

## Numerical modelling of a plate heat exchanger with partial phase change

### Description of the work

CEVAP Technology is a Dutch technology supplier of a unique evaporator design driven by low-grade waste heat. The heat supply of the Vacuum Multi-Effect Evaporator sees the implementation of a plate heat exchanger, where the cold side undergoes a partial phase change. A numerical model that can describe and predict the behaviour of the phase change in the heat exchanger will allow for:

- Optimization of the current process
- Correct dimensioning of the heat supply for larger evaporators.

The candidate will receive a comprehensive introduction about the working principle of the CEVAP Multi-Effect Evaporator, plus access to experimental data on a variety of fluids. The candidate will also be able to design and execute targeted experiments on a pilot Evaporator.



### Expected deliverables

The candidate will be required to independently perform a literature study on plate heat exchangers where liquids are undergoing a phase change, and use the findings to build a numerical model to approximate and predict the behaviour of the plate heat exchanger used on a CEVAP Evaporator. There is no preference on the modelling software.

### Period of graduation internship project

Expected duration of project: six (6) to nine (9) months. There is no preferred start date.

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