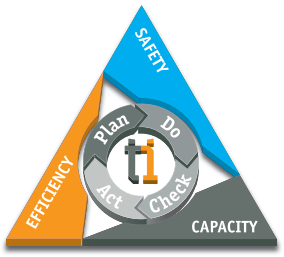
Dual Inventive

Ubiquitous Rail

Dual Inventive strongly believes in the further development and utilisation of the 'railway system' as a sustainable and attractive transportation mode in the future.

Dual Inventive develops and produces innovative technology systems that serve to make the railway infrastructure safer and more efficient, to maximise rail capacity, and to improve the reliability of the railway infrastructure.



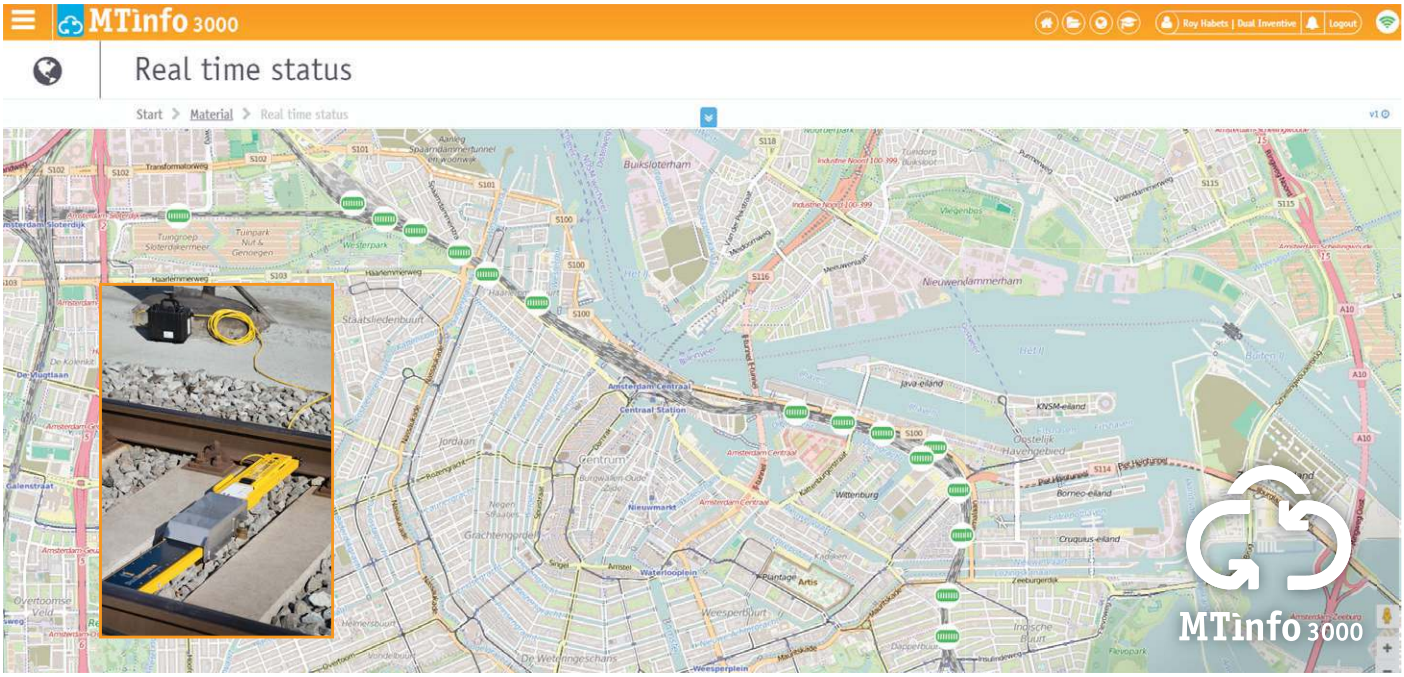
Based in the Netherlands, the United Kingdom and Belgium, Dual Inventive collaborates actively in (inter)national partnership projects to develop innovative technology systems.

Please visit www.dualinventive.com for more information.

Amsterdam project ZKL 3000 RC Case Study

Background

Train operating companies are aware of the demand for more and faster train connections. This demand is mainly relevant from a societal perspective (accessibility of national and international cities) and economic centres. Train operating companies want to keep intensifying future railway traffic.
Due to the intensive railway traffic, frequent track maintenance is necessary. Rail transport organisations are concerned about long term decommissioning periods (blockades or weekend possessions) to execute the works. They prefer shorter and even midweek possessions to execute maintenance. Their fear is that, on the long term, lengthy decommissioning will cause travellers and other users to opt for other means of transportation.



Objective

In order to meet the wish to perform a maximum amount of maintenance work using shorter possessions, maintenance contractor Strukton Rail, commissioned by rail infrastructure manager ProRail, used an innovative work method to take and give up the possessions.
By implementing a more efficient and secure worksite safety management and working method during works, the maintenance contractor's production time can increase by 20%. Additionally, the safer working method will notably reduce the risk of irregularities. This contributes significantly to the rail infrastructure manager's objective to execute more works during the shorter possessions, as well as meeting the train operating companies desire to keep the disruption for rail traffic to a minimum.

Clever maintenance with innovative possession management system Amsterdam

Using the traditional working method, the average time anticipated to implement and remove the safety measures during a possession is 1 hour. This is done at night, working against the clock with mistakes frequently occurring when the protection is placed incorrectly or on the wrong track.
In conjunction with Dual Inventive, a method has been developed to organise the safety measures with one press of the button. All around Amsterdam approximately 100 ZKL 3000 RC units (Line Blockage system remotely controlled) have been semi-permanently placed in the track sections. These will remain in place for a two-year period, after which they need to be calibrated. Via remote switching, the ZKL 3000 RC is activated causing the signalling system to show the track as occupied subsequently closing the section for railway traffic. One or more ZKL 3000 RC units can be remotely switched on and off with one press of the button. This gains a great amount of time and is safer because it reduces the need to enter the track to place or remove the protection.

AMSTERDAM	Added value
ZKL 3000 RC system, Results 1 year Remote Control Technology  **Since the introduction of the ZKL 3000 RC system to the Dutch rail network, more than 11 million hours of experience have been built up.**	Efficiency: Implementing Remote Control Technology to create a work site increases efficiency. The production time can be increased by up to 20%. Availability: Flexible, efficient track access also possible between trains. Capacity: Reducing time spent implementing and removing safety measures reduces time taken to return to operational railway. Safety: Pre-installation of equipment allows testing of the safe system of work at a time that does not have production pressures. Subsequent operation of the devices can be done from a place of safety. The system meets SIL-4 in conformity with EN 50129. In Control: Since all ZKL 3000 RC's are connected to a secured server, one is completely in control. MTinfo 3000 offers real-time and retrospective monitoring, status overview and reports for operational systems.