

<b>Research theme</b>	Maintenance engineering
<b>Research title</b>	Towards detecting physical irregularities in the Dutch catenary system using FBG sensors on in-service trains: a pilot study
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<b>Research period</b>	From 01-06-2015 to 31-03-2016
<b>Company</b>	Ricardo Rail
<b>Supervisor</b>	Braaksma

## *Background*

Dozens of catenary incidents happen in the Netherlands every year. With the Dutch tracks being densely travelled, these incidents have a high operational impact on the punctuality of trains. To improve incident prevention, Ricardo Rail has developed the InfraMonitoring concept, where it measures the interaction between train and infrastructure to detect degradations in an early stage.

## *Assignment*

To evaluate to what extent a proposed sensor concept is feasible to detect physical irregularities in the Dutch catenary system.

## *Results*

The sensor concept has been adjusted to Dutch railway applications, the functioning of the sensors are evaluated in lab conditions, the concept has been implemented onto a passenger train, measurement results are evaluated and the concept is found to be capable of detecting irregularities and offering the possibility to perform trend analysis.

## *Personal experience*

Great colleagues, plenty of opportunity to learn new things (both practical and theoretical), excellent guidance towards in-depth knowledge and the process of graduating, and finally, many “borrels” are organized on a regular basis.