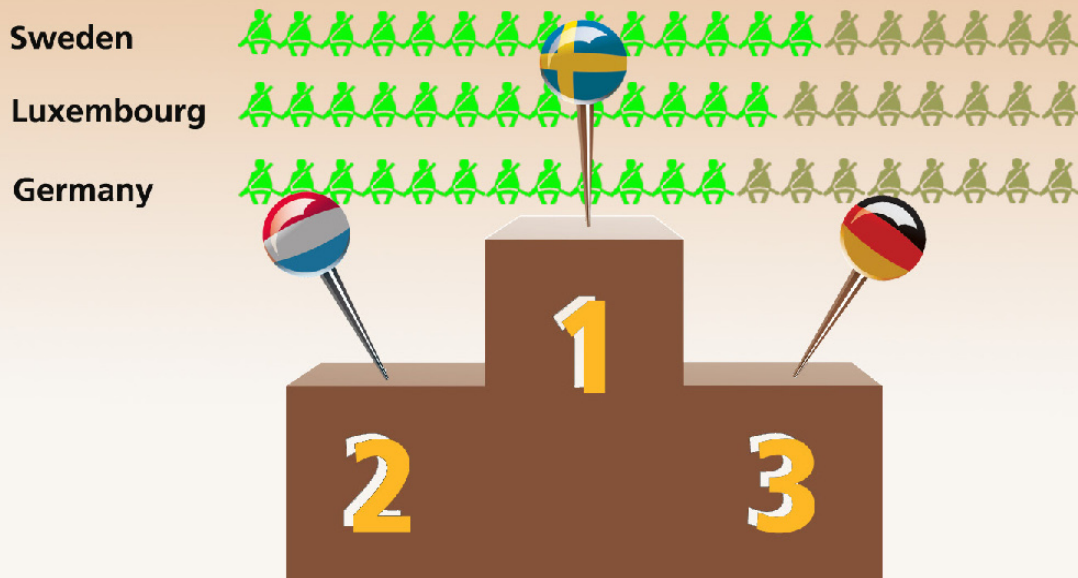




Getting car users to belt up

Latest studies have shown that advanced seat belt reminders, which fulfil Euro NCAP test criteria, can get up to 99% of drivers to use their seat belt¹. This is because the majority of those who do not use their belt are not in principle against seat belts.

A great many deaths and serious injuries could be prevented if 99% of drivers in Europe wore their seat belt. Experience shows that even in the best-performing countries, no more than 97% of drivers use their seat belt, despite the legal obligation that holds in all EU countries to wear the seat belt on all journeys. Among passengers and rear seat occupants the wearing rates are even lower.



This new ranking under the Road Safety Performance Index (PIN) shows that some countries reach a high penetration rate of seat belt reminders in new cars. In **Sweden**, nearly 70% of new passenger cars were equipped with seat belt reminders for the driver seat in 2005. In **Luxembourg**, this was 64% and in **Germany** 63%.

The proportion of new cars sold in the whole of Europe that are equipped with seat belt reminders for the driver seat is estimated to be 56%. In the Czech Republic, Slovakia, Hungary, Poland, Lithuania, Italy and Greece, this is less than half of the new passenger cars.

Seat belt reminders for all cars in Europe

Helping 'part-time users' to stay alive

Recent research suggests that the risk of dying in a crash can be reduced by up to 60% by using the seat belt². Moreover, important safety features such as airbags work best if occupants are restrained by their seatbelts. Still, seat belt wearing rates vary greatly among countries. They are especially low on the rear seats and in urban areas. Among car occupants involved in fatal and serious injury crashes, seat belt use is even lower.

In France, where rates range from 66% (rear seat passengers on urban roads) to 99% (drivers on motorways), 16% of car occupant deaths could have been prevented in 2005 had all occupants buckled up³.

Most non-users are not against seat belt use but either forget to buckle up or do not wear it in what they consider to be low-risk situations. These 'part-time users' (but not the 'hard-core non users') can be convinced by seat belt reminder system to use their belt.

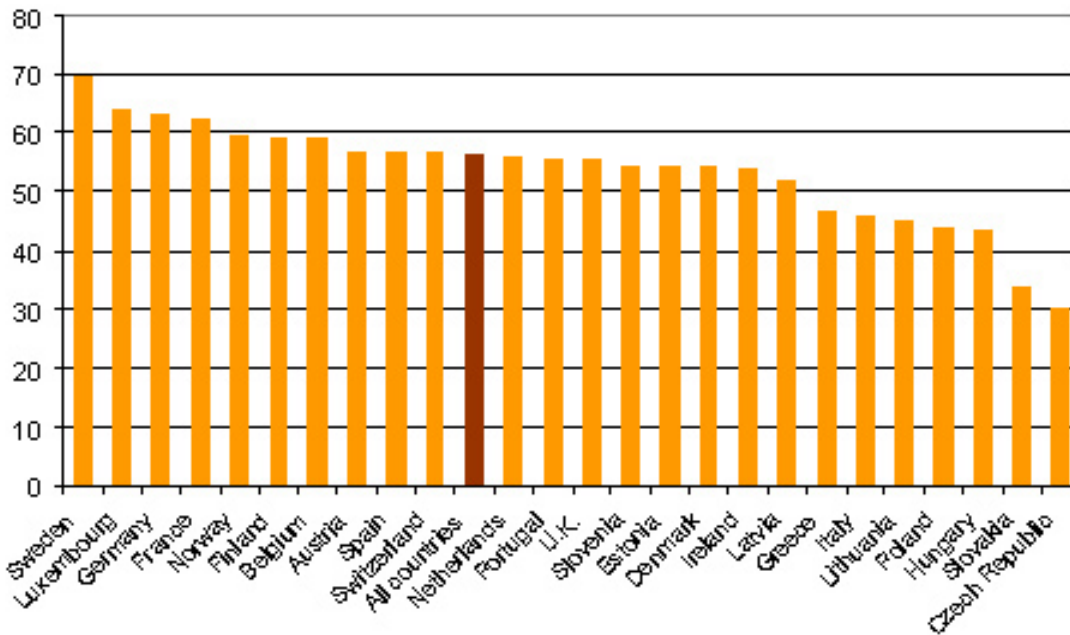


Fig. 1 Proportion of seat belt reminders for the driver seat in cars sold in 2005 (in %)

Most people drive cars without reminders

Today, more than half of the new car models sold in Europe, are equipped with seat belt reminders for the driver seat. While new models are increasingly equipped with reminder systems, it must be borne in mind that among the total fleet far fewer cars have this type of equipment.

In Spain, only 4.4% of the car fleet was equipped with seat belt reminders in 2004⁴. Also, many new cars have seat belt reminders for the driver seat, but not for the front passenger or rear seats. In Sweden, where the ten best-selling models have a reminder for the driver seat, only about 59% of new cars have reminders for the front passenger seat, and 10% for the rear seat.

The indicator

The seat belt reminder penetration rates have been calculated on the basis of 2005 car sales in 25 European countries (except Malta and Cyprus, plus Norway and Switzerland) as published by CSM Worldwide's Global Light Vehicle Sales Forecast. The information as to which models have advanced seat belt reminders comes from Euro NCAP, the Swedish Road Administration and IEE, a Luxembourg-based supplier of sensor-based automotive safety products.

The penetration rates include cars that are equipped with advanced seat belt reminders that meet Euro NCAP criteria. In addition, four models were counted in that are fitted with advanced seat belt reminders that use a combination of visual and sound signals but do not fulfil Euro NCAP criteria. This includes Audi Q7 and Suzuki SX4, which were both tested by Euro NCAP and did not receive any points for their reminder system. It also includes Volvo S60 and Volvo V70, which are equipped with "mild reminders" according to the latest Folksam study¹. American cars with seat belt reminders that meet U.S. legal standards have been excluded. Many of these reminder systems are not as effective as those that fulfil the higher European standards set by Euro NCAP.

It should be noted that the proportion of seat belt reminder cars has increased since 2005. Some models that did not have any reminders throughout (most of) 2005 have been upgraded since. This includes top-selling models such as Peugeot 206, Opel Corsa, Fiat Punto and Renault Clio, which are now fitted with seat belt reminders for the driver seat. The new Honda Civic even has seat belt reminders for all seats.

Seat belt reminders for a five-star Euro NCAP rating

Euro NCAP introduced in 2002 an additional point bonus under its occupant protection score. These points can make the crucial difference between four and five stars. Carmakers have responded to this challenge. Since the introduction of the new protocol, only one model ever achieved the best Euro NCAP star rating for occupant protection without being fitted with a state-of-the-art seat belt reminder system at least in the driver seat.

Unfortunately however, it seems that some manufacturers fit seat belt reminders solely to achieve this goal. When it turned out that Seat's Leon did not reach a sufficient number of points to achieve a five star rating the seat belt reminder was withdrawn. It was reinserted after protest from Euro NCAP. Models that are not tested by Euro NCAP, or that do not stand a chance of achieving the coveted five star rating, are usually not equipped with such a device. An example is the Opel Astra that has a seat belt reminder in its tested variant, but not in the estate version, which was not tested by Euro NCAP.

Other manufacturers however fit seat belt reminders also to models independently of their Euro NCAP testing. The implementation of advanced seat belt reminders started ahead of Euro NCAP's introduction of the seat belt reminder protocol. Also, car makers introduced seat belt reminders to car models after they were tested by Euro NCAP. Examples are the Citroën C3 and Toyota Corolla, which were tested by Euro NCAP in 2003 and received a four star rating for occupant protection. Both models were at that point not equipped with a seat belt reminder but are today.

What national governments can do

From the data it appears that especially the new EU countries have very low rates of seat belt reminder penetration, ranging from about 55% in Estonia and Slovenia to about 30% in the Czech Republic. It is however in those countries, that reminder systems could make the greatest difference as seat belt wearing rates are low. What is it that governments can do to improve this situation?

Even though vehicle standards are set at an international level, national governments can influence the consumer's choice of vehicle. They can provide incentives, for example in the form of tax breaks, to purchase cars with seat belt reminders. They can also encourage and support initiatives

Euro NCAP requirements

To fulfil Euro NCAP criteria, seat belt reminders must use a combination of visual and sound signals. Front seat reminders must give a "loud and clear signal" for at least 90 seconds if the driver or passenger is unbelted. (Euro NCAP has not found an objective measurement method concerning the sound level.) The signal must start at the latest when the engine has been running for 60 seconds or the car has been in forward motion for 500 metres or has reached a speed of 25 km/h. Long-term deactivation of the system must require a sequence of operations, which should not be guessed at or carried out accidentally.

by the insurance sector for consumers to choose cars with seat belt reminders.

Governments can also play a role in promoting safety as a criterion for consumers to consider by running consumer awareness campaigns on purchasing safe cars which have seat belt reminders.

"The Spanish Road Traffic Directorate will use radio spots to encourage people to look out for seat belt reminders when buying a new car. This will be part of a larger media campaign to promote seat belt use, which is planned for November 2006."

Pilar Zori Bertolin, Ministry of Interior, Road Traffic Directorate

In many countries, a large proportion of new cars are purchased by non-private customers. In Sweden, this figure is approximately 40%. Therefore, all non-private customers, such as governmental bodies, local authorities and companies can play an important role by including seat belt reminders in their vehicle purchase and leasing policies.

"In Sweden, a group was set up in 1994 to work on advanced seat belt reminders. This group included representatives from government, research institutes, insurance companies and the car industry. Since Swedish manufacturers were involved from the beginning of this project they introduced effective systems early."

Thomas Turbell, National Road and Transport Research Institute (VTI)

In Sweden, for example, the public road administration has decided to buy or rent only cars with seat belt reminders. Its recommendations are also used by other bodies.

In countries where few new cars are sold, the issue of retrofit seat belt reminders should receive more attention.

"In Poland, we should make an effort to promote retrofitting cars with seat belt reminders. Public authorities could co-finance their installation and insurance companies offer reduced premiums for cars equipped with such systems. The information should also be part of awareness raising campaigns and driver training."

Ilona Buttler, Motor Transport Institute (ITS)

The need for EU legislation

However, to bring penetration rates up to 100%, the EU should pass legislation making seat belt reminders an obligatory component of all new cars sold in Europe. The CARS21 High Level Group, initiated by Industry Commissioner Verheugen to boost the competitiveness of the Eu-

"Seat belt reminders are now installed on most new car models, except in the highest and lowest priced segments of the market. These models will only be equipped with seat belt reminders if this becomes compulsory for all new cars."

Anders Lie, Swedish Road Administration (SRA)

European car industry, has recommended in its final report that a proposal on this matter be tabled by the European Commission in 2007.

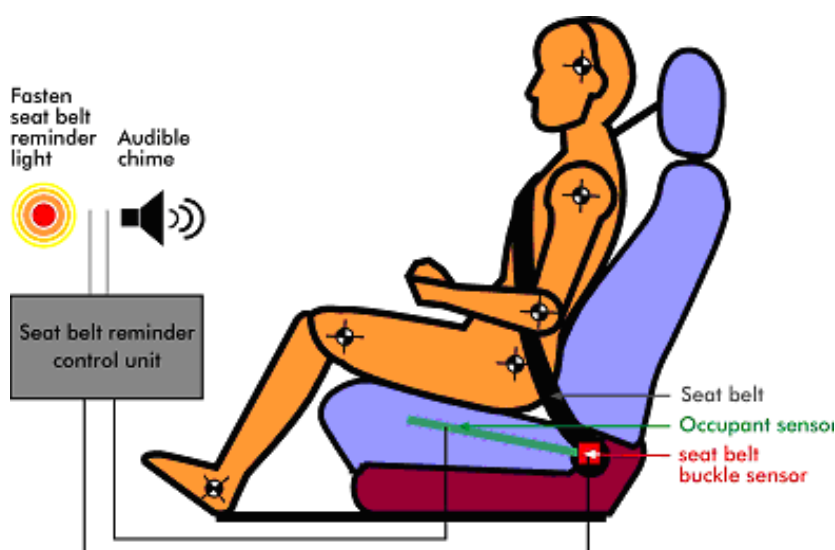
In Japan, legislation came into force in September 2005 requiring all new car models to be equipped with advanced seat belt reminders for the driver seat. The requirements are similar to those set by Euro NCAP.

Today, advanced technology is available to remind both front and rear seat occupants of their obligation to use the seat belt. For the driver seat, this technology has reached a market share of about 56%. European governments and the European Union, together with the car manufacturers, should shoulder their responsibility and increase this share to 100%.

Did you know that ...

The first technical means to increase seat belt use was introduced in the U.S.A. in 1973 when it became mandatory for all cars to have a seat belt starter interlock. The car would not start unless the seat belt was used. This first attempt failed as a result of strong public opposition, and the legislation was abolished after only six months¹.

(1) Kullgren, A., Krafft, M., Lie, A., Tingvall, C. 2006: The use of seat belts in cars with smart seat belt reminders – Results of an observational study. In: Traffic Injury Prevention 7/2006, pp.: 125-129.
 (2) SWOV Institute for Road Safety Research 2002: SUNflower: A comparative study of the development of road safety in Sweden, the United Kingdom, and the Netherlands. Leidschendam, The Netherlands.
 World Health Organization (WHO) 2004: World report on road traffic injury prevention. Geneva, Switzerland.
 (3) Observatoire national de la sécurité routière (ONSR) 2006: Bilan de l'année 2005. Paris, France
 (4) Fundación Instituto Tecnológico para la Seguridad del Automóvil (FITSA) 2005: La eficacia del aviso cinturones. Madrid, Spain.



The Euro NCAP experience

Seat belt reminders for a five-star rating

The European New Car Assessment Programme (Euro NCAP) has been the prime driver in stimulating the implementation of advanced seat belt reminders in Europe. The Euro NCAP protocol on adult occupant protection allows additional points to be given if a certain type of seat belt reminder is fitted. Since the introduction of the new protocol in 2002, 95% of the cars that received the best Euro NCAP rating for adult occupant protection were fitted with seat belt reminders at least on the driver's seat.

ETSC has talked with Adrian Hobbs, Secretary General of Euro NCAP, about the success and limits of promoting seat belt reminders through Euro NCAP.

ETSC: Is the current Euro NCAP protocol a sufficient incentive for manufacturers?

I would say yes, even if it is very disappointing to see that still today new cars are sold without seat belt reminders as standard equipment.

Of course, the protocol could be revised to take into account higher standards. But manufacturers are already concerned with an increasing complexity of such a device. Today, the protocol requires an audiovisual/or visual initial signal to start shortly after the ignition is switched on and an audiovisual final signal. The initial signal for front seat positions must be both audible and visual. The audible component must be "loud and clear", for the driver and all relevant passengers. The signals for rear seating positions need only to be visual. The visual signal should be available in all languages of the countries where the cars are sold, which seems to pose problems to certain manufacturers.

ETSC: Today, Euro NCAP tests the "best-selling variant" of any car model. There have been cases, in which seat belt reminder systems were fitted as standard on the best selling variant, but only offered as options on both higher and lower priced variants. Are there limits to what Euro NCAP can achieve?

This is indeed a problem. Normal safety equipment, such as head restraints or seat belt reminder systems, should be offered on all models as standard equipment, not as an option. This is why we have decided to change our procedures. From 2008 onwards, all cars selected for testing will only be fitted with safety equipment that is fitted as standard across the whole model range.

ETSC: It is also known that seat belt reminders

were withdrawn after the Euro NCAP assessment was finalised and stars had been awarded.

Euro NCAP was disappointed to hear that Seat was planning to remove the seat belt reminder from the León. The León was awarded four stars for adult occupant protection in November 2005

Normal safety equipment should be offered on all models as standard equipment, not as an option.

when the seatbelt reminder was standard equipment. When we are aware of these cases, we will make them public. We want to see safety placed ahead of economic considerations.

ETSC: We can see big differences in car sales between the old and the new EU countries. Many cars sold in the new Member States are not equipped with seat belt reminders.

Euro NCAP is now extending its reach to the new Member States. As of this year, the "best selling variant" of a new car model is being chosen on the basis of sales throughout the whole of the EU-25. The new requirement for test models to be equipped with safety equipment that is fitted as a standard across the whole model range is also being phased in for the EU-25. This will however take some time – in a first period, we will also test car models that are fitted with certain safety features as a standard in the EU-15, but only as an option in the new Member States.

ETSC: What can governments do to promote seat belt reminders?

Governments should first of all increase their efforts to raise compliance with seat belt mandatory use. Enforcement can deter 'hard-core non-

users' and encourage 'part-time users' to buckle up in all circumstances. Governments should also run awareness campaigns informing car passengers of the benefits of being buckled on all seats, at low speeds and on familiar roads. People still have little concept of the safety potential of seat belts at low speeds and for rear passengers.

To promote seat belt reminders, governments should first provide incentives to consumers to purchase cars with seat belt reminders, and in a second phase pass a law to make them mandatory in all cars.

ETSC: Do we need EU legislation to ensure that

” The EU should adopt legislation to ensure that all cars sold in Europe have seat belt reminders installed, not only in the front but also in the rear seats.

all cars are equipped with advanced seat belt reminders?

It is sad to see that increasing seat belt use has not been given enough priority by the European institutions. The seat belt is the most effective protective device in the car and should therefore be promoted rather than new high technologies that have not proved to be life-saving.



The EU should adopt legislation to ensure that all cars sold in Europe have seat belt reminders installed, not only in the front but also in the rear seats.

Adrian Hobbs is Secretary General of Euro NCAP



European Transport Safety Council

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