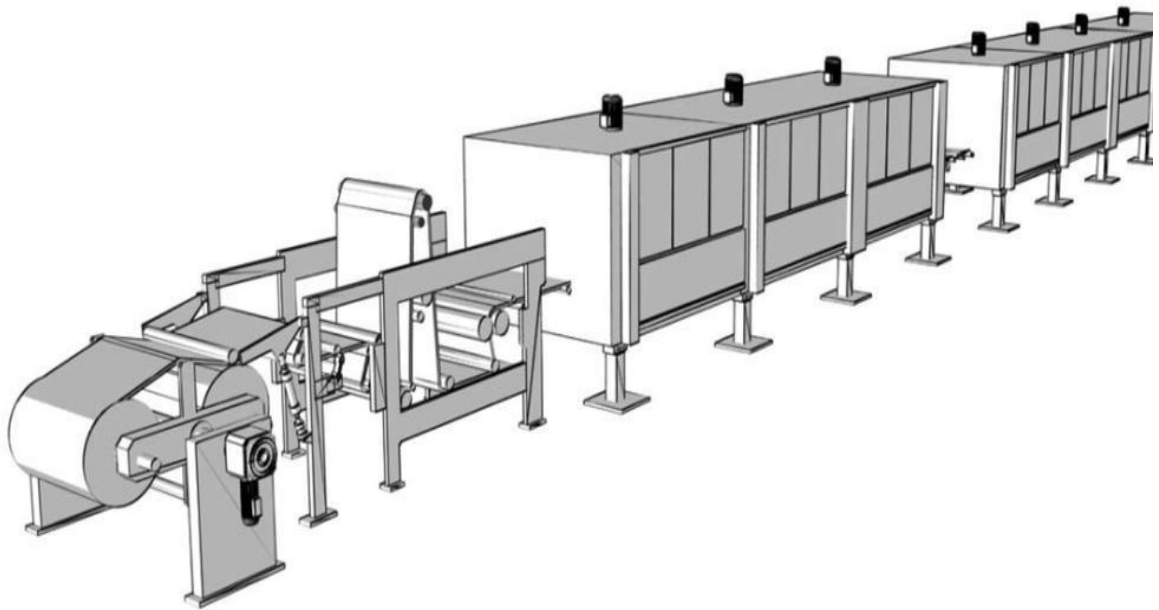


## Industrial research as part of the Fundermax sustainability strategy

DATA – “Digital Twin” analyses and optimizes industrial drying processes



Model of the gas-fired continuous flow dryer HTM8

The “Digital Twin” research project in cooperation with the Austrian Institute of Technology GmbH (AIT) and the Research Center for Non-Destructive Testing GmbH (RECENDT) is developing a new tool for industrial drying processes as a new industry standard.

The aim of the digital twin is to increase energy efficiency and to reduce CO<sub>2</sub> emissions. The high innovation potential for industrial research has now also been recognized by the Austrian Research Promotion Agency (FFG) with a grant.

### **Drying processes as energy guzzlers**

Drying processes account for almost 25 percent of total industrial energy consumption. In Austria, they are mainly used in the ceramics, wood, paper and food industries.

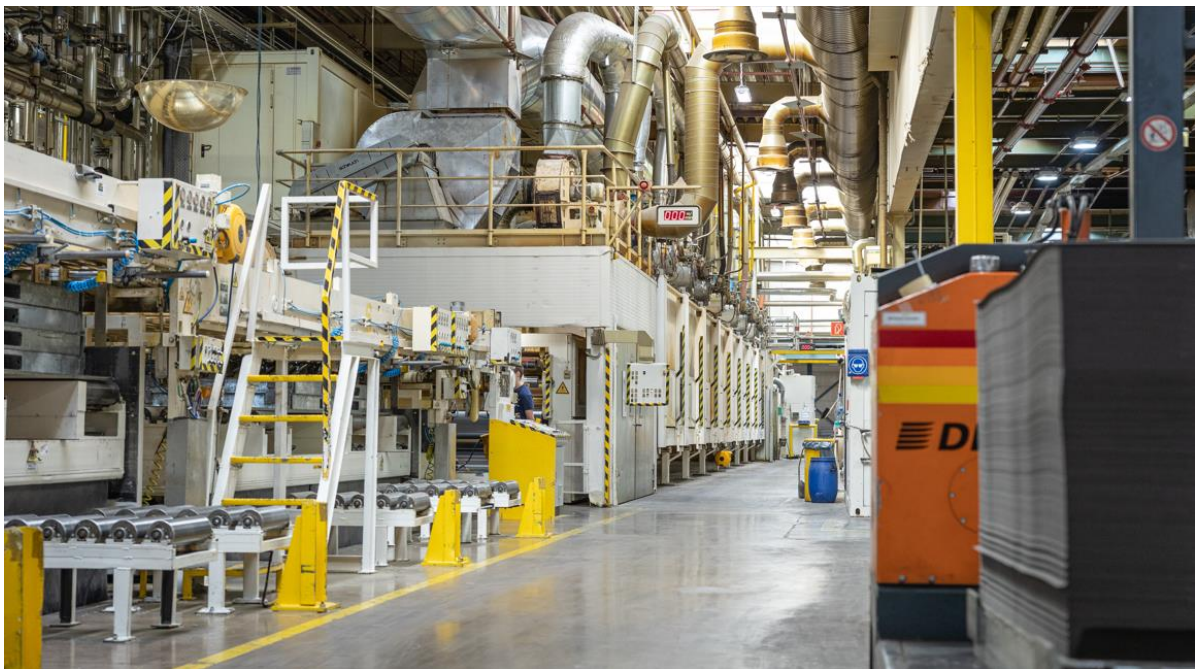
At our Wiener Neudorf site, for example, drying processes are part of the production of laminate panels: during impregnation, kraft paper – which forms the inner, robust layer of the panels – is soaked in resin and then dried.

The “digital twin”, a digital representation of industrial processes, analyses the relationships between energy consumption and basic parameters for the drying zone, such as air quantity and humidity.

The combination of sensor technology, optimized process control, reduction of exhaust air quantity and temperature, as well as heat recovery enables a reduction of the primary energy requirement. With the development of this “digital twin”, a new industry standard for such manufacturing processes and their energy efficiency is now being established.

## **New standard in industrial production**

The implementation of the “digital twin” has already provided us with far-reaching insights. As the potential for further CO2 savings and synergies based on data analysis is enormous, sensors and digitalization systems have been upgraded in the plants. This means that even more data and analysis options will be available in future to improve efficiency in the production process.



The gas-fired continuous flow dryer HTM8 at Fundermax. Photo: Fundermax

The successes and previous results of the research project, which has been running for 1.5 years, form the basis for the remaining project duration until the beginning of 2025. In the next step, the “digital twin” is to be used for further processes in Fundermax's panel production.

## Digital innovation to achieve sustainability goals

As a wood processing company, it is part of our self-image to conserve natural resources and protect the environment. With our Green Deal, we have defined sustainability targets up to 2028. By then, CO2 emissions are to be reduced by 50% compared to 2005. The “digital twin” is an important innovation for achieving this goal.

## THE PROJECT AT A GLANCE

### DATA – Digital assistant for drying systems

- Project start: April 2022
- Project duration: 36 months
- Project partner:
  - **AIT Austrian Institute of Technology** (project management)
  - **RECENDT** – Research Center Non-Destructive Testing GmbH
  - **Fundermax GmbH**
  - **MAXAN Automation**

This project is funded by the Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology, BMK and is being carried out as part of the Production of the Future program.

Production of the future – 41st call for proposals, 2022  
<https://www.ffg.at/produktion-der-zukunft-das-foerderprogramm>