

**Best Theratronics Ltd, Best Cyclotron Systems, Inc.,  
Best Medical International, and other members of TeamBest  
Companies will announce a range of new Cyclotrons  
(Low and High Power with Variable Energy), for research and  
production of medical isotopes for diagnostic and therapeutic  
procedures, at the upcoming Society of Nuclear Medicine,  
in Vancouver, British Columbia, Canada, June 8–12, 2013**

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Drawing on more than 60 Years of medical equipment manufacturing expertise, this innovative new product line offers a cost effective alternative for production of both short and long lived medical isotopes and enables a range of research activities. BCSI is the only company in the world, designing, developing, manufacturing and distributing a range of Cyclotrons (Low and High Power with Variable Energy) using the latest in technological innovations. They currently have orders worth 20 million USD for 70 MeV and 15 MeV Cyclotrons and anticipate more than 50 Million USD worth of orders for a range of Cyclotrons soon.

Cyclotron uses a combination of magnets and radio frequency electric fields, to accelerate ions to velocities high enough to create Isotopes. BTL has a cost effective, modern technology to manufacture a range of Cyclotrons in Ottawa, Ontario, Canada. These Variable Energy Cyclotrons are B15, B25, B35 and B70. The B15 Cyclotron — beams up to 15 MeV energy, B25 beams — 15–25 MeV energy. B35 will have beams ranging from 15–35 MeV, and B70 will have beams ranging from 35–70 MeV.

## **CYCLOTRONS FOR SPECIFIC NEEDS**

### **Systems for Technetium-99m ( $Tc^{99m}$ ) Direct Production**

**B15 for  $Tc^{99m}$  Radioisotopes** —  $Tc^{99m}$  is an important radiochemical that is used in more than 90% of radio diagnostic procedures. TeamBest has developed a cyclotron based production system for the delivery of  $Tc^{99m}$ . The B15 can produce  $Tc^{99m}$  using a TeamBest target and processing system. The high intensity of the cyclotron (400 micro-amperes) allows production runs to supply large urban centers with an adequate supply of  $Tc^{99m}$ .

**B15 for PET Isotopes** — The B15 Cyclotron is designed for local and regional use to generate radioisotopes with short half lives. Its energy is selected to be optimum for PET radioisotopes such as Fluorine-18 (for FDG), Nitrogen-13 (for Ammonia), and Carbon-11 (for Raclopride and other neuroreceptor agents). The energy of the B15 allows the generation of other PET agents such as Copper-64 and Iodine-124.



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**B25 for SPECT and Generator Radioisotopes** — The B25 and B35 Cyclotrons are designed for the production of single photon emitting radioisotopes used in SPECT such as Iodine-123, and Thallium-201. The selection of the cyclotron within this energy region and beam intensity is dependent upon the user's needs. In particular, a user may start with a B25 configuration and upgrade the accelerator and facility to a B35 when the need arises. This provides a low startup cost and the option for future enhancements as the required throughput demand increases.

**B35 for SPECT and Generator Radioisotopes** — The B35 is capable of creating generator systems for both PET radioisotopes, such as Gallium-68, and radio therapeutic isotopes, such as Cesium-131. The B35 is a high intensity cyclotron whose radioisotope production capability can meet the demand on a national and international scale.

**B70 for Generator and Therapy Radioisotopes** — The B70 Cyclotron is designed to produce generator radioisotopes for PET, such as Strontium-82, and large quantities of therapeutic isotopes, such as Copper-67. The combination of high energy and high intensity provides adequate quantities of medical radioisotopes that can only be produced at 70 MeV.

### About Best Theratronics Ltd

Best Theratronics Ltd (BTL) was founded more than 60 years ago with their invention of the first commercial Gamma Beam Teletherapy (GBT) machine for treating cancer and non malignant tumors with radiation. Canada issued a special stamp to commemorate this breakthrough invention. BTL has been manufacturing and supplying these machines that are considered the gold standard and work horses of radiation oncology departments globally since its invention and commercialization. In addition, BTL manufactures a range of Blood Irradiators, Cyclotrons and other products. For more information, please visit [www.theratronics.com](http://www.theratronics.com).

### About Krishnan Suthanthiran

Krishnan Suthanthiran immigrated to Canada from India in September 1969 after graduating with a Bachelor's Degree in Mechanical Engineering from University of Madras, India, to pursue his Master's Degree in Mechanical Engineering at Carleton University, Ottawa, Ontario, Canada. He arrived with a total of 400 Canadian Dollars. Subsequently, he received a National Research Council of Canada Research Assistantship, and graduated with a Master's Degree in 1971. Having lost his father to cancer while he was an undergraduate student in engineering, he has dedicated his career to cancer prevention, early detection and effective treatment for the Total Cure. He moved to the United States in 1972 and worked as an Engineer Physicist at Howard University Hospital in Washington, DC, USA until 1978. Since then he has founded and invested globally many millions of USD in medical, real estate, construction, entertainment, and energy companies. He founded and currently is supporting a few non-profit charitable foundations to promote quality education



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and healthcare and making them affordable and accessible. He is pursuing a goal of providing purified drinking water and affordable sewer systems in every part of the world. He has contributed substantially to setting up endowed chair and endowments for scholarships, and has also provided significant funding to support medical research and treatment by partnering with academic centers, national labs, and hospitals globally.

**For more information, please visit:**

**[www.bestcyclotron.com](http://www.bestcyclotron.com)**

**[www.theratronics.com](http://www.theratronics.com)**

**[www.teambest.com](http://www.teambest.com)**

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