

The logo for ADTSOLUTION, featuring a stylized white swoosh above the company name in a dark blue, sans-serif font.

ADTSOLUTION

A photograph of the front of a yellow and white train. The train is equipped with the SRS (Safe Rail System) technology, which consists of white rectangular sensors mounted on the front bumper area. The train is on a gravel track. The image is overlaid with a yellow and dark blue diagonal graphic.

# SRS Safe Rail System

*The easiest way to capture  
underground utility assets*

**SRS is an integrated radar array system specifically developed for high-speed inspection of railway ballast quality, supporting restoration and maintenance activities.**

**The system is train-mounted, non-destructive, and operates at speeds over 300 km/h—without the need for track workers or service interruptions.**

**SRS enables:**

- **Continuous mapping of ballast thickness.**
- **Detection of low bearing capacity areas (e.g., ballast pockets).**
- **Differentiation between clean and fouled ballast.**
- **Identification of drainage issues.**



### System Specification

Max Acquisition Speed	280 kph @ 12 cm trace interval (up to 4 channels)
Power Consumption	35 W
Positioning	Doppler radar and/or GPS
No. of control units	2 synchronized DAD SRS PLUS
Scan rate per channel	700 scans/sec

Control unit



DataW



Frame



Antenna

Doppler Encoder



**Optimized  
maintenance  
decisions**



**Profitable  
continuous  
monitoring**



**Reduced  
operational  
costs**



**Simplified  
ballast  
analysis**



**High-speed  
GPR surveys**

### **ADTS Srl**

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## Seamless High-Speed Radar Mapping

SRS is equipped with special **400 MHz antennas** in a **non-contact configuration** mounted on the train. Radar data is acquired via dedicated software that provides operators with real-time, intuitive access to all critical information even at high speeds.

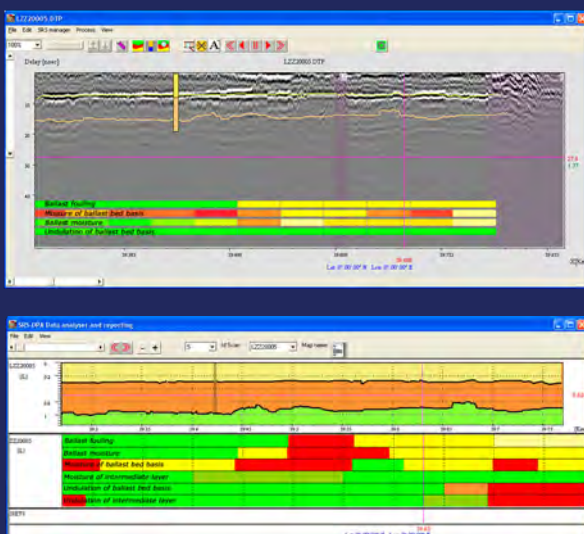
Key features include:

- Simultaneous display of radar maps for each antenna.
- Real-time train position via **Doppler radar encoder**, with optional **GPS integration**.
- Optional **video camera kit** for synchronized radar and visual data.

## DPA Suite – Smart Post-Processing Software

The **DPA suite** is the dedicated post-processing software for fast and accurate interpretation of SRS radar data.

Powered by advanced **automatic pattern recognition algorithms**, the DPA suite supports reliable ballast condition assessment and includes automatic detection of layer interfaces.



## Data Analyzer & Reporting

The data analyzer and reporting module provides the following functionalities:

- Layer interpretation view for each profile.
- Layer cross-section view.
- Statistical report of layer results for each profile, exportable as a text file.
- Data views can be saved as img files (BMP or JPG format).

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