

Accurate payload information to optimize your civil project

Pay only for what you receive, optimize truck loading, reduce haulback and increase profits.

NED

NATIONAL EQUIPMENT DEALERS

Authorized Loadscan Dealer

LOADSCAN[®]

accurate payload measurement

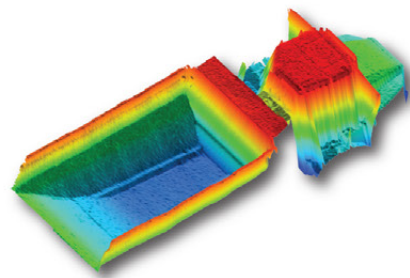
Loadscan's Payload Measurement Solutions are satisfying growing global demand for reliable and accurate load measurement across a range of civil projects.

What is load volume scanning?

The Loadscan Load Volume Scanner (LVS) system utilizes eye-safe laser scanning technology combined with proprietary Loadscan software to measure the exact volume of material loaded into a truck bin. With the LVS system you'll measure actual volume, not a converted weight estimate.

Loadscan developed the original patented load volume scanner in order to measure and accurately track all material movements out of the quarry and onto the civil construction site. The accuracy of volumetric laser measurement ensures that contractors and civil project operators only pay for what they actually receive, and not a theoretical volume estimate.

How the LVS system works



Empty truck is scanned to create reference scan in the database



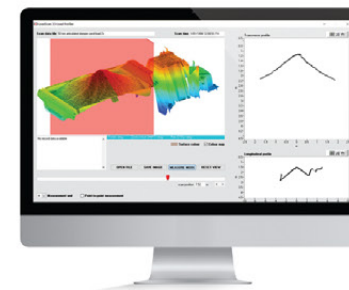
Trucks can be tracked manually or fitted with RFID tags for automatic identification



A 3D scan image of every load is generated, providing an audit trail and visual record of loading. Customers have found this extremely helpful for monitoring staff performance and improving loading practices.



Trucks are scanned by driving below an elevated scan head, which can be mounted on a portable or fixed pole or can be fitted to a trailer. The scanning process is fully automated



Proprietary Loadscan software reports volumetric measurement, including 3D load profiles of every load



Green, together

The Loadscan LVS is an environmentally-responsible technology. It consumes no fossil fuels, and outputs no harmful chemicals. The LVS optimises truck loading. Optimally loaded trucks are a more efficient use of assets, requiring less trips to shift the same amount of material. As a result, less fuel is consumed with less exhaust emissions. Loadscan technology is helping our customers to reduce their carbon footprint and lessen the impact on the environment.

A typical load volume scanning system



System visual is indicative only and not to scale. Final system specification may vary.



**Block Mounted Portable
LVS-3BMP**

- 📍 For long-term projects or fixed locations
- 📍 Built in kiosk option
- 📍 Portable (fork-slots and lifting points provided)



**Block Mounted Fixed
LVS-3BMF**

- 📍 For permanent locations
- 📍 Flexible cabling/component layout to suit site-specific permanent installation requirements
- 📍 Hardwired to office for weather-protected access



**Block Mounted Fixed
LVS-3BMF (Outrigger)**

- 📍 For permanent locations
- 📍 Flexible cabling/component layout to suit site-specific permanent installation requirements
- 📍 Hardwired to office for weather-protected access



**Trailer Mounted Mobile
LVS-3TMM**

- 📍 For short-term projects or multiple locations
- 📍 Self-contained and towable

Convenient scanner system options

Loadscan offers a range of scanner options to suit your project requirements.



Accuracy starts
at the laser
scan head



The scan engine is the heart of our volume scanning systems. Using safe Lidar technology, the range finder lasers in our LVS systems are the highest specification available, and the only lasers on the market that have passed the stringent metrological and accuracy testing required for trade approval*.

**Accurate scanning alone doesn't
guarantee accurate data!**

Only when you combine it with our proprietary algorithms do you get reliably accurate measurement data that enables you to make confident business decisions.



Ensure you only pay for the material you receive

Variations from initial material volume estimates and final in-place volumes often occur, resulting in cost overruns, construction claims, disputes, budget waste and added administrative costs.

With a Loadscan LVS system you'll end supply disputes. If you purchase or supply construction materials in cubic volume then it makes sense to manage and account for infill delivered to site using a common method, because disputes over supply can be frustrating, time consuming and expensive.

Traditional methods of determining truck load volumes, including converting from weight, counting loader buckets, or simply counting trucks, are inaccurate and contribute to supply disputes. Survey quantities don't account for bulking factors in material loaded into a truck from a cut, nor compaction of the material when it's unloaded at a fill site.

Volumetric laser scanning is the only accurate and consistent load measurement method.

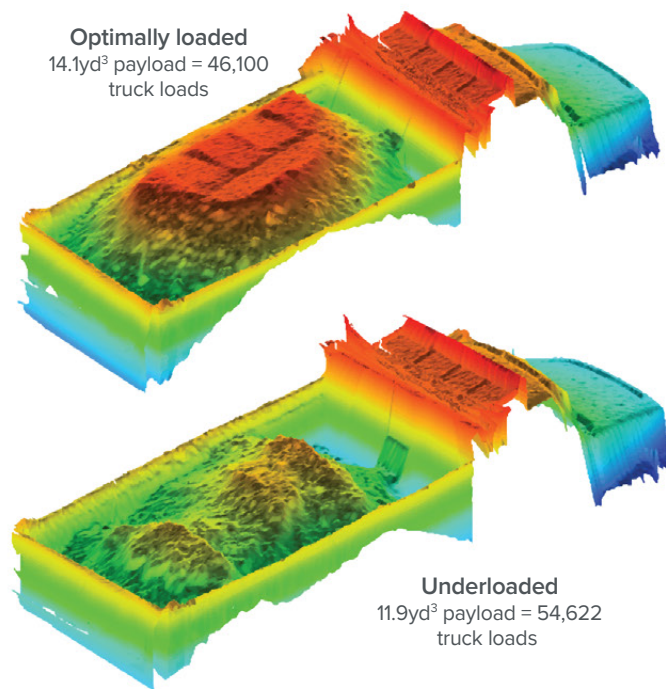


Underloading costs civil operators a fortune

Underloaded trucks can significantly increase overall project costs, and it's not uncommon to see underloading factors as high as 20%.

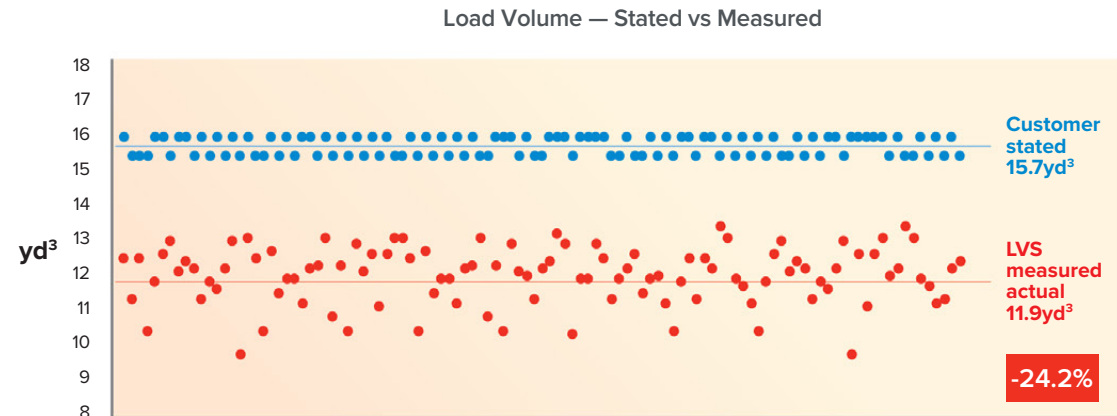
With automatically generated 3D scans of every load you can identify poor loading practices and use the information to coach and train loader operators.

By optimizing loading you'll maximize the value of every contract. In addition, knowing that you're accurately measuring and optimizing your truck capacity will enable you to be more confident when preparing project bids.

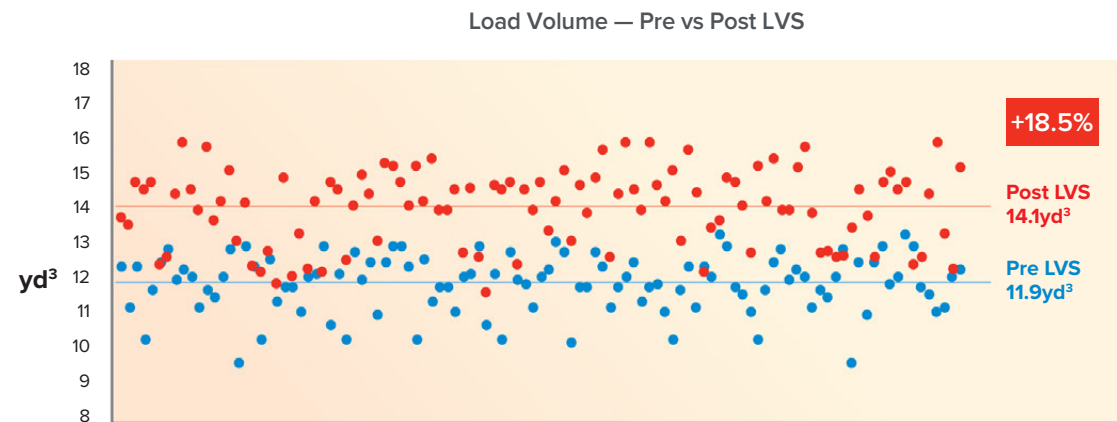


Underloading requires 8,522 additional truck loads to shift 500,000yd³

Load performance scatterplots illustrate how one customer improved their loading with the implementation of the LVS system.



Stated volumes were over-reported by 24.2% when measured against actual load volumes scanned with the Loadscan LVS.

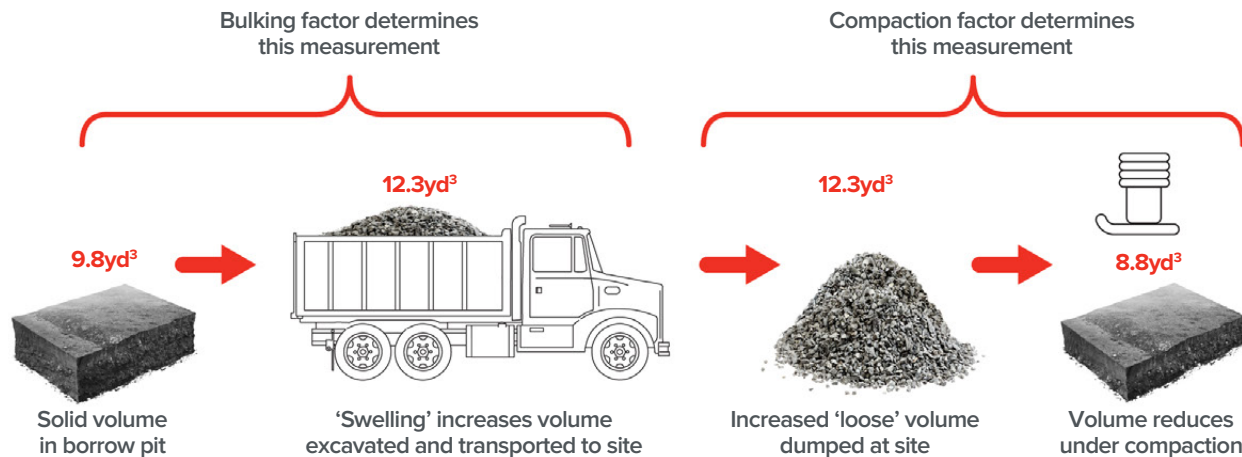


After implementing the Loadscan LVS, actual loaded volumes increased by 18.5%. The scan data enabled operator training and coaching to be carried out, improving loading practices.

Inaccurate bulking/compaction factors can add significant costs to projects

Commonly-used bulking and compaction factor charts provide generic estimates, and don't necessarily reflect the actual state of the material being excavated. Incorrectly estimated or misunderstood factors can add significant costs to a project due to material measurement inaccuracies. One cubic from the borrow does not translate into one cubic dumped, nor one cubic compacted.

Excavation increases the volume of material, so material from the borrow expands when dumped into the truck bin, into site, or stockpiled. Conversely, material typically shrinks under compaction. Without accurate factors to determine the exact volume of material required to be loaded onto trucks to satisfy compacted contract volumes, supplied volumes may be incorrect and truck capacity not fully utilized.



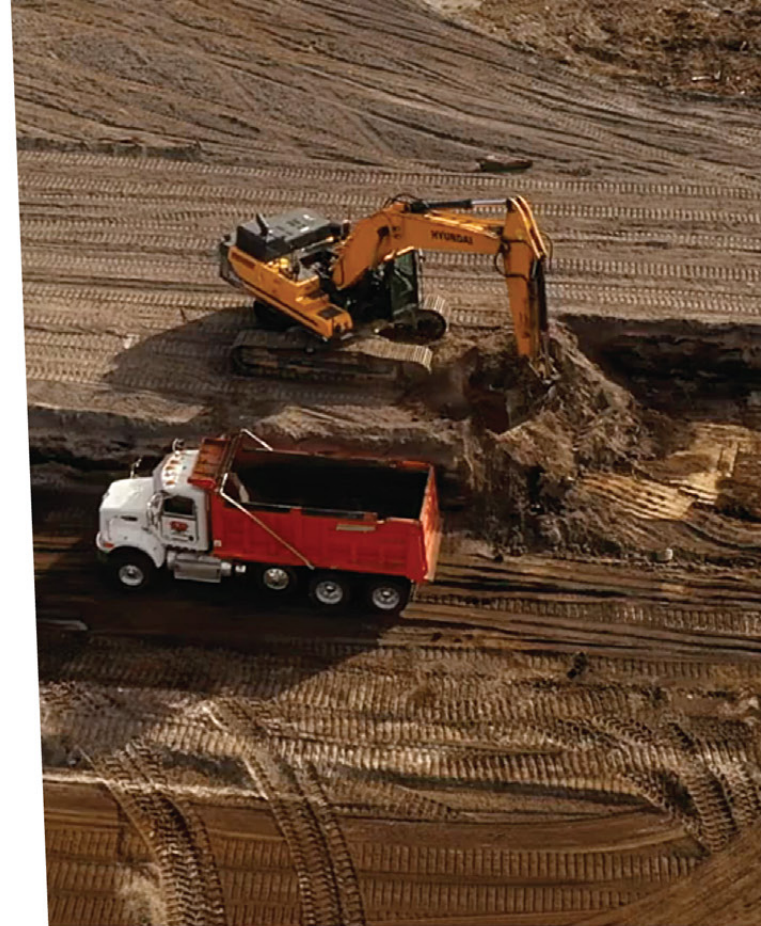
Factor conversion example

- 1yd³ dry soil (*banked*)
- @1.25 bulking factor**
- swells up to 1.25yd³ (*loose*)
- @0.9 compaction factor**
- becomes 0.9yd³ (*compacted*)

Typical bulking & compaction factor chart

Material	Typical Bulking Factors	Typical Compaction Factors
Clay	1.3	0.8
Soil	1.25	0.9
Sand & gravel	1.12	0.88
Rock (blasted)	1.5	1.3

Bulking and compaction factor charts are only generic estimates and potentially have a high error rate.

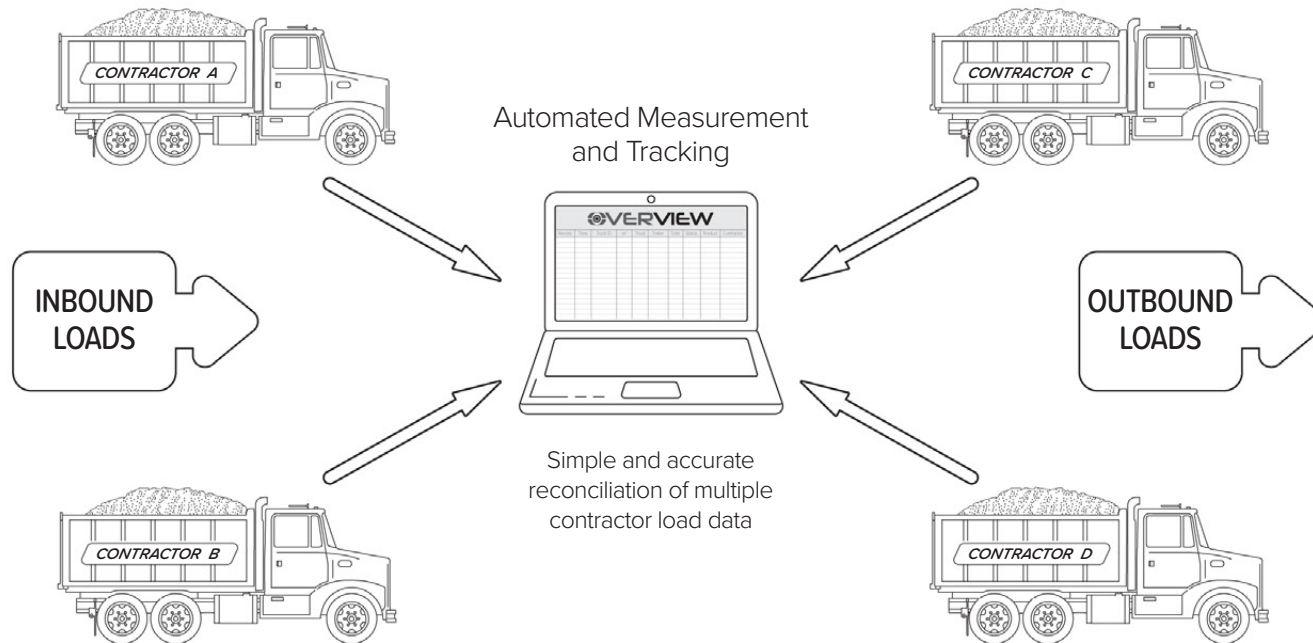


Automatic scanning of every truck load with the LVS provides an accurate picture of exactly how much material has been loaded.

No more guesswork or adding material for contingencies. Truck capacity is optimized (i.e. less trips required) and contract volumes can be fulfilled within budget.

Managing multiple contractors can be a headache!

Multiple contractors can be easily managed using the RFID tag system installed on trucks. This enables you to reduce human errors, eliminate hand-written docket, and negate the need for a gateman or tallyman. The Loadscan system shows you exactly how much material has been delivered or shipped off site every hour, day or week, by individual truck and contractor.



Accurately track all material movements

Continuous real-time measurement of accurate volumes is the key information generated through the volume scanner. The automated system allows contractors to check on daily productivity and provides a useful cross-reference for payments. It enables improvements in operational efficiencies by monitoring individual driver/operator productivity, and when combined with the 3D scan images that are automatically generated for every load, can be helpful in training and coaching loader operators.



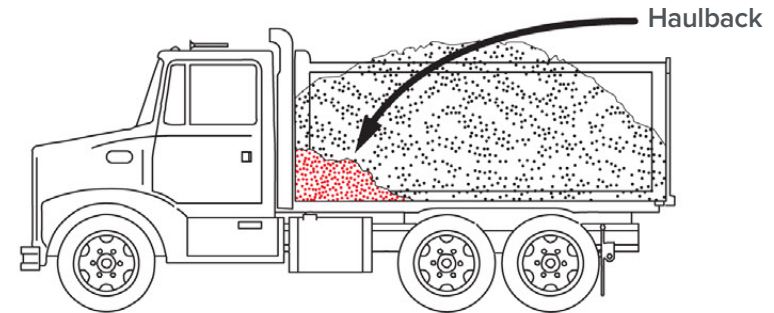
“You can lose time using conventional weight measurement. With the LVS our trucks have shorter stops and there is very little effort in checking the delivered quantities at our disposal site. We are very satisfied with the ease of use of the system.”

**Bruno Kohler — Banholzer Bau AG,
Switzerland**

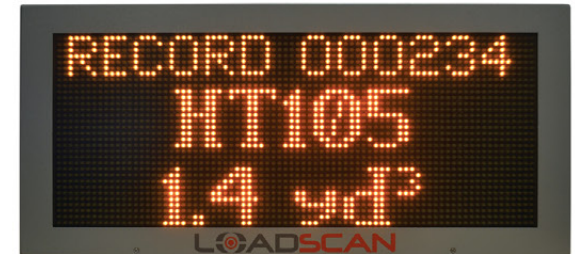


Managing haulback to improve profitability

Haulback is a common problem wherever material is being shifted and can seriously impact productivity and profits. By scanning all loads with the Loadscan LVS, haulback is quickly identified through data shown on the message board and can be removed from the bin and from load tallies.



LED message boards indicate amount of material left in bin, enabling the driver to have the bin scraped to remove haulback.



“

At A&R Earthmovers the Loadscan scanner is used for a range of things such as measuring imported metal that is being used to build our roads, measuring fill that is carted around site, and selling pumice and our other products out the gate.”

Cassidy Schulz — A&R Earthmovers, New Zealand

Volume scanning delivers extensive benefits for civil operators

- ① Measure actual volumes, not estimates based on inaccurate conversion factors — reduces potential for human error
- ① Proven accurate to +/- 1% (Certified for Trade in New Zealand and Australia)
- ① Ensure you only pay for the material you receive
- ① Improve project delivery by accurately accounting for bulking and compaction factors
- ① Optimize truck loading for maximum asset utilization
- ① Easily manage multiple contractors using the RFID tag system installed on trucks
- ① Track every load delivered or removed from site by automatically capturing truck arrival and departure times
- ① Eliminate hand-written load dockets and manual docket processing by automatically printing them for drivers or truck operators
- ① Easily access historical period reporting for invoicing, site survey reconciliation and performance analysis, onsite or with remote off-site access
- ① No significant maintenance costs or recalibration required





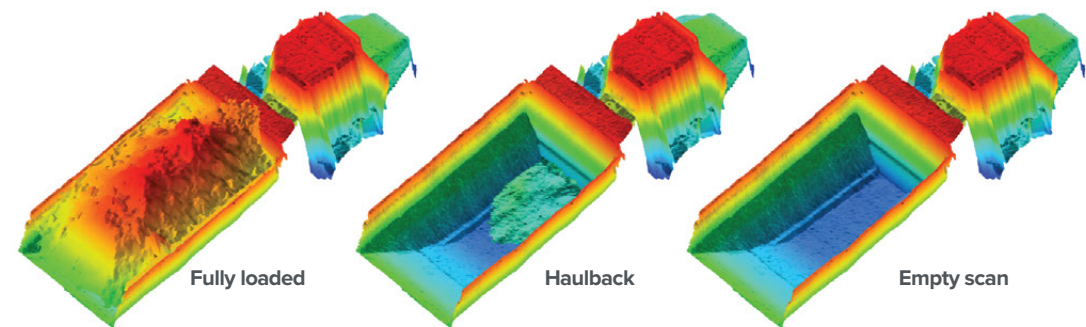
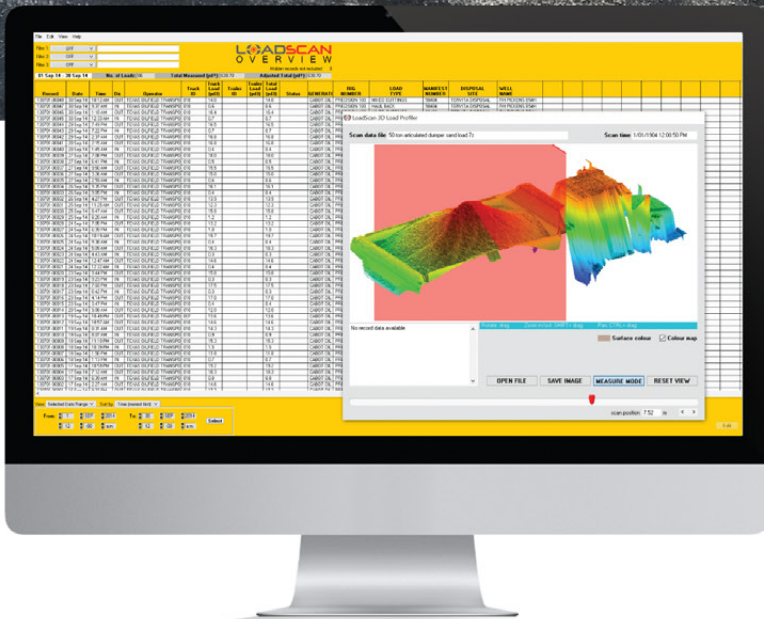
OVERVIEW™

Information for complete control

Every load record is stored in the system and connected to your desktop by LAN, WiFi or Cellular network. Data is viewed and sorted using our proprietary reporting software Overview and can be exported to Microsoft Excel, or imported to existing business systems.

Live data for optimized production

- Accurate measurable information you can trust
- Real-time production data for informed decision-making
- Assess haulage KPI's for enhanced production control
- Eliminate disagreements or withheld payments over quantities supplied



Use automatically generated 3D scan images of loaded trucks to educate loader operators to consistently load trucks to capacity, and to identify and reduce haulback

We're obsessed with accuracy!

Our business is about improving the profitability of our global customers across the civil, mining, bark and mulch industries.

Over 20 years ago we invented and patented the original load volume scanner, and since then we've been the market leader in providing certified accurate and reliable load information. In fact, we are the only volumetric scanning manufacturer with internationally recognized Weights and Measurement Certifications. It ensures that when we measure your load you can be confident it's absolutely accurate to +/-1%.

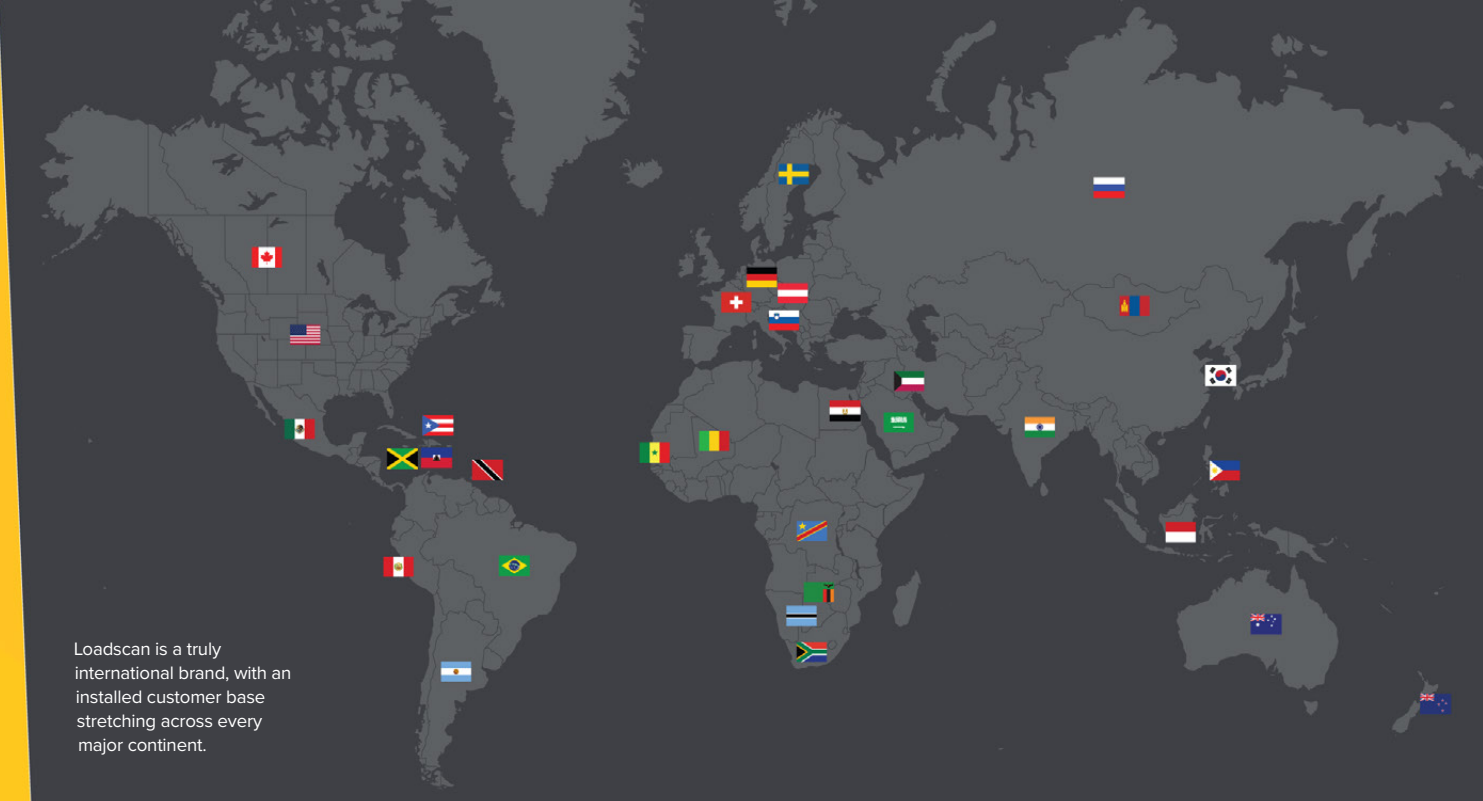
It's your guarantee of peace of mind.

Our advanced volume scanning and measurement systems provide the detailed insights necessary for you to optimize your production loading and throughput. Loadscan technology is enabling substantially improved operational and financial performance for forward-thinking companies across the world.

We've sold our systems globally into over 30 countries, and that's growing fast!

If you have loads to be measured, no matter where you are, you can rely on Loadscan. **Because no-one does it more accurately than us.**

Contact us today to find out how we can transform your operational performance.



Loadscan is a truly international brand, with an installed customer base stretching across every major continent.



In 2020 Loadscan invested in a new purpose-built head office and assembly facility in Hamilton, New Zealand.



nedealers.com



- NED CAROLINAS** | Lexington, NC | Charlotte, NC | Clayton-Raleigh, NC | Grimesland, NC | Columbia, SC
Wellford-Spartanburg, SC | Conway-Myrtle Beach, SC | Summerville-Charleston, SC
- NED FLORIDA** | Apopka-Orlando, FL | Tampa, FL | Fort Pierce, FL
- NED GEORGIA** | Richmond Hill-Savannah, GA
- NED TEXAS** | Houston, TX | Dallas, TX

"Loadscan" is the only company worldwide to have achieved trade certification approval for truck volume measurements with a load volume scanning system. Our LVS system performs to the same accuracy as per Trade Approval Certificate 1556 (MAPPS NZ) and pattern approval Certificate 13/1/15 (NMI AUS). Loadscan systems are sold as 'monitor only' outside New Zealand and Australia but still perform to the same high tested accuracies.