In-Depth Accident Studies to Support the Development of Standard Assessment Methods

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Key Note of INFATS 2007 Conference
The 6th December 2007, in Changsha, P.R.China

ABSTRACT

Standard assessment methods are the basis of car safety regulations and NCAP tests. Many regulations apply to car approval procedure and a large part of those regulations are related to safety requirements.

Vehicle safety is a rather new area of development and most improvements have been made since the beginning of the 1970's.

Safety regulations have evolved over time, starting from pure mechanical response requirements (such as belt strap or anchorage load resistance) introducing accident scenarios to be reproduced in test conditions and protection criteria based on human biomechanical data.

The presentation will review the scientific contents of three main European vehicle safety directives (R94 on Frontal impact, R95 on Side impact and the directive on Pedestrian safety); for each of them, it will analyze accident data which have been used to support the development of the regulation, and discuss the limitations of those data.

In addition, the type of information to be acquired in in-depth accident investigation and their accuracy will be discussed. This will concern data related to accident configurations, vehicle crashworthiness and injury distribution.

The presentation will conclude in assessing the links between regulation and NCAP programme.