Publishable executive summary

The general objective was to organise and support the European part of a worldwide competition for the design, development and demonstration of technological innovations proposed by students with the objective of improving road vehicle safety and users crash protection.

It was considered that, in European countries as well as in North America and in Japan, students are not attracted by science and technology.

Every two years, an International Technical Conference on the Enhanced Safety of Vehicles takes place alternatively in North America, Europe and Asia/Pacific; this conference is attended by representatives of governments, industry and the scientific community and it has become a reference for vehicle safety improvement over the years.

The 20th ESV Conference took place in Lyon France on June 18-21, 2007, and it is planned that the 21st conference will be organised in Germany two years after. Each conference is organised by one of the ESV country members which are: USA and Canada for North America, France, Germany, Hungary, Italy, The Netherlands, Poland, Spain, Sweden and the United Kingdom for Europe, and Australia, Japan and South Korea for Asia/Pacific.

Taking into account the above statement, and with the view of attracting more young researchers, the ESV International Committee has decided to organise a student competition to design, develop and demonstrate technological innovations to improve road vehicle safety and users crash protection.

The aim of this specific support was to organise and support the European part of this competition. This would allow European students to compete with North American, Asian and Australian students.

The competition was organised along the same procedure in the three world areas (Europe, North America and Asia/Pacific).

For Europe, an information on the competition has been be distributed, through EEVC, APSN and IRCOBI mailing lists, and to universities through the 27 European countries.

Six written proposals were received out of which five were selected by a group of experts belonging to EEVC.

The five selected projects were:

1) "Avoidance Possibility change of Lane Device"
   Cátedra Applus+ in Automotive Safety (Spain) - Polytechnical University of Catalonia (Spain)

2) "INCAR: INtegrated Child and Adult Restraint System"
   Loughborough University (UK)

3) "System to Measure and Evaluate the Seat Belt Usage Rate in Coaches"
   Institut für Fahrzeugtechnik Trier (Germany)

4) "Automatic Misuse Detection for CRS"
   Technical University Berlin (Germany)

5) "Active pedestrian head protection against windscreen"
   University Louis Pasteur, Strasbourg (France)

Each selected team was granted a financial support through the SAFECOS07 project to build a (scale) model of its proposal.

A jury of three international experts, appointed by EEVC, visited the five teams. Each team presented their project during half a day to those experts who had the opportunity to ask questions to students. Each project was rated using the same criteria including potential benefits, technical feasibility, and innovation degree.

Based on the rating results, three projects were selected to be presented during the 20st ESV Conference in Lyon France in June 2007.

The selected projects were:

1) "INCAR: INtegrated Child and Adult Restraint System"
Loughborough University (UK)

2) "System to Measure and Evaluate the Seat Belt Usage Rate in Coaches"
Institut für Fahrzeugtechnik Trier (Germany)

3) "Active pedestrian head protection against windscreen"
University Louis Pasteur, Strasbourg (France)

SAFECOS 07 supported the travel of two sudents of each team to Lyon, and their projects were exhibited to compete with 5 other projects (three from North America and two from Asia/Pacific region).

An international jury of 9 experts evaluated the 8 competing projects during a formal presentation at the exhibition site, using a standard procedure, in order to select the final winner of the competition.

The first place was obtained by the team from Virginia Tech – Wake Forest University, School of Biomedical Engineering and Sciences (USA) with the project: "A Biofiodelic Lung Surrogate for Anthropomorphic Text Devices to Predict Pulmonary Contusion Following Motor Vehicle Crash".

The runner up was the team from Institute of Vehicle Technology Trier, Germany with the project "System to Measure and Evaluate the Seat Belt Usage Rate in Coaches".

Only the first and second place teams were announced to the public.