25/03| November 2025

ISWIM NEWSLETTER

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Message from the ISWIM president

Welcome to the November edition of the ISWIM Newsletter for 2025.

Here in the United States, we are enjoying autumn. The clocks have been turned back. The days are shorter and nights longer (more rest one would hope!). Soon we will gather with family and friends to give thanks for the many ways we have been blessed.

There is so much going on in the WIM community worldwide and I am grateful for every person and company that made time to share their work in this edition of the newsletter. In the following pages you will read about the plans for the 10th International Conference on Weigh-in-Motion, which I am excited about. Other conferences and events members of ISWIM participated include a WIM workshop held prior to the Commercial Vehicle Safety Alliance national meeting in September, and another one that will be held in December at the Saudi Intermobility Expo 2025.

Researchers, practitioners, and vendors are all doing some great work to further WIM technology and its use. Australia recently released a new publication on GPS and telematics systems which will help to manage the onboard monitoring systems (data storage and dissemination); Cestal's SiWIM is the first OIML-certified bridge WIM system; a historic suspension bridge in France is being protected from overloads using Sterela's WIM system; and the Brooklyn-Queens Expressway in New York has combined WIM technology with structural health monitoring information to protect the infrastructure. In addition, South Africa is close to implementing WIM for enforcement and plans to install 170 systems nationwide using a phased rollout approach. Enjoy reading the full articles about the items briefly mentioned and the other good work being done by your peers worldwide.

Remember, the ISWIM Newsletter is your newsletter. Keep up the great work and keep the articles coming about your research initiatives, programs, and ideas for advancing WIM technology

Deborah Walker, President of ISWIM

■ Deborah Walker | deborah.walker@dot.gov

10th International Conference on Weigh-In-Motion

Based on the successful joint events in Paris in 2008 and Brisbane in 2023, the boards of ISWIM and HVTT (Heavy Vehicle Transport Technology Forum), have decided to organize another joint ICWIM10 + HVTT19 conference in 2027 this time in Central Europe.

Ljubljana, the capital of Slovenia, will host the venue at the Art Nouveau Grand Hotel Union, located in the heart of the city. The conference dates are from **Sunday, May 9, to Thursday, May 13, 2027**.

The conference duration is 3 full days, each with 3 to 5 parallel sessions depending on the number of accepted papers. The fourth day will be reserved for technical tours and site visits. As part of the conference, there will also be an exhibition where companies and organisations can present their products, solutions and activities.

View of Ljubljana, the capital of Slovenia

The slogan for the conference is: **Moving Forward Together – Connecting Heavy Vehicles and Weigh-In-Motion**.

The conference will present new concepts and innovative solutions in different areas from both fields. Among others, the ISWIM part will focus on infrastructure preservation and the development and implementation of Weigh-In-Motion technologies, while the HVTT part will address developments in heavy vehicle operation, vehicle access and safety, and logistics. The conferences will attract a diverse international audience, including researchers, engineers, consultants, equipment vendors and representatives from government agencies and international organisations.

ICWIM10
HVTT19
Moving Forward Together
Connecting Heavy Vehicles and Weigh-In-Motion

Disclaimer

The projects described, ideas shared, and claims made in this Newsletter do not necessary represent the official view or position of ISWIM.

While care has been taken in the preparation of the content of this Newsletter, ISWIM accepts no responsibility in its use, for any omission, or damage that may be caused and does not endorse any specific product or result presented in the Newsletter.

ISWIM Website

Please visit the official ISWIM website: www.is-wim.**net**. Here you will find information on our society, all Newsletters, past ISWIM Events, the Guide for Users of WIM and links to our all Vendors & Consultants.

New is our online, searchable library with over 450 articles, papers and reports related to Weigh-In-Motion.

ISWIM LinkedIn Group

The ISWIM LinkedIn Group is another way of staying connected with the latest developments in WIM.

In this group, researchers, end-users and vendors can find and post short articles on initiatives, new projects, test results, or other developments related to WIM-technology, applications and data.

The ISWIM LinkedIn Group has currently more than **625** members. If you want to join, please visit:
linkedin.com/groups/13400438

Abstracts and papers submitted for consideration to present at the conference will be reviewed by a scientific committee involving both academic and industry professionals from ISWIM and HVTT. An official 'Save-the-Date' announcement will be published soon, followed by a 'Call for Abstracts' in January 2026. More information will be made available via the HVTT and ISWIM websites and shared through regulare emails to all ISWIM-members and posts at our LinkedIn group.

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■ Matija Mavrič | matija.mavric@cestel.si

ISWIM Workshop at Intermobility Expo '25

The authorities of several countries in the Gulf region are involved with the implementation of WIM systems for various applications including direct, automatic weight enforcement.

At the same time, ISWIM Vendors are active in the region providing the next generation of WIM solutions. In cooperation with the Saudi Intermobility Expo, ISWIM has taken the initiative to organize a dedicated WIM workshop bringing together key stakeholders from transport authorities, road safety regulators, and mobility solution providers across the Gulf region.

The workshop will take place within the official program of Saudi Intermobility Expo 2025 at the Riyadh Front Exhibition and Convention Center in Saudi Arabia. It will be held on Wednesday December 3rd at 13:00-15:00 AST. Participation in this in-person event will be free of charge. Below is the draft agenda for the workshop:

Time	Speaker	Topic
10:30	Andy Lees ISWIM, UK	Welcome and introduction to ISWIM
10:50	Hans van Loo ISWIM, Switzerland	Introduction to WIM, technology, applications and advantages.
11:10	Hans van Loo ISWIM, Switzerland	Conditions and challenges for the implementation of WIM for direct weight enforcement
11:30	Brendan Ezeanowi Quarterhill, Canada	Strategies for implementing WIM for direct weight enforcement
11:50	Matjaž Sokol Cestel, Slovenia	Use of SiWIM Bridge WIM systems for direct weight enforcement
12:10	Benjamin Zhang VanJee, China	VanJee's WIM system for direct weight enforcement in Saudi Arabia

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■ Hans van Loo | hans.vanloo.int@gmail.com

ISWIM Board (elected Nov. 2023)

Executive Board:

- Deborah WALKER, United States **President ISWIM**
- Gustavo OTTO, Brazil **Vice-President Science**
- Matija MAVRIČ, Slovenia **Vice-President Vendors**
- Aleš ZNIDARIČ, Slovenia **Treasurer**
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- Bernard JACOB, France
- Steven JESSBERGER, United States
- Rish MALHOTRA, Canada
- Sylwia STAWSKA, United States
- Eugene O'BRIEN, Ireland
- Jonathan REGEHR, Canada
- Victor Joaquin VARGAS ARCE, Bolivia

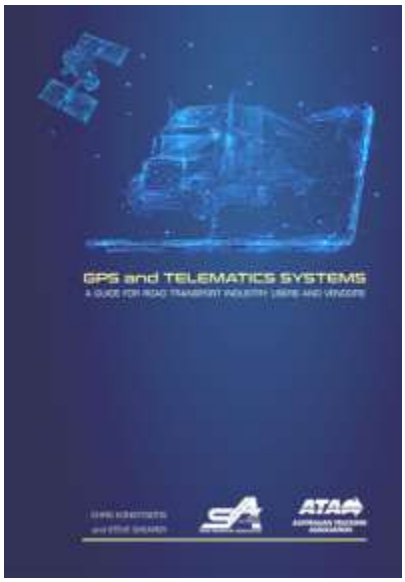
Vendors & Consultants College:

- Matija MAVRIČ, Slovenia
- Christoph KLAUSER, Switzerland
- Rish MALHOTRA, Canada

Promotion Officer:

- Hans VAN LOO, Switzerland

GPS and Telematics Systems Guide Released in Australia



It was a pleasure to attend the South Australian Road Transport Association 2025 Conference and officially launch the new publication, ***GPS and Telematics Systems – A Guide for Road Transport Industry Users and Vendors***. On-board mass (OBM) monitoring systems are increasingly being adopted in Australia. A key link to these systems is the connected GPS/Telematics system that can manage the OBM system and store and disseminate the collected data.

To ensure the Guide reflects real-world needs, we surveyed the road transport industry to understand how operators procure, use, and maintain telematics systems. These insights shaped the content and recommendations within the Guide. Telematics and GPS technologies continue to deliver substantial benefits to the sector—but not all systems are created equal. Choosing a solution that's reliable, accurate, and transparent about data collection and access is critical to managing operational risks. If you are considering using GPS and telematics systems, several ways to mitigate these risks are to:

1. Thoroughly assess why you want to use GPS and telematics systems, identifying explicitly the intended applications and your operational environment (existing systems and business processes).
2. Document your needs and engage with vendors to match your needs with the vendor systems' capability and capacity.
3. Agree with the preferred vendor on the training, ongoing technical and customer support that you require.
4. Ensure you fully understand all the costs for the life of the system and services.
5. Understand and agree on what telematics data is actually collected (not simply what data you are using), where it is being stored (including for how long) and who has or might be given access to this data, including recognising enforcement agencies' access post-incident.
6. Consider using GPS and telematics systems certified in Australia by Transport Certification Australia to ensure levels of accuracy and reliability that meet your needs without exposing your business to the risk of enforcement agencies' possible erroneous analysis of less accurate and unreliable systems and data.

The guidance for vendors comes directly from their road transport industry customers, with the hope that they will accept the challenge to improve in these areas. The Guide is available at www.sartaevents.com

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ISWIM Vendors

APM	www.apm.pl
Axtec	www.axtec.co.uk
Betamont	www.betamont.sk
CAMEA	www.cameatechnology.com
Captels	www.pesage-captels.com
Cestel	www.cestel.eu
Ciemsa	www.ciemsa.com.uy
Cross	www.cross.cz
Dynaweigh	www.dynaweigh.com
Excel Technology	www.exceltech.com.au
FardEU	www.fardeu.com
GEC Scales	www.gecscales.com
Girwim	www.girwim.com
Intercomp	www.intercompcompany.com
iWIM	www.iwim.it
Kistler	www.kistler.com
Mikros	www.mikros.co.za
Mettler Toledo	www.mt.com/wim
Neurosoft	www.neurosoft.pl
Osmos	www.osmos-group.com
Q-free	www.q-free.com/products
Quarterhill	www. quarterhill.com
Rekor	www.rekor.ai
Sterela	www.sterela.fr
TDS	www.traffic-data-systems.net
Traffic Lines	www.traffic-lines.de
Tramanco	www.tramanco.com.au
VanJee Technology	www.wanji.net.cn

Interested to join the ISWIM Vendors, just contact:

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Cestel's SiWIM becomes the first OIML-certified Bridge WIM system

The SiWIM MkIV bridge weigh-in-motion system received the type approval certificate, achieving the 10F accuracy class in accordance with the requirements of the OIML R134. The certification was supervised by the Czech Metrology Institute, while the practical test runs were performed on a motorway bridge near Vipava, Slovenia.

SiWIM MkIV system was also certified for the weighing of liquids

Bridge weigh-in-motion technology differs significantly from conventional pavement weigh-in-motion, as the structure of the bridge itself serves as a platform for weighing, and there is no direct contact between the system's sensors and the vehicle. This results in some unique technical challenges, which have been successfully addressed in recent years through improvements in the weighing algorithm and the development of new signal processing procedures.

Bajko Kulauzović, the head of the OIML certification project at Cestel: "The main challenges in the OIML certification of SiWIM were largely perceptual rather than technical. There was a prevailing assumption that a bridge WIM system could never achieve the same accuracy as a pavement-based WIM installation, particularly because the system is portable. However, experience has shown that the bridge structure itself actually enhances the achievable measurement accuracy."

The OIML certification was a long-term goal for Cestel, as it has become a de facto industry standard for high-quality measurement systems. The next goal of the company is to obtain OIML site approval, which is expected to be achieved in the near future.

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Coming Events
(subject to change)

Kaztraffic Exhibition
Astana, Kazakhstan
19-21 November 2025
expo@vs-expocom.com

Saudi Intermobility Expo
Riyadh, Saudi Arabia
1-3 December 2025
www.informaconnect.com/saudi-intermobility-expo/

TRB Annual Meeting
Washington D.C., United States
11-15 January 2026
www.nationalacademies.org

ISWIM Board Meeting
Washington, D.C., USA
13 January 2026
www.is-wim.net

Intertraffic Amsterdam
Amsterdam, The Netherlands
10-13 March 2026
www.intertraffic.com

Southern African Transport Conference (SATC)
Pretoria, South Africa
6-9 July 2026
www.satc.org.za

Commercial Vehicle Safety Alliance (CVSA)
Annual Conference and Exhibition
Orlando, Florida USA
20-24 September 2026
www.cvsa.org

ITS World Congress
Annual Conference and Exhibition
Gangneung, South Korea
19-23 October 2026
www.2026itsworldcongress.org.com

National Land Transportation Agency (ANTT)
4th Regional Seminar on WIM
24-26 November 2026
Brasilia, Brazil
www.gov.br/antt and www.iswim.net

ICWIM-10, 10th International Conference on Weigh-In-Motion
International Society for Weigh-In-Motion (ISWIM) and Heavy Vehicle Transport & Technology (HVTT) Forum
9-13 May 2027
Ljubljana, Slovenia
www.is-wim.net

Do you know other WIM-related events? Please contact:
■ **Hans van Loo** | hans.vanloo.int@gmail.com

Sterela's WIM System Deters Overloaded Trucks from crossing Cajarc Bridge in France

In partnership with the Departments of Lot and Aveyron in southern France, STERELA deployed in July 2025 an innovative Weigh-In-Motion (WIM) system on the Cajarc bridge. Designed to enhance road safety and preserve ageing infrastructure, this advanced technology is already showing highly encouraging results.

The 110-meter suspension bridge, built in 1842 and recently restored, is limited to 20 tonnes. Yet, prior to the installation, an average of 30 overweight truck crossings per month were recorded — a serious risk to the structure's stability. To address this challenge, STERELA designed and implemented an intelligent, preventive system aimed at protecting this historic bridge and ensuring the safety of daily road users.

The WIM sensors on both sides of the bridge, continuously measure the weight of approaching heavy vehicles with an accuracy of B(10) at 35 km/h. When an overload is detected, a dynamic LED sign activates a visual alert for 30 seconds, giving the driver time to turn back or choose an alternative route. If the driver ignores the warning, intelligent cameras record the truck's outline and license plate, enabling follow-up actions by the authorities.

Approach to the Cajarc Bridge in France

Sterela oversaw the on-site integration, including civil engineering works and network connections, to deliver a turnkey solution combining precision, robustness, and long-term reliability.

Since its commissioning in early July 2025, the system has already proven effective: while one overweight vehicle used to cross the bridge almost daily, no such incidents have been recorded in recent weeks. The system even recorded vehicles reversing to avoid driving over the structure.

With an overall investment of €300,000, the project was co-funded by the Departments of Lot and Aveyron, with the support of law enforcement and the French prefecture for regulatory aspects. This budget also covered the refurbishment of the surrounding road infrastructure, ensuring a fully integrated and sustainable installation. A testing phase is currently underway to fine-tune the system's performance and support transport operators in adopting this new technology.

■ **Astrid Cousteau** | astrid.cousteau@sterela.fr

ISWIM Consultants

Corner Stone	www.corner-stone-int.com
FIMAU	www.FIMAU.com
NMi	www.nmi.nl
RTS GmbH	doupal@hispeed.ch
Static Motion	www. staticmotion.co.za

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ISWIM Guide for Users of WIM

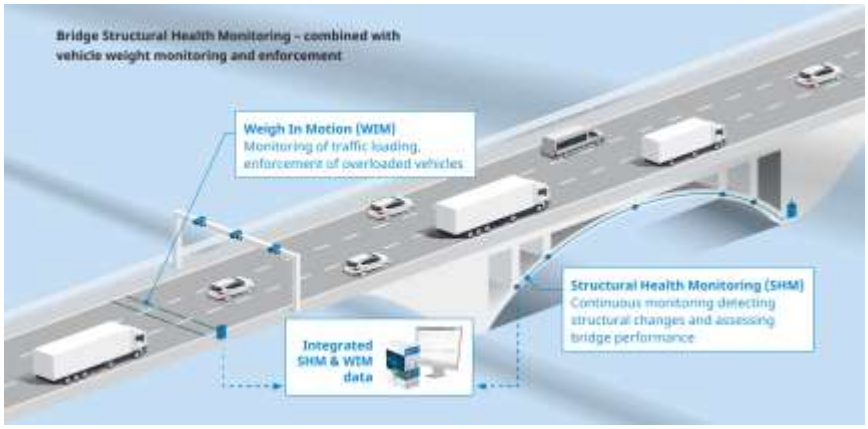
The ISWIM Guide for Users of Weigh-In-Motion serves as a basic, yet comprehensive introduction to Weigh-In-Motion. The Guide covers different aspects related to the working, specifying, buying, installing, testing, maintaining and using of WIM systems and data. To enhance accessibility for users starting with WIM, these topics are described in easy-to-understand language.

This document covers different aspects related to the working, specification, purchase, installation, testing, operation and maintenance of WIM systems, and the application of the data they produce. A PDF version of the WIM User Guide can be downloaded at the ISWIM website: www.is-wim.net.

■ **Hans van Loo** | hans.vanloo.int@gmail.com

Kistler's WIM; smart protection for infrastructure

Kistler's Weigh-In-Motion technology is redefining how infrastructure is protected and maintained. By capturing real-time traffic data, WIM identifies overloaded vehicles, some causing as much wear as thousands of cars, before they damage roads and bridges.



Combined with Structural Health Monitoring (SHM), WIM offers a powerful toolset for understanding how traffic loads affect structural behavior. This data-driven approach enables smarter maintenance, targeted interventions, and optimized design decisions, extending the lifespan of critical assets.

For transport authorities, Kistler's solution supports a shift from reactive to proactive infrastructure management. It helps prioritize resources, avoid overdesign, and reduce emergency repairs. Proven projects like the Brooklyn-Queens Expressway and Washington Bridge show how WIM and SHM together enable predictive maintenance and enforcement.

Brooklyn-Queens Expressway (BQE), New York, USA

The key to communicating WIM's value lies in measurable outcomes: overloads prevented, fatigue damage avoided, and asset life extended. As Dr. Giacomo Imposa, Business Development Structural Health Monitoring from Kistler puts it, "This isn't just about control, it's preservation through knowledge." Kistler's WIM technology is more than a monitoring tool, it's a strategic investment in infrastructure resilience, safety, and budget efficiency.

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Guide on WIM Systems for Direct Weight Enforcement

The latest addition to the series of ISWIM Practitioners' Guides is the guide on the "**Implementation of WIM Systems for Direct Weight Enforcement**". Direct weight enforcement means that the measurements from the high-speed WIM system are used directly for weight enforcement without the need for any legally accepted verification measurements by a low-speed WIM or static weighing system.

ISWIM Practitioners' Guides

This document offers an overview of the different aspects, advantages and challenges involved in the implementation of WIM for direct enforcement. It also provides recommendations based on experiences and best practices from the global WIM industry, and perspectives of agencies involved in enforcement along with published documentation, aiming to assist in the successful implementation of high-speed WIM systems for direct weight enforcement.

It may be used as a basis for the establishment of specific requirements, regulations and procedures for a successful implementation of WIM for direct weight enforcement. It does NOT intend to serve as a standard or to dictate what actions individuals or organizations should take.

The ISWIM Practitioners' Guide will be published soon and made available via the ISWIM website: www.is-wim.net

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WIM for Direct Enforcement in South Africa - Technology Trials

The South African National Roads Agency (SANRAL) recently initiated the first phase of the implementation of Direct WIM Enforcement, WIMe, in South Africa. This follows a two-year research project that was concluded in 2023.

The evaluation phase of the project started in 2025 with WIMe technology trials to confirm that WIM systems can achieve the desired measurement accuracies for South African traffic and environmental conditions. The South African Legal Metrology Interim Requirement for WIM traffic law enforcement, which is largely based on OIML 134, was first published in 2024 and will be tested as part of the process. The NRCS (National Regulator for Compulsory Specifications) set the Maximum Permissible Error (MPE) for WIM for enforcement at:

±5% for total vehicle/vehicle combination mass,
±8% for axle unit/group loads and
±10% for single axle loads (excluding drive and steer axles).

Ten WIM systems were approved for participation in the trial, representing a number of well-known WIM vendors. The accuracy of automated number plate recognition (ANPR) systems will also be tested as they are integral to the law enforcement process. The following participants will be showcasing their systems at a site on the N1 highway approximately 70 km north of Pretoria.

Participant		WIM Supplier	ANPR Supplier
Bona Electronic Solutions		Nortech	Nortech
Digital Vehicle Monitoring		Envico	Milesight
Instatoll & Q-Free		Q-Free	Tattile
Magna BC & Camea		Camea	Camea
Mass Measuring Systems		Cross Zlin	Adaptive Recognition
Mikros Traffic Monitoring	# option 1	Intercomp	MTM-KZN
	# option 2	Kistler	MTM-KZN
TMT Services & Supplies	# option 1	Kistler	Tattile
	# option 2	Intercomp	Tattile
Tollink		Quarterhill	Adaptive Recognition

Participants in SANRAL's WIMe trials in South Africa

Construction of the first installations has commenced, and all systems should be commissioned and ready for testing in January 2026. It is anticipated that the trials should be completed by April 2026.

The WIM technology trials will be followed by a phased rollout of a national WIMe network, which should ultimately consist of more than 170 WIMe systems nationwide.

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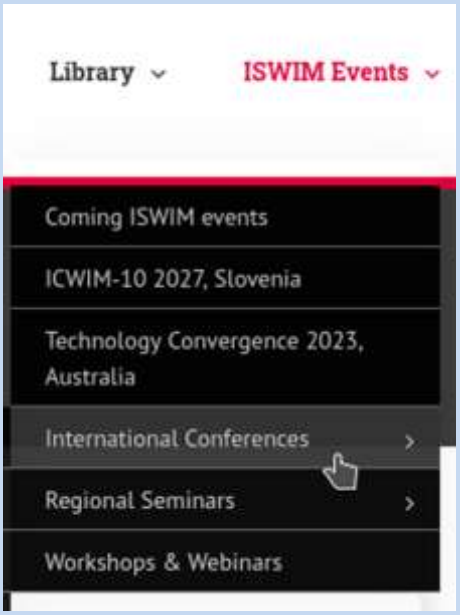
■ Paul Nordengen | pnordengen@hvtech.co.za

Information on past ISWIM Events

Over the years ISWIM has organized several Weigh-In-Motion related events. This varied from ½ or 1 day workshops, larger regional seminars to full scientific international conferences. We realize that you may have been interested to attend these events but were unable to do so.

That is why at our website www.is-wim.net/events/ we have made a lot of information on the coming and past ISWIM events available to our members.



For most events the program, proceedings, presentations and often also the video recordings are available for all members of ISWIM.

In addition in our public library at www.is-wim.net/library/ you can find all papers from the last International Conferences on WIM (ICWIM4 – ICWIM9).

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■ Andy Lees | andyleeswork@talktalk.net

WIM System Accuracy in the real world

CAMEA's long-term experience with operating WIM Direct Enforcement stations has shown that pursuing maximum measurement accuracy is often inefficient and economically unjustified. Yet in many countries, Direct Enforcement is still wrongly associated with the belief that higher accuracy automatically means a better system. In reality, WIM is not designed for commercial weighing but for the objective and fair detection of overloaded vehicles operating under real conditions.

PUBLIC DECREE

I.

MEASURE OF A GENERAL NATURE

In everyday traffic, overloaded trucks often exceed legal limits by tens of tons, so deviations of a few hundred kilograms have no practical impact on the road. Trying to measure such minor differences with extreme precision only increases costs.

Since the road surface itself changes with traffic and weather, a WIM system must continuously verify its accuracy and adapt to these changing conditions. CAMEA has long promoted this pragmatic approach, so it is encouraging that the same principle has recently been adopted by the Czech Metrology Institute (CMI). This decree sets permissible errors for verification at ±5 % for gross vehicle weight and ±11 % per axle (for ruts up to 4 mm), and for operation at ±7 % and ±15 % (for ruts up to 6 mm). This represents a balanced compromise between fair enforcement and economic efficiency.

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ISWIM Workshop at CVSA

This workshop focused on the latest applications of WIM for weight enforcement. The workshop was held on Sunday September 21st 2025, right before the CVSA Annual Conference in Denver, Colorado, USA.

The workshop kicked off with an introduction to Weigh-In-Motion and the applications of WIM data specifically for weight enforcement. This was followed by, the latests developments in the USA , including: the use of WIM as a virtual weigh station, WIM for direct enforcement in New York and the weighing of driverless vehicles. Next a number of ISWIM Vendors (Quarterhill, Intercomp, Kistler, Mettler Toledo and Camea) presented their show case projects. The workshop concluded with a panel discussion on the sharing of WIM data between government agencies in the USA.

The workshop saw 122 in person and 45 virtual participants. The presentations and video recordings of the workshop will be made available at the ISWIM website (www.is-wim.net/events).

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History of International Conferences on Weigh-In-Motion

So far 9 International Conferences on Weigh-In-Motion have been held and the 10th edition is scheduled for May 2027 in Ljubljana, Slovenia.
The conferences are:

ICWIM-1
Zurich, Switzerland
8-10 March 1995

ICWIM-2
Lisbon, Portugal
14-16 September 1998

ICWIM-3
Orlando, Florida, USA
13-15 May 2002

ICWIM-4
Taipei, Taiwan, ROC
20-23 February 2005

ICWIM-5
Paris, France
19-22 May 2008

ICWIM-6
Dallas, Texas, USA
4-7 June 2012

ICWIM-7
Foz do Iguaçu, Brazil
7-10 November 2016

ICWIM-8
Prague, Czech Republic
19-23 May 2019

ICWIM-9
Brisbane, Australia
6-10 November 2023

ICWIM-10
Ljubljana, Slovenia
9-13 May 2027

All papers of the past ICWIM's can be found at: www.is-wim.net/library/

For questions, please contact:
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Impact of Truck Load on Bridge Decks Based on WIM Data

Chan Yang is a Bridge Engineer at HNTB Corporation with a Ph.D. in Civil Engineering and one of the winners of the ISWIM Young Researcher Award 2025! This is a summary of her research on the "Impact of Truck Load on Bridge Decks Based on WIM Data" she presented at the recent CVSA-ISWIM Workshop.

Her research aimed to evaluate the impact of truck load, particularly the truck axle load, on bridge deck service life. It identified the potential gaps in current Load and Resistance Factor Design (LRFD) bridge design specifications and investigated the relationship between actual truck traffic loading and deck deterioration.

It utilized nationwide WIM data to obtain the actual truck load spectra traversing on bridge decks, including truck volume, axle weight, and overweight vehicle statistics. Furthermore, the load effects of single, tandem, and tridem axle groups on bridge decks were analyzed using influence surface analysis, and the adequacy of current AASHTO LRFD bridge deck design specifications was evaluated by comparing design load effects with actual truck load spectra. Lastly, the study analyzed the correlation between truck traffic loading and bridge deck service life by using WIM data and National Bridge Inventory (NBI) condition ratings.

Conclusions

- The current AASHTO LRFD deck design load (32-kip single axle or 50-kip tandem axle) does not envelop actual truck loading conditions. Tandem and tridem axle loads frequently exceed design specifications, leading to premature deterioration of concrete bridge decks.
- Overweight truck percentage exhibit great fluctuation. On average, 15% trucks are overweight, which could significantly increase lifecycle costs for bridge maintenance and rehabilitation.
- Truck volumes are closely correlated with the bridge deck service life. An increase of 1,000 in the daily axle count can reduce the service life by 1.2 years. For this reason, bridge decks on interstate highways experience the highest truck volume and show shorter service lives than those on state or U.S. highways.
- The reduction in bridge deck service life was found to correlate with an increase in single and tandem axle weights. Similarly, a higher count of overweight axles contributes to accelerated deck deterioration, further emphasizing the negative impact of excessive axle loads on bridge longevity.

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Guide on Calibration of WIM Systems

One of the latest additions to the series of ISWIM Practitioners' Guides is one on the "**Calibration of WIM Systems**". This guide has been developed by a group of ISWIM volunteers and is aimed to assist WIM contractors and transportation agency personnel involved in field WIM equipment calibration. In addition, road owners responsible for developing WIM programs may find this document useful in establishing their specific requirements for a successful WIM operation.

This document will offer recommendations based on proven best practices and published documentation for conducting a successful WIM calibration for in-road and bridge WIM technologies. The purpose of this document is to provide step-by-step procedures to perform an initial or routine calibration of WIM equipment installed for high-speed WIM data collection to support highway monitoring and transportation statistics.

This guide should be used only for systems that are for general traffic monitoring, statistical applications and WIM pre-selection. This guide is not aimed at systems used for legal metrology applications such as direct enforcement and does not circumvent any available standard WIM specifications.

The ISWIM Practitioners' Guide has recently been published and is available via the ISWIM website: www.is-wim.net

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Intercomp WIM Sensors for Bridge Protection in Germany

Protecting bridge structures from overstress requires accurate and durable measurement systems. The A40 Rheinbrücke-Neuenkamp installation illustrates how Weigh-in-Motion (WIM) technology can be applied effectively for traffic control and bridge protection. The system was delivered by Traffic-lines GmbH, a division of Volkmann Straßen- und Verkehrstechnik GmbH, in cooperation with Intercomp Company.

The installation covers four lanes and replaces earlier WIM solutions that struggled with measurement stability at very low speeds. The updated configuration is based on Intercomp's Strain Gauge Strip Sensors, selected for their resistance to temperature and environmental variation, and for maintaining calibration over extended periods. These characteristics support consistent measurement performance and minimize long-term maintenance costs.

Strain Gauge Strip Sensors for bridge protection in Duisberg, Germany

To protect the bridge in three directions, vehicles are weighed continuously in motion, and overloaded vehicles are automatically identified and redirected before crossing. This approach limits structural loading while improving the predictability of traffic flow across a key European corridor.

The system, certified to OIML R134, is suitable for both low- and high-speed WIM applications and has demonstrated reliability in continuous operation. Volkmann adapted the system to local conditions and integrated it into Germany's enforcement and traffic management framework.

"The A40 project highlights the importance of thoughtful system integration," notes Jennifer Diedrich, Key Account Manager at Traffic-lines GmbH. "Intercomp's sensors provide the precision and reliability needed to detect critical vehicles efficiently." The A40 experience offers a scalable reference for bridge protection and data-driven infrastructure management.

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