



MagSense™ Technology

A New Clinical Diagnostic
Technology for Targeted Early
Detection of Cancer



Company Overview

March 2018

ASX:IBX

www.imagionbiosystems.com

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Investment Highlights

\$100 Billion

Annual global spending on cancer diagnosis in imaging and pathology.

8 Patents

Core technology covered in major markets through to 2029.

“Printer & Ink” model

Product includes both the instrument and a diagnostic consumable.

\$2 Billion

Addressable markets for first cancer targets:
breast, prostate, ovarian.

Additional targets being explored.

Platform Technology

Not limited to initial targets or cancer diagnostics.

Other potential opportunities include theranostics and reagents.

Key Collaborations

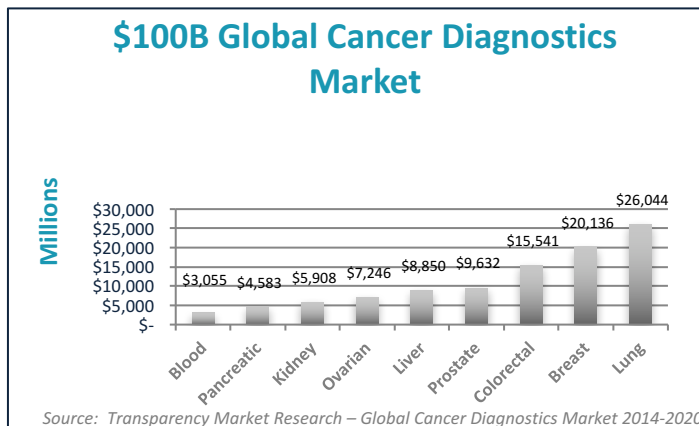
Pre-clinical partnerships already under way with pre-eminent medical research institutes.



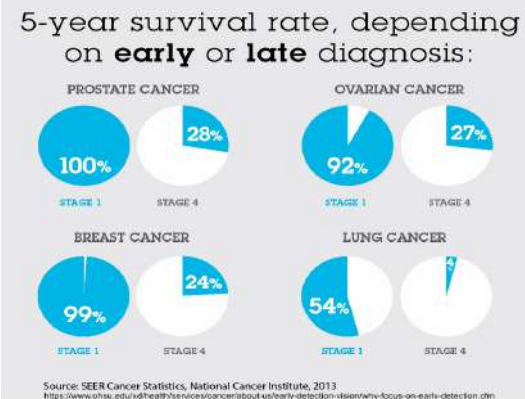
The Opportunity in Cancer Diagnostics

MARKET DRIVERS

Cancer diagnostics is a **\$100 billion market growing at a CAGR of >7%*** with imaging techniques accounting for the largest portion.

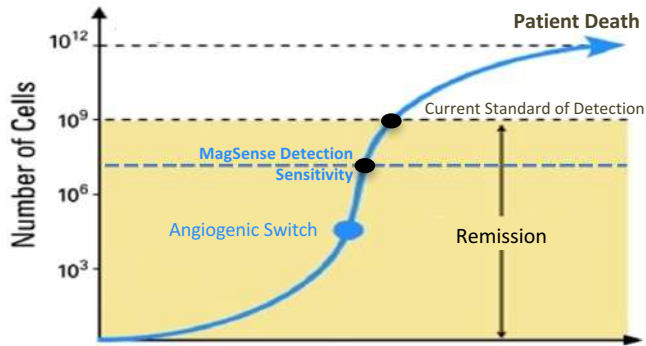


Cancer continues to be one of the leading causes of mortality. Statistics show that **more lives could be saved if cancer could be detected earlier.**



The Unmet Medical Need

- Imaging methods cannot differentiate benign from malignant tumors.
- Not sensitive enough to detect small tumors.
- Pathological assessment requires an invasive procedure.



Imaging Methods



Non-specific, Lack Sensitivity

Pathology



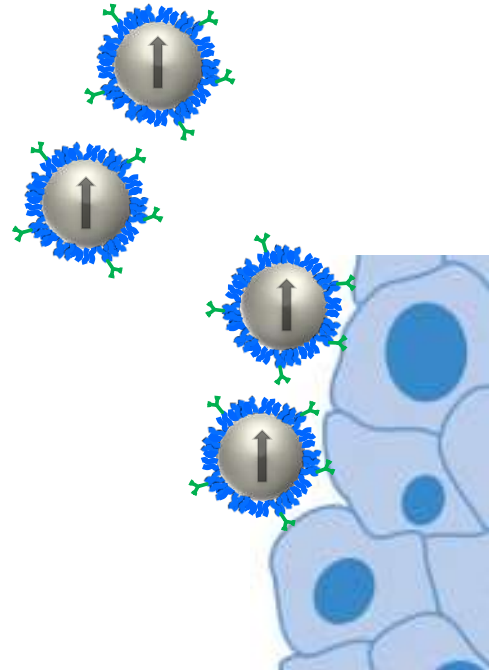
Require Invasive Procedures

- **Minimize need for surgical or biopsy procedures.**
- **Identify tumors at an earlier stage and reduce risk of metastases.**



Principle of Magnetic Relaxometry

- Antibodies coated on nanoparticles cause binding to tumor if tumor cells are present
- Nanoparticles are magnetized by a very weak magnetic pulse
- NPs not bound to cells “relax” from their magnetized state instantly
- NPs bound to cancer cells lose magnetization more slowly
- The measurement of magnetic relaxation of NPs is not affected by surrounding bone or tissue

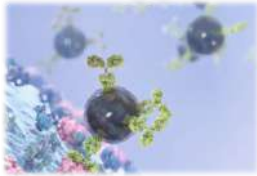


Non-Invasive - Molecularly Specific Detection



Test Reagent Administered

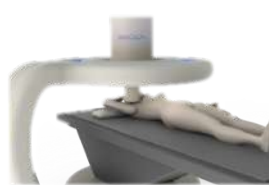
Patient given a small dose of cancer specific nanoparticles



Targeted Delivery

Nanoparticles circulate to seek out tumor

Bind if tumor cells are present



Magnetizing Nanoparticles

Patient positioned on open bed under the detector

A brief weak magnetic pulse applied to magnetize the nanoparticles



Nanoparticle Relaxation

Nanoparticles not attached to tumor lose magnetization instantly

Nanoparticles attached to tumor take longer to lose magnetization



Tumor Detection

Nanoparticles attached to tumor will create a detectable magnetic signal



Advantages of MagSense™ Technology

More Sensitive

- Can **detect small tumors** not readily detectable by most current imaging technologies.

Specific

- Tumor-specific antibodies target and locate cancer cells.
- Non-cancerous tumors do not give a measurable signal.

Reduces Patient Risks

- Reduces need for surgical procedures.
- Does not use radiation and uses weak magnetic field.
- Nanoparticles are made from known, **bio-safe materials**

Method	MagSense Magnetic Relaxometry	MRI Magnetic Resonance Imaging	PET Positron Emission Tomography	Ultrasound	X-Ray/CT
Detection Threshold	< 10 million cells	10's Millions of cells	NA	Billions of cells	NA
Quantitative	Yes	Yes	No	No	No
Specificity	Yes	No	No	No	No

Technology Costs Less to Make and Install

- MagSense instrument will **cost less** than conventional MRI or CT technologies (~ \$500K)
- Does not require expensive shielded environment (eliminates ~ \$1M in installation costs)

Nanoparticle Test Provides Route to Reimbursement

- Each cancer specific nanoparticle formulation creates a new consumable test
- Nanoparticles provide **high gross margin recurring revenue** on installed base of instruments



Long Term Opportunity & Shareholder Value



Staging Breast Cancer

Shortest Path to Clinical Proof

\$500M



Primary Tumor Detection

Breast, Prostate, Lung, and Ovarian

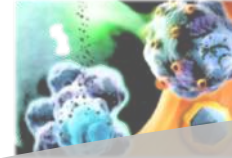
\$5B



Doctors Office

Ubiquitous like Ultrasound

\$10'sB



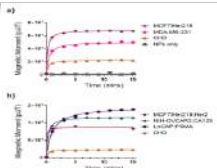
Detection and Therapy

Nanoparticle is both detection and delivery of therapy

> \$100B

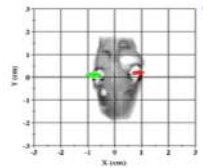


Development Roadmap



Early In vitro experiments showed that antibody targeting nanoparticles could be cancer specific

Adapted from: Hathaway et al. 2013. Breast Cancer Research - Results obtained w/ Ooson Nanotech SPP nano-particles



In vivo experiments showed co-registry of tumor loci by MRX with MRI images

From: Adolphs et al. 2012 Contrast Media Mol. Imaging 7:308 "Imaging of Her2 targeted magnetic nanoparticles for breast cancer detection: comparison of SQUID-detected magnetic resonance and MRI"

The slide is titled "Superparamagnetic relaxometry (SPMR) for sensitive detection of HER2-positive tumors in mice" and is part of the IMAGIN8 project. It includes sections for Introduction, Characterization of MSNPs, In Vivo Diagnosis, In Vitro Pharmacology, In Vivo Pharmacology, and Conclusions and Future Work. It features various graphs, charts, and images related to the research.

- Test nanoparticle formulation for safety - *expected Q2 2018*
- Initiate First-in-Human Feasibility Study - *expected Q4 2018*
- Design instrument for use with human patients

Interested to identify Asian investors and strategic partners that would like to participate in the development of the technology for the Asian cancer diagnostic markets.



Board and Management



Robert Proulx
Chairman & CEO

- Operationally oriented executive
- 25 years experience in life science and medical device product development and commercialization



David Ludvigson
Non Exec Director

- Financial and operating executive
- 35 years experience in pharma, medical device and computer products
- Significant experience in corporate strategy, M&A, and financing



Michael Harsh
Non Exec Director

- Former VP & CTO of GE Healthcare's Medical Imaging Business
- 35 years experience in Engineering and product development of medical imaging technologies including MRI, X-ray, and ultra sound



John Hazle PhD
Non Exec Director

- Board certified for both therapeutic and diagnostic medical physics
- 30 years experience in pre-clinical and clinical medical imaging research
- Chairs Cancer Research programs at UT Graduate School of Biomedical Sciences



Jovanka Naumoska
Corp Secretary

- Australian attorney with expertise in regulatory compliance, corporate, governance and risk, general and commercial liability, & intellectual property



Mark Van Asten
Non Exec Director

- Australian business executive with strong background in diagnostics and healthcare
- 25 years experience in market development and commercializing diagnostic products



Brian Conn
CFO

- Financial executive with strong background in early and growth stage biotech
- 25 years experience in raising both public and private capital and M&A activities



Giulio Paciotti PhD
VP R&D

- Former CSO at CytImmune Sciences developer of gold nanoparticle therapeutic
- 25 years experience in tumor biology research and cancer related product development



Peter DiChiara
Non Exec Director

- 30 years experience on securities issuance, regulatory compliance and corporate governance.
- Licensed as both as an attorney and certified public accountant in the State of New York



Business Fundamentals Summary

Valuation Factors	IBX's Business
Uniqueness of the device and extent of disruption of current medical practice	MagSense is more sensitive than current medical imaging and able to differentiate benign from malignant tumors
Strength of intellectual property	IBX owns and controls the IP for medical applications
Extent of clinical evidence reducing technology risk	Milestones drive to reduce technical risk and achieve clinical utility
Opportunity for revenue and profitability	The markets are BIG and even small market share achieves sizeable revenue and growth potential

* STRONG BOARD AND MANAGEMENT TEAM

* FOCUS ON MINIMIZING TECHNICAL RISK

* CLEAR PATH TO COMMERCIAL MARKETS

* SOUND FINANCIALS

- Total funding to-date - \$27.4M
- Cash at 31 December 2018 – \$5.2M
- Quarterly cash burn projection - \$1.0M plus project outsourcing costs
- Clean balance sheet - No debt; No convertible notes or warrants





**Bob Proulx, President & CEO
Imagion Biosystems**

bob.proulx@imaginationbio.com

