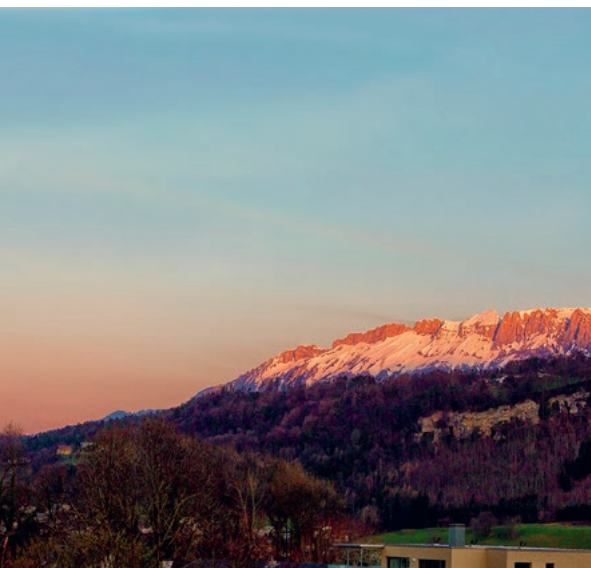


Working in a Hybrid OR: Visionary Medical Care

Harald Maikisch is an expert on the Austrian hospital sector and will soon have four decades of experience under his belt. When he plans a hospital for the future, he always examines the best ideas for it in the here and now. He believes that cutting-edge technology and architecture must absolutely serve the needs of the people. Today, he runs the largest hospital in the state of Vorarlberg, Austria – LKH-Feldkirch, a specialist care hospital. A hybrid operating room is at the heart of its new operating and intensive care center. Building the hybrid OR was a farsighted decision – in a very literal sense.

Text: Andrea Lutz | Photos: Marco Leibetseder, Dietmar Mathis, Manuel Riesterer



Around 44,500 inpatients are treated and 22,200 operations performed every year at LKH-Feldkirch, which is located close to Austria's border with Switzerland. Given these huge numbers, the demands placed on the hospital team are high – their workflows must be absolutely seamless. Administrative Director Harald Maikisch describes it as follows: "The most important thing is the quality of care that we provide to the public. That's what we're all here for. To help us provide this care, we compete on a European level to attract the best employees to Vorarlberg."

Staff: Attracting the best when the overall picture fits

Today's hospitals have to compete hard to attract surgical staff. Maikisch knows that if he wants highly qualified specialists, he also has to offer the best conditions possible. The hospital must get the basics right – that includes offering an attractive salary, good infrastructure, and flexible arrangements for families. Maikisch adds that a hospital's image also plays a role: "Applicants want to be convinced by the discipline that is important to them. Our hospital provides almost all types of complex surgery. In terms of equipment, we have every device that is required

and beneficial." Maikisch explains that a hybrid OR is the state of the art for a hospital the size of LKH-Feldkirch. He says that LKH-Feldkirch's hybrid room, which is equipped with a robotic C-arm, has tipped the scales for some applicants: "We can only attract the best staff if the overall picture fits."

The construction phase: Nerves of steel

The groundbreaking ceremony for the new OR and intensive care center was held in February 2015; the hybrid OR has been in operation since spring 2019. During the construction phase, those responsible had to have nerves of steel because numerous deep explosions were necessary. What is more, they were carried out (under careful observation) at the same time as surgeries were being performed. If you are now imagining that the new operating theaters are located in some dark basement, however, you would be wrong. The planners came up with something very special, and showed farsightedness in the most literal sense: Upon entering the new, blue-glazed hybrid OR, your gaze sweeps over the Swiss mountain landscape outside. The wide panorama windows were chosen so that, even during an intense working day, surgical staff can take a moment to enjoy the unique view.



"We can only attract the best staff if the overall picture fits."

Harald Maikisch
Administrative Director
LKH-Feldkirch, Vorarlberg, Austria

Administrative Director Harald Maikisch wants to provide the best working environment and pioneering technology for his OR teams.

LKH-Feldkirch



619 total beds in
22 medical departments



210,000 outpatient treatments
and **44,500** inpatients yearly



200 surgeons perform roughly
22,200 surgeries every year



12 ORs, one **Hybrid OR**
equipped with an ARTIS pheno

Simulation: A master plan before the quantum leap

In many respects, building the OR center was a historically significant step for the region. Dr. Gerald Fleisch, CEO of the Vorarlberger Krankenhaus-Betriebsgesellschaft (the company that operates the hospital), talks of "a paradigm shift for LKH-Feldkirch" and a "quantum leap in medicine." Long before this quantum leap happened, Maikisch did his homework and arranged for simulations of the workflows in the OR center. The idea came to him during a visit to BMW. The Bavarian car manufacturer simulates production logistics before the conveyor belts start rolling. Maikisch decided to use the very same technique for the OR center. "The simulation showed us that we could provide the planned level of service with twelve ORs. We also saw that there would be enough space to install a hybrid OR. At the time, these types of rooms weren't so well established and it wasn't immediately clear exactly what kind of equipment was needed for a hybrid OR. So, our medical departments established which services it should be used for."

“The quality of our treatment is improving because we have better imaging and can check results during the surgery itself.”

Wolfgang Hofmann, MD

Head of the Department of Vascular Surgery
LKH-Feldkirch, Vorarlberg, Austria



Wolfgang Hofmann, MD, heads the OR department at LKH-Feldkirch and was a driving force behind the hybrid OR project.

Interdisciplinarity: Discovering ever more opportunities

Wolfgang Hofmann, MD, Head of Vascular Surgery, was a driving force behind the project. The hybrid OR has been open for six months now, and physicians are finding increasingly diverse uses for it. Hofmann himself has found that minimally invasive procedures for aortic diseases and carotid artery diseases, as well as treatments for peripheral artery disease can benefit from the hybrid OR. During surgery for brain tumors or intracranial vascular disease, the robotic C-arm allows surgeons to instantly check the results using 3D imaging. Orthopedic and trauma procedures also benefit by allowing surgeons to place screws with a high degree of precision thanks to laser guidance. “Our physicians report enthusiastically about the progress they’ve made in a procedure or the new treatment options that are now available and wouldn’t have been possible without the hybrid technology,” says Maikisch, clearly delighted. Now the Vorarlberg team need to identify exactly which surgeries benefit the most from the hybrid OR and allocate the time available between the disciplines.

Motivation: “Surely Austria’s most beautiful OR”

Hofmann currently uses the room primarily for vascular surgery and sums up by saying: “The quality of our treatment is improving because we have better imaging and can check results during the surgery itself. Because it takes me less time to place stents accurately during complex interventions, we reduce the need for contrast agent and minimize the radiation dose for everyone involved. Total surgery times are shorter, and patients have to spend less time in hospital because the treatment is less invasive. And there’s one more thing: This is surely Austria’s most beautiful OR right now – so of course it’s a pleasure to work in it.”

The statements by Siemens Healthineers customers described herein are based on results that were achieved in the customer’s unique setting. Since there is no “typical” hospital and many variables exist (e.g., hospital size, case mix, level of IT adoption) there can be no guarantee that other customers will achieve the same results.