Every day about 700,000 people around the world agree to an operation. A third of these surgical interventions are carried out on Maquet’s operation tables. The company from Rastatt in the Baden area of Germany is second to none in its rapid progress in medical technology. When the company was founded in 1838, ether anesthesia had not yet been discovered and hand washing in hospitals was regarded as an unnecessary luxury. Today, 177 years later, the practice of medicine is a synonym for high tech and Maquet has become the world’s leading supplier of medical systems. Whether it is operating tables, heart-lung machines, breathing apparatus, anesthetic systems or products for heart and vascular surgery – Maquet develops, produces and markets medical products for clinical applications in operating theatres, emergency wards and in intensive care units.

PROCESS EFFICIENCY IS A CORE ISSUE

Seven thousand employees are on daily duty, while 13 production locations and 53 sales and service organizations maintain the company around the world. Process compliance and process efficiency are for Maquet an important business issue. Not only because standardized processes increase profitability but also because as a medical product manufacturer Maquet is subject to the strict regulations of the American Food and Drug Administration (FDA) and numerous local laws. “If a process within the process chain does not conform to the relevant requirements, in the worst case this can mean that the approval of a medical product will be delayed or imports of the product will be blocked.” explains Detlef Smolinski, who works in Maquet’s Regulatory IT Compliance Department.

Whoever is thinking about compliant processes quickly comes across the topic of IT support. When the support contract for part of the deployed SAP systems expired, Maquet used the opportunity to look at its processes under the microscope. Instead of putting in place an upgrade project for the affected locations, they dared to make a completely new start. The historical systems with their numerous interfaces and individual programming would be replaced by a globally uniform platform with harmonized processes and data flows. That was the genesis of the project „MShape“. The abbreviation stands for „Maquet SAP Harmonization of Processes“. And, although MShape has become one of the largest IT
Finally we could only realize the template and the roll-ins with the help of our dedicated employees, who continually made suggestions for improvement.

Hans van der Zandt, Global IT Director IT Compliance & Process Consultancy of Maquet (left)

→ Arnold Fritz, Director IT Factory & System Integration and MShape Program Manager (right)
All related documentation – such as process descriptions, programs and customization documentation, test cases, and documentation relating to training and validation – received the same number. „In this way each object could be clearly allocated to a business process owner and a department”, adds Hans van der Zandt. The advantage is that a process step is only described once and has a generic test case that is referenced – even when it is relevant for various scenarios. Van der Zandt declares „We save an enormous amount of time and money like this”.

The onion skin principle

The business process map was not only indispensable for the later tests, the selection and range of the modules could be derived from this. „In the solution mapping phase the task was to determine the system architecture for the Maquet template”, explains Arnold Fritz. „Also here we got the business process owners and key users quickly on board”. The result was an architecture that replaces all existing ERP systems by a central SAP ERP system and further incorporates seven further SAP components, including the SAP Solution Manager. Non-SAP systems still remain part of the total architecture, e.g. Customer Relationship Management (CRM) und Business Intelligence (BI).

With the business process map as the foundation, processes and functions which should belong to the global Maquet template can also be transferred relatively easily. The original version of the template already covered 70 to 80 percent of all globally relevant processes and features. Each local roll-in is usually accompanied by additional requirements. A Change Advisory Board then decides whether the particular requirement can be used globally and the template expanded accordingly or whether it only affects that particular country. If the latter is true, it is implemented in a local project. The original template grows layer by layer with each new requirement, like an onion. With each roll-in the number of gaps – and the programming effort – is reduced.

90 percent standardization level – and more

If a concrete roll-in project is lined up, the team produces a copy of the corresponding current template and uses this as the blueprint for the implementation. The template contains standard models for all project phases and necessary project documents. The effort for the actual roll-in is therefore reduced by this to a minimum. Moreover, with this standardized approach, external staff can learn the ropes very quickly. Four to six months are generally needed from kick-off to go-live, two to four months for the actual implementation. This includes development and programming of the existing gaps, tests and training. As the approach is highly standardized, several roll-ins can take place at the same time. Arnold Fritz happily states „We save up to 50% on costs and time with implementation projects; in some companies even up to 75%”. In the past year 14 company codes have gone live, according to the program manager. In this year the medical technology manufacturer plans to release 20. „Finally we could only realize the template and the roll-ins with the help of our dedicated employees, who continually made suggestions for improvement”, emphasizes Hans van der Zandt. Today the template is also used for the maintenance cycle, including change management, and for upgrades – in other words, for the entire application lifecycle. Van Zandt further notes: „Also in this area we could record enormous increases in efficiency, which result from the template with the ready-made test scenarios and the standard procedures”.

Three years have passed since the pilot project took place in Solna, Sweden, in 2012. Now 33 Maquet locations are benefiting from globally standardized processes and data flows, and 20 more should follow. „There is an enormous increase in efficiency”, confirms Arnold Fritz. The program manager adds „Above all in the sales and service companies the processes could be harmonized to such an extent that apart from local legal requirements there are hardly any deviations from the standard”. Of course there are also users who miss the old system. „Mainly those who previously worked with SAP ask: why does this or that function no longer exist?” Overall, user acceptance is said to be very high, this being also a result of the many improvements the project delivered. If today 90 percent of all processes worldwide are implemented in a standardized way – core processes such as sales, service or purchasing, and even more so central functions like finance and controlling – then one no longer needs to ask about the benefits for business.