

Lerende Steen

Impact



Product Quality



Sustainability



CO2 reduction

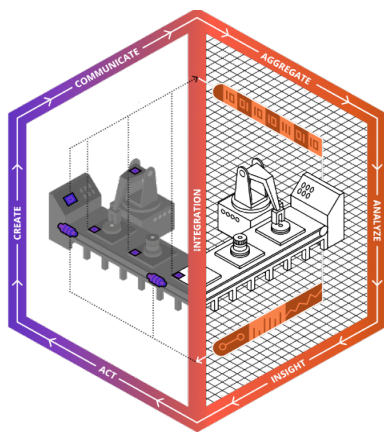


Operational cost

MachineLearning for Advanced Process Control for Furnaces

Technology description:

MoorInsight provides predictive analytics for streaming machine-generated data. It offers a platform that makes it easy for individuals to use machine-learning algorithms to classify streaming data from applications, devices, and sensors. The company's platform is used in a variety of industries to extract actionable insights from streaming data generated by devices and sensors.



<https://www.moorinsightgroup.com/>

Use case description:

Refractory lining in waste incinerators sometimes shows unexpected damage that can lead to downtime. The damage occurs because the temperature rises unexpectedly high, probably due to unknown chemical substances in the waste that is incinerated. Making maintenance predictable must provide a solution through better process knowledge. Often the cause of the temperature fluctuations not clear and as a result damage "refractory" (concrete, bricks and tiles).

Data has been collected on temperature, gas composition, among other things and reducing and oxidizing combustion were measured. The results they were and are being simulated in a test set-up that was specially developed for this within the Learning Stone and built.

All of this together is supplemented with the specific knowledge of MoorInsight and led to a first version of "the model". "If you then test the model in practice, the measurements show that it is different than expected, for example because certain assumptions are incorrect or because you missed something. By using machine learning techniques we can tune the model and approach the practice as closely as possible.

"An oven is a dynamic one whole. You are dealing with waste of varying composition, the oven itself changes because parts are being replaced, there are temperature fluctuations, et cetera. So you can and want do not continue to work with the model from the beginning. You want to stay measure.

"We have compared all the variables and determined the correlations. For example, it takes about forty minutes for the supply of new waste to lead to a higher temperature, while it was assumed that this would be twenty minutes. This led to explanatory variables, such as the speed of the supply belt and the pressure of the primary air.

Because if you want to control a plant, people want to understand what is happening. Too smart or a complete self-learning system is then too much. You can have an interesting algorithm, but if the operator is not happy with it, it will not work".

<https://www.goudaservices.com/en/home/>

Name of technology

Lerende Steen

Name of end-user

Gouda Vuurvast Services

Main application areas

Operational Costs, Product Quality

Industry 4.0 domain

Operator Support in Production;

Technology provider

MoorInsight

