Т П А К С Ј А

RAILWAYS ROADS ENGINEERING





TRAKCJA GROUP

The Trakcja Group is made up of entities specialising in the key sectors of infrastructure, energy, industrial and general construction. We operate in Central and Eastern European countries, in particular Lithuania, Latvia and Ukraine, as well as Germany and Sweden.

We carry out the most complex railway, tram and trolleybus line construction contracts. We specialise in the construction of roads, bridges, civil and structural engineering as well as environmental engineering.

An important area of our business activity is the power sector, where we operate as a contractor for distribution and transmission networks and as a manufacturer of equipment for railway and tramway power supply systems. We provide comprehensive contract implementation, including design services.



TRAKCJA GROUP



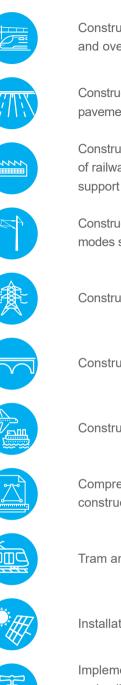




AREAS

WE IMPLEMENT PROJECTS IN ALL SECTORS OF INFRASTRUCTURE CONSTRUCTION

TRAKCJA GROUP COMPETENCIES



Construction and comprehensive modernisation of railway infrastructure, including track and overhead line, civil engineering structures, platforms with furniture.



Construction and modernisation of streets, roads, motorways with associated infrastructure: pavements, cycle paths, lighting, etc. Production of bituminous masses and concrete.



Construction and installation of low- and medium-voltage switchgear for the supply of railway, tramway, trolleybus and metro overhead lines. Production of overhead line support structures.



Construction and modernisation of traction substations supplying railways and public transport modes such as trams and trolleybuses.



Construction of high, medium and low voltage cable and overhead power lines.



Construction and modernisation of bridges and flyovers.



Construction and modernisation of airports and water ports.



Comprehensive design for the rail, road, power, civil engineering and commercial construction industries.



Tram and trolleybus infrastructure construction.



Installation of photovoltaic farms.



Implementation of environmental engineering projects, including water supply networks and collectors, sanitary sewers, sewage treatment and pumping stations and reinforced concrete tanks, environmental facilities.



Construction of mixed-use commercial buildings and housing estates.



Service and equipment rental.





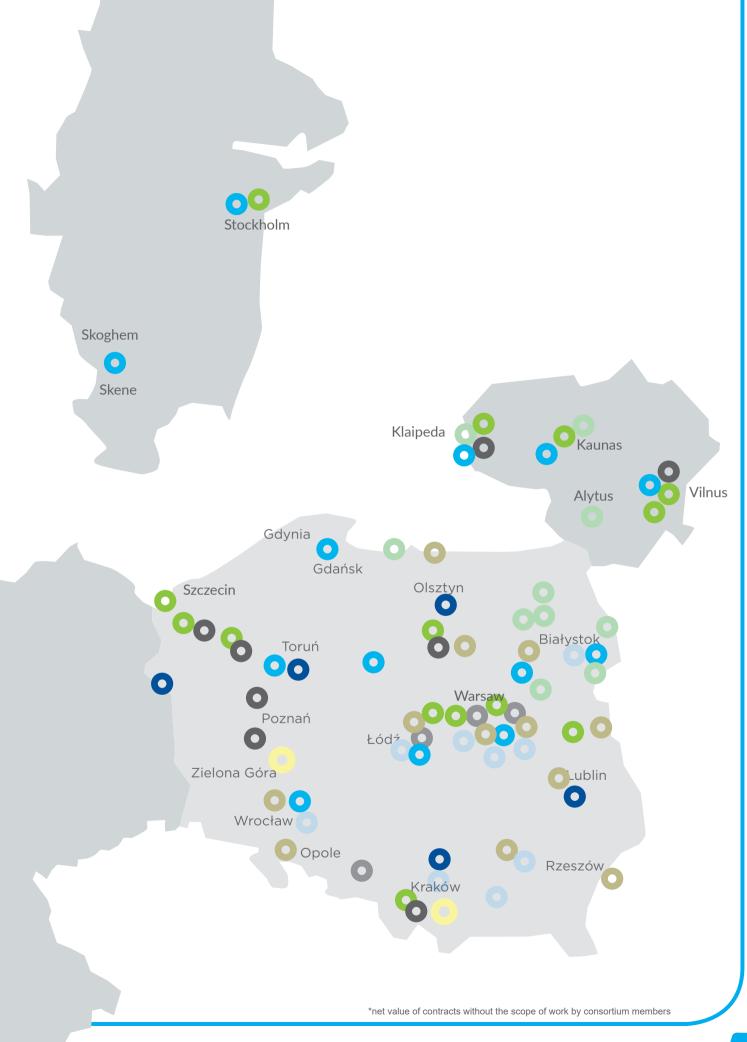
CONTRACTS

IMPLEMENTED IN 2021-2023 FOR THE AMOUNT OF PLN 5,289 million*.

RAILWAYS

- ROADS AND BRIDGES
- POWER INDUSTRY
- URBAN INFRASTRUCTURE
- COMMERCIAL CONSTRUCTION
- DESIGN
- CIVIL ENGINEERING
- ENVIRONMENTAL ENGINEERING
- NETWORK

Frankfurt





SELECTED CONTRACTS

RAILWAY

- "Revitalisation of railway lines nos. 694/157/190/191 Bronów Bieniowiec Skoczów – Goleszów – Cieszyn/Wisła Głębce". Partial order A: Design and performance of construction works, (junction) section Bronów – Wisła Głębce;
- Performance of construction works in the area of LCS Łowicz section Sochaczew – Żychlin and Placencja – Łowicz Główny as part of the project "Works on the E20 railway line, section Warsaw-Poznań – remaining works, section Sochaczew-Swarzędz" implemented under the EU's Connecting Europe Facility (CEF) financial instrument;
- Design and construction of the extension of the track system at Biała Podlaska station and Małaszewicze station as part of the project "Works on the E20 railway line, section Siedlce – Terespol, stage III – LCS Terespol";
- E59, section Poznań Główny Rokietnica" as part of the Project "Works on the Railway Line E59, section Poznań Główny – Szczecin Dąbie".
- Contract "Modernisation of the section: Jaworzno Szczakowa Trzebinia (km 1.150-0.000 of line 134, km 15.810-29.110 of line 133)" as part of the project "Modernisation of railway line E30, section Zabrze – Katowice – Kraków, stage IIB" – task carried out in Consortium;
- "Design and performance of works for the task entitled Works on railway lines Nos. 140, 148, 157,159 173, 689, 691 in the section Chybie – Żory – Rybnik – Nędza/Turze" – task carried out in Consortium;
- Works on the Warsaw cross-city line between Warszawa Wschodnia and Warszawa Zachodnia;
- Performance of design documentation and construction works for the construction of Warsaw Central Station;
- Modernisation of the section of railway line no. 7 from Warszawa Wschodnia to Warszawa Wawer station;

ROADS AND BRIDGES

- Design and construction of the S61 Szczuczyn Budzisko expressway between the Ełk Południe junction and the Wysokie junction;
- Extension of the road and track system at Ogrodowa Street Północna Street in Łódź;
- Reconstruction of Wolności Square in Łódź;

- Reconstruction of the traffic system of the intersection of Grójecka Street with Harfowa Street and Racławicka Street in Warsaw;
- Construction of a road interchange on the A4 Kraków Tarnów motorway, between the Kraków Wieliczka junction and the Targowisko junction;
- Construction of Chrobry Bridges in Wrocław;
- Construction of bridges over the Brda River in Bydgoszcz;

POWER INDUSTRY

- Overhaul of A1 Kabaty metro traction substation;
- Overhaul of the A9 Racławicka traction substation of the 1st metro line in Warsaw;
- Overhaul of the A5 substation on the Ursynów station of the 1st metro line in Warsaw;
- Construction of road lighting for the new S-3 Nowa Sól Legnica expressway;
- Construction of 110 kV single-circuit overhead line WN 110 kV Przasnysz Chorzele;
- Modernisation of the Maków Mazowiecki 110/15 kV substation;

URBAN INFRASTRUCTURE

- Construction of a tram route linking Fordońska Street and Toruńska Street, extension of the road system and rail infrastructure and the construction of bridges over the Brda River in Bydgoszcz;
- Extension of the tramway line in Olsztyn;
- Modernisation of the tram track and overhead line in Gorzów Wielkopolski;
- Installation of overhead line components on two five-kilometre sections of the "electric motorway" built as part of the ELISA eHighway Hessen project on the A5 motorway between Frankfurt am Main and Darmstadt, Germany;

COMMERCIAL CONSTRUCTION

- Construction of a modern Technical Base in Bieńkowice, Wrocław;
- Construction of technical facilities for Łódź Metropolitan Railway trains;
- Construction of a teaching facility with infrastructure within a site in Zabki near Warsaw;

NETWORK

- Installation of the overhead line with fittings and post-installation adjustments, carried out as part of the project: "Revitalisation and reconstruction of the partially disused railway line no. 182 Tarnowskie Góry – Zawiercie";
- Performance of comprehensive renovation of overhead line equipment of railway line no. 355, section Ostrów Wielkopolski Granowiec;
- Installation of the overhead line with fittings and post-installation adjustments, carried out as part of the project: "Revitalisation and reconstruction of the partially disused railway line no. 182 Tarnowskie Góry – Zawiercie".





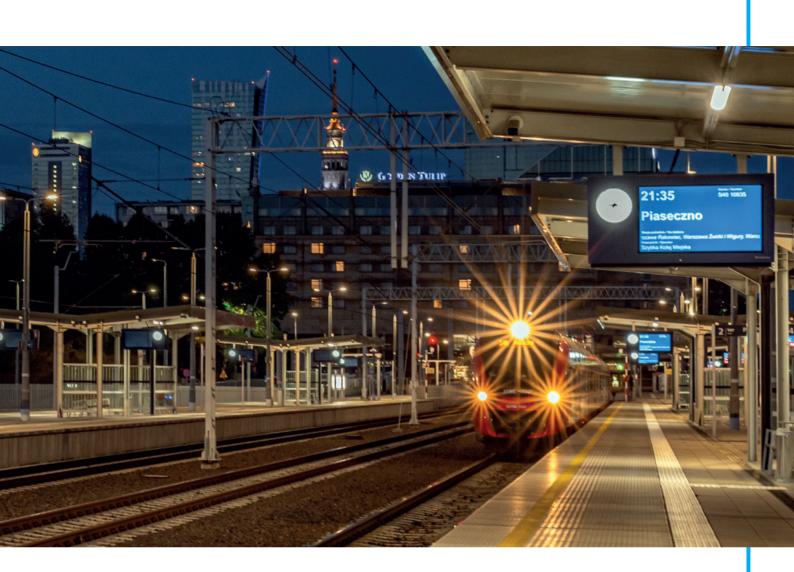
RAILWAY CONSTRUCTION TRACK WORKS

Comprehensive implementation of multi-discipline investment contracts including full support for rail infrastructure investments.

TRACK SUPERSTRUCTURE

- The implementation of track superstructure works in all standards;
- Implementation of construction works for turnouts, track junctions, alignment instruments, buffer stops;
- Level crossing construction;
- Construction, renovation, restoration of all types of in-depth and open drainage of the track superstructure;
- Performing termite welds, welding rails in the track, mechanically cleaning the ballast, mechanically removing the ballast.

Extensive machinery – locomotives, wagons (tipping wagons, platforms), RM80 cleaning machine, MFS 100 wagons, track tamping machines, turnout and tram profiling machines, piling machine, rail welding machines.



EARTHWORKS AND SUBGRADE WORKS

- Embankment widening, construction of embankments;
- All excavation and embankment earthworks;
- Reinforcement of railway embankments, reinforcement of railway subgrade, construction of buttresses, protection and reinforcements of all types;
- Subgrade stabilisation and reinforcement works.

PASSENGER SERVICE BUILDINGS

- Construction, refurbishment and modernisation of platforms;
- Construction of platform drainage;
- Installation of platform furniture elements as equipment for platforms and access to platforms;
- Installation of full platform equipment including access and facilities (lifts, ramps);
- Construction of ramps, access ways.

BUILDINGS AND NOISE BARRIERS

- Construction, renovation and modernisation of signal box buildings;
- Construction of noise barriers next to railway infrastructure.

CIVIL ENGINEERING

• Construction, renovation and modernisation of bridges, flyovers, culverts, crossings over and under tracks, footbridges, cycle/pedestrian routes, retaining walls as part of railway infrastructure.







RAILWAY CONSTRUCTION OVERHEAD LINE WORKS

SITE PREPARATION

- Carrying out geological drilling for the selection of pile foundations; *
- Selection of pile foundations; *
- Inspection trenches.

ENGINEERING DESIGN

 Development of construction, detailed and installation design (installation sheets, coordinate list, phasing of works). *

INSTALLATION WORKS - installation of support structures;

- Driving of piled foundations, installation of poured and precast foundations;
- Installation of overhead line poles, truss poles and gate posts (supports);
- Installation of gantry girders, truss extensions and girder supports;
- Installation of bar stays;
- Installation of crossing warning signs, platform signs, We indicators;
- Painting of pole number plates and warning strips;
- Installation of number plates and hectometre signs on poles.

INSTALLATION WORKS - installation of overhead lines;

- Installation of through, cross and turnout suspensions;
- Installation of TUN balance weight anchors, fixed anchors, centre anchors and weightless anchors;
- Hanging (cable and wire) of the DC-AC overhead line e.g.YC150-2CS150, YwsC120-2C-M, C120-2C, C95-C;
- Installation of single and double fixed hangers;
- Installation of Y-type flexible suspensions with hangers;
- Installation of insulation points in the network and insulation of contact wires in the tension span;
- Installation of sectional insulators;
- Electrical and mechanical connections of the turnout;
- Installation of cone lightning arrestors;
- Installation of a motorised sectional disconnector including interconnections;
- Overhead line adjustment.

INSTALLATION WORKS - track bonding, electric shock protection and return line;

- Installation of the earthing of support structures;
- Installation of the suspension of the track bonding cable on extensions and brackets;
- Hanging of collective track bonding rope including installation of anchors;
- Electrical connections of the collective track bonding to the supporting structures;
- Installation of low-voltage arresters (short-circuits) with connection to tracks;
- Installation of rail run, inter-track cables and turnout electrical connections;
- Installation of PMT chokes;
- Installation of track bonding cables up to 120 mm2;
- Post-installation adjustment, testing and testing of the collective track bonding rope.

DISASSEMBLY

- Demolition of foundations*, removal of rubble, compaction of the area after foundation demolition;
- Disassembly of support structures overhead line poles, gate poles, truss poles, gate girders, stays and girder supports;
- Disassembly of overhead line cable, wire, hangers, suspensions, anchors, distance brackets, section insulators, disconnectors, short-circuiting devices;
- Disassembly of the return network rail run, inter-track, turnout connections.
 - * carried out in cooperation with subcontractors





EQUIPMENT AND MACHINERY MANAGEMENT SPECIALISED SERVICES

We are the only general contractor for railway projects with our own Railway Equipment and Machinery Management Department.

The hall, which covers an area of more than 2,100 m2, has three tracks enabling services such as overhauls and repairs to be carried out on wagons, locomotives, track machinery and special rolling stock.

The Equipment and Machinery Management Department services both own and third party rolling stock. We have a comprehensive fleet of specialised machinery and rolling stock for track and overhead line construction.

These include network trains, tamping machines, overhead cranes, ballast cleaner, specialised tipping wagons and piling machines, railway cranes, track machinery and much more.

Having our own diesel locomotives and being certified as a rail carrier allows us to deliver materials directly to the work sites ourselves.



UNITS

OF SPECIALISED RAIL, CONSTRUCTION AND POWER INDUSTRY EQUIPMENT*

*as of June 2024

We also own general construction equipment such as excavators, loaders, trucks, tippers, cranes and tankers, which enables us to carry out uninterrupted work in remote locations and sell fuel to others.

TASKS OF THE EQUIPMENT AND MACHINERY MANAGEMENT DEPARTMENT

- Inspection, repair, maintenance and modernisation of rolling stock and specialist equipment for track, network, power, bridge, bitumen and general construction works (own and third party);
- Organisation of manning of heavy equipment and traction machines;
- Supervising the operation and maintenance of rolling stock;
- Parts database for technical services;
- Machine and equipment parking.







- Bituminous works;
- Level crossings;
- Water and drainage industry storm and sanitary sewers, water mains;
- Paving works;
- Earthworks.

CIVIL ENGINEERING

- Construction, renovation and modernisation of culverts, subway crossings, footbridges, bridges, flyovers;
- Earthworks protection (e.g. sinking of steel sheet piles, construction of Berliner walls);
- Carpentry, reinforcement and concrete works;
- Installation and disassembly of stress relief structures;
- Installation and disassembly of track reinforcement from Swiss-type rail bundles.

URBAN INFRASTRUCTURE

We actively participate in the development of urban infrastructure: we build and modernise tram and trolleybus lines.

We carry out tasks involving the installation of passenger infrastructure including the overhead contact line, modernise line control and power supply systems, including traction substations and equip them with current switchgear of our own manufacture. We also provide maintenance services for the equipment supplied.

CONSTRUCTION AND MODERNISATION OF AIRPORTS AND WATER PORTS

We have the knowledge, skills and experience required to deliver complex infrastructure projects in the area of construction and modernisation of airport and water port facilities.

Our work ranges from the design and construction of new facilities to the modernisation and extension of existing structures. We also provide maintenance services for the equipment supplied.











POWER INDUSTRY CONSTRUCTION

COMPETENCIES OF THE POWER INDUSTRY DEPARTMENT

- Design of cable and overhead lines and substations MV, LV;
- Design in non-traction electrical power engineering for rail, tram, metro and road;
- Construction of traction substations supplying the rail, tram, metro and trolleybus overhead line network;
- Construction of medium- and low-voltage cable and overhead power lines;
- Construction of power substations;
- Non-traction power works in the rail, tram, metro and trolleybus sectors;
- Installation works for high voltage, low voltage and lighting in commercial buildings; and road lighting.

WE ARE ALSO SKILLED IN

- Design and construction of photovoltaic farms;
- Design and construction of cable and overhead lines and HV substations;

POWER INFRASTRUCTURE

We provide services for the construction, modernisation, repair and maintenance of power distribution infrastructure. We build medium- and highvoltage overhead and cable transmission lines, substations and switching stations for Power Distribution Companies.



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THE LARGEST COMMERCIAL FACILITY DESIGNED AND BUILT BY TRAKCJA



OTHER COMPETENCES

COMMERCIAL CONSTRUCTION

Includes the construction of public utility buildings and facilities related to the operation of rolling stock, e.g. train washing facilities and service halls combined with administrative areas.

We are also involved in property development activities. We build individual houses, blocks of flats and entire housing estates. We are intensively growing our capacity in general construction.

ENVIRONMENTAL ENGINEERING

As modern and responsible companies operating in the construction market, we give priority to environmental engineering issues in the course of our activities.

We have long/professional technical expertise to build/implement:

- networks and connections: water mains, sanitary sewers, rainwater sewers, all diameters and various materials,
- sewage treatment plants, pumping stations, reinforced concrete tanks,
- protection of excavations with sheet piling.



DESIGN

Our Group's activities are related to the provision of design services for the rail, road, industrial and power sectors.

We prepare programme and spatial concepts, feasibility studies, construction projects, detailed designs, cost estimates and other types of tender and construction documentation.

In this respect, we carry out tasks that meet the needs of investors, Trakcja Group companies and the largest infrastructure construction entities in Poland. Thanks to our long and extensive experience, we offer comprehensive and technically complex, proven and innovative solutions.





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DIRECT CURRENT SWITCHGEAR BAYS

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INDUSTRIAL MANUFACTURING

MEDIUM- AND LOW-VOLTAGE SWITCHGEAR

The foundation of our offering is the manufacture of medium- and low-voltage switchgear in the DC and AC range. Due to their high level of reliability and durability, our products are highly valued by customers.

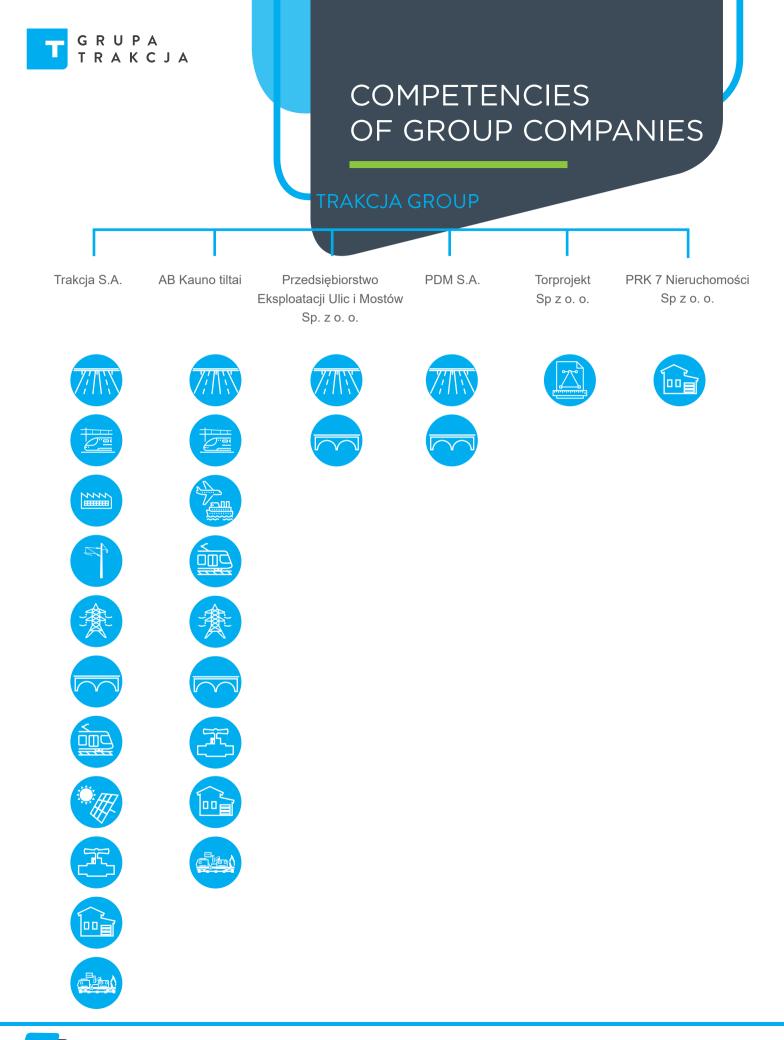
For more than 50 years, we have enjoyed the trust of our customers by supplying switchgear for railways, tramways and trolleybuses.

SUPPORT STRUCTURES

We are also a manufacturer of support structures for the railway overhead line.

Catalogue of steel structures: www.grupatrakcja.com/pl/oferta/produkcja/

We also fulfil individual orders.







Aleje Jerozolimskie 100, 2F 00-807 Warsaw

www.grupatrakcja.com

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