

Challenge for Railway; *Automatic train maintenance*

**How can we optimize the train maintenance
overhaul and inspection processes
automatically?**

Challenge definition template

15/02/2022

The Why

As part of the maintenance of streetcars and metro stations managed by Globalvia, periodic visual inspections are performed. The synergy between human and technological visions have been beneficial to further increase safety and reliability in the inspections.

The Context

Currently, when a train starts or ends service, an operator from Globalvia's technical team performs a visual inspection of the exterior (deck, roof, and undercarriage) in order to verify that all components are in order. This inspection takes 5-10 minutes per train. Therefore, we are looking to make this process more efficient with the help of technology. One of our objectives is to improve the availability of rolling stock while facilitating the work of maintenance operators.

How might we optimize the train maintenance overhaul and inspection processes automatically?

What are we looking for?

We are looking for innovative solutions that allow Globalvia to optimize the processes of exterior overhaul and inspection and predictive maintenance of key components.

Please note that they must be scalable solutions.

- ✓ *Computer vision solutions*
- ✓ *Artificial Intelligence solutions*
- ✓ *Solutions involving sensors, thermographic cameras, etc.*
- ✓ *Any solution applicable to the challenge*

This is not an exhaustive list of solutions so if you think your idea can help us to solve this challenge, we look forward to hearing it from you!

