cost-efficiency. By repairing rather than replacing, we increase fleet availability when spare parts are obsolete or delayed.

Equipment

Oscilloscope testing, precision soldering, signal generators

Repair vs Replace

ECU troubleshooting, power supplies, gate drivers

Low Voltage

Junction boxes, jumper cables(74P), relay logic



CNC Manufacturing

Returning components to factory specifications using advanced CNC technology. Over a decade of experience producing intricate parts that surpass the quality and longevity of original components

CNC Lathe

High-precision turning, boring, and threading

Fabrication

Bushings, shafts, custom fittings for obsolete spares

Milling

Surface milling for flatness and parallelism

Case Study: Axle Box Restoration

THE CHALLENGE

Restoring cast steel (GE280N) axle boxes with wear up to 0.9mm on seating surfaces.

THE SOLUTION

Automated CMT (Cold Metal Transfer) surfacing followed by CNC machining to achieve factory-spec tolerances.

TECHNICAL SPECS

Material	GE280N (91.5 kg)
Process	∅230mm bore, 10mm groove
Speed sensors	2.5 – 3.0mm thickness

Tolerances Achieved

≤ 0.05 mm

Face Runout

≤ 0.05 mm

Concentricity

190 HB

Surface Hardness

Smart Maintenance

Powered by IoT, AI, and real-time data analytics



Digital Twin

Virtual replicas of rolling stock for predictive analysis and Simulation of maintenance scenarios.



Digital Depot

Fully digitalized depot management – source planning, task scheduling, and real-time workflow visibility.



Train Tracking

Real-time wagon tracking and fleet location monitoring across the network

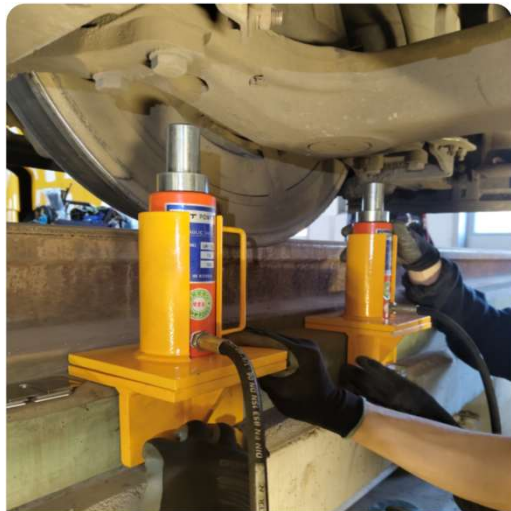


Condition Based Maintenance

AI-powered visual inspection systems for automated defect Detection and condition assessment.

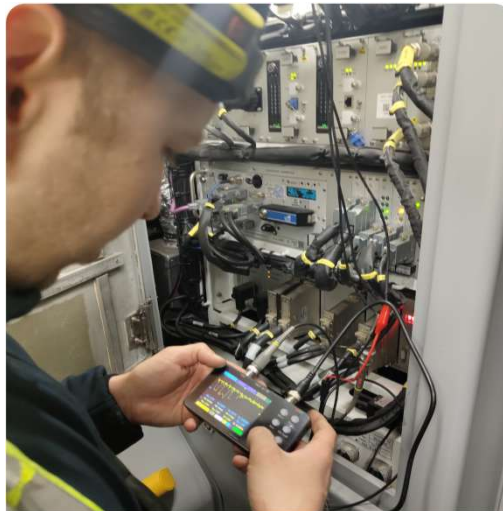
Quality Assurance & Testing

Rigorous validation protocols before fleet release



Pneumatic Testing

Leak testing of brake lines and toilet systems. Pressure integrity verification across all pneumatic circuits.



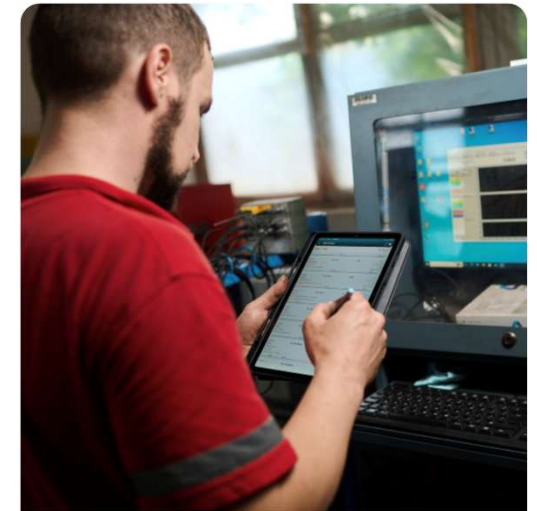
Electrical Testing

Insulation resistance testing and arc detection on contactors. Full circuit verification and ground fault analysis.



Functional Testing

Full cycle testing of doors (obstacle detection), wipers, PA systems, and all passenger-facing equipment.



Documentation


Complete certification package and maintenance logs provided. Full traceability of all repairs and replacements.

Our Track Record 1. Hyundai Rotem HRCS2

- Full Maintenance : PM, CM & Overhaul
- Overhaul at 3M km / 4km milestones
- Operations maintained during the war

Our Track Record 2. **PESA 610M**

- Brake caliper system overhaul
- Full refurbishment & Overhaul



**Our Track Record 3.
Skoda EJ675 City Elefant**

- Full Maintenance : Overhaul
- Bloster crack restoration

Our Track Record 4. Kryukov Tarpan

- Supply Chain Management



**Our Track Record 5.
Kyiv Metro – Toshiba /
Tokyo Car Corp.**

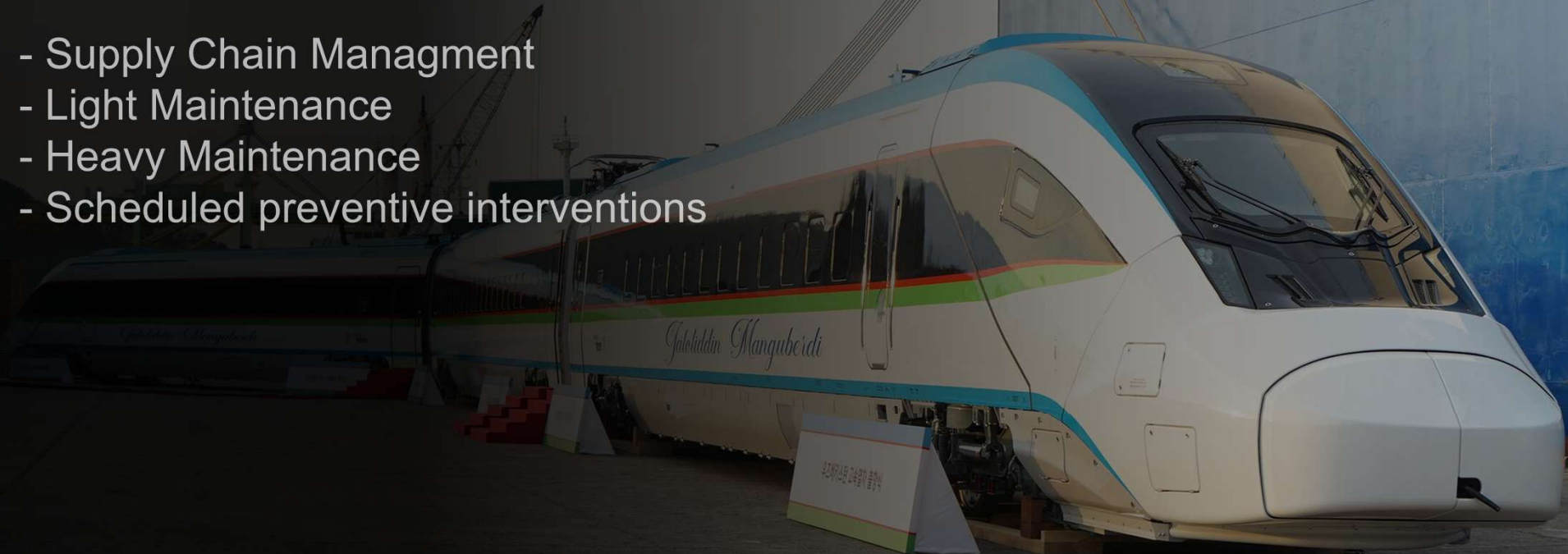
- Brake caliper system overhaul
- Traction motor overhaul
- Axle driving gear – whole fleet

Our Track Record 6. Warsaw Tram

- Comprehensive warranty maintenance
- Maximum fleet management
- Full Maintenance : PM, CM & Overhaul
- Scheduled preventive interventions

Our Track Record 7. Uzbekistan High-Speed Rail


- Supply Chain Management
- Light Maintenance
- Heavy Maintenance
- Scheduled preventive interventions






Your Partner for Fleet Reliability

Engineered for Perfection. Committed to Safety.

 Warsaw, Poland

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