

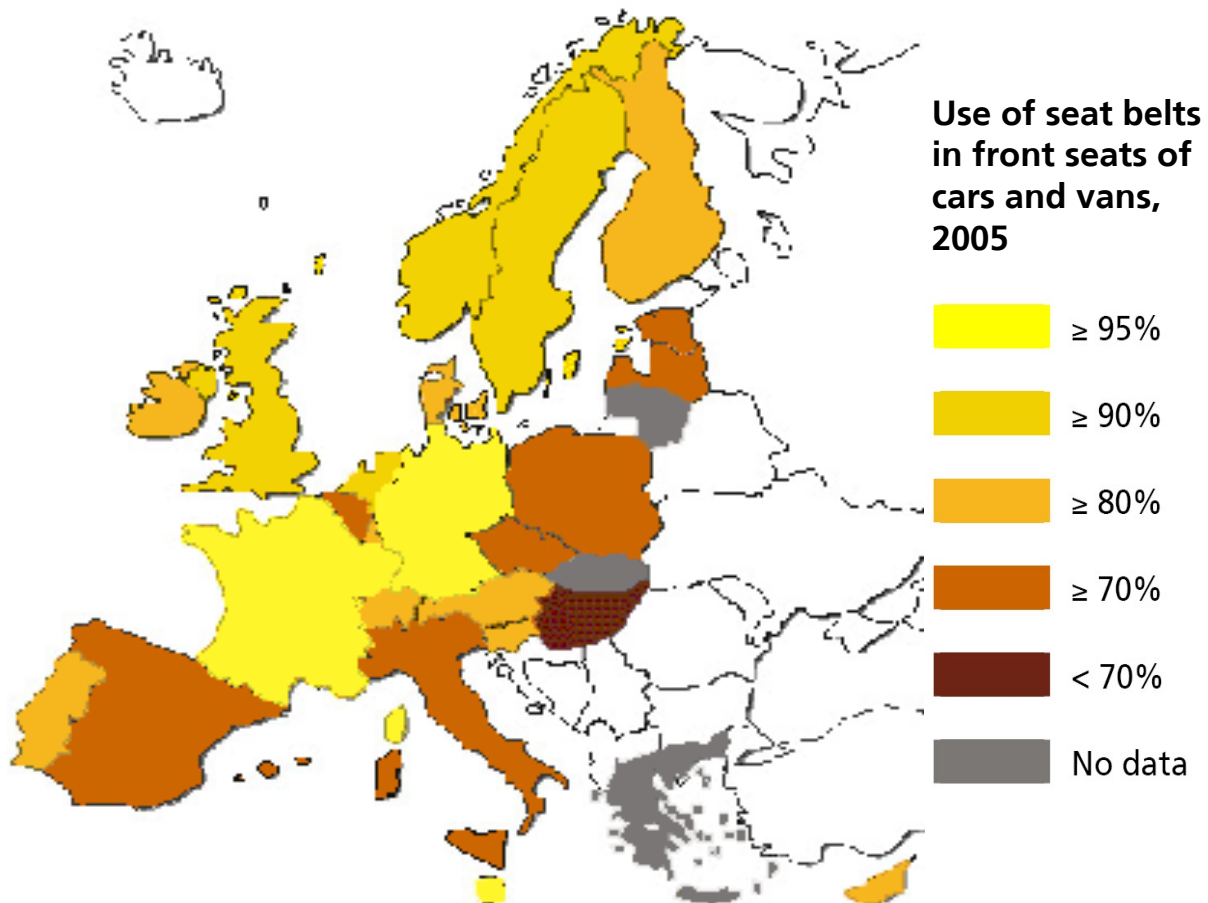


Increasing seat belt use

While it is important to prevent traffic crashes from happening, it is also important to take measures to mitigate the impact of crashes on the people involved. Human beings are fallible and everyone can be involved in an accident so the importance of the – so-called “passive” – protection in crashes cannot be underestimated.

The seat belt is the single most effective feature in the car to fulfill this role. Using the seat belt reduces the risk of dying in a serious crash, which would normally lead to fatal injury, by about 50%. This is why the European Union has passed legislation making seat belt wearing obligatory in all seats where belts are available.

Yet seat belt usage varies considerably among European countries, and generally falls short of providing the protection it could afford to car users. In this third ranking under the Road Safety Performance Index (PIN), countries are compared in relation to how many people seated in the front of cars use their safety belt.



Source: SafetyNet and national data

The ranking shows that in 2005, the highest proportion of users of safety belts in the front seats was recorded in **France, Germany and Malta** which show rates of over 95% seat belt use. In **Sweden, Norway, the U.K. and the Netherlands** the proportion of front seat occupants wearing the seat belt was 90% and higher.

Comparison between countries

Most European countries collect data on seat belt wearing rates on a regular basis. Several countries, such as **Germany** and **Switzerland**, started regular seat belt counts more than 30 years ago, whereas others started this type of survey more recently. Survey design and aggregation procedures vary however across Europe so minor differences between countries should be interpreted with some caution. In spring 2007, the EU-funded research project SafetyNet will present a manual on how to best collect and process seat belt data to help countries refine and harmonise their methodologies.

Not all countries can provide comparable data. **Greece, Lithuania** and **Slovakia** do not at all measure compliance with seat belt law. **Cyprus** and **Luxembourg** have not collected any seat belt data for the last three years. Observed rates from **France, Italy, Latvia, Malta, Poland, Portugal** and **Slovenia** are not fully comparable with other countries' rates as their data collection methods differ from those used in other countries. Still, figures for these countries are given as rough indicators of seat belt usage.

In fact, countries that do not carry out measurements are expected to show poorest rates. In Lithuania, a one-off survey by police has found the wearing rate to be no higher than 62%. Greece and Slovakia, together with Croatia, are those countries in which the lowest percentage of drivers reported to wear their seat belt "always" in a survey carried out in 2002 across 23 European countries.

Cauzard, J.P. et al. European drivers and road risk, Part 2 Report on in-depth analysis. SARTRE 3 report, 2004.

This ranking is based on data on seat belt wearing in the front of the vehicle. This type of data is collected in all countries that measure seat belt use, whereas rates for the rear seat are unavailable (e.g. in **Belgium, Italy**) or considered of a lower quality in some countries (e.g. in **Latvia, Czech Republic**). A large majority of fatally injured car occupants sit in the front seats. This should however not mask the fact that in all countries, seat belt usage is higher in the front seat than it is in the rear, and many rear seat occupants are killed and seriously injured not wearing their seat belt.

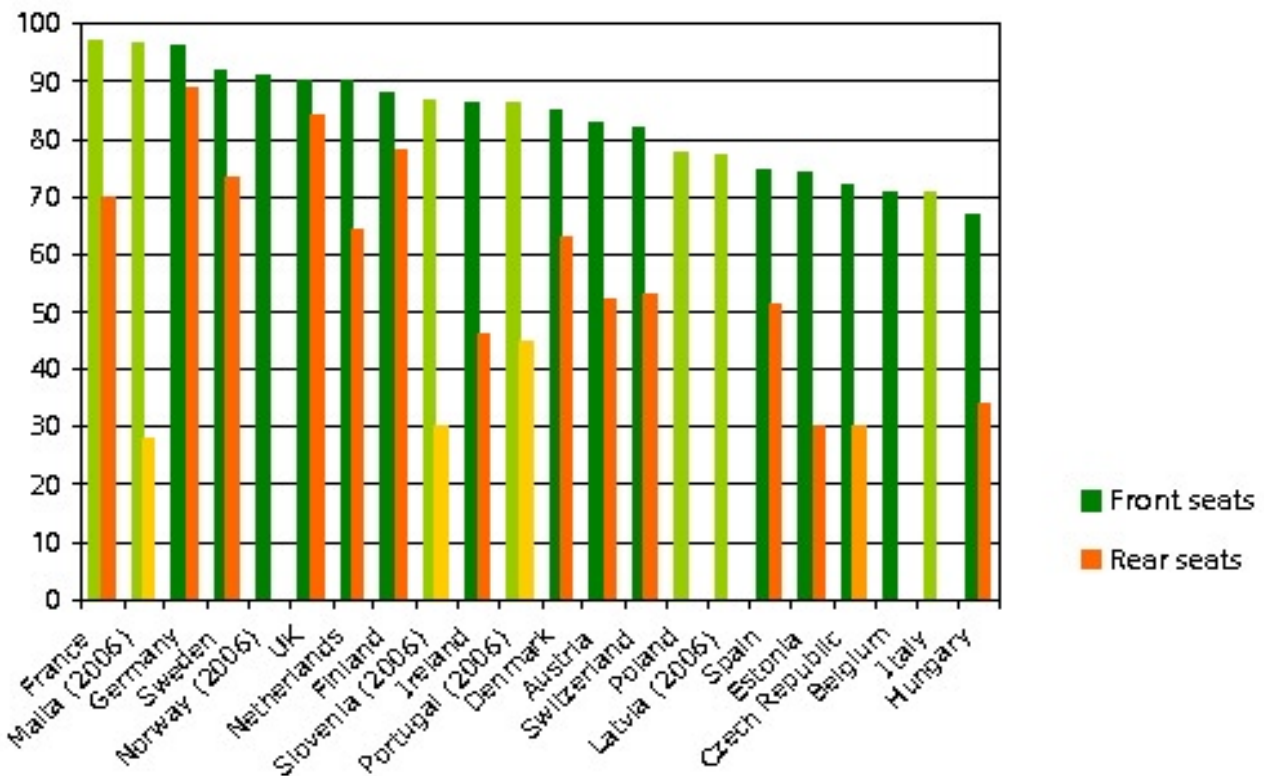


Fig. 2 Use of seat belts in front and rear seats of vehicles under 3.5 tons in 2005. Data for Czech Republic (rear seat), France (front seat), Italy, Latvia, Malta, Poland, Portugal and Slovenia are of limited comparability. No data are available from Greece, Lithuania and Slovakia. For Cyprus and Luxembourg, latest data are from 2002 and 2003. Source: SafetyNet and national data

The rates presented here are those for all passenger cars and vans together (ie. vehicles under 3.5 tons), as the majority of countries do not distinguish between these two categories when performing their observations. Data from Denmark,

Great Britain and the Netherlands suggest that on the whole, seat belt use by van drivers and passengers is lower than that by passenger car users (see Fig. 2).

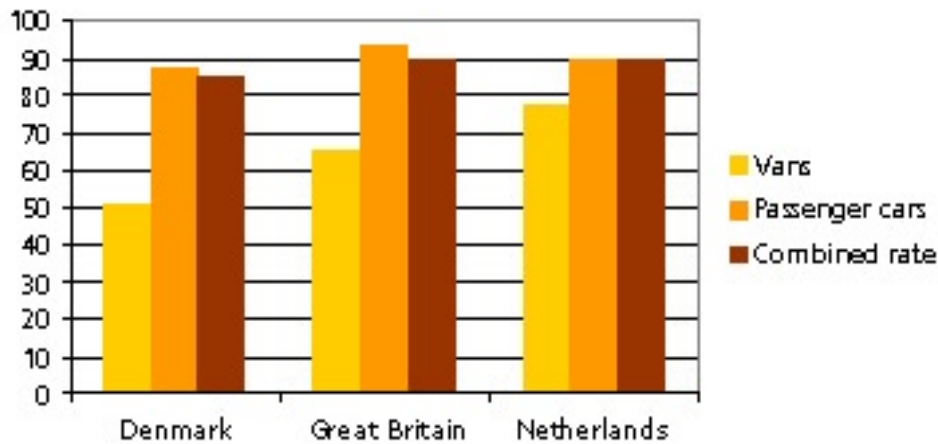


Fig. 3 Use of seat belts by drivers of passenger cars, vans and combined in Denmark, Great Britain and the Netherlands in 2005 (Netherlands 2006). Source: SafetyNet

The indicator

The usage rates used in this ranking present in fact a simplified picture of a much more complex phenomenon. In reality, there is no clear-cut division between users and non-users of seat belts. Many people use the seat belt sometimes but not at all times, depending on what speed they are travelling at, what sort of road they are using, whether they are undertaking a longer journey, whether there are other occupants wearing belts etc.

The proportion of car occupants using seat belts (ie. the wearing rate) is estimated through roadside counts. Observers are placed at selected locations on all road types (in urban areas, on rural roads and on motorways), where traffic characteristics allow this type of observation. Data for different road types are then aggregated based on traffic shares per road type.

The EU-funded research project SafetyNet has developed stringent criteria for comparability of seat belt wearing rates across countries, as well as requirements for their accuracy and reliability. SafetyNet researchers favour separate counts of front and rear seat occupants to establish two different rates for these groups, which often differ considerably. While many countries also report separate rates for drivers and front seat passengers, researchers in the SafetyNet team prefer one common rate because differences between these two groups tend to be small.

This country ranking is based on combined wearing rates for the front seats. For countries where combined rates were unavailable we applied rules established by the SafetyNet project to establish these rates:

- Where only separate rates for drivers and front seat passengers were presented, we aggregated both rates using a weighting coefficient of 0.65 for the driver and 0.35 for the front passenger, which corresponds to typically observed occupancy of these seats.
- Where only the driver rate was available, the front seat rate was considered to be identical to this rate.

Hakkert A.S., Gitelman V. and Vis M. A. (Eds) *Road Safety Performance Indicators: Theory. Deliverable D3.6 of the EU FP6 project SafetyNet, 2007*

More than 11,000 drivers' lives saved by seat belts

The use or non-use of the seat belt, together with the impact speed, is one of the most important factors deciding between life and death in a serious crash. Accident research suggests that the risk of dying in a serious traffic crash can be reduced by about 50% by using the seat belt.

Across the EU, it is estimated that about 11,700 drivers survived serious crashes in 2005 because they were using their seat belt, on the assumption that the accident risk of wearers is not affected by the wearing of seat belts. In **Germany** alone, about 2,000 drivers survived. This means that nearly twice the number of drivers would have died in crashes had seat belts not been worn by drivers in that country.

Across Europe, seat belt use at current levels reduces the number of driver deaths every year by about 40%.

... and another 2,400 drivers could be spared with 99% use

No country has achieved a rate of 99% seat belt use in the front seat so far. But studies suggest that seat belt reminders can help to reach this high a use. Also, some countries come close to this rate on their motorways (e.g. **France**). If 99% of drivers used their seat belt in all EU countries, another 2,400 lives could be saved, on the assumption that the accident risk is no higher among non-wearers of seat belts than it is among those wearing seat belts. This means that in **Belgium**, for example, the 2005 number of driver deaths could have been 20% lower if a maximum number of drivers had worn their seat belt.

There are however reasons to believe that non-compliance with seat belt law goes along with other risky behaviour. On the assumption that the risk of non-wearers is 1.5 times higher than among those wearing belts, more than 3,000 drivers' lives could be saved in the EU by using seat belts.

Background

Why are some countries doing better than others?

Not all of today's 'seat belt champions' have played in this league for a very long time. While countries such as **Germany** and the **U.K.** achieved over 90% use of seat belts right after turning non-use of seat belts into a fine-carrying traffic offence, others have developed more

progressively over time. The **Netherlands**, for example, show an increase in the driver rate from just over 70% to over 90% within the last ten years. In **France**, the front seat rate crossed the 95% threshold only recently, going from 91% in 2001/2002 to 97% in 2005.

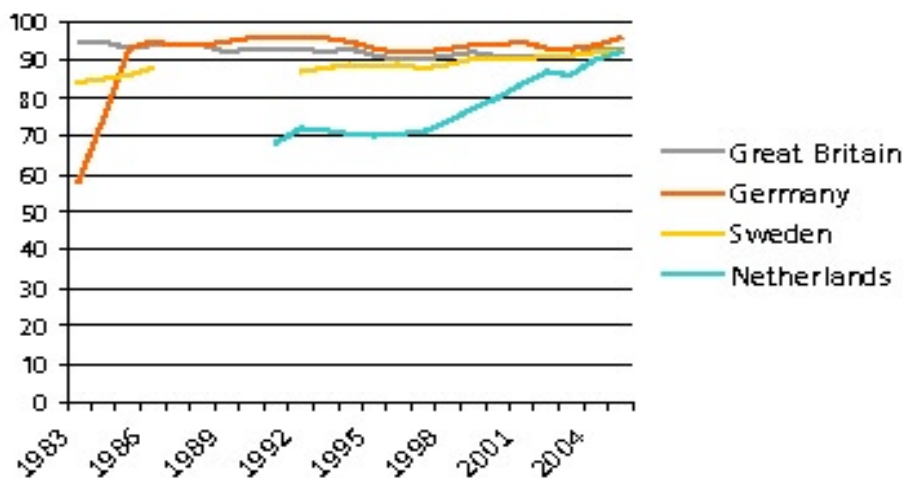


Fig. 4 Use of seat belts by drivers of vehicles under 3.5 tons in Germany, Great Britain (passenger cars), the Netherlands and Sweden. Figures for the Netherlands include vans only from 2002; figures for Germany are only for West-Germany until 1990. Source: National data

Seat belt law and enforcement

In **Great Britain**, rates jumped from 40% to over 90% when legislation was introduced for front seats in 1983. In 1991 when it became compulsory for adults to wear seat belts in the back of a car, there was an immediate increase from 10% to 40% in observed rear seat belt wearing.

In **Germany**, people buckled up massively after non-compliance with seat belt law started being enforced with a fine in August 1984, eight years after the introduction of mandatory use in front seats. Between March and September 1984, seat belt wearing among car drivers increased from 58% to 92%. Enforcement efforts have continued since, and seat belt wearing has been promoted through numerous awareness campaigns run by the German Transport Safety Council (DVR) and German Verkehrswacht e.V. (DVW).

Did you know that ...

In the **Netherlands**, researchers have calculated that an extra ten peoples' lives were saved over 2004 and 2005 through increased seat belt use. In those two years, the observed seat belt use was 3-4% higher than expected from the previous years' trend. The study shows that police enforcement continued to increase and that various awareness campaigns were run at the same time, including the famous armadillo campaign that has meanwhile been extended to other countries.

**Stipdonk, H.L., Aarts L.T., Schoon C.C., Wese-
mann P. De essentie van de daling in het aantal
verkeersdoden. SWOV, 2006**

A number of countries witnessed an increase in seat belt wearing when sanctions for non-compliance were tightened. In France, for example, a new law was enacted in 2003 increasing the fine for unbelted occupants to 135 EUR and introducing three penalty points off the 12-point licence for unbelted drivers. In recent years, hard hitting awareness campaigns have been run by different governmental and non-governmental bodies, the last ones targeting seat belt use on rear seats and in urban areas. *"While we have achieved good rates in the front seats, seat belt wearing must become a reflex also for passengers travelling in the rear seats, and on short distance trips,"* said Pierre Gustin, Managing Director of Prévention Routière Française.

"The German success story is based on 25 years of consistent enforcement and awareness raising. Today, most Germans don't even think about using their belt – it is simply a habit."

Sabine Degener, German Insurance Institute for Traffic Engineering (GDV)

Good progress

Many countries that used to have low or medium-range rates have progressed significantly over the last couple of years. In **Belgium**, 51% of drivers who did not buckle up in 2003 started wearing the belt by 2006. The **Czech Republic** even 'converted' 64% of front seat occupants from 'non-users' to 'users' of seat belts between 2003 and 2006, while in **Spain**, this was 48%. Both countries introduced in 2006 new penalty point systems covering also non-compliance with seat belt law.

In the **Czech Republic**, awareness has recently been heightened through media campaigns and the tragic death of national ice-hockey team trainer Ivan Hlinka who died in a traffic crash while unbelted. Wearing rates showed another steep increase when the country introduced higher fines and points off the licence for seat belt offenders as part of a new penalty point system on 1 July 2006.

"In the Czech Republic, people started to think differently about seat belts when national ice-hockey team trainer Ivan Hlinka died unbelted in a 2004 traffic crash. Investigation results showing that Hlinka died even though front and side airbags deployed were widely discussed"

Jaroslav Heinrich, Transport Research Centre (CDV)

The Czech Transport Research Centre (CDV) has observed compliance just before and after entry into force of the new law. It has found an increase already before 1 July 2006, reaching its peak about one month after that date. The following months showed a slight decrease in wearing rates. *"This decrease is most likely due*

to a lack of sufficient police presence in the last months of the year. The annual national observation study planned for 2007 should allow more reliable comparison of rates before and after the new measures' introduction," said Vojtech Eksler from the CDV.

... that needs to be sustained

While seat belt use is on the rise in most European countries, experience also shows that gains cannot be taken for granted and that rates can drop if efforts are not sustained. Great Britain, for example, has seen seat belt use by drivers going back from 95% to 90% during just over a decade but rates have continued to increase again since 1997.

EU seat belt law

Following rules on technical requirements relating to safety belts, the EU introduced in a 1991 Directive the mandatory use of safety belts, where belts are available, in all vehicles under 3.5 tons, allowing for exemptions in the rear seat for some vehicle types. In a new Directive passed in 2003 the obligation to wear seat belts was then extended to occupants of all motor vehicles, including trucks and coaches. The reinforced legislation was to be implemented in the Member States by 9 May 2006. In **France**, for example, the new rules entered into force in May 2003. However, not all countries have implemented the new Directive so far, and some countries' requests for exemptions are currently being assessed by the European Commission.

The TISPOL experience

TISPOL makes Europe "say click"

TISPOL, the European Traffic Police Network, organises twice yearly a common action in which police forces in several European countries tackle seat belt wearing. Officers from 19 countries took part in the last campaign organised from 1 to 14 May 2006. In total more than 140,000 drivers and passengers were penalised in checks that included all road vehicle types. Another action is run from 19 to 25 February 2007.

Wolfgang Blindenbacher, Second Vice President of TISPOL, is responsible for activities related to seat belt use in the TISPOL Executive Committee. He is the Traffic Police Director of the German federal state of North Rhine-Westphalia.

ETSC: TISPOL runs two major blitz campaigns per year on seat belts. North Rhine Westphalia, similar in size to the neighbouring Netherlands, conducts these actions even three times a year. Why is it important for police to check seat belt use separately?

In North Rhine Westphalia, we run specific seat belt actions three times a year that are well distinguished from other checks. This is to send a signal to vehicle users that seat belt wearing is really important. By organising separate campaigns, we make the public aware that much fewer people could be injured or die in crashes if we had an overall 99% wearing rate. But seat belt use is also checked in daily patrolling, alcohol controls etc. This is a permanent effort and non-use is penalised systematically, whether the focus was on seat belts or not.

ETSC: How important is it for police to monitor wearing rates? Do you concentrate, for example, on user groups for which surveys report lower rates (e.g. drivers of HGV's, rear seat occupants)? Do you check more on types of road where reported use is low (e.g. urban areas)?

Some of our actions target restraint use in general, some others focus on particular user groups



such as children and lorry drivers. For both groups we know that they need particular attention because their use of restraint system is insufficient. When we check on child restraint use, we often do this in the vicinity of schools and nursery schools, whereas checks on lorry drivers are mainly done on motorways.

All police forces, whether responsible for rural or urban areas, or motorways, plan their work independently. Each force decides for themselves where and when precisely to do the checks, also when we organise our separate actions which involve all the forces in North Rhine Westphalia.

ETSC: Do you perceive different attitudes to seat belt use in different countries? What can police do to make people act more responsibly?

Attitudes are probably different from country to country, just they depend on the social background. We see in North Rhine-Westphalia, for example, that young men of Turkish origin are overrepresented among the non-users. We have therefore translated our flyer also into Turkish to reach out to this group of immigrants.

ETSC: What is the role of fines? Are wearing rates higher in countries that have higher fines for seat belt non-use?

In Europe, we seem to find a strange correlation: where fines are low, the level of checks is high, and where the fines are high, the level of checks is low. For example, in Germany we have a fine of 30 Euros and normally no penalty points and we take seat belt enforcement very seriously. In Greece, on the other hand, the fine is more than 160 Euros but there are probably not so many checks.

Of course, levels of fines and checks should be high but the level of enforcement is more important, I believe. What is also important is aware-

ness raising and good communication. In North Rhine Westphalia, the Minister of Interior 'opens' our two-week period of intensified controls and this event is also covered by the media. We also work together with the Landesverkehrswacht e. V. who puts up 500 posters during the action, and the police distribute flyers to car occupants during the checks.

ETSC: In North Rhine Westphalia, a very high proportion of car users belt up. Is it still worthwhile running co-ordinated checks during a period of two weeks three times a year?

” The level of checks is more important than the amount of the fine.

Even an increase by 1-2% in seat belt wearing can make a major impact. In North Rhine-Westphalia we had 470 deaths among car occupants in 2004. In 101 of these cases, it was known that the person was not wearing at seat belt at the time of the accident. This means that at least 25% of all occupants are not or not properly restrained in fatal accidents.

Wolfgang Blindenbacher has been the Leading Police Director for Traffic Affairs of the German federal state of North Rhine-Westphalia for three



years. Before this time he worked on road safety in different police organisations across North Rhine-Westphalia. Mr Blindenbacher is also the German representative in the international traffic police organisation TISPOL.

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