Case Study

PHYTEC

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PHYTEC – GERMAN EMBEDDED SYSTEMS DEVELOPER

“Onsite 3D printing of PCBs can easily save multiple days in waiting for PCBs. This allows you to get early access to functional prototypes, you can do your design validation much earlier so the most important development of having a DragonFly 2020 3D Printer is a dramatic reduction in product development cycle time,”

Bodo Huber, Chief Technology Officer, PHYTEC

Quickly and Economically Produce Complex PCB Prototypes With Nano Dimension’s DragonFly 2020 3D Printer

Based in Germany, PHYTEC is an industry leader offering cutting edge solutions for the industrial embedded market. The range of products and services includes System on Modules, Single Board Computers and hardware specific software. In addition, the company offers solutions for Internet of Things and Embedded Imaging, custom products as well as housing design and assembly for turnkey solutions.

To continuously help business-to-business customers in designing new and improved products, PHYTEC uses the latest technology to improve its rapid prototyping and production processes. PHYTEC’s headquarters in Mainz was one of the first companies to install the DragonFly™ 2020 3D Printer. Demand for prototypes from different customers was growing rapidly, and PHYTEC was looking for a solution to reduce the development cycle time and improve quality. The company saw the accuracy and precision of Nano Dimension’s unique 3D printed electronics technology as an opportunity to increase its rapid prototyping capacity for professional state-of-the-art electronics.

Printed Circuit Board (PCB) design is done in-house by PHYTEC. Once completed internally, the company typically provides Gerber files to PCB suppliers, either in Europe or Asia. This varies based on project and product constraints, complexity of the PCB, cost, and time.

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Improving Speed and Quality

The speed of the DragonFly 2020 3D Printer makes it possible for PHYTEC designers to get PCB prototypes 10-15 times faster than the traditional way. This enables PHYTEC to perform functional testing and quickly finalize the concept design in the early stages of development, effectively meeting customer's needs. Errors can be immediately detected and eliminated. The result is increased quality of design, faster designs, and shorter design cycles – from months or weeks to days.

Agile Iterative Hardware Design

Product development in industrial applications has become very agile since new types of appliances and products are continuously invented all over the world. Time-to-market is a key to success for PHYTEC's customers. The DragonFly 2020 is a crucial technology for PHYTEC for iterative technology design, to enable agile hardware methodologies, generate time-savings, and give customers a competitive edge.

PHYTEC's GOALS:

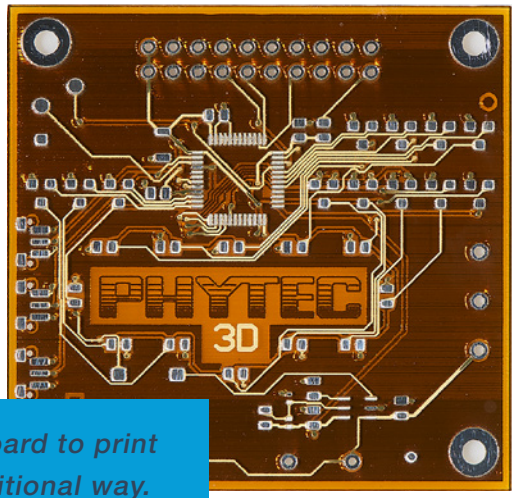
- Shorten development processes for new PCB designs
- Enable designers to perform concept design and functional testing in the early stages
- Create accurate, high quality PCB prototypes for concept, functional and design verification

THE SOLUTION:

- Nano Dimension's DragonFly 2020 3D Printer for rapid prototyping of complex PCBs

RESULTS:

- Major time-savings in rapid development capabilities due to in-house printing of high quality PCB prototypes – 10-15 times faster
- Errors can be identified in the early stages of the design process
- High quality PCB functional prototypes provide unparalleled levels of accuracy and precision
- Designers can explore creative ideas, resulting in more innovative products



"It takes us 12-18 hours depending on the size and complexity of a board to print a PCB, this is easily 10 to 15 times faster than ordering PCBs the traditional way. So within one working day, our production facility gets access to the first new PCB of a new design,"

Bodo Huber, Chief Technology Officer, PHYTEC

PHYTEC has operational divisions in Germany, North America, France, India and China.