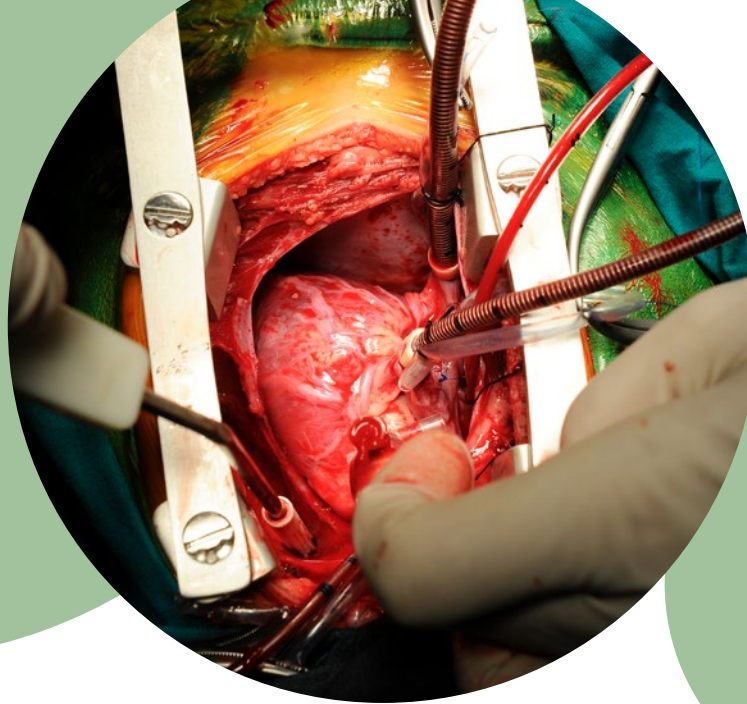As the Styrian regional company, KAGes operates 16 hospitals from Graz and is the largest employer in the province with more than 16,000 employees.

Open Heart Surgery

When a group of hospitals like the Steiermärkische Krankenanstaltengesellschaft changes its central hospital information system (HIS), one thing above all has to happen quickly. After all, a prolonged outage would have dramatic consequences.

COPY —— Silke Kilz

Whether it's patient admissions, room occupancy, OR management or medical and nursing documentation – in the age of digitization almost all processes in Austria's hospitals are IT-controlled. It is therefore not necessary to be an IT expert to imagine the dimension of the project that Steiermärkische Krankenanstaltengesellschaft mbH (KAGes) was faced with at the end of 2017: a complex conversion of the central components for all eleven hospitals at 21 locations and four regional care centres of the network – not step by step, but in one night.

NO LONGER FIT FOR THE FUTURE

There were several reasons for switching IT: Since 2002, KAGes has been using i.s.h.med, a hospital information system integrated into SAP that offers doctors, nursing staff and administration a variety of functions for planning, documenting, coordinating, communicating and evaluating. "i.s.h.med is already a significant step towards a paperless hospital," says Karl Kocever, Head of IT Infrastructure and Administrative Systems at KAGes. However, what the hospital network has not been able to sufficiently map so far is the Electronic Fever Curve, where all patient information relevant for treatment will be digitally collected in the future. "In order to be optimally prepared for the implementation of this project, a conversion to the latest release of SAP/i.s.h.med was indispensable," says Kocever. On the other hand, the hardware and the Oracle database used to date reached their capacity limits. In order to accelerate processes and be able to deliver key figures in real time in the future, it was therefore logical to switch to the SAP HANA in-memory technology – also against the background that SAP will no longer support any other database with its software from 2025. By then at the latest,

it would have been time for KAGes to say goodbye to its Oracle environment.

"Instead of walking step by step towards the future, KAGes took the big leap," summarizes Günter Gössinger, Service Delivery Manager at T-Systems Austria. In concrete terms, this meant setting up the necessary new hardware, converting the database to Unicode, migrating to SAP HANA and upgrading the version of the SAP system to EPH8 and i.s.h.med to SP14.

MINIMAL DOWNTIME

Said, done: At the end of 2017, the team of experts from KAGes, SAP and T-Systems met for the first time to work out a plan for the mammoth project. The biggest drawback: According to SAP estimates, the changeover would require a downtime of more than 50 hours in the production system if the individual steps were carried out one after the other. More than 50 hours no insight into patient histories, no data acquisition, no documentation, no planning – unthinkable for a hospital network like KAGes with almost 18,000 employees.

But the team from Walldorf had an option: a "Minimize Downtime Service". After an initial analysis by SAP, this procedure makes it possible to reduce the downtime of the HIS system from over 50 hours to ten hours. How? The team would carry out the project using four different IT environments: an SAP HANA target system, on which the actual changeover was to take place step by step, the existing legacy system, on which the users could continue to work without restrictions, and finally two exactly identical twins of the legacy SAP system as a test environment.

The project management was quickly convinced. Even though it was clear to everyone involved what a challenge they faced. "I've been with the company for 42 years, but there's never been an IT project of this size before," says Kocever. In addition, the time frame was very tight. "Due to a large number of other projects, KAGes could only offer us a fixed go-live date for the changeover in October 2018," adds Gössinger. "If we had not met this deadline, the next changeover would not have been possible until spring 2019 – a delay that all the companies involved wanted to avoid at all costs".

WITH NET AND DOUBLE BOTTOM

In February 2018, the project was finally launched – according to a meticulously defined schedule. In addition to installing the hardware, the experts first set up the target system on which the actual migration was carried out. As planned, they also created two identical copies of the legacy SAP system. On the one hand, users were able to continue working on "their" system as usual during the migration project; on the other hand, the legacy system twins offered the team the opportunity to carry out the necessary tests during the project phase without

The downtime for SAP migration was only 10 hours.

restricting productive operation. "Of course, working with double bottom also had another advantage," Kocever explains. "In the worst case scenario, it would have been possible to return to the old environment at any time – this considerably reduced the project risk for us."

PRACTICE MAKES PERFECT

After several months of intensive preparations, the project finally culminated in October 2018 in the actual conversion of the database and SAP system, which lasted several days. The team proceeded step by step: "In the run-up, so-called triggers were set on the database in the legacy system," explains Gössinger. "In this way, during the subsequent switch (downtime phase) to the new system, we were able to trace exactly which changes the users had made to the legacy system, i.e. which data we still had to transfer afterwards."

"Of course we practiced the individual steps of the conversion x-fold," recalls Kocever. "A few weeks before the big go-live, we also had two meticulously planned and fully played out dress rehearsals in Graz," says Kocever. "Luckily – because the rehearsal was not without difficulties." The project manager answers the question of whether this didn't cause him stomach ache in the negative: "On the contrary. These small hurdles made us stronger. Because we now knew that this wouldn't happen to us again in the premiere."

SPOT LANDING AT NIGHT

In the night from 5 to 6 October the time had finally come: The old system was switched off. During the downtime, during which the users no longer had access to the system, the team transferred all the changes that had been made from the old system to the new one. The restart procedure was also carried out according to a precise plan and it was only after several tests that the users were finally allowed back onto the system – with success.

"Of course, we were all relieved that we were finally able to complete the project on time and within budget," sums up Katharina Proske, Head of Sales Public and Healthcare. "Although we have been supporting KAGes' central HIS system for many years and are very familiar with the systems and processes of the hospital network, a project of this magnitude is not an everyday occurrence at T-Systems." Kocever also draws a positive conclusion: "The project has once again shown that it is very important to have a functioning team. The cooperation between SAP, T-Systems and our people went extremely well, and it was a great pleasure for me to successfully complete such a project within the tight timeframe. In short: "Surgery successful, patient alive".

Guenter.Goessinger.@t-systems.com

www.kages.at/cms/ziel/5633960/EN

www.telekom-healthcare.com/en