

QUICK RECOVERY WITH ERP

2005 COMPUTERWORLD HONORS CASE STUDY

MANUFACTURING

IMPLANTS AND JOINT REPLACEMENTS FOR HUMAN BEINGS MUST BE MADE TO FIT AS QUICKLY AND ACCURATELY AS POSSIBLE AND TECHNOLOGY IS HELPING TO SPEED UP THE ENTIRE INFORMATION FLOW, FROM THE RESULTS OF THE MEDICAL EXAMINATION VIA THE PRODUCTION OF THE IMPLANTS TO THE DOCUMENTATION OF ALL PROCESSES CONCERNING EVERY PRODUCT IN AN INTEGRATED INFORMATION SYSTEM. [20055372]

SUMMARY

Implants and joint replacements for human beings must be made to fit as quickly and accurately as possible. Other requirements are the highest degree of safety and quality. With the help of the proALPHA business solution, aap mebio controls and speeds up the entire information flow – from the results of the medical examination via the production of the implants to the documentation of all processes concerning every product in an integrated information system.

APPLICATION

aap mebio is an internationally active specialist for medical technology with headquarters in Germany. The company specializes in the development, production and marketing of implants for healing fractures (osteosynthesis), joint replacement (endoprosthetics) and bone growth and regeneration materials (orthobiology). High-tech metal processing, bone cements, cementing techniques and orthobiological materials form the technological base for this purpose. Fierce competition, high investment pressure, tight deadlines, and extreme quality requirements shape the business.

proALPHA allowed aap mebio to succeed in mapping all internal processes and tasks at aap mebio in a single IT system. proALPHA supports every single step – order acceptance via production to dispatch of finished parts. Since the work involves the public health service, a very detailed and always verifiable documentation of all operating steps and materials used is integrated. But the aap-internal system goes far beyond that: The information chain can always be extended without interruption from in-house design to the physician. The physician and his or her patient can be directly integrated in the information flow without interfaces. Despite the many and diverse functions, the IT solution remains slim and is easily mastered by small-to-medium size businesses without IT department.

BENEFITS

Information chain from physician to prosthesis design

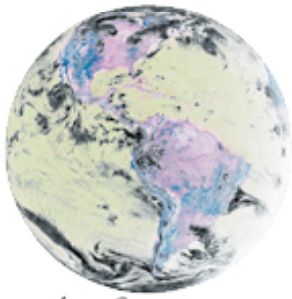
If an injury or illness requires the special manufacture of a prosthesis, a problem description from the physician is generally available and possibly also a more or less detailed suggested solution in form of a sketch by a consultant. These data could be entered directly as a work order together with the customer master files, requested dates and other information. If developers and designers must participate in the work order, they could access all of the accumulated information, including dates, in the central database.

The online interface CA Link provided by pro-ALPHA also allows for a complete integration of the design with the existing CAD-CAM systems. The designers are working directly with the ERP database. Bills of materials, master files and all other information only exist in the ERP. Designers do not always have to redevelop everything: If designers access the data of previously designed and manufactured prostheses, for example via the classification systems, they do not have to leave their design software. The corresponding functionalities are integrated into their standard user interface. In a similar way, work preparation directly accesses drawings.

Complete transparency up to every component

Every saving process and every change can be logged – no matter whether they have been performed by a designer, a sales employee or someone in manufacturing. At the same time, the user can also enter free text, e.g. as a comment. The result is a transparent, current and powerful information system that offers detailed information about the status of all operations and work orders for every work order and project and for every department, possibly even for individual work stations.

The movement of every individual document inside of aap mebio can be traced forward and



A Search for New Horizons



Robert Carrigan,
Chairman of the Chairmen's Committee

Ron Milton,
Vice-Chairman of the Chairmen's
Committee

Dan Morrow,
Chief Historian

retroactively – up to the lowest position level with all the details of every implant sold. The traceability of the parts across all production processes is of great importance to the manufacturer of medical products. If an implant fails because of the material or the mistake of a physician, aap mebio is capable of tracing the entire output history of the product and also to represent it in documented form. This requires that the quality management is organized accordingly and integrated as an integral component of all process flows – and in the software.

On principle, any common CAQ software can be interfaced via the user exits. Hence, quality management including quality assurance with the terms of reference such as creation of inspection standards, inspection data acquisition or RMA management, is fully integrated in the workflow. Upon creating the routing, the responsible quality assurance employee automatically receives the task on his or her monitor to create the corresponding inspection standards. In the process, he or she can access all the relevant documents, including manufacturing plan, drawing and bill of materials.

If the documents, including inspection standards, are complete, proALPHA releases the work order and places it in manufacturing on schedule. But first, the availability of the required materials and additional purchases must be checked. If their on hand of standard parts falls below the defined limits, proALPHA creates an MRP suggestion for the new production – automatically and on time. This, in turn, ensures their supply capability.

IMPORTANCE

IT approach must match the company's philosophy

Information is one of the most important resources for aap mebio. Faultfree and extensive communication between all departments – including design – allows for fast and correct decisions and accelerates the processes. The quality of the business IT solution and its workflow promotes not only faster production of improved products for the patient, but it also significantly increases the company's competitiveness.

Hardly any other ERP system allows for integrating the design without any interfaces. Design and production work on one data basis only without any additional interfacing software. This, in turn, allows for faster consideration of the ideas and suggestions from the physician: The aap company employees become "onsite developers" and assistants to the R&D department since they frequently initiate a brainstorming process by observing a problem or from the suggestions made by a practicing physician.

Direct networking is implemented via an ODBC Interface. In contrast to the usual process – installing an EDM or PDM system between CAD and ERP – an online data exchange without redundant data mining is possible. While EDM and PDM systems require updating two interfaces with every new release, this type of CAD integration does not create any effort.

ORIGINALITY

Other important criteria for the installation of proALPHA at aap mebio were the implementation of an efficient information management including a sophisticated workflow. All IT terms of reference beyond the production and sales area and up to financial accounting, controlling and quality management were incorporated in an integrated business solution. The simple handling of order-related bills of materials in design, purchasing and manufacturing as well as freely definable classification systems represented additional important requirements.

SUCCESS

Technology for medical progress

With the introduction of proALPHA, aap mebio can not only provide important medical components for patients. The integration of the physician into the information flow also allows for manufacturing improved products, particularly in the case of products that are complicated and that must be manufactured individually. By using the sophisticated documentation of all the design and manufacturing steps, aap mebio can verify the quality for every individual product and implement the highest level of safety.

DIFFICULTY

Thanks to the state-of-the-art software structure, there are hardly any technical restrictions in proALPHA when it comes to implement new and even exceptional functions. Even highly specialized companies with exceptional requirements, such as aap mebio, can handle all the tasks with proALPHA. The challenge in introducing and operating proALPHA lies more in recognizing the many possibilities and chances of accelerating business and making it safer while also reducing the administrative

expenses in the company.