OptaSense®
A QINETIQ company

Rijkswaterstaat completes successful trial of OptaSense Traffic Monitoring Solution
First deployment of fibre-optic-based traffic monitoring in The Netherlands

Project Overview

During 2018, Rijkswaterstaat, the Dutch Ministry of Infrastructure and Water Management, completed a successful trial of the OptaSense® Traffic Monitoring Solution on the A58 motorway between Tilburg and Eindhoven. The project was delivered in partnership with Cisco® Systems and demonstrated the viability of OptaSense's distributed fibre-optic-sensing-based traffic monitoring solution as a data source for real time traffic information being displayed on overhead lane signals to inform road users of current traffic conditions and variable speed limits.

Business Drivers and Project Objectives

Rijkswaterstaat uses inductive loops extensively on their national highway system for providing real time 'lane signalling' traffic information. Traffic information from inductive loops currently feeds approximately 6,000 gantries and

15,000 overhead lane signals across the road network to warn road users of traffic jams. Due to the high costs of ownership and operational drawbacks associated with inductive loops, Rijkswaterstaat initiated an extensive program to investigate alternative technologies. The OptaSense solution was selected due to its unique ability to convert existing roadside optical fibre into an intelligent sensor delivering highly accurate traffic information using roadside technology that overcomes the operational issues associated with inductive loops.

As part of the project, OptaSense delivered a live data feed to a demonstrator to prove that the OptaSense solution could provide a viable real-time feed for Rijkswaterstaat's lane signals. Cisco Systems delivered edge computing for (near) real-time high-volume data transport to their Kinetic cloud platform for data analytics. Additionally, the performance of the OptaSense solution was validated by an independent

Background:
- A58 Motorway - The Netherlands
- Assess performance of fiibre-optic-based Traffic Monitoring Solution
- Delivered for Rijkswaterstaat in partnership with Cisco

Solution:
- OptaSense Traffic Monitoring Solution delivering:
    - Average Speed
    - Journey Time(s)
    - Congestion Detection
    - Queue Detection

Value Delivered:
- Real-time lane signal feed
- Independently validated performance
- Potential to deliver significant reduction in cost of ownership

research organisation who concluded that the information delivered by OptaSense replicated the existing inductive loop technology to a high standard.

Future Opportunities

Rijkswaterstaat intends to deploy fibre-optic-sensing-based traffic monitoring solutions onto further roads to reduce its reliance on inductive loops. It will also continue its wider program to improve the quality of traffic information delivered to its customers and assess the benefits of fusing fibre optic sensor traffic information with other sources such as floating car data, which uses cellular data to determine the traffic speed on the road network.

OptaSense is the trusted partner for fibre optic sensing solutions worldwide, supporting customers in more than 50 countries and more than 37,000km of assets under contract.

Deployment Options

The OptaSense Traffic Monitoring Solution can deliver the following real-time traffic monitoring applications:

- Average Traffic Speed
- Automated Congestion Detection
- Automated Queue Detection
- Average Journey Times
- Vehicle Count
- Flow Rate

To learn how the OptaSense Traffic Monitoring Solution can improve your ability to make effective traffic management decisions, contact an OptaSense representative.

OptaSense®

A QINETIQ company