



No. 1, February 2010.

### Word from the editor

Dear ISWIM-member - this is the first edition of the ISWIM Newsletter. Weigh-In-Motion is a truly worldwide speciality, yet it is often spread very thinly over the various countries. This makes the exchange of experience and information an international issue. Through the Newsletter we will try to keep you informed on the latest news in the field of Weigh-in-Motion around the world.

The Newsletter is intended to bridge the gap between international WIM-conferences by informing you about recent projects and developments.

The idea is to do this through short articles (around 200 words) on a specific topic. Each article will contain the contact details of the author in case you would like additional information. So you will find no full scientific papers, we will save these for the ICWIM.

The Newsletter is open for all ISWIM-members that want to share their latest news in the field of Weigh-In-Motion. The idea is to publish a small number of Newsletters per year, however there will be no newsletter without news! So we would like to invite you to send in your short article(s) for the next edition.

On behalf of the ISWIM-board I hope you enjoy reading this first edition of the ISWIM-Newsletter. Hopefully it will be the first in a long series, so be careful to save a copy, you never know. Hans van Loo, [hvloo@kalibra.nl](mailto:hvloo@kalibra.nl)

### Word from the Board

The official start of the International Society on Weigh-In-Motion is already more than two years ago. Since then we have had the successful ICWIM-conference in Paris in 2008 with our first general assembly meeting. We have installed the full ISWIM-board, had the election of the representatives of the Vendors-College, the ISWIM-website has been launched and we are making preparations for further ISWIM-activities in the coming years.

All in all the structure of the ISWIM has been well established. However to stimulate the use of WIM-technology we do not just need to be well organised but we want to be an active community. Weigh-In-Motion is a relatively small speciality in the sense that, per country, normally only a few people are active in this field. This makes the exchange of experiences and ideas almost always an international thing. To stimulate this international exchange we would like to start the New Year with a periodical WIM-Newsletter.

I hope you will enjoy reading this first issue of our newsletter and many thanks to Hans for his good work! Eugene OBrien, President ISWIM, [eugene.obrien@ucd.ie](mailto:eugene.obrien@ucd.ie).



**Newsletter**  
No. 1, February 2010

## ISWIM-callendar

| Event   | Date             |
|---|------------------|
| ISWIM-workshop in Santa Catarina, Brazil  | early Sept. 2010 |
| ISWIM-workshop in Busan, South-Korea as part of the ITS-World-Congress,                 | 25-29 Oct. 2010  |
| International Conference on WIM, location to be decided, USA in cooperation with Natmec | 2012             |

## ISWIM membership fees

| Member          | Fee  |
|-----------------|------|
| Individual      | €40  |
| Student         | €20  |
| Senior          | €20  |
| Corporate small | €400 |
| Corporate large | €600 |

## FHWA WIM Project

The Federal Highway Administration (FHWA) in the United States is conducting a study called the FHWA WIM Project. The stated objectives are to:

- enhance and implement WIM system technology;
- improve data quality and
- facilitate the implementation of the Mechanistic-Empirical Pavement Design Guide.

The project has five main tasks which are looking at the AASHTO MP 14-05 standard, calibrating/validating WIM systems, running WIM workshops, developing troubleshooting guides and developing recommendations for optimum WIM locations.

There is lots of useful information on their website: [qualityWIM.com](http://qualityWIM.com).

## The FiWi-project

The FiWi-project will soon be concluded. In the project a number of members of the FEHRL (Forum of European National Highway Research Laboratories) have worked on an update of the COST-323 specifications.

Even though formally not an official international standard, it is the de-facto European (and perhaps even world wide) standard for WIM systems. After existing for almost 10 years FEHRL took the initiative to prepare an update. In these past 10 years there have been a number of new developments in both technology and applications that were not fully included before.

An update was prepared based on the research and experience from applications in the field of Weigh-in-Motion in Europe; traffic monitoring & safety, pavement engineering, bridge engineering and enforcement. The recently finished updated WIM-specification has now been sent to the CEN (European Committee for Standardization) in order to be converted into an official European CEN-Standard.

For more information please contact Bernard Jacob, [bernard.jacob@lcpc.fr](mailto:bernard.jacob@lcpc.fr) or Hans van Loo, [hvloo@kalibra.nl](mailto:hvloo@kalibra.nl)

## Eureka Logchain Footprint-project

The continuing increase in traffic throughout Europe is creating significant impacts on the infrastructure, environment and resources. From a safety viewpoint, such traffic flows can affect the residual life of structures and dictate when maintenance has to be undertaken whilst the environmental impact is strongly influencing Europe's strategy to reduce greenhouse gas emissions.

The partners in the Footprint project have described a methodology for measuring and quantifying such impacts for both road and rail modes in a transparent manner. This requires an array of sensors embedded within or alongside the track or pavement so that vehicles can be monitored in service use. These sensors measure such parameters as dynamic load (WIM), audible noise and ground borne



vibration. The data from various Footprint measuring systems were analysed to determine the impact on the infrastructure and the environment.

The concept of an environmentally friendly vehicle is considered and a proposal put forward for how to set such limits on road as well as rail vehicles. Such a classification could be used for example to introduce a bonus/penalty system of user charging as proposed by the European Commission for reducing noise emissions from the existing rail freight fleet.

Contacts: Rayner Mayer; r.m.mayer@reading.ac.uk, Andy Lees; Andy.Lees@dft.gsi.gov.uk, or Lily Poulikakos; lily.poulikakos@empa.ch



**Double-Length Lineas**, a new generation of WIM Sensors.

In 2009 Kistler launched the newly designed "double-length Lineas®". This state-of-the-art Weigh-In-Motion sensor (type 9195F) is fully compatible with the previous version (type 9195E). However, one sensor row covering a traffic lane consists of only two sensors instead of four. The new sensor lengths are 1.5 m, 1.75 m and 2 m and are pricewise cheaper than the combination of short sensors.

The market response was very positive, as all projects were carried out with these new lengths. As vehicle tires are passing over the middle of the sensor (instead of over two sensor ends), the measuring accuracy is even higher. It is no longer necessary to match sensor sensitivities, which results in easier logistics. Additionally, the sensor installation and cable routing can be done faster and more easily and

therefore, the system and installation costs are lower. Besides being used in the well-known statistical and overload detection applications, the sensor established itself in the new market of weight-dependent toll with the consequently high requirements regarding accuracy.

One of our latest projects was the instrumentation of 15 toll plazas for a total of 41 traffic lanes in Guangdong province, China. Contact: David Cornu; david.cornu@kistler.com

### **Test with Bridge-WIM in the Netherlands**

The Centre for Transport and Navigation (DVS) of Rijkswaterstaat has recently started a project to test the performance of the Slovenian SI-WIM Bridge WIM system by Cestel under Dutch highway conditions.

Because of the very high traffic intensities and the Dutch weather conditions (rain) the installation and maintenance of pavement WIM-sensors is problematic. This is the main reason DVS has been looking for alternative WIM-technology; Bridge-WIM might be this alternative. An additional advantage of B-WIM is that short term measurements (1 or 2 weeks) are possible which allows for a flexible deployment of the system.

Early November this year a Bridge-WIM system has been installed under a bridge in the A-12 highway from The Hague to Utrecht. The bridge has a concrete integral slab construction with a 6m span. The test is managed by Kalibra International, the representative of Cestel in the Netherlands. During the 3 months test, the measurements of the Bridge-WIM are compared with those of a standard WIM-NL system (with two rows of Kistler Piezo Quartz sensors per lane) and static measurements performed by the National Traffic Police Agency.

For more information please contact Hans van Loo, hvloo@kalibra.nl.



## *International Society on Weigh-In-Motion*

### Corporate Members

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