Making Cutting-Edge Medtech Affordable

Swiss firm Vitruvia GmbH is Europe’s leading specialist in cleaning systems for surgical robots, and has now relocated its head office to Schönebeck.

As a service provider that cleans and sterilizes hospital medical devices, hygiene is Vitruvia’s number one priority. Now based in Schönebeck on the left bank of the Elbe in Saxony-Anhalt, the company has launched an industry-first: AI-controlled cleaning systems for robot-assisted surgical instruments.

The use of medical products and technology in operating theaters is highly resource-intensive, and subject to stringent quality and safety standards. Single-use accessories must be thrown away. Yet healthcare, too, can embrace the circular economy, says Rainer Grabow, Managing Director at Swiss-German enterprise Vitruvia GmbH, which uses cutting-edge technology to clean, disinfect and sterilize hospital equipment.

Vitruvia has now relocated its head office to Schönebeck, near Magdeburg in Saxony-Anhalt, a decision that Grabow partly attributes to the region’s excellent transport links and skilled labor. The company’s new Circular Clinic Supply Center for robot-assisted surgical instruments is scheduled for completion by mid-2020, initially providing 15 jobs. “As in other sectors, robotics is revolutionizing medicine,” he says, adding that Vitruvia intends to secure its position in this burgeoning global market. As Europe’s leading service provider, it now specializes in cleaning systems for surgical robots.

Patient protection, resource efficiency and waste prevention

At its new head office in Schönebeck, the specialist in circular systems for surgical applications is investing €2.5 million in a 21,500 sq. ft. best-practice facility. The center will decontaminate, clean, sterilize and test highly complex robot-assisted devices before preparing them for reuse. “Medical accessories can actually be cleaned so thoroughly that we can even make single-use products sterile for reuse,” says Grabow. He’s referring to the circular economy model. “Patient protection, resource efficiency and waste prevention.”

When the devices reach the end of their service life they can also be recycled and fed back into the manufacturing system as raw materials. Lastly, medical technology costs a huge amount of money. “We aim to make modern medtech affordable by supporting it with the latest technologies and processes,” says Grabow.

As an industry pioneer, Vitruvia invests heavily in research and software development, and sees great promise in artificial intelligence. According to Grabow, “AI self-teaching methods are ideal for optimizing the sensor-controlled reprocessing of surgical robots.” Vitruvia carries out R&D with a variety of partners including the Technical University of Berlin and Jena University Hospital. Once the Schönebeck facility is up and running, the company also plans to link up with Otto von Guericke University in Magdeburg, which runs an international study program in Medical Systems Engineering. “Vitruvia will be able to support undergrad and postgrad theses or provide project topics, for example,” says Grabow.

Cleaning in compliance with European hygiene standards

The company develops its own applications using algorithms and machine-learning strategies so that it can automate process parameter adjustments and ensure its cleaning processes meet the most stringent EU hygiene standards. Vitruvia also provides hospitals with comprehensive documentation on the individual process steps. Grabow cites the highly complex surgical instruments used in the da Vinci Surgical System – electronic and mechanical control units, cables and bolted robotic arms. “These instruments are hard to clean, so we’re developing our own process using ultra-pure water, ultra-pure air in cleanrooms, and sterile compressed air for drying. Our goal is a totally sterile process environment.”

Once the Schönebeck facility goes live, Vitruvia intends to expand its customer base in Germany and other European countries. Grabow sets out the next steps: “We also plan to expand our service portfolio to cover medical devices for general surgery and heart surgery, endoscopes, and across-the-board recycling.”

Author: Kathrain Graubaum

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20.05.2020

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