

# BIO-TECH SYSTEMS, INC.

*Market Research in the Health Care Field*

NEWS RELEASE

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FOR IMMEDIATE RELEASE

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*BIO-TECH SYSTEMS ANNOUNCES A NEW RADIOPHARMACEUTICAL REPORT:*  
**Report 330: THE U.S MARKET FOR SPECT AND PET RADIOPHARMACEUTICALS**

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GOOD GROWTH PROSPECTS FOR SPECT AND PET RADIOPHARMACEUTICALS, NEW PET AND SPECT PRODUCTS FOR CARDIOLOGY AND ONCOLOGY, BIG MARKETS FOR NEUROLOGY PRODUCTS FOR ALZHEIMERS'S AND PARKINSON'S, NEW BROAD-BASED MOLECULAR IMAGING PLATFORMS, SALES FORECASTS TO 2018

Bio-Tech Systems Inc. announces the publication of a comprehensive report with detailed analysis of the markets for SPECT and PET radiopharmaceuticals. The report has a strong focus on new products and technology and emerging market opportunities. This includes nuclear cardiology with both PET and SPECT, targeted oncology and new broad-based molecular imaging platforms. It also analyzes the large emerging markets for imaging Alzheimer's and Parkinson's disease that will broaden the base of molecular imaging.

There was some decline in the number of SPECT myocardial perfusion procedures recently but this has stabilized. Most technetium users weathered the shortage without long-term damage. Supplies are now plentiful although prices have increased because the supply contracts are now negotiated on a short-term basis. The market has easily absorbed these increases because of the saving from the use of generic sestamibi and decline in price of myocardial perfusion agents.

PET perfusion agents for cardiology will offer capabilities for diagnosing complex cases and encourage more physicians to adopt PET for cardiology applications. Cardiology PET produces better images and offers higher reimbursement than traditional cardiology SPECT. Growth is also expected in cardiology SPECT from new products for imaging myocardial infarction and neuronal imbalances in patients at risk of congestive heart failure. .

New molecular imaging modalities are being developed based on apoptosis, angiogenesis and cellular proliferation. Other agents are in the pipeline for imaging slow growing tumors not easily visualized with either PET or SPECT. New oncology products are also being developed for diagnosing and monitoring cellular response to therapy. These molecular imaging platforms will also have therapeutic applications, increasing their versatility and usefulness. In the long run, this will encourage more investment from biopharmaceutical companies and venture groups that will enhance future market growth.

## **SPECT and PET Radiopharmaceuticals: Market Analysis and Future Prospects**

U.S. sales of SPECT and PET radiopharmaceuticals reached \$1.2 billion in 2010 and are expected to rise to \$6.0 billion by 2018. Total SPECT radiopharmaceutical sales were down 9.0% in 2010 primarily due to reductions in pricing of perfusion agents and increased use of generic sestamibi. SPECT procedure volume was also down due to the technetium shortage. This situation stabilized toward the end of 2010 with the two primary nuclear reactors back on line.

In comparison, PET procedures increased 8.9% to 2.1 million and revenue increased to \$391.4 million, consistent with procedure growth. Although PET reimbursement has been under pressure, there has been relief in some areas recently. New clinical indications have been approved and reimbursement was favorable for cardiology procedures. Investment has been increasing in new PET agents and many of these products have entered late-stage development with market entry expected in the near future.

Continuing improvements in imaging technology for both SPECT and PET are allowing higher resolution and shorter imaging times. Radiopharmaceutical doses are also being pared down as a result of increased imaging efficiency. This makes nuclear medicine safer than many other imaging modalities that are threatened with excessive radiation and patient safety issues.

As new products are introduced, SPECT sales should increase from \$758 million in 2010 to \$1.68 billion by 2018, while PET sales should increase from \$391.8 million to \$4.31 billion by 2018. PET sales will increase more rapidly than SPECT due to more new products as well as increases in the volume of FDG procedures. Market growth will also result from higher prices of the new products. This influx of new products will help all segments of molecular imaging and create a good platform for continued growth for both SPECT and PET. One effect is that clinicians will have more options as alternatives to higher risk and more costly invasive procedures. This will stimulate more research and investment, adding strength and stability to newer venture companies as well as those more established in the field.

### **ABOUT THE AUTHOR**

Marvin Burns is president of Bio-Tech Systems, Inc., a firm that focuses on market research in the healthcare field. Burns specializes in market evaluation, where technological and scientific insight is important. The company has prepared numerous market research reports on diagnostic and therapeutic radiopharmaceuticals, brachytherapy, contrast media, interventional cardiology and medical imaging, which have been widely distributed. Burns has also served as a consultant to many international firms and venture groups in these fields. He has also been Technology Editor of Future Oncology, a publication widely circulated in the pharmaceutical and biotechnology industry reporting on new developments in cancer diagnosis and treatment. Burns is a graduate of MIT and Harvard Business School's advanced management program. He has prepared over 100 publications and has 15 patents and invention disclosures. Prior to forming Bio-Tech Systems, he was employed by firms in life sciences, bioinstrumentation and medical imaging fields in general management, marketing and product development. He was also a hospital administrator in charge of professional and technical services including medical imaging, clinical laboratories, therapy services, and materials management.

## **SPECT AND PET RADIOPHARMACEUTICALS: REPORT CONTENTS**

### **SECTION I: Market Status, Trends and Forecasts**

Analysis of sales trends and opportunities in SPECT and PET markets, competitive challenges, new products in the pipeline and prospects for future growth. Also provides sales forecasts in all product categories to 2018. Products include:

- Nuclear cardiology agents for SPECT and PET. (myocardial perfusion, myocardial viability, neuronal imaging and metabolic imaging). New products include Zemeva for myocardial infarction, AdreView for neuronal instability and congestive heart failure, new PET myocardial perfusion and neuronal imaging agents.
- Products for functional SPECT imaging. SPECT and PET neurology imaging including new products for Alzheimer's and Parkinson's imaging from Avid, G.E. Bayer and Alseres.
- Oncology products including ProstaScint, Octreoscan and new products for imaging prostate cancer including Trofex from Molecular Insight. Also, PET apoptosis imaging with Aposense, Collectar PLE products and Cell>Point new molecular imaging platforms.

### **SECTION II: Radiopharmaceutical Products and Technology**

- Technical principles and functional characteristics of radiopharmaceutical agents.
- Radioisotope selection and optimization; production methods and trade-offs.
- Challenges in recent technetium shortage and options for new sources of molybdenum-99

### **SECTION III: Clinical Applications**

- Discussion of clinical applications for radiopharmaceutical products and technologies.
- Options in radiopharmaceutical selection for both SPECT and PET imaging.
- Analysis of product characteristics, performance benefits and trade-offs.

### **SECTION IV: Current Developments and Emerging Technologies**

- Description of products in development within each major SPECT and PET market segment including cardiology, neurology and oncology.
- Description of new SPECT and PET agents, such as new myocardial imaging agents, angiogenesis imaging for cellular response to therapy, apoptosis imaging and therapy, PLE (phospho-lipid ether) targeting and therapy, new SPECT glucose-based imaging .

### **SECTION V: Industry Analysis**

- Analysis of current suppliers with individual product sales and market shares in 2011
- Market distribution, pricing strategies and new products in the pipeline.

### **SECTION VI: End-User Analysis**

- Analysis of end-user groups and comparative requirements for medical imaging.
- Procedure mix and product utilization in hospitals and clinics.

### **SECTION VII: Company Profiles**

- Background information on companies in the field and review of recent performance.
- Discussion of each company's market activities and management strategies

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AECL (Atomic Energy of Canada Ltd.)	COVIDIEN, INC.
ALGETA ASA (Norway)	CYTOGEN CORPORATION
ALPHAMED, INC.	DOW CHEMICAL CO.
ALSERES PHARMACEUTICALS MOLECULAR IMAGING	DRAXIMAGE, INC.
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AMIC (American Medical Isotope Corp.)	IBA MOLECULAR
ANSTO (Australian Nuclear Science and Technology Organization)	IMMUNOMEDICS, INC.
APOSENSE, LTD. (ISRAEL)	LANTHEUS MEDICAL IMAGING INC
AVID RADIOPHARMACEUTICALS INC.	MDS NORDION
BIO-NUCLEONICS, INC.	MOLECULAR INSIGHT PHARMACEUTICALS INC.
BRACCO DIAGNOSTICS	NEOPROBE, INC.
CARDINAL HEALTH	NTP RADIOISOTOPES (PTY) LTD (NTP) (South Africa)
CELLECTAR, LLC	NuView LIFE SCIENCES
CELL>POINT CORPORATION	P.E.T.NET SOLUTIONS
	PHARMALUCENCE, INC.

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