

# IQ4I Research & Consultancy published a new report on “Cardiac Assist Devices Global Market – Forecast To 2024”

*Cardiac assist devices (CAD) are mechanical circulatory support devices. Increasing incidence of heart failure, aging population are some of the drivers.*

BOSTON, MASSACHUSETTS, U.S., January 24, 2018 /EINPresswire.com/ -- [Cardiac assist devices](#) (CAD) are mechanical circulatory support devices used to treat end stage heart failure, refractory angina pectoris, post-cardiopulmonary bypass shock, myocardial infarction, myocarditis, etc. Heart failure is a chronic disease that occurs when degeneration of the heart muscle reduces the pumping power of the heart, causing the heart to become too weak to pump blood at a level sufficient to meet the body's demands. The condition can be caused by arterial and valvular diseases or a cardiomyopathy. Other conditions, such as high blood pressure or diabetes, also can lead to Heart failure. Cardiac assist devices are majorly used for heart failure.

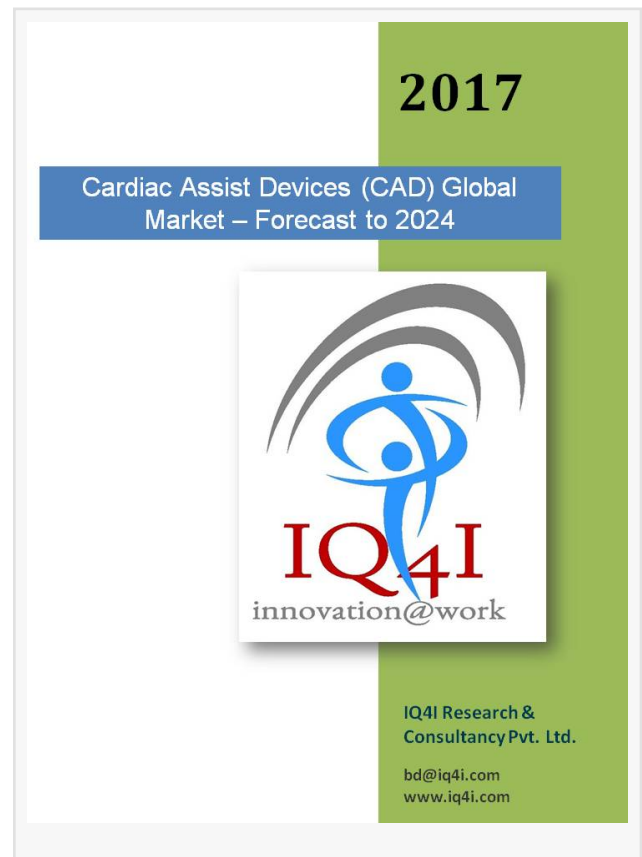
The cardiac assist devices are classified into three types i.e. Ventricular Assist Devices (VAD), Total Artificial Heart (TAH) and Intra-Aortic Balloon Pump (IABP). Ventricular assist device (VAD) are mechanical pumps designed to support one or two ventricles of the failing heart and depending on the supported ventricle, the devices are classified as left (LVAD) to assist left ventricle, right (RVAD) for right ventricular support, or both heart ventricles is replaced by Bi-Ventricular Assist devices (BiVAD). The Total artificial heart is a mechanical circulatory assist device for persons with biventricular heart failure and heart transplant candidates. The TAH replaces both native ventricles and all four chambers of the heart, thereby eliminating the symptoms of cardiac insufficiency or heart failure. Intra-aortic balloon pump (IABP) or counter pulsation circulatory assist device is placed in aorta to help the heart to pump more blood by reducing the workload on the heart and improves the function of the left ventricle as this is the chamber that pumps blood into the aorta. IABP is used in conditions such as acute mitral valve regurgitation or severe

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Cardiac Assist Devices (CAD) Global Market estimated to be worth \$4,255.5 million by 2024”

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heart failure, left ventricular failure, unstable angina, etc. It is also used during preoperative, intraoperative or postoperative cardiac surgeries.



According to IQ4I Analysis, Cardiac assist devices global market is expected to grow at a double digit CAGR to reach \$4,255.5 million by 2024. Increasing incidence of heart failure, increase in the prevalence of cardiovascular disorders due to rise in aging population, shortage of heart donors, the rise in the number of clinical studies performed, and technological advancements are some of the drivers of the market. A vast number of pipeline products, growing healthcare budgetary allocation and increasing funding for CAD research are some of the growth opportunities available in the market. However, adverse events and complication with the implantations of CAD, lack of skilled and trained professionals, the high cost of CAD devices (i.e. TAH and VAD) are some of the restraints of the market. Stringent regulatory requirements for the product approval and availability of alternate products are some of the threats to the CAD market.

Among the various CAD products, VAD held the highest share in 2017 and is expected to grow at a mid double digit CAGR from 2017 to 2024. CAD market by implant type is dominated by Intracorporeal CAD and held largest share in 2017 and is expected to grow at a double digit CAGR from 2017 to 2024. Percutaneous CAD segment is the fastest growing market and is expected to grow with a high double digit CAGR from 2017 to 2024. Abiomed, U.S. based medical device company has developed world's smallest catheter based percutaneous heart pump that provides hemodynamic support to the heart. Abiomed is a leader in percutaneous CAD market. Abiomed Impella heart pump (Impella series - Impella 2.5, Impella 5.0, Impella CP, and Impella RP) is FDA approved and presently is one of the factors for driving Percutaneous CAD market. Upcoming technological development in percutaneous pump like CardioBridge short term intra-aortic percutaneous circulatory support device will boost the percutaneous CAD market in future.

In pump type, the continuous flow pump segment accounted the largest share in 2017 and is projected to grow at a strong double digit CAGR from 2017 to 2024. In patient type, the adult CAD segment accounted the largest share in 2017 and is projected to grow at a strong CAGR from 2017 to 2024. Among the Cardiac assist devices applications, Bridge to Recovery (BTR) held the largest share in 2017 and is expected to grow at a high double digit CAGR from 2017 to 2024. Among End-users, the hospital segment accounted the largest share in 2017 and is projected to grow at a strong CAGR from 2017 to 2024.

Advanced and upcoming technologies like miniaturization of implantable cardiac assist devices, wireless heart pump, advancement in blood flow technology in case of VAD and TAH, minimally invasive technologies and medical device coatings will drive the Cardiac assist devices market. VAD and TAH are getting miniaturized so that the devices are suitable for wide range of patient's group. For instance, the HeartWare Left Ventricular Assist System (LVAS) from Medtronic is a third-generation continuous flow blood pump for the treatment of advanced heart failure. It features a miniaturized centrifugal device, which is small enough to be implanted above the diaphragm in all patients. Likewise, TAH is miniaturized from 70 cc to 50 cc to treat smaller patients and is approved with CE mark. Wireless technology is developed to power VADs which reduces the chances of infections as the cables are not having an entrance point into the body. For instance, ReliantHeart, Inc., and Dualis MedTech GmbH, a provider of wireless energy and charging technology, entered into a partnership to implement a wireless, Transcutaneous Energy Transfer system (TET) exclusively for the HeartAssist5 Ventricular Assist Device. Dualis plans to integrate its wireless energy transfer technology MedBase with the HeartAssist5 VAD. Procyrion's aortix is a catheter based small and continuous flow heart pump for heart failure patients, designed to help assist the heart muscle and boost localized blood flow, instead of operating in heart, it is perched in the aorta. Procyrion's aortix device is not yet commercially available and requires regulatory approval from FDA. Full MagLev Flow technology is a rotor advancement developed by Medtronic, this technology allows the device's rotor to be suspended by magnetic forces rather than mechanical bearings and does not cause any damage to blood cells. BiVACOR is developing centrifugal TAH and has approached Japanese researchers who basically helped to refine the magnetic levitation system used in the development of TAH. These advanced and

upcoming technologies will boost the Cardiac assist devices market.

The Cardiac Assist Device market is consolidated with top four players occupying largest share of the market and remaining market is occupied by other players. The top players in the market are Medtronic PLC, Abbott Laboratories, Getinge group and Abiomed, Inc. which control the major share of the market, as these companies have a strong distribution network, patents and acquisition strategy. For instance, Levotronix was acquired by Thorotech Corporation, which was acquired by St.Jude medical which in turn is acquired by Abbott Laboratories in January 2017. Similarly, World Heart Corporation was acquired by Heart Ware International, which was in turn acquired by Medtronic in August 2016.

The Cardiac assist devices global market based on geography is divided into North America, Europe, Asia-Pacific and Rest of the world. North America region commanded the largest revenue in 2017 and is expected to grow at a double digit CAGR from 2017 to 2024. A high prevalence of cardiovascular diseases such as heart failure, cardiogenic shock, dilated cardiomyopathy, ventricular insufficiency, valvular heart disease, congenital heart diseases and growth in aging population and a shortage of heart donors led the market growth in this region. However, Asia-Pacific is expected to grow at a strong double digit CAGR from 2017 to 2024 owing to the rapidly increasing aging population with high prevalence of cardiovascular diseases, improving healthcare infrastructure and rise in healthcare spending in the emerging countries, such as India and China.

Major players in Cardiac Assist Device market include Abbott laboratories (U.S.), Medtronic (Ireland), Syncardia Systems, Inc. (U.S.), Teleflex Incorporated (U.S.), Zeon Corporation (Japan), Getinge Group (Sweden), Berlin Herat GmbH (Germany), ReliantHeart, Inc. (U.S.), Fresenius Medical Care AG & Co. KGaA Care (Germany) and Abiomed, Inc. (U.S.).

Some of the other companies operating in CAD global market include Jarvik Heart, Inc. (U.S.), Evaheart, Inc. (U.S.), Tandemlife (U.S.), Procyron (U.S.), Calon Cardio -Technology Ltd (U.K.), CardioBridge GmbH (Germany), Cleveland Heart, Inc. (U.S.), CorWave (France), BiVACOR, Inc. (U.S.), Carmat SA (France), FineHeart SARL (France), etc.

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