

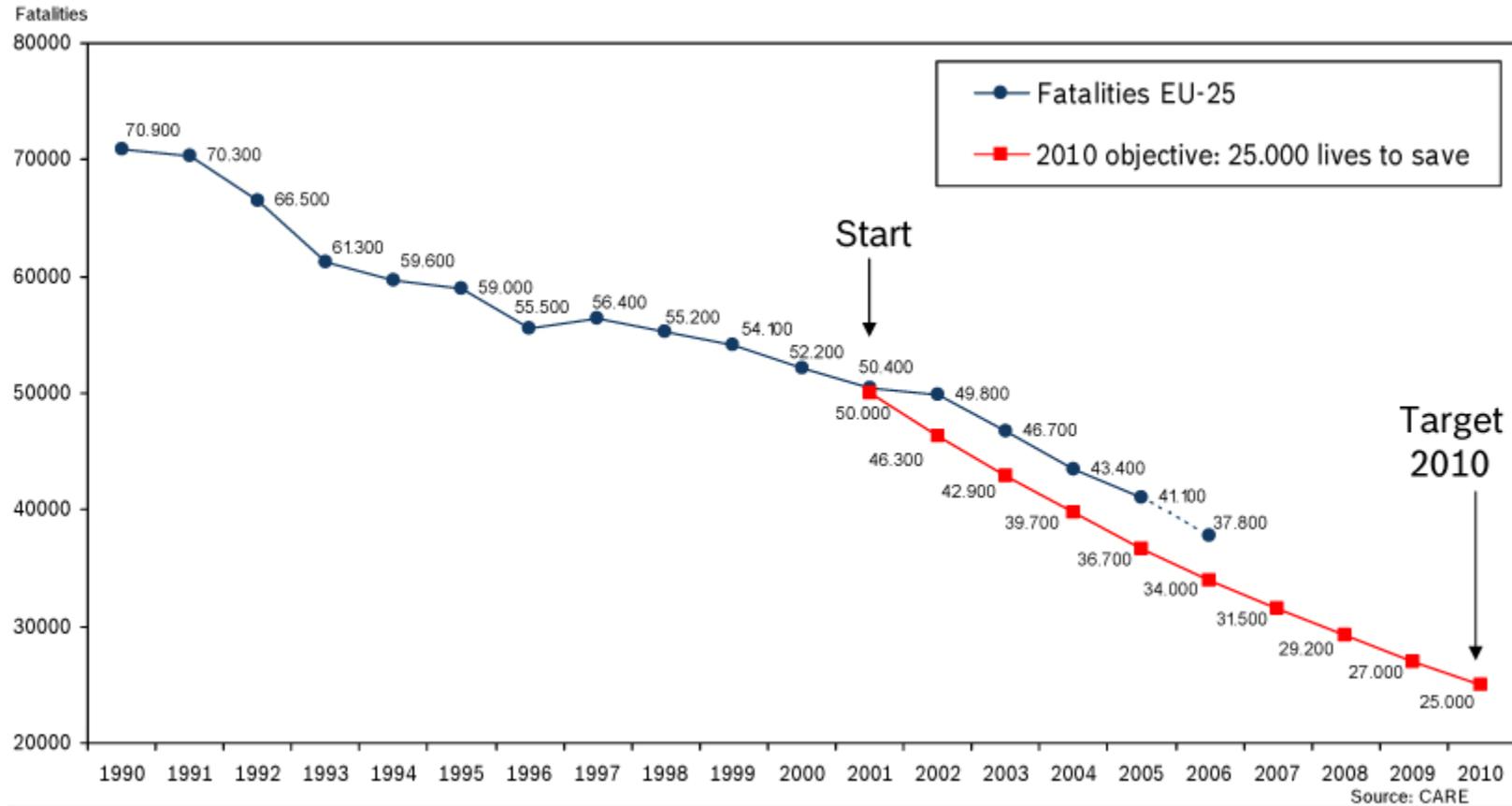


Safety – Are Technological Innovations The Answer?

**Presentation by David Ward
Director General, FIA Foundation**

**20th ESV - Enhanced Safety of Vehicles
Lyon - June 18th 2007**

Evolution EU Road Fatalities 1990-2010



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Haddon's Injury Prevention Matrix

	Driver	Car	Road	Environment
Pre-crash	Education/ training Impairment Attitudes/ behaviour	Type Approval Road test Crash avoidance systems (ABS/ESC) etc	Road layout Road signs Maintenance	Licensing Rules of the road Enforcement Speed limits etc
Crash	Use of restraints Seat belts Head restraint etc	Seat belts Air bags Crumple zones etc	Barrier systems Escape lanes	Emergency response
Post-crash	First aid skill Access to medical care	Ease of access Fire risk	Ease of access Rescue facilities	Medical services



1997-2007 From Crash Protection to Integrated Safety

Passive safety/Occupant protection

Front & Side Impact standards (1998)

Launch of the EuroNCAP (1997)

Pedestrian Protection rating

Pole test etc.



Integrated Safety Concept

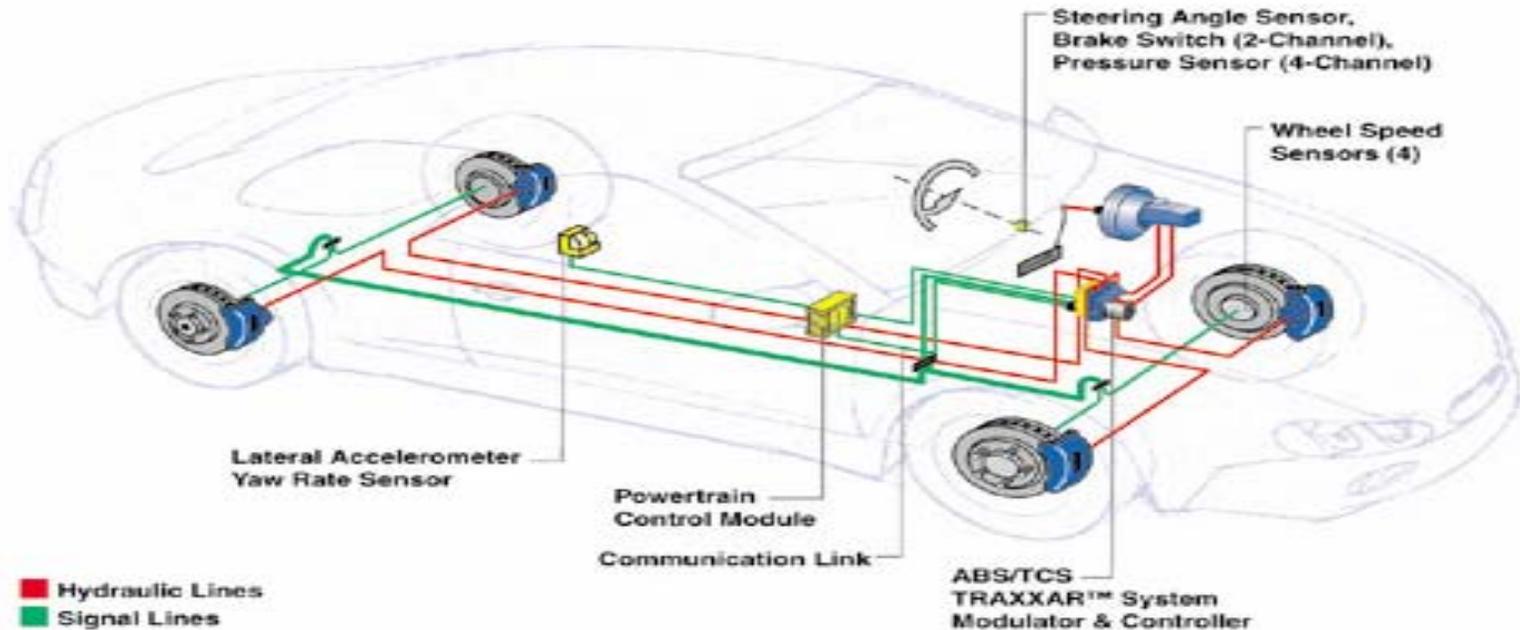
Beyond active and passive safety using Intelligent Vehicle Systems with proven effectiveness to promote:

Crash avoidance, Crash Protection, and Crash response



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Safety – Are Technological Innovations The Answer? Yes...Example Electronic Stability Control!



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ESCelebration! Effectiveness of ESC




IIHS, 10/04 & 06/06

- All fatal crashes - 43%
- Fatal single vehicle accidents - 56%
- Single vehicle accidents - 41%

NHTSA, 2006

- All single vehicle crashes passenger cars - 34%
- SUVs - 59%
- Single vehicle rollovers passenger cars - 71%
- SUVs - 84%



Daimler Chrysler, 05/04

- Driving accidents - 42%

Volkswagen, 02/04

- Fatalities - 35%
- Skidding Accidents - 80%

Swedish National Road Administration, 2002/2005

- All Accidents¹ - 22%
- Severe & fatal single vehicle accidents - 44%



Toyota, 05/03

- Single vehicle accidents - 35%
- Severe single vehicle accidents - 50%

NASVA, 02/05

- Single vehicle accidents - 44%
- Severe accidents² - 62%

¹ Except rear end collisions on dry roads ² Single vehicle and head-on collisions;
Remark: all studies are based on different approaches and databases



ESCelebration!

Cost Benefit Analysis of ESC

IfV Köln



Study carried out by Prof Dr Herbet Baum, Institute for Transport Economics, University of Cologne reveals that:

If all cars in the EU 25 were ESC equipped approximately 4,000 lives could be saved and 100,000 injuries avoided

The study assumes a unit cost of €130 (much higher than the US equivalent).

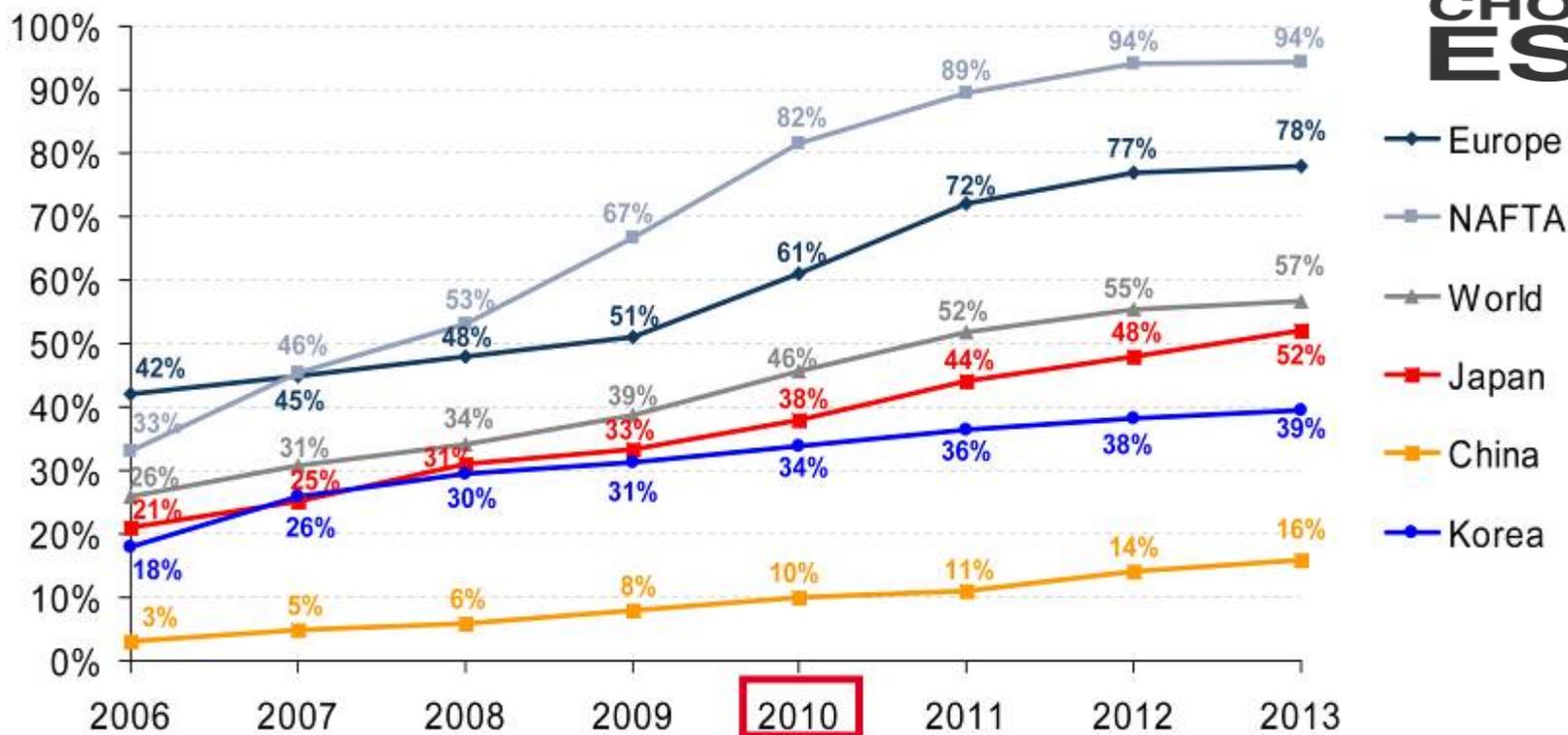
The benefits of full stock ESC penetration in avoiding crashes (both injury & non injury) amount to €16 billion per year against costs of €2.8 billion.



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ESChallenge!

How fast to 100% Installation Rate?



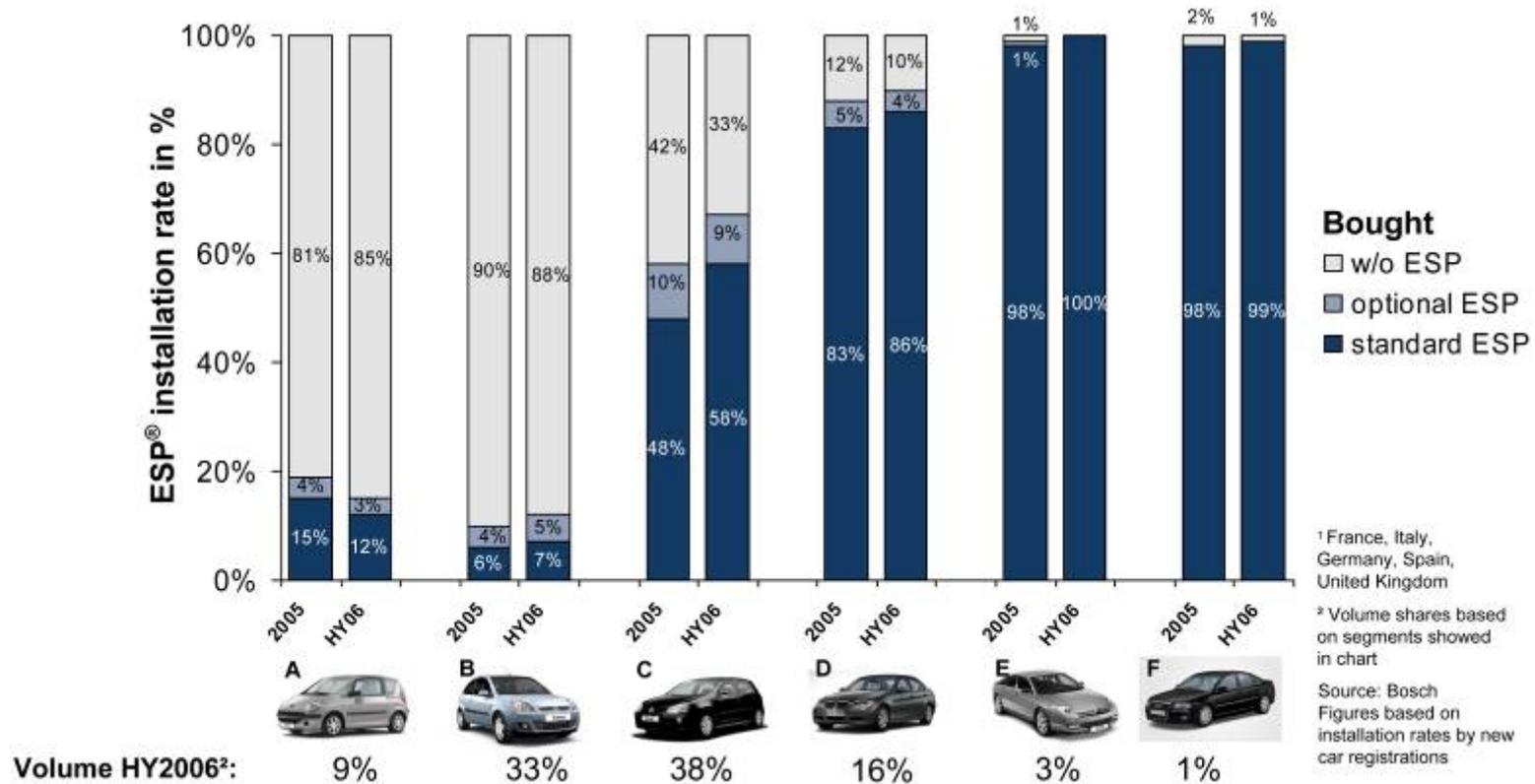
Data: Production base BP07FF
Production base BP07FF-Rev



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ESChallenge!

Installation rates in major EU markets¹ 2005 – HY2006



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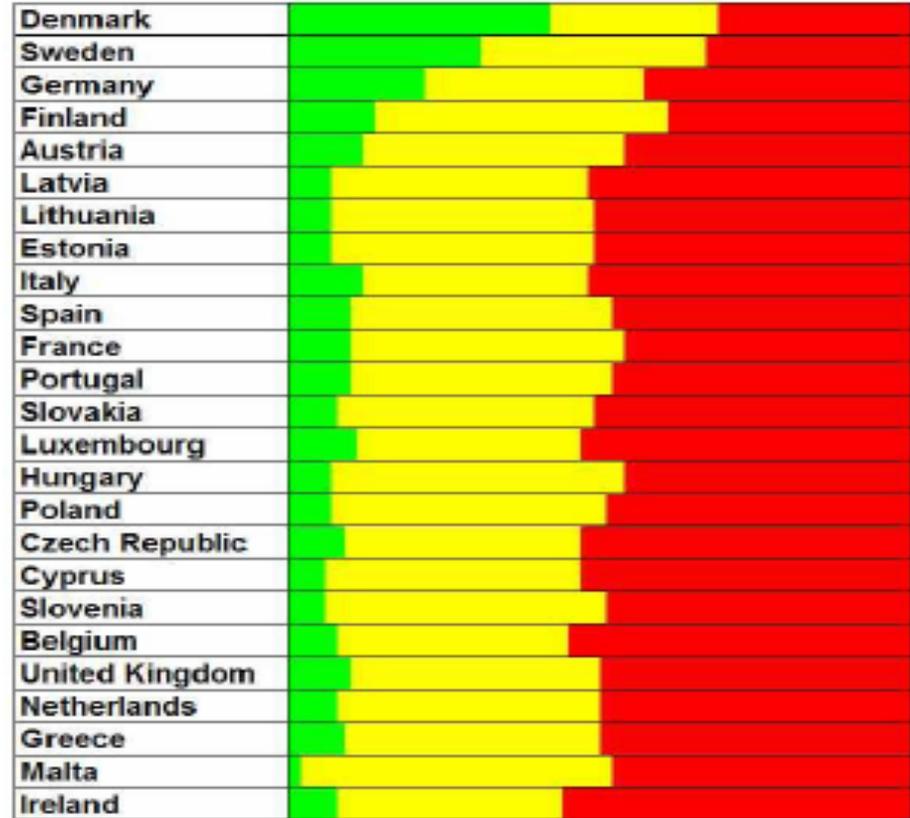
ESC Complications!

Slow take up of ESC in smaller vehicle classes

Lack of availability

Price Factors (bundling)

Poor Information (alphabet soup)



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ESConfusion! What is on board today?

Acura, Honda: Vehicle Stability Assist (VSA)

Alfa Romeo, Fiat, Nissan, Infiniti: Vehicle Dynamic Control (VDC)

Audi, Dodge, DaimlerChrysler, Chrysler, Fiat, Hyundai, Holden, Honda, Jeep, Kia, Mercedes, Opel, Peugeot, Renault, SEAT, Škoda, Suzuki, Vauxhall, VW, Saab : ESP - Electronic Stability Program

Buick, Chevrolet, GM, Pontiac, Saturn: StabiliTrak

BMW, Jaguar, Land Rover, Mazda, MINI Cooper, Rover: Dynamic Stability Control (DSC)

Cadillac: All-Speed Traction Control & StabiliTrak

Corvette: Active Handling

Ferrari: Controllo Stabilita (CST)

Ford: AdvanceTrac and Interactive Vehicle Dynamics (IVD)

Lexus: Vehicle Dynamics Integrated Management (VDIM) with Vehicle Stability Control (VSC) and Traction Control (TRAC) systems

Lincoln, Mercury : AdvanceTrak

Maserati: Maserati Stability Program (MSP)

Mitsubishi: Active Skid and Traction Control

Oldsmobile: Precision Control System (PCS)

Porsche: Porsche Stability Management (PSM)

Subaru: Vehicle Dynamics Control Systems (VDCS)

Toyota: Vehicle Dynamics Integrated Management (VDIM) with Vehicle Stability Control (VSC)

Volvo: Dynamic Stability and Traction Control (DSTC)



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ESConfusion!

Classic Example of Market Failure



What can overcome this?

Demand Pull Measures

- Increase awareness of ESC's safety impact among car buyers
- Give fiscal incentives to encourage car buyers to choose ESC

Demand Push Measures

- Provide universal availability
- Require mandatory fitment

ESComparison! US Policy Response



Nicole Nason, the NHTSA Administrator, believes ESC to be “the greatest life saving technology since the seat belt” and has proposed a Federal Motor Vehicle Safety Standard (FMVSS) that will make ESC mandatory in all US passenger cars by model year 2012

NHTSA estimate that ESC will only cost the consumer \$111 and would:

- reduce single-vehicle crashes of passenger cars by 34 percent and single vehicle crashes of sport utility vehicles by 59 percent
- would save 5,300 to 10,300 lives and prevent 168,000 to 252,000 injuries in all types of crashes annually if all light vehicles on U.S. roads were equipped with ESC systems.
- NHTSA has proposed a Global Technical Regulation (GTR) at the World Forum for Harmonization of Vehicle Regulation (UNECE WP29) based on their FMVSS

ESComparison! EU Policy Response



CARS 21
Competitive Automotive Regulatory System for the 21st century

CARS 21 listed ESC at the top of approved Vehicle Technology Measures and recommended 2007 for a Commission proposal on ESC for heavy and light duty vehicles in the 'Ten Year Road Map of Key Initiatives'.

The European Commission has recently confirmed that it is their goal to achieve 100% penetration of ESC by 2012...

Gunter Verheugen Commissioner for Enterprise & Industry has confirmed that he is "committed to propose the obligatory introduction of ESC for passenger cars in 2007". The Commission is looking into the possibility of a GTR and anticipates that "this will be based on the USA requirements currently under consultation".



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Launch of Choose ESC! Aprilia near Rome Italy May 8th

The launch the new 'Choose ESC!' public awareness campaign with car buyers brochure and website

Release of EuroNCAP ESC availability survey

ESC demos including the new NHTSA test procedure

An international workshop with experts from the Australia, Canada, EU, and USA.



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Safety – Are Technological Innovations The Answer? Yes...but!

‘eSafety’ technologies with proven casualty reduction potential such as ESC can make a substantial contribution to road safety.

But to achieve their full benefits and to accelerate takeup an active policy making approach is needed to stimulate market evolution.



Thank You!



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