MIT Portugal

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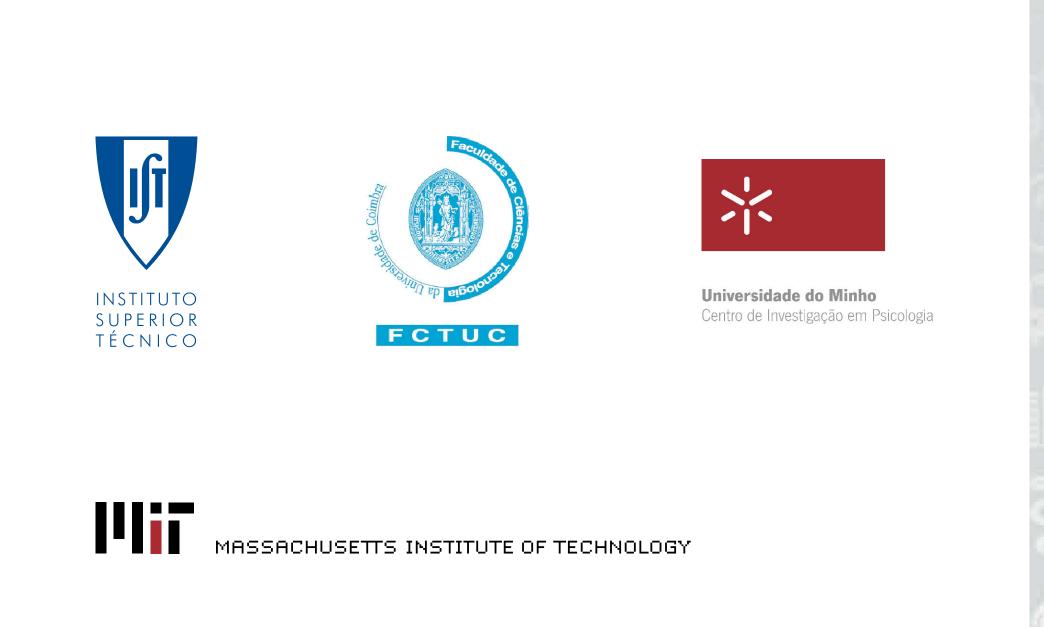
Full Professor of Transportation at IST.

He has worked extensively in Modelling, Innovation and Policy in several types of Transport Systems. Currently leads the Portuguese side of the Transportation Systems area in the MIT-Portugal program

System for Adapting the Vehicle dynamic parameters to the driving Environment and Driver capabilities (SAVED)

Research team: Sílvia Shrubsall (IST), J. Santos (UM), L. Picado Santos (FCTUC), and also invited Nancy Leveson (MIT), Joe Sussman (MIT)

Due Starting Date: 1st September 2009



Objectives

- Contribute to significantly change the slowdown in the downward trend in road accidents (Figure 1);
- Recommend a system to adjust the vehicle's dynamic attributes to the driver's state and driving circumstances

Based on a multidimensional "colored" driving license, evolving to a real-time control system; colors as codes for competence level, as in judo belts;

Pave the way to a technological device

Work plan

The methodology used encompasses the design and development of a three-unit tool (see Figure 2), which requires:

- Analysis of hazards related to: Human Factors Driving Environment -Vehicle Attributes (Module A);
- Establishment of multi-dimensional risk profile (Module B);
- Concept and specification of control tool (Module C);
- Development of a business model for its deployment

Results

Expected results include:

- Enhance Road Safety integrated with other policies ex. Social Inclusion;
- Reduce Hazards associated with Human Factors (responsible for 95% of accidents) continuously and automatically;
- Flexible, realistic and (medium-term) deployable tool:
 - Built upon and integrating multiple existing technologies
 - Able to incorporate evolving technology and changing mobility patterns
- Deployment map the role of Specific Driver Groups

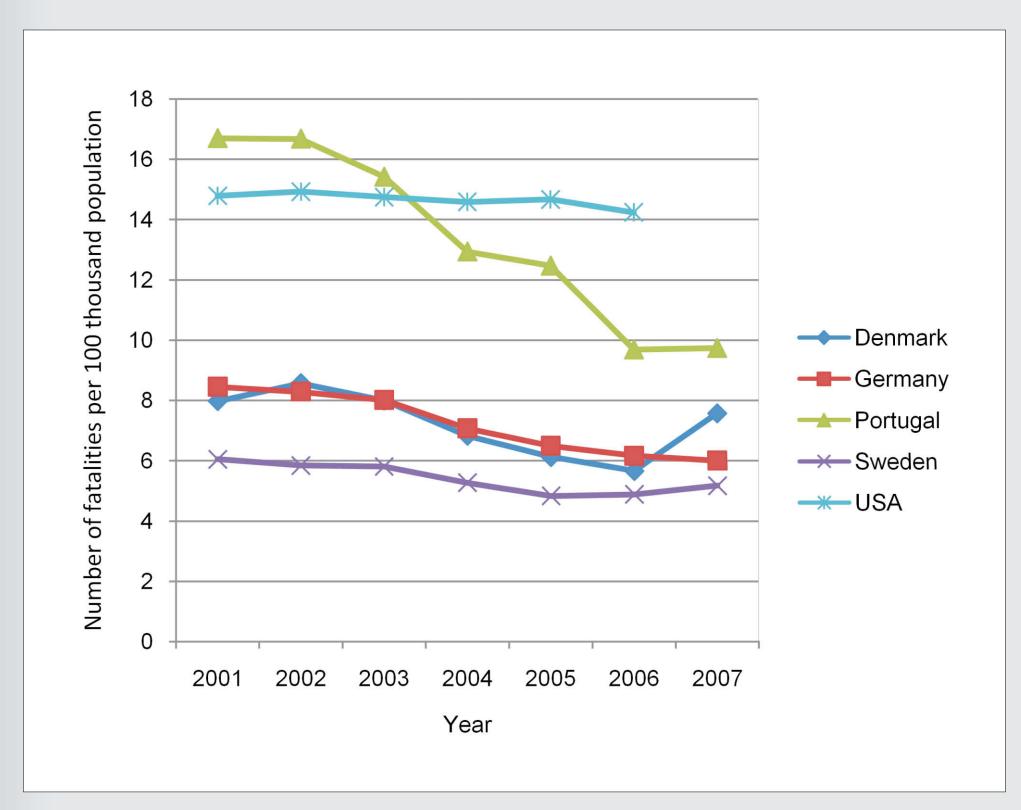


Figure 1. Number of fatalities per 100 thousand population in the 21st Century in selected countries

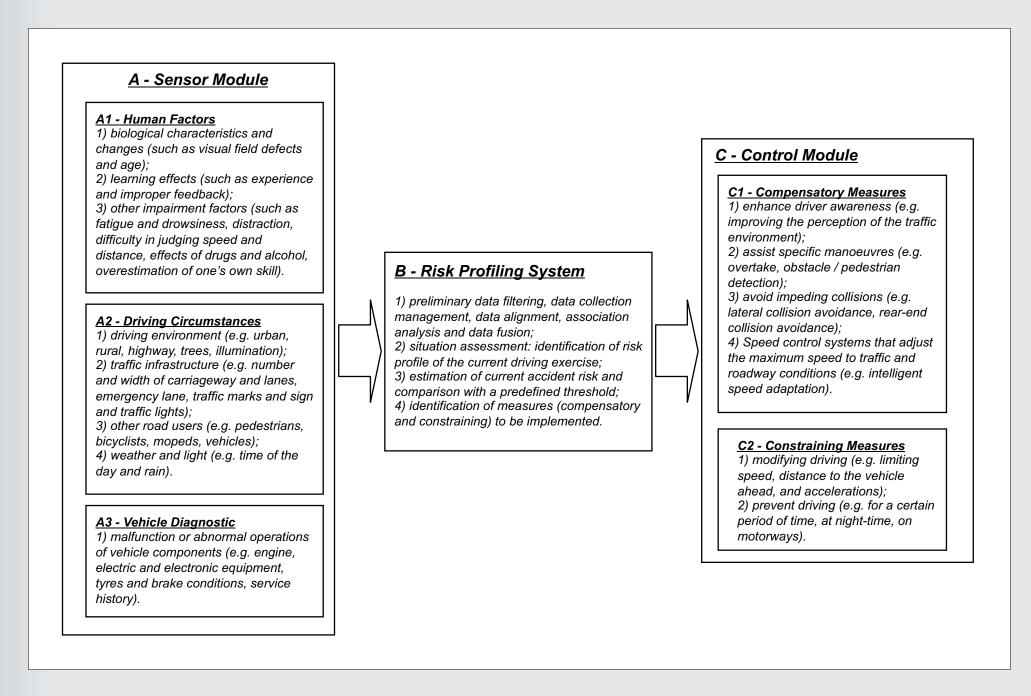


Figure 2. Outline of a proposed methodology leading to the development of a safer adjustable driving control system