

# TRAKBLAZE

MINING, RAIL, ROAD & AIRCRAFT WEIGHING SYSTEMS

*Over 95 Years of Innovation*



**MINING**



**RAIL**



**ROAD**



**AVIATION**

## ROAD 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...*

# CONTENT

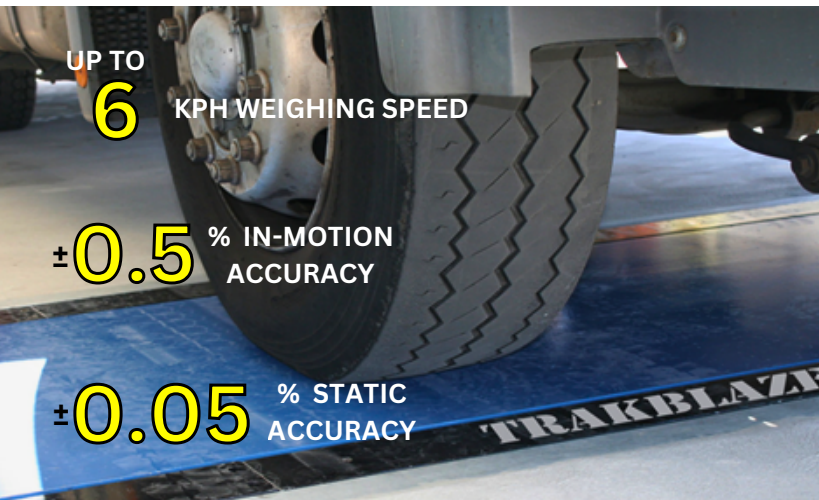
## ROAD PRODUCTS

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# FORCE 1

The World's Toughest WIM Axle Weigher  
Weigh a Truck In-Motion in 15 Seconds or Less!



## Save Time & Money With FORCE 1

The **FORCE 1 Weigh In-Motion (WIM)** truck axle weighing system provides weights on the go and eliminates the need for traditional weighbridges that take up valuable yard space.

The unbeatable FORCE 1 available in both static and in-motion models is built to withstand the world's toughest transport conditions while delivering exceptional accuracy.

Maximise productivity and profitability by ensuring precise, consistent load measurements while mitigating maintenance risks from overloading. Even if a truck's total weight is within limits, its axles may still be overloaded, the FORCE 1 can detect this issue.

The FORCE 1 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



- Unmatched Speeds up to approx. 6 kph
- Unmatched Accuracies at approx.  $\pm 0.05$ %
- User-friendly Software
- Latest Electronic Technology
- Robust Compact Design
- Minimal Civil Works Required
- IP-67 Rating (Outdoor equipment)
- Relocatable

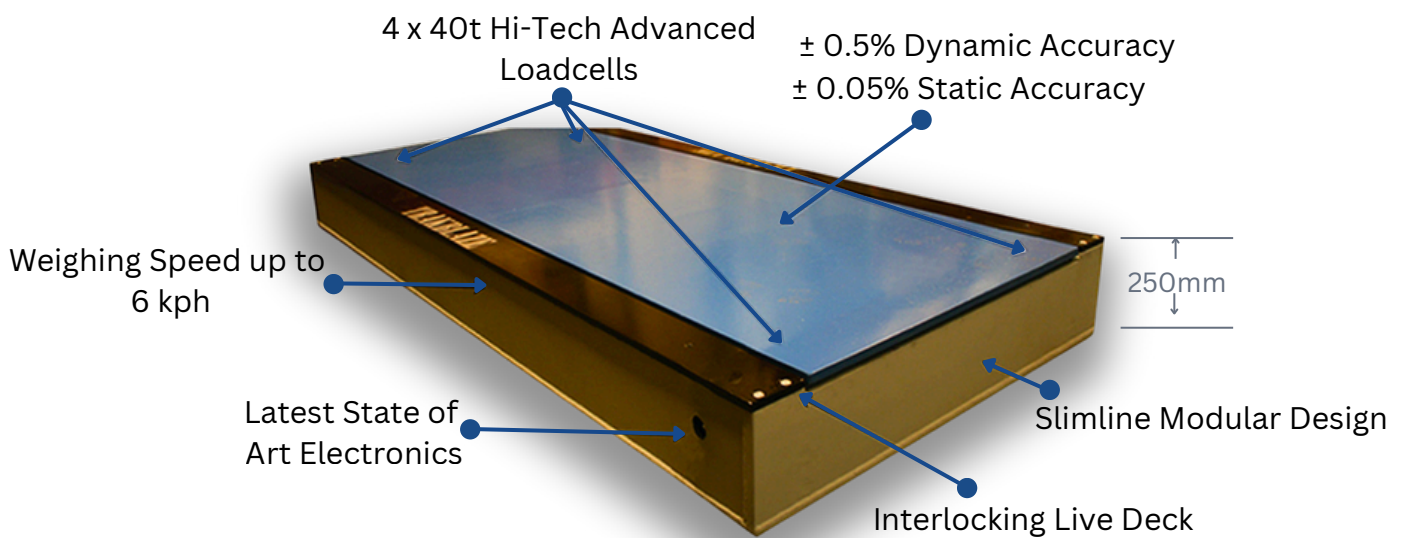
NOTE: These are the same electronics & software used in our high speed trade approved train weighing systems, hence the FORCE™ 1's unmatched speed & accuracy.

## FORCE 1 Site Installation in South Australia:

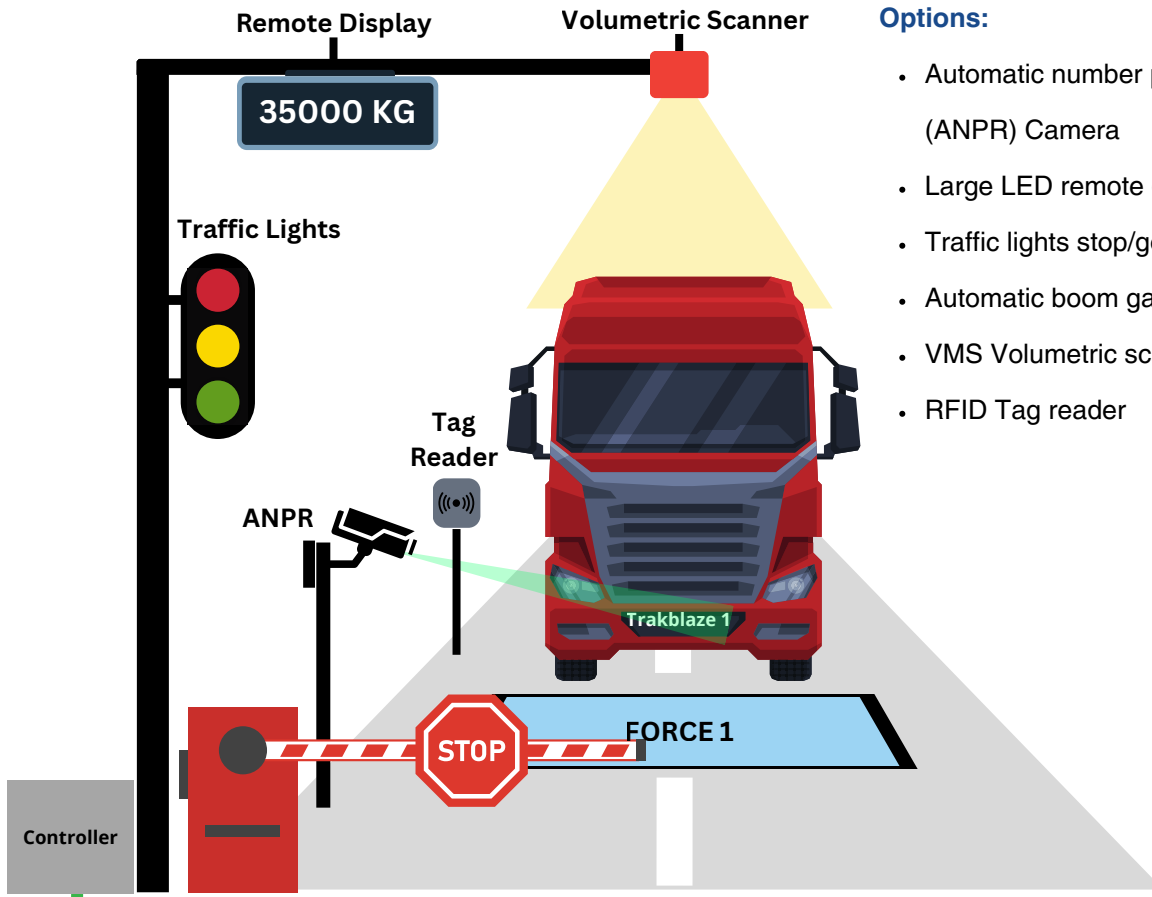
The FORCE 1 system, installed in South Australia, is used to weighed a 200-tonne centipede road train measuring 64.5 metres in length with 110 wheels in-motion at a speed of 6 km/h with  $\pm 0.5\%$  dynamic accuracy, showcasing FORCE 1's unmatched performance and reliability even in the harshest conditions.



## FORCE 1 HD Weighing Pad: 3060 mm(L) x 1160 mm(W) x 250 mm(H)



## System Overview & High-Level Design



### Options:

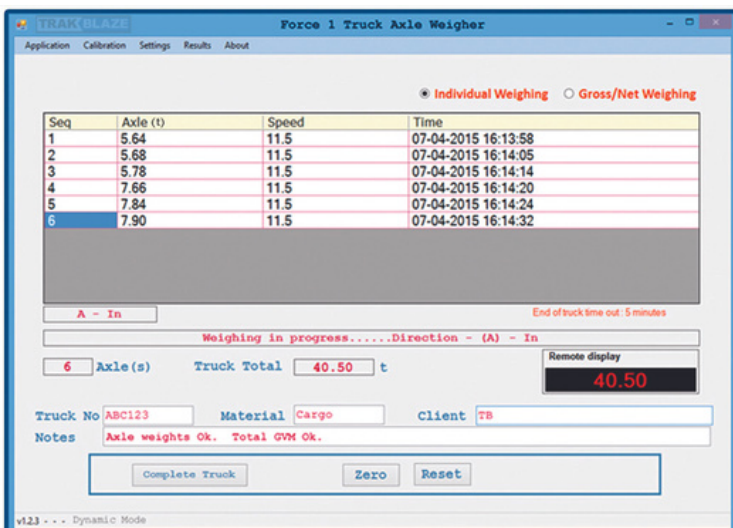
- Automatic number plate recognition (ANPR) Camera
- Large LED remote display
- Traffic lights stop/go
- Automatic boom gate
- VMS Volumetric scanner
- RFID Tag reader

### Network Connection

## Static/Dynamic Controller - PC Software

The **FORCE 1** Transport system features a Trakblaze Static/Dynamic Controller with direct ethernet capabilities interfaced to your workplace PC or laptop

The PC comes complete with Trakblaze's user-friendly proven and reliable software. The total truck weight is then derived from the summation of the individual axle loads and displayed on the PC interface and external remote LED display whilst also printed out for log books or archiving.



FORCE 1 - User Friendly & Reliable Software

For dusty or challenging environments the FORCE 1 controller can be upgraded to a rack/wall mounted Rittal enclosure turnkey.

Whatever your workplace or challenging environment is, the FORCE 1 system and Trakblaze have the bespoke solutions to ensure your loads are weighed with unbeatable speed, reliability and accuracy.

## Add On Options:



FORCE 1 with the traffic lights stop/go and our TVS truck volumetric scanner



FORCE 1 HD Weighing Platform



Automatic Number Plate Recognition (ANPR) Camera & Remote LED Display



FORCE 1 Weighing Platform



Automatic Number Plate Recognition (ANPR) Camera



Remote LED Display

## TECHNICAL DATA

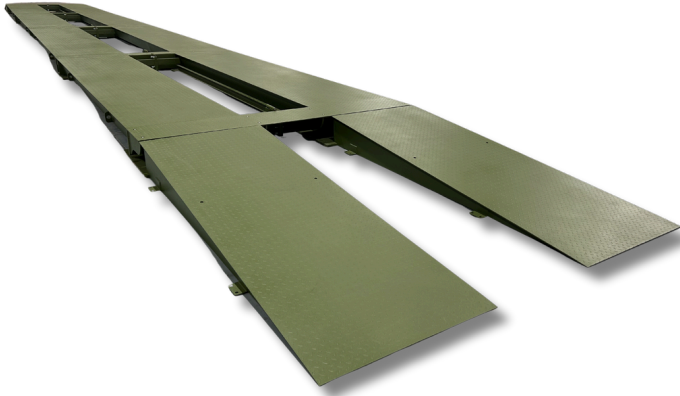
Capacity:	Up to 50t Axle
Dimensions:	3060mm(W) x 1160mm(L) x 250mm(H) - Standard
Static Accuracy:	± 0.05% GVM (depending on site conditions)
Dynamic Accuracy:	± 0.5% GVM (depending on site conditions)
Voltage:	110 - 240 VAC/24 VDC
Speed:	6 km/h
Available Options:	<ul style="list-style-type: none"> <li>• Remote LED Display/s</li> <li>• Automatic Number Plate Recognition (ANPR) Camera</li> <li>• Traffic Lights Stop/Go</li> <li>• Automatic Boom Gate</li> <li>• VMS Volumetric Scanner</li> <li>• RFID Tag Reader</li> <li>• SMS Weigh Data Notifications for Drivers</li> </ul>

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

# FORCE 10

## Portable Modular Weighbridge

Accurate, Robust & Reliable



The **FORCE 10** is a surface-mounted Modular/Portable weighbridge engineered to weigh road vehicles up to 80 tons. Its fold-open design includes all components from the deck to the load cells fully assembled for transport. Making setup and relocation fast and effortless. With a mere 30 cm module height, FORCE 10 is perfect where ramp space is limited.

### Key Features

- **Highly portable & transport-ready:** Hinged platform modules fold for easy transport.
- **Low-profile installation:** At only 30 cm high, the weighbridge requires minimal foundation and ramp length.
- **Heavy-duty steel construction:** Robust build ensures durability even in harsh site conditions.
- **Accurate load measurements:** High-resolution analog or digital compression load cells deliver precise and reliable readings.
- **Rapid deployment:** Surface-mounted design and integrated load cell system mean very quick setup.
- **Customisable sizing:** Options include module dimensions such as 3.0 x 18 m, 3.0 x 22 m, and 3.0 x 24 m, adaptable to site and application requirements.
- The FORCE 10 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

### Applications

- Construction & mining sites
- Logistics hubs and distribution centers
- Toll booths or remote weigh stations
- Temporary sites requiring accurate weight control

#### Optional LED Display



#### Optional Wired/Wireless Indicator



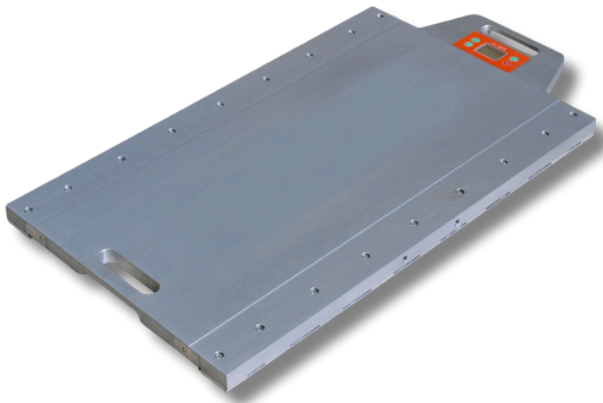
### TECHNICAL DATA

Dimensions (m)	Axle Load (t)	Capacity (t)	Surface Treatment
3.0 x 18	Up to 10t	Up to 80t	Standard Paint / Corrosion protection Paint
3.0 x 22			
3.0 x 24			

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

# TRUCKMATE LITE

**Portable, Light Weight, Accurate, Robust & Reliable**  
Ultra-Low Profile Design With Built-in Digital Display



The **TRUCKMATE LITE** is a portable, high-precision axle and wheel scale designed for static vehicle weight measurement. Built with lightweight, low-profile aluminium pads, it features integrated ramps and handles for easy setup and transport. TRUCKMATE LITE modular design supports 2 or more pads to suit various vehicle configurations. With a built-in digital display, optional wireless communication, and IP-rated, rugged construction, it delivers reliable performance in demanding environments. Ideal for fleet management, logistics, compliance checks, and roadside enforcement, the TRUCKMATE LITE ensures accurate, repeatable weight readings every time.

## Key Features

- Durable Aluminium Construction.
- Ultra-Low Profile & Integrated Design, easy to deploy and position under vehicles.
- Water-Resistant, Corrosion-Proof & Shock-Resistant.
- Multi-Seal Protection
- Lightweight and Portable with Built-In Handles for convenient transport and setup.
- User-Friendly Operation, simple interface with live weight readings.
- High Accuracy & Repeatability.
- Built-In Ramps allows smooth access for vehicle wheels.
- Integrated Digital Weight Display.
- Backlit Display.
- Battery Powered runs on high-capacity AAA alkaline batteries for up to 100 hours of operation.

## Static Weighing

Each wheel of the vehicle is weighed individually using dedicated weighing pads. The system can be configured with 2 or more pads, depending on the number of wheels or axles. This allows for accurate measurement of individual wheel loads, axle weights, and total vehicle weight during stationary (static) conditions.

## TECHNICAL DATA

Weighing Surface	700 × 430 mm
Overall Pad Dimensions	800 × 430 × 30 mm
Max Load per Pad	10t
Static Accuracy	≤ ±1% of full scale
Repeatability	≤ ±0.01% FS
Temperature Effect	~0.1% per 10 °C
Operating Temp Range	-10 °C to +65 °C
Battery Runtime	Up to 100 hours on AAA alkaline batteries
Display Range	Built-in LCD indicator with backlight
Connectivity	Optional wired or wireless setup (up to 30m)

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# TRUCKMATE

## The Next Generation Portable Axle Weigher

Reduce the Risk of Overloading

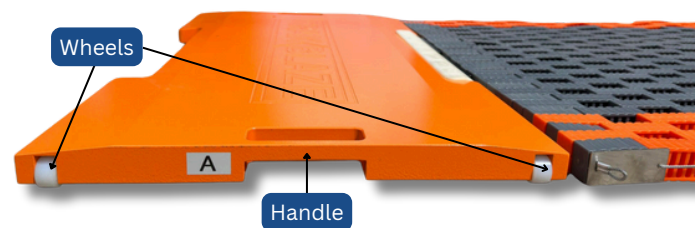


Introducing our hi-technology portable truck axle weigher **TRUCKMATE** the ultimate high accuracy weighing solution for trucks, trailers and other heavy-duty vehicles. Wired or wireless, accurate weight measurements have never been easier.

Designed with durability in mind, TRUCKMATE features two or more high-quality weighing pads capable of handling up to 40 tonne per axle. Constructed from heavy-duty steel, these pads provide a non-slip surface for precise weight readings in any operating environment.

One of the key features of the TRUCKMATE Axle Vehicle Weighing Scale is its wireless connectivity, which allows for easy data transfer and real-time weight monitoring.

The system includes a compact and lightweight controller with a clear LCD display and printer in a robust carry case providing users with accurate weight readings.



### Key features:

- Slimline
- Load cell based with high static or weigh in-motion high accuracy
- Water-Resistant, corrosion-proof & shock-resistant
- Large weighing surfaces that can accommodate dual tyres
- Built-in cable protector to avoid error when cable is broken (wired version)
- Built-in anti-electromagnetic parts to ensure weighing results will not be influenced
- Built-in auto compensation system to compensate for weighing error on dual and tri-axle groups

Rolled up levelling mats

Note: Levelling mats may be required for varying vehicle configuration

# TECHNICAL DATA

## PAD INFORMATION FOR STATIC WEIGHING

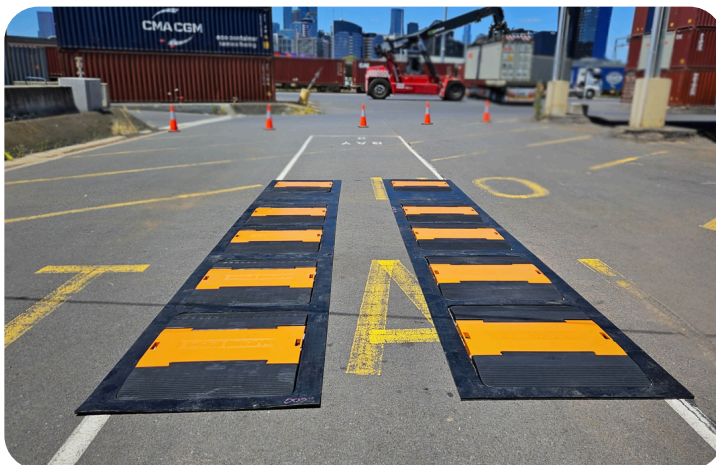
Pad size (mm)	Ramp size	Approx. Capacity per pad
400 x 300 x 40	400 x 250	5 tonne
500 x 400 x 40	500 x 250	10 tonne
800 x 450 x 40	800 x 350	15 tonne
900 x 500 x 40	900 x 350	20 tonne

## PAD INFORMATION FOR DYNAMIC WEIGHING

Pad size (mm)	Roll up mat size	Capacity per pad
400 x 300 x 40	3000 x 400	5 tonne
500 x 400 x 40	3000 x 500	10 tonne
800 x 450 x 40	3000 x 800	15 tonne
900 x 500 x 40	3000 x 900	20 tonne

<b>Static Accuracy:</b>	± 0.3%
<b>In-Motion Accuracy:</b>	± 2.0%
<b>Temperature Compensation Range:</b>	-10 ~ +50°C
<b>Sensitivity:</b>	1±0.2 MV/V
<b>Repeatability:</b>	≤0.01%FS
<b>Working Temperature:</b>	-40 ~ +80°C
<b>Overload Protection:</b>	Approx. 120%

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Rubber Pad Alignment & Securing Frame



Storage case

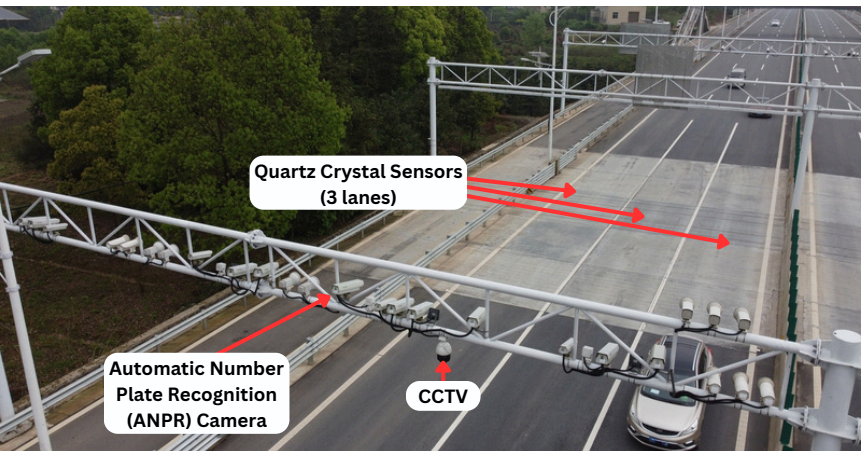
TRUCKMATE software data display, storage & spreadsheets

Printout sample

# WIM System

## X7b Low & X7a Hi-Speed Weigh In-Motion System

Smarter Roads Start with Smarter Weighing



**Low Speed and Hi-Speed Weigh In-Motion (WIM) systems** measure vehicle weight, axle loads, speed, and vehicle classification. Installed in or alongside roadways and facility entrances, the X7 series delivers real-time data for traffic monitoring, overload control, and enforcement. These systems feature license plate recognition, data acquisition software, over dimension detection, infrared vehicle separators, charge amplifiers, and a centralised monitoring center. Trakblaze X7 WIM supports highway safety and planning, while low speed WIM ensures accurate weighing at checkpoints. Together, they enhance road safety, optimise load management, and provide vital data for efficient transport regulation and infrastructure development.

### System Composition

The X7 systems includes quartz sensors, amplifiers, a WIM controller, inductive loops, and other components for high-speed, high-precision vehicle data collection and accurately measures speed, axle load, and wheelbase across varying speeds. Compared to static platforms, X7 offers better accuracy, faster installation, easier maintenance, strong anti-interference performance, and reliable operation in diverse weather conditions.

### System Features

Both the quartz weighing system and the platform weighing system are capable of high-speed, high-density, and high-precision data sampling of moving vehicles. Accurately calculate key metrics such as vehicle speed, axle load, and wheelbase in real-time.



## TECHNICAL DATA

Accuracy	95% (subject to installation conditions)
Single axle rated load	<b>Low Speed:</b> 40t <b>High Speed:</b> 150% (single axle)
Speed range	0.5 to 100km/h
Speed error	≤±1km/h
Wheelbase error	≤±100mm
Working voltage	AC 220-240V 50Hz
Maximum lane coverage (one direction)	<b>Low Speed:</b> 2 lanes <b>High Speed:</b> 8 lanes
Data storage	40000 vehicle data
Data interface	<b>Low Speed:</b> RJ45 <b>High Speed:</b> Ethernet
Working temperature	-40°C to +85°C
Confidence	≥96%
Output Information	Speed, total weight, axle load, number of axles, wheelbase, vehicle type, and passing time

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## Other WIM Applications:

### X8 Bridge Safety Inspection & Monitoring System

Bridge Safety Monitoring System combines smart sensors, real-time data acquisition, advanced analytics, and remote monitoring to deliver continuous insight into structural performance. With intelligent alarms and automated reporting, it ensures proactive maintenance and informed decision-making—enhancing safety, reliability, and longevity of critical bridge infrastructure.

## Software

Trakblaze WIM software will collect and analyse large-scale data from all weighing stations within the installation area. The system streamlines the entire process for managing oversized vehicles including document review, filing, notification & archiving. It also enables precise authority management for overload control stations and law enforcement personnel.

By leveraging AI-powered big data analytics, the system delivers in-depth statistical insights to support informed decision-making. This significantly enhances the efficiency of overload control operations ensuring fair & consistent law enforcement, deters violations by freight drivers & actively contributes to the prevention & reduction of overloaded/heavy vehicles.

### Software Features

The management platform is built on a Browser/Server architecture and supports standard open interfaces for seamless integration with public platforms. Its back-end service architecture is developed using cross-platform languages ensuring compatibility with both Windows and Linux operating systems.

### Dynamic Weighing Data Acquisition

The dynamic weighing data acquisition software is designed for the Windows operating system, with core functions including data acquisition, matching, synthesis, display & storage in complex operational environments. Typically installed using a on-site industrial computer, the software runs continuously 24/7.

It features a lightweight, installation-free design optimised for low resource consumption. Additional advantages include automatic fault detection and self-recovery capabilities along with strong compatibility across a wide range of hardware devices. The system offers high flexibility and scalability, supporting service clustering and automatic data backup while maintaining robust data security. The adoption of an open and modular architecture provides a strong foundation for future functional expansions and system upgrades.



## Mining/Haul Truck Volumetric Scanner

Maximising Profits & Payloads

### Real-Time Volumetric Scanning System for Mine Haul Trucks

TVS is a non-contact volumetric measurement scanning system designed to measure loads of bulk loose solids & minerals in mining trucks.

The TVS software has been developed specifically to allow direct acquisition of data from the intergrated laser scan head allowing for real-time monitoring of payloads.



Trucks are scanned as they pass slowly beneath an elevated Scan Head, which houses two high-precision distance lasers, commonly known as laser scanners. As a vehicle moves through the scanning area, the laser scanners capture thousands of distance measurements per second, creating a detailed data profile in real-time.

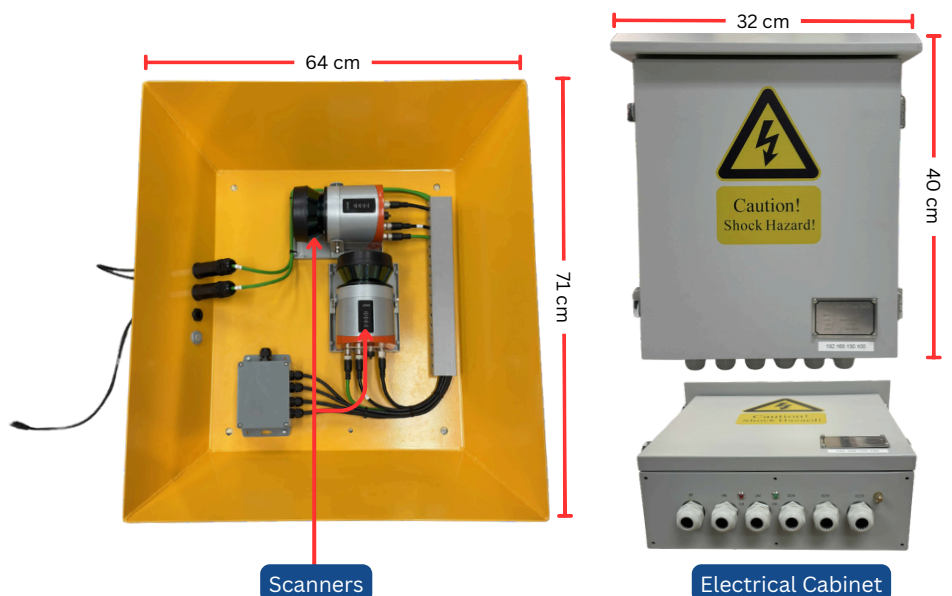
As a truck passes beneath the laser scanners, the system captures distance data and generates a detailed 3D model or "surface profile" within the software.

To establish a baseline, the vehicle is first scanned while empty, and this profile is stored in the system database as the zero reference. When the truck is scanned with a load, the software compares the new profile against the recorded empty profile. By precisely aligning the two profiles, the system calculates the load volume based on the differences detected.

Empty Mining Haul Truck Scan

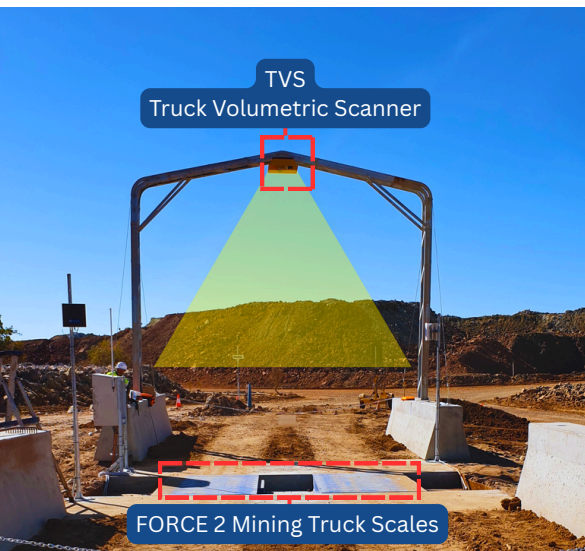
Loaded Mining Haul Truck Scan

### Volumetric Scanning Kit



Scanners

Electrical Cabinet



## Data Interface Options:

Data Interfaces	SQL Server, MODBUS (TCP)
Data Fields	Volume (m3), Speed (m/s), Length (cm), Width (cm)
3D Output	X3D Compliant, 3D model for every scan
Auto Rating	Software automatically determines the validity of scan data and rate a scan as 'Good' or 'Bad'.
Laser Status	Laser contamination status is monitored via the touch screen interface (Good, Contamination Warning, Contamination Error).

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

The TVS 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

## Software

The TVS processing software provides near real-time outputs to the industrial data network through a responsive design using multi-threaded technology, with calculations of production critical parameters in less than 10 seconds!

**The software processes:** Date & time, Vehicle ID (optional), Volume, Length (m/ft), Speed (m/s), Scan validity, Empty/loaded.

**TVS**

File

System Time **2016/08/02 9:03:28 AM**

Local Data Folder C:\ScanData

Laser Status Monitor - WIDTH  Laser Status 192.168.9.211

Laser Status Monitor - TRACK  Laser Status 127.0.0.1

Most Recent Scan Data

Length 43.47 ft  
Length (FOI) 4.37 in  
Speed 1.04 m/s  
Volume 116.3 yds  
Data Valid (Post Processing Result)

0.00 m/s Laser to Ground Detecting.... Ground at 1493

Date	Time	Truck ID	Volume	Length (ft)	Speed (m/s)	Scan Valid	Empty / Loaded	Local Link
2016/07/20	11:41 AM		5.84	44.75	0.95	True	<input type="checkbox"/>	
2016/07/19	11:10 AM		129.72	45.05	1.15	True	<input type="checkbox"/>	
2016/07/19	11:16 AM		120.38	42.32	1.28	True	<input type="checkbox"/>	
2016/07/19	11:20 AM		118.10	42.49	1.46	True	<input type="checkbox"/>	
2016/07/19	2:01 PM		117.08	43.47	1.05	True	<input type="checkbox"/>	
2016/07/19	2:04 PM		116.47	43.641	1.15	True	<input type="checkbox"/>	

9:01:47 AM: 20160719140101 Processing Complete, result: Success  
9:02:15 AM: 20160719140450 Processing Complete, result: Success  
9:02:50 AM: 20160719141152 Processing Complete, result: Success  
9:03:16 AM: 20160719141549 Processing Complete, result: Success

Download Data


CTcpComm - No Device at - 127.0.0.1

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*Over 95 Years of Innovation*

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