

Technology Comparison Report Truck Scale Performance in Your Industry



Over the past 3 years, we have collected data from the nearly 600 Chemical sites we service in North America. See below results and consider how your truck scale would compare, you might be surprised.

1. Application Statistics: Chemical Facilities

- 89% report 100 trucks or less per day
- 62% concrete v. 38% steel deck
- 65% report a scale length of 21 m

3. Load Cell Replacement Statistics

On average, owners of analog truck scales will replace **5X's more load cells** than owners of POWERCELL PDX truck scales over the life of the equipment.

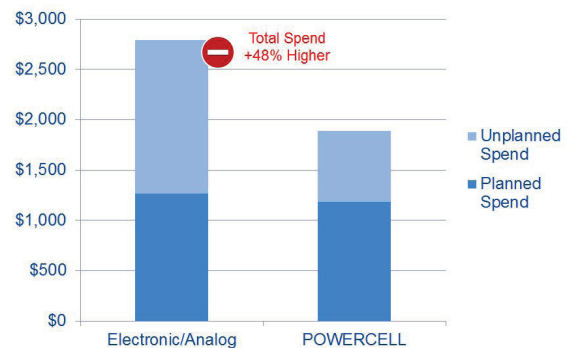
POWERCELL PDX for 5X's Better Performance



2. Hidden Scale Costs

Truck scale expenses fall in two major buckets: planned preventative maintenance and unplanned break fixes. For Chemical operations, choosing analog can mean spending **+48% more** on every scale.

Annual Planned v. Unplanned Spend per Scale (USD)



4. Are You Certain About Your Scale Accuracy?

The below accuracy table is based on 4,837 service records from the past 3 years. Have you considered how inaccurate your scale could be? (calculations based on 100 trucks per day, 6 days a week)

Scale Technology	% Outside Legal Tolerance	Accuracy Range (95%)	Shrink Per Day	Lost Profit per Day	Lost Profit per Month	Lost Profit per Day	Lost Profit per Month
		12t test load	40t GVW	Bulk Sulfuric Acid (\$120/ton)	Anhydrous Ammonia (\$200/ton)		
POWERCELL Load Cell	10%	+/- 42 kg	+/- 15 tons	+/- \$1,800	+/- \$39,000	+/- \$3,000	+/- \$66,000
Analog Load Cell	27%	+/- 132 kg	+/- 47 tons	+/- \$5,600	+/- \$123,000	+/- \$9,400	+/- \$207,000
Mechanical Conversion	31%	+/- 70 kg	+/- 26 tons	+/- \$3,120	+/- \$74,880	+/- \$5,200	+/- \$124,800

Case Study: Refining & Petro Chemical Company

From Statistically Speaking, to Reality



While group statistics can tell a compelling story about an overall population, it is often a **real customer example** that can be most impactful at demonstrating how our superior products can positively impact your business. For one Refining & Petro Chemical Company in Texas, the numbers tell a clear story.

This particular site has one METTLER TOLEDO truck scale and one competitor scale, as the current service provider for the organization we have been tracking the activity of their scales for the past three and a half years. It did not take long for the service technician to notice an **obvious difference in equipment performance**, including:

- Competitor scale has been found outside of legal accuracy toleranced during **44% of routine tests**, the METTLER TOLEDO scale has not failed a single accuracy test
- Total 3 year repair spend on the competitors scale is nearly **\$10,000, 15X's more** than repair spend on the METTLER TOLEDO scale
- **Days lost due to downtime for repairs:** competitors scale total 5.5 days. METTLER TOLEDO scale less than 1 day
- Lost business opportunity due to repair downtime, at 50 trucks per day: Competitive scale total estimated at **275 truck loads**. METTLER TOLEDO scale estimated less than 50 truck

Upon bringing these statistics to the attention of the operations manager, they decided a change was needed. While the competitive model may have saved the company money at the time of purchase - it had turned in to a money pit that was **negatively affecting their bottom line**. They are currently evaluating solutions to replace the competitive equipment including a load-cell system upgrade, as well as entirely new truck scale system.

Methodology

METTLER TOLEDO's North American service organization provides state Weights & Measures legal-for-trade calibration testing, stamping and sealing services for over 6,000 truck and rail scales. Additionally, we follow both NIST Handbook 44 and Measurement Canada requirements for re-certification and test tolerances of installed scale systems. Over the last 3 years our direct service organization has completed over 35,000 truck and rail scale calibration tests. This calibration data has been collected and analyzed to provide you with the results that are found in this document.

Accuracy tests are made with certified test weights, typically 20,000 to 25,000lb, first checking the scale accuracy "As-Found" in operation. The scale is tested by section, or at each pair of load cells and in the center. As-found accuracy compares the certified test load to Handbook 44 maintenance tolerances, or allowable error.

The large database of certified As-found test results allows MT to compare long-term performance of truck and rail scales by load cell technology, manufacturer, or scale type with statistical certainty.

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