BioSpectrum
the business of Bi
24 years of leveraging the business of Bio
www.biospectrumindia.co

SS Innovations unveils Indiaâ??s first mobile tele-robotic surgery unit

10 March 2025 | News

Brings advanced robotic surgery to remote and underserved areas



SS Innovations, the maker of India’s first and only home-grown surgical robotic system, SSI Mantra, has unveiled the SSI Mantra Tele-Sync Mobile Unit, well known as SSI MantraM– India’s first-of-its-kind mobile tele-robotic surgery unit.

This revolutionary unit, designed as 'telesurgery on wheels', brings advanced surgical care closer to patients. It enables real-time collaboration for surgeons to perform or guide procedures remotely with minimal latency.

Built on a BharatBenz 1824 chassis, SSI MantraM has a gross vehicle weight rating of 18,500 kg(18.5 Tons) and measures 11.9 meters in length, 2.59 meters in width, and 3.49 meters in height. The total cost of SSI MantraM including structural modifications, is approximately Rs 1.3 crores.

However, this cost excludes the SSI Mantra Surgical Robotic System, whose price varies based on features and robotic arm configurations.

Designed to serve underserved regions, SSI MantraM is equipped with backup power systems, including onboard 5 kVA generators and external power compatibility, ensuring uninterrupted telesurgery capabilities even in remote locations. Its 380-litre fuel tank allows for extensive travel, making it well-suited for rural and remote transportation. With high-speed telecommunication systems and ongoing R&D into satellite connectivity, the unit has the potential to enable remote telerobotic surgeries in even the most inaccessible areas.

SSI has designed SSI MantraM with a special entrance and ramp for safe robotic system movement, reinforced locking mechanisms to minimize vibrations, and actuator-based carts to maintain calibration. The actuator-based design ensures the patient-side carts remain firmly in place, preserving the delicate calibration and integrity of the robotic arms. To optimise space, the unit features an extendible cabin, providing ample room for medical staff to perform or assist in telesurgical procedures. Additionally, multiple entry and exit points (one at the rear and two on the side panels) enhance the efficient movement of personnel and equipment. For safety and focus during procedures, a separate driver’s cabin isolates the operating and patient area from the driving compartment, ensuring an uninterrupted surgical environment.