

**LMU Klinikum Munich Treats World's First Patient Using
New ExacTrac Dynamic Patient Positioning & Monitoring System***

Novel tracking technology drives precision, efficiency and value in healthcare systems

MUNICH, July 6, 2020—[Brainlab](#), the digital medical technology company, announced today that [LMU Klinikum Munich](#) treated the first patient globally using [ExacTrac Dynamic](#). Designed to streamline precision radiation therapy treatments, ExacTrac Dynamic combines surface, thermal and X-Ray tracking technologies for the treatment of a wide array of indications.

The patient presented a challenge for doctors at LMU Klinikum due to the location of the tumor and the traditional closed mask used for treatment. ExacTrac Dynamic delivers automated patient monitoring with multiple tracking technologies—surface, thermal and X-Ray—using a frameless cranial mask fixation system. The new Brainlab Cranial 4Pi Immobilization* and open-face mask system together with ExacTrac Dynamic enable a comfortable patient experience, without increasing the risk for excess radiation delivery to healthy tissue. ExacTrac Dynamic provides confidence for clinicians by ensuring the submillimetric precision needed to deliver a targeted treatment dose safely. By reducing the complexity of multiple systems, ExacTrac Dynamic helps providers streamline throughput and may lower the time that patients-at-risk spend in the hospital.

"Since the relatively small tumor was very close to the patient's inner ear, it was a challenge to plan and treat," said Professor Maximilian Niyazi, M.D., Deputy Director of the Clinic and Polyclinic for Radiation Therapy and Radiation Oncology at LMU Klinikum Munich. "Using ExacTrac Dynamic, we were able to consistently track the position of the tumor with high accuracy and very low latency to provide an extremely precise treatment, even with an open face mask."

"I was nervous about the tight fitting mask and being immobilized on the treatment table. When Dr. Niyazi explained that LMU Klinikum had new technology with an open face mask system I was so relieved and knew I could move forward with the treatment that I needed. He showed me how ExacTrac Dynamic works, which really put my mind at ease. I felt confident that I was receiving a safe treatment in a way that wouldn't cause me to panic."

Professor Claus Belka, M.D., Director of the Clinic and Polyclinic for Radiation Therapy and Radiation Oncology at LMU Klinikum Munich added: "The system is very intuitive and flexible to use. It enables us to have constant real-time control with the automated interruption of treatment in the event of movements outside the pre-set tolerances that we've established for the patient. We really see the value that ExacTrac Dynamic brings to many different indications. For example, in complex radiosurgery for metastases in the spine, the system allows us to deliver highly precise, targeted dose by closely monitoring the internal anatomy with automated X-Ray monitoring. This is critical for spine treatments due to the proximity of the spinal cord to the target volume. Overall, the system helps deliver on our mission to provide patients with the best and most personalized care."

"The first treatment at our long-time partner LMU Klinikum Munich is a major milestone in advancing patient care," said Stefan Vilsmeier, President and CEO at Brainlab. "Healthcare



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digitization and automation through technologies like ExacTrac Dynamic are accelerating personalized patient treatment and the widespread adoption of best practice guidelines. Technologies like this are helping us deliver on our goal to make a positive impact on patient lives.”

* ExacTrac Dynamic is not commercially available in certain markets, including the United States. The information presented herein is general product information regarding ExacTrac Dynamic. The provision of the product information is not an attempt to market ExacTrac Dynamic in markets where the product is not commercially available, nor to solicit any orders for ExacTrac Dynamic in such markets, but rather is simply an opportunity for discussion. Commercial availability in all markets is contingent on the current release schedule and approval by the appropriate regulatory agencies.

About LMU Klinikum Munich

With its two Munich sites, Campus Grosshadern and Campus Innenstadt, LMU University Hospital Munich is one of the largest university hospitals in Germany and in Europe. Every year, around 500,000 patients place their trust in the competence, care and commitment of our staff at twenty-nine specialist clinics, twelve institutes, seven departments and fifty interdisciplinary centres.

Some of the outstanding facilities at LMU University Hospital Munich are the CCC M Oncology Centre of Excellence, Bavaria's largest transplant centre TxM, the German Centre for Vertigo and Balance, the Tropical Institute and the Centre for International Health (CIH). LMU University Hospital Munich is also involved in all German Centres of Health Research as well as in the DIFUTURE consortium, part of the Medical Informatics Initiative of the German Federal Ministry of Education and Research.

Further information online at www.lmu-klinikum.de.

About Brainlab

Brainlab is a digital medical technology pioneer founded in 1989 and headquartered in Munich. The company employs more than 1,400 people in 18 offices around the globe. Brainlab serves physicians, medical professionals and their patients in over 5,500 hospitals in 116 countries.

Brainlab creates software-driven medical solutions that digitize, automate and optimize clinical workflows for neurosurgery, spine, trauma, craniomaxillofacial (CMF), general and vascular surgery as well as radiotherapy and radiosurgery. Core products center around surgical navigation, radiotherapy, digital operating room integration, and information and knowledge exchange. The Brainlab open framework operating system will allow third parties to develop medical applications to further advance the field of spatial computing and mixed reality.

Brainlab is dedicated to creating an impact in healthcare. The company connects opportunities from emerging digital technologies to transform healthcare at scale and help improve the lives of patients worldwide. For more information please visit Brainlab and follow on [LinkedIn](https://www.linkedin.com/company/brainlab), [Twitter](https://twitter.com/brainlab), [Instagram](https://www.instagram.com/brainlab) and [Facebook](https://www.facebook.com/brainlab).

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