Zivid brings new eyes to robots

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Zivid is a Nemko customer based in Norway providing 3D machine vision cameras and software for next generation robotics and industrial automation systems. Their main product is the Zivid One Plus, a portfolio of very accurate real-time 3D colour cameras. They bring human-like vision to smart factories and warehouses. The cameras see in high definition, measuring height distances of as little as 30 micrometres, which is a third of the thickness of a typical human hair.

Zivid cameras and software enable a boost in efficiency and productivity in a range of applications within assembly, packaging and quality control.

“Historically, robots are blind. They do repetitive, pre-programmed tasks. What we are doing is providing eyes for the robot,” says Arild Ulfeng, SVP Engineering at Zivid

Eyes for the robot

“A typical application consists of detecting and locating a single item from a bin or pallet with randomly placed objects. This can be anything from a tiny screw to a large cardboard box. This location information is used to understand the rotation and actual position for instance a robot gripper needs to have to pick up the object. Finally, the object can then be placed correctly in the application.,” he says.

Zivid’s founders, Øystein Skotheim and Henrik Schumann-Olsen, both have a background from the Norwegian research organization SINTEF. The state-of-the-art cameras they envisioned were based on research done over the past two decades. When they demonstrated their first prototype 3D camera, they received immense positive market feedback. The camera was faster and more precise than anything on the market at that time.

In 2017 the product range was commercialized. To bring their innovations to the market, Zivid worked closely with Nemko engineers. The product is a combination of advanced software algorithms and precision instrumentation, which brings in added challenges.

Guidance and support from Nemko

“We were looking for a test facility that could give us guidance and support during the development phase,” says Ulfeng.

During development, it was important to keep the accuracy of the 3D cameras to extremely high standards in many different settings and conditions within a harsh industrial environment. The cameras also needed to withstand vibrations, shock, water, dust and numerous unplanned events – which meant a myriad of challenges. In addition, of course all requirements and regulations needed to be met.

Early phase involvement

“Nemko was involved in the early phase of pre-compliance, which was crucial for us to get to market in a very short time frame,” say Ulfeng. “It was more complex than we anticipated. However, we got really good support and help from Nemko to understand the requirements and to make sure we developed a product that is safe and reliable in terms of electrical-, mechanical-, and optical safety.”

“I would describe Nemko professionals as competent, supportive, flexible and dedicated,” he says. “I would use Nemko again.”

See the short video about Zivid and their groundbreaking technology.

www.zivid.com [1]

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[1] http://www.zivid.com