



## ELECTROCHEMICAL PROCESSES FOR THE REMOVAL OF CONTAMINANTS FROM WASTE STREAMS - INTERNSHIP



### GOAL AND ACTIVITIES

The goal of this internship or graduation project is to develop, design and test an electrochemical system/process for the removal of pollutants from wastewater. During that assignment, series of lab scale experiments will be performed with industrial waste streams from various origins. The data collected will be analysed and translated in use for a full-scale design. Moreover, an estimation of the investment and operational costs will be investigated based on the experimental data.

### BACKGROUND

Climate change and the continuous population growth are key contributing factors to clean water shortage worldwide. One way to mitigate the rise of water scarcity is by improving the efficiency of wastewater treatment process and the possibility for water reuse. Treatment of wastewater often requires a significant amount of chemicals. Usage of chemicals affects both the effluent quality, as well as the generated sludge. The treated water is characterized by a high salt content, which thereafter must be decreased to the desired discharge or reuse effluent quality level. As an alternative, electrochemical processes can provide similar treatment results. Electrochemical technologies have certain advantages which include robustness, ease of operation, simple equipment, less treatment time, use of less or no chemicals and smaller amount of sludge produced.

### WHO ARE WE

Nijhuis Industries delivers 'solid solutions in a fluid world' as a response towards a greener economy. Nijhuis is aiming to turn cost centres into profit centres with solutions for sustainable water use and resource recovery. To accommodate the customer requirements, Nijhuis offers Design, Build, Finance, Operate and Maintain (DBFMO) installations to meet today's challenges, as well those of the future, across a wide range of industries and municipalities in today's 'fluid' world. With more than 2400 references sites and activities in over 110 countries around the globe, it is our ambition to help customers and deliver solutions to:

- Reduce the amount of (waste)water and effluent charges;
- Reuse treated effluent or process water;
- Recover water and resources from your waste and (waste) water.

### INTERNSHIP SPECIFICATIONS

**Type of education:** BSc or MSc Chemical, Process or Environmental Engineering

**Location:** Nijhuis Water Technology, Doetinchem

**Duration:** 4 – 6 months

**Start:** September 2021

### MORE INFORMATION AND APPLICATION

If you are interested in an internship at Nijhuis Water Technology please send the following to Internship. [NWT@nijhuisindustries.com](mailto:NWT@nijhuisindustries.com):

- your motivation
- CV
- the period and duration of your internship