

Fronius: Energy pioneers by conviction



"Sustainability is deeply rooted at Fronius. It was present about 75 years ago at the very beginning of the company's history with the idea of extending the short lifespan of car batteries by using energy more efficiently. Today, more than ever, we are committed to developing climate and environmentally friendly solutions".



Elisabeth Engelbrechtsmüller-Strauß, CEO

"24 hours of sun" is Fronius' vision for a fossil-free energy future. The family-owned Upper Austrian company develops, manufactures and markets solar and battery technologies for the energy transition. Fronius is also successfully implementing the energy transition in its own manufacturing and logistics: 63% of its energy consumption is supplied by renewables. The Austrian locations are largely heated and cooled CO₂-free and greenhouse gas emissions from transportation were reduced by 5% in 2019 (despite a 5% increase in transported weight).

High-tech from Upper Austria worldwide

Perfect Welding, Solar Energy and Perfect Charging are Fronius' three business units. What began in 1945 as a one-man repair shop has grown into an innovative and internationally active technology manufacturer with 5,440 employees, 1,264 patents and an export rate of 93%.

What was achieved?

Self-sufficient for heating and cooling through PV, geothermal and biomass

Location in Sattledt

- PV: 542 kW_p DC power
- 1,500 kW biomass heating plant

Location in Thalheim

- Geothermal field (204 deep drillings, 200 metres each)
- PV: 240 kW_p DC power
- Waste heat recovery from laboratories
- Process and space cooling using river water
- SOL2HUB – a system solution for local production, a storage and use of solar hydrogen

Location in Wels

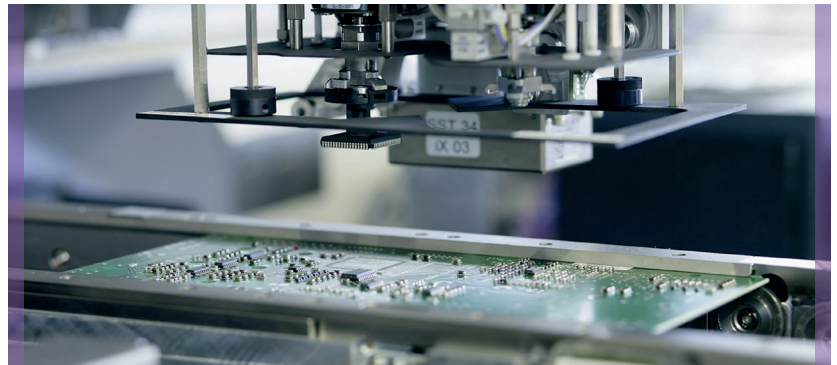
- Architectural flagship building
- Refurbishment: around 55% reduction in heating demand
- PV: 180 kW_p DC power
- 70 geothermal probes, 100 metres each
- Groundwater cooling

Location in Pettenbach

- PV: 477 kW_p DC power, facade, building roof, car park canopy
- Gas heating replaced with heat pump

Increased manufacturing efficiency

- 41% reduction in energy intensity (from 2014 to 2019)



Made for solar power

Generating, storing, distributing and consuming solar energy in an efficient and intelligent manner are the very core of the company's philosophy. In 2019, the amount of solar power generated at all 5 Upper Austrian Fronius locations totalled 1,195 MWh – enough for 6 million kilometres in an electric car! The facade of the production hall in Pettenbach contains ventilated, semi-transparent PV modules, thus enabling solar power generation while reducing cooling load. The solar electricity is used for manufacturing processes, the heat pumps and for charging electric vehicles.

Clean mobility – filling up on sunshine

Already 20% of the company fleet have alternative drive systems: currently 9 plug-in hybrid, 3 hydrogen and 42 electric vehicles. The 97 charging stations, which serve the company vehicles, can also be used by all employees. Fronius is particularly proud of its self-developed SOL2HUB: the first company-internal, green hydrogen fuelling station in Austria. Electrolysis is used to convert PV electricity into hydrogen, which is then stored. The green hydrogen is used for the company's internal fuel cell vehicles or converted back into electricity when required – in which case the waste heat can also be used. This innovative system was awarded the Upper Austrian prize for sustainable energy projects "Energistar".

ENERGY TRANSITION
LEADERS





"Where do the ideas come from? From committed, innovative colleagues who see things in their daily lives and want to change and improve them."

Markus Zauner, Facility Management



Solar power sparks innovation: Fronius myStrom

Developed and implemented by and for Fronius employees, myStrom ("my electricity"), is a true community project. The idea was born in the context of the company's "Idea Challenge" in 2014 and realised in the subsequent "Future Workshop": PV surpluses from employees' private PV systems are fed into a "pot" and can be used by all participating employees, whether they own a PV system or not.

Energy from sustainable sources

Although PV is Fronius' business focus, the company also uses other renewables to cover its energy needs. For example, the manufacturing site in Sattledt is heated by a biomass plant (80%) and near-surface geothermal system (20%). At the R&D centre in Thalheim, 40 km of geothermal probes serve as seasonal energy storage. The waste heat from the test laboratories is used for heating. During peaks, water from the nearby Traun river is used for cooling. The data centre in Wels is cooled using groundwater. Fronius' own supply of renewable energy is supplemented with purchased renewable electricity. Natural gas is now only used to cover peaks in heat demand.

Energy efficiency: low-investment measures with high impacts

Particular emphasis is placed on resource-efficient manufacturing processes and energy-efficient building technologies. Through continuous optimisation, innovation and tailored solutions, manufacturing and working conditions are steadily improved and energy costs reduced. A wide range of energy efficiency measures have already been implemented, such as installing modern pump technology, reducing the pressure in the water supply, or replacing conventional lamps with LEDs. The optimisation of air compressors is also constantly addressed and has allowed saving more than 100 tonnes of CO₂ per year at the manufacturing locations in Sattledt and Pettenbach. Also simple, low-investment measures can have a surprisingly big impact. For example, deactivating the backlighting on all hot and cold drink vending machines at Fronius saves around 2,500 kWh of electricity per month!

Thinking one step further: Fronius Repair Centre

Repairs are carried out professionally and according to high quality standards at the repair centre in Steinhaus, which has over 4,000 m² floor area. Fronius puts great effort into the durability of its products right from the start. The foundation for sustainability is laid in the design phase to ensure Fronius products can be used, repaired and recycled in the best possible way.

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The company – key facts & figures

Fronius International GmbH

Founding year
1945

Products

- Welding technology
- Solar electronics
- Battery charging systems

Locations

- in Upper Austria: Wels, Sattledt, Thalheim, Pettenbach, Steinhaus
- subsidiaries in 30 countries
- 60 countries with sales partners

Employees
5,440

Annual turnover
856 million Euro (2019)

Legal structure
Owned by the family foundation

Processes
R&D, mechanical and electronic manufacturing, assembly

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