

elvigo

DETECT. CONNECT. PROTECT

Our new train warning
and safety system



Decentralised
control



Optimised construction
site safety



Disruptive
train detection

PRODES
PASSION FOR RAIL

Our technology changes the perspective

From an infrastructure-centred
to a vehicle-centred train warning system



Track construction site safety until now

- ✗ Time-consuming preparations
- ✗ Complex cable installations
- ✗ Error-prone hazard identification
- ✗ Manual alerting (human risk factor)
- ✗ Interference-prone signal transmission

Track construction site safety with elvigo

- ✓ Construction vehicle as warning centre
- ✓ Newly developed real-time location
- ✓ Automatic hazard detection
- ✓ Absolute localization of machines and personnel
- ✓ More safety and acceptance

elvigo

DETECT. CONNECT. PROTECT

Our innovative system for securing railway construction sites consists of several components

elvigo carry

Safety equipment and ultra-wideband (UWB) modules, worn on the arm or mounted on the helmet, warn workers tactilely, acoustically and visually of an approaching train. In case the workers enter the danger zone, the train is brought to a stop.

elvigo unit

The UWB modules permanently installed on the vehicle communicate with the **elvigo carry** and **elvigo pylon** modules. This radio network enables continuous real-time localization of both the construction vehicle and the workers.

elvigo master

The AI-based and specially developed control element on the construction vehicle acts as the centre of the warning system. On the one hand, it is used for localization, on the other hand, this control centre is used to coordinate the safety of the construction site.

elvigo pylon

The individual components are connected to each other via radio transmission. For this purpose, UWB modules are attached to the surrounding masts along the route, which serve as important nodes within the automatic train warning system.

DETECT.

Disruptive innovation is our mission

Our innovative solution takes a completely new approach to securing track construction sites. The main idea is a vehicle-centred warning. In our approach, the construction machine forms the centre of the warning system.

elvigo unit consists of UWB modules mounted on the vehicle and is connected to all other components. The **elvigo master** software continuously compares the incoming data in order to localize workers, construction vehicles and trains in real-time and detect hazards.

New, disruptive type of construction site warning

Unlike conventional construction site safety systems, the modular system does not rely on human risk factors and manual alarms for hazard detection, but functions autonomously.

In case workers come too close to the vehicle or are on a track on which a train is approaching, an alarm is triggered—collectively on the vehicle itself and for the workers via **elvigo carry**.

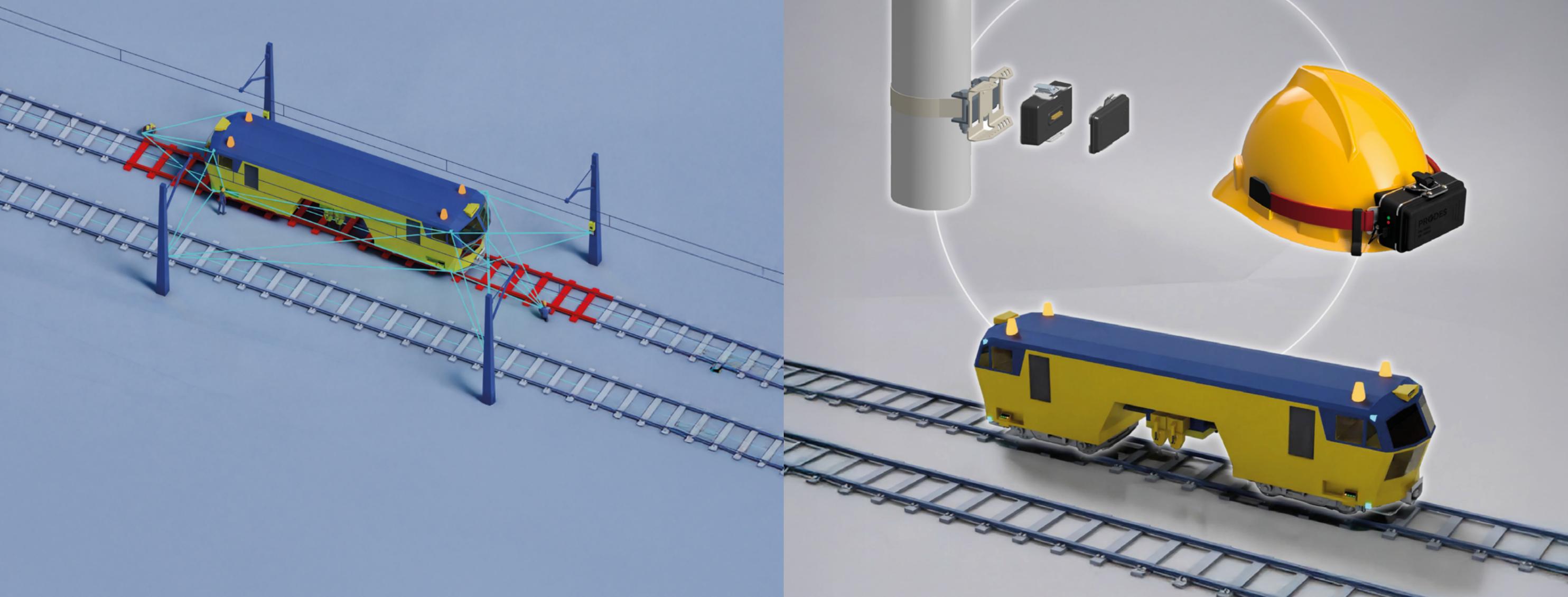
CONNECT.

UWB-based technology locates workers and vehicle

The basis for the new approach that PRODES offers in the area of track construction site safety is the radio network connecting the individual components. The data required for the calculation is transmitted via UWB radio technology.

The setup includes the connection of the construction vehicle modules (**elvigo unit**) via the control software (**elvigo master**) with the UWB modules on the surrounding pylons along the construction site route (**elvigo pylon**) and the workers (**elvigo carry**).

During the ongoing localization, safety is ensured via several elements of the system or via independent data streams. Workers are always localized via two independent UWB-based systems.



PROTECT.

elvigo makes work easier and safer

There are special requirements for the safety of workers. With our innovative system, we are setting new standards that increase safety and ensure user-friendly handling.



Housing:

Units developed inhouse and produced in Europe for the implementation in the railway industry



Localization:

The system always recognises the exact position



Software:

Specially developed AI-based localization and warning logic



Sensors:

The system also provides the option of detecting falls of workers



Radio connection:

Ongoing communication between workers, vehicle, masts and control software

PRIDES

PASSION FOR RAIL

What makes us different

Our company, based in Vienna, is committed to increasing safety. We work to maximise the safety of the railway system in all operational processes. In particular, the system should provide the greatest possible benefit to employees working on construction sites and provide them with the best possible protection from approaching trains and the construction vehicle itself.

Living disruption

We are not deterred by new approaches

Research and development

We are driven by the urge to find new solutions

Interdisciplinary understanding

We understand the railway as the sum of its subsystems

Holistic system optimisation

We always take a holistic view of optimisation

Our innovative power for you!

Get in touch with us to make construction sites safer
and more efficient with elvigo!

More information ↘



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