SETTLEMENTS: PREDICTIONS, POST-DICTIONS AND CONTRADICTIONS

The prediction of settlements in the field of geotechnical engineering is a task filled with uncertainties. So much, so that even the official design guidelines use a factor 2 for settlement predictions.

To improve the reliability of settlement predictions in real time projects, a full-scale test embankment is often made at the project site at the beginning of the project, to monitor the local settlement behavior.

This study aims to use the test embankments of several projects to investigate which geotechnical parameters are the most critical for making more reliable settlement predictions and how these parameters can be better determined in advance from laboratory tests.

Using scripting (preferably in python), Monte Carlo analyses will be performed to quantify the reliability of predictions.

Your task is to investigate which laboratory investigations (if any) specifically add value to the reliability of a prediction, or whether an equally reliable settlement prediction can be made based on correlations of (some) parameters directly from field investigations.

The results of this research will be applied directly to an ongoing project.

Interested?
Get in touch with Joost Vervoort
J.Vervoort@arthecs.nl

Do you already have an interesting topic but nobody to guide you ? Get in touch with us and we can look for possibilities together.