



German start-up oee.ai optimizes manufacturing processes with artificial intelligence.

Increasing productivity is a fundamental goal of all manufacturers. Therefore, oee.ai utilizes artificial intelligence to provide the best productivity analysis software for European manufacturers.

oee.ai is a product of the IFP Software GmbH located in Aachen. The company develops an intelligent platform that analyses and evaluates manufacturing productivity based on the overall equipment effectiveness (OEE) and with the help of AI, without having to intervene in the machine system control. The identified causes of losses will subsequently be rectified to increase overall efficiency.

To analyze the productivity of well-known German and international manufacturers like Müller, Zentis, and Volkswagen, oee.ai required a reliable IoT communication solution for their sensors stationed in factories. Therefore, oee.ai decided to use EMnify's multi-network IoT SIM and management portal to always stay on top of device communication.



About:

- Headquartered in Aachen
- Founded by the IFP Software GmbH 2016
- OEE optimization for Industry 4.0



Goal:

Enabling manufacturers to improve their productivity at minimum cost.



Solution:

A cloud-based software that analyses and evaluates manufacturing productivity with the use of AI and connected sensor data.



Products in use:

Connect:

- IoT SIM: Best cellular connectivity wherever the device is installed.

Operate:

- Web Portal: Full visibility on data consumption, SIM status, and costs.
- Network Steering: Proactively blocking certain networks for connectivity testing.



"EMnify's communication platform is right on time for the industry 4.0, offering highly reliable connectivity in factories."



Julian Kleeff

Solution Consultant
at oee.ai



Increasing manufacturing productivity with OEE and AI

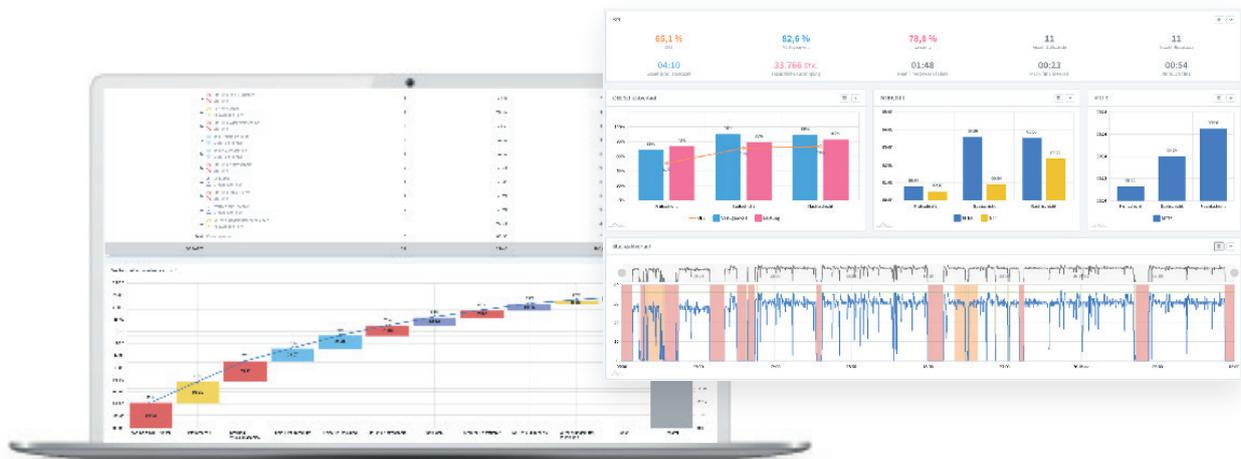
oee.ai's solution is based on the OEE principle, an acronym for "overall equipment effectiveness". This standardized productivity indicator measures Availability, Performance, and Quality of a machine by counting the products and recording the maintenance and downtime.

"Our IoT gateways can count products and extract the relevant key figures, without having to intervene into the machine's control system," said Julian Kleeff, Solution Consultant at oee.ai. ***"The collected data is then sent via EMnify to our cloud platform for analysis and evaluation."***

Manufacturers can rent the oee.ai solution at low costs to measure the productivity of one or more machines. The software utilizes artificial intelligence to detect anomalies in the recorded processes. In addition, oee.ai offers individual workshops and training on how to interpret and use the data and achieve maximum productivity. ***"Our customers can optimize their processes based on the collected data, therefore increasing the efficiency of their machinery,"*** said Kleeff.

The collected, analyzed data is available in the oee.ai platform. By eliminating the identified loss factors, like extended waiting periods of upstream production stages, manufacturers can optimize their processes.

The oee.ai platform offers key figures of machinery and time series analysis, enabling manufacturers to identify causes of losses and optimization solutions at minimal costs.





Reliable and flexible IoT communication in worldwide factories

“Before working with EMnify, our IoT gateways relied on pre-paid SIM cards. Remote monitoring of the connectivity was challenging, and we were only able to access one network,” said Kleeff.

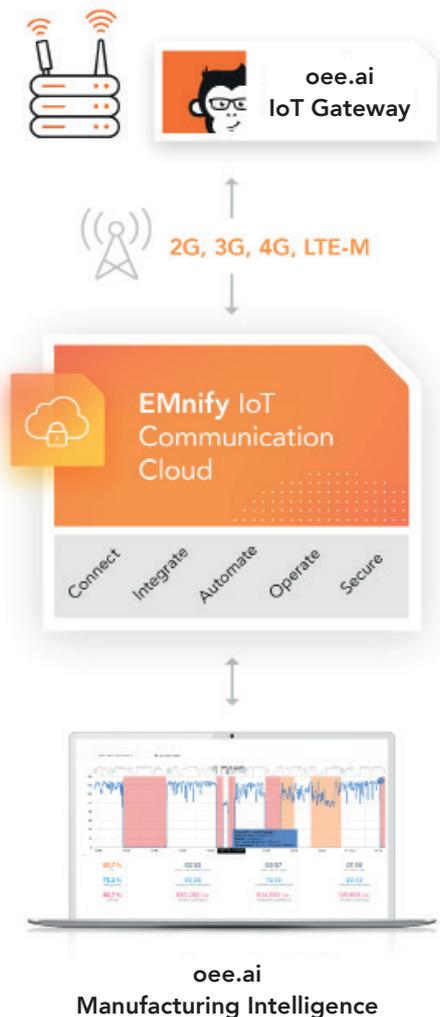
In search of a better overview of SIM activity, oee.ai switched to a B2B platform of a well-known network operator. Unfortunately, the service offered *“a limited overview on the SIM activity, poor network availability, and not sufficient customer support”* according to Kleeff.

Network issues and dead spots of certain networks hinder reliable device communication, if the SIM does not recognize the problem and switches to another network. *“Most importantly, we wanted to be operator independent, so that the device is always online. That’s why EMnify was a perfect fit for us,”* said Kleeff.

The **EMnify IoT SIM** always chooses the best available network, allowing the oee.ai sensors to reliably send data with excellent connectivity in factories.

Using the **EMnify Portal**, oee.ai can register, assign, and activate SIM cards easily. The dashboard provides a detailed overview of data consumption, network activity, and current costs.

Furthermore, EMnify enables customers to proactively control the networks of their devices. *“Due to the inevitable 3G network shutdown, we use the blacklisting feature on the portal to block certain networks at our customer locations to test the connectivity,”* said Kleeff. In the future, all of oee.ai’s IoT gateways will send their data via LTE.



“The Portal is self-explanatory and easy to use. That is why we rarely need to contact EMnify’s support team. If we do have a problem, we know that we can call any time of day and get the help we need.”

– Julian Kleeff
Solution Consultant
at oee.ai



Results and Future Outlook

EMnify connects oee.ai's productivity enhancement solution worldwide.



Fast and easy SIM card activation through the EMnify Portal.



IoT gateways experience the best cellular connectivity in factories with the EMnify multi-network IoT-SIM.



Deep network control and insights save the costs of manual verification at the customers' location.



Reliable device communication allows oee.ai to concentrate on developing their software further.



"With EMnify as our communication platform, we were able to expand our business globally and are now helping manufacturers increase their productivity in Romania, Italy, and the Fiji Islands."

– Julian Kleeff
Solution Consultant
at oee.ai

