

REDUCING ACCIDENTS MEANS  
**SAVING LIVES**



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ACCIDENTS  
MEANS SAVING  
LIVES



”Almost 3500 people lose their lives on the world's roads every single day. It's a shocking figure. We can raise road safety standards significantly, and save lots of lives, through the use of modern road markings.“

PHILIPP SWAROVSKI  
CHIEF OPERATING OFFICER (COO)  
ROAD MARKING SYSTEMS

**What is the point of having the sharpest eye or the most intelligent driver assist system if the required orientation aids are not visible or legible?** Financial pressure on public budgets has also culminated in cuts to traffic infrastructure in recent years. It has resulted in a steady deterioration in the quality of the markings on the roads, and in some places they have even disappeared altogether. Coupled with that, many parts of the world have an ageing population. By 2020, around a quarter of drivers will be over 65, and the trend is rising.\* Optimum visibility of road markings is a critical safety factor for all drivers. Obsolete or poor road markings increase the accident risks for not only car drivers, but also impact road safety for motorcyclists, bicyclists and pedestrians.

The solution lies literally on the road: Modern road markings with clearly defined quality standards increase road safety substantially and are worthwhile in every respect. Studies show that every US dollar invested in road markings can help to prevent up to 60 US dollars being spent on accident-related costs. Therefore, there is a huge potential in savings due to the reduction in accidents.

\* Source: European Union Road Federation (ERF)



# GUIDING THE WAY AND SAVING LIVES



# Road markings lower the risk of accidents

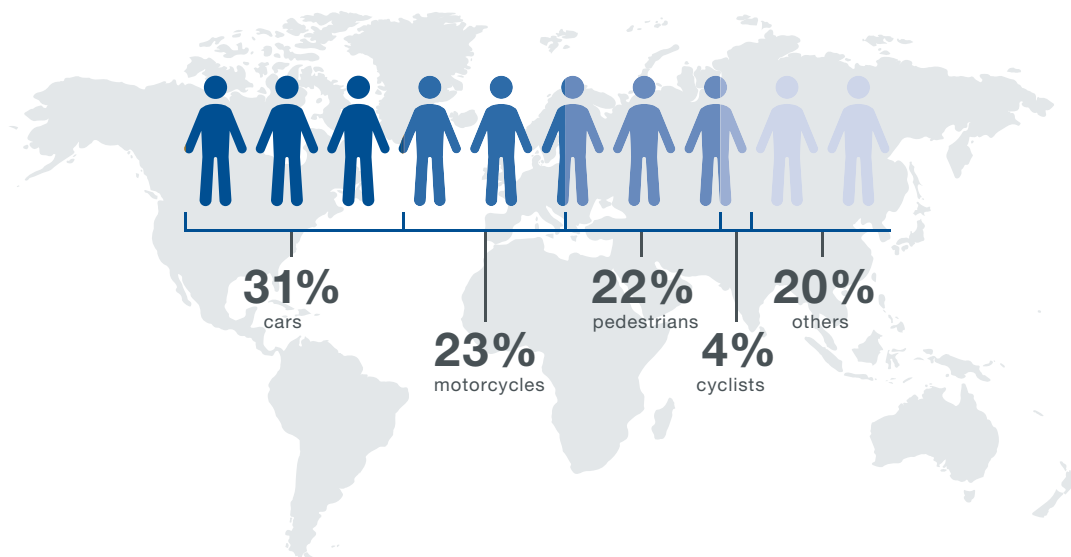
Modern road markings boast various optical and haptic properties: They act as visible orientation guides on roads and let drivers know that they are crossing lanes or veering off the road. This saves lives because it reduces the risk of accidents and collisions significantly.

Suitable markings make a vital contribution towards road safety in wet conditions and at night, in particular. What's more, guidance systems are also required by the rapidly increasing numbers of lane assist systems.

As mobility increases right around the world, road markings are among the most cost-efficient and most effective safety solutions. There is a wide range of customer-specific products and systems available depending on the condition of the road surface, as well as the ambient and lighting conditions. Ask us what the best solution is for your needs.

# Traffic deaths by modes of transport

From pedestrians to drivers: fatal road traffic accidents affect all road users worldwide. Road markings help to lower accident rates and to save human lives.



# The challenges are clear

From age differences to the recommended minimum width of road markings, there are many factors that have a direct or an indirect bearing on road safety. The figures, some of which are alarming, are sitting on the desks of traffic experts and authorities. It is now up to them to bring improved solutions and proper funding to the world's roadways.

55

percent.

Rural roads are a death trap. Over half of all traffic fatalities occur there.

50,000,000

Injuries.

Some 50 million people are injured in traffic accidents on our planet every year.

518,000,

# FIGURES SPEAK VOLUMES

1,300,000  
Road deaths.

Almost 1,300,000 men,  
women and children lose  
their lives on the world's  
roads every year.

65  
plus.

By the year 2020, one in  
every four drivers will be  
at least 65.

000,000

Road traffic accidents cost the global economy  
around 518 billion US dollars a year.

US-dollars.

# THE SOLUTIONS FOR GREATER SAFETY

## And an ambitious target

Road markings aren't just a question of marking the road. Minimum standards prevent markings from dropping below a specific performance level so as to remain visible to drivers and to intelligent cars with driver assist systems. Furthermore, professional maintenance for marking systems ensures that they continue to be effective in the long term. This is a price worth paying to reduce accidents and realize improved overall social economic costs.

We share an ambitious target with the WHO, the World Health Organization; i.e. to reduce road accidents by 50 % by 2020. We would be delighted to advise you on the right solutions for your traffic needs. You can find some of our products and systems in the SWARCO ROAD MARKING SYSTEMS brochure and on our website:

[www.swarco.com/rms](http://www.swarco.com/rms)

## On the safe side – worldwide

The topic of road safety does not end at national borders. Although continental concepts differ, the global vision remains the same: Reducing accidents means saving lives.

In the United States, traffic and safety experts have developed a national strategy with exactly that vision: "Toward Zero Deaths – National Strategy on Highway Safety". Accordingly, short-term and cost-effective improvements of road infrastructure are able to maximize road safety: Retroreflective pavement markings provide better orientation along the roadway, especially in curves. And rumble strips warn motorists when they risk running off the road.

The ERF – European Union Road Federation recommends certain minimum standards for road markings, emphasizing their width and retroreflective quality. The proposed 150 x 150 formula plays a crucial role in sustainably increasing road safety. It recommends a line width of 150 mm and 150 mcd/m<sup>2</sup>\*lx of retroreflection (in dry weather) as minimum features of markings. Under wet conditions the recommended retroreflective value is 35 mcd/m<sup>2</sup>\*lx.





# ROAD SAFETY IS OUR OBJECTIVE

Worldwide since 1969

SWARCO ROAD MARKING SYSTEMS delivers its products and systems to over 5000 customers in over 80 countries around the world. Based on our annual production, we could equip over a million kilometers of roads, i.e. the equivalent of traveling more than 25 times around the earth. It would be good to make your roads a bit safer soon too.



# ROAD MARKINGS SAVE LIVES

“Traffic infrastructure is so much more than tarmac, concrete or steel. It is the backbone of economies, helping to connect people and goods, providing access to jobs and services and creating a basis for trade and economic growth.”

Joint declaration by the Ministers of Transport  
of the International Transport Forum

“Road markings have played an important role in highway safety for over 100 years by providing a clear delineated path for drivers. While they will continue to play this role for at least the next several decades, they are also playing a new role that has significant potential in improving highway safety and congestion. Vehicles equipped with sensors for lane departure warning, lane keep assistance, and even automated driving use road markings in much the same way that drivers use them. Highway agencies updating their specifications are beginning to consider how their legacy standards can be updated to accommodate both human drivers and machine drivers.”

**Paul J. Carlson, Ph.D., P.E.**

Senior Research Engineer | Texas A&M Transportation Institute  
Graduate Faculty Member | Zachry Department of Civil Engineering  
Regents Fellow | Texas A&M University

“Road markings can be described as one of the most cost-effective safety solutions available to road authorities. They constitute the first visual reference for the road users; they provide the necessary awareness to drivers, by delineating the boundaries of the road, hence contributing to a predictable trajectory. Visible, adequate, performing and properly maintained road markings are an essential element of road safety, especially if we consider the specific requirements of an ageing population and the current development new vehicle technologies, such as lane departure warning systems. Road markings save lives!”

**Christophé Nicodème**

Director General  
European Union Road Federation (ERF)

SWARCO | The Better Way. Every Day.

# SHOWING THE WAY, WORLDWIDE

Nearly 50 years ago we started out with the manufacture of tiny reflective glass beads. Today we have grown into the world's largest systems provider for road markings. Making roads safer and saving lives on a daily basis. Our high quality products and services, safely direct traffic flow from A to B, every day and night. On all roads, in any weather, and all from SWARCO.

We prepare for the future, by fusing knowledge with innovation at our Competence Center for Glass Technology and Marking Systems. So, even with smart and autonomous driving, we continue to blaze the trail of premium road markings to the world. Jump in and drive with us; we will be happy to help you find your ideal road marking solutions.

[www.swarco.com/rms](http://www.swarco.com/rms)

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