



BeFC: The sustainable energy solution for low-power electronics.



About Us

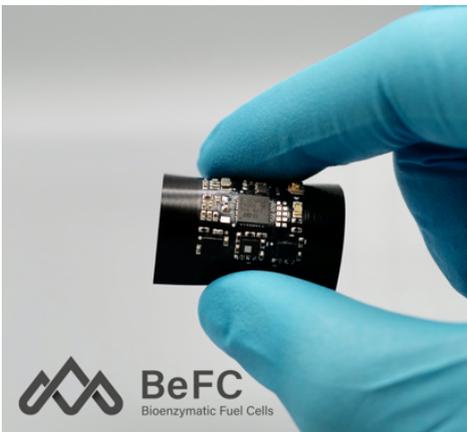
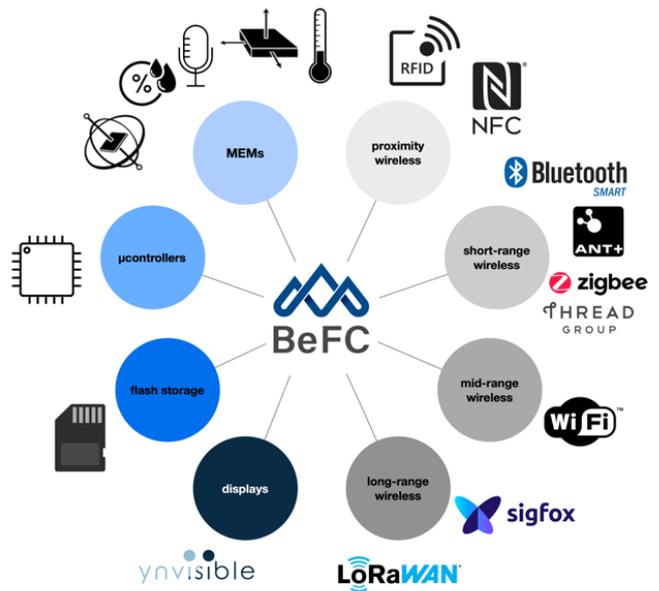
BeFC make electricity from papers and enzymes. Our company offers an eco-friendly and sustainable energy solution for low-power electronics. We have developed a series of breakthrough innovations that allow the use of enzymes with carbon paper electrodes to generate useful amounts of energy through biocatalysis. A result of decades of pioneering research into the bioenzymatic processes and properties of paper materials, the intellectual property is protected by a 6-patent portfolio. BeFC is located in the heart of the Alps, Grenoble, with both R&D and production facilities located just 100 m apart. Since founding in 2020, BeFC have raised 5 M€ of investment, and is now developing the next generation of connected devices with our forward-thinking partners for multiple market sectors including IoT, logistics, medical, agriculture, and smart packaging.

Opportunity

There is a growing trend towards wearable medical devices, connected packaging and IoT solutions. The problem is that these devices are usually powered by coin or button cell batteries. Across all the miniature battery chemistries, an average of 97% typically end up in landfill. For many applications, a miniature battery also presents additional cost and complexity to the collection, recycling, and disposal. BeFC has a strong commitment to sustainability, with the goal of replacing conventional batteries in disposable electronic devices with our paper-based biofuel cells, as well as providing new opportunities for emerging markets.

Customer Benefits & Possible Applications

- Reduced costs of recycling / disposal
- Environmentally friendly & non-toxic
- Biosourced materials
- Ultra-thin
- Lightweight
- Flexible
- Metal-free
- Sustainable fuels
- Safe (no risk of auto-combustion)
- Wide range of formats and performances



Technology

Our solution is a bioenzymatic fuel cell that uses enzymes to convert sugars, and oxygen from the air, into electricity. Our products are both metal-free and plastic-free. Being paper-based results in ultra-thin and flexible devices that are particularly attractive for wearable sensors. The device can be activated using either a patented integrated liquid reservoir, or a tiny volume of biological or environmental liquid (e.g., tap water, urine, sweat). Once activated, energy is produced within a few seconds. Our bioenzymatic fuel cells are capable of producing several milliwatts per square centimeter, enough power for most modern sensors and low-power wireless transmitters for periods of minutes to months, depending on the mode of operation. BeFC also develop custom digital platforms optimised to our biofuel cells, allowing us to provide a complete electronic solution for our customers.

Together, power the future with nature.©

