Proposal

System for monitoring and analyzing the wear of wagon components in real time - Technical Condition Scanner of Wagons TCS (Technical Condition Scanner) 25V1
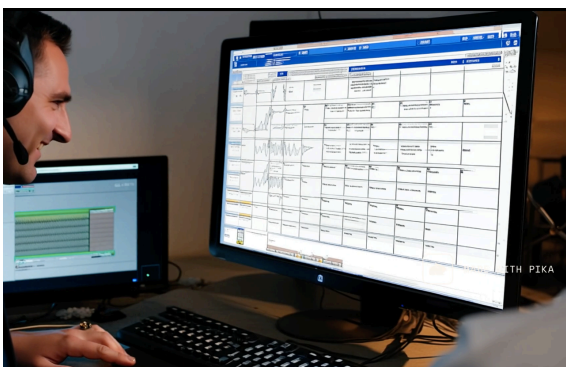

Solution for Safety and Cost Optimization in Rail Transport

What is TCS?

TCS is an innovative system for monitoring and analyzing the wear of wagon components in real time. Thanks to the combination of advanced hardware and software, TCS enables continuous tracking of key technical parameters, such as:

- **Wheel bearing wear level**
- **Wheel quality (ovality)**
- **Component temperature**
- **Brake wear**

Data is processed by designed algorithms and the results are presented in the form of detailed reports. The system can be integrated with existing fleet management systems via API, enabling automation of service processes.

Benefits for your company

1. **Reduction of Operating Costs**, i.e. Precise monitoring of parts wear allows for planning of repairs "just in time", avoiding costly failures.
2. **Increased Safety,** i.e. Continuous monitoring of the technical condition of wagons minimizes the risk of accidents.
3. **Process Optimization**, i.e. Automation of service management and spare parts orders.
4. **Global Implementation**, i.e. the System operates in real time, regardless of the location of the rolling stock.

Who is TCS for?
TCS is dedicated to:

- **Manufacturers, owners and operators** of rolling stock (passenger and freight)
- **Owners / users of wagons**
- **Companies dealing with maintenance**, servicing and repair of rolling stock
- **Manufacturers of components** and spare parts
- **Supervision and control institutions**, owners of roads and rail lines (railways, trams)
- other entities interested in data on the condition of rolling stock

Why TCS?
- - Unique technology on a global scale
- - Use of AI, blockchain and the latest measurement technology solutions (hardware)
- - Simple Implementation, the system is easy to install and integrate with existing infrastructure, can be configured for operation without the use of additional staff
- - Reduction of diagnostic costs, prediction and early response, as a result of automation, reduced human involvement
- - Effective solution that quickly pays for itself thanks to reduced service costs and better management of supplies of necessary components

Product development stage:
- 25V1 basic product - ready from 04/2025 (research / report service)
- work on automated prototype 25V2 - until 09/2025 (research / report service) and (product, (hardware + software + license + service))

We invite you to cooperate!

TCS – Innovative Solution for Modern Rail Transport!

note: The TCS system is covered by an "e-Patent" secured in the blockchain as intellectual property (IP) algonum.org © 2025, as a result of further product development, further intellectual values will be created.