

## About SHERLOG

For 27 years, SHERLOG has specialized in security, search and monitoring of static and moving objects. The company uses its own radio frequencies for radar systems managed by its parent company SHERLOG Technology, a.s.

SHERLOG has a global presence, but it is a purely Czech company with Czech capital and its own development. We offer comprehensive product solutions to our customers. On the domestic market, SHERLOG is a leader in its field and among the top in Europe. SHERLOG's services are actively used by approximately 7,500 companies, not only in the Czech Republic and Europe, but also in South America and the Middle East.

## SHERLOG NG

In 2021, SHERLOG NG (New Generation) was spun off from the parent company SHERLOG TECHNOLOGY. The company is dedicated to special projects that can be tailored to customer needs or to the development of complete customized system solutions. For its projects, it uses SHERLOG Security's unique radio network and proprietary application monitoring solutions.

## Problems of regional rail transport

In the last two years there have been several accidents in the Czech Republic with loss of life and major material damage. If further accidents are to be prevented, solutions must be put in place to significantly improve the safety of rail transport.

## Solutions SHERLOG NG - mobile radio units RMJ SHG

Mobile radio units SHG are a new element for increasing safety on railway lines. Their task is to monitor traffic, detect potential collisions between trains and warn the driver of danger in time. They also allow the driver to send a distress signal in case of an emergency. They function like a number box and provide train position information with an accuracy of up to 40 cm.

One advantage is that SHG units are completely independent of third-party infrastructure, so they work reliably in tunnels, for example, even in places without GSM coverage.

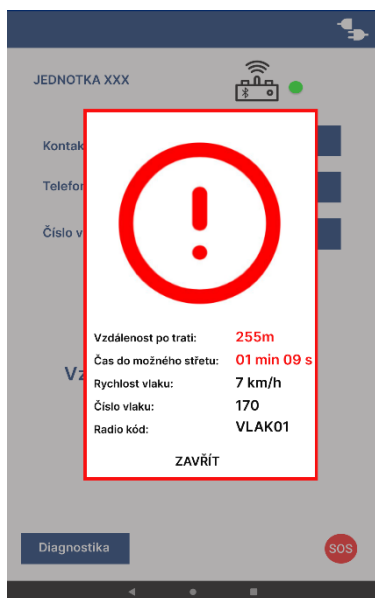
The deployment of SHGs on railway lines can make a significant contribution to collision prevention and the protection of passengers, personnel and property.



**Extended SHG functions - approaching train signalling for work crews on the line.**

**Signalling and warning for work crews on the line:**

The SHG radio unit is placed in the place where the work crew operates, for example in the tool bag... The unit can be connected via Bluetooth (BLE) to any authorized phone/tablet of the crew members. The unit automatically monitors trains in the vicinity and tracks their position, speed and direction. If a train approaches within a specified distance from the work crew, the SHG unit triggers a warning (sound and light signaling, phone/tablet notification, see picture) that informs the driver that there is a work crew on his track and informs the crew of the approaching train. Both units provide train/squad identification, position, train speed, time to possible collision.



**Technical characteristics of SHG - platoons**

**1. Technology.**

**2. Communication frequency:** the SHG units communicate in the 146.50 MHz band, which allows reliable and highly available communication between the units. Communication is encrypted and unbreakable. It is functional even in areas without GSM/GPRS signal.

**3. Peer-to-peer communication.** Communication is highly available, trains can see each other in difficult, rugged terrain and tunnels, even in places where phones and data don't work.

**4. Each SHG unit is equipped with a precision GPS chip that** allows continuous positioning of the train with an accuracy of 40 cm.

**5. Safety function:** the SHG units monitor a set of defined parameters, including the braking distance between trains.

**6. Stand-alone solution - SHR units** are a stand-alone solution that does not require external power supply or third party communication infrastructure (GSM/GPRS).

**Based on the tests, it can be concluded that equipping work crews with RMJ SHG units will substantially reduce the risk of accidents on the tracks.**

Examples of further use of the D3R unit

<https://www.sherlog.cz/cs/zabezpeceni-vlak>

