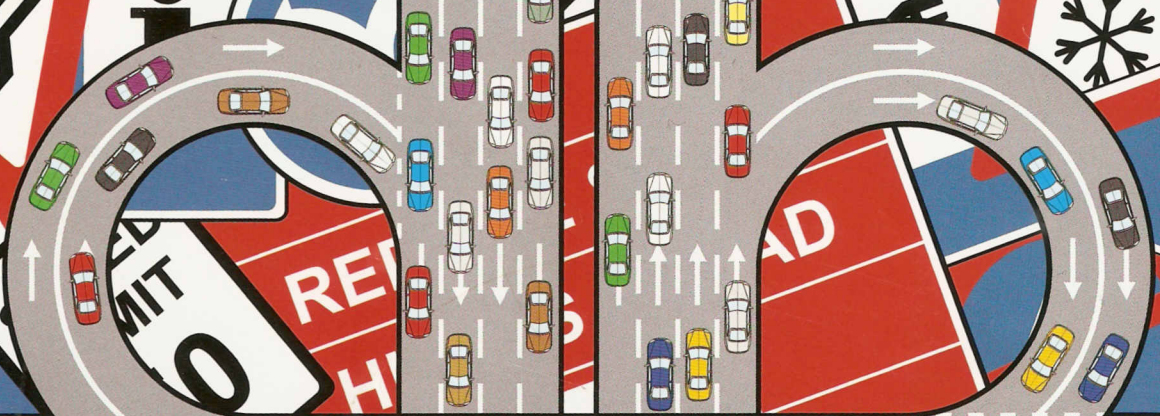


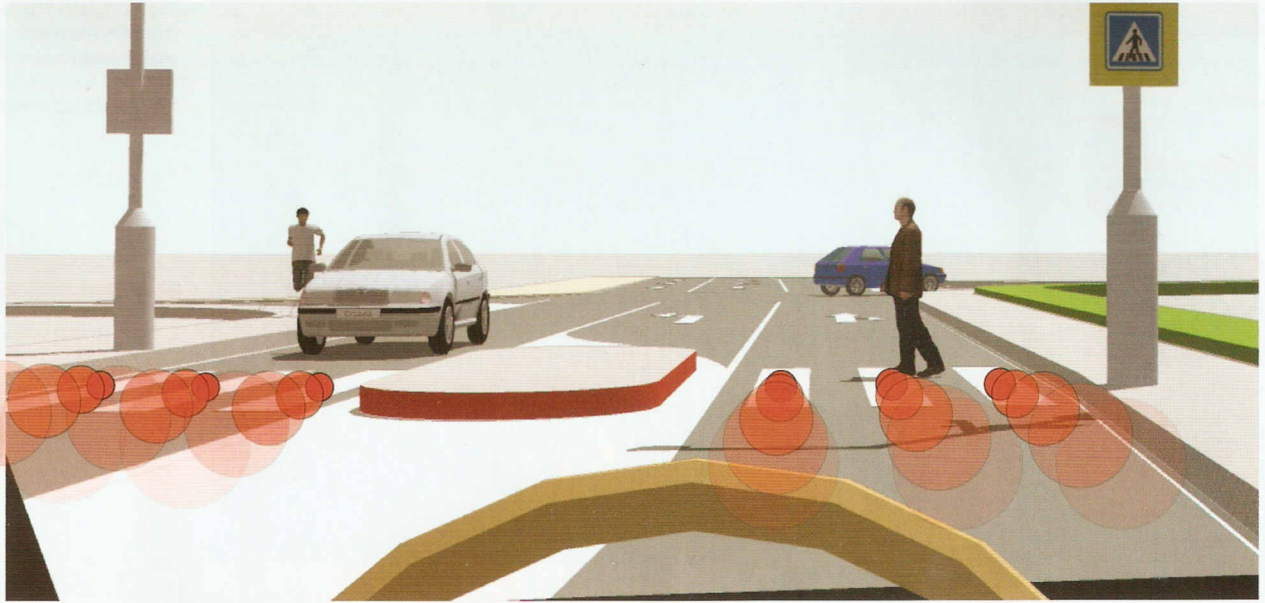
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At first sight

The importance of visibility at pedestrian crossings should never be underestimated. But new technologies can have a big impact on safety at such locations

Words | **Jaroslav Latal, PDSystems, Czech Republic**

If something strong confronts something far weaker, the result is pretty much determined beforehand – and that doesn't only apply to bar-room brawls! We all know who will lose in an accident at a railway crossing – and it's not the train. New railroads, overpasses (and sometimes underpasses) are therefore built in a way that prevents trains and cars even appearing in such traffic mismatches.

Unfortunately, when it comes to pedestrians, it isn't that easy – regardless of how safe overpasses and underpasses might be. To think authorities will replace all pedestrian crossings is simply unrealistic. It is therefore far better to concentrate on the methods that can be applied to make the crossings as safe as possible.

To see and be seen is the basic premise of road safety and this applies to drivers and pedestrians alike. Pedestrians' standing in the traffic infrastructure is incomparable with that of drivers however. For a pedestrian, to be seen is a matter of life and death; for a driver, to see a pedestrian in time means preventing an accident by adjusting their driving or stopping altogether.

Pedestrian crossings are designated just for pedestrians to be able to cross the road

safely – they're places where pedestrians even have the right-of-way over vehicles. Yet why do vehicle-versus-pedestrian collisions happen so frequently? Primarily because the pedestrian wasn't seen by the driver in time, for whatever reason. Most frequently, an obstacle of some description is to blame – a vehicle driving parallel on a four- or more lane road or a parked vehicle in the way. Short people, children and even people in clothes that blend with their surroundings are also easy to overlook, especially when there is reduced vision. With the help of so-called 'safe' (or intelligent) crossings, it's possible to contribute significantly to the early recognition of pedestrian presence in the immediate vicinity of a crossing as well as on it.

Key information in time

Early recognition is enabled through an electronic detection system that informs drivers about the current pedestrian presence through warning LED lights (signalling lights) directly from the road. PDSystems' combination of pedestrian detection and indication works non-stop. At night, the pedestrian crossing is highlighted by white lights with asymmetric characteristics in a way that makes the pedestrian highly visible, even in dark clothing.

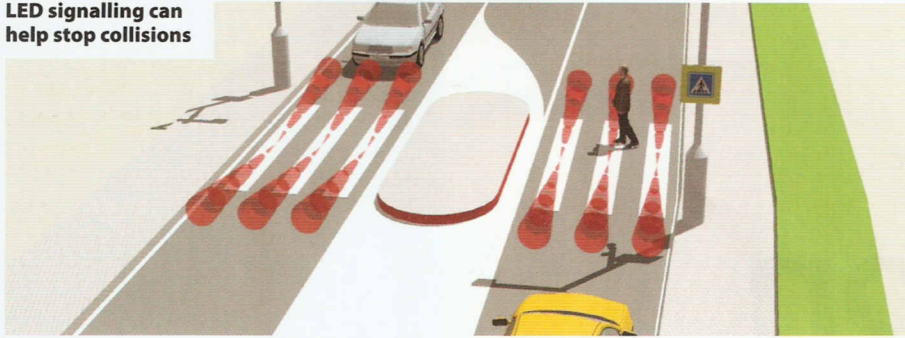
Dynamic detection and indication

Active (dynamic) pedestrian detection and indication also makes it possible to warn a driver about a possible collision with a pedestrian. Pedestrian presence is indicated without any delays or lags, and the indication time is exactly proportional to the actual pedestrian presence on

The PDS-400 LED system



LED signalling can help stop collisions



the crossing and within its close vicinity. The information about a pedestrian's entrance on the crossing is known to the system even before they actually enter the road and pedestrian presence warning is signalled during the entire time of the pedestrian's movement over the crossing. Even a short person walking very slowly is reliably detected during when crossing.

Such technology is especially valuable at those locations where traffic violations (for example, illegal parking) result in an insufficient view over a pedestrian crossing. A significant increase in pedestrian safety can even be achieved on multi-lane roads where collision situations are frequent as a result of driver inattention (one driver is giving the right-of-way to a pedestrian, whereas another driver

going in a parallel lane in the same direction continues on). It could also be useful in areas with high traffic density, both vehicle and pedestrian – in places where the installation of more intrusive measures would cause congestion.

Ground LED lights (signalling lights)

To communicate (signal) directly from the road – from the spot with the highest natural and statistical attention of all traffic participants – is ergonomic. Therefore, if we are to influence their behaviour, especially that of the vehicle drivers, it is necessary to communicate the key information directly to them – into their line of sight directly from the road.

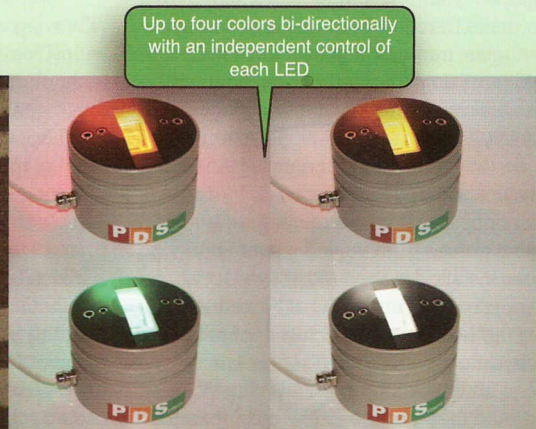
The basic building block of the safe crossings system is the warning LED

signalling lights, which are constructed in a way that meets the main criteria for traffic on-ground communication. The signalling lights have to be clearly visible, even in strong direct sunlight, but at the same time they must not blind the drivers in reduced vision or at night. This is ensured by the dynamic brightness regulation feature (PWM), which is dictated by the lighting of the surroundings. Another important feature is high mechanical durability, which is necessary for problem-free operation – even on high-traffic roads with a large ratio of heavy truck traffic. Self-cleaning, maintenance-free construction and the option of full ploughability in the winter should be a matter of course. As a new feature, there is the option to switch the colours within one LED signalling light depending on the application and its remit. Light, for instance, can be red and white for pedestrian crossings, red and green and possibly yellow for traffic lights, red, green, yellow and blue for road tunnels, and so on.

And as this is a warning traffic safety system, it is necessary for the LED signalling lights as well as the control unit to feature remote controlling and monitoring functions in order to ensure the correct, continuous operation of the system. After all, the lives of traffic participants are on the line. ■



LED Lighting Signal PDS-400



- + Quality Czech made product
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- + Low profile < 5mm
- + Up to four colors bi-directionally
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- + Monitoring of functionality
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Meteorological TECHNOLOGY WORLD EXPO 2013

Meteorological World Expo (page 168)

Meteorological Technology World Expo is exclusively for people involved in the decision-making process in specifying and purchasing climate, weather and hydrometeorological measurement, prediction and analysis technologies, plus service providers.

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Nedap (Inside Back Cover)

Nedap produces vehicle identification systems for the ultimate in fast and secure long-range identification in order to monitor and control vehicle- and driver-related activities. The ability to integrate various RFID technologies offers a high level of flexibility and user convenience. Nedap's systems are widely deployed around the world.

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Neural Labs (page 69)

Neural Labs offers precise, hardware-independent and easy to integrate ANPR engines in addition to all the advice and consultancy needed to succeed in building an ANPR system. The company's products are available for Windows and Linux and in different versions for stop-and-go or free-flow traffic scenarios.

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Open Traffic Systems (page 149)

Open Traffic Systems is a company dedicated to the study and development of engineering solutions in different spheres of the industrial sector. Its mission is to participate in the continued success of its customers by producing high-quality and innovative solutions by listening to and understanding their requirements.

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Park Assist (page 139)

Park Assist develops infrastructure technology with a focus on parking and transport. The company launched two products in 2010 that it considers to be the next generation of smart transport systems: on-street wireless sensors and a camera network for indoor car parks that can identify the exact location of any car in real time.

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Mobility & Sustainability Solutions

ParkHelp (Outside Back Cover)

ParkHelp was set up in 2006 and became a world pioneer in developing IP connection products and applications. ParkHelp offers solutions for improving urban mobility with the challenge of making it sustainable. The company is present in more than 45 countries with an installed base of more than 200,000 parking spaces, with subsidiaries in Brazil and the USA. ParkHelp improves mobility and sustainability through parking space management, working in both on-street and off-street applications, including airports and shopping malls. ParkHelp solutions have many benefits: preventing car park congestion; saving time in finding a space; reducing CO₂ emissions; and increasing turnover on peak days, resulting in greater flow to the car park. This increased spending provides increased revenue to the operator and an increase in net income for the owners.

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PDSystems (page 91)

PDSystems specialises in traffic safety solutions. The company's goal is to produce and deploy systems for traffic smoothing and increasing safety in a way that provides drivers and other participants in the road traffic sector with key information in time. The company has been successfully operating across the whole of the Czech Republic for many years.

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Pexco (page 7)

Based in Atlanta, Georgia, USA – and with seven plants in the USA and Mexico – Pexco is a leader in the design and fabrication of extruded plastic products. Davidson Traffic Control has long been recognised as a leading manufacturer of high-quality traffic and highway safety products, which include the FG 300 high-impact resistant delineator posts, temporary pavement markers for chip seals and two versatile curb systems. Davidson also manufactures Types I & II, ADA-compliant barricades, guardrail delineators, barrier markers, snow poles, pedestrian safety signs, and more.

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Prisma Teknik (page 131)

Prisma Teknik has 20 years' experience of developing and manufacturing unique, high-quality products with advanced and reliable technology. Its three product areas are pedestrian signals, deflection indicators and push buttons.

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Reklamidé (page 49)

Reklamidé of Sweden is an expanding company that provides consultancy, problem-solving and patented products for the sign industry worldwide. Products include the RollsRoller Flatbed Applicator and EZ System. The RollsRoller Flatbed Applicator is a new production technology that removes bottlenecks in the production chain. All companies that work with self-adhesive foil can benefit from using a RollsRoller. Almost 1,500 companies worldwide have already discovered this, and have made RollsRoller part of their business concept. The RollsRoller creates its own capital and pays for itself by doing the job in one-third of the time required for manual application.

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