

Managed service for hybrid operating rooms

“A partner you can trust”

For the Malteser St. Anna hospital in Duisburg, Germany, collaboration with an external partner proved to be a great success.

Arne Greiner is the managing director of Malteser Rhein-Ruhr GmbH. Right now he is working through a period of “hard upgrading,” as he calls it, at St. Anna’s Hospital, a major process for an entity with more than 100 years of history behind it. What that means, in detail, is that many projects have to be implemented simultaneously – and very swiftly, to make the entire business future-proof. Greiner is building, quite literally, on four areas of specialization: oncology; ear, nose and throat (ENT) medicine; cardiovascular surgery; and geriatrics. It goes without saying that professional support is welcome during such phases.



“We had experts on the job that we could never have afforded ourselves”

Arne Greiner,
Managing Director,
Malteser Rhein-Ruhr gGmbH

When it implemented three ENT suites, some of the most advanced in Germany, Medtronic IHS proved to be a partner that could keep up the pace: The work of converting the entire OR wing of the ENT hospital in Duisburg was completed in just six months. Greiner counted on Medtronic’s skills in the same way when it came to the new challenge, too. The question was, “What’s the most efficient way to develop the

Duisburg location even more?” Medtronic IHS found answers in the portfolio of Siemens Healthineers.

Greiner says: “It was clear that in some cases we lacked a broader perspective. That’s why we first approached Medtronic for consulting services.” Florian Distler, Business Director for Integrated Health Solutions Germany at Medtronic, immediately set about developing a location strategy with

What’s behind the Duisburg managed service model?

Medtronic IHS prefunded the investment

For St. Anna’s Hospital, Medtronic Integrated Health Solutions (IHS) prefunded the entire investment cost of a state-of-the-art hybrid operating room, which involves a cost allocation across the eight-year contract term. This is a pay-per-use model in which the hospital will pay Medtronic’s investors a fixed amount per procedure during that period. If the analysis was correct when the partnership was created and the investment in the Hybrid OR pays off, both sides will be happy. And for St. Anna’s Hospital, there’s another vital benefit: It does not need to draw on third-party capital for the approximately €2 million investment in the Hybrid OR. For terms of contract, Medtronic IHS is responsible for the smooth

operation of the systems, and works closely with manufacturers like Siemens Healthineers.

Siemens Healthineers is the preferred imaging partner

For many institutions worldwide Siemens Healthineers is the preferred imaging partner for hybrid operating rooms with more than 1,000 high-end imaging systems installed in operating rooms. The vast experience of Siemens engineers in planning, installation and customer services for hybrid operating rooms guarantees a smooth ramp-up and reliable operation of high-end imaging in operating rooms. Surgeons can rely on the experience and passion of Siemens Healthineers and focus on treatment.



Artis zee floor

The Artis zee floor-mounted system fits rooms as small as 29 m² (less than 350 sq. ft.), much less than the ACC-recommended 45-55 m² (500-600 sq. ft.), due to its very small footprint. This means that there is enough space left for equipment, in-room storage, the patient, and the clinical team. Besides the small footprint, the Artis zee floor offers a high level of positioning flexibility and allows the steepest angulations.



ARTIS pheno*

Discover ARTIS pheno on pages 40-41.

his team for St. Anna's and performed a feasibility study: "We focused on innovation in vascular surgery, since this discipline was underrepresented in the region, and we wanted to make a rational decision as to whether investing in a Hybrid OR was a practical option. Managed service models like the one in Duisburg mean we take on the prefinancing, so we also have to believe it's going to work. As part of the analysis, we gather numbers, perform interviews, examine organizational processes, and take the company's infrastructure into account. This is where we in Duisburg work very closely with Siemens, which provides the imaging system that is at the heart of the Hybrid OR. Together we consider which device would work best, and what that decision will imply. We concluded that the Hybrid OR was exactly what was needed here."

And so Greiner found what he was looking for: in other words, a "partner we can trust," as he put it. That was the green light for phase two, the actual implementation.

Everyone involved has to believe

This is where quite a few more partners and hospital representatives came on board. Distler recalls: "The timelines were tight. The project needed to be finished within less than one year from the analytical stage to the first procedure. And it all worked out in the end." Greiner enthuses, "We had experts on the job that we could never have afforded ourselves." He recalls an incident that made the passion for the common goal tangible: "Once, when the project was already well advanced, we had to move the system another 17 centimeters – it was a quality requirement for reasons of radiation protection. Our colleague from Siemens was adamant, based on his experience. And I'm pleased that he insisted: It turned out to be absolutely necessary to move the system as he said." Distler is convinced: "The most important thing is simply to get everyone on board, from the technology experts from Siemens Healthineers to anesthesia to the chief surgeons and the senior

consultants, as well as the entire OR staff, building department, IT, and executive management." His task is to present the analysis results from the medical and business decision makers on both sides. "That takes time, and occasionally we decide to step back." Everyone has to agree that "this is how we're going to do it before we can take the project through to completion together."

Device of choice: Artis zee floor

The Hybrid OR has now been running for almost a year and is proving to be extremely effective.

"While we adopted a conservative approach in the planning stage, the entire project has turned out incredibly well. There are 17 hospitals within a radius of 10 kilometers – but there was little available in the way of vascular surgery. Now we are the first ones that really set up a state-of-the-art-system," says Greiner proudly. There was less than 50 m² available at St. Anna's to construct the Hybrid OR, so once again, Distler and Greiner put

“We cannot progress if we don’t work together and think about what will benefit the end customer”

Florian Distler
Business Director for Integrated Health Solutions Germany, Medtronic



their faith in experienced partners: *“The most important thing is to get everyone on board.”*

Three good reasons for the managed service model

Greiner has some solid answers when he is asked about the three most important reasons why operator models like this should catch on: *“First, the financing model is attractive, and second, Medtronic IHS is a powerful partner when it comes to project management. Ultimately, we can’t deny the benefit of the marketing effect for the hospital – both in-house and externally. No sooner had we cut the tape to open the new Hybrid OR than applications came in from two senior consultants from other hospitals.”*

State-of-the-art technology for difficult procedures

Vascular surgery will change in the future – both Greiner and Distler are certain of that. *“Much will be done on an outpatient basis in the future. That’s why we’re retaining the complex procedures that use state-of-the-art*

technology here, and are dovetailing them with our outpatient services.” Here, too, Medtronic IHS is assisting the Order of Malta Hospitals in collaboration with partners from Siemens Healthineers, as Distler explains: *“It’s all about working on an equal footing with our customers so we can offer patients even better medical care in the future while*

making the best possible use of in-house hospital resources. We cannot progress if we don’t work together and think about what will benefit the end customer. In that respect, the entire industry is changing.”

Medtronic beyond devices

Medtronic created Integrated Health Solutions (IHS) in 2013 to support health providers addressing today’s challenges, such as the high cost of care and changing demographics. At IHS, the goal is simple: to help customers optimize costs and outcomes while driving higher value and patient satisfaction. Taking advantage of its size, scale, and clinical technical, and operational expertise, Medtronic has built a dedicated team with a unique mix of skills. Today more than 200 experts can complement a hospital’s competencies in the following fields: consulting, hospital management, building and managed care, biomedical engineering, planning and scheduling, logistics and market development. Medtronic IHS has entered into more than 80 partnerships across Europe and the Middle East. In Germany, more than 13 Integrated Health Solutions projects have been implemented, one of which was for the Order of Malta in Duisburg.

“In a strong competitive environment in the region, we want to offer our patients less invasive and safer treatment.”

Dr. Damian Schubert
MD, Head of Vascular Center,
St. Anna's Hospital Duisburg

How does the vascular center in Duisburg work together with the other hospitals of the Malteser Clinics?

DR. SCHUBERT: In the St. Anna's Hospital we built an infrastructure to treat the more complex cases with endovascular and open surgical treatment. All complex cases like aortic aneurysms are referred to Duisburg, while more routine cases like venous diseases are treated in the other clinics. This allows us to increase the utilization of our new Hybrid OR where we perform all endovascular procedures.

“We now have excellent imaging in a highly sterile environment”

Can you describe the key changes that are involved with the Hybrid OR?

DR. SCHUBERT: We now have excellent imaging in a highly sterile environment. The new technology allows us to perform complex endovascular procedures with less contrast medium and less radiation exposure for the OR team in a shorter operating time. Compared to the years before, we ordered only 50 percent of the contrast media and at the same time increased the number of complex procedures.

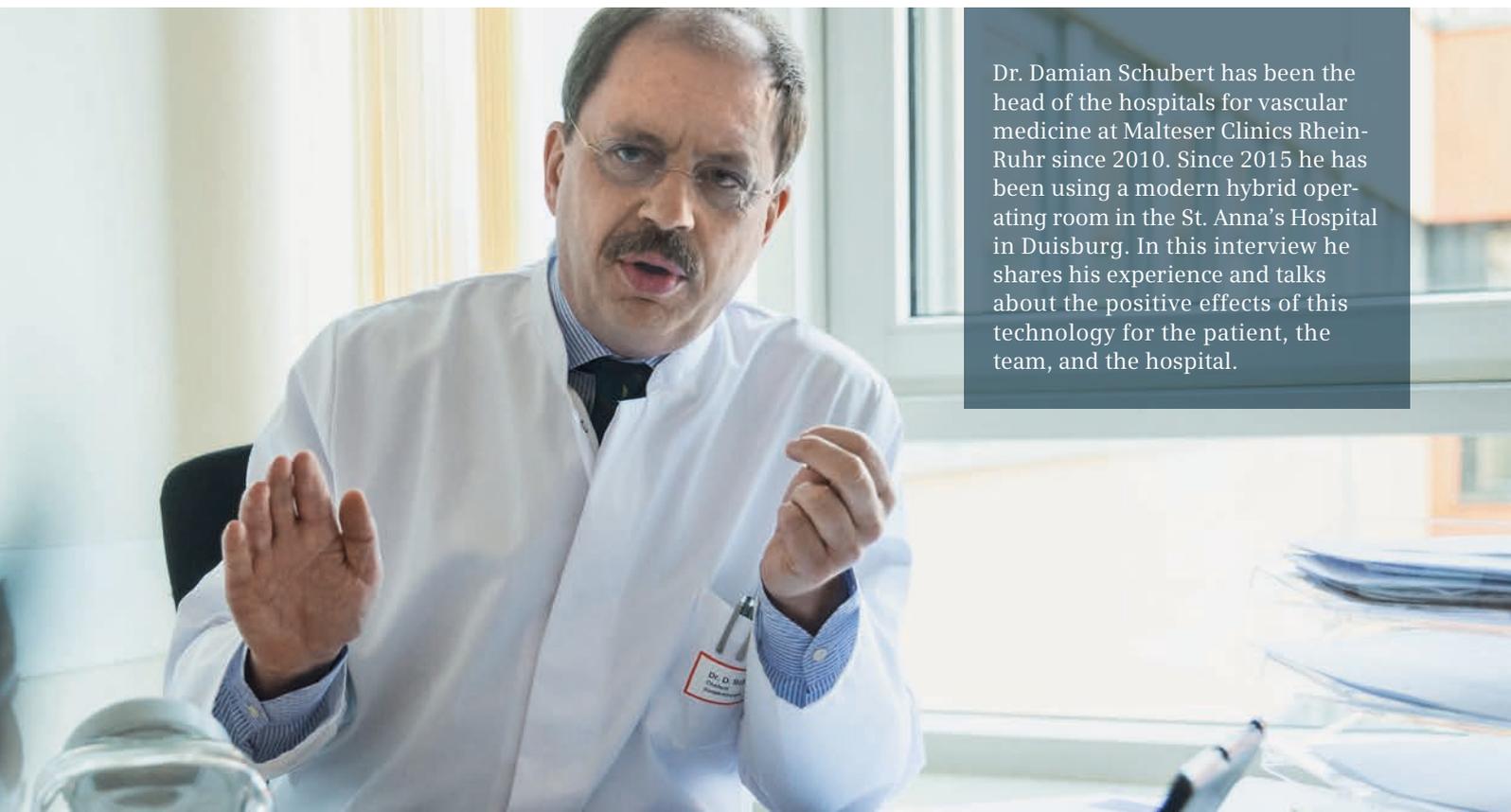
Has the Hybrid OR changed the external perception of the hospital?

DR. SCHUBERT: In a strong competitive environment in the region, we want to offer our patients a less invasive and safer treatment. To achieve this, we have a very well-trained professional team of surgeons working with the latest technology. Our patients are very well informed and feel better when the institution can offer treatment in a modern Hybrid OR. The feedback has been strikingly positive.

Does that have an impact on the number of patients you serve?

DR. SCHUBERT: The more complex procedures in our institution – like aortic aneurysms with branched stents – have increased. That can be directly attributed to the Hybrid OR. In terms of the case mix, we've recorded an increase of about 20 percent in the first four months. We perform about 100 aortic procedures annually. These procedures are not only faster: Most importantly, they put much less strain on the patients. We can now provide





Dr. Damian Schubert has been the head of the hospitals for vascular medicine at Malteser Clinics Rhein-Ruhr since 2010. Since 2015 he has been using a modern hybrid operating room in the St. Anna's Hospital in Duisburg. In this interview he shares his experience and talks about the positive effects of this technology for the patient, the team, and the hospital.

more patients with support through intermediate care. The number of patients in the intensive care unit has declined compared to before the Hybrid OR, and that trend is expected to continue.

Why did you decide to go with a floor-mounted system?

DR. SCHUBERT: I would always advise going with a floor-mounted version because I think it gives us more space. The level of sterility is also higher than with a ceiling-mounted system, because the sterility level increases with every square meter. Unfortunately, we only have 50 m² here – an optimal size would be between 60 and 70 m².

Do you also use fusion imaging?

DR. SCHUBERT: This technology for placing stent grafts with 3D guidance is only available in hybrid rooms. Key benefits include tremendous savings in contrast medium and lower radiation exposure. We've been very impressed by it. With fenestrated

prostheses, fusion imaging offers benefits that we'd never experienced before.

What tips would you give colleagues when planning the construction of a Hybrid OR?

DR. SCHUBERT: The close collaboration of everyone involved is very important. Care should be taken during planning to closely consult with

medical technicians, hygiene specialists, and architects. You have to get everyone together at one table for planning. If you accomplish that, you can get it installed in three months.

The Order of Malta Hospitals

The Order of Malta hospitals in the Rhine-Ruhr region are an example of a state-of-the-art interconnected hospital system, with two medical care centers, one radiotherapy unit, and three hospitals comprising 900 beds. One of these is the Malteser Krankenhaus St. Anna (St. Anna's Hospital), a state-of-the-art, patient-oriented hospital for acute and secondary care in the south of Duisburg, where more than 750 employees treat over 14,000 inpatients and 26,000 outpatients every year. The Malteser Vascular Center is a special department for the diagnosis and treatment of arterial, venous, lymphatic, and vascular diseases. Head Physician Dr. Schubert and his team operate on about 1,450 patients every year. The Hybrid OR at St. Anna's Hospital opened in September 2015.