



Digital Logistics Planner

Gamification for higher track availability



Problem description

Use digital technology to optimise planning, logistics and cooperation in switch replacement projects.

Maintenance projects in areas with intense traffic or urban environments often present several challenges:

- › **Disruption to train operations:** Installing new turnouts requires closures or significant interruptions to railway operations.
- › **Complex engineering:** Projects like this requires a high level of expertise. Short preparation time can lead to budget overshoot and unexpected disruptions.
- › **Sensitive logistics:** Vehicles are often moved unnecessarily or trapped during track removal. Also, lifting large turnouts can be a risk to other installations.
- › **Safety risks:** Installing turnouts can expose workers to risk. Proper safety measures must be put in place.

Solution description

A web application (Unreal engine) allows a detailed simulation of the planned maintenance project.

- › Unreal gaming platform used for visualisation of planned projects.
- › Backend connection to customer data sources.
- › Combining input from track layout, satellite photo and point cloud/photo geometry.
- › Trains, turnout modules and lifting equipment/Kirow-cranes are imported from BIM-models.

- › Different scenarios can be animated to evaluate train movements and lift operations.
- › Also possible to show storage areas for turnout modules.

Higher efficiency in track work

More turnouts in track in less time

- › Reduced traffic downtime with short track closing
- › Improved efficiency and collaboration
- › Improved safety
- › Improved logistics
- › Improved risk management



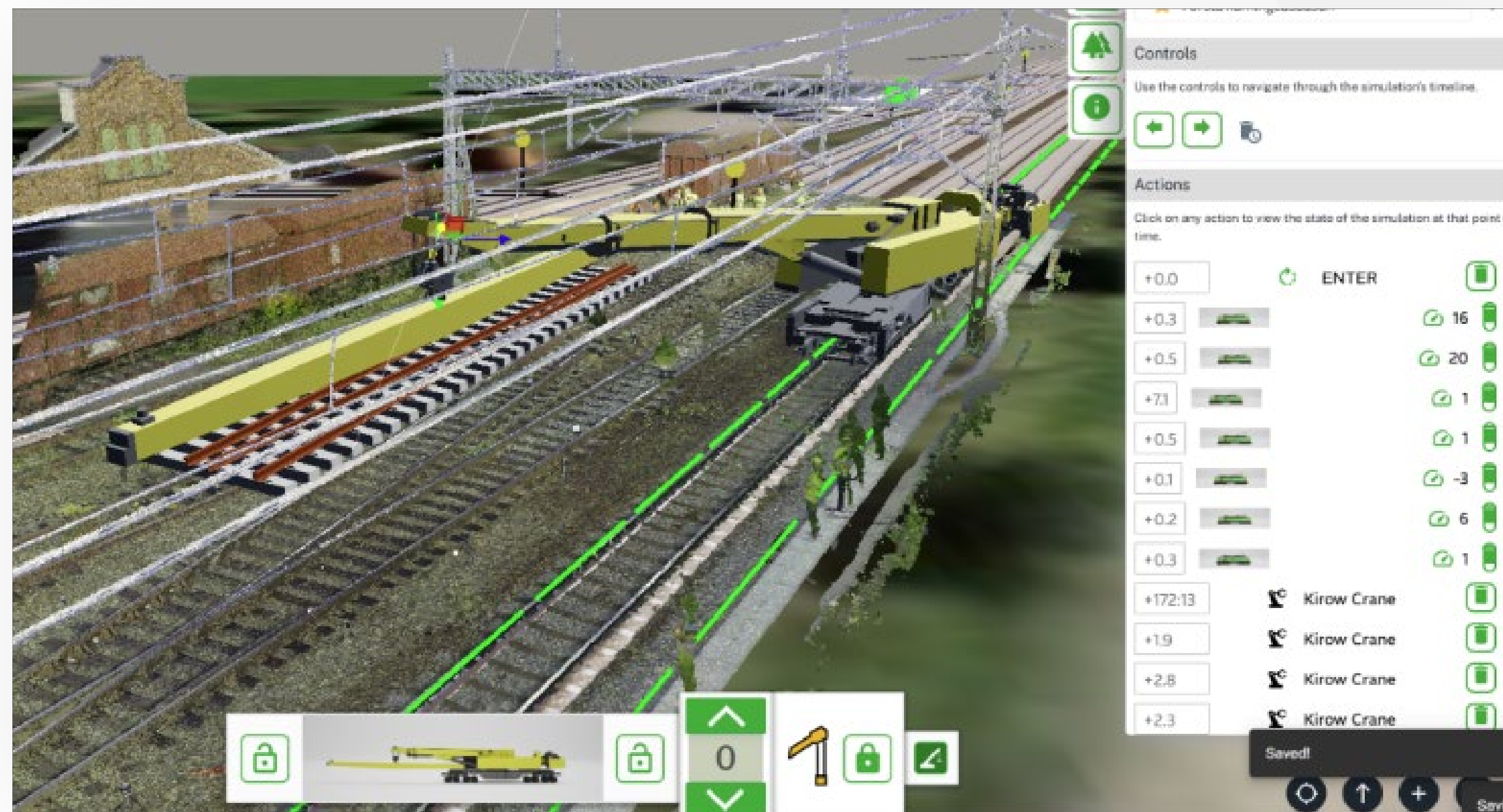


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Additional Features

- › The solution can use any source with sufficient information of the surroundings. It can be a point cloud, a BIM model, etcetera.
- › If no source is available, a site scan can ensure the appropriate rendering of the track and various elements around that will impact operations: poles, assets, cabinets, fences...
- › Web application with cloud platform, accessible from any device
- › Direct import of native Laser Rail Scanning (LRS) files



Additional Highlights

- › Easy to use
- › Visualises procedure to non-specialists
- › Significantly reduces risks in planning

