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IT and Medical Technology:Growing Convergence

The Klinik am Eichert in Göppingen (Germany) Breaks New Ground

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Information technology and biomedical technology are subject to constant adaptation. This is particularly clear in the field of biomedical technology with its orientation on the narrow level between natural sciences and medicine. Reduced to a common denominator: "The patient should benefit as soon as possible from a technological advance." This therefore calls for an interdisciplinary team consisting of IT and biomedical technology to implement the rapid leaps in technology that industry requires of us in the health sector.

Biomedical Technology in Changing Times

From classic precision engineering, the orientation of this specialist discipline has changed totally and is today found more in mechatronics.

At the latest, the absolute necessity to open up to IT came about concurrently with the use of standard IT components such as PCs, network technology and database applications, etc., in nearly all areas of medical technology.

IT in the Patient Environment

Classic IT components automatically become medical technical components when used in the health sector and especially if used in close connection with the patient.

Marketing, operating and using these IT components suddenly came under the rules of EN 93/42, in Germany, the MPG (the Medical Products Act) and the MPBetreibV (the Medical Products Operators' Ordinance) as the legal basis and IEC 60601-1-1 with regard to electrical safety. This requires an enormous amount of specialist knowledge that de facto can only be understood and implemented by biomedical specialists.

Specialist Departments Link Up

The Klinik am Eichert in Göppingen is breaking new ground. Originally separate specialist branches and departments are working on projects in a dynamic interaction with clearly defined parameters.

A Few Figures

Both organizational units in the Klinik am Eichert distribute the tasks as follows:

About 4,700 active medical products from approx. 250 different producers are supplied mainly by the medical technical service centre.

Approximately 40 software applications with 1,500 IT appliances and their 2,100 users and 42 current IT projects represent the remit of the SCIO (Service-Center Infor mationstechnologie und Organisation [Service Centre for Information technology and Organisation]).

Organisational Measures

Service Level Agreements form the basis of the organisational cooperation for joint projects. In these, functional and administrative activities and responsibilities are set out in writing in an object-related manner.

The user will receive this SLA for his application or modality on putting the system into operation and will be able to communicate objectively with the correct department.

The Teams Grow Together

It is not possible to bring together colleagues from both disciplines in a purely organisational context. This is a question of personal identity. An IT employee will never become a medical technician or vice versa.

The greatest challenge is consequently creating human harmony that enables interdisciplinary team building.

A 14-day "Jour Fix" on a performance level has been implemented. Here, subjects that need to be dealt with top-down are on the agenda, e.g., the collection of current themes and their prioritizing or the distribution of employee resources among the actual projects.

Staff from both departments rotate for the daily briefings, twice a week. This already makes for an enormous ex change of experience!

Joint training sessions complete further specialist instruction in a bottom- up manner.

Conclusion

Medical products and information technology are merging ever faster and inseparably with one another. A rethink is necessary. Only together can complex, net worked medical products, installations and IT systems be set up and operated in the future.

The Klinik am Eichert

The Klinik am Eichert began operations in 1979. It is a central hospital for acute care with 16 departments, 896 beds and an academic teaching affiliated with the University of Ulm.

The Klinik has a total staff strength of more than 2,000.

Key services include centers for ambulatory dialysis, arthritis, diabetes, geriatrics, joint treatment, oncology, perinatology, pain, social pediatrics and vascular care. The Klinik also has a Center for Intensive Care Medicine.

The physical architecture of the Klinik is innovative, with buildings designed to influence work structures and workflow. One key element is the absence of long corridors and the general sense of anonymity associated with many large hospitals.

The Klinik building is divided into two wings, and organized around self-sufficient divisions. Divisions generally consists of four care groups, which supply all core services, from admissions/administration and wards through fully-equipped interventional care units to a kitchen, supply and waste disposal areas. Physical equipment, ranging from food and clothes to medical disposables and other materials are moved by an automatic transportation system.

A system of support provided by 'care assistants' relieves nursing staff of non-core activities.

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