

interface

FORCE MEASUREMENT SOLUTIONS.

CASE STUDY

Smart Scales Embrace High-Accuracy Sensor Technologies



About

Advances in force measurement drive the technological evolution of scales. While traditional mechanical scales were limited to simple weighing, modern force sensors such as load cells have enabled many new uses. These devices let scales do more than just measure weight.

Today, they are essential for automation, process control, and data analysis. This development has allowed scales to measure weight continuously on conveyor belts, monitor inventory in smart warehouses, and ensure precise dosing of ingredients in pharmaceutical and food manufacturing.

Challenge

Modern industries require scales that are accurate, durable, intelligent, and adaptable for integration. Traditional mechanical scales often lack capabilities like automation, remote monitoring, and digital connectivity. Today's scales must operate reliably in tough environments, handle complex weighing tasks, and maintain accuracy over time and high-volume use. While historic scales focused on real-time measurement, their upkeep can be costly.

Force measurement sensors enhance accuracy, enable preventive maintenance, offer vital data for forecasting, and support integration into various products used in mixing, formulation, smart manufacturing, heavy equipment safety, lifting, supply chain management, and global freight logistics. Future scales will need sensors that can easily adapt to different environmental conditions and equipment, and connect seamlessly with various data communication protocols, such as those used in smart floors and rehabilitation equipment.



WWWP Wireless Wheel Weighing Platform



WTS 1200 Standard Precision LowProfile Wireless Load Cell



SSB Sealed Beam Load Cells



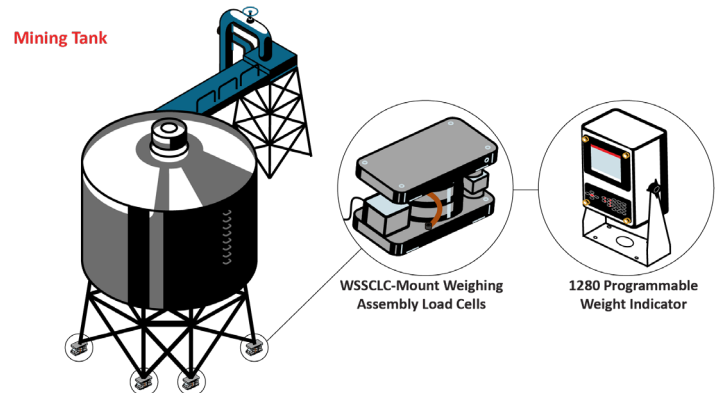
WTS-AM-1E Wireless Strain Bridge Transmitter Module

Solutions

Interface products are used in scales to measure tiny forces to those weighing massive assemblies. Whether on-board scales in garbage trucks or crane scales tracking suspended loads, the variety and number of applications are rapidly increasing. These smart scales improve efficiency and safety, plus provide valuable insights for innovation in manufacturing, logistics, and many other fields.

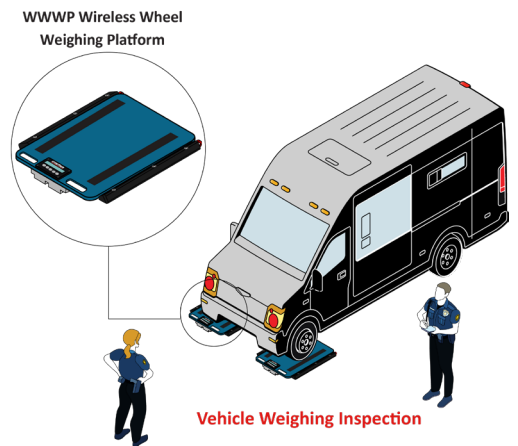
Mining Tank Scales

During mining operations, a tank requires precise scales to ensure the quality of the procedures. The weight must be tracked and managed during the extraction, storage, mixing, or blending of various materials. Interface recommends using our WSSCLC-Mount Weighing Assembly Load Cells, paired with the 1280 Programmable Weight Indicator and Controller, to monitor the content's weight accurately.

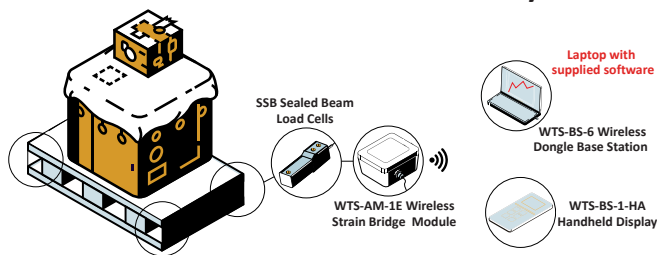


Vehicle Safety Scales

The transportation and logistics industries use scales for all types of weighing applications. Precision in weighing is vital, for cost controls and safety. Sensor enabled scales are used on docks, inspection points and at distribution sites. A prime example is the WWWP Wireless Wheel Weighing Platform, which offers law enforcement a portable, high-precision tool for roadside commercial vehicle weight enforcement. Designed for mobility and efficiency, it allows officers to weigh vehicles on-site without permanent infrastructure, displaying results directly on the platform or transmitting them wirelessly to an indicator for remote evaluations. This functionality keeps the inspectors and vehicle operators safe in a high traffic area.



Smart Pallet Scales for Inventory and Transportation



Pallets are used to transport various goods. Adding a scale to pallets provides a way to weigh and track inventory and shipments. It can also indicate if products have been removed by weight. Smart pallet scales can even assist in setting prices based on weight. Interface recommends installing multiple SSB Sealed Beam Load Cells at the corners of the bottom pallet. Heavy loads placed on the pallet are measured when connected to WTS-AM-1E Wireless Strain Bridge

Transmitter Modules. The force data is wirelessly transmitted and recorded on the customer's PC using the WTS-BS-6 Wireless Telemetry Dongle Base Station with the included software.

Results

The evolution of scales from simple mechanical tools to advanced, data-driven systems highlights the strength of modern force measurement. Interface's precision load cells and integrated solutions are central to this change, offering the accuracy, dependability, and flexibility needed for today's applications.