

Background information

**Siemens Forchheim: the most modern radiography production facility in the world**

**Whenever a patient anywhere in the world is examined with a radiography, angiography, or computed tomography system, there is a good chance that technology from Forchheim is being used. Forchheim contains one of Siemens Medical Solutions' most modern production facilities for medical technology. Since 1993, some 70 million euros have been invested here, the headquarters of the Computed Tomography (CT) and Angiography, Fluoroscopy, and Radiographic Systems (AX) product groups. Every product group includes research, manufacturing, quality management, internal logistics, marketing, and customer service.**

**The Refurbished Systems (RS) group has been headquartered in Forchheim since August 2004.**

### **Who does what**

Angiography units, including cardiology systems, have been developed and produced in Forchheim since 1990. In addition to angiography, the current product spectrum includes radiography systems that create classic X-ray images, as well as fluoroscopy systems, which are used to examine the course of motion in the body, in particular in the intestinal tract.

The largest CT production facility in the world began operation in Forchheim at the end of 1994. In the summer of 1997, the product group also began producing ultrafast ceramic (UFC) CT detectors here. The detectors make computed tomography systems faster, more efficient, and reduce dose to the patient. They are also used in industrial

computed tomography, for example in examining materials or when scanning luggage at airports.

The RS group was started at the end of the 1990s. In 2004, RS opened in Forchheim its second location after the RS production center in Hoffman Estates/Chicago, USA. RS takes back medical devices, refurbishes them, and sells them. Most of these systems come from Siemens customers through upgrade programs. The new customers include physicians in private practice, as well as some university hospitals.

## **Facts and figures**

The two product groups headquartered in Forchheim, CT and AX, employ some 1,200 people in 20,000 square meters of office and production space. Siemens Medical Solutions is the leader in innovation in angiography systems together with radiography and fluoroscopy imaging systems, and is number 2 worldwide in CT. The bridge from Forchheim to the rest of the world is shown clearly by the fact that exports account for 90% of total business. To date more than 8,000 computed tomography systems have been delivered from Forchheim. The total world market for CT, angiography, fluoroscopy, and radiography systems, including service, is estimated to be 8 billion euros. To date worldwide, some 42,000 computed tomography systems have been installed, and one of every four carries the Siemens label. In universal angiography and cardiac angiography, some 23,000 units are in use, 6,000 from Siemens.

RS has also established itself as one of the market leaders at the premium level through its "Proven Excellence" quality program, which every refurbished system undergoes at the production center. The demand for refurbished systems has grown rapidly over the past few years.

## **Logistics**

At the factory with everything at hand, another name for the AX production facility, production time per unit has been reduced drastically. Using assembly lines installed in 1996/97, throughput time for radiography systems has been reduced by 50 percent. Depending on the system, angiography units complete the assembly and testing stations along the production line in five to twelve working days, instead of more than 20 days as in the past. Through a redesign of the production areas and flexible use of

employees, the facility can manage monthly fluctuations in demand of more than 300 percent per system type. A specially-developed endurance test for all radiography systems called CRST (Clinically Relevant Simulation Testing), and integrated into the production process, is performed at night. This means the production facility can be utilized 24 hours around the clock. The test was developed in conjunction with physicians and simulates usage in the hospital. AX was the overall winner of the "Factory of the Year 2004" competition, sponsored by the A.T. Kearney consulting firm in Chicago and trade journal "Production".

High-speed logistics across all process areas and "just in time" delivery of components as well as modern timed construction has also reduced the production time for computed tomography systems: what used to take 22 weeks can now be completed in 10 days or less. Optimized production flow especially benefits the customer. Due to complete assembly in Forchheim, the installation time in the hospital or physician's practice has been reduced to a maximum five days. This contributes significantly to the efficiency and operational readiness in the hospital. This process optimization has received international recognition, including the award as one of "Industry Week's Best Plants" in 2002.

### **Environmental protection and X-rays**

The Forchheim office's voluntary participation in the Eco-Management and Audit Scheme (EMAS), the system with the world's highest environmental protection requirements, shows clearly that work is being performed in an environmentally sensitive manner. Since 1996, Med in Forchheim has used an eco-management system in accordance with EMAS to enable continuous improvement in environmental protection, and allows the system to be audited by a nationally licensed environmental protection expert. The location is entered in the EMAS register and is authorized to use the EMAS symbol. The symbol confirms that Med in Forchheim provides for greater environmental protection than is required by law.

Forchheim also serves as the Siemens innovation center for dose saving in CT and radiography. Siemens CT systems equipped CARE Dose4D, the automated real-time

dose modulation system, produce 66% less exposure to radiation compared with other computed tomography systems.

The radiography systems of the AX product group in some cases use less than a tenth of the dose when compared with earlier systems. The latest innovation that contributes to dose reduction is the flat detector, which has replaced film in classic radiography and has contributed to improved image quality in angiography systems.

**Siemens Medical Solutions** of Siemens AG (NYSE: SI) is one of the world's largest suppliers to the healthcare industry. The company is known for bringing together innovative medical technologies, healthcare information systems, management consulting, and support services, to help customers achieve tangible, sustainable, clinical and financial outcomes. Recent acquisitions in the area of in-vitro diagnostics – such as Diagnostic Products Corporation and Bayer Diagnostics – mark a significant milestone for Siemens as it becomes the first full service diagnostics company. Employing more than 41,000 people worldwide and operating in over 130 countries, Siemens Medical Solutions reported sales of 8.23 billion EUR, orders of 9.33 billion EUR and group profit of 1.06 billion EUR for fiscal 2006 (Sept. 30). Further information can be found by visiting [www.siemens.com/medical](http://www.siemens.com/medical)