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“We have to facilitate error-free operation of medical equipment in the OR”

The Meditec business unit at steute develops and manufactures controls for medical equipment. We spoke to Guido Becker, Meditec Product Manager, about the special demands of this field.

What trends have you been able to observe in medical equipment development?

It is becoming increasingly complex to operate medical equipment, and the complexity of user interfaces is growing, too. In addition, more and more different devices are finding their way into the OR, many of them to provide imaging techniques alongside the surgery. This also has an impact on controls.

What are the consequences for your work?

We – in collaboration with our customers – have to decide how to manage this complexity and facilitate ergonomically comfortable, intuitive and error-free operation of medical equipment in the OR. Intelligent menus can help here, permitting a multiple allocation of functions, as can integration – a very important trend – meaning the operation of different devices with a single user interface.

What does that mean specifically?

That means: via the user interface the surgeon first uses a navigation system to plan the surgery. Then he switches functions and performs the surgery using various electrosurgical devices, still using



User interfaces for medical devices are becoming increasingly complex. 14 or 18 functions in one foot control are no longer a rarity.

the same user interface. During surgery, the surgeon monitors his work using a surgical microscope, and here too he can use the same foot control because the devices are all linked via a joint interface.

Integration is also an important topic in industry. What happens in the field of medical equipment – who defines the interfaces and standards?

Many renowned manufacturers and universities are currently participating in a landmark project concerning the interoperability of medical equipment. We are an associated partner in this OR.NET

project. OR.NET aims to develop and establish open standards facilitating the interoperability of devices from different manufacturers. At the same time, OR.NET will create interfaces to connect devices to holistic hospital information systems.

Is that still a long way off or already reality?

We and other OR.NET partners demonstrated the practical benefits of integration at the Medica in November 2015: here an ultrasound dissector and a surgical microscope were controlled via a single user interface. This particular project uses the foot control of the surgical microscope. Via a touchscreen the surgeon selects one of the two devices and is then able to operate that device. This considerably reduces the complexity of the controls, and the surgeon, who uses the dissector and the microscope in turns, does not have to keep readjusting.

This project concerns the future – what about the present? What can steute offer customers now?

We have divided our range into two product lines. Our Classic controls are configured according to the wishes of our customers on the basis of a modular system. The user interfaces in our Custom line are developed individually with the customer from the outset. The focus of our activity is on foot controls for many different medical disciplines, but we also provide hand controls.

Hospital hygiene is a frequent topic of discussion. Does this have an impact on how user interfaces are designed?

Definitely. We have developed foot controls suitable for machine cleaning and disinfection. Previously this procedure was

only usual for surgical instruments. Hygiene is also a major factor in remote control communication between controls and medical devices.

This trend can also be seen in industry. Can you use the same wireless standards as your colleagues in the Wireless business unit at steute?

No. We have developed a dedicated wireless technology especially for medical equipment.

A few weeks ago the Medtec Europe took place in Stuttgart. What was the focus of this fair for you?

We were represented with other suppliers on the joint VDMA booth for medical equipment and showed examples of user interfaces for medical equipment from different areas of medicine – also machine-cleanable and wireless controls, of course.

Was it a good strategy in retrospect to access the medical equipment market?

For us it was definitely the right move. About twenty years ago, we approached a very innovative and technology-friendly clientele, with whom we have since worked intensively and grown. It is also true, however, that the barriers to entering this market are very high. The standards for medical products are in a league of their own and, as medical products, our user interfaces are subject to very high standards concerning quality, retraceability, etc. This is why we manufacture them in a completely separate production hall.

This interview was conducted by Monika Zwettler from the journal Konstruktionspraxis.

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Images: steute Schaltgeräte GmbH & Co. KG