

News Release

FOR IMMEDIATE RELEASE

Taiwan's First Heavy Ion Therapy System to be Supplied by Hitachi to Taipei Veterans General Hospital

Hitachi's First Heavy Ion Therapy System Sales Abroad

Tokyo, April 4, 2018 --- Hitachi, Ltd. (TSE:6501, "Hitachi") announced today that it has received an order for a heavy ion therapy system from the Taipei Veterans General Hospital (Deh-Ming Chang, MD, PhD; Superintendent) in Taiwan. The order marks Hitachi's first heavy ion therapy project outside of Japan.

The heavy ion therapy system will include real time image gating motion management, enabling it to treat tumors in motion due to respiration and advanced spot scanning technology to irradiate even tumors with complex shapes with high precision. Particle therapy treatment planning will utilize imaging data and calculate the appropriate dose to prepare the most suitable, patient-specific treatment plans. The two-room facility, each equipped with both horizontal and vertical ports, will be installed in a new wing of the Taipei Veterans General Hospital, establishing it as the first heavy ion therapy system in Taiwan.

Founded in 1958, the Taipei Veterans General Hospital is recognized around the world as "Taiwan's leading medical center". The new facility will be the first heavy ion treatment center in Taiwan and will be located in the densely populated city of Taipei. It is intended to address the unmet demand beyond the capacity of an existing proton therapy system in a private hospital in Taiwan.

Hitachi's particle therapy systems can be found in leading hospitals around the world. With over 16,000 patients treated to date, the systems have an excellent reputation for reliability. Hitachi's continued globalization includes the proton therapy system contracted in 2017 with the University of Navarra in Spain. Another landmark project is the Osaka Heavy Ion Therapy Center where patient treatments are scheduled to begin in October of this year. Furthermore, Hitachi has announced plans to integrate Mitsubishi Electric's particle therapy system business to further advance precision and increase value in both products and services starting with its one room proton therapy treatment system.

As Hitachi expands its healthcare business, it will continue to accelerate the globalization of its particle therapy system business and contribute to cancer treatment around the world.

Overview of Particle Therapy

Particle Therapy is an advanced type of cancer radiotherapy. Protons extracted from hydrogen atoms, or carbon ions are accelerated up to 70% of the speed of light. This energy is concentrated directly on the tumor while minimizing radiation dose to surrounding healthy tissue. Particle therapy improves the quality of life for cancer patients since the patient experiences no pain during treatment and the procedure has very few side effects compared to that of traditional radiotherapy. In most cases, patients can continue with their normal daily activities while undergoing treatment. Because there are fewer side effects, the use of particle therapy is expected to increase.

Overview of Real Time Image Gating System for Particle Therapy Systems

Real Time Image Gating Particle Therapy is a technology used to track and irradiate tumors in motion. This is accomplished by positioning a 1.5 or 2.0 mm diameter gold marker close to the tumor and establishing its location as a reference via CT. A dual-axis, orthogonal X-ray system is used with pattern recognition software to determine the spatial location of the marker due to respiration. Irradiation during treatment is performed only when the gold marker moves to within a few millimeters of the planned irradiation location. This process, when repeated, can be synchronized to the respiratory motion of the patient, thereby significantly decreasing the total irradiation volume of targets in motion. As a result, the harmful impact of irradiation to healthy tissue can be significantly reduced.

Overview of Scanning Irradiation Technology

Scanning irradiation technology does not scatter particle beams as with conventional particle therapy. Rather, the narrow particle beam is continually moved and paused as it irradiates entire tumor volumes. Particle beams can be aimed with high precision according to the targeted tumors, even those with complex shapes, while minimizing the impact on nearby healthy tissue.

About Hitachi, Ltd.

Hitachi, Ltd. (TSE: 6501), headquartered in Tokyo, Japan, delivers innovations that answer society's challenges. The company's consolidated revenues for fiscal 2016 (ended March 31, 2017) totaled 9,162.2 billion yen (\$81.8 billion). The Hitachi Group is a global leader in the Social Innovation Business, and it has approximately 304,000 employees worldwide. Through collaborative creation, Hitachi is providing solutions to customers in a broad range of sectors, including Power / Energy, Industry / Distribution / Water, Urban Development, and Finance / Government & Public / Healthcare. For more information on Hitachi, please visit the company's website at <http://www.hitachi.com>.

Information contained in this news release is current as of the date of the press announcement, but may be subject to change without prior notice.
