

# Wastewater treatment plants of the future: brine treatment



## Introduction

Currently, nitrification-denitrification is the most common technique for the removal of nitrogen from municipal wastewater. In the future, municipal wastewater plants should become energy and carbon neutral. It is hardly possible to achieve these requirements with the nitrification-denitrification process in combination with more stringent discharge limits. Therefore, different treatment technologies are required. With ion-exchange the more stringent discharge limits can easily be reached. However, ion-exchange produces a concentrated brine, which should be treated and partially reused.

## Objective

The goal of this internship project is to develop a process which will separate the ion-exchange brine into a valuable nitrogen fertilizer, a clean brine suitable for reuse in the process, and a small waste stream which can be discharged.

During this internship you will investigate the feasibility of new brine treatment concepts by the combination of lab and pilot experiments with theoretical calculations.



## Internship specifications

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

**Supervisor:** Geo Smith

**Location:** Doetinchem

**Duration:** 4 – 6 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