

TRAKBLAZE

MINING, RAIL, ROAD & AIRCRAFT WEIGHING SYSTEMS

Over 95 Years of Innovation



MINING



RAIL



ROAD



AVIATION

RAIL PRODUCT CATALOGUE 2025

The TRAKBLAZE Difference is in the Detail

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Trakblaze Pty Ltd

Boasting over 95 years of expertise, Trakblaze Pty Ltd specialises in the production of cutting-edge static and weigh in-motion (WIM) hi-tech systems for weighing, balancing, monitoring, and volumetric scanning. Our solutions cater to the railway, road, mining, and aviation sectors.

Mission Statement

To innovate and deliver superior weighing solutions that meet the highest standards of accuracy and reliability, serving diverse industries with dedication and expertise globally.



*If you've been making them for over 95 years
- you too would know...*

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RAIL PRODUCTS

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INFINITY

Low/Hi-Speed Weigh In-Motion (WIM) Train Weighing System Accurate Reliable Load Cell Based System



INFINITY LS - Low Speed weighing up to 15km/h:

The Weigh In-Motion INFINITY-LS weighbridge electronic weigh-sleeper based system is the ideal low speed solution for mine loadouts, industrial plants, cement plants, power stations, steel mills etc. It consists of 2 electronic weigh sleepers & 4 dummy sleepers braced together forming one solid structure, incl. control cabinet and a PC with Trakblaze train weighing software.

The INFINITY-LS train weighing system can be installed two wagon lengths or more out from the loadout and provides the operator axle, bogie, wagon weight data, speed & wagon number all in real-time. This unique train weighing system enables the loading operator to regulate the filling so that the wagons are not under or overloaded. Weight data storage, printout & other features are available and train weighing results can be accessed from any location via the internet.

Installation of the INFINITY-LS train weighing system takes approximately 1 to 2 days (site dependent). Concrete foundation or civil works are not always required, however this is greatly dependent upon site conditions, although some form of ballast stabilisation is recommended to eliminate impact effects at the weighing transition points to ensure weighing accuracy and scale reliability.

INFINITY HS - Hi-Speed weighing up to 80km/h:

The Hi-Speed Weigh In-Motion INFINITY-HS is capable of train weighing up to 80km/h, dependent on track/site conditions & test train/rolling stock and operator. The INFINITY WIM rail weighing system consists of 6 electronic weigh sleepers & up to 12 dummy sleepers braced together forming one solid structure, including accessories, control cabinet and a PC with train weighing software. Train weighing results can be accessed from any location via the internet. Installation of the INFINITY-HS train weighing system takes approximately 2 to 3 days. Concrete foundation or civil works are not always required.

Benefits:

- Accurate reliable proven load cell based system
- No rail cutting, welding or grinding required
- Minimal installation / repair track down time
- Approx. 30 minutes to change parts (if required)
- Temperature compensated

LS = 0.1 UP TO 15KM/H
LOW SPEED = (0.1 TO UP 9MPH)

HS = 0.1 UP TO 80KM/H
HI-SPEED = (0.1 UP TO 50MPH)



TECHNICAL DATA

Capacity	Up to 50t per Axle
Achievable Accuracy	± 0.5% - 2% wagon approx. ± 0.25% - 0.5% total train approx.
Operating Temperature	-10°C - +70°C (in-track equipment only)
Transit Speed	Unlimited (approval by rail authority)
Voltage	24V DC / 110V - 250V AC
Data Transfer	TCP / IP

Note: Subject to change without notice. Images are for illustration purposes only. Speeds and accuracies may vary based on site conditions and vehicle operator.

INFINITY OVERVIEW:

- Low & Hi-Speed weighing
- Reliable loadcell based system
- Can be installed in a curved track *(up to 5km/h)
- No rail cutting, welding or grinding required
- Approx. 30 minutes to change parts
- Temperature compensated



Installation of INFINITY 'LS' weighing system in curved track



Australian Government
Department of Industry,
Science and Resources

National
Measurement
Institute

Registered Designs & Global Patents Apply

TRAKBLAZE INFINITY is Certified to NMI R106 (Automatic Rail Weighbridges)
Approval No: NMI 6/14H/8

Static or In-Motion Mobile Train Weigher

Take The Scale to The Train

The **MTW** is a Mobile Train Weighing system designed for both stationary and in-motion weighing, allowing rail vehicles to be weighed and spot-checked anytime, anywhere. It provides one of the world's most convenient, safe, and accurate train weighing solutions.

The MTW features a chassis arrangement with an integrated load cell, ensuring that weight is applied directly to the load cell rather than through the rail.

In a multiple MTW configuration, each base can be aligned with the axle spacing of the vehicle being weighed, eliminating restrictions on wagon type.

The MTW is factory pre-calibrated, eliminating the need for transporting test weights.



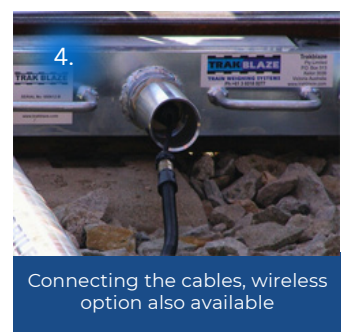
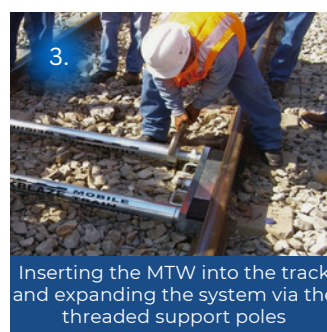
FEATURES:

- The MTW is easy to install, with training available from Trakblaze's highly skilled engineers via Zoom or on-site. It's essentially a do-it-yourself product
- User friendly
- Four easy steps to install (2 men - approx. 15 minutes)
- Transportable in the boot of a car
- Loadcell based system
- In-motion or static weighing
- Wireless options available
- Wheel, axle, bogie & total vehicle weight
- Multiple MTW's can be combined together
- Fits all recognised rail gauges
- Fits most rail sizes
- Instant printout or download to any device via internet

BENEFITS:

- *No track downtime during installation*
- *No costly civil works required*
- *Battery operated*
- *Simple operation*

4 Easy Steps to Install



TECHNICAL DATA

MTW Static & Dynamic

Length	560 ~ 600 ~ 656mm
Approx. Weight	20kg - 100kg
Power Supply	240V AC / 12V internal battery
Materials	High quality tool and mild steel
Capacity (max)	17.5t / wheel, 35t / axle
Increment size	Static: 0.02t Dynamic: 0.05t
Protection class	IP-67 / IP-65
Temperature	-20°C - +70°C
Mounting	Rail shoe to fit rail type
Installation time	10 - 15 minutes (two men)
Accuracy	Static: ± 0.5% (Subject to good truck condition and rolling stock). Dynamic: 2 - 3%. (Less than 1% under ideal conditions).

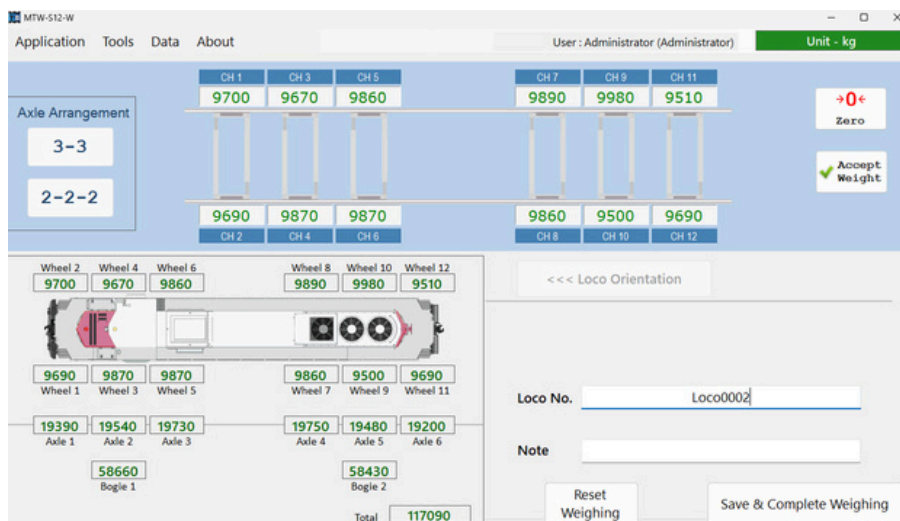
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Dynamic/Static Weighing
Rugged controller paired with a laptop or tablet



Rugged Tablet or Laptop
Equipped with TB software and a USB-connected wireless receiver



MTW Software (6 Axle)



MTW secure storage transport box

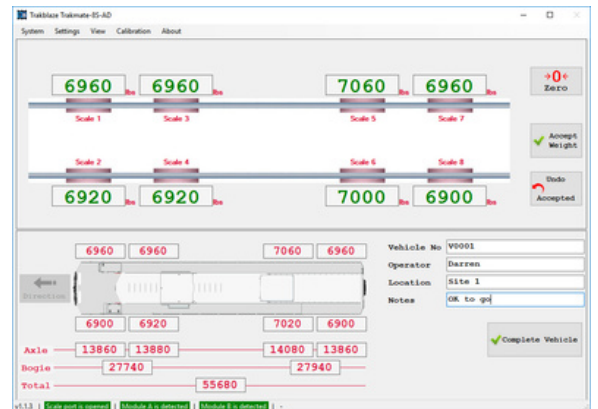
TRAKMATE

Rail Workshop Weighing & Balancing System

Precision Weighing, Perfect Balance & Optimised Performance



TRAKMATE is an innovative and versatile weighing and balancing solution designed for all types of rail vehicles. Engineered for precision and efficiency, it provides an essential tool for rail manufacturing, maintenance workshops, and other relevant applications. With its unique design, TRAKMATE delivers accurate and reliable measurements, ensuring optimal rail vehicle performance and safety.



Touch screen PC controller

Why should a rail vehicle be balanced?

- Possibly prevent derailments
- To improve safety
- Prevent break lockups & wheel flat spots
- Evenly balanced rail vehicles provide improved ride comfort in turn providing better fuel economy & less emissions
- Prevent rail vehicle & rail infrastructure damage

Benefits:

- Bespoke designs to suit your existing infrastructure
- Heavy duty - with overload protection
- Any wheel weight combination
- Temperature compensated
- Cost effective
- Up to 32 weighing modules available



Bogie balancing press fitted with TRAKMATE loadcells



TRAKMATE test press is used for on-site calibration - no test train required



TRAKMATE Controller

RVS

Real-Time Volumetric Scanner Revolutionising Rail Productivity

Real-Time Volumetric Scanning Software for Wagon Load Optimisation

The Trakblaze RVS is a rail industry specific volumetric scanning system that provides accurate and reliable volumetric data for each wagon.

The Trakblaze RVS enables rail loadouts to become more efficient and payloads are maximised each and every time through real-time scanning.

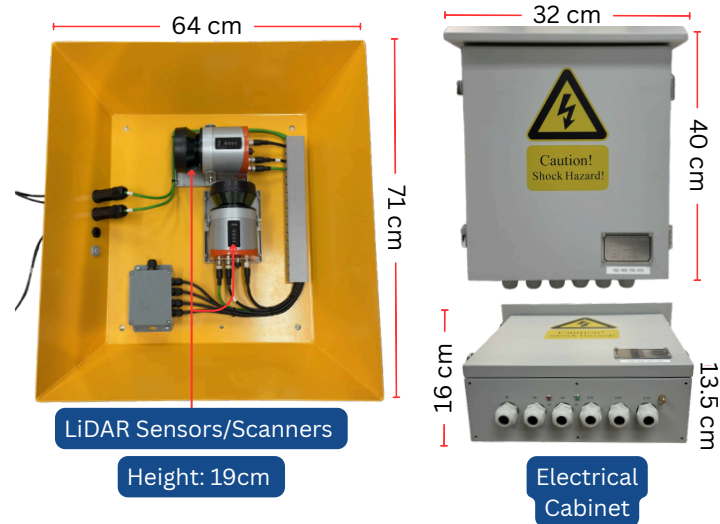


System Description

The Trakblaze RVS software has been developed specifically to allow direct acquisition of data from High-Speed 2D lasers over an IP network and custom developed algorithms built into the software, use captured data to generate volume information and measurement parameters for each train or wagon allowing for improved productivity through full-time monitoring of mission critical data.

The goal of the software which runs on a Microsoft™ Windows platform is for fast calculation deliverables of real time feedback and key metrics to optimise loading of each and every wagon. In turn, this assists operators in the fine tuning of loading operations.

Volumetric Scanning Kit



MVS

Mobile Volumetric Scanner

Advancing Volumetric Efficiency Through Innovation



Mobile Volumetric Scanner

System Features

The scan processing software provides near real-time outputs to the industrial data network.

- Calculation of production critical parameters in approx. 10 seconds or less.
- Easy installation and configuration.
- TCP interface to 2 x Lidar lasers to gather raw data.
- MODBUSTCP interface to provide an industry standard data delivery mechanism.
- Data items delivered to the industrial network are:
 - Loaded Volume (m³)
 - Tare Volume (m³)
 - Net Volume (m³)
 - Data Valid flag (valid / not valid)
 - Laser status flag for remote maintenance monitoring (Error, Contamination, OK)

The RVS and MVS is easy to install, with training available from Trakblaze's highly skilled engineers via Zoom or on-site. It's essentially a do-it-yourself product.



MVS PC based controller

ULTIMATE

Bogie Press

Precision Weighing & Balancing for Superior Bogie Performance



Precision Weighing & Balancing for Rail Maintenance and Manufacturing

The **ULTIMATE** Bogie Press is a semi-portable test rig designed to deliver robust and reliable weighing results for rail maintenance and manufacturing depots.

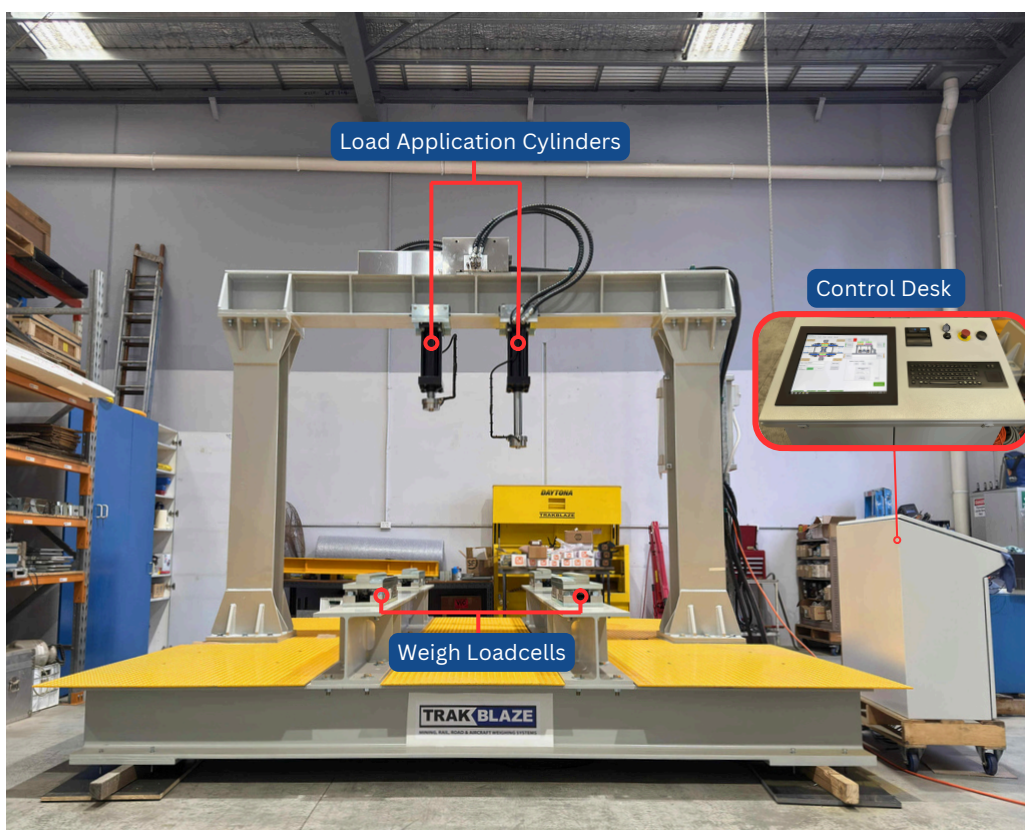
It accurately measures individual wheel loads along with applied load, providing valuable insights into the effects of simulated loading.

Equipped with user-friendly Trakblaze Bogie Weighing Software, results are displayed and stored on a standard touchscreen PC, ensuring seamless operation and data management.

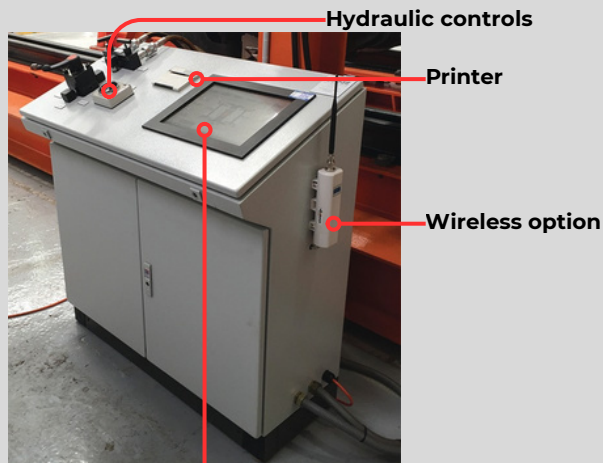
Key Features:

- ✓ **Customisable for 2 or 3 axle bogies** – adaptable to different axle centers and rail gauges.
- ✓ **Independent or paired loading points** – controlled effortlessly from the control desk.
- ✓ **Modular & Transportable Design** – easily relocatable in a standard container or rigid truck.
- ✓ **Rapid Setup** – can be installed within hours of delivery, reducing costs compared to permanent installations.

The Trakblaze Bogie Press offers an efficient, cost-effective, and flexible solution for rail operators, ensuring precision in bogie weighing and balancing wherever it's needed.



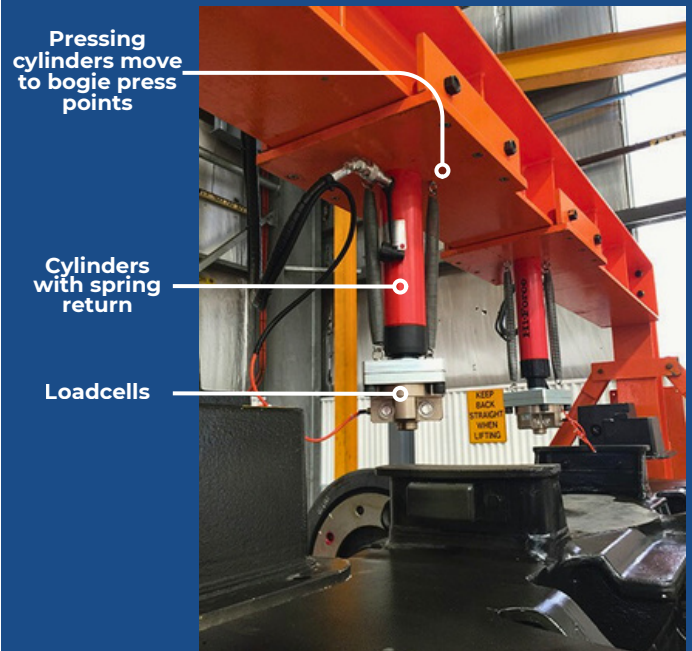
Control Desk



Touch screen PC controller displaying wheel loads & applied



Single or Dual Cylinders



TECHNICAL DATA

Construction format	Enclosed loop centre section. All pressing loads contained within. Bolt together construction to allow ease of transportation.
Rail gauge	To be confirmed on order (500 - 1700mm) with options for multiple gauges
Clear space between uprights	Standard 3000mm (Gauge dependent)
Twin ram format max capacity per ram	Up to 30 tonne (Single ram also available)
Max capacity of press structure	Up to 50 tonne
Cylinder centres	Variable up to 2500mm. Stops can be fitted as required
Ram stroke	Standard 250mm (others are available on request)
Loadcells(RAMS)	Compression type with mounting brackets
Pump	2 stage electric
Control circuits	220-240VAC/24 VDC
Number of wheel loads	4 or 6
Max capacity	20 tonne
Control desk	Located to one side adjacent to centre section All push button controls for press operations All hydraulic pressure and flow controls All readouts of load measurements of rams and wheels via built in PC controller

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TURBO

Railway Monitoring System

Wheel Force Diagnostics & Evaluation (Flat spot)



TURBO is an innovative force diagnostics system designed to assess wheel-rail forces and evaluate tread damages under operational conditions through wayside monitoring.

The system is installed in a position to monitor each wheel fully automatically via the wheel force diagnostic software during operational use. This allows the "condition-based maintenance" of your vehicles. TURBO is LGA/TUV certified and can replace manual measurements currently done in the workshop.

By utilising wayside monitoring and advanced graphical data handling, TURBO functions as a self-calibrating monitoring system. This convenient tool supports integrated quality management by enabling:

- **Statistical data collection**
- **Immediate notifications for limit breaches (e.g., flat spots)**
- **In-depth investigations of abnormal wear on wheels and bogies based on the dynamic running behaviour of vehicles.**

Moreover, TURBO provides precise measurements of wheel flat lengths and allows for the assessment of polygonisation severity (out of round) once the installation site is accurately set.

The TURBO can detect:

Flat tyre
Shelled tread
Shattered rim
Spread rim

- Fully automated, mobile, long term stability.
- All track types no modifications.
- 40km/h - 400km/h.
- Self calibrating, self updating software.
- Graphical data presentation.
- Limit value based on vehicle type (Identify vehicle types autonomously & selects all limits & values correspondingly).
- Centralised evaluation & trend observation - all data collected at a data processing centre. User define statistics supply encyclopedic information and facilitate investigations & analysis.



WHEEL PRO

Real-Time Wheel Profile Measurement of Each Wheel
Metro, Tram, Freight, Regional & Hi-Speed Trains



Wheel Pro System is a measurement tool that can obtain in real-time the profile of each wheel providing immediate feedback for every wheel and every axle of the train that is passing through the system.

The Wheel Pro System uses the wheel profile to calculate all important wheel and axle parameters and includes the following features:

- Contactless measurement of different types of wheels and vehicles
- Accuracy of ± 0.2 mm for the profile and ± 0.5 mm for the diameter
- Available for indoor and outdoor installation
- No civil works required
- Adaptable to almost any type of wheel / fleet / location
- Robust against the presence of sanders, electromagnetic brakes, etc.
- The results are obtained in real-time immediately after the train passes.
- Software tool included in order to manage measured data, analyse wheel wear, generate reports, trigger automatic warnings/alarms via SMS/e-mail, etc.



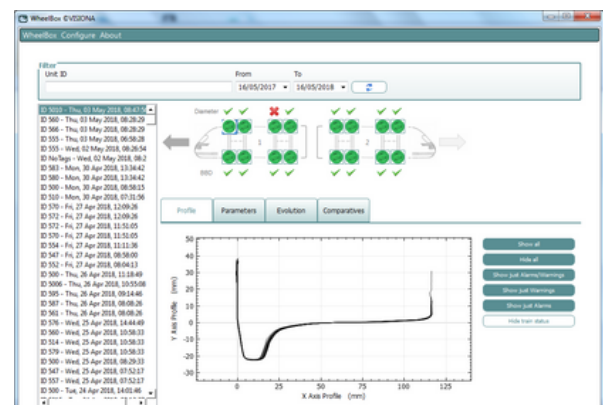
Apart from the typical wheel parameters, the following flange defects can be measured by the Wheel Pro, (limits to be specified by the customer):

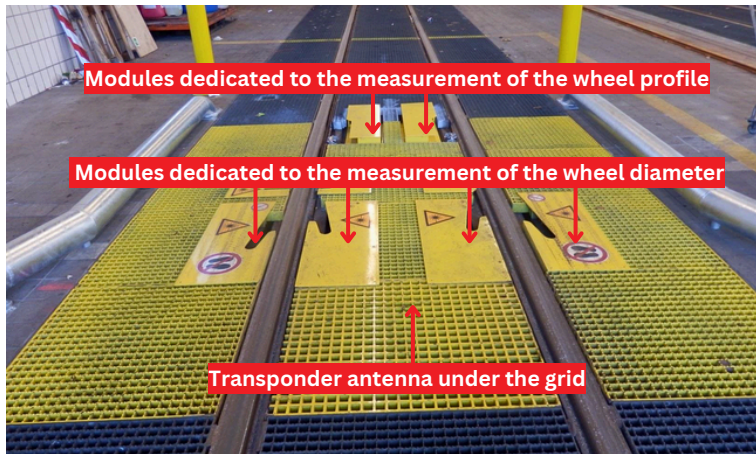
- Thin Flange
- Deep flange
- Sharp flange
- Less radius at root of flange
- Hollow tyre
- Thin tyre
- Hollow tread
- Tread rollover
- Flange rollover

Wheel Pro Software

All wheel profiles measured by Wheel Pro system are stored in a database and are accessible from the software platform. This requires every user to login to the system. Once logged in you will be able to manage and analyse every wheel in order to schedule predictive maintenance.

- Profile data management
- Monitoring of all profiles with warning and limit values per vehicle (requires RFID)
- Diameter monitoring for axle, bogie and vehicle
- Wear trend
- Warnings displayed as a traffic light for the driver or by SMS/E-mail to supervisors



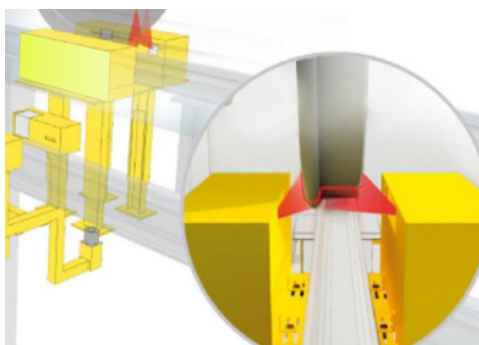
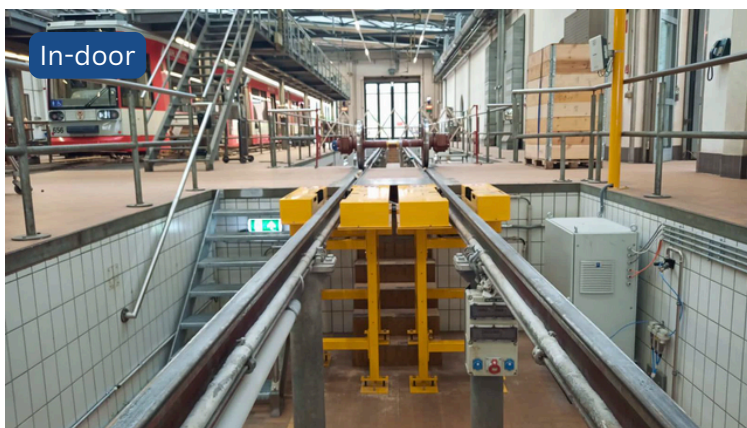


Train Identification:

The identification of every train that is measured is automatically done via RFID tags. The Wheel Pro system can integrate an RFID antenna and controller that can detect RFID transponders that may already be fitted in the trains.

In order to automatically identify the train ID and the correct order of the axles measured, it's necessary that every vehicle has at least 2 RFID transponders installed, one at the front and another at the rear.

When the wheel sensor detects that a train is coming, the modules are activated and the measurement cycle starts. This process is fully automated.

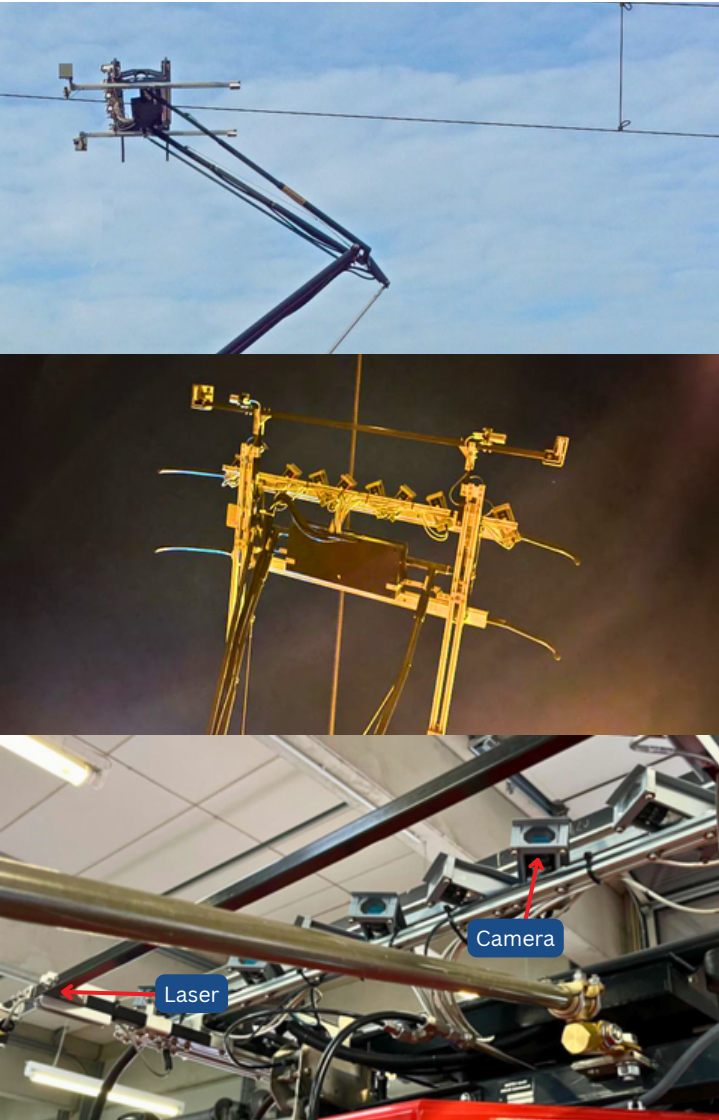


In track measuring device (in-door)

- Automatic wheel profile measurement
- Measurable wheel diameter difference: 100mm
- Back-to-back distance tolerance: Min-Max <30mm
- Accuracy diameter $\pm 0.5\text{mm}$
- Measurement of different wheel configurations
- Accuracy profile measure:
 - SH: $\pm 0.2\text{mm}$
 - SD: $\pm 0.2\text{mm}$
 - QR: $\pm 0.2\text{mm}$
 - Back-to-back: $\pm 0.5\text{mm}$

CATPRO

Contact Wire Wear Measurement System Monitors Wear on The Contact Wire During Operation



The **CatPro** optical contact wire wear measurement system continuously monitors wear on the contact wire during operation. Even while the contact voltage is active it provides crucial support for overhead line maintenance. Unlike traditional measurement methods, CatPro significantly reduces both the manual effort required and the distance between measurement points is greatly reduced offering a more efficient and streamlined process.

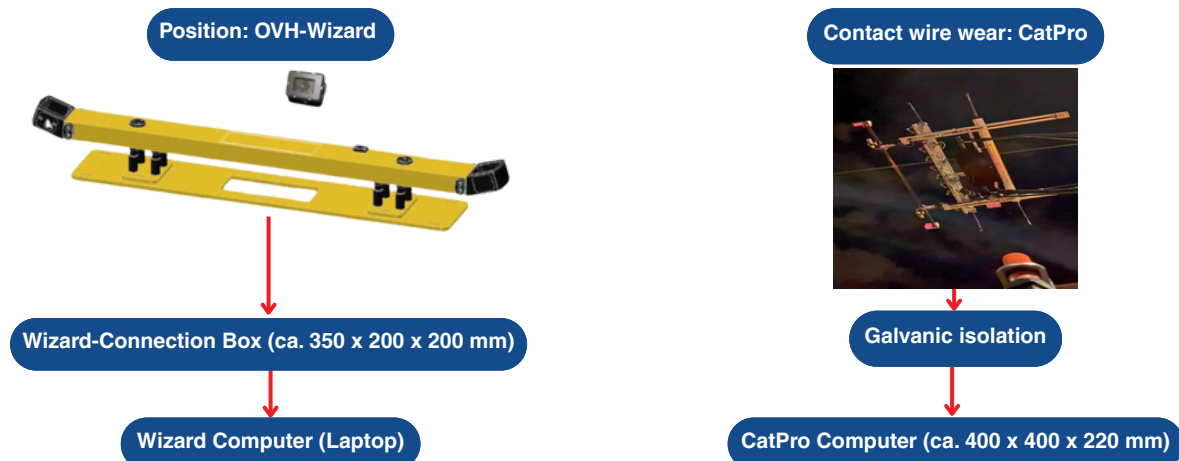
CatPro enables predictive maintenance by delivering accurate data that helps forecast future maintenance needs. The system focuses on two critical variables: the remaining cross-sectional area and the twisting of the contact wire. By tracking these parameters, CatPro ensures a proactive approach to managing wear, ultimately enhancing the longevity and performance of the overhead lines.

- Integration into a standard pantograph.
- The system works when the traction voltage is switched on.
- Customer-specific galvanic isolation possible.

System structure:

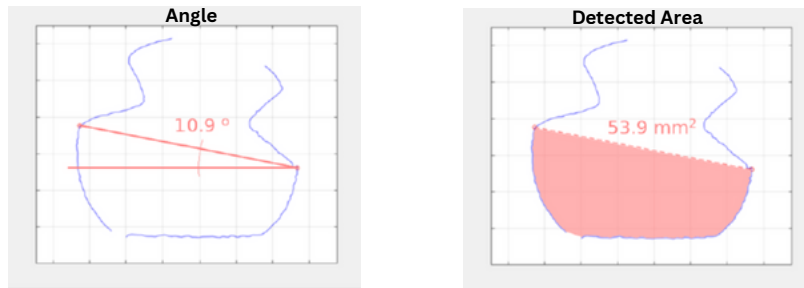
- Cameras → merged to stereo-camera systems.
- 2-line lasers which specifically illuminate the contact wire contour from the outside.
- Data communication via merging the cameras at the pantograph on fiberoptics (galvanic isolation).

Adding to the system the OVH-Wizard enables the measurement of height & stagger:



Operation of the entire system via wizard software. No further training required.

Target values of the measurement:



The system detects the relevant area of the contact wire.

Installation and setup of the system

The contact wire wear measurement system mounted onto pantographs with minimal modification, adds around 10 kg. Lasers and cameras capture wear data transmitted via a compact fiber optic cable.

A galvanically isolated power supply ensures safety. A small control cabinet (approx. 400 x 400 x 220 mm) with a data-processing computer is installed in the vehicle cab, enabling real-time analysis and seamless system integration.

Target values of the measurement

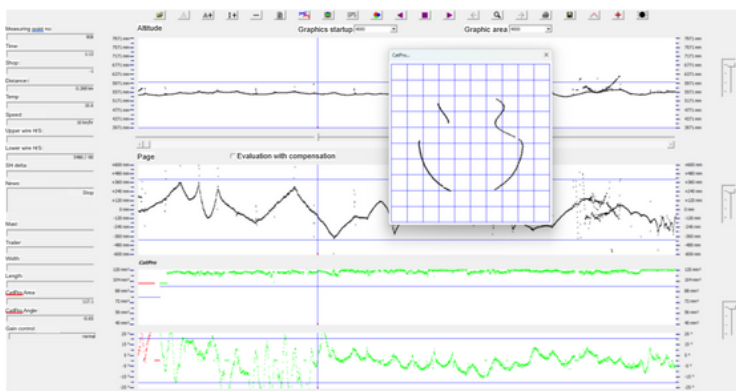
The main parameters for wear measurement are the residual cross-section and torsion of contact wire, captured using an optical measurement system with laser and 3D camera technology. Standard nominal cross-sections (80, 100, 120, and 150 mm²) and custom profiles are available upon request.

Operational measured value recording and data export

The contact wire wear measurement system can function independently or with the OVH Wizard system for positioning. Key features include:

- Live display of profiles and values during measurement.
- Visualisation of wire positions and wear angles along the track.
- GPS data recording for accurate location tracking.
- Customisable limit values for maintenance alerts.
- Optional camera integration for better monitoring.

Accurate measurements require operation free from solar radiation interference.



The CatPro Viewer software allows users to compare routes over time to forecast areas of wear. It also enables the export of measurement data in standardised formats for integration with route management systems.

TECHNICAL DATA

Standard version lateral position range:	500mm, larger lateral positions are possible on request
Measuring frequency:	≥40Hz; next generation: >100Hz
Measuring point deviation:	≤0.1mm area accuracy: ±3% at 10
Max. twist angle:	45°
Accuracy angle of twist:	1°
Weight:	12kg


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Over 95 Years of Innovation

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