SHM-RDY

Publieke samenvatting / Public summary

Aanleiding

In a DEI-supported pilot, ODEN-AI, we created a digital representation of heat networks using both existing and newly acquired data. This was, at that moment, not available. We quickly learned that the data could reach no further than halfway into the network, i.e. from heating source to substation. During the project, we developed a digital representation of the entire heat network, a hardware bridge to extract data from substations, and several AI models that use historic and external data sources. The result is an intuitive overview of the heat network and AI-driven 'tips' on how to optimize the network's setpoints, namely temperature, pressure and ?ow. The project was a success, reducing the heat losses in the heat network in Geleen by 20 percent. We estimate a humbler 10 percent can be achieved for larger networks. Energy e?ciency increased with 5%. CO2-emissions were reduced with 5%. A demonstration project will be started shortly. EU and Dutch legislation will mandate the rollout of Smart Heat Meters (SHMs) from 1 November 2020 onwards for each connection in the EU.

Doelstelling

A validated platform consisting of a digital twin, AI pipeline, sensors and hosting platform that maps the entire heat network including Smart Heat Meters and optimizes and controls the heat networks by directly steering the heat source and substations parameters.

Korte omschrijving

¨ Preparation of data pipeline ¨ Development of

Projectinformatie / Project information

Projectnummer / Project number
DEI720019
Subsidiebedrag / Grant amount
€ 805.157,00

Algemene informatie / General information

Penvoerder / Secretariat
Gradyent B.V.

Publicaties en materialen / Publications and attachments

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  Eindrapport DEI720019

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hosting platform that can manage and process vast amounts of data and parallel AI computations ¨ Development of AI pipeline that monitors, controls and visualizes the entire heat network, from source, via substations and especially until the end-users and their smart heat meters ¨ Development of a bridge of sensors in the heat source and substations that is able to extract data and control the essential parameters of the network ¨ Validation of the solution in a 'living lab' in Friesland.

Resultaat

Heat loss reduction (target is 10%). Energy e?ciency gains (target is 2.5%) and CO2-reductions (target is 2.5%) will be measured in the pilot

De data in deze applicatie is afkomstig van de Rijksdienst voor Ondernemend Nederland (RVO) en wordt in samenwerking met de Topsector Energie ontsloten.
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