

User Report

Specialist Hospital for Orthopedics Increases Efficiency with new PACS

Custom-tailored solution from VISUS comes to Switzerland

The Schulthess hospital in Zurich is a specialist hospital for orthopedics, with a focus on prosthetics in the upper and lower regions of the extremities as well as on surgery of the spine and joints. The hospital, which is located in the southern parts of the city, has gained a very high reputation owing to its roles as Swiss Olympic Medical Center, FIFA Medical Centre of Excellence, and F-MARC (FIFA Medical Assessment and Research Centre). The 160-bed provider of care has more than 8,000 outpatients annually. Four conventional X-ray workplaces and an MR are used mostly to acquire skeleton images. There is no radiologist on site at the hospital; medical specialists of the various departments find conventional images directly, while the independent radiology practice on site finds MR images.

Previous to its cooperation with VISUS, the Schulthess Hospital had already rolled out in 2002 its first digital Picture Archiving and Communication System. "However, we found out quickly that the PACS was not particularly robust, and crashes of the system led to massive losses in production. In the context of our high throughput, the system was just no longer acceptable because there were cases where problems encumbered our work for days", remembers Dr. Thomas Guggi, senior physician in the orthopedics department. Subsequently, the vendor planned to modernize the system by means of a comprehensive update, but at the same time, the hospital scrutinized the market with regard to alternative products.



Schulthess Clinic in Zurich

Medical Center

- ▶ Specialist hospital for orthopedics
- ▶ 160 beds
- ▶ more than 8,000 inpatients annually
- ▶ more than 16,000 procedures annually
- ▶ approx. 90,000 X-ray exams annually

Modalities

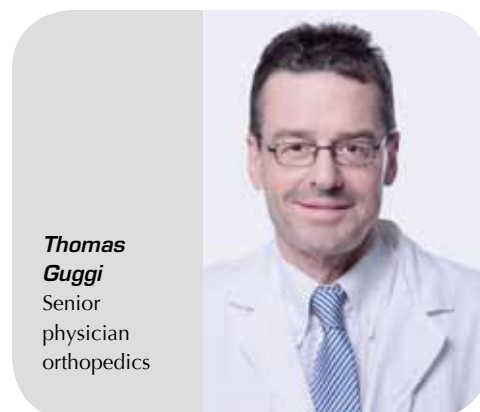
- ▶ one MRT
- ▶ four conventional X-ray acquisition workplaces

PACS customized for requirements in orthopedics

This physician – who sports additional skills in information science – had a leading role in the analysis process. “Due to my involvement in earlier projects, I had already come to know many systems. On that basis, very quickly three vendors emerged as candidates, from whom we requested offers based on a detailed list of specifications”, explains Dr. Guggi. A high degree of system robustness, ensuring stability in our work, was to play a key role in the selection process. In addition, the PACS which we looked into buying had to offer intuitive handling.

“Many of the solutions failed, however, because they are oriented too strictly towards the workflows and requirements of radiology; they are not really capable of integrating the necessities of orthopedics. In general, they have too many features – many of which are not required in routine work in orthopedics. Therefore, the systems were largely oversized, and not eligible for effective use in our hospital”, summarizes Dr. Guggi.

It was finally JiveX which convinced the decision makers; it is in use at the specialized Zurich hospital since 2005. “VISUS offered us a very compact bundle of custom-tailored modules and services”, the user says looking back. “We had been looking for a variable and flexible system which could be configured for the specific needs of orthopedics.” Nevertheless, the Schulthess Hospital was in no way going to use a freeware or shareware system because service and support, in particular, are of importance to the care provider in order to ensure smooth operation. “Last but not least, the price-performance ratio of VISUS convinced us”; Dr. Guggi continues.



**Thomas
Guggi**
Senior
physician
orthopedics

Orthopedic planning software optimizes quality

The going live of the system turned out to run smoothly, including the migration of legacy data; routine operations of the hospital remained unencumbered. Today, more than 100 physicians of the hospital work with JiveX. "Acceptance was very high within a short period of time. Due to the fact that handling of the system is intuitive, each user was rapidly in a position to work with it and realized that it accelerates and facilitates the work. The PACS concentrates, with its functionalities, on the core processes of orthopedists, which contributed largely to rapid acceptance", outlines the highly satisfied orthopedist. Besides image data from radiology, arthroscopy images are also transmitted into the PACS. At a click of the mouse, comparative images can become part of an evaluation.

In 2009, the Schulthess Hospital took the next step towards comprehensive digitization by integrating special orthopedic planning software into JiveX. "This facilitates OR planning massively, and allows surgeons to optimize their preparation for the procedure", is Dr. Guggi's contented statement. The planning software can be accessed and used at each workplace. "The images are loaded very simply into the planning software, and can then be processed using the electronic templates of the various prostheses – easily, rapidly, and safely. The finished plan is then saved into the PACS, and can be accessed from every workplace in the hospital, including the OR", is the physician's description of the workflow. "I can now discuss the procedure with the patient in advance in front of the screen."

Time savings and increases in efficiency realized

The above are, by far, not the only benefits of the PACS. Images from the online archive are available for fast access to all users at any time and at each workplace in the network. "There are long-term courses of disease which we have to control at regular intervals. In order not to risk any delays in our daily routines, fast access is indispensable in such cases", underlines Dr. Guggi. Consultations among physicians are also facilitated by the PACS. "In cases where



aerial photo of the Schulthess Clinic in Zurich

we used to move around the hospital frequently, and at length, we just use the telephone today. While I sit at the screen, my colleague in some other department has already called up the images and communicates the patient identifier to me; then I also retrieve the images, and we can discuss them. This is extremely effective and time-saving.”

All in all, the workflows at the Schulthess Hospital have become significantly faster and smoother. What has contributed to this is that no more images are lost. “In pre-digital times, approximately 10 percent of X-ray images could not be located. In our era of modern technologies, this is no longer acceptable. For high-quality, high-value patient care, images have to be available rapidly and at any time.” Today, physicians can conveniently present to their patients, during consultation, previous and current images as well as courses of disease. In addition, image processing options help improve the precision in diagnostics.

“VISUS prepared for this entire project very well, which made it possible to realize it without issues. The PACS has now been running for five years without producing any problems, and all of us are satisfied”, summarizes Dr. Guggi.

▶ **Thomas Guggi**

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