

# Towards Chemical Free Nutrient recovery from wastewater

## Utilising electrochemical processes



### Introduction

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.

Besides it has a negative environmental impact. As an alternative, electrochemical processes can be used to replace chemical consumption while maintaining treatment efficiency. Nijhuis Saur Industries is developing several systems where electricity is replacing chemical consumption to improve the sustainable character of their portfolio.

### Objective

The goal of this internship is to further develop an electrochemical process for recovery of nutrients and of other valuable process-products. During the internship a series of laboratory experiments will be executed, and a method will be developed to compare the efficiency of different process configurations.

Moreover, an estimation of the optimal process configuration will be made for a scale-up system, based on the data acquired in the laboratory.



#missionwater



### Internship specifications

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

**Supervisor:** Tuur van den Eijnde

**Location:** Doetinchem

**Duration:** 4 – 9 months

### Application

If you are interested in this internship at Nijhuis Saur Industries, please send the following to Iñigo De Eguren at [Internship.NWT@nijhuisindustries.com](mailto:Internship.NWT@nijhuisindustries.com):

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