TRUCK SCALE SOFTWARE REVIEWS

ISWM NEWS

TABLE OF CONTENTS

ADVERTISER INDEX

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COMING EVENTS

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September 19, 2024
Western Division
Anaheim Majestic Hotel,
900 South Disneyland Drive
Anaheim, CA 92802

- Handbook 44 Training
- Sales for Service Professionals
- Forklift Scales Training
- Dimensioning demonstration
- Tabletop displays and demonstration

October 4, 2024
South Atlantic Division
Beach Cove Resort
400 S. Ocean Blvd
N. Myrtle Beach, SC 29582

Speakers: Paul Batson, TSW Automation, Inc
and Jeff Fenster, Author and Podcast Host
Tabletop displays and demonstration

February 18, 2025
ISWM National Convention
Embassy Suites by Hilton
7610 S. New Braunfels
San Antonio, TX 78235

Magazine Submittal Deadlines:

○ **Winter: Editorial**
      November 1, 2024

  Ads:
      November 1, 2024

○ *The circle denotes the next available issue open for submissions.*

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John Hallak .... Western

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PRESIDENT'S LETTER

By Tammy Schmidtz
ISWM President

July 1, 2024

Dear ISWM Members,

I cannot believe we are into July already and what a year it has been, weather around the Nation has been so crazy between super high Temps to excessive rain/flooding. I hope everyone is having a wonderful year so far.

I am so excited to announce that the 2025 Conference planning is on its way, the theme this year will be: Weighing in on Social Impact & Corporate Responsibility. The Conference is being held at the Embassy Suites in San Antonio, TX February 18th-20th 2025, with the Board Meeting Feb 16th and Vendor Setup and Division meetings Feb 17. If you have any suggestions for Speakers let the ISWM know.

It has been a bit over four months into my Presidency. If there is one thing I realize, it is that no one person can make the ISWM great. Thank you to all active Governors, Members and outside experts that have contributed to keeping the ISWM growing.

I hope to see everyone in San Antonio TX for the Conference.

Thanks for the honor of being your President of the ISWM!

Tammy Schmidtz

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New_Member Name
Company Name
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Phone Number
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Chosen Division

Company Type
New_Member Name
Company Name
Street Address
City/Town, State Zip
Phone Number
newmemberemail@server.com
Chosen Division

Company Type
New_Member Name
Company Name
Street Address
City...

NOTE:

*We have plenty of room for new members! And you know who they should be – so please encourage them to join today!*

Point them to our website: www.ISDWM.org or have them contact Ann Crowley at: Ann@iswm.org

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FYI
ISWM

Main Types of Traceability

Horizontal traceability is the ability to track the history of a measurement or test result within a single organization. For example, a company might have a system in place to track the history of all of its product measurements. This would allow the company to quickly and easily identify any problems quickly and easily with its measurements.
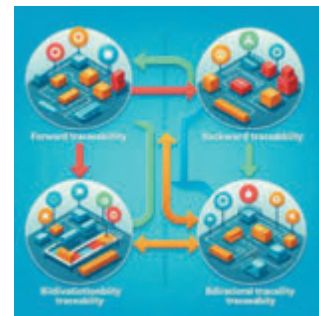
Vertical traceability is the ability to track the history of a measurement or test result between different organizations. For example, a company might have a supplier that provides it with raw materials. The company might want to be able to track the history of the raw materials back to the supplier's factory. This would allow the company to ensure that the raw materials meet its quality standards.

Temporal traceability is the ability to track the history of a measurement or test result over time. For example, a company might want to be able to track the history of its product measurements over the course of a year. This would allow the company to identify any trends in its measurements

Streamlining Success:
Central Illinois Scale Company Optimizes Operations with Integrated Systems

Central Illinois Scale Company (CISC) keeps their business running smoothly with a suite of integrated office management systems. Kristin Shuey and Niccole Swider, from CISC, recently spoke with us about their approach to software selection and the benefits they've experienced.

A Symphony of Software

CISC utilizes a diverse range of platforms, each playing a vital role in their daily operations. Scheduling & service calls are handled seamlessly through Connect Wise and Google Calendar. For customer-facing certificate retrieval, Smarter Certs fills the gap.

Connect Wise serves as the central hub, managing a staggering 90% of their operations. It integrates with Wise Sync, allowing on-site service tickets to be effortlessly transferred to the office for invoicing. This creates a robust system of checks and balances. This provides customers with access to information and the ability to pay their invoices with one click from the invoice.

Financial management is tackled with QuickBooks Online, offering accessibility, collaboration with their accountant, and automation. Payroll is streamlined with ADP, while crucial files are securely shared among authorized employees through SharePoint. Finally, Motive keeps track of service technicians' location, mileage, and speed while on calls.

Choosing the Right Fit

While choosing the right software the CISC team discovered that not all software was as customizable as it needed to be for the ever-changing world of scales and products that they offered. The search ended in 2019 and CISC started January 2020 and has never looked back.

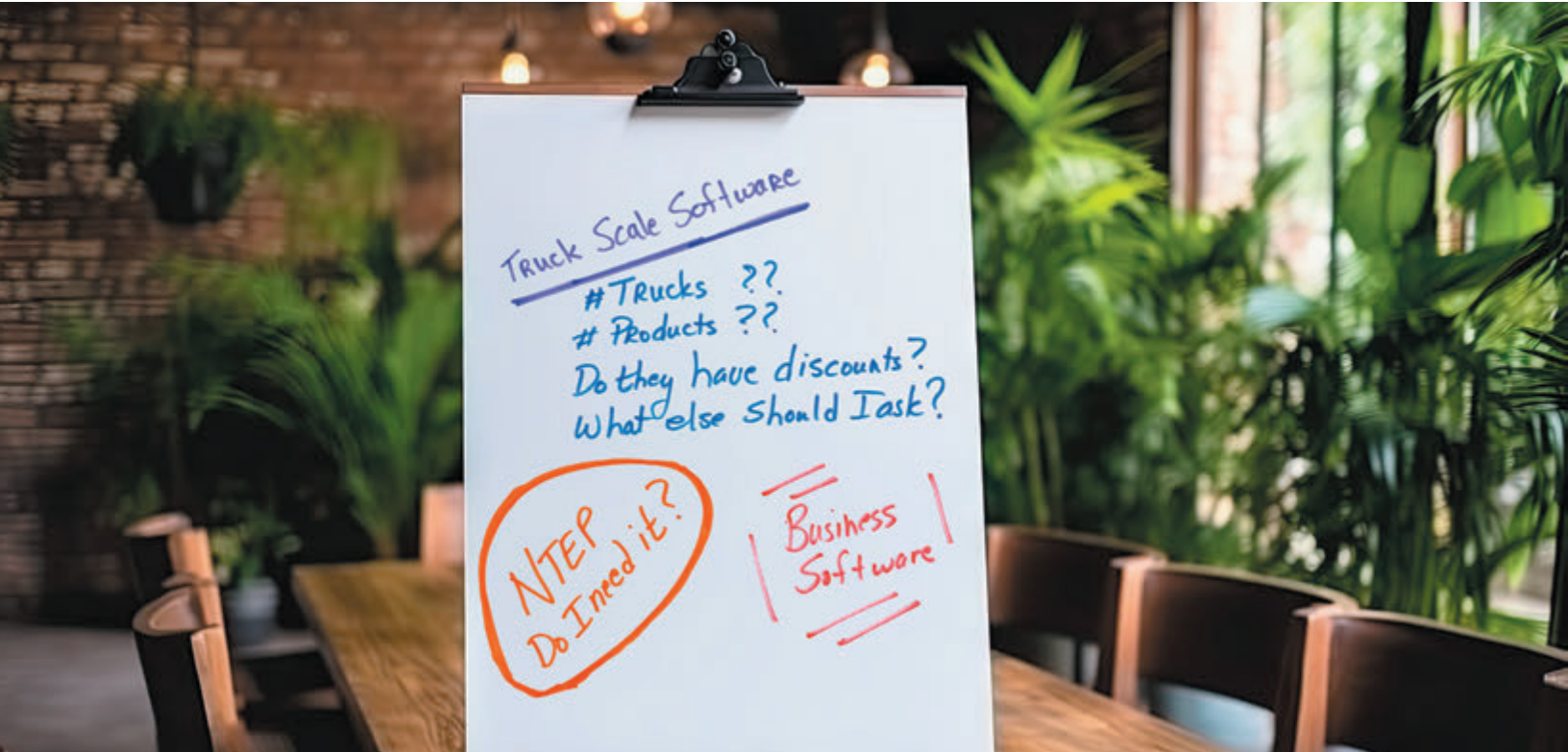# Coti Global Sensors

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Truck Scale Software

By: Ann Crowley

Today's more advanced scale indicators often offer some truck scale specific software features. These features may include a limited database that will store information on trucks. Often the software will have the capability to allow a truck to come in full and use a stored tare weight, or have the truck unload its product and the empty truck weight will be subtracted from the full truck weight. The company may also need the capability of using the truck weight as it comes into the facility as the tare weight, the truck will then fill up with product. The tare (empty) truck weight will then be subtracted from the full truck weight as the truck exits the facility.

These standard truck weigh programs work for simply operations. Some companies have a limited number of trucks and customers, and this suits their needs.

Other companies need to be able to calculate sales taxes which can be complicated. Many areas have state, local and county taxes. These databases must be maintained and need to be able to be exported to complete tax filing.

Companies often have different prices they charge for customers. Customers may have committed to volume pricing or have corporate arrangements for pricing. This can create problems for a simpler database.

We reviewed the software companies that dealers at the South Atlantic Division meeting said they have seen or utilize in some way.

DataBridge™ Vehicle Scale Software

DataBridge™ transaction management software enables fast and accurate transactions at the vehicle scale. With DataBridge, one can speed up transactions by 50% when compared to traditional ticketing systems, eliminating paper tickets and manual errors. Select predefined data and presets for streamlined data entry. DataBridge stores all records in an optimized and secure database, enabling the creation of fully formatted reports in seconds.

DataBridge is designed as a scalable solution, with multiple options depending on an operation's needs. DataBridge SS is ideal for operations with 1-2 truck scales. Databridge SS simplifies the scalehouse with automated transactions. Process trucks easily with the user-friendly interface, choosing between a standard computer screen or touchscreen. A great solution for small to mid-size operations. DataBridge MS is suited for sites with multiple scales. DataBridge MS has weight curve functionality, monitoring for abnor-

malities and fraud in real time. For high volume and unattended sites at risk of theft, mitigating any cheating risks is key to profitability. DataBridge ES is an enterprise solution, helping to achieve daily targets with better material tracking and inventory planning. DataBridge ES provides centralized data management for multiple sites, connecting all with a shared database. Custom programs are also available.

Suitable for attended, unattended, and mobile operations, and compatible with any scale and indicator type, DataBridge is an ideal solution for transaction management at the weighbridge.

Scaleit

Scaleit W8 Jared – support 8 am to 7 pm Eastern time, we will speak directly to you. Pricing structure – no training costs, subscription-based service.

Scaleit Wi ("weight") is their new concept. This scale software is not expensive to acquire, use, support, or upgrade. The license if free. W8 is a powerful choice for any size enterprise involved in scrap, metal, recycling, aggregate, landfill, waste, or any other market segment needing ticketed weighing operations.

Capabilities include custom tickets and reports; full date and image backup; email and text tickets; easy interface; accounting interface; inventory management; scrap metal compliance; credit card processing; invoicing; and container tracking.

ScaleQ – Interface Logic Systems

User friendly interface, software adaptable, specific unique requirements customer may have. They have been told that their report writer is easier to use, flexible and intuitive to use. They have an administration program that allows multiple job sites to connect for reports from multiple sites management.

Scale ticketing software for unattended scale operation. The remote data terminal includes card scanners or radio frequency identification for 24-hour operation without around-the-clock personnel. All transactions are maintained in a single database allowing integrated reporting. Among the peripherals that can enhance security and operation are photocells, traffic lights, video cameras, signature pads and access control gates.

Valstone (valstonecorp.com), and Vertical Software, (verticalsoftware.net)

ScalesTrac and Grain Trac are user friend, efficient and Vertical software has good support. The software is recommended by many state auditors.

Valstone companies provide automated scale management software solutions that help accurately track and record truck or industrial scale transactions. The solutions give organizations better control over scale ticketing transactions automating the ticketing process and can integrate with accounting solutions for seamless end-to-end operations. The products adapt to your business process and dramatically help to streamline the ticketing and billing tasks.

ScaleTrac features integration with moisture meters and scale indicators, calculates dry charges, shrink, and net bushels, track field/farm yield history, track truck and freight charges, and is user friendly.

TruckPay (www.mytruckscales.com & www.truckpay.com)

MyTruckScales is the first patented NTEP Certified Mobile and Cloud based e-ticketing truck scale management system. The software eliminates the need for paper tickets, scale house-servers, and physical kiosks. The software allows drivers to stay safely in their trucks to weigh and buy or sell products or materials from their mobile devices using the MyTruckScales app. This speeds up weighing on the scale by a factor of 6 to 8 times as compared to other scale systems.

MyTruckScales is scale agnostic i.e., it works with any scale manufacturer's indicator. The indicator must be able to connect to a network, at the scale site, with either Wi-Fi or public cellular internet access. This is generally very easy to do, by either using a serial to Wi-Fi converter, for older indicators or for indicators with ethernet cards already installed, simply connecting the indicator, via an ethernet cable to a network or directly connecting to the site's Wi-Fi, with more modern Wi-Fi enabled indicators,

By using the MyTruckScales app, on your iOS or Android mobile device, you can activate IP cameras mounted on the scale, to take back, overhead, and front views of the truck on the scale. Those images are then made a part of the weigh-ticket for future review. The app can also control other peripheral scale devices, such as lift gates, scoreboards, moisture meters, and radiological detectors.

You can create your own custom reports, without the need for TruckPay or an internal IT person to program the new report. For example, you can create a report, showing how many tons were delivered per job-Id or by PO #. These reports can also be scheduled to run at any time frequency e.g., at the end of day, every week, every month, etc.

The software also provides a real-time view of all the trucks on a site, i.e., which trucks are in the middle of a weighment workflow. This provides a bird's-eye view of the efficiency of all operational processes.

The software and app offer great flexibility, with permission enabled features like, camera viewing of the site, exporting of tickets and reports, and electronic inspections for validating a load. The eInspection feature enables load inspectors or load operators to take pictures of the load, sign-off on it, add notes and documents , providing more transparency for scale-owners and their customers.

Very importantly, MyTruckScales provides a remote weigh-master feature, where one weighmaster can certify tickets on multiple scales, even in different states and provinces.

MyTruckScales is multi-lingual, multi-metric, and multi-currency, making it perfect for global   enterprise use. Verticals served by MyTruckScales include Aggregates, Asphalt, ready-mix, Earthmoving, material Handling, scrap metals, demolition, recycling, waste management, agriculture, Hauling, and Land Clearing.

MyTruckScales provides solutions for: all types of bulk material logistics requirements, including Truck and platform Scale Management, Point of Sale (POS), truck tracking, and truck dispatch.

tWeigh (tswa.com)

tWeigh is a scale-based materials shipping and receiving process transactions with speed and accuracy. The software enables empty truck weight database, multiple truck scale support, comprehensive reporting, attended and un-attended operation, wired or wireless ethernet connectivity, interface to scales, printers, or remote data center, networked camera pictures may be stored with ticket data, automatic e-mail receipt notifications and is NTEP certified legal for trade.

The system is targeted to anything from solar powered kiosk in a corn field to a multisite solution for enterprise organizations using the latest IT infrastructure technology.

Scrap Dragon (scrapdragon.com)

Scrap Dragon has been recognized as an industry leader developer of scrap metal recycling industry specific software. A technology solution partner with thousands of users; spanning single location owners up to the largest multi-state operators.

Scrap Dragon offers a best-in-class point of purchase to ensure your "data in" is clean and dependable while offering live inventory management, robust analytics, and flexible integrations to your preferred third-party General Ledger, CRM, and more! They also have an ATM payout software called EZ Cash.

Features include the following: 50-state compliance, reads scales, captures photos, creates an audit trail automatically; pay by cash, check, or credit card, inventory, and sales management; flexible account management; and on-premised or Microsoft AZURE cloud hosted.

OnTrak Enterprise – Rice Lake (ricelake.com)

OnTrak Enterprise features an essential data management tool for truck scale operations. The web browser interface allows access from multiple PCs and handheld devices throughout the facility or within a truck. The software features easy user access, comprehensive database, ticket configuration, data integration with existing systems, load stack, and comprehensive reporting. Three levels of security allowing access only to the permitted parties. Multiple scales may be accessed, only limitations are the size of the network.

The software features databases for customer, hauler, truck, product, job, price/discount, tax, and transactions. The website allows remote access, system integration and data monitoring.

	OnTrak Enterprise	tWeigh	ScaleQ	Scale it	ScaleTrac	My Truck Scales	Scrap Dragon	Data Bridge
Company	Rice Lake Weighing Systems	TSW Automation	Interface Logic Systems	Scale it	Valstone Corp - Vertical Software	Truck Pay	Scrap Dragon	Mettler Toledo
Website	ricelake.com	tswa.com	interfacelogic.com	scaleitusa.com	vertical software.net	truckpay.com or mytruckscales.com	scrapdragon.com	mt.com
System Require-ments	Windows 10 and newer (x64 systems)	Windows 10, 11, Pro and Enterprise Windows Server 2016, 2019, 2022	Windows Computer Windows 10 or above	Windows PC, Windows 8 or newer	Windows 11 preferred, will work with other versions	No PC, Cloud enabled, WIFI or Ethernet	Windows 10 Professional 64 bit or higher	Windows 10 21H2 64-bit, Windows 11, Windows Server 2019 or later
	Webser used through any browser. Can be used on desktops or handheld computers	Android for handheld interface; Web browser support for remote entry						
Databases	10 GB max database size when using Microsoft SQL Server Express	my SQL, MS SQL Server, Oracle, Maria, Aurora Local, on premise, or cloud hosted	Sequel Database	One database for location; no restriction for users or customers	No restrictions on trucks or customers	No printers or Kiosks needed, all browser based, Works with any scale connected to WIFI	Program may be on local server - (space on server)	Microsoft SQL Server Express 2022 included
	Unlimited database size when using a purchased edition of Microsoft SQL Server (required when using image capturing or license plate recognition.		Customize for given client for unique applications		Moving to web-based in next 2-years	Operator needs I phone or Apple phone	Microsoft Azure (no space limitation)	
Reports	Report Filters	Extensive reports with ability to add custom queries and reports	Flexible report - standard reports	Default Reports built-in	Built-in reports	Extremely flexible, user defined	Built-in reports	>20 standard reports and ticket templates included
	Optional custom reports		Report design is simple - any field in database accessible to report writer. Reports may be printed, saved to data fields, or emailed.	Can customize report	Can customize reports	Base reports are on-board	Bustiness Intelligence - links to click more activity based on links (hyper links)	Optional custom report designer, Ad-hoc reporting features
Communi-cations	Supports multiple printers	Supports indoor office and outdoor ticket prints at scale	Any scale indicator that has serial or ethernet output	Supports printers that have windows drivers	Supports printers that have windows drivers	no printers	Works with any printers with windows drivers	Windows based printers

	OnTrak Enterprise	tWeigh	ScaleQ	Scale it	ScaleTrac	My Truck Scales	Scrap Dragon	Data Bridge
	Supports all Rice Lake indicator interfaces and 1280 based Automated Ticketing Kiosks.	RFID printers, barcode printers, portable handheld printers	Any printer that has windows drivers	You can type in weights; works with any make or model RS232, USB or over the network	Integrate with Moisture meters and scale indicators	WIFI or public cell internet connection	Reports can print on any printer - but reports will be sized to the paper size. Ability to create or adjust existing form to fit printer size	Universal indicator support
	Optional drivers available for non-Rice Lake weighing indicators (Ethernet TCP/IP required)	All major scale manufacturers; Keyboard, Intercom, Prox reader, barcode reader	Custom interfaces		Email tickets to customers	Full point of sale system	Scale indicators able to connect to network - RS232 or ethernet	Peripheral device support, including: long & short range RFID readers, barcode scanners, ONVIF & license plate recognition cameras, I/O device control & monitoring.
	Supports RFID readers, gate controls, cameras, license plate readers	Supports vehicle, RFID readers, radiation detectors, gate controls, cameras	Email tickets or print tickets, save as PDF		Tickets for inbound graded, in-transit, transfers and outbound graded, transfers	Credit cards, debit cards, ACH payments, all modern payments for moving money	Customize ticket or reports	METTLER TOLEDO IND9UT Unattended Driver Terminals
	REST APIs are built into the software to send and retrieve data between the software and your existing system	TCP/IP, FTP, MQTT, SMTP Windows Enterprise Kiosk with sunlight readable touchscreen	Send SMS text alerts with ticket information		Customer Portal coming with web-based	Customizable by the driver they are working with.	System admins have access to reports; easier for the help desk to assist with reports	
	OnTrak Enterprise	tWeigh	ScaleQ	Scale it	ScaleTrac	My Truck Scales	Scrap Dragon	Data Bridge
Export Data	File transfer via transactions via: XML, JSON, CSV or TXT	Export to database, accounting system, ERP systems, SAP, Manhattan, CSV	PDF, HDTML, comma delimited, ASCI data files	Export accounting, ERP integrations	May export reports uses Crystal Reports	CSV, Excel, or PDF, web hooks or API	CSV, PDF	Data Mapping to CSV, XML, XLS, JSON, or 3rd party database via ODBC
	Configuration transaction data export in CSV file format			Can be CSV or any format needed				REST API
Transaction Calculations (Tax, Discount)	Unlimited product prices and discounts	Job/Contract pricing with quantity and date limits	Unlimited material list, special pricing by customer, multiple tax rates, fuel rates	Default pricing; pricing specific for jobs or customers	Calculate dry charges, shrink & Net Bushels	Customizable without any programming required	Inventory management capability - time across scale, every time touched to final product	Customized integrations with 3rd party applications (ex. ERP, MES, CRM) via plug-in architecture.

	OnTrak Enterprise	tWeigh	ScaleQ	Scale it	ScaleTrac	My Truck Scales	Scrap Dragon	Data Bridge
	Tax Calculations	Tax and surcharge, Haul charge calculations	Great Flexibility	Discount and tax calculations	Track Truck & Freight Charges	Multi-lingual, multi-currency, multi-units		Contracts, discounts, taxes, fees. Material pricing options: standard gate rate, ranged tiered, stepped tiered, peak, scheduled, quantity-based (zero weigh), and more.
Software Support	Database configuration	Optional annual support	On-site or telephone, on-line support	Custom reports	On site or remote installation	Remote help on installation, because it is cloud	As much remote as possible - train the trainer	Comprehensive software care support available, includes remote support and free software updates.
	Field installation & training	Optional On site training	Needs internet capability to remote in	Remote training	Business hours and after hours support via email	Work with scale dealer to get indicator on-line	Log in to computers	On site and remote installation and training services.
	Phone support packages available			Ask on site- dealer to connect indicator			Option - on-site software and training	Local, regional, and global support teams
Approvals:	NTEP	NTEP CoC	NTEP approved	NTEP approved		NTEP approved		NTEP, OIML, NMI(M)

2024 ISWM Conference & Expo Flashback

What is Handbook 44 and What is NTEP?

Reprinted with permission from Rice Lake Weighing Systems

What is Handbook 44?

The complete title is "Specifications, Tolerances, and other Technical Requirements for Weighing and Measuring Devices." The handbook is a comprehensive set of requirements for weighing and measuring devices that are used to establish the size, quantity, composition, measurements of quantities to be sold, offered or submitted for sale. For scales, it is the scale that is used to determine the basic charge based on weight. This scale is considered a commercial device, or a "legal for trade" scale.

The Handbook's primary purpose is to prevent fraud in the marketplace. A product made in one state, one country, any unit of measure, should weigh the same.

Handbook 44 is NOT a federal law. The handbook is developed by the National Conference on Weights and Measures (NCWM), which is private voluntary organization. Membership includes Weights and Measures officials, government, manufacturers, distributors, private industry and service companies' representatives. The Specifications and Tolerances committee reviews all new recommendations for updating Handbook 44 annually. The National Institute for Standards and Technology (NIST) provides technical assistance and publishes Handbook 44.

Handbook 44 has been adopted by all 50 states as the basis for commercial weighing and measuring devices.

What is NTEP?

The National Type Evaluation Program (NTEP) is a program of cooperation between NCWM, NIST, State Weights & Measures officials and the private sector for determining conformance of weighing equipment with the provisions of Handbook 44.

NTEP is a process for testing, examination and /or evaluation of weighing equipment to ensure compliance with Handbook 44. NTEP provides a set of procedures for the uniform test/evaluation of weighing equipment. There are a number of recognized laboratories where testing may be performed. Completion of these test processes results in a Certificate of Conformance (CC) as evidence of compliance with the provisions for Handbook 44. NTEP is a voluntary program in that scales are not required to be submitted. States are not required to accept NTEP certificates as the basis for scales used in commerce. However, most states are requiring a CC for scales used in commercial weighing. Check with local city, county and states requirements to determine if an NTEP certificate is required.

Table 7a. Typical Class or Type of Device for Weighing Applications	
Class	**Weighing Application or Scale Type**
I	Precision laboratory weighing
II	Laboratory weighing, precious metals and gem weighing, grain test scales
III	All commercial weighing not otherwise specified, grain test scales, retail precious metals and semi-precious gem weighing, grain-hopper scales, animal scales, postal scales, vehicle on-board weighing systems with a capacity less than or equal to 30 000 lb, and scales used to determine laundry charges
III L	Vehicle scales (including weigh-in-motion vehicle scales), vehicle on-board weighing systems with a capacity greater than 30 000 lb, axle-load scales, livestock scales, railway track scales, crane scales, and hopper (other than grain hopper) scales
IIII	Wheel-load weighers and portable axle-load weighers used for highway weight enforcement

Note: A scale with a higher accuracy class than that specified as "typical" may be used.

(Amended 1985, 1986, 1987, 1988, 1992, 1995, 2012, and 2021)

Table 3. Parameters for Accuracy Classes			
Class	**Value of the Verification Scale Division (d or e¹)**	**Number of Scale Divisions (n)**	
		Minimum	**Maximum**
SI Units			
I	equal to or greater than 1 mg	50 000	–
II	1 to 50 mg, inclusive	100	100 000
	equal to or greater than 100 mg	5 000	100 000
III[2,3]	0.1 to 2 g, inclusive	100	10 000
	equal to or greater than 5 g	500	10 000
III L[3]	equal to or greater than 2 kg	2 000	10 000
IIII	equal to or greater than 5 g	100	1 200
U.S. Customary Units			
III[5]	0.0002 lb to 0.005 lb, inclusive	100	10 000
	0.005 oz to 0.125 oz, inclusive	100	10 000
	equal to or greater than 0.01 lb	500	10 000
	equal to or greater than 0.25 oz	500	10 000
III L[3]	equal to or greater than 5 lb	2 000	10 000
IIII	greater than 0.01 lb	100	1 200
	greater than 0.25 oz	100	1 200

What Information is contained on a Certificate of Conformance?

Certificate of Conformance requirements are based on the type of device. It is important to review and understand the information listed on a CC in order to select the equipment for each application. The following information is always on a certificate:

1. Certificate Number – top right corner
2. Manufacturer or distributor's name
3. Product description
4. Model identifier
5. Standard features and options
6. Application – a brief description of how the product may be used.
7. Test condition – description of how the product was tested.

Additional information that may be on the certificate:

8. n_{max} (Maximum number of scale divisions) – this is the maximum number of scale divisions the product has been provided.

9. Accuracy Class – the manufacturer selects the accuracy class for the product. There are five classes according to number of scale divisions (n) and the value of the scale division (d). Handbook 44 Table 7a and Table 3 provide parameters for the Accuracy Classes.

10. Temperature Range -This is the temperature range over which the product has been tested and approved. The standard range is 140 F to 1040 F (-100 C to 400 C). Products may be used outside this range as long as it operates within tolerances, regardless of influence factors at the time of inspection.

11. Capacity – Capacities of the products covered by the certificate. The certificate may not cover all capacities of the product available. Check that the specific capacity has been approved.

12. Platform size – Sizes covered by the certificate.

13. v_{min} (minimum Verification Scale Division). Found on load cell certificates and is used as follows in selecting an appropriate load cell:

    a. Single Load Cell Application:
    v_{min} must be less than or equal to the scale's division size (d)
    $v_{min} \leq d$

    b. Mechanical Scale Conversion Using One Each Load Cell:
    v_{min} must be less than or equal to the scale's division size (d) divided by the scale multiple
    $v_{min} \leq d/\text{scale multiple}$

    c. Scale Using More than One Load Cell:
    v_{min} must be less than or equal to the scale's division size (d) divided by the square root of the number of cells (N).
    $v_{min} \leq d/\sqrt{N}$

14. Single (S) or Multiple (M) – Found on the load cell certificates and indicates if the cells have been approved for use in single or multiple cell applications. Note that a cell approved for use in single cell applications may be used in a multiple cell application.

15. Minimum Dead Load – this will be found on load cell certificates and indicates the minimum dead load which must be applied to the load cell. Manufacturers are allowed to exclude consideration of a load cell's performance close to zero by specifying a minimum dead load. This is beneficial if the load cell is somewhat non-linear in this range. In selecting a load cell, ensure that the dead load on each cell is greater than or equal the minimum deal load specified on the load cell certificate. Handbook 44 also recommended a minimum load on Class III and Class IIIL scales (reference Table 8 for minimum load values).

16. Sealing – Information on how the product is to be sealed. The security seal could be lead wire, audit trail or pressure sensitive seal.

To locate a certificate of conformance for a product a data base search at ncwm.net/ntep/cert-search will assist. The searchable fields are CC Number, Manufacturer, Model Number, Device type, or Keyword. Rice Lake certificates may be found by clicking on the NTEP logo on the ricelake.com product page.

How Do I Select a Product Based on the Certificate of Conformance Information?

The information given on a CC is intended to aid in the correct selection of weighing equipment for a given application and to aid Weights & Measures official in ensuring that equipment has been selected properly and is being used in an appropriate manner.

In selecting equipment for a given application, it is necessary to check certain parameters listed on the CC. Here are some examples:

1. Indicators:

    a. The specific model is listed on the certificate

    b. The indicator's accuracy class is appropriate to the application. Note if a CC referred only to Class III, that indicator could be used in a Class IIIL application. The reverse is not true.

    c. The indicator's n_{max} is greater than or equal to the number of divisions required for the specific application.

2. Platforms (Floor or Bench):

    a. The specific model number, platform size and capacity are listed on the certificate.

    b. The platform's accuracy class is appropriate to the application.

    c. The platform's n_{max} is great than or equal to the number of scale divisions for which the scale will be configured.

3. Load Cells

    a. The selected load cell model and capacity have been approved.

    b. The load cell is approved for the required accuracy class. Note that a Class III cell may be used in a Class IIIL application. The converse is not true.

    c. The load cell's n_{max} is greater than or equal to the number of divisions required for the specific application.

    d. The cell is rated for single (S) or multiple (M) use as appropriate for the application. Note that a cell rated for single use may be used in single or multiple cell applications. A cell rated for multiple use cannot be used in a single cell application.

    e. The dead load on each load cell is greater than or equal to the minimum dead load specified on the certificate.

    f. The load cell's v_{min} is appropriate to the application; there are three situations which must be analyzed:

        i. Fully electronic scale using one Load Cell:
        v_{min} must be less than or equal to the scale's division size (d)
        $v_{min} \leq d$
        For example: Tank scale using a single load cell
        Capacity 1000 lb by 0.5 lb
        Hence the load cell v_{min} must be less than or equal to 0.5 lb. the v_{min} is found on the Certificate of Conformance

        ii. Mechanical Scale Conversion using one S-Beam:
        v_{min} must be less than or equal to the scale's division size (d) divided by the scale multiple
        $v_{min} \leq d/\text{scale multiple}$
        For example: Truck scale
        Capacity 120,000 lb by 20 lb
        (multiple = 400)
        Hence the load cell v_{min} less than or equal to 20/400 which should be less than or equal to 0.05 lb.

        iii. Fully electronic scale using more than one load cell:
        v_{min} must be less than or equal to the scale's division size (d) divided by the square root of the number of cells (N).
        $v_{min} \leq d/\sqrt{N}$
        Example: Floor platform scale using 4 load cells
        Capacity: 5000 by 2 lb

Hence the load cell v_{min} less than or equal to $2/\sqrt{4}$ less than or equal to 1.0 lb.

Load cells with a v_{min} less than or equal to 1 lb must be selected. It is important to check the n_{max} value on load cells as there are many different specifications for the same load cell model. Models may be offered with 3000, 5000, 6000 and 10000 divisions and have the same model number.

4. Printers

   a. NTEP approval is typically not required for printers unless the printer itself performs metrological functions. It is usually sufficient for printers to be inspected and approved by local or state Weights and Measures officials as part of their field inspections.

How Do I select an NTEP-Certified replacement load cell?

A load cell from the same or a different manufacturer may be substituted for an NTEP-certified cell if it:

1. Has a Certificate of Conformance?
2. Has an ACCURACY CLASS appropriate to the application, Class III or Class IIIL?
3. Has a n_{max} that is suitable for the application (number of scale divisions)?
4. Has been approved for SINGLE or MULTIPLE applications? SINGLE may be used in multiple applications.
5. Has a MINIMUM DEAD LOAD that is suitable for the application?
6. Has a v_{min} that is suitable for the application?
7. Is the same basic type as the original cell.
8. Can be fitted without major modification to the load cell mounting assembly.

   a. NOTE: The following policy applies to the repair or remanufacture of load cells:

      i. The original Certificate of Conformance only applies to a repaired cell if that repair was carried out by the original manufacturer or authorized agent.

      ii. If the load cell is repaired by other than the original manufacturer or authorized agent, then the local Weights and Measures jurisdiction has the authority and responsibility to ensure that the device complies with the influence factor requirements of Handbook 44 by requiring an NTEP evaluation or the jurisdiction's own evaluation.

Metrological Terms used:

Number of scale divisions is abbreviated as "n". This value is obtained by dividing the capacity of a scale by the division size (d).

Division size is abbreviated as "d". This is the value of one scale division, the smallest value that the scale can discriminate.

Minimum Verification Scale Division/Load Cell is abbreviated as "v_{min}". A parameter used to select load cells for NTEP approved applications. This value is the smallest value of a mass which may be applied to a load cell without exceeding the maximum permissible error (MPE).

COMPANY NEWS

ADAM EQUIPMENT

Adam's New Heavy-Duty Balance is Stronger, Easier to Use and Better-Connected OXFORD, Conn., June 6, 2024 -- Adam Equipment, a leading global manufacturer of professional scales and balances, shot its Luna line of balances into an even higher orbit with the launch of the Luna LBL large pan precision balance.

Expanding the popular Luna range, which already features analytical LAB and precision LTB/LBB/LPB models, the Luna LBL sets a new standard in precision weighing. With its innovative features and robust design, the Luna LBL caters to diverse applications and provides users with unparalleled accuracy and convenience. An improved precision load cell offers more advanced processing capabilities from the board and chips, which allows for finer accuracy at a higher resolution. In addition to the convenience of RJ45 ethernet connectivity, the process of data sharing and connecting to devices like PCs or printers is simple. For effortless communication, the new Luna LBL also comes with standard USB and RS-232 interfaces. Optional Bluetooth connectivity will be available later this year. Luna printouts are formatted for compliance with Good Laboratory Practices (GLP) and Good Manufacturing Practices (GMP) guidelines.

An ABS plastic indicator, a die-cast aluminum base and a large 11.8″x15.7″ / 400x300mm stainless steel pan help make LBL both easy to clean and durable enough to withstand demanding field or benchtop use. LBL's six models range in capacity from 14kg to 34kg, all with a fine readability of 0.1g. Weighing units include g, kg, ct, GN, N, lb, oz, lb:oz, ozt, dwt, T and a custom unit. Like the rest of the Luna family, LBL's generously sized LCD display features bright 0.9″/24mm-tall digits against a black background, allowing the user to easily and efficiently read weighing results. The indicator is removeable, allowing placement either on the body of the machine or wall-mounted with a bracket for easy viewing. Several models offer a pillar-mounted option. Luna LBL offers a wide variety of applications, such as weighing, parts counting, percentage weighing, dynamic/animal weighing, checkweighing, check counting and density determination. LBL also offers selectable digital filtering to help minimize the effects of vibration and other disturbances, a zero-tracking feature to ensure the display returns to zero and a capacity tracker built into the display for monitoring possible overloads.

Options include a hook for below-balance weighing and a rechargeable battery for up to 50 hours of on-the-go use. Like the rest of the Luna line, LBL comes with Adam's industry-leading five-year warranty, offering peace of mind to users that they can count on LBL for years to come. To learn more about the Luna LBL range, as well as the rest of the Luna family of balances, visit **AdamEquipment.com**.

NCWM

July is a big month for NCWM. The 109th Annual Meeting in Cleveland will potentially bring significant changes. NCWM members will vote on changing the association's name from National Conference to National Council on Weights and Measures, which reinforces that this deliberative, standard-setting organization is a year-round effort promoting equity and uniformity and denounces a common misconception that the NCWM is only a meeting. Members will also vote on expanding the NCWM voting process from a once- to twice-per-year system, improving, and enhancing the function of NCWM.

INTERCOMP

NTEP Certified LTR788™ Weighs Dual Tires Individually on a Single Portable Scale

Minneapolis, MN –

Intercomp, the world's largest manufacturer of portable vehicle weighing and measurement products, is proud to introduce its LTR788™ Dual Platform Scale, to the global Industrial Scale market. The LTR788™ is NTEP Certified for commercial vehicle weight enforcement.

Bringing new capabilities to wheel load scales, the LTR788™ Dual Platform Scale was created for direct measurement of individual tire loading in a dual-tire configuration. Although tire failures within dual-tire setups have historically occurred more frequently on inner tires than outer tires, individual tires in a dual-wheel configuration were assumed to carry near equivalent loads because there was no scale which could directly measure individual tire weights. It is now possible to identify and correct unequal weight distribution within a dual tire configuration by setting the tire air pressures to properly load both tires. Using this information, operators will be able to increase road safety, avoid many common equipment failures relating to uneven tire wear, and save money through fuel economy and decreased repair costs.

Proper load distribution through load balancing increases safety by reducing issues related to uneven wear, tire blow outs and accidents involving overturned trucks. Overrated tires are not only a major safety concern, but they can also cause a cascade of costly equipment failures by putting stress on the other tires. Every mile an overrated tire goes down the road damages all other inside tires, reducing tire longevity. Fuel savings are also a major benefit of proper load distribution that equates to major cost savings through increased fuel milage. With a platform height of just 0.86″ (22 mm), the lightweight and low-profile design makes the LTR788™ easy to move and simple for

drivers to position the vehicle. The scale is battery operated and features a solar panel that minimizes the need to manually charge the batteries. These fully electronic, self-contained, low profile wheel load scales can be used in sets of two-to-six scales, or alongside single-platform wheel load scales for commercial vehicle inspection operations. To learn more about the new LTR788™ Scale System, visit intercompcompany.com or contact Intercomp at 800-328-3336 or worldwide +1 763-476-2531.

Intercomp Company is the world's largest manufacturer of portable vehicle weighing and measurement products. Headquartered in Medina, Minnesota, Intercomp is ISO 9001:2015 certified, with manufacturing facilities in the U.S. and the United Kingdom. The company serves customers in aerospace, transportation, automotive, agriculture, material handling and numerous other industries through a worldwide network of dealers.

advanced weighing technology
... by any measure

PHOTO by Intercomp

COTI GLOBAL SENSORS

CG-RXR SERIES EXPANDS WITH NEW HARDWARE OPTIONS

Coti Global Sensors is excited to announce an expansion of their railroad track cell line, the CG-RXR. In addition to the CG-RXR 90, CG-RXR 115, CG-RXR 132 and CG-RXR 136, we now offer cable assemblies in multiple cable length options and joint bars with the accompanying hardware. CG-RXR cells are interchangeable with most industry equivalents, making them an excellent replacement option for a variety of applications. Each unit comes with a mating connector and 30 feet of cable. A key feature of the CG-RXR is that it reduces moisture ingress, making it easier to prevent moisture damage and control

environmental wear and tear of your weighing system over time. Additionally, Coti Global Sensors offers services for repairing and rebuilding existing load cells, including rail line cells. With the CG-RXR and rail line hardware components, **Coti Global Sensors** delivers the same high quality you expect at an affordable price.

For more information: Please call +1 (866) 762-2684, email: sales@cotiglobal.com, or visit www.cotiglobal.comction

RICE LAKE'S ROUGHDECK® QC-X NOW HAS NSF CERTIFICATION

Rice Lake, Wis.—Rice Lake Weighing Systems is proud to share that the RoughDeck QC-X quick clean extreme floor scale now holds NSF Certification for use in meat and poultry processing. Rice Lake believes that consumer safety is essential, which is why products meet the sanitary needs of the processing environments where they are used. NSF International Standards have been specified by the USDA to ensure the highest quality equipment is used in food manufacturing.

RoughDeck QC-X scales are designed to safeguard against microscopic bacteria in food processing, pharmaceutical and chemical applications. The base is composed of solid, 304 stainless steel, vertical plates that provide superior protection against bacteria and mold growth. The rugged design incorporates four welded-seal load cells with PTFE cable for steam cleaning and washdown areas. The top plate opens 75 degrees and is held in place with safety bars to support thorough cleaning routines.

Rice Lake Weighing Systems is a global leader in weighing and measurement solutions. With a focus on innovative, quality products and legendary customer service, Rice Lake provides solutions for your business. From the industry's largest selection to an infinite array of customized systems, Rice Lake can meet any requirement.

SOONER SCALE INC.

An onboarding scale manufacturing and service company – is considering accepting offers to purchase after 41 years of operation by the same owner. Started in 1970 and operating for 54 years, it includes dealers, national, and international sales.

For more info, please contact info@soonerscale.com.

DIVISION NEWS

WESTERN DIVISION MEETING
Anaheim Majestic Hotel
900 South Disneyland Drive
Anaheim, CA 92802

Group Reservation No.:
844.227.8535 x 3885
On-line reservations:
AAA WEIGH
Rooms must be reserved no later than September 2, 2024, to ensure availability and discounted rate. The room rate is $169.00 plus tax. Overnight parking is $16.00 per 24-hour period. The hotel is close to Disney and provides a shuttle to the park.

Schedule of Events:
Thursday, September 19
8:00 AM Breakfast and Training– Rice Lake's Handbook 44 Class will be held. The price for this class is $275. Please signup on-line at www.ricelake.com/training and navigate to the offsite training in Anaheim. If you have problems, or need help, email acrowley@ricelake.com. This cost includes training materials, breakfast, and lunch.
5:00 PM to 8:00 PM Rice Lake Meet and Greet TBD

Friday, September 20
8 AM to 8:30 AM Registration and Continental Breakfast

8:30 AM to 12:00 PM Sales for Service Professionals by Ann Crowley
12:00 PM to 1:00 PM Lunch (included in price)
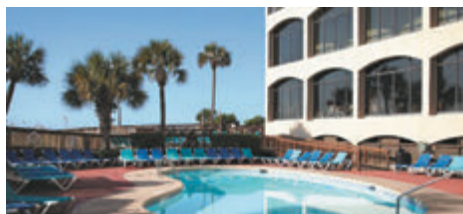1:00 PM to 2:00 PM Forklift scales training by RAVAS
2:00 PM to 3:00 PM Dimensioning demonstration by Rice Lake Weighing Systems
3:00 PM to 4:00 PM Tabletop presentations
4:00 PM to 4:30 PM Business meeting
5:00 PM to 8:00 PM Rice Lake Meet and Greet
Friday Event Registration Fee - $100 per person. To sign up email staff@iswm.org for form or contact john@aaaweigh.com

ISWM SOUTH ATLANTIC DIVISION
October 4 - 5, 2024
Beach Cove Resort
4800 S Ocean Blvd
N Myrtle Beach SC 29582
(843) 286-5690

Room Reservations
Rooms must be reserved no later than August 20th to ensure availability and discounted rates. The fee for the first night's stay is due at the time the reservation is made.

Room Rates (**Including Tax And Resort Fee**)
Oceanfront one-bedroom executive suite. $127.68
Oceanfront two-bedroom condo. $213.92
Oceanfront three-bedroom condo. $267.68

Call (888) 974-5531. Refer to "ISW&M" to receive the discounted rate.

Speakers:
Paul Batson - President & CEO - TSW Automation, Inc.
Jeff Fenster - Award winning entrepreneur, best-selling author, and podcast host

Events
Friday, October 4th
6:00 to 8:00 PM Vendor Tabletop Displays Appetizers
8:00 PM – 11:00 PM Rice Lake Weighing Systems Hospitality Suite

Saturday, October 5th
8:00 AM Vendor Tabletop Displays and Registration
8:30 AM Division Meeting & Speakers
6:00 PM Cocktail Hour
6:30 PM – 9:00 PM Buffet Dinner and Dancing
For additional information, contact ISWM South Atlantic Division
Vicki Allman - vallman54@gmail.com or (540) 420-8862

SAD NEWS
The ISWM reports the passing of two of our long-term members.

Randall Harden passed in June 2024. Our thoughts and prayers go to Vicki his wife. He is remembered for all his contributions to the ISWM and the scale industry.

Jeff Canfield passed away on June 28, 2024. Jeff presented at our ISWM National Convention last year on Sales for Service Professionals. He loved sharing his industry knowledge and carried for the weighing industry.

The ISWM sends our thoughts and prayers to their families.

The Long and Winding Road

Weighing & Measurement Saying Goodbye to ISWM.

by David Mathieu

The International Society of Weighing & Measurement (ISWM) has been like a family member to Weighing & Measurement (W&M) magazine. Each organization has helped the other throughout the years. We depended on ISWM for content, article ideas, and their conferences, which always gave us a bump in advertising revenue as well as good contacts for future articles. In return, ISWM would get coverage of their events through write-ups and photography that would be published within the pages of Weighing & Measurement. Although that would wane in later years, we've always been close.

My Thoughts And A Little History

When thinking about the direction I wanted to take for this article, I wanted to make sure I honored my dad, who was the publisher of Weighing & Measurement during the golden years, and whose shoes I could never fill. Though I tried, I came up way short. Many of you reading this piece can relate, as it was your moms and dads that laid the groundwork for you to step in and run their businesses.

The following is my feeble attempt to weave everything together in a nice bow—a gift to say it's been fun, I wish you well, and goodbye.

The Scale Journal's first publication was in October 1914. A few publishers and many years later, it was acquired by scale dealer Morey DeBo, owner of the Midwest Scale Company in Rockford, IL. In 1974, he announced a new name change for the publication. Here is the letter by DeBo that appeared on the cover of that January issue:

> **"**
> The SCALE JOURNAL Has A New Name! Back in 1914, when the first issue of the Scale Journal was published, the weights and measures industry was very simple. The Scale Journal did a good job by talking about scales. Now, 60 years later, this industry, like most others, has become a highly sophisticated, complex business. And the Scale Journal has kept pace with this new technology and growth. Our editorial content over the past few years has included material on many different facets of the weights and measures industry. In order to better reflect what is happening on the inside, we have changed the name on the outside. Beginning with this issue, the Scale Journal becomes Weighing & Measurement. It's just our way of keeping up!
> **"**
>
> – *M.J. DeBo, Publisher*

A couple of years earlier, Dave M. Mathieu was the Editor of the Scale Journal for a short time, but he would again enter the scene in a big way when he purchased the magazine from DeBo in 1975.

Things Are Changing In A Good Way

In 1976, Weighing & Measurement published its first-ever Buyers' Guide for scale dealers. It was a big hit and a major revenue source for the next two decades. The first guide had 46 advertisers, but that would grow to more than 70 advertisers at its peak in the late 1980s.

The industry was experiencing growth. In 1985, the National Scale Men's Association changed their name to the International Society of Weighing & Measurement (ISWM). That announcement was made at their Technical Conference and Exhibition that year, held in Anaheim, CA. At that conference, they drew 1,700 attendees.

As stated earlier, W&M and ISWM have always supported each other. This was shown most evident by the previous publisher, Dave M. Mathieu (2004 "Woody" Woodland recipient), who covered every ISWM Conference and Expo and then published post-show articles in the following issue of Weighing & Measurement. The growth of the W&M magazine and the ISWM organization was exciting to watch. For example, the ISWM Conference & Expo held in Chicago drew over 3,000 attendees. Meanwhile, the W&M magazine grew from 28 to 76 pages and from 23 to 73 advertisers. Weighing & Measurement was, and continued to be, a big promoter of ISWM for the duration of its life.

Looking Back

Margaret (my wife) and I purchased the magazine from Ruby and Dave M. Mathieu in June 1999. My dad continued writing articles for many years afterward.

It hasn't been an easy journey from that year forward for anybody—whether you're in the scale industry or a completely different industry. We've all had to endure 2001's 9-11, including the ramifications from that attack and the war on terror. Then, in 2008, we all experienced the economic collapse our country was going through. For Weighing & Measurement, our advertisers were dropping out, but it got worse after our WAM Marketplace show in 2011 (Horseshoe Casino, Southern Indiana). Dealers didn't support the 36 exhibitors we brought to the table! In December 2019, it was the beginning of COVID-19, and the soon to be shutdown of our country.

Throughout the years, we've done name changes, size changes, and even did a flip magazine hoping to get some traction and stop the downward slide. But no matter how much we threw the prover-bial spaghetti at the wall, nothing would stick. Finally, we tried to bring back the Buyers' Guide, which had been so successful in the past and was something the dealers resourced yearly. For Margaret and me, the Buyers' Guide was a "Here's your sign" moment.

Opportunities Going Forward

Weighing & Measurement (Weigh & Measure) has been good to us, but times are changing, and it's time to move on to other things. We are grateful for the scale industry and wish you all the best.

The ISWM News now has the chance to be THE Industry magazine and the strongest organization to represent the weighing industry. And I'm available to help in any way I can.

End Note:

Thank you for reading this article. David Mathieu, the author, is available for writing, design projects, or brainstorming sessions. You can reach him at Dave.Mathieu@comcast.net. He looks forward to connecting and collaborating with you!

Industrial Washdown Protection

## on a Laboratory Precision Balance

A&D
A&D Weighing

The World's Only 0.001 g, IP65 Balance

Why is IP65 Important?

Corrosion of the internal boards is a common cause of equipment failure. Most balances are not rated to prevent moisture from getting inside the unit. With an IP65 balance you don't have to worry about accidental spills, high humidity environments or cleaning procedures causing damage to boards or critical electronics. Additionally, 100% dust ingress protection means that they are perfect for use in laboratory environments!
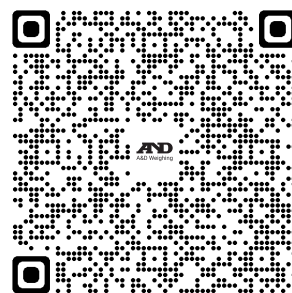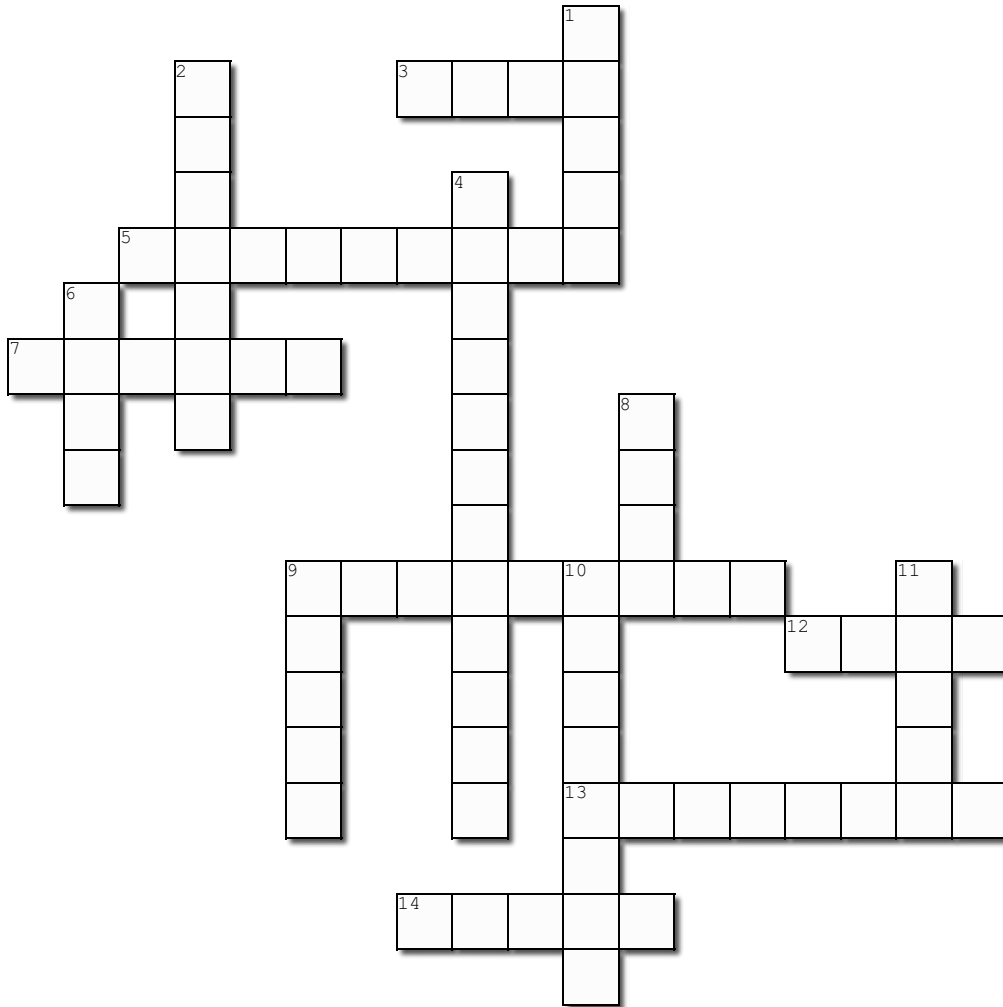
andweighing.com

Name: _____

Bench Scale Terms
Complete the crossword puzzle below

Created using the Crossword Maker on TheTeachersCorner.net

Across

3. Support the screws into loadcell
5. Type of steel used for washdown applications
7. Graph that is a straight line
9. Something dropped on scale
12. Weight of container
13. Maximum load for scale
14. Wire from cell

Down

1. Screws or nuts designed to protect your load cell
2. top cover
4. Type of load cell seal to protect in washdown application
6. Type of steel used for everyday
8. What is displayed with no load
9. Type of test placing weights in the centers of the quadrants
10. Device that produces a signal change proportional to output
11. Scale will not stay on displayed value

Biblical Units of Measure

In Handbook 44, Appendix B, it states "weights and measures were among the earliest tools invented by humans." John Hughes (previous Executive Director) came across this reference in the Bible.

Biblical Units of Measure –
Revelation 22:21 (ESV) – Biblia.com

TABLE OF WEIGHTS AND MEASURES AND MONETARY UNITS

The following table is based on the best generally accepted information available for biblical weights, measures, and monetary units. All equivalents are approximate. Weights and measures also varied somewhat in different times and places in the ancient world. Most weights, measures, and monetary units are also explained in footnotes on the pages where they occur in the ESV text.

Appendix A further states that goods of commerce were traded originally by number or volume. Handbook 44 further states: "When weighing of goods began, units of mass based on a volume of grain or water were developed. For example, the talent in some places was approximately equal to the mass of one cubic foot of water."

The development of the Metric System of units began in 1791. In the early metric systems, the two fundamental units were the meter and the kilogram.

Today the meter is defined in terms of the speed of light in a vacuum.

Mass measurements in the U.S. are traceable to the SI using Planck's constant through the U.S. national prototype kilograms.

| Biblical Unit	Approximate American and Metric Equivalents	Biblical Equivalent
bath	A bath was about 6 gallons or 22 liters	1 ephah
beka	A beka was about 1/5 ounce or 5.5 grams	10 gerahs
cor	A cor was about 6 bushels or 220 liters	10 ephahs
cubit	A cubit was about 18 inches or 45 centimeters	6 handbreadths
denarius	A denarius was a day's wage for a laborer	
daric	A daric was a coin of about 1/4 ounce or 8.5 grams	
ephah	An ephah was about 3/5 bushel or 22 liters	10 omers
gerah	A gerah was about 1/50 ounce or 0.6 gram	1/10 beka
handbreadth	A handbreadth was about 3 inches or 7.5 centimeters	1/6 cubit
hin	A hin was about 4 quarts or 3.5 liters	1/6 bath
homer	A homer was about 6 bushels or 220 liters	10 ephahs
kab	A kab was about 1 quart or 1 liter	1/22 ephah
lethech	A lethech was about 3 bushels or 110 liters	5 ephahs
log	A log was about 1/3 quart or 0.3 liter	1/72 bath
mina	A mina was about 1 1/4 pounds or 0.6 kilogram	50 shekels
omer	An omer was about 2 quarts or 2 liters	1/10 ephah
pim	A pim was about 1/3 ounce or 7.5 grams	2/3 shekel
seah	A seah was about 7 quarts or 7.3 liters	1/3 ephah
shekel	A shekel was about 2/5 ounce or 11 grams	2 bekas
span	A span was about 9 inches or 22 centimeters	3 handbreadths
stadion	A stadion was about 607 feet or 185 meters	
talent	A talent was about 75 pounds or 34 kilograms	60 minas
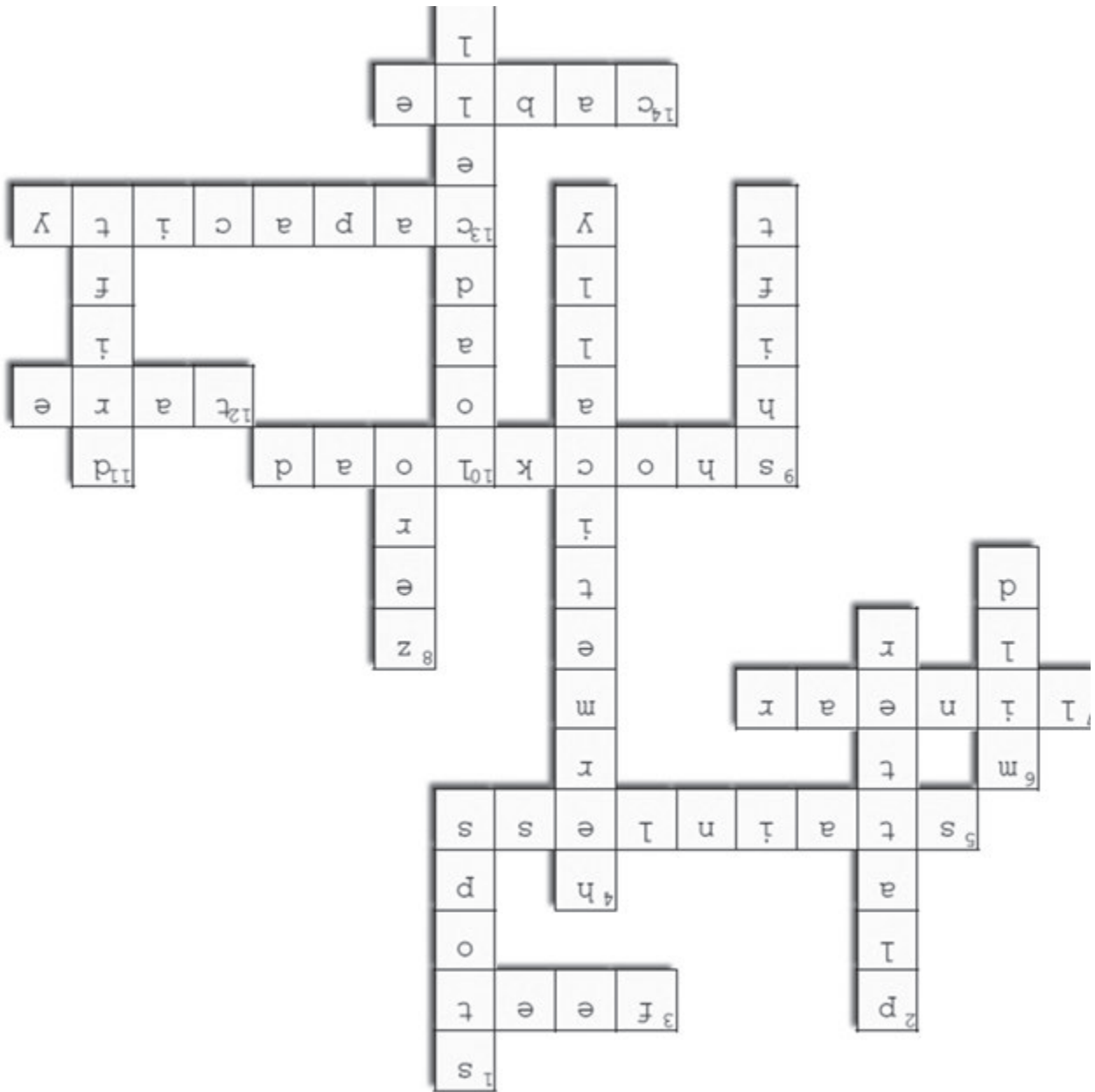
WOW! Specific online training for the Handbook 44 focused on the W&M Industry!

Each Student will learn:

- The structure which HB44 operates under including the National Conference of W&M plus NIST
- How to evaluate weighing products for specific applications including lighter capacity scales like retail or general bench scales, mid-range scales like floor scales and heavy capacity scales including vehicle and livestock scales.
- Learn how to identify the exact class of scale and what certified test weights and loads are required to put them into commercial service.
- What performance tolerances are needed for new and previously installed equipment.
- To address the full customer requirements ensuring that they have the "right or correct" product for their application.
- Be tested throughout the course and take a final exam to validate the student's comprehension.
- Records will be kept by Life and Safety for your reference if needed. The ISWM will also keep records on those who successfully pass the HB44 Course.

Coupon

At this site you will be able to register yourself or your employees with a specific username and password for each. If you wish to sign up multiple employees there will be instructions for that on this site. Enter the discount code: ISWM25 for a 25% discount if you are a member of the ISWM. Course cost is $225 for non-members.

Also included with the Handbook 44 Course are 7 L&S courses: Back Safety, Fire Extinguisher Use, Portable Power Tool Safety, Personal Protective Equipment (PPE), Basic First Aid, Basic Electrical Safety and Confined Space Awareness.

LIFE & SAFETY CONSULTANTS, INC.
15 Brendan Way Suite 140, Greenville, SC 29615
Phone: 864.297.4521 • Web: www.lifeandsafety.com

ISWM
International Society of Weighing & Measurement
PO Box 507, Fairmont, MN 56031
Phone: 507.848.7103 • Web: www.iswm.org
Email: ann@iswm.org

For course registration go to: https://lms.lifeandsafety.com/login/367/ISWM.aspx

N. MYRTLE BEACH, SC

ANAHEIM, CA

SAN ANTONIO, TX

JOIN US AT A MEETING!