The Cross Product

Automated Clash Detection

Why choose The Cross Product ?

AI AND LIDAR 3D FOR INFRASTRUCTURES

PRECISE TOOLS

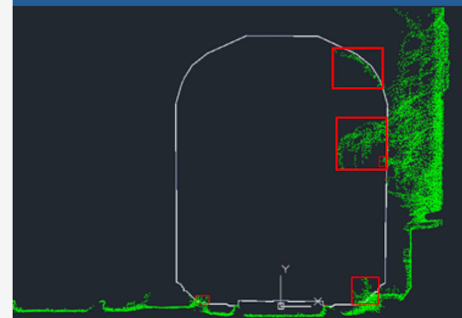High precision, an advantage over manual solutions

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 an wide load or a new model of train in order to identify the risks of collision between a virtual railway gauge 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 railway gauge allowing a **complete** and **precise analysis** of **the safety distances**.

Our solution is **100% automatic**, **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 simulation takes into account parameters such as **horizontal** and **vertical radius of curvature, track tilt** and **train speed.**

Input data

- 3D Point cloud (LAS/LAZ/E57 format)
- Vectorized Rails (SHP/DXF)

Output data

- 3D positioning of the train gauge in a point cloud (DXF/SHP)
- Cross-sections of the study (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

Already available on

e-cassini   Alteia   setec

Products	Railway	Highway	Industrial site
Classification	Semantic & Panoptic	Semantic & Panoptic	Available soon
Vectorisation	Rails and track axis	Ground markings, safety barriers	Available soon
Professional application	Clash detection	Reverse engineering	Available soon

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