The CrossProduct

Automated Clash Detection

Why choose The Cross Product?

AI AND 3D LIDAR FOR INFRASTRUCTURES

PRECISE TOOLS

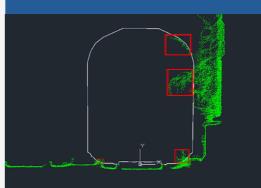High precision, an advantage over manual solutions

SPEED OF EXECUTION

Automation representing costs reduction and time saving

CLOUD PLATFORM

Integration into processing chains. Calculations performed on the cloud

PROPOSITION PREPARED BY

THE CROSS PRODUCT

A SOLUTION ADAPTED TO YOUR BUSINESS

Responding to your needs

- Simulate the passage of a wide load or a new model of train in order to identify the risks of collision between a virtual train envelop and its environment

- Optimize preventive maintenance and schedule intervention work according to the respect of clearance and safety distances

We propose an algorithm combining **artificial intelligence** and **business knowledge** to accurately recognize **potential risks of collision** in a railway infrastructure.

Our software performs a simulation of the passage of a virtual train envelop allowing a **complete** and **precise analysis** of **the safety distances**.

Our solution is **100% automated**, **reliable** and **fast** to meet the needs of predictive or corrective maintenance.

An algorithm adapted to the **linear networks**, capable of processing multiple sections in parallel and concatenating the results to obtain a **global view**.

Our dynamic train envelop simulation takes into account parameters such as **horizontal curvature**, **vertical curvature**, **superelevation** and **train speed.**

Input Data

- 3D Point cloud (LAS/LAZ/E57)
- 3D polyline of each rail (SHP/DXF)
- 3D polyline of the track axis (SHP/DXF)

Output Data

- 3D positioning of the train envelop (DXF/SHP)
- Cross-sections (DXF/PNG)
- Collision report (CSV)
- Ortho-image summary (PNG)

Compatibility

- Platforms (API)
- Any device with a web browser and an internet connection

Can be integrated into point cloud processing platforms

Large-scale use throughout railway network

Pricing by kilometer or by subscription

Accessible on:

Scaleway · aws · Azure · e-cassini · Alteia · setec

Contact us

contact@thecrossproduct.com

Products	Railway	Highway	Industrial Site
Classification	Semantic & Panoptic	Semantic & Panoptic	Semantic & Panoptic
Vectorization	Rails and Track Axis	Ground markings, safety barriers	Overhead wires and equipment
Professional Application	Clash Detection Reverse Engineering	Clash Detection Reverse Engineering Compliance	Safety distance verification

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TheCrossProduct

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