



photo: Disruptive Technologies

Zollner services in the areas of:
Preparing the product for industrial
production. Serial production.

Success Story: Disruptive Technologies

„Zollner manufactures the world’s smallest wireless sensor for a Norwegian IoT startup“

Customer and product:

Disruptive Technologies, a startup with its headquarters in Oslo, Norway, has developed a tiny sensor that can be mounted just about anywhere. It is a core part of a solution that makes the collection and evaluation of data easier and that drives the Internet of Things (IoT) forward.

IoT-capable devices, the company founder thought, were too expensive and hard to handle for comprehensive distribution. In 2013 he started to change that by developing a sensor 19 x 19 x 2.5 mm small, just about as big as a keyboard key and as thick as a coin. The sensor can be attached in difficult to reach places to measure, for example, the temperature or relative humidity. It transmits the data to a Cloud Connector, which forwards the data to the cloud. There they remain permanently available in real time and serve as a basis for energy efficiency, predictive maintenance, asset management and more.

The common applications for this sensor solution are, among others, cold storage monitoring to prevent food waste,

monitoring transformer stations to increase supply security or monitoring temperatures in water pipes, which prevents the development of legionella bacteria, which is hazardous to health. With the ability to remotely monitor buildings, this solution also allows for desk occupancy, smart cleaning and energy efficiency and sustainable operations. In factories and warehouses the sensor solution from Disruptive Technologies can increase productivity, prevent downtimes and lower maintenance costs.

Zollner Elektronik AG provides Disruptive Technologies with the sensor and the Cloud Connector.

What was the big challenge of the project?

The fixed design space for the mini sensor is extremely compressed. A tiny battery is attached to a very thin circuit board. Additionally, the whole assembly needed to be completely encapsulated to fulfill the IP68 standard,

among others. The goal was to make the product absolutely waterproof and dust-proof and cover the industrial temperature range of -40 to +85 degrees Celsius.

What solution did Zollner find?

For the conversion of the prototype into a marketable product that can be produced in large-scale serial production, Zollner Elektronik AG worked for two years on a completely custom-designed production line and constantly improved on it.

This is what our customer says about our collaboration:



photo: Disruptive Technologies

We adapted existing and known technologies to the new requirements and applied new and novel technologies as well.

The manufacturing line employs techniques like wire bonding, laser cutting, vacuum forming, resin casting and massive robotization. Combining these techniques in innovative ways has resulted in a very cost efficient and high quality manufacturing process.

„Zollner Elektronik AG is a consummate partner for Disruptive Technologies. With its uncompromising attention to producibility, reproducibility and quality it was able to convert our concepts into stable large-scale serial production. Its networks, know-how and knowledge of reliable suppliers and subcontractors made it possible to establish automated processes for the assembly and efficient handling of our miniature devices.“

Pippa Boothman, Vice President Marketing & Communications at Disruptive Technologies

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