UNIVERSITY OF TWENTE.

Bachelor & Master projects

Bedrijf en locatie	University of Twente
Type project	Bachelor & Master project[1]
Project achtergrond/context	For road infrastructure, traditional Pavement Management Systems (PMS) rely heavily on post-construction visual inspection data collected using a variety of mobile apparatus including road surface inspection vehicles, camera imaging and others. These apparatuses are rather invasive, expensive to run and sometimes require that the road be closed for traffic, something that road authorities want to prevent, given the need to keep traffic flowing. Therefore, there is a need to develop Structural Health Monitoring (SHM) systems that are non-invasive and present opportunities for automating the data collection process. Fibre optics presents such opportunities. The University of Twente will be reconstructing its main entrance before the summer of 2021. Three asphalt layers will be replaced in Drienerlolaan and a new Ovonde constructed (an oval roundabout). Fibre optics will be installed in the asphalt layers so that strain and temperature data can be collected during the life of the asphalt layers.
Onderwerp	Develop, install, evaluate, and validate a basic SHM system using Fibre Optics
Onderzoeksmethodes	Literature review, conduct field tests, develop and analyse Finite Element Models (FEM) from the collected data, report on the results.
Start	Proposal writing to start asap and the actual project to start at the ASPARi unit in Civil Engineering in April 2021.
Contact UT	Seirgei Miller s.r.miller@utwente.nl [2]

[1] The scope of the project will be tailored to the academic requirements of our bachelor and master projects.
[2] Please note that external supervision of the project will be provided by an expert from one of the contractors aligned to the ASPARi network.