

2000 IoT sensors to monitor rail infrastructure assets in the Netherlands

Strukton company Dual Inventive is to deliver 2000 Internet of Things sensors to Dutch railway manager ProRail. ProRail will roll-out the sensors in the coming months to monitor point heating and other rail assets in the Netherlands. Point heating prevents snow or ice from blocking points. Monitoring the point heating systems should improve the availability of the railways for train traffic.

The sensors are equipped with a temperature gauge to verify whether the heating is working. 1,500 Sensors will be installed on points with point heating and 500 sensors will be used for other rail systems including barriers and catenaries.

TESTS WITH INTERNET OF THINGS

ProRail and KPN performed tests with IoT sensors at point heating systems at Utrecht Central Station two years ago. Following the positive results, the railway manager decided for a nation-wide rollout of 1,500 sensors for point heating monitoring. The contract was won by Strukton company Dual Inventive.

This is one of the steps made by ProRail in the digitisation of the railways and the use of big data. Johan Schaap, manager Infra Availability at ProRail: "We want to gain experience with the application of new technology such as sensors. The sensors will be available for the four maintenance contractors that are active in the performance oriented contract areas (PGO's) in the Netherlands. They will be able to use the available data in their daily operations."

APPLICATION OF SENSORS

The application of the IoT sensors of Dual Inventive is cost-effective and easy to realise. We can install the sensors at the points using magnets, after which the sensor data will be directly available online. The sensors can measure the temperature of the rails, which directly indicates whether the point heating is switched on. During the summer, the sensors can be used to detect whether rails may expand due to high temperatures.

COMMUNICATION NETWORK

The sensor data are made available through the MTinfo 3000 Cloud monitoring platform, which is also used for other systems such as the remotely controlled ZKL RC line blockage system.

Lex van der Poel, managing director at Strukton company Dual Inventive: "We are pleased to contribute to the digitisation of the Dutch railways. We have 10 years of experience in the application of IoT technology in the rail industry. Having started in the Netherlands, we are now also contributing to the digitisation of railways in the UK on behalf of Network Rail and we advise rail infra managers worldwide to realise IoT in railways in a safe and sustainable way, involving the selection of the IoT infrastructure, communication networks, safety and cyber security."