

Bulk Material Weighing

Industrial Weighing and Measuring



16 News

More than a Scale Your Key to Improved Productivity

In today's competitive market, you can't afford to ignore a vehicle scale's potential to improve your operation's productivity. Find out how your scale can add value by doing more than just weighing vehicles.

Use resources efficiently

As an essential piece of equipment, your vehicle scale has a big impact on how efficiently you use resources. A poorly conceived weighing operation can be a continual drain on both resources and profits.

Increase throughput

Don't settle for a weighing operation that wastes time and requires the efforts of multiple scale operators. Where time and throughput are essential, a weigh-in-motion system can speed up production, handling the workload of up to five static scales. Unattended weighing can cut staffing requirements, boosting productivity as much as 50 percent.

Filling or unloading vehicles on a scale is another way to increase efficiency. It eliminates travel time between filling/unloading and weighing sites by completing all steps of the process on the scale. To get the greatest benefit from these process improvements, combine them with a reliable load-cell network that protects your operation from costly downtime.

Save time and labor

Today's vehicle scales need to do more than just weigh. Increasingly, business owners demand that vehicle scales add value by saving time or labor. This newsletter reveals several innovative ways that vehicle scales can increase productivity throughout your plant.

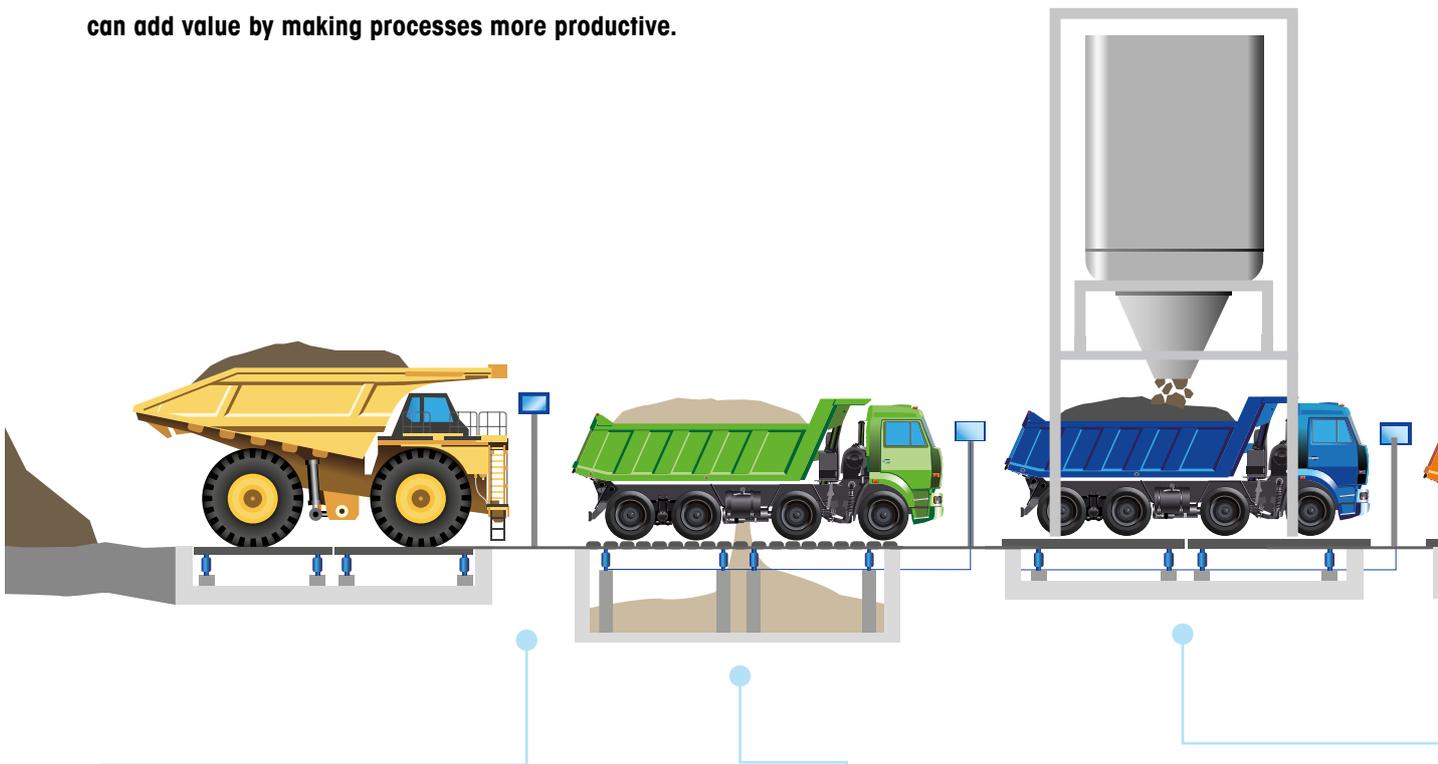


METTLER TOLEDO

Five Ways to Boost Productivity

Get More Out of Your Scale

Make full use of your vehicle scale's capabilities to save time and money throughout your operation. The articles in this newsletter demonstrate how vehicle scales can add value by making processes more productive.



1

Unattended weighing

Facilities often do not make full use of workers who are expected to be full-time scale operators. Allowing truck drivers to process their own weighing transactions frees workers to handle other tasks.

Learn more: [page 4](#)



2

Dump-through scales

Requiring trucks to make repeated trips to a scale is an inefficient way to unload bulk materials. Dump-through scales eliminate travel time by weighing and unloading in one step.

Learn more: [page 5](#)

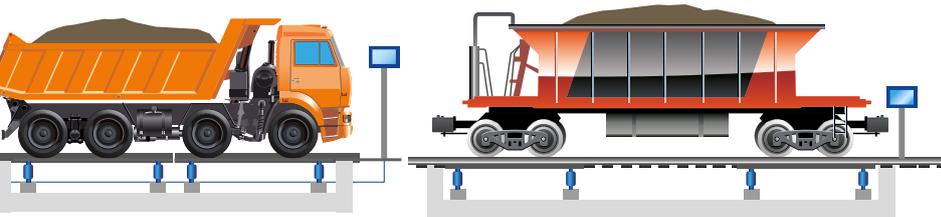


5

Reduced downtime

Unscheduled downtime reduces the productivity of even the most efficient operations. If vehicle weighing is an integral part of a process, scale downtime can slow up work throughout an entire operation.

Learn more: page 10



4

In-motion weighing

When vehicles that transport materials stop moving, production is halted. The time that trucks and railroad cars spend parked on a scale is time that could be better spent processing the materials.

Learn more: page 8



3

Filling on a scale

Filling vehicles to maximum capacity without overloading them can be a trial-and-error process. A scale should do more than simply check weights after repeated attempts to fill a vehicle to a desired level.

Learn more: page 6



Unattended Weighing

Automate Your Truck Scale

Automating repetitive processes makes more efficient use of your workforce. One easy way to free workers to handle other tasks is with unattended weighing. It reduces operating costs while increasing productivity at your truck scale by as much as 50 percent.

► www.mt.com/veh-unattended-roi

A busy facility with multiple inbound and outbound vehicle scales requires several scale operators to process weighing transactions. Even the smallest weighing operation needs a full-time scale operator and at least one backup. Devoting an operator to each vehicle scale is an expense that cuts into profits.

Increase production

For many businesses, unattended weighing can increase production without increasing the number of workers. Equipping vehicle scales with unattended terminals allows drivers to process their own weighing transactions. These self-service kiosks improve efficiency by freeing workers to handle other tasks.

Automate data transfer

Unattended terminals provide the greatest benefits when they are controlled by DataBridge™ MS software. This powerful data-management system improves productivity by automating data transfer to other business systems for inventory control and invoicing.

DataBridge MS data management

Your DataBridge™ MS application stores a complete record of every unattended weighing transaction for billing, inventory control and reporting.

► www.mt.com/Databridge



Driver terminals

Unattended weighing allows drivers to process transactions with no scale house and no scale operator on duty. DataBridge™ MS unattended software guides drivers step-by-step through weighing transactions.



Dump-Through Scales

Weigh and Unload in One Step

At harvest time, speed is essential. During this busy season, grain-storage facilities must handle large volumes of agricultural products quickly. The best way to maintain high productivity is to combine weighing, unloading and conveying at a single location.

Whether grain is delivered by trucks or railroad cars, a dump-through scale simplifies unloading. The difference between a grain-dump scale and a standard scale is the driving surface. In a grain-dump scale, all or part of the driving surface is made of steel grating.

A simple procedure

The unloading procedure is simple. A vehicle drives onto the scale to be weighed. Then, without leaving the scale, the vehicle dumps its load of grain, which flows through the grating into a pit located under the scale. From there, the grain is conveyed to a storage or processing site.

Choose a design that meets your needs. Grating can be supplied for the full length or width of a scale to increase throughput and handle various types of vehicles. By installing a grain-dump scale under a loading system, you can use the same scale for both shipping and receiving.

METTLER TOLEDO grain-dump scales combine the accuracy and reliability of POWERCELL® technology with increased productivity.

► www.mt.com/us-graindump

Benefits of dump-through scales



Eliminate travel time between weighing and unloading sites



Allow one operator to handle both processes



Reduce the amount of space required for equipment

Maximize Efficiency

Filling on the Scale

Improve productivity by simplifying your filling operation with a new software solution. DataBridge™ MS combines fast and accurate vehicle filling with complete transaction management. It enables a scale operator to control both filling and weighing with one simple system that stores a detailed record of each truck and its contents.

▶ www.mt.com/DataBridge

Filling parameters

Scale operator sets filling parameters for a truck:

- A target weight for the material being added
- An acceptable tolerance over and under the target weight
- A spill weight for material that continues to flow after shutoff

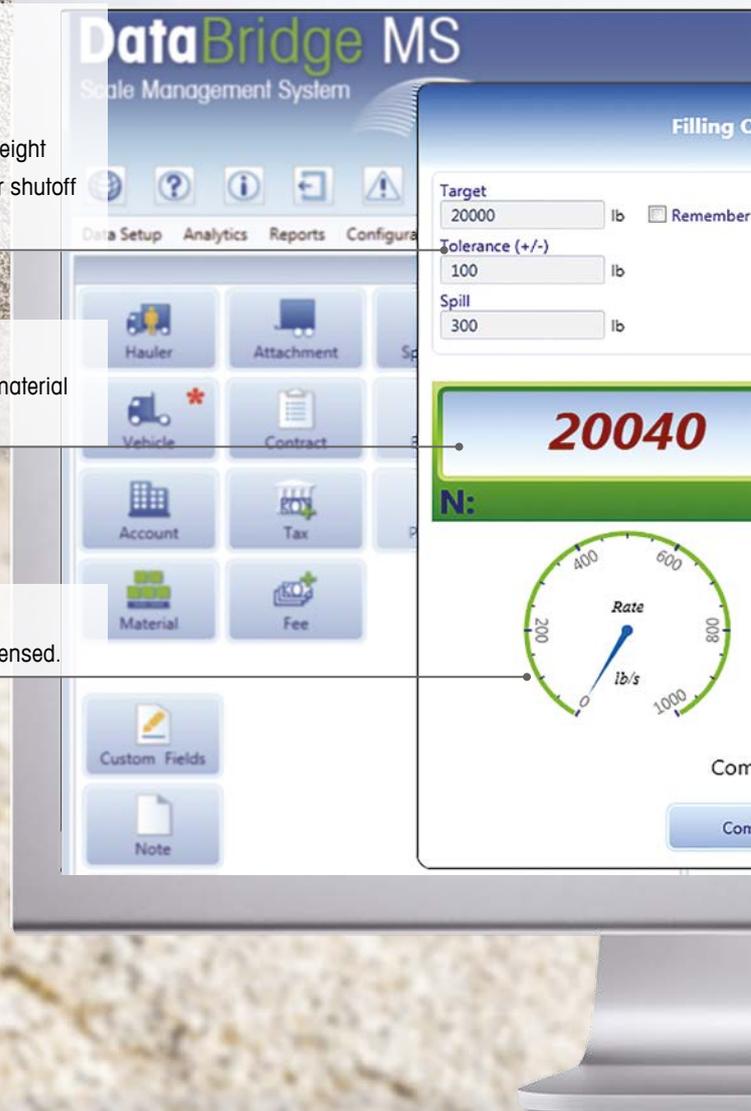
Parameters can be retained for the next truck.

Net weight of material

Virtual indicator displays the actual net weight of the material as a truck is filled.

Filling rate

Radial gauge shows the filling rate as material is dispensed.





METTLER TOLEDO

Manual Scale 1 Scale 2 Scale 3 Scale 5

Operation

Target Display Rate
Max Rate 1000 lb/s

21000 20200
15750 20100
10500 20000
5250 19900
0 19800

Full Fine

Complete Cancel Zero Pre-Load

Extensive filling capabilities

Software uses settings and capabilities from the scale terminal to control filling.

Real-time data

Linear gauges display the filling progress in real time. The first gauge shows the entire range from zero to full. The second gauge provides a detailed view of the upper portion of the range.

Filling process control

Scale operator controls filling with push buttons that start, pause, cancel and complete the operation. The database stores a detailed record of each vehicle that is filled.

In-Motion Weighing Process More Vehicles per Day

Weighing doesn't need to be an extra step that slows down a process. In-motion technology can weigh vehicles automatically as they enter or exit a facility. It enables you to weigh vehicles in a fraction of the time required by static scales.

Weigh railroad cars in motion

Weighing railroad cars on a static scale involves considerable time and effort. Each car must be positioned on the scale, uncoupled from the adjoining cars, and then weighed. Weighing on a coupled in-motion (CIM) scale is both faster and safer. A CIM scale weighs individual railroad cars as a train travels across the scale at speeds up to 6 miles (10 kilometers) per hour. There is no need to stop the train or uncouple cars. A train that might take an entire day to weigh on a static scale can be weighed in minutes.

The IND9R86 scale controller can store records for hundreds of trains, including the weight of each car and total train weight.



Productivity improvements

A mining operation in northern Europe uses CIM technology in its filling operation:

- to improve productivity
- to improve safety
- to ensure that railroad cars are filled to a specified weight in minimal time



IND9R86 scale controller

- Identifies each railroad car
- Records the weight of each car
- Calculates total train weight
- Determines train speed and direction
- Weighs trains in unattended mode

Find out more:

► www.mt.com/ind-rail-cim



IND9R86 Scale Controller

Weigh trucks in motion

Weigh-in-motion (WIM) technology is becoming an essential tool for ports and other commercial operations with high volumes of truck traffic. It provides a big improvement over systems that require each truck to stop at a gate and be weighed on a static scale. During busy periods, it does not take long for traffic to back up at static scales, causing delays for gate operators and freight companies.

A WIM solution eliminates the long lines of trucks stopped at gates to be weighed on static scales. Instead, trucks simply drive across a dynamic scale, which automatically weighs each vehicle. WIM systems can interact with terminal operating software (TOS) to identify trucks and record their container weights and other data.



Productivity improvements

- Gates handle more trucks per day
- Trucks spend less time in the facility
- A WIM system can automate vehicle processing and data collection



WIM capabilities

A WIM system enables TOS to collect weight data for thousands of trucks per day:

- Determine container verified gross mass (VGM)
- Verify declared weights
- Identify overloaded vehicles
- Identify empty/full containers

Find out more:

► www.mt.com/wim

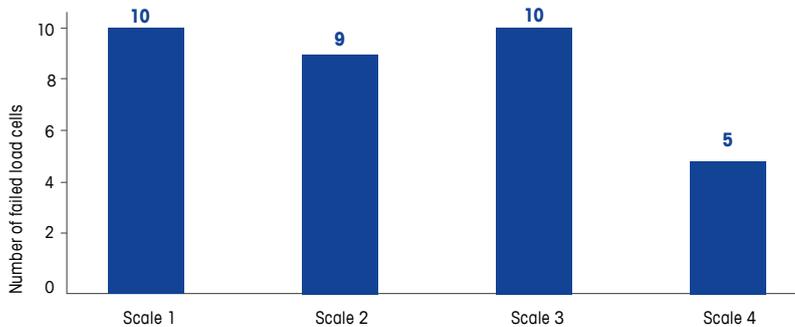
Keep Vehicles Moving End Scale Downtime

Downtime is a productivity killer. No matter how efficient your processes are, a vehicle scale that is out of commission can become a costly bottleneck. With one simple decision, you can maintain productivity by protecting your business from downtime.

Real-world comparison of weighing technologies

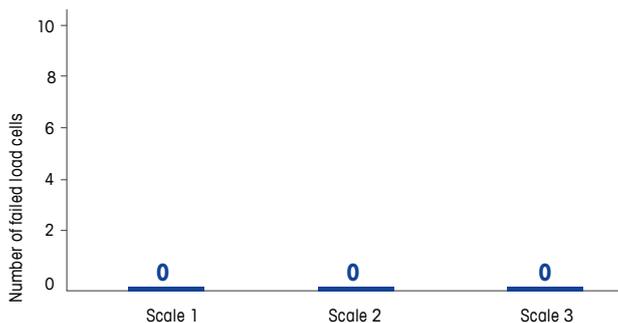
These graphs show the failure rates for load cells in the seven truck scales at an actual customer's aggregates facility. Over the course of five years, 34 load cells failed in the customer's four analog truck scales, causing repeated downtime and repair costs of nearly \$100,000. During the same period, the METTLER TOLEDO scales did not have a single load cell failure.

Competitor's analog scales – failure incidents



The competitor's scales had 34 load cell failures.

METTLER TOLEDO POWERCELL® scales – failure incidents



The METTLER TOLEDO scales had no load cell failures.



POWERCELL scales

- fewer failures
- less downtime
- lower maintenance cost



Calculate the cost of downtime

Don't be taken by surprise. Find out how much money you stand to lose if your vehicle scale shuts down temporarily.

Visit our website:
www.mt.com/PDX-ROI

End downtime by protecting against its environmental causes



Water

Analog junction boxes expose sensitive electronics to damage from water. POWERCELL® PDX® technology eliminates the problem by eliminating junction boxes.



Lightning

POWERCELL® PDX® load cells with StrikeShield™ protection safeguard your entire scale system against lightning strikes that can destroy electronic components.



Temperature

POWERCELL® PDX® technology maintains weighing accuracy by compensating for temperature changes that cause analog weight readings to fluctuate.



Physical damage

While analog scales require extensive troubleshooting, POWERCELL® PDX® diagnostics enable technicians to solve problems with minimal downtime.



Buying a Truck Scale

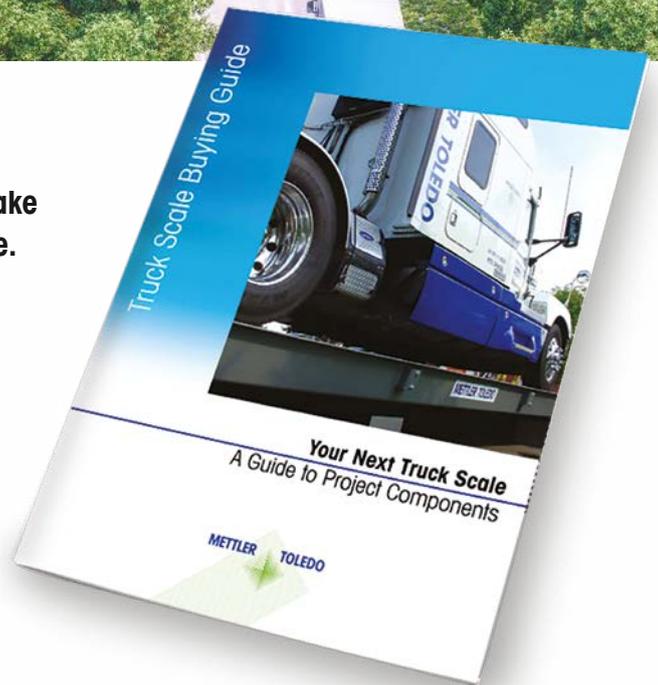
What You Need to Know

A truck scale is a major investment that will affect a business's profits for 10 to 20 years. Our Truck Scale Buying Guide covers everything you need to know to make an informed buying decision about your next truck scale.

What's inside?

Valuable information that covers every aspect of buying and owning a truck scale:

- Selecting a scale
- Types of load cells
- Planning your site
- Installation and certification
- Maintenance and service
- Total cost of ownership



Download your free buying guide today:

► www.mt.com/truckscaleguide

METTLER TOLEDO Group

Industrial Division
Local contact: www.mt.com/contacts

Subject to technical changes
©09/2018 METTLER TOLEDO. All rights reserved
Document No. 30403370
MarCom Industrial

www.mt.com/ind-vehicle

For more information

