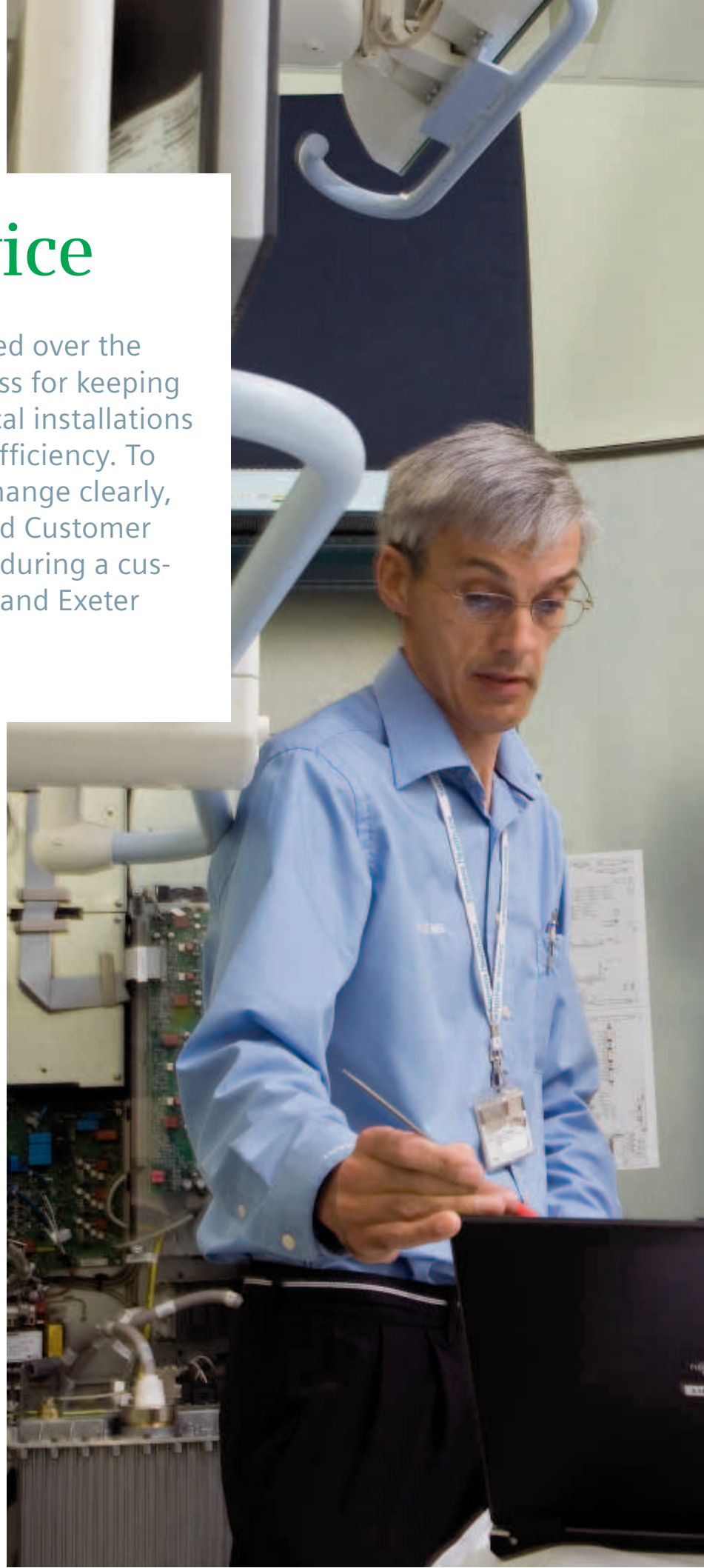


At Your Service

Just as hospitals have developed over the years, so has the service process for keeping those facilities and their medical installations up and running at maximum efficiency. To demonstrate this innovative change clearly, *Medical Solutions* accompanied Customer Service Engineer Philip Tombs during a customer visit at the Royal Devon and Exeter Hospital, UK.

By Daniel Whitaker

Britain's Royal Devon and Exeter (RD&E) Hospital has been at the forefront of medical best practice since it first opened on New Year's Day in 1743. Today, the hospital – which caters to more than 350,000 people across the surrounding county of Devon and beyond – has exchanged its original elegant Georgian building for a new brick-and-glass complex, but it still applies the best in contemporary medical techniques. There's no better example of this than in the hospital's medical imaging capability: From its ACUSON Antares™ ultrasound units to its two MAGNETOM® Avanto magnetic resonance imaging (MRI) scanners, the RD&E utilizes a full range of Siemens technology, whether for diagnosis or to aid therapeutic interventions, which are manufactured to the highest specifications and supported by Siemens services. This is why UPTIME Services, the service organization of Siemens Healthcare, provides numerous innovative and proactive services that enable the detection of parameter deviations in imaging systems before malfunctions occur and has set up sophisticated processes that offer highly effective support whenever a problem



Operational test in the X-ray room: Siemens' Customer Service Engineer Philip Tombs (left) and Mike Stewart, Chief X-ray Engineer at the Royal Devon and Exeter Hospital, UK



has to be solved. A very important element of the service process is the Customer Service Engineers (CSE) who visit the customer whenever needed. Philip Tombs, a Siemens CSE for the past 25 years, is one of those people. Today, Tombs leaves his home in Saltash, England at 7:30 a.m., crossing the Tamar River, which divides the counties of Cornwall and Devon, and driving 80 kilometers (ca. 50 miles) to Exeter. There, he navigates the twisty roads of this Roman city until he reaches the RD&E. He checks his PDA that sets his assignments and provides any necessary information on the current state of the hospital's systems. Tombs is one of around 150 Siemens Healthcare CSEs in the UK. With ten hospitals within his large geographical territory, Tombs says, "I'm an all-rounder, ready to face anything from a faulty switch to highly complex software issues." More than 100 hours of factory training per year keep his systems knowledge and troubleshooting skills honed. There are times, however, when Tombs' own high-level knowledge and experience aren't quite enough. Occasionally, particularly with new systems, Tombs may rely on the advice of the sophisticated service support chain. A call to the Support Center connects him with the most suitable expert for this particular system or application, who in turn has access to the Siemens Healthcare Knowledge Base, where all service cases that ever arose worldwide are logged. That way, Tombs gets all the specific information he needs onsite within a very short time so that he can best support the customer (see side bar on page 28).

Matching Counterparts

Tombs' counterpart at the RD&E is Mike Stewart, the hospital's Chief X-ray Engineer for the past 16 years. Stewart's own extensive capabilities are clear from his "Aladdin's cave" of an office/workshop, with more than 100 drawers of fuses, capacitors, and transistors. He knows some of the imaging systems well enough to have a Shared Services contract with Siemens, taking responsibility for maintaining everything but the generators in



the main X-ray room, for example. More systems are covered by full service agreements, so-called Performance Plans (for details, see side bar). But just as he is a customer to Siemens, Stewart cares for his own customers: both the RD&E's Trust management and its patients. Both Tombs' and Stewart's familiarity with the Siemens systems is obvious as they

check over one of the two SOMATOM® Sensation 16 computed tomography (CT) scanners. Senior Radiographer Liz Cox explains, "We call it the 'polo mint' – that name and its gentle colors help keep patients from feeling frightened of being placed inside." But just a few months earlier, work grounded to a halt at 3:00 p.m. one after-

noon as a CT scanner's table jammed, rendering it unusable. Stewart called the Siemens Support Center. Speaking to a support engineer who, using the Siemens Remote Service (SRS) connectivity, accessed the system remotely together with the CT specialist Tony Barnes. Barnes was quickly able to read the scanner's error logs, ascertain that the

How Service Support Works in Detail

Customer Service Engineers like Philip Tombs are the local ambassadors of a dedicated international service organization, UPTIME Services. UPTIME Services supports 60,000 Siemens customers to ensure that their medical equipment will enjoy maximum reliability and availability. Flexibility to client needs and the use of cutting-edge technology combine in two main functions:

- Error prevention via a proactive service approach
- A sophisticated support process in the instance of a malfunction

Both draw on Siemens Remote Service (SRS), which is the basis for a wide variety of innovative proactive services. Through proactive remote monitoring, fault detection, and repair via SRS, many onsite visits can be avoided. This not only saves time, but also contributes to environmental protection efforts since fewer onsite visits mean less fuel emission. Plus, which spare parts may be needed can be clarified prior to an onsite visit so that the parts are available when the service engineer arrives onsite. Analogous to the preventive medicine that physicians recommend to their patients, problems can be avoided before they even arise. The confidentiality of patient data is strictly provided with the security of the virtual private network (VPN) broadband connection certified according to ISO 27001. For both Shared Services customers and CSEs, technical support is provided by the Siemens Support Centers, according to the issue or problem. Experts from the UPTIME Service Centers answer all kinds of customer requests in the local language of the respective country. Next, there are specialists working in

regional support centers in three time zones. Finally, some complex technical problems are solved by experts in the Headquarters Support Centers that work closely with Siemens' engineering departments.

Should parts be needed, they will come from one of three distribution centers: Frankfurt, Germany; Memphis, Tennessee, USA; or Singapore. Delivery speeds remain impressive, with 97 percent of all parts arriving onsite within 24 hours. Because customer needs vary, a range of maintenance Performance Plans are available. These are modular service packages covering proactive services and fast, technical onsite responses, as well as obsolescence protection programs and load-dependent solutions. In addition, Shared Services contracts are offered, which is a partnership solution between Siemens and its customers. Based on each service agreement, both contract types can include features such as Siemens Virus Protection to shield against software attacks with validated scan engines, Utilization Management with reference to industry benchmarks, and real-time proactive system monitoring with the Guardian Program™. The newest innovative feature that UPTIME Services introduced is the Siemens Guardian Program including TubeGuard for the SOMATOM® Definition family of computed tomography (CT) systems. TubeGuard can predict the majority of potential CT tube failures by proactively monitoring the tube functions with more than ten sensors. For CSEs like Philip Tombs, this means even better remote preclarification and being able to arrive at the customer's site with the tube in hand. Today, about three quarters of problems can be solved with a first visit.



Whether checking IT, replacing spare parts, consulting with hospital personnel, or reviewing electrical engineering, Customer Service Engineers are always at the forefront of hospital routine. And the Siemens Service Center is there with them, helping to solve challenges remotely.

frequency converter was disabled, and ensure that a new converter was onsite at 7:00 a.m. the next day. The spare part was flown in directly from one of Siemens World Distribution Centers in Frankfurt, Germany, to the UK's East Midlands airport, then couriered to Exeter and deposited in the hospital's blue Siemens "drop box." Though Tombs was on hand if needed, Stewart fitted the new converter himself, and the scanner was being used for routine head and chest scans again by 9 a.m. That successful resolution shows how the RD&E-Siemens relationship is at once both close-knit and geographically wide-ranging. As Stewart notes, "Though I know Tony Barnes' voice very well, I've never met him, and don't know if I ever will. But knowing the backup is there is critical."

Digital Service

While the RD&E and Siemens have been solid partners for over a decade, some things have changed. As he inspects the C-arm of an ARCADIS™ Varic mobile image intensifier, which has just been used for an orthopedic hip scan, Tombs enthuses, "From an engineering point of view, it's an exciting time. Better reliability is driving wider application. Machines are becoming smaller, lighter, and less intimidating for patients."

The switch from radiographic film to digitization has required a big change in servicing skills. Tombs admits that while he "still had to deal with chemicals" when he started to work as a support engineer, now there are fewer moving parts and thus, fewer mechanical problems. Conversely, though, digitization brings software as well as hardware challenges. The syngo® Workflow and Imaging appli-

cations help with this by fitting over Microsoft® XP and offering a common interface across different equipment. But Stewart and Tombs must constantly develop their networking capabilities. These skills are boosted whenever either of them travels to the Siemens Training Center, located at the headquarters in Erlangen, Germany. For Stewart, the training rooms, which are very similar to real hospital rooms, are a good way to get used to each new piece of equipment. For Tombs, even though his German doesn't stretch beyond technical vocabulary and a restaurant menu, "Erlangen feels like home. I've come to appreciate sauerkraut with my schnitzel, and of course the excellent beer. And the neatness and efficiency of the country appeals to the engineer in me."

The excellent long-term relationship between the RD&E and Siemens has a solid technical base. But Tombs adds, "Just because you know the technical side, it doesn't necessarily mean you will be able to get on with the customers." He feels that even though he has worked with customers for 25 years now, there are always new situations coming up and it is a constant learning experience with the customer.

Daniel Whitaker is an economics graduate and freelance journalist based in London. He writes about a wide range of business topics. Additionally, he acts as a consultant to the UK government and other clients on issues related to health policy.

Summary

Challenge:

- Avoiding breakdowns that could cause unexpected delays in the clinical workflow
- Maintaining the hospital's cutting-edge level of medical imaging technology
- Making sure that customers with a Shared Services contract have state-of-the-art technical knowledge

Solution:

- The ability to perform proactive monitoring and repair, even before breakdowns occur, via remote monitoring of equipment
- Customized service agreements (Performance Plans or Shared Services) with assigned roles and responsibilities, assisted by remote technical support and rapid parts delivery
- Development of a successful long-term relationship between client and Siemens, which includes regular training

Result:

- Reliable operation of equipment, leading to greater and predictable clinical throughput
- An optimal balance between cost and access to maintenance, repair skills, and spare parts
- Mutual trust between customers and Siemens, who can identify and draw upon each other's strengths

Further Information

www.siemens.com/uptime-services