Available. Expert. Qualified.

Plasser ROBEL SERVICES

SERVICE CATALOGUE



www.pr-services.com

Available – anytime and anywhere
Expert – in all service offerings
Qualified – where it matters

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PRS on track to become service champion: an interview with CEO Karl Oberreiter

Setting up Plasser Robel Services created the largest service organisation within the Plasser & Theurer group of companies.
What do you consider the added value this brings to your customers?
Our six business areas cover all service offerings that our customers may require. Therefore, we have become a true one-stop-shop for machines from Plasser & Theurer and Robel. PRS ensures the supply of original spare parts and provides customer support directly at the work site, especially with regard to warranty issues. The Opladen and Freilassing sites carry out machine servicing, revisions, repairs and retrofits, the Munich site is responsible for the reconditioning of tamping units.
In addition, Freilassing is our centre of excellence for the reconditioning of wheelsets and bogies, and here we are also developing our multi-brand area. A new addition is our uptime service.

Where do you see the competitive advantage of PRS?
Our biggest strength is our comprehensive expertise. We are the only full-service provider in the market. For our customers who carry out a lot of servicing work themselves, we are steadily becoming an important partner in order to increase availability. Companies are also making more and more use of our massively expanded testing competence.
In addition, we see opportunities for growth in the area of long-term service contracts.

Do you see any services that are in particular demand?
There are currently three key areas: Increasing availability, upgrades and retrofits. Our customers' machines have to be operational in order to generate turnover. Therefore, our comprehensive packages with which we guarantee availability of over 90 % are of great interest. With retrofits on machines that have been in operation for 15 years or more, these will be back on the track within six to ten months, depending on the type.
The cost is 50 - 70 % of the price for a new machine, and, above all, the approval remains.

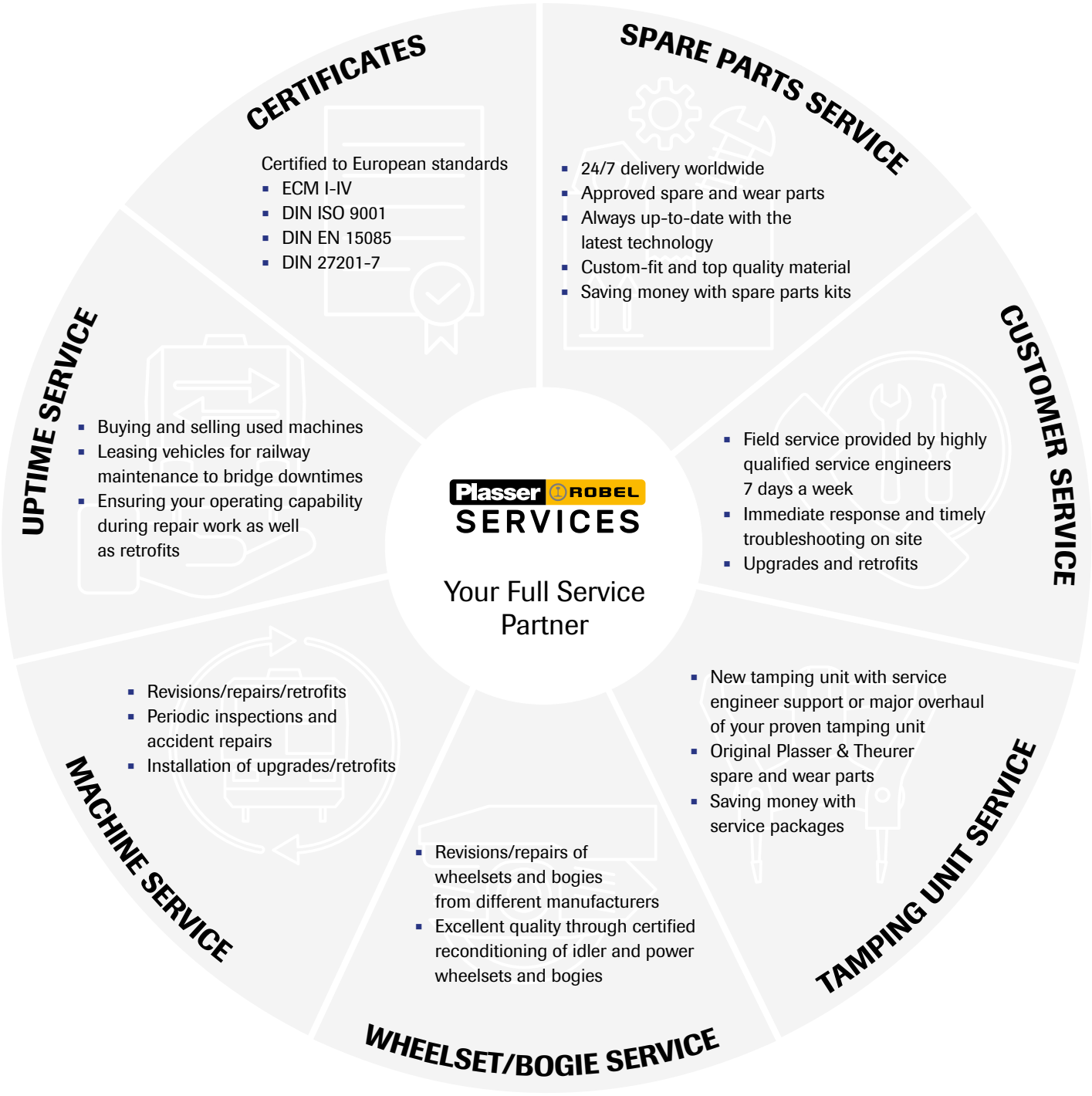
The digitisation of track maintenance machines has forged ahead in recent years. What does this mean for PRS?
It is a huge opportunity for us. One trendsetting tool is Plasser Datamatic, which enables remote diagnoses and remote servicing. There is also Big Data, based on which we will be able to carry out the service on individual machines much more efficiently in future.

The subject of sustainability is also becoming more and more important for all companies working in the railway.
How do you see this within PRS?
No question, this topic has arrived. In the area of retrofits, we already make use of the possibilities of upgrading existing machines for maximum environmental acceptability. Doubling the service life of a machine with a retrofit alone is a huge sustainability benefit.
With new machine purchases, we can see that to our customers it is important to get the timing right. Of course, these have big cost implications. If, for example, you look at our E3 machines, we are definitely on the right track with these. But we cannot say for sure when our customers will make the big switch.

And finally, let's take a look at the future: What should PRS look like in five years?
We want to become the champion of services! All customers in our market should think of Plasser Robel Services as a matter of course for all their projects.

Our Services

Tight schedules, short possessions, difficult conditions: It is important for rail projects that every machine is in working order. We are your reliable partner for this.
No matter whether it is solving a problem at short notice, planned maintenance or the purchase of large machines, we offer a customised, cross-brand service and excellent customer support.
This service catalogue provides an overview of the service offering of Plasser Robel Services GmbH.



Qualified – where it matters

High and consistent quality standards of all services are an essential part of the company values of Plasser Robel Services GmbH.
We at PRS have all the relevant certifications and approvals for comprehensive servicing of your machines. Furthermore, our customers benefit from our adherence to standards recognised throughout Europe for the reconditioning of safety-critical components such as wheelsets and bogies.
Professional and standardised processes ensure transparency and stability in our day-to-day work. As a result, we offer our customers consistently high quality.

ECM I-IV

By taking on ECM responsibilities, we commit to your machine being able to work and travel reliably and safely. Thus, we can offer the complete package for maintenance responsibility to our customers.

With us on your side, you can fully concentrate on your core business!

YOUR BENEFIT

- Everything from one provider – PRS is a full service provider
- Maintenance with the latest technology
- More efficient and more effective service implementation
- Guarantee of best possible service quality
- Maximum reliability and safety
- Adherence to all relevant legal regulations

DIN ISO 9001:2015

DIN EN 15085-2 Welding of railway vehicles and components

DIN 27201-7 Non-destructive testing

SNCF, RISAS and DB HPQ for press-fitting idler and power wheelsets

DB maintenance workshop (accredited)

DB Q1 supplier – grading of delivery capability

Want to find out more?
Please get in touch:

sales@pr-services.com

www.pr-services.com/en/certifications

The PRS Sites

250 employees



MUNICH

Headquarters of Plasser Robel Services

- Administration
- Sales
- Spare parts service
- Logistics | Warehouse
- Workshop for tamping unit service
- Customer service | Coordination of service engineers



LEVERKUSEN-OPLADEN

Repair | Revisions | Accident Repairs

- 3 indoor tracks of 120 m length each, 2 with inspection pits
- 4 gantry cranes of 16 t load, tandem operation up to 32 t
- 3.5 km track for testing
- Sidings | Measuring track | Wheelset weighbridge
- Washing plant
- Hydraulics workshop
- Transducers | Pendulum reconditioning



FREILASSING

Wheelset | Bogie Service

Repair | Revisions | Accident Repairs

- 3,000 m^2 production area
- Sequenced production
- Reconditioned in 2022:
  1,300 wheelsets | 130 bogies
- Certified sub-contractors
- Customised machines and workstations
  - Wheelset press
  - Bogie test rig
  - Spring test rig
  - Gauge arm
- 1 indoor track of 60 m length with inspection pit
- 3 gantry cranes of 25 t load
- 1 km track for testing
- Sidings | Measuring track | Wheelset weighbridge
- Washing plant
- In-house design office

The countries where we offer our services

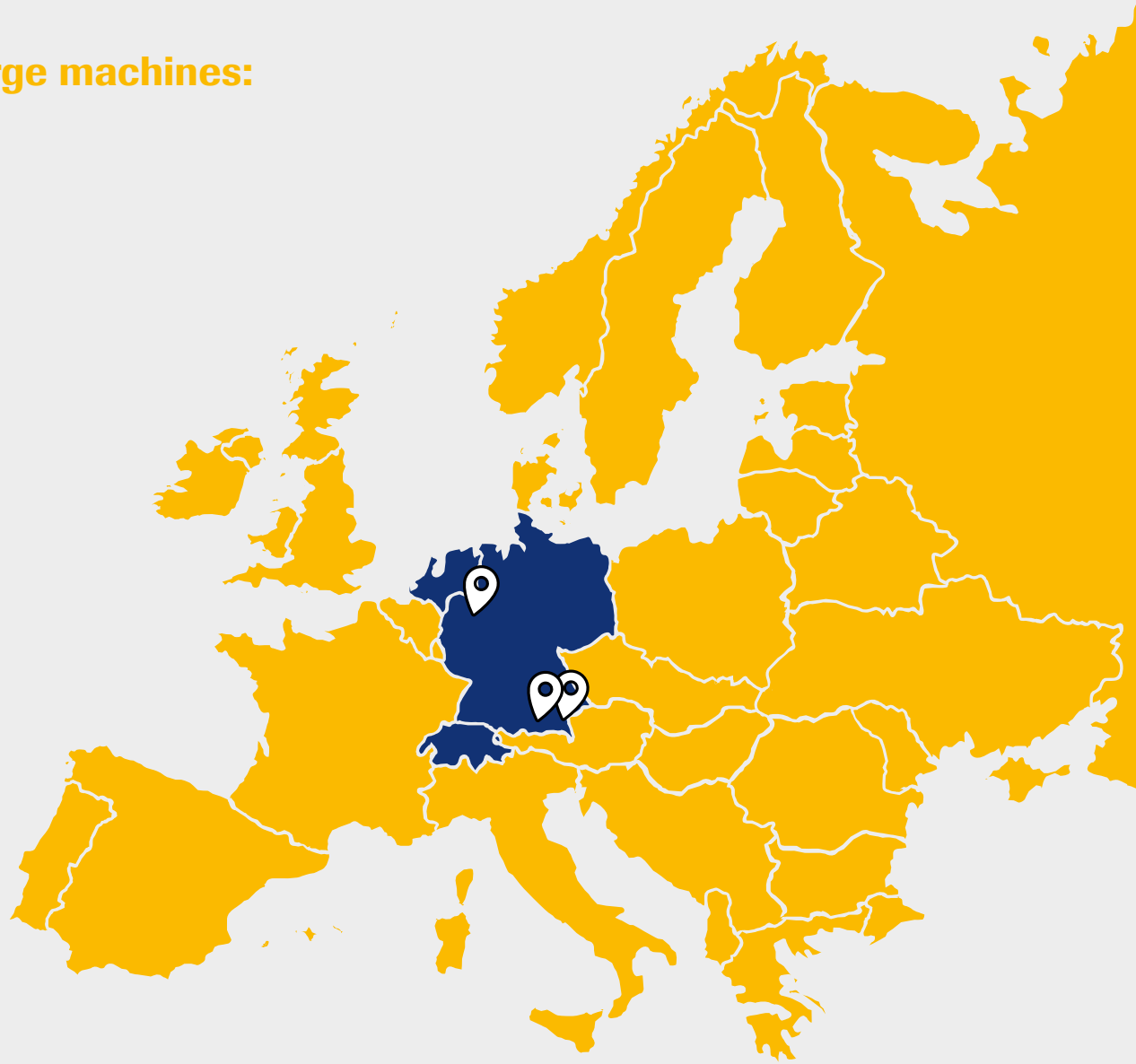
PRS offers a comprehensive service for the product portfolio of

Plasser & Theurer:

Germany, Switzerland and the Netherlands
as well as for individual customers in Luxembourg and Belgium

ROBEL large machines:

Worldwide



The brands we support with our services

Plasser Robel Services is part of ROBEL Holding GmbH and a partner company of Plasser & Theurer Export von Bahnbaumaschinen GmbH.



MACHINE · FLEET · INFRASTRUCTURE

PLASSER & THEURER.

Machine. Fleet. Infrastructure.

The Austrian family-owned company Plasser & Theurer stands for economic efficiency and innovation in track construction and maintenance and employs about 2,000 employees. Since 1953, the company has supplied about 17,000 machines to 110 countries. Over half of these are still in service. The large majority of these has been manufactured in the main factory in Linz, Austria. The machine programme covers almost all operations which are required for maintenance as well as new construction and renewal of railway track. This ranges from very simple tamping machines to up to 200 m long high-output machines.
As a one-stop supplier, we provide comprehensive customer services in cooperation with 19 partner companies worldwide: training, spare parts supply through to technical support. Plasser & Theurer has been a driving force in technological progress in track construction for many decades and underlines its claim of being a major supporter of the railway system also with regard to digitisation of the infrastructure.

plassertheurer.com/facebook | plassertheurer.com/instagram | plassertheurer.com/linkedIn | plassertheurer.com/youtube | www.plassertheurer.com



ROBEL.

Great on Track.

ROBEL has been developing, manufacturing and supplying safe and user-friendly track construction machines of high quality since 1901. At its Freilassing site in Bavaria, about 500 employees manufacture hand-guided machines and vehicle systems and provide services for the construction and maintenance of railway infrastructure worldwide. The company is structured into the **Machinery & Tools** and **Systems & Vehicles** business units and has an international network of agents and service partners. ROBEL's rail-bound work and transport vehicles, maintenance and rail treatment systems are deployed in urban areas, on plain lines and high-speed lines. In close cooperation with our customers, the company creates intelligent technical solutions for health and safety and environmental protection, increased productivity and optimised wheel/rail contact. To increase the process speed and thus increase availability, ROBEL is working consistently on designing and automating modular vehicle systems.

robel_com/instagram | ROBEL/linkedIn | ROBELinfo/youtube | www.robel.com



MULTIBRAND SERVICE.

In addition to the two core brands, PRS also has experience in components and machines of other manufacturers, such as Techne Kirow wheelsets, ELH bogies, LORAM bogies, Matisa wheelsets and bogies, Gmeinder gearboxes, Henschel gearboxes as well as VOITH final drives and transfer cases.
Get in touch on sales@pr-services.com

SPARE PARTS SERVICE



You can trust in spare parts from the manufacturer

PRS uses only approved spare and wear parts that are sourced from Plasser & Theurer and ROBEL or from certified suppliers. All parts are technically up-to-date and meet the exact manufacturer's specifications with regard to material and design. Our know-how and decades of experience in repairs, maintenance and overhaul feed into the continued development of spare and wear parts.

YOUR BENEFIT

- Always state-of-the-art, accurate fit and high material quality
- Stock of frequently required components for full availability of machines
- Worldwide delivery - within 24 hours from order, 7 days a week
- Trained technicians fit the parts on site or in service workshops, with a new warranty
- Customised framework agreements for optimum supply of spare parts and consumables

- PRS has original Plasser & Theurer spare parts from Denmark, Germany, the UK, France, Italy, Austria and Spain
- You benefit from over 100,000 parts throughout Europe
- We deliver original spare parts and consumables from our sites in Germany to all regions of the world
- We have about 20,000 original parts in stock, also for machines which have been in use for decades
- The manufacturers' design departments enable us to offer you fully machine-compatible alternatives for spare parts which are no longer available

A selection of our spare parts

TAMPING TINES



A decisive factor for the high quality and cost-effectiveness of Plasser & Theurer tamping tines are the monobloc design and the cemented carbide plating. The sleek design significantly reduces the resistance when the tine penetrates the ballast. The bevelled underside of the tamping tine plate builds up a counterforce that provides relief where the tine is mounted on the tamping unit.

YOUR BENEFIT

- Higher mileage and longer replacement cycles
- Low penetration resistance
- Relief of the tine attachment to the tamping unit
- Increased useful life due to protection of the contact surfaces
- Easier disassembly thanks to Helicoil insert

FILTER ELEMENTS



Filter technology has a significant impact on a machine's performance, safety and lifespan. Defective filters cause considerable damage to the hydraulic system and result in failures and unplanned downtimes. The quality and precision of original filter elements provide optimum performance, safety and a long service life of your machine.

YOUR BENEFIT

- Optimum filter materials and selection of compatible adhesives
- Precise dimensioning of the filter area and the filter efficiency
- Perfect fit
- Best possible protection against contamination, damage and wear
- Suitable for the hydraulic, pneumatic and diesel systems

GEARBOXES



Selecting the correct materials and utmost precision in manufacturing individual components, such as housings, gear wheels and shafts, ensure the long service life of our machines.

YOUR BENEFIT

- Designed and manufactured for tough conditions
- Precisely matched to your machine
- Assembly by experienced specialist staff
- Spare parts availability guaranteed over decades

DIESEL ENGINES



Plasser & Theurer and ROBEL have been cooperating with engine suppliers for many decades so we can meet even very specific requirements. This also enables us to replace engines with completely refurbished engines at low cost. This increases the performance of your machine and its service life even further.

YOUR BENEFIT

- Longer service life thanks to tried and tested engines
- Attachment parts, control elements and accessories can be added to meet your specific requirements
- Higher availability of your machines
- Easier operation, servicing and spare parts supply through the use of equal or similar engines within machine fleets

CARDAN SHAFTS



Cardan shafts work extremely hard when transmitting power from the drive output to the wheels. As early as in the design phase, they are optimally adapted to your machines in controlled manufacturing processes.

YOUR BENEFIT

- Long service life due to tested and high-quality materials
- Balancing of cardan shaft with associated protocol
- Controlled manufacturing process including magnetic particle testing
- Improved safety for transmission of drive power
- Low maintenance

PISTON RODS



By manufacturing piston rods in-house, Plasser & Theurer ensures the accuracy of fit and quality that is particularly important to such relevant parts.

YOUR BENEFIT

- Adherence to tolerances
- Manufacturing process using state-of-the-art CNC machines
- Fast availability
- Top quality and perfect fit

GEAR WHEELS



Plasser Robel Services offers a selection of over 250 gearwheels. Their production is monitored by certified quality assurance. The precise alignment of the tooth faces increases efficiency and reduces friction, wear and noise.

YOUR BENEFIT

- Up to five different hardening processes
- Monitoring through certified quality assurance
- High endurance and reduced noise generation due to reduced friction

CIRCUIT BOARDS



For track maintenance machines to deliver maximum performance, even in unfavourable environments with dust, dirt or humidity, high-quality circuit boards are essential. They are responsible for machine control or regulation of the tamping pressure, for example.

YOUR BENEFIT

- Individual in-house manufacturing
- Continuous development directly at Plasser & Theurer
- Alternatives for components that are no longer available
- Spare parts supply guaranteed for decades

BRUSH SHAFTS, BRUSH RINGS & HOSES



We supply complete brush shafts with matching brush hoses for wooden sleepers, concrete sleepers and steel sleepers. To meet the wide variety of sweeping requirements, the shafts can be equipped with solid and hollow rubber rods with support hoses or with hollow rubber rods. On machines with fine sweeping units, fine sweeping brushes are used to clean the sleeper surfaces.

YOUR BENEFIT

- Extremely wear-resistant and individually replaceable, therefore very environmentally friendly
- Perfectly matched to the sleeper type
- Specially matched fibre thickness with various external diameters
- Longer service life as the brushes can be worn down completely

PENDULUMS & TRANSDUCERS



Pendulums are used to measure the cross level of the rails. Their precision is crucial to the quality of the rail alignment.
With the in-house production of transducers, PRS ensures that we deliver the quality needed to guarantee efficiency. This can provide a decisive competitive advantage. The track geometry values measured are transmitted by the transducer to the associated ALC or DRP (see page 21).

YOUR BENEFIT

- Highly precise measurement thanks to highly robust equipment
- Long service life due to resistance to impact, contamination and vibrations
- Economic efficiency due to high quality
- Extremely precise
- Contact-free measurements possible
- Output voltage remains stable even if the supply voltage fluctuates

SPARE & WEAR PARTS PACKAGES



Machine audits enable us to make accurate predictions about when a machine will require wear and replacement parts during its service life. Based on this know-how, we will put together individual parts packages for you.

YOUR BENEFIT

- Individual packages
- Cost savings from combined shipments
- Timely stocking of the correct parts
- Complete order and supply chain solutions

Examples of tine arm & wear part sets

TINE ARM SETS

Consisting of:
- Tine arms
- Pivot bearing and cylinders
- Bearing for pivot cylinders on tine arm
- Tamping tool

WEAR PART SETS

Consisting of:
- Shafts, bolts, bushes, sealing rings
- Spacer sleeves and rings
- Spring washers & rubber rings
- Nuts, washers
- Grease nipples
- Lock washers
- Split pins
- Anti-rotation pins

Please go to page 26 for spare parts kits for tamping units.

CUSTOMER SERVICE



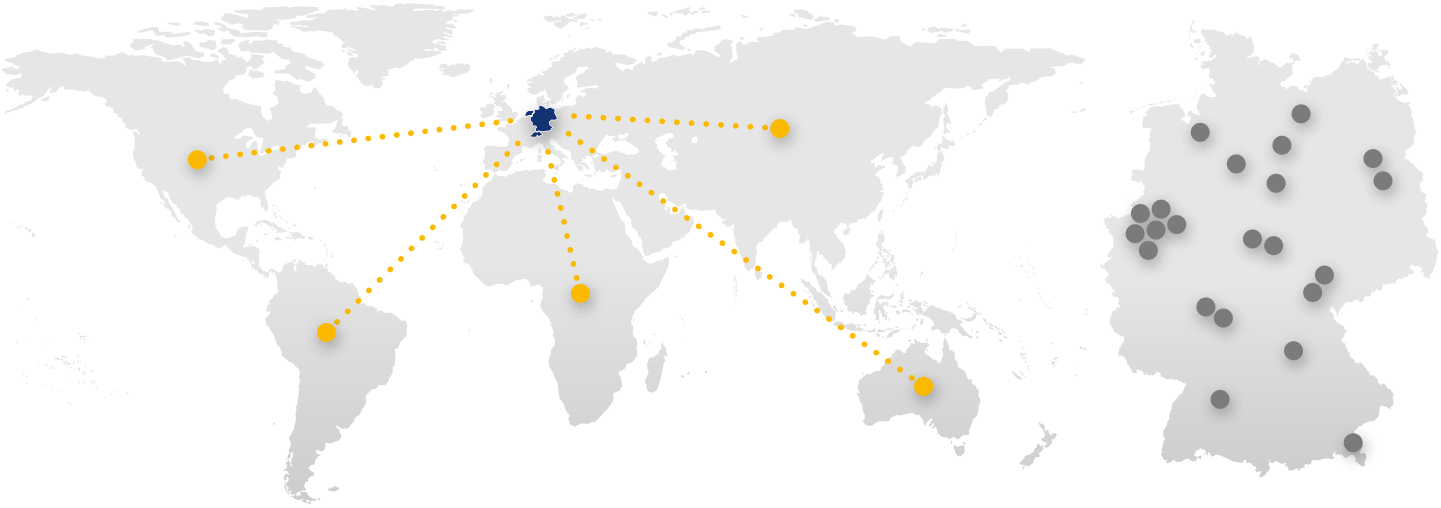
Maximum availability at every stage of a machine life

Starting off with a new machine is significant. Therefore, our technical support starts right in the initial phase of operation, where we commission your machine and provide staff training on site. Following this, you can obviously continue to count on our technical service, either via remote diagnostics or direct on your work site.

Over 5,000 deployments a year to 400 machines and in 6 countries speak for our technical know-how and our many years of machine experience.

One phone call is sufficient, and PRS will respond immediately and provide timely troubleshooting.

- **Trained staff** will carry out an initial fault diagnosis and determine the causes while you are on the phone.
- More than 30 experienced service engineers with many years' experience are working for you **7 days a week**.
- The PRS service vehicles are equipped with the **suitable original spare parts** required, depending on whether the fault is electric/pneumatic/hydraulic/mechanical.



Plasser & Theurer:
Germany, Switzerland, Netherlands

ROBEL large-scale machinery:
Worldwide

The bases of the PRS service technicians

Our service engineers repair faults at the work site without any red tape so that your machine is back in operation as quickly as possible.

Hotline 0800 777 18010

kundendienst@pr-services.com

MAINTENANCE | PERIODICAL INSPECTION | FULL SERVICE

Ensuring reliable performance

Vehicle-specific service intervals maintain the function and operational safety of your machine. We will provide you with a tailor-made maintenance schedule for each product, and you decide the scope of the service – from troubleshooting of specific defects to a full service.

PRS trained staff carry out periodical inspections in both maintenance workshops.



YOUR BENEFIT

- Maintenance schedule, installation and availability of spare parts are precisely timed – you will receive binding dates.
- The repaired machine is adjusted and tested on the company's own track system which is connected to the public railway network.
- PRS will update machines which are at our company for maintenance to the latest state of development in line with your specifications.

MACHINE AUDITS

A clear view of the condition of your machine

You can make significant cost savings if you detect issues before they impact the safety or availability of a machine. Machine audits by Plasser & Theurer provide a professional method of early detection. During this audit, the overall condition of a machine will be investigated and detailed information provided about which parts and components are in good condition and which ones need to be reconditioned, repaired or renewed.



YOUR BENEFIT

- Investigation of overall machine condition as a basis for decisions on further actions
- Standard procedure for all machines in use
- Detailed component assessment
- Production of a comprehensive audit report
- Prevents future risks and faults
- Utilises hidden potential
- VEDO Report: modernisation potential and required actions at a glance

REMOTE MAINTENANCE SERVICE SUPPORT

Immediate service reduces your downtimes

The data goggles enable remote maintenance via live video streaming to support repairs and servicing work. You are only a few clicks away from a PRS service engineer, regardless of where you or your machine are currently located.



YOUR BENEFIT

- Worldwide availability of specialist knowledge in real time
- Time saving and convenient headset system to leave hands free for work
- Intuitive voice control for easy navigation, even without a live connection to the service engineer
- Standardised and independent fault analysis through defined work instructions in PDFs, videos or in applications
- Media gaps reduced to a minimum thanks to access to stored files and video recordings via the integrated Document Navigator System
- Increased productivity thanks to complete documentation of maintenance and repair work carried out previously
- Recording of work process on video, e.g. for training purposes

TRAINING

Nobody knows your machine better than you

The better staff have been trained the lower the risk of accidents and the likelihood of operating errors. PRS provides training as standard during commissioning and on top of that offers product and service training according to your requirements



YOUR BENEFIT

- Training topics are:
  - Basic vehicle-specific knowledge with regard to electrics, pneumatics, hydraulics, mechanics
  - Vehicle theory and practice in preparation for the external exam
  - Optimum procedure for spare parts supply
- Suitable for operators and maintenance staff
- Optionally in the PRS workshops on in-house tracks (e.g. testing of brakes and work units)
- or on your premises

We keep in touch: The trainer is your personal contact over the whole life of the product and can always be reached.

UPGRADES AND RETROFITS
Better performance for proven machines



Plasser & Theurer and ROBEL railway machines are built for decades of operational service. Over the years, new technologies are developed for better machine performance. With our upgrades and retrofits, you can benefit from this improved performance, even on your existing machines. We update your measurement technology, mechanics or controls so you can operate your machines more sustainably and more economically.

YOUR BENEFIT

- Increased machine performance
- Improved safety
- Higher availability
- Extended range of performance and applications
- Optimised economic efficiency of your machine fleet



PLASSER DATAMATIC AND ROBEL RONNECTED
1:1 flow of information from machine to operating company

Plasser Datamatic and ROBEL RONNECTED are modern fleet management systems for track construction and maintenance machines. All data collected is stored on a central Cloud platform and made available in the Machine Condition Observer (MCO) which can be accessed easily via the web browser.

The key factors for the work performance of the machine are available for observation over longer time periods. For servicing, the circumstances surrounding failures during operation can be analysed. Long-term evaluation of data also enables early detection of signs of wear.

YOUR BENEFIT

- Cloud-based overview of condition and current location of complete machine fleet
- Machine Data Connector (MDC) to collect data at regular intervals and immediately send it to a central storage location
- Dashboards for analysis of historical data with CSV export function
- Customer-specific evaluations and reports for individual machines or whole fleets
- Remote access by Plasser Robel Services specialists, enabling quicker fault finding
- Minimising downtimes through more efficient deployment planning and direct navigation
- Automatic backup and automatic messaging when detecting impact shocks

DRP DATA RECORDING PROCESSOR

The measuring system for documenting track geometry



The DRP electronic data recording processor records, evaluates and displays various track and work parameters. These are read in at regular intervals and displayed on the monitor. The DRP is primarily used after deployment of a tamping machine or Dynamic Track Stabiliser for documenting the track geometry.



YOUR BENEFIT

- Track parameter checks for re-opening the railway line
- Evaluation of work quality
- Calculation of alignment and level acc. to EN 13848 as well as the standard deviation
- Automated tolerance limit exceedance report
- Saving time thanks to direct conversion into specific quality markers
- Graphic presentation of measured values and acceptance tolerances

SmartALC
Automatic Guiding Computer

Increased efficiency with smart technology



The SmartALC automatic guiding computer is the central control and operating element for correcting track geometry with the use of tamping machines. It supports the two best known work procedures around the globe for optimising the track geometry. These are the compensation method when the track geometry is not known and the precision method when the track geometry is known.



YOUR BENEFIT

- Optimisation of track geometry when unknown and correction of known target geometry
- High flexibility
- Increased efficiency
- Lasting track geometry thanks to controlled wear reserves
- Intuitive operation

ROTATIONAL SPEED MODULATION FOR TAMPING UNITS

Changing vibrations in a targeted manner

This additional controller makes it possible to change the vibration frequency during tamping. When the tamping tines are raised, they vibrate at an idling frequency of just 28 Hz. When penetrating the ballast, the frequency increases to 45 Hz. This makes it easier to penetrate the ballast, especially in highly consolidated ballast beds. During squeezing, the vibration frequency is still precisely the ideal tamping value of 35 Hz.

YOUR BENEFIT

- Easier penetration of the ballast bed
- Reduced wear of tamping units
- Lower fuel consumption
- Noise reduction of approx. 4 dBA



TAMPING UNIT SERVICE

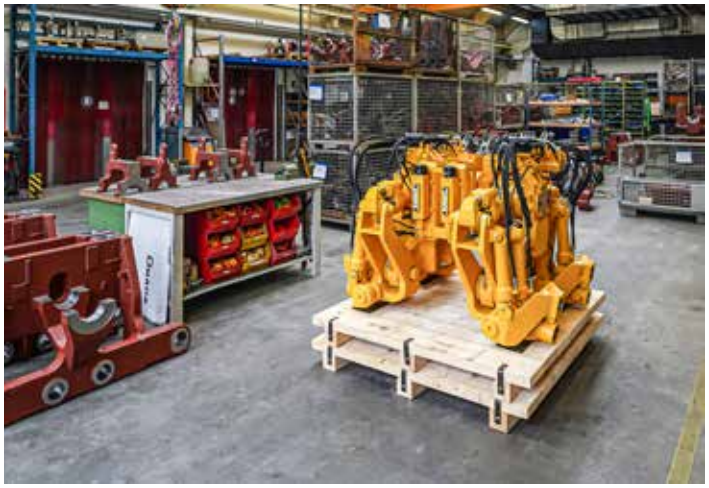


Assured productivity of your tamping machine

The tamping unit is at the centre of your tamping machine and responsible for compacting the ballast under the sleeper. The 35 Hz tamping frequency creates a homogeneous ballast bed, allowing for a stable sleeper base.
The following types of tamping units are currently available on the market:

- Plain line tamping unit
- Universal tamping unit
  - Universal tamping unit with pivoting tine
  - Split head units
  - Switch tamping unit

Tamping units are subject to extreme continuous stresses. The number of tamping cycles and the conditions of use are decisive factors for wear behaviour and service life. To maintain the work quality required and in particular the availability of your machine, PRS offers a comprehensive programme for tamping unit overhaul and repair.



Safety at a fixed price

Service packages for tamping units

When the competitive conditions for tamping contracts become harder, availability is what matters most. Therefore, we offer service packages for major overhauls which go beyond the usual overhauls and reliably ensure this availability. With an overhaul of a worn tamping unit, you will benefit from our seamless and professional service. We use original spare parts and work to the technical specifications of Plasser & Theurer.

YOUR BENEFIT

- Standard replacement of all relevant components*
- Functional check with test run on test rig
- Inspection of correct installation by our service engineers
- Includes inspection of all tamping-related components by our service engineers (depending on service package)
- Various warranty options
- Fixed prices

* Vibration shafts, bearings, squeeze cylinders, cylinders for pneumatic stroke limiters, hoses, guide posts including fixings, vibration shaft couplings, seals and sealing kits, bolts and bushes, screws, springs, nuts, washers and lubricants

Service packages for tamping units

CONDITIONS	VARIANT A4 New unit	VARIANT B4 Major overhaul	VARIANT B8 Major overhaul	VARIANT C Major overhaul
Service record booklet mandatory	Yes	Yes	Yes	No
Warranty*	2 years or 500,000 tamping cycles	1 year or 250,000 tamping cycles	1 year or 250,000 tamping cycles	6 months or 150,000 tamping cycles
Inspection Commissioning	Service incl.	Service incl.	Service incl.	Service incl.
Inspection After 10,000 tamping cycles (50 hours)	Service incl.	Service incl.	Service incl.	Service incl.
Inspection After 1 year or 250,000 tamping cycles	Service incl. Material incl. ■■■■	Service incl. Material incl. ■■■■	Service incl. Material incl. ■■■■	Excluded
Inspection After 2 years or 500,000 tamping cycles	Service incl. Material incl. ■■■■	Service incl. Material incl. ■■	Service incl. Material incl. ■■■	Excluded
Inspection After 3 years or 750,000 tamping cycles	Excluded	Service incl. Material excl. ■■	Service incl. Material excl. ■■■	Excluded
Supplements	–	–	–	Frame only
Additional material	–	Guide posts & fixing plates incl.	Guide posts & fixing plates incl. 1 tamping tine set free in second cycle	Guide posts & fixing plates excl.
Optional	1 tine set at 33 % discount	1 tine set at 33 % discount	1 tine set at 33 % discount for first major overhaul	1 tine set
Financial benefits	–	–	Savings on possible inflationary increases	–

Service package details

■ what occurs first

■■ non-binding proposal

■■■ binding proposal

■■■■ as defined by a service engineer of Plasser & Theurer Group



Additional information on service packages

VARIANT A4 New tamping unit with service engineer support	**VARIANT B4** Major overhaul at a fixed price	**VARIANT B8** Two major overhauls at a fixed price	**VARIANT C** Major overhauls of tamping units
We can supply a tamping unit with the latest technology. This will provide you with the max. wear reserve and extend the service life of your machine considerably.	We offer a service package for major overhauls which goes beyond the usual overhauls and reliably ensures availability.	The services of service package B4 can be extended by a second major overhaul.	We will analyse any damage and wear thoroughly and only take action where necessary. Of course, we will only use state-of-the-art original spare and wear parts.

Comparison: replacement tamping unit & repair on time and material basis

REPLACEMENT UNIT FOR VARIANTS B4, B8 AND C	**REPAIRS FOR VARIANTS B4, B8 AND C**
▪ Repaired tamping unit replacing your old tamping unit ▪ Many tamping units in stock, ready to be shipped ▪ Replacement tamping units can be manufactured in advance (8 - 12 weeks lead time, depending on unit)	▪ Your tamping unit repaired by us ▪ 8 – 12 weeks lead time
YOUR BENEFIT ➔ Fast availability ➔ Better planning capability	YOUR BENEFIT ➔ Your tried and tested tamping unit in new splendour

Spare parts kits for tamping units

Package deals for every type of tamping machine

It pays off to use original spare and wear parts from Plasser & Theurer when servicing or repairing your tamping units. Material quality, perfect fit and the latest technology speak for themselves.

YOUR BENEFIT

- ➔ Original Plasser & Theurer spare and wear parts
- ➔ Expert service engineers for installation and commissioning
- ➔ Various warranty options
- ➔ Installation of latest technology

Do you have any questions or require additional advice? Please get in touch with us on:

sales@pr-services.com

WHEELSET | BOGIE SERVICE



Certified quality for wheel-rail contact

The contact face between wheel and rail is one of the critical points of railways. The safety-critical nature of wheelsets and bogies requires specialist manufacture and maintenance. We are the first port of call for the reconditioning of idler/power wheelsets and bogies for providers of maintenance services in Germany, Austria, Switzerland and Europe. PRS has the resources, all European certifications and approvals as well as the measurement and test equipment for the complete servicing of components, independent of make and manufacturer: Plasser & Theurer, ROBEL, Techne Kirow, Matisa, ELH, Speno, Voith, etc.

YOUR BENEFIT

- Complete reconditioning process for idler/power wheelsets and bogies
- Short process times due to
  - flexibility with regard to space, staff and storage capacities
  - high availability of spare parts and their procurement for various makes
- Cooperation with certified service providers or OEMs, e.g. for the reconditioning of brake cylinders
- Expert contacts with manufacturer know-how
- Documented work processes provide continuous information on the order status
- Modern machinery

CERTIFIED SERVICE COMPETENCE

- DB HPQ for press-fitting power and idler wheelsets
- RISAS quality seal for the overhaul and new manufacture of wheelsets (UK)
- SNCF approval for the reconditioning and manufacture of wheelsets (France)
- ECM IV maintenance delivery of railway vehicles and on-track machines
- DIN 27201-7 Non-destructive testing on wheelsets and bogies

For an overview of PRS certifications see page 6 and online on www.pr-services.com/en/certifications

Every wheelset and every bogie leaves the PRS works at the agreed date, standard-compliant and with a certified test report.

Wheelset press

YOUR BENEFIT

- Conforming to standard DIN EN 13260
- Automatic recording and monitoring of force-path diagram
- Automatic measuring of all relevant data



TECHNICAL PARAMETERS

Year of manufacture	2015
Wheel diameter	500 – 1,000 mm
Track gauge	700 – 1,668 mm
Axle length	1,140 – 2,500 mm
Max. wheelset weight	2,500 kg
In accordance with applicable regulations	DIN EN 13260, etc.



Bogie test rig

YOUR BENEFIT

- Recording of all bogie parameters in accordance with DIN 25043-7
- Automatic measuring and recording of all data required in standards
- Static testing of contact forces
- Testing heights and dimensions in loaded and unloaded state
- Geometric measurement of wheelbase, alignment of wheelsets
- Reconditioning, new production or servicing – the result is a consistently calibrated and tested bogie





TECHNICAL PARAMETERS

Year of manufacture	2022
Bogies	2-axle, powered and idler bogies
Track gauge	800 mm – 1,676 mm
Wheel diameter	500 – 1,300 mm
Bogie length	≤ 5,300 mm
Bogie height	max. 2,100 mm
Bogie width	≤ 3,300 mm
Bogie weight	≤ 20,000 kg
Wheelbase 2-axle travelling gears	1,300 - 3,300 mm



Spring test rig

- Compression springs are tested in line with standard
- Deflection is marked with data tape
- Automatic recording



Gauge arm

- Used for bogie measurements
- Automatic storage and recording of measurement results

Repairs and revisions

PRS carries out revisions of wheelsets and bogies of all known brands as required by law.
Therefore, you will obtain standard-compliant quality and maximum planning certainty.

YOUR BENEFIT

- Original spare parts of different makes
- Customised machinery, continuously calibrated
- Documented work processes
- Certified test reports
- Short lead times and absolute deadline compliance

Vehicle outages right in the middle of maintenance work are cost drivers. Every hour counts until the machine is ready for service again. PRS has the resources to carry out repairs at short notice and make them top priority.

YOUR BENEFIT

- Expert advice on required action
- Stock-keeping of all common spare and wear parts
- Accelerated lead times
- Close cooperation with manufacturers ROBEL and Plasser & Theurer

MACHINE SERVICE



Ensuring efficiency, extending machine life

Give your proven machines a chance. Technology is developing continuously and creating new opportunities of increasing the efficiency of machines. At the same time, the market is constantly moving and requires adaptation. We offer comprehensive services which help you to extend the service life of your machines and ensure their performance or even improve it.

First the analysis, then the order definition.
For repairs and overhauls as well as retrofits, it is standard practice for us to analyse the condition of the machine - before any work is carried out. Only after this initial analysis, a decision can be made about which actions are actually required. You make your decision based on clear facts and an accurate calculation.

Plasser Robel Services is certified to the most stringent European standards.
You can look up all our certifications and approvals on page 6 or online on www.pr-services.com/en/certifications

YOUR BENEFIT

- Optimum life-cycle costs due to lower running costs and extended machine life
- Qualified staff for all important machine areas: mechanical, hydraulic and pneumatic components, electrical and electronic equipment
- Manufacturer know-how and access to original drawings
- In-house design for fast decisions and well-founded statements on feasibility and implementation

For PRS every intervention has the potential to ensure the full capabilities of your machine and, in the best case, extend its life and operability for many years.

RETROFIT
Doubling the service life with existing approval

RE POWERED
by Plasser Robel Services

Retrofit is the economically efficient alternative to new investment. We replace ageing components with new technological developments, carry out conversions and integrate additional functions resulting in higher productivity:

- Engine replacement
- Rotational speed modulation for tamping units (see page 22)
- DRP digital data recording system (see page 21)
- SmartALC guiding computer (see page 21)
- Digital maintenance with DATAMATIC and RONNECTED (see page 20)
- LED conversion

Rome wasn't built in a day. The technical preparation and ordering of material require a lead time of six to twelve months. The actual retrofit takes between eight and ten months, depending on the scope of work and the size of the machine. PRS ensures that only interventions within the existing approval are carried out. After a retrofit with completely overhauled hydraulics and electrics with tested or overhauled components and, if requested, engine replacement, you will take your track maintenance machine back into continuous operation as usual for the next 15 to 20 years.

- Without new approval
- Without time-consuming training
- With noticeably reduced maintenance costs

Retrofit for better ergonomics
- Air conditioning
- Additional heating
- Enhanced operating functions
- Retrofit of P500 machine controller for SSP

Equipment for improved safety
- Hydraulic hoses and electric cabling in accordance with the current fire protection standard
- New cab, e.g. with panoramic windows for SSP
- Latest LED lighting
- Retrofit camera system
- Complete overhaul of wheelset and bogies in our in-house workshop
- Optional: DSD, PZB, train radio, EBuLa upgrades

Added value for the environment
- New engine with up-to-date exhaust gas technology (Stage EU V)
- Optional: Replacement engine with particulate filter
- Optional: Dust suppression system upgrade



UPGRADE
Better performance for proven machines



Plasser & Theurer and ROBEL railway construction machines are built for operational service over many decades. New technologies deliver better performance. With our upgrade services, you can benefit from this improved performance, even with your existing machines. We will upgrade measurement equipment, mechanics or control systems to the latest technology. You can operate your machines more sustainably and more economically.

YOUR BENEFIT

- The latest technologies for existing machines
- Adaptation of upgrade systems to existing machines
- Installation by service engineers or in the PRS workshops
- Clearly defined services at fixed prices
- Increased safety and availability
- Extended performance
- Optimised economic efficiency of your machine fleet

Our upgrades and retrofits can be installed by our MACHINE SERVICE team in our workshops and also by our CUSTOMER SERVICE team at your premises.

ACCIDENT REPAIRS
Every day counts



After accidents, such as derailments and collisions of track construction machines, the reliability and experience of the repair shop helps to keep the outage as short as possible. PRS has direct access to manufacturer documents and carries out all work, from loss assessment to operational approval, in our own workshops promptly and to the agreed deadline.



YOUR BENEFIT

- Fast loss assessment for your insurance company
- Comprehensive repair quotation
- Fastest possible repair
- Original spare parts in stock
- Reinstating original condition in accordance with the regulations on accident repairs
- Testing and acceptance in our works

REVISIONS & PERIODIC INSPECTIONS

Relying on the manufacturer's expertise

Due to our close ties with the manufacturers Plasser & Theurer and ROBEL, we are more familiar with their machine technology than any other service provider and have all the technical documents required. Thanks to the support by our CUSTOMER SERVICE, we know what to pay particular attention to for certain machine types. For you this head start in know-how means the certainty of having the best partner for revisions.



YOUR BENEFIT

- Revisions in accordance with the country-specific maintenance guidelines
- All work required on wheelsets, bogies as well as rail-bound machines and vehicles of all makes can be carried out
- Safe implementation of the legal requirements
- Quality bonus due to use of original spare and wear parts
- Upgrades possible during work

OVERHAUL AND REPAIR OF COMPONENTS

Fixing instead of throwing away

When the time has come for a machine to be repaired or overhauled, any defective components will often be replaced with new ones. This may sometimes be associated with great expense and effort.

PRS offers an attractive alternative.
We can repair and overhaul all components and assemblies of your machine:

- All mechanical/hydraulic/electric machine components
- Work components and units
  - Drive components, engine, gearbox, cardan shafts
  - Brake components, valves, brake cylinders, controllers
  - Electrical components, circuit boards, pendulums, transducers



YOUR BENEFIT

- Cost benefits compared to new purchase
- Original spare parts
- Warranty and test certificates

UPTIME SERVICE

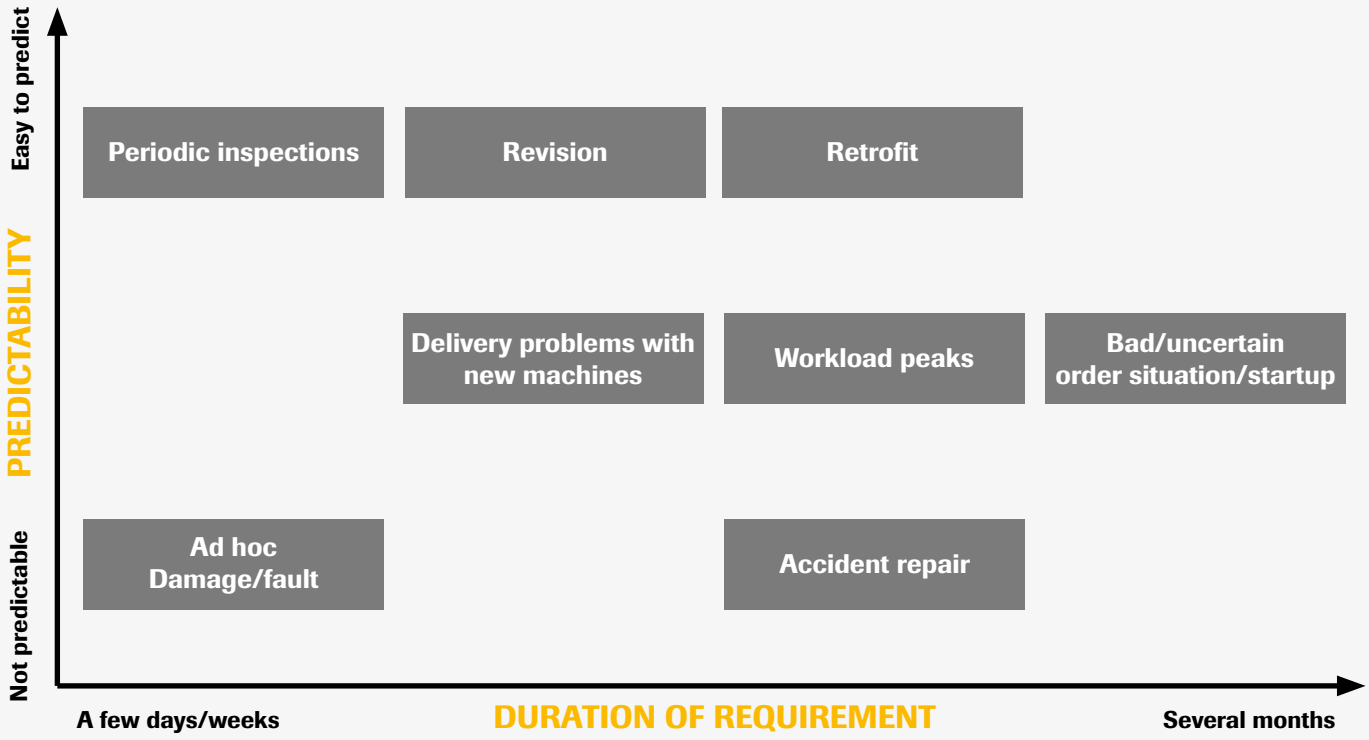


You remain productive. We provide the machine.

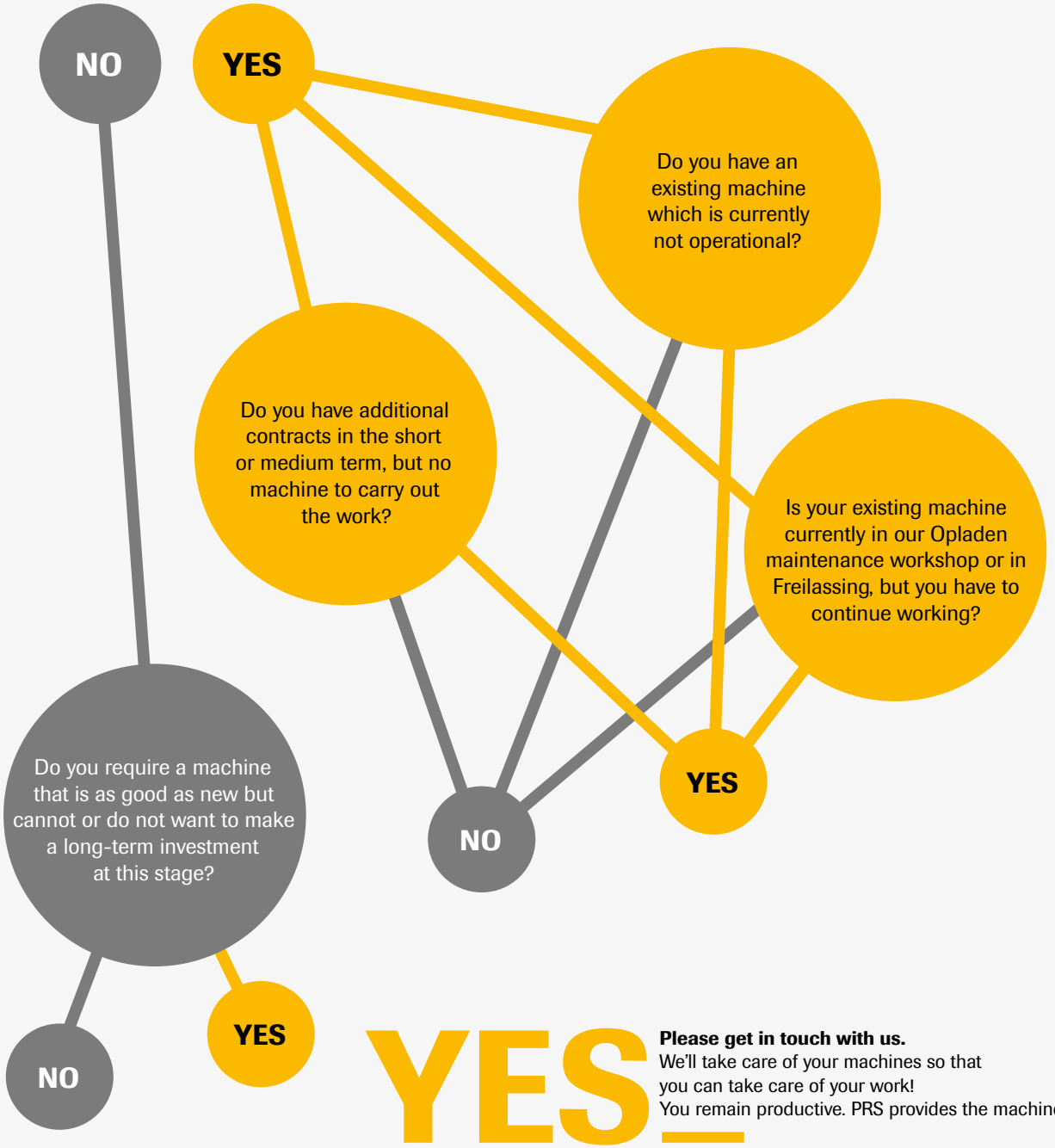
Operational working time is the hardest currency in track construction and maintenance, and for this, you require operational machines. PRS offers leasing as well as selling and purchasing of used vehicles for track maintenance.

A machine failure is always a challenge for planning. We can support you, depending on the predictability and duration of the failure.
Flexibly and individually!

We'll take care of your machines so that you can take care of your work!



Do you have an existing machine?



YES

Please get in touch with us.
We'll take care of your machines so that you can take care of your work!
You remain productive. PRS provides the machine.

NO

Is there anything else we can do for you?
We look forward to hearing from you!
sales@pr-services.com

In order to overcome these challenges without any downtimes or bottlenecks, PRS has developed a comprehensive concept.

Purchase, reconditioning and sale of maintenance vehicles

You don't have any use for your existing machine in the medium term? We will be happy to have a look at your machine and carry out a valuation.
You would like to take on additional orders, but delivery of a new machine takes too long or it is too risky to purchase one? We'll make use of our international network and will suggest possible alternatives.
As an official service partner and 100 % subsidiary of the Plasser & Theurer Group, quality is our top priority.



YOUR BENEFIT

- PRS is your professional partner for the purchase and sale of your used machine
- Fair valuation with repairs in line with manufacturer standards
- A second-hand machine which is as good as new as an effective alternative

Machine leasing to bridge downtimes and workload peaks

Your machines have to be serviced regularly: periodic inspections, revisions or a full retrofit. These downtimes can be planned in advance but have to be bridged nevertheless. With a machine from the PRS fleet, we both can ensure your continued operational capability.



YOUR BENEFIT

- Machine hire on a monthly basis or, if required, weekly or shift basis
- Also for suddenly occurring bottlenecks, depending on availability
- Focus on tamping machines, ballast ploughs, track vehicles
- No change in technology: your crew can work with the leased machine straight away

Supplementary services, machine inspection and valuation

For insurance purposes, financing or in other situations it is important and makes sense to have your existing machine valued by experts. We carry out an assessment of your machine, provide advice and recommendations, and you will receive a valuation range of how much you could sell your machine for. PRS also provides support for financing or longer-term leasing, similar to a leasing model. Get in touch, and we can respond to your specific needs!



YOUR BENEFIT

- As an official service partner, we talk to you on a level playing field
- You will receive technical recommendations and a financial valuation
- With new vehicles, we provide support with financing or leasing over several years

Plasser ROBEL
SERVICES

At your service. Anytime and anywhere.

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