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# Cardiac and Lung Surgical Robots Market Shares, Strategies, and Forecasts, Worldwide, 2015 to 2021

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## Abstracts

LEXINGTON, Massachusetts (December 9, 2015) – WinterGreen Research announces that it has published a new study Cardiac and Lung Surgical Robots: Market Shares, Strategy, and Forecasts, Worldwide, 2015 to 2021. The 2015 study has 223 pages, 85 tables and figures. Worldwide Cardiac and Lung surgical robot markets are poised to achieve significant growth as next generation systems provide a way to improve traditional open surgery and decrease the number of ports needed for minimally invasive surgery.

The automated process revolution in surgery and communications is being implemented via robots. Robots automation of systems is providing significant improvement in the accuracy of surgery and the repeatability of process.

Intuitive Surgical owns the market as the major participant with compelling market share in cardiac and lung surgical robots. This leadership position will need to be defended as other vendor products, now in clinical trials come to market. Advanced technology, an installed base and a well trained core group of surgeons give Intuitive Surgical market advantage.

Patients for some types of procedures fare better when the heart or lung surgery is done by surgical robots. The documentation of improvements in care delivery, the ability to ensure better outcomes from surgery promise that cardiac and lung surgical robotics is a strong growth market. Heart disease is still the largest disease worldwide. The issue for cardiac and lung robotic surgery is that so many heart patients exist.

Every leading surgeon working to perform heart and lung robotic surgery has worked to be accepted to practice at a hospital that has those robotic devices. The really talented

surgeons depend on hospitals having the cardiac robotic equipment. In order to attract physicians and patients, the hospitals have to purchase the surgical equipment.

The market penetration of the cardiac and lung surgical robots will go to 100 percent in the US top hospitals within five years. As the surgeons migrate to the places that have the robotic surgical equipment, other hospitals and their potential patient populations notice. If the hospital does not have the surgical robotic equipment, it will not have any surgeons, this is a bad situation for a hospital. The cardiac and lung robotic surgical equipment permits better surgery and the surgeons and patients know this.

Cardiac and lung robotic surgery is poised to eclipse open surgery. It is used in the categories of lobectomy, thoracic revascularization, and mitral valve repair surgery. Surgical robots are positioned to become the standard of care for hospitals in the delivery of some heart surgery. The emerging group of several surgical robotic companies will collectively have enough marketing dollars and enough marketing clout to drive replacement of virtually all open cardiac and lung surgery.

Larger hospitals that can afford the expenditure are adopting heart and lung robotic surgical devices to improve their outcomes numbers. Hospitals are measured on outcomes, robots for surgery, when used by a trained physician are improving outcomes significantly. Hospital robotic systems have an emphasis on outcomes improvement during surgery. This has resulted in investment in robotics technology that is useful, and achieves positive patient outcomes.

Technology is enhancing a wide variety of procedures in many cardiac surgical specialties. Cardiac and thoracic surgeons at leading hospitals use robotic surgical systems increasingly. The aim is to perform more of the one-hundred thousand MIS surgical procedures of various types using robots. The surgeries performed by robot include cardiothoracic and vascular surgery. These surgical applications are cleared by the FDA.

The technology uses metal tubes attached to the arms are inserted through the ports, and the cutting and visualization instruments are introduced through the tubes into the patient’s body. The surgeon performs the procedure while sitting at a console, manipulating the instrument controls and viewing the operation through a vision system. When a surgeon needs to change an instrument the instrument is withdrawn from the surgical field using the controls at the console and the nursing assistants switch instruments as per the physician instruction. This is done many times during an operation.

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The cardiac and lung surgical robot market is characterized enormous variety and innovation. A surgical robot recurring revenue business model is essentially a large one time purchase for a system complimented by replaceable or disposable instruments that cumulatively make the market a much larger and sustainable ongoing market. Vendors make money from the one time sale of a system and recurring revenue from sale of devices used in every operation.

Initially, a vendor sells and installs the surgical system into new customer accounts. Once systems are sold into customer accounts, the vendor generates recurring revenue as customers use the system to perform surgery. To do cardiac and lung robotic surgeries, the customers need to buy and consume instruments and accessory products. Vendors also generate recurring revenue from system service.

According to Susan Eustis, lead author of the study, “Existing open cardiac and lung surgery can be replaced in some part by robotic surgery during the forecast period. Cardiac and lung robotic surgical approaches complement existing open surgery techniques. Soon, all surgery will be undertaken with at least come aspects of robotic surgery replacing or complementing open surgery.”

The aging US population has supported demand, since the occurrence of health issues that require medical devices is higher in the elderly population. Buoyed by strong demand and sales, industry profit margins have increased considerably during the past five years.

Hospitals are adopting robotic surgical devices to improve their outcomes numbers. Hospitals are measured on outcomes, robots for surgery, when used by a trained physician are improving outcomes significantly. Hundreds of universities worldwide have research programs in robotics and many are awarding degrees in robotics. These “roboticists” are increasingly being hired by Global 2000 organizations to link mobile robots (mobile computers) into existing IT systems. Robot-assisted surgery gives the surgeon better control over the surgical instruments and a better view of the surgical site. Surgeons no longer have to stand throughout the surgery and do not tire as quickly.

Hand tremors are filtered out by the robot’s computer software. The surgical robot can continuously be used by rotating surgery teams. 3D viewing of the surgical site on a large screen improves visualization of the surgical operating field.

Cardiac and lung surgical robot device markets at $72.2 million in 2014 are anticipated to reach $2.2 billion by 2021 as next generation devices, systems, and instruments are introduced to manage surgery through small ports in the body instead of large open wounds.

The complete report provides a comprehensive analysis including procedure numbers, units sold, market value, forecasts, as well as a detailed competitive market shares and analysis of major players' success, challenges, and strategies in each segment and sub-segment. The reports cover markets for Cardiac and Lung robotic surgery medical specialties and sub-specialties.

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