

# **WEIGH-IN-MOTION ENHANCEMENT SCENARIOS WITHIN THE ITS ENVIRONMENT**

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## **ABSTRACT**

In this paper we evaluate the fields of application and present the main benefits of a Weigh-In-Motion solution, in short WIM, in the ITS environment such as

- WIM integration into Electronic tolling
- Commercial Vehicle Enforcement (CVE)
- WIM case studies on US and European highways

As nowadays truck overloading and non-compliance is a serious problem with negative impacts on infrastructure, safety and environment and distorts competition between hauliers and transport modes, some carriers tend to operate outside of compliance regulations taking non-compliance as an operational risk in order to lower operational cost and earn contracts with lower bids. Trucking associations and carriers alike promote enforcement as a method towards improving or leveling the competitive playing field and thus support systems such as a cabotage enforcement system.

Automated roadside safety inspection as described above could lead to more safety and compliance on the roads with less financial resources.

Technology is readily available to enable automatic roadside safety inspection whilst also saving time and costs for both public authorities and hauliers. Automated roadside safety inspection will become an important part to avoid more uncontrolled heavy goods traffic, helps to save money in the maintenance of roads, reduce environmental impacts as well as provide a fair competition road for the future.

Based on this current Road Safety circumstances the paper shows the use-case of the integration of WIM into an Electronic toll collection (ETC) system, which is very simple and must be done to permit the toll collector to receive this relevant information on the example of the Czech Republic, where, Kapsch has already successfully tested the implementation of WIM into the existing Electronic tolling solution.

Second the paper provides several benefits of a WIM solution regarding its enhancement to a Commercial Vehicle Enforcement solution, demonstrated by the existing CVE station in Indiana, USA. And finally the latest available statistic reports on the Weigh-in-Motion stations of Kapsch at the Austrian, French and US highways will be presented.