A safe journey into the digital future

Safe rail operation

Pilz is your partner for standardised, safe industrial components and systems for railway technology. Modular hardware and the simplest programming give our solutions unparalleled flexibility. For this reason, railways customers all over the world use our components and systems in a number of applications. We offer customer-oriented solutions for the railway industry in over 50 countries.

Many years of experience in safety

Safety is our core competency. No matter whether public transport or private railway, transportation of passengers or cargo – as a customer from the safety-related railway sector you will benefit from over 70 years of experience that we have in safe automation technology. Our solutions have proven themselves in the industry and are tried and tested in railway applications.

Ready for digitisation

Innovation plays an important role at Pilz. We transform ideas into market-ready innovations and make them railway-compatible. We are therefore the right partner for a changing railway industry that has committed itself to digitisation.

PILZ
THE SPIRIT OF SAFETY

Simply safe automation

We know that safety is the top priority of the railway industry. You can rely on the proven automation system PSS 4000-R and the visualisation software PASvisu for safe and fast processes.

Specially developed for the railway industry

The automation system PSS 4000-R(ailway) was specially developed for the railway industry based on the industry-proven system PSS 4000. PSS 4000-R is certified in accordance with CENELEC and satisfies fire protection requirements to EN 45545. It stands out thanks to its particularly robust design and thus meets the high requirements of the railway sector. Additional benefits include intuitive programming with editors standardised to EN/IEC 61131-3 and Ethernet-based communication.

Safe and robust for the railway industry

- Trouble-free at an ambient temperature of -40 °C … +70 °C on rolling stock (Class TX in accordance with EN 50155) and in signalling and telecommunications apparatus (Class T1 and T2 in accordance with EN 50125-3)
- Withstands mechanical load caused by vibrations and shocks on rolling stock (Category 1, Class A and B in accordance with EN 61373) and in signalling and telecommunications apparatus (track area 1 … 3 m in accordance with EN 50125-3)
- Electromagnetic compatibility (EMC) on rolling stock (EN 50121-3) and in signalling and telecommunication apparatus (EN 50121-4)

Symbiosis of control system and visualisation

The visualisation software PASvisu is perfectly tailored to the automation system PSS 4000-R. With this, you have an eye on your complete system. Your benefit: Acceleration of your projects from engineering through runtime to maintenance thanks to the ability to identify and localise faults and errors rapidly.

Clear path for digitisation

The railway industry is changing. Digital and networked solutions are the future. We know what's important when it comes to future-oriented solutions and we can accompany you on the path to digitisation from the very start.

More powerful and efficient through modernisation

Large investments are required for the refitting and technical overhaul of older level crossings. We offer modern, economical control systems that are simply safe. It is possible to reuse prevalent automation functions without any difficulty thanks to modern hardware and powerful software. Once programmed, these control systems can be used for various applications. You thus save time during commissioning and can lower your investment costs!

Ready for Railway Technology 4.0

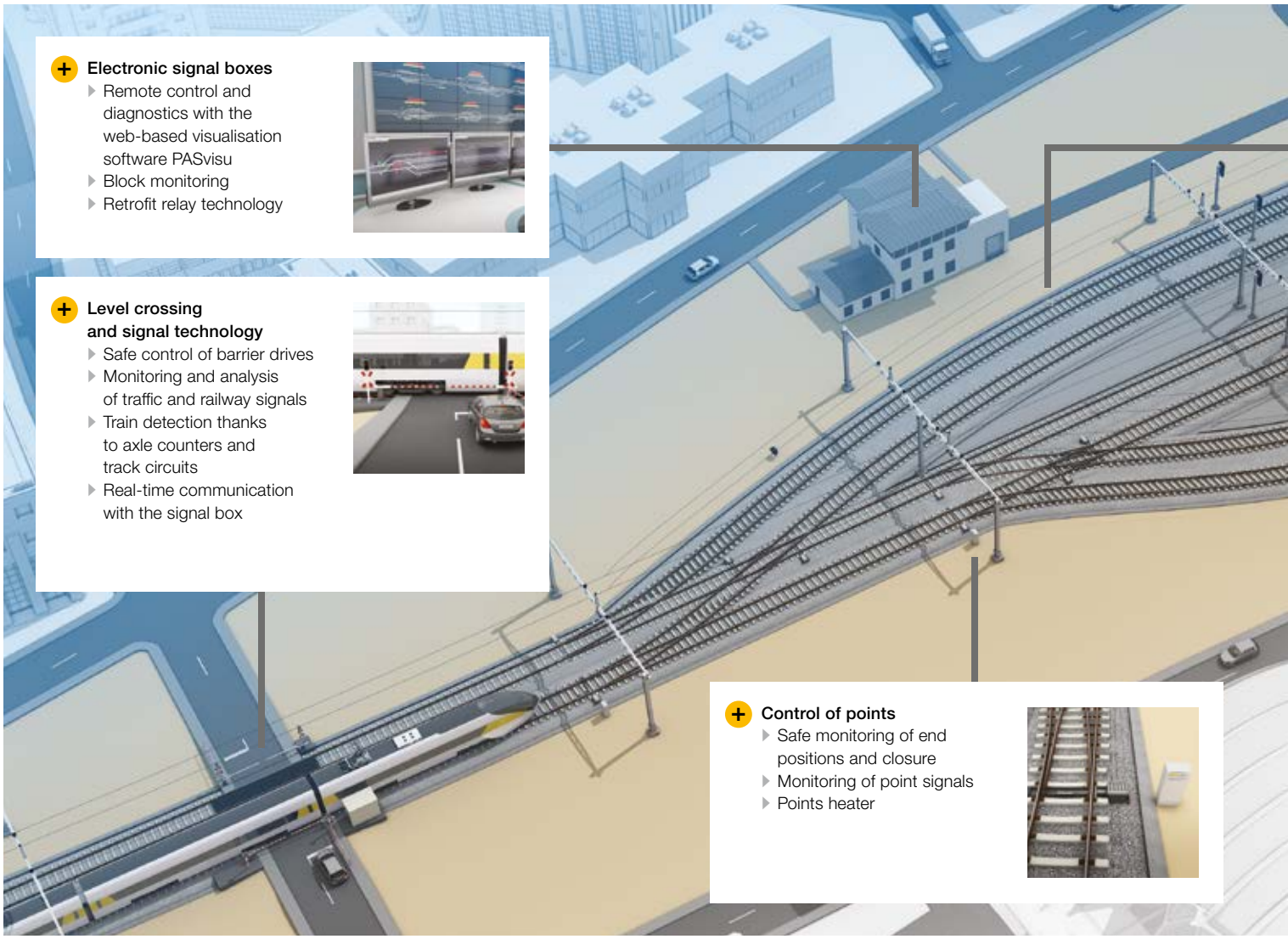
The automation system PSS 4000-R is used in a number of railway applications. In combination with decentralised I/O systems, an optimum structuring and networking of systems extended over long distances is possible. Transfer is not sensitive to interference due to the use of fibre-optic cables. In addition, you can easily integrate the automation system into existing systems. A subsequent expansion to include additional input and output modules can be performed quickly and easily thanks to the modular design!

Preventative maintenance

Would you like an insight today into how the technical state of your control and safety technology will be tomorrow? Trust our monitoring solution, comprising our automation system PSS 4000-R, the visualisation software PASvisu and the IIoT gateway Revolution Pi, for example. The IIoT gateway sends data regarding the control of automation system PSS 4000-R such as vibrations, temperatures, power consumption and times to your cloud. You thus have global access and can use this data to determine when the next maintenance should be carried out.

Our solutions for safe rail operation

Our automation system PSS 4000-R has already proven itself in many applications.
Take a look to see which solutions we can implement for your control and safety technology.



Electronic signal boxes
- Remote control and diagnostics with the web-based visualisation software PASvisu
- Block monitoring
- Retrofit relay technology

Level crossing and signal technology
- Safe control of barrier drives
- Monitoring and analysis of traffic and railway signals
- Train detection thanks to axle counters and track circuits
- Real-time communication with the signal box

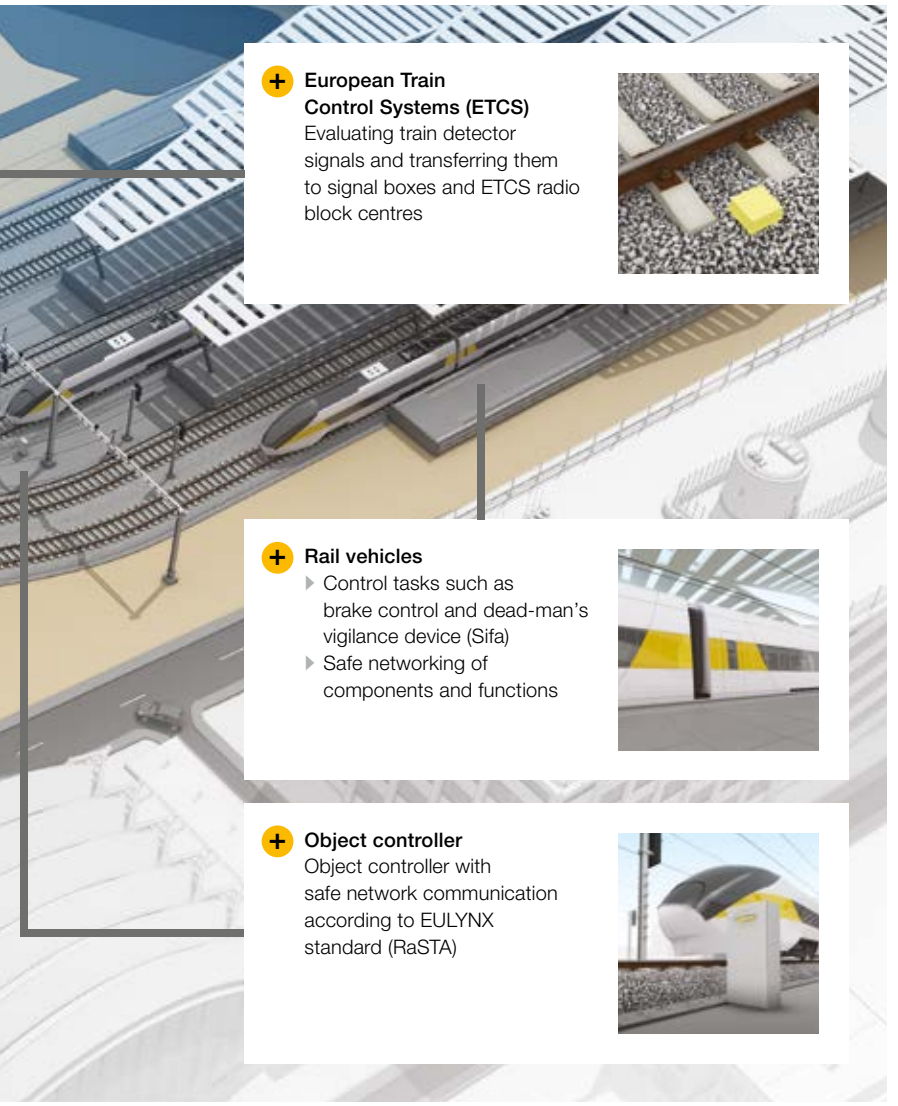
Control of points
- Safe monitoring of end positions and closure
- Monitoring of point signals
- Points heater

Safe shunting via radio

On the Lok TRAXX from Bombardier, PSS 4000-R checks the plausibility of the signals – e.g. speed – from the radio remote control to the locomotive control. If necessary, PSS 4000-R initiates emergency braking.

Metro in Antwerp more punctual

The software-based automation system PSS 4000-R replaced the outdated control systems of the Antwerp metro in 2015. The control systems are thus more reliable, more effective and more efficient.



European Train Control Systems (ETCS)
Evaluating train detector signals and transferring them to signal boxes and ETCS radio block centres

Rail vehicles
- Control tasks such as brake control and dead-man's vigilance device (Sifa)
- Safe networking of components and functions

Object controller
Object controller with safe network communication according to EULYNX standard (RaSTA)

Your benefits at a glance
- Decentralised, expandable I/O modules deliver the greatest possible flexibility in the automation system
- SIL-4-capable compliant with CENELEC standards EN 50121, EN 50125, EN 50126, EN 50128, EN 50129, EN 50155, EN 45545 and EN 61373
- Safe network connection over long distances with SafetyNET p, the real-time Ethernet-based protocol
- Possibility of remote maintenance, diagnostics and visualisation with PASvisu
- Maintenance of performance in the intense ambient conditions of railway applications
- Reduced approval work thanks to certified base system in accordance with CENELEC/TÜV

Safe remote control solution for signal boxes
Together with 'VPS Verkehrsbetriebe Peine-Salzgitter GmbH', Pilz has planned and implemented a remote control solution that has yet to be matched. Faults and long cycle times are now a thing of the past!

Keep up-to-date on rail technology with Pilz:

Webcode: web8485

Online information at www.pilz.com

Support

Technical support is available from Pilz round the clock.

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Pilz develops environmentally-friendly products using ecological materials and energy-saving technologies. Offices and production facilities are ecologically designed, environmentally-aware and energy-saving. So Pilz offers sustainability, plus the security of using energy-efficient products and environmentally-friendly solutions.

Energy saving by Pilz

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Printed on 100 % recycled paper for the good of the environment.

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7-3-en-3-033, 2018-08 Printed in Germany