



Only a few steps separate the classrooms from the imaging systems.

State-of-the-art Training

With UPTIME Services, Siemens Healthcare offers joint trainings for both customers and Siemens Service Engineers worldwide, providing a variety of technical and application courses to keep everyone's expertise on the cutting edge.

By Justus Krüger

Gil Palcone was a little disappointed at first. Siemens Philippines – computed tomography (CT) supplier of The Medical City Hospital in Manila – was not going to send him to Erlangen, Germany for his training course, as it did two months before, but to the new Siemens Training Center in Shanghai.

"I did have doubts whether the courses in Shanghai would be as good as in Germany," says the 43-year-old biomedical engineer. His doubts, however, disap-

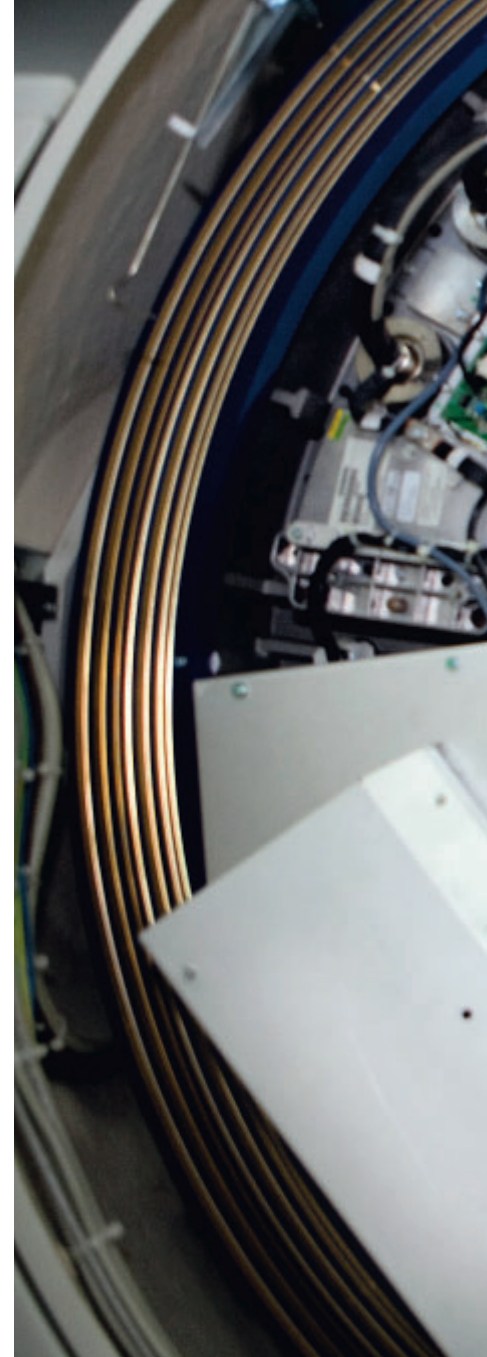
peared as soon as he arrived in Shanghai. "I am 100 percent satisfied with the classes here," Palcone happily declares – and is already hoping for an update of his skills in a specific SOMATOM® Definition AS+ training.

The Siemens Training Center in the Chinese metropolis is part of Siemens Healthcare's global training concept. The training, part of Siemens UPTIME Services, helps customers worldwide maintain their expertise on the cutting

edge of medical and clinical technology, and develop it even further – regardless whether they take place in Germany, the U.S., or China.

Global Training Concept

"Our global training concept helps provide the same high standards in all training facilities," says Thomas Weller, General Manager for Customer Services at Siemens Shanghai Medical Equipment.





Each Siemens Training Center is equipped with a variety of the company's systems for hands-on maintenance and repair training.

The courses help Siemens customers deepen their understanding of extremely sophisticated, state-of-the-art medical equipment such as the company's magnetic resonance imaging (MRI) and CT scanners, or radiography, fluorography, and angiography systems. That in turn empowers them to optimize workflows, avoid and detect operational errors, and fully utilize their equipment's potential. This improves examination results and increases patient care and satisfaction.

For the healthcare providers, optimizing workflows also means higher system availability and a marked reduction in terms of costs. These are significant issues for the whole spectrum of Siemens Healthcare customers. Equipment such as CT scanners is in such high demand, especially in large hospitals, that patients often have to endure a long wait. With an inhouse engineer educated in one of Siemens Training Centers smoothing out poten-

tial failures within the framework of a Shared Services agreement, the systems can be utilized more efficiently, saving time for both operators and patients.

Theory and Practice

"That is an important factor," says Weller, "especially when it comes to systems such as CT scanners, which are often in use non-stop from eight in the morning to ten in the evening." Indeed, far from merely providing the latest theoretical



The Siemens Training and Development Center in Cary (left) opened in 1992. In 2006, Siemens built a new Training Center in Erlangen.

Worldwide Training

A leader in medical technology, Siemens Healthcare has implemented a global training process in order to offer state-of-the-art training for Siemens Customer Service Engineers (CSEs) and customers worldwide. Three Training Centers have been set up in: Erlangen in southern Germany; Cary in North Carolina, U.S.; and Shanghai in China.

All Training Centers are equipped with the latest Siemens systems and the most current software.

The Training and Development Center in Cary opened in 1992, featuring a 70,000-square-foot training facility with fully functional computed tomography (CT), magnetic resonance imaging, and X-ray systems and 35 classrooms. In 2006, the Erlangen Training Center opened after Siemens Healthcare invested approximately €20 million in the building and close to €40 million in its equipment. More than 50 imaging systems, which include 15 systems in angiography, two SOMATOM® Definition, several Biograph™ and MAGNETOM® systems, as well as syngo® Suite are available to participants.

The center in Shanghai is the most recent addition. As part of Siemens Medical Park Shanghai, it is equipped with state-of-the-art technology, which includes three types of CT scanners: SOMATOM Spirit, Emotion, and Sensation, two digital radiography and fluoroscopy systems (AXIOM® Aristos and Iconos), as well as several multimodality workstations to conduct syngo software and Oncology

network and workstation training. “Many clinics would be happy to have the newest systems and the most current software installed as we do,” says Volker Froede, who is responsible for Siemens Healthcare’s Training Centers. However, participants can also train on older systems and even on ones that are no longer sold.

Each Training Center is highly independent yet also interconnected with its two sister centers. If a customer or CSE requires training not offered in Shanghai, Siemens provides a possibility for him or her to join a class in either Erlangen or Cary, wherever the needed training is offered. Siemens has designed most training courses for both customers and Siemens personnel in order to provide the same high level of education to internal staff and customers. A strong emphasis is placed on certification. All Siemens participants must take a test and receive a certificate after having passed it. Many application training courses also offer the CME (Continuing Medical Education) credits that medical doctors require.

In addition to classroom training, Siemens offers, for example, virtual training, web-based classes and onsite training. More than 14,000 participants worldwide attend about 1,400 training sessions at the Siemens Training Centers every year. In addition, about 16,000 people make use of e-learning, thereby making a difference to millions of medical professionals, patients, and their families all around the world.

training, the Training Centers also offer practical application, which is truly indispensable to provide first-class medical service. The training divides participants into four levels, depending on their

knowledge level: Basic, Advanced, Expert, and Refreshment. The target groups for trainings include physicians, radiology technologists and radiographers, as well as engineers and hospital IT administra-

tors. Siemens not only offers its customers the chance to continuously enhance their skills, but is also sending their own service engineers back to school: The main participants, other than customers

of Siemens Healthcare, are Siemens Customer Service Engineers (CSEs). Combining the courses for customers and Siemens staff, UPTIME Services provides a great opportunity to exchange valuable experience.

As providing good quality training is a top priority of Siemens, the number of participants per course does not exceed twelve. This allows an intensive exchange between trainers and participants. It also helps provide everybody with plenty of opportunity to work with the systems and to get hands-on experience with the equipment.

For Palcone, this is one of the big benefits of the training concept. "We don't only study theory; we apply it to the systems – every day," he says. "That way you can really absorb the knowledge." Driven by an innovative concept, the courses offer an interactive training method that is more like a workshop or a seminar than a lecture. Trainers keep checking whether everybody is following; participants ask back; the discussions are lively. That way, the trainers have a clear picture of how far each student has progressed at any one time and how much catching up there is to do. Also, it is simply more fun and contributes to a good learning atmosphere.

High-Quality Training

All three training centers offer the same quality of training, and that is, in part, due to the same level of skills and knowledge demanded from the trainers. No matter if they work in Shanghai, Cary, or Erlangen, the requirements are high, not only in technical knowledge, but also in the ability to teach and transmit that knowledge.

All prospective trainers first take courses along with Siemens customers in one of the three Training Centers before they start teaching individual modules. After that, they will receive 'Train the Trainer' education and finally can start to teach whole courses under the supervision of an experienced instructor. Upon receiving a certification and having several months of experience, supervisors will observe their teaching in the classes again. "That way, we can make sure that we really

get the quality we want," Weller says. This, however, is not the end of quality control. "We ask participants – via a questionnaire or online – how valuable the training was for them," says Volker Froede, who is responsible for the global



Siemens International Medical Park Shanghai

Probably no other Chinese city, or even Asian metropolis, has risen higher in excitement than Shanghai. More than merely capitalizing on its romantic past, Shanghai is a vibrant city that promises plenty for the future.

In this forward-looking metropolis, Siemens has invested more than €30 million to set up a new landmark facility. In May 2007, Siemens Healthcare China's headquarters and Siemens Shanghai Medical Equipment moved together to the Shanghai International Medical Zone (SIMZ) as a pioneer in this new development area. SIMZ is an ambitious project of the Shanghai municipal government covering 11.5 square kilometers in Shanghai's southeastern Nanhui district. The new zone, set to be completed in 2015, is projected to be an international center of medical care, education, training and research and development (R&D). The move thus also marked the successful integration of Siemens Healthcare China's R&D, manufacturing, service, sales, and marketing resources with more than 1,000 Siemens Healthcare employees, working closely together under one roof. Together with Siemens Healthcare's first comprehensive medical equipment show center in Asia and Siemens Healthcare's Service Center for Asia, the new facility represents a strong center of gravity for Siemens Healthcare's activities in China and Asia.



Small courses allow an intensive exchange between trainers and participants, and help provide everybody with plenty of opportunity to work with the

training strategy. "A high percentage of the questions have to come back with either 'excellent' or 'good', otherwise we have to initiate changes to the training." To help provide a truly global and standardized training approach, trainers

rotate worldwide. An instructor from Shanghai can be asked to teach in the U.S. and Germany, while a U.S. trainer is just as fit to teach in Erlangen or in Shanghai as in Cary. All courses are held in English, as the centers not only serve

their respective home markets. The center in Shanghai, for instance, is attracting interest not only from China but serves the entire Asia-Pacific region. In a typical week, Manish Pathak, a trainer and Senior Manager at Siemens Healthcare, will be teaching a class of ten students who may come from six countries within different corners of Asia-Pacific, from Russia to Japan or from China to Australia.

"I am 100 percent satisfied with the classes here."

Gil Palcone, Biomedical Engineer, The Medical City Hospital, Manila, Philippines

Growing Fast

China was a logical choice as the location for the third Siemens Training Center. "China is a fast growing healthcare market, and on its way to be the largest market in Asia," says Weller. "That means there is a high demand for technical experts and knowledge [in China]. The close interaction of R&D [research and development], manufacturing, and customer service makes a lot of sense. It achieves a host of synergy," explains Weller.

It is, in fact, the synergy that develops between education and service that further helps to better diagnose and correct any issues that may arise. A basic course in CT, for instance, enables operators to benefit from Siemens service support even more than usual. While today, based on the service agreement, many system malfunctions can be solved remotely via Siemens Remote Service (SRS), some system malfunctions require onsite support by a trained



The Medical City Hospital in Manila, Philippines, a private, tertiary care hospital, serves some 40,000 inpatients and 380,000 outpatients a year.



systems and get hands-on experience with the equipment.

engineer, for example, with regard to the exchange of a spare part. If inhouse engineers at the customer's site have been trained by Siemens in certain issues within the scope of a Shared Services agreement, a good understanding of the system allows them to talk the technical language of the Siemens expert, identify and explain the issue via telephone, and initiate relevant tests.

"That really enables the customer to have a meaningful discussion with the expert in the Siemens Service Center. If this is not the case, the Service Center would usually send a Siemens Customer Service Engineer to the hospital," says Pathak. In contrast, when an inhouse engineer or operator has a good knowledge of the system, he or she can leapfrog several time-consuming steps in the procedure. In case a problem can be identified inhouse or with the help of the Service Center, Siemens can immediately send an engineer along with the required spare part. "If you have a good preliminary diagnosis, you can save a lot of time," Pathak adds.

Training and Siemens Remote Service

The combination of training can truly increase efficiency. SRS links the equipment at the health service provider with a Siemens Service Center, enabling experts to recognize sources of error in many cases even before the customer becomes aware of them. For instance, if

the temperature in a CT scanner's cooling system leaves a range of tolerance, the scanner will automatically report to the Service Center. Then, a Siemens engineer can proactively contact the institution where the system is located and either solve the issue remotely or dispatch a Customer Service Engineer to go to the customer's site. If the inhouse engineer in the hospital or clinic has a good grasp of the system, he can count on his knowledge to work together efficiently with the Siemens expert. "I think the combination of remote service and training is really ideal," Weller says. Falcone agrees. "We have an excellent working relationship with Siemens," says the engineer from Manila. Last month, Falcone says, there were difficulties with the hospital's MRI system. Thanks to his experience, his course, and Siemens Remote Service, the problem got fixed within 15 minutes. "Good for Siemens," Falcone laughs. "But even better for us. This is really a win-win situation."

Justus Krüger is correspondent for the Berliner Zeitung in Beijing, China.

Further Information

www.siemens.com/medical_training_center
www.siemens.com/uptime-services

Summary

Challenge:

- Utilize the full potential of medical equipment
- Keep expertise on the cutting edge
- Optimize workflows

Solution:

- Global training process to offer state-of-the-art training
- Three main Training Centers in Erlangen, Germany; Cary, U.S.; and Shanghai, China
- Variety of technical and application trainings
- Innovative training concept combining theoretical and practical training
- CME (Continuing Medical Education) credits for various courses
- Constant quality controls to meet high standards of excellence
- Training Centers equipped with the latest Siemens systems and software
- Highly qualified trainers

Result:

- Competitive edge thanks to higher efficiency
- Higher system availability because of workflow and maintenance improvements
- Improved examination results through utilizing all existing functionalities
- Faster, more secure diagnoses
- Increased patient satisfaction