

FIA DECIDES

The FIA membership meets in Paris in October to choose the next FIA President



FEDERATION INTERNATIONALE
DE L'AUTOMOBILE



TECHNOLOGY

How advances in technology are helping all FIA clubs with their work both on the track and on the road.

ESAFETY CHALLENGE

Some of the best drivers in the world gathered in Vallelunga to promote the use of eSafety technologies.

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FIA NEWS

STAR DRIVERS BACK ESAFETY



Timo Glock, Robert Kubica, eSafety Aware President Jean Todt, Giancarlo Fisichella, Michael Schumacher, Michelle Yeoh, Susie Stoddart, Heikki Kovalainen, Tom Kristensen and ACI President Enrico Gelpi at the eSafety Challenge in Vallelunga

Some of the best drivers in the world gathered at the ACI Vallelunga Driver Safety Centre near Rome in early September to participate in the eSafety Challenge, an annual event that promotes and highlights the life-saving potential of eSafety technologies. The event, which is co-funded by the European Commission, the FIA Foundation and eSafety Aware, proved to be a major success with a large media presence joining high-level delegates from the automotive industry and political institutions.

The Challenge was opened with a series of speeches by distinguished guests, including

eSafety Aware President Jean Todt, UK Minister for Transport Paul Clark MP, seven-time Formula One World Champion Michael Schumacher, and Make Roads Safe global ambassador Michelle Yeoh.

During his opening address, Todt said: "Today's eSafety Challenge shows that eSafety has the backing of policy makers, major automotive stakeholders, and some of the best drivers in the world. Just as with a seat belt today, one day it will be unthinkable to buy a car without eSafety on board. Our goal is to save lives by speeding up the process of getting these systems into the market as soon as possible."

His views were echoed by other participants in the event, which was hosted by the Automobile Club d'Italia (ACI). Enrico Gelpi, President of ACI, said: "Vehicle manufacturers must make an extra effort in promoting and diffusing eSafety technologies. Safety systems should be at the disposal of every driver and be offered with every model and not, as is the case today, on only the most expensive cars."

Following the initial remarks, the event went outside onto the training centre's track with Formula One drivers Heikki Kovalainen, Robert Kubica, Timo Glock, and Giancarlo Fisichella joining forces with eight-time 24



Top drivers took turns demonstrating five eSafety technologies such as ESC at the eSafety Challenge 2009

Hour Le Mans winner Tom Kristensen, and DTM star Susie Stoddart to demonstrate five different eSafety technologies.

Each driver took it in turn to demonstrate an eSafety technology. They showed how Electronic Stability Control (ESC) stabilises the car in a skid, lane support systems adjust steering if the car drifts out of its lane, speed alerts warns the driver if he or she is speeding, blind spot monitoring warns the driver if a vehicle is in his blind spot, and warning and emergency braking systems act to slow the car automatically in the case of an impending impact.

All of the systems demonstrated have the potential to save lives by addressing the root cause of some of the most common accidents, and could lead to major reductions in road deaths and casualties. Estimates for ESC alone show that in Europe it could save 4,000 lives a year and prevent more than 100,000 injuries if fitted to every car.

Having tried out the vehicles, most of the drivers were impressed with the efficacy of the systems.

Kovalainen said: "eSafety technologies save lives. When driving on public roads I demand

absolute safety for me and my family. Despite my experience, I too can still be surprised or caught off guard when driving. It is the unexpected that is the most dangerous, and it can happen to anyone. eSafety is there to help me rectify such situations safely and hopefully avoid an accident."

Fisichella, in his first engagement as a Ferrari driver, said: "I am very happy to support this important road safety initiative as one of my first official duties for Ferrari. As a professional racing driver I know how important safety technology is, whether on the track or on the road. I am pleased to help promote the eSafety message and to join the other drivers from my sport in raising the profile of this cause."

Kristensen added: "As an endurance driver, I know exactly how easy it is to make a mistake when you get distracted or are tired. No matter how much training you undertake there is always a risk. When you are outside of the safe confines of a motor sport circuit, the risk can be unforgiving. That is why I always make sure I am fully protected. eSafety systems react faster and more effectively than a human can to potential dangers and I make sure that my car is fitted with them."

Prior to the launch of the Challenge, eSafety Aware released research on the take-up of eSafety technologies, highlighting a critical lack of awareness amongst the general population. The research showed that despite being involved in seven out of 10 car purchases and placing safety as their number priority when buying a car, women are 30 per cent less likely to know about the existence of eSafety systems than men. Encouragingly, eSafety Aware's study showed that if consumers were made aware of the technologies, they would be willing to pay to have them fitted.

Commenting on the survey, Michelle Yeoh said: "Most women consider safety to be their number one priority when buying a car whether it be for themselves or their family. Thousands of lives could be saved if women were better informed and understood the benefits of eSafety technologies."

Her sentiments were echoed by DTM driver Susie Stoddart: "As a racing driver I've always known that I probably knew more than the average driver about cars, but I've really been surprised by the lack of awareness of eSafety. We must act to ensure that these technologies become common knowledge for women and men alike so that they can make informed and safe choices when they buy their car."

ESAFETY

SPECIAL REPORT MOBILITY

In an increasingly high-tech world, a number of electronic-based safety systems have been developed for road transport. These 'eSafety' systems have the potential to be as important for safety as the introduction of the seat belt. FIA mobility clubs from around the world describe the work they are doing to test these technologies for feasibility and effectiveness. Many clubs are also working to raise awareness among the public in their home country ensuring that people are knowledgeable about the life-saving potential of these systems, and to help increase installation rates among manufacturers. Many clubs are getting involved through campaigns such as Choose ESC and eSafety On Board.

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MODERNISING SAFETY

In future, all cars will be fitted with the many eSafety technologies being promoted worldwide by the eSafety Aware organisation.

"Just as with a seat belt today, one day it will be unthinkable to buy a car without eSafety on board," said Jean Todt, President of eSafety Aware, the organisation that promotes such technologies.

That being the case, it is unfortunate that so many vehicles are prevalent on public roads without these potentially life-saving technologies. The eSafety Aware campaign is aiming to change that.

The term eSafety encompasses all vehicle-based electronic safety systems which can improve road safety through risk exposure

reduction, crash avoidance and injury prevention.

Despite a number of studies showing that consumers rate safety as their primary concern, the take-up of eSafety technologies has been slow. Market penetration remains low in many countries, especially in lower vehicle classes, where all too often, it is the small family car and super mini classes which are missing out on the extra safety equipment.

It has become clear that although concerned about safety, consumers lack the key information about the existence of these

technologies. Given their benefits to road safety, there is a clear need to accelerate the use of eSafety systems in all motor vehicle classes in all major world markets, by breaking down the current knowledge barriers.

For these reasons, eSafety Aware was founded in 2007 with the specific aim to raise awareness of eSafety among end users. The organisation brings together 37 members (including the FIA) from industry, public authorities, motoring clubs and other organisations.

Among the numerous eSafety technologies that exist on the market, eSafety Aware has

chosen to focus on five that offer significant potential benefits and are already at an advanced stage of development.

ELECTRONIC STABILITY CONTROL (ESC)

ESC is a technology that is designed to help drivers maintain control of their vehicles in the event of sudden manoeuvres such as rapid steering and counter-steering, sudden lane changes and obstacle-avoidance. It integrates Anti-Lock Braking and Traction Control Systems with the added feature of a 'yaw torque control', a function that prevents skidding.

ESC compares 25 times a second whether the driver's steering corresponds to the actual direction in which the vehicle is moving. If the vehicle moves in a different direction, understeering or oversteering, ESC detects the situation and corrects the movement using the vehicle's brakes.

This selective braking generates a counterbalance force enabling the car to react in line with the steering and as the driver intends. To fully optimise stability, ESC not only initiates braking but can also act on the engine side to decelerate the driven wheels. ESC substantially reduces the complexity of the steering process and lessens the demands placed on the driver.

The benefits of ESC are clear. An impact assessment in Europe showed that 4,000 lives could be saved each year and 100,000 injuries could be avoided if all cars were equipped with ESC.

WARNING AND EMERGENCY BRAKING

The Warning and Emergency Braking system brings together a number of technologies such as forward collision warning systems, automatic braking and pre-crash safety systems. The system detects, at an early

stage, the danger of an imminent rear-end collision, warns the driver about the danger and assists the driver with braking. If there is no reaction from the driver the system activates the brakes automatically together with systems such as seatbelt contraction to lessen the intensity of the crash.

The system works with a combination of actions. A surround (radar) sensor in the vehicle recognises the danger of a collision based on the speed and the distance to the obstacle ahead. When the system's sensor detects that a collision is imminent it issues both audio and visual warnings to the driver.

If the driver reacts by applying the brake, the system interprets this action as an emergency and provides maximized braking support to assure that the vehicle stops and avoids the collision. If the system detects that the collision >>>



German Touring Car driver Susie Stoddart demonstrated life-saving eSafety technologies at the eSafety Challenge at the Vallelunga Circuit in Italy

is unavoidable, the vehicle's seatbelts retract with enough force to compensate.

Studies show that more deaths occur from rear-end crashes than any other kind. The Insurance Institute for Highway Safety (IIHS) has estimated that the Forward Collision Warning function with Automatic Braking alone could be relevant for around 2,268,000 accidents every year in the US alone, of which 7,166 are fatal.

BLIND SPOT MONITORING

This system helps drivers to avoid a crash with a vehicle in the neighbouring lane by continuously screening the blind spots to the side of the vehicles. The blind spot is the area not covered by the driver's line of sight and mirrors, alongside and off-set to the rear of the moving car on both sides. This is a particularly dangerous hazard when changing lanes on a multi-lane road. The Blind Spot Monitoring system has an informative role and does not intervene.

Blind Spot Monitoring uses radar, camera or ultrasonic technologies to monitor the blind spot area of the vehicle. If a moving object is detected within the specified zone, a warning signal is issued. Warning signals vary from one version of the system to another and include visual, audio or 'haptic' signals.

Some of the systems are able to recognise both regular sized vehicles (cars and trucks) and motorcycles in both daylight and night-time driving conditions. The different versions of the system are able to recognise the obstacles at different speed conditions. To give an example, one such system is active at all speeds above 10 km/h. It is designed to alert the driver about vehicles moving at a maximum of 20 km/h slower and a maximum

of 70 km/h faster than the driver's own vehicle.

At a European level, the benefits of the system have been studied in the eIMPACT project funded by the European Commission. The project analysed an extended function of the Blind Spot Monitoring system known as Lane Change Assist which monitors the lateral and rear area of the vehicle, assisting the driver when changing lanes. It is estimated that in Europe the system could save approximately 975 lives each year and avoid 2,100 injuries if all cars were equipped with the system.

LANE SUPPORT SYSTEMS

Lane Support Systems use various sensors or a camera to monitor the upcoming road markings and the position of the vehicle within the road lane. The Lane Departure Warning warns the driver if the vehicle is unintentionally leaving the lane, whilst Lane Keeping Support goes beyond a simple warning by assisting the driver with an active steering support to keep in the lane. By doing so, both systems give the driver time to correct the vehicle's trajectory before an accident happens. If a vehicle crosses the lane markings without signalling, the system issues a visual, acoustic or 'haptic' warning.

The system is active only above a minimum speed, and is intended to operate on roads with good markings. The technology has been designed to ensure that the driver always remains in control, easily being overridden and automatically shutting down if it detects that the driver does not have his hands on the wheel.

eIMPACT estimated that if all vehicles in Europe were equipped with the Lane Keep Assist system, the number of deaths would

decrease by 15 per cent and the number of injuries by 8.9 per cent. Given today's number of deaths in Europe this would represent 6,300 lives saved each year.

In the US, the IIHS estimates that the Lane Departure Warning system could help in approximately 483,000 accidents every year, of which 10,345 are fatal.

SPEED ALERT

Speed Alert helps drivers maintain a correct speed and prevent speed related accidents. It informs the driver about the speed limit of the road he/she is using and issues a warning when they are about to exceed them.

The system uses a camera to distinguish speed signs on the road and also receives speed limit information from a navigation system. In this way it ensures that even speed limits that are not explicitly visible, i.e. within a city, will be displayed to the driver. Both sets of data are then compared with the speed of the vehicle. If the speed of the vehicle is exceeding the limit a warning is issued.

eIMPACT estimated that the Speed Alert system could reduce the number of fatalities in Europe by 8.7 per cent and the number of injuries by 6.2 per cent each year if all cars were to be equipped with the system. Given the current number of deaths at European level, this could translate into 3,690 lives saved each year.

The largest study so far on Speed Alert systems was carried out in Sweden. The study involved 5,000 equipped vehicles driven by more than 10,000 drivers from different age groups, and an accident analysis. It was estimated that with all cars equipped there would be 20 per cent fewer injuries in Swedish urban areas each year.



Heikki Kovalainen demonstrates how easy it is to tip a truck when ESC is not switched on

ADAC BACKS ELECTRONIC ASSISTANCE

By Hans Kahl and Christian Buric

Having tested numerous eSafety systems that emerge on the market each year, ADAC recognises that accident prevention is the most important factor in reducing injuries and deaths on European roads.

Today, motorists can rely on in-vehicle systems to keep them in their lane, warn them when they follow a vehicle too closely and stabilise their car when they are braking. The term 'eSafety' was coined to refer to all these and numerous other electronic assistance systems.

The key distinction between eSafety and passive safety systems is that eSafety aims at preventing accidents from happening in the first place, rather than mitigating their consequences. A wide range of such electronic aids are available to today's motorists.

The Allgemeiner Deutscher Automobil-Club (ADAC) in Germany has been involved in a number of studies and campaigns to promote eSafety.

In 2007, a EuroTest study conducted across Europe showed that, depending on the type of system, between 60 and 90 per cent of respondents found the electronic assistants useful.

The favourite system with European motorists is eCall, an emergency call system that automatically alerts the nearest rescue service when motorists are incapacitated in a severe accident, transmitting the exact GPS coordinates of the

crash site. Second and third on the list are early warning and brake assist systems, followed by Electronic Stability Control (ESC).

Johann Grill, ADAC Director of Consumer Protection and Public Policy, said: "ADAC has studied several such systems over the past few years with good results overall. In 2007, ADAC and its partners conducted a highly positive feasibility study of eCall confirming there are no technical barriers to the 2010 introduction of this feature. ADAC's eCall commitment was honoured with the 2009 EENA 112 Award."

Driver assistance features are also being integrated into navigation devices. In addition to providing the user with a route from point A to point B, many devices can also make detour recommendations based on a Traffic Message Channel, fuel-efficiency suggestions or point out hotels and restaurants. Twice a year, ADAC tests numerous new products.

Adaptive Cruise Control (ACC) is among the less well-known driver assistance systems. This type of system warns the driver when following a vehicle too closely. Should the driver fail to react, ACC automatically brakes the vehicle in order to prevent a rear-end collision. Other electronic assistants warn drivers against driving out of lane, improve night-time visibility or alert drivers to vehicles approaching in the blind spot as they overtake on multi-lane roads.

Grill said: "ADAC testers have many improvements to suggest in the various systems. However, the trend is clear: accident prevention has the most significant potential for reducing the number of road injuries and deaths in Europe."

In the area of intelligent transport systems (ITS), ADAC is already looking one step ahead. The European ERTICO initiative aims at networking the driver assistance systems with one another or with the road. Exchanging information on crash sites, bad weather or traffic jams is a way to minimise both delays and the number of accidents and road casualties.

This will be another decisive step towards reducing the thousands of road deaths each year in Europe.



ESC, being tested here, could save thousands of lives each year and will be mandatory in Europe starting in 2011

JAF LAUNCHES ESC CAMPAIGN

By Toshiyuki Yabuchi (t-yabuchi@jaf.or.jp)

The Japan Automobile Federation has launched the Choose ESC campaign to get media, industry and government involved in increasing awareness and take-up of Electronic Stability Control systems.



Left to right: Kanji Nakayama, Japan Automobile Manufacturers Association; professional driver Kenjiro Shinozuka; Takahiro Ikari, National Agency of Automotive Safety and Victims' Aid; Masakazu Kume, JAF; Hideaki Oda, Bosch Corporation; Dietmar Siemssen, Continental Automobile Japan K.K. at the Choose ESC Japan launch

The Japan Automobile Federation (JAF) launched the Choose ESC campaign in Japan on 15 July with a press conference attended by over 50 media outlets and organised in cooperation with German company Bosch, which manufactures ESC devices.

Previously, JAF conducted numerous workshops mainly looking at the human side of driving, including such aspects as perception, situation assessments and actions taken. Today, with the developments made in eSafety, JAF is making efforts to teach drivers about the benefits and efficacy of these systems, with a focus on educational activities to raise driver awareness and increase installation rates among manufacturers.

Based on the results of its initiatives so far, JAF has concluded that the popularity of these systems among the general public is crucial to the uptake of eSafety devices and to eventually making eSafety systems standard fixtures on new vehicles.

JAF has already introduced a section on the effectiveness of ESC into its Safety Training

Workshop. At the end of the workshop, a survey is conducted on participants' opinions about the effectiveness and importance of ESC. Survey results so far show that nearly 100 per cent of participants rate the effectiveness of ESC above satisfactory and approximately 90 per cent of them rate ESC as 'important'.

Being a users' organisation, JAF considered the results of this survey in its decision to pursue ESC initiatives as a way of improving the installation rate of this important life-saving technology. ESC is becoming highly evaluated as a key device which already significantly affects vehicle safety assessments in Europe and in the U.S. Installation is steadily increasing in these countries as their respective governments make ESC a mandatory system on all newly manufactured cars.

Masakazu Kume, Executive Director of JAF, said: "JAF recognises there is still much more work to be done in Japan as recognition among the general public of ESC and understanding of its purpose and functioning are still low, despite the fact that Japan is one of the leading countries in the automotive industry.

"To improve this trend, JAF plans to continue strengthening the ESC curriculum as part of the Safety Training Workshop and to begin hosting 'Experience ESC' programmes for drivers. Alongside these initiatives, JAF will broadcast its Choose ESC activities through the club magazine JAF Mate and the club website."

To promote ESC in Japan, JAF and the Japan Choose ESC campaign are focusing on the mass media to spread the message about ESC's effectiveness nationwide in addition to JAF's continuous promotional activities.

While the number of the fatalities from traffic accidents has been steadily decreasing in Japan, the low installation rate of Electronic Stability Control (ESC) is hindering further progress on casualty reductions. As an automobile users' association, JAF is a key promoter of the campaign and will continue to involve government, industry and automobile organisations to make the message even stronger.

CHINA AIMS TO GROW SAFELY

China is set to become the largest automotive market in the world. FASC, through its promotion of ESC, is ensuring that this ever increasing new vehicle fleet will also be a safe one.



Launch of the Choose ESC campaign in China

In April, the Choose ESC China campaign was launched in Beijing, aiming to improve public awareness of ESC systems in the country.

The launch event, which was co-hosted by the Chinese Research Institute of Highway of the Ministry of Transport and the Federation of Automobile Sports of China (FASC), attracted a large number of distinguished guests, including eSafety Aware President Jean Todt and FASC Deputy President Jianchang Yan. The focus of the event was a Memorandum of Understanding that was signed by the Chinese Research Institute, FASC, eSafety Aware and the FIA Foundation. The signing of this MoU also marked the official launch of the eSafety Aware programme in China.

For FASC the launch of the programme is both important and timely. ESC equipment levels in China are much lower than other countries. The Chinese car market is already large but is still one of the most rapidly developing car markets in the world. Many families are on the point of purchasing their first car and so there is a critical need for customers to learn about the more advanced technologies for safety improvement.

With China set to become the biggest automotive market in the world, a leap forward in the fitting of eSafety systems would offer the opportunity to save thousands of lives. Yan said: "Safety education and new

aim to popularise ESC. These campaigns are varied and support a variety of different kinds of activities such as testing ESC vehicles and taking part in safety training programmes using cars equipped with ESC. Thanks to these activities FASC is helping to improve public awareness of eSafety and highlighting to the consumer the number of options that they have to fit their vehicles with the latest in advanced technological systems.

The drive on ESC is part of a wider commitment made by FASC to eSafety. The club has been making considerable efforts to assist in a number of road safety projects, such as the '2009 International Road Safety Seminar' in Shanghai this year.

technology are essential and indispensable. ESC, a technology of active safety, is very important for road safety."

Since signing the MoU, FASC has been engaged in a number of campaigns nationwide which

The FASC is also preparing the development of a road safety centre, modeled on European advanced driver training centres. Using the centre, FASC hopes to be able to educate and promote advanced driving techniques as well as advanced technological applications.



Rush hour in Beijing