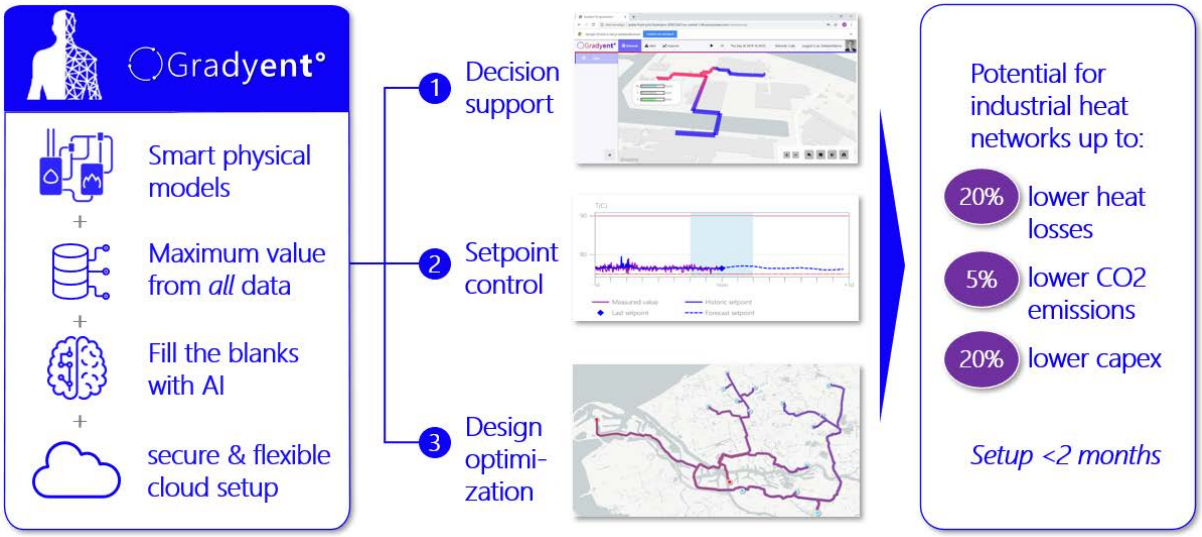
Rijksdienst voor Ondernemend Nederland

Public Final Report TSE - Feasibility Study [TESN119008]



- PUBLIC SUMMARY -

AI Optimization of Industrial Heat Networks [AI-IHN]

November 30th, 2020

A TSE feasibility project for the Topsector Energy of:

Sensorfact B.V.
Hamburgerstraat 28A
3512 NS Utrecht

Smelt Energy Projects B.V.
Koepelstraat 13
5243 SC Rosmalen

Vrancken Industrial Energy Projects B.V.
Hartingstraat 236
3511 HV Utrecht

Ten Cate Thiolon B.V.
Van der Muelenweg 2
7443 RE Nijverdal

Public summary

In the period 2019-2020 a project a was executed focusing on the optimization of Industrial Heating networks. This project was executed by a consortium of three companies focusing on applying digital analyses and optimization techniques in the energy space: Sensorfact, VIEP and SIEP. The last two companies have jointly setup the company Gradyent BV – which is pursuing the commercial activities related to this.

The project focuses on assessing the potential, feasibility and scalability of applying the consortium's proprietary techniques to optimize Industrial Heating networks.

The project delivered various proof points that the potential is significant, and it is validated that the existing technology is suitable for industrial heating networks. In one industrial site Sensorfact sensors were installed and results assessed. Moreover, the team was able to make a live connection and setup a real time visualization of a 60MW power plant supplying steam to various surrounding industrial sites.

In terms of economic potential it was identified that the size of industrial heat networks space is eight times larger than that of District Heating. Also the potential CO2 saving is significant – up to 1MT CO2/year in The Netherlands alone. As a result Gradyent decided to enhance its focus on this area to enable a larger pilot at a major chemical plant.

Commercial follow-up of this project is already in full flight, with successful participation in a national energy innovation competition and concrete leads for pilots with some major chemical players in The Netherlands and Germany.

Rotterdam, November 2020