SMART ROAD RESTRAINT SYSTEMS WORKSHOP

SMART RRS Road Restraint Systems

Partners

Partner	Short name	Country	Webpage
University of Zaragoza	UNIZAR i3A	ES	http://i3a.unizar.es http://vehivial.unizar.es
IDIADA Automotive Technology SA	IDIADA	ES	http://www.idiada.com
Instituto de Investigación sobre reparación de vehículos SA	CENTRO ZARAGOZA	ES	http://www.centro-zaragoza.com
Sistemas de protección para Seguridad Vial SL	BASYC	ES	http://www.basyc.eu
Arcelor Mittal Ostrava AS	AM OSTRAVA	CZ	http://www.arcelormittal.com/ostrava
ESSEX County Council	ESSEX CC	UK	http://www.essex.gov.uk
TRW Limited Trading (Conekt)	TRW	UK	http://www.conekt.co.uk
Federation of European Motorcyclists Associations	FEMA	BE	http://www.fema-online.eu
Universita Degli Studi di Firenze	UNIFI	IT	http://www.unifi.it http://www.ptw.unifi.it
Mouchel LTD	MOUCHEL	UK	http://www.mouchel.com

Project nº 218741

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2007 - 2013

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INNOVATIVE CONCEPTS FOR SMART ROAD RESTRAINT SYSTEMS TO PROVIDE GREATER SAFETY FOR VULNERABLE ROAD USERS

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1. Related to motorcycle accidents, many injuries and deaths are a result of impacts with current road restraint systems. For vulnerable road users -such as motorcyclists- these impacts usually result in amputations or sectioning of torsos in a guillotine effect.

2. Once an accident has occurred the time between the impact and receiving immediate initial first aid can be crucial. Delays in alerting emergency services or incorrect location information given to emergency can cause waste life-saving moments for injured people, or even result in emergency services going to the wrong location of the accident.

3. The project "Innovative concepts for smart road restraint systems to provide greater safety for vulnerable road users (Smart RRS)" will develop a new smart road restraint system that will reduce the number of deaths and injuries caused in road traffic accidents.

4. Primary sensors integrated in the new RRS system will provide greater protection to all road users, alerting motorists of danger (rain, snow, obstacles on the road,…) so as to prevent accidents happening.

5. Tertiary sensors integrated in the new RRS system will alert emergency services of accidents as they happen to minimize response time to the exact location of the incident.

6. The primary goal of the project is to produce systems:

- Capable to provide timely and useful information to road users that will assist in preventing road incidents (Primary safety)
- Free of cutting or dangerous profiles/fixing posts and capable to safely absorb crash energy in accidents detaining moving objects, vehicles and persons safely (Secondary safety)
- Capable to provide of timely and useful information to emergency services, road authorities and other road users in the event of a road incident. (Tertiary safety)

- Robust against false triggering (so that, for example, emergency services are not called unnecessarily).
- Each sensing node should know its location.
- Sensing nodes should be modular: additional functionality to be easily integrated depending on the location.
- Capable of being integrated with other roadside infrastructure and traffic management systems.

7. This road restraint system shall have the following features:

- Integrated with the road restraint system.
- Cost effective in terms of materials costs, installation costs and running costs.
- Minimizes additional demands on the infrastructure such as power and communications buses.
- Will not provide additional risks to those colliding with the road restraint systems, particularly vulnerable road users such as motorcyclists.
- Robust against the environment.
- Robust against system degradation (e.g. the loss of a sensing node will still allow the system as a whole to function).