

# CHANGING THE WAY WE LOOK AT CANCER

IMAGION BIOSYSTEMS  
ASX : IBX  
EGM 13 NOVEMBER 2023

The logo for Imagion Biosystems features the word "IMAGION" in a bold, sans-serif font, with a stylized blue and grey graphic element resembling a DNA helix or a microscope lens integrated into the letter "O". Below "IMAGION" is the word "BIOSYSTEMS" in a smaller, all-caps, sans-serif font. The entire logo is set against a background of several overlapping, dashed grey circles of varying sizes, with a solid light blue circle partially visible on the right edge.

IMAGION<sup>®</sup>  
BIOSYSTEMS

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# Executive Summary

- 1st-mover expanding biomedical access and application impact of SPIONs (superparamagnetic iron oxide nanoparticles)
- MagSense<sup>®</sup> technology improves clinicians' ability to visualize tumors and metastases with standard MRI instruments
- MagSense<sup>®</sup> HER2 imaging agent was safe and well-tolerated in Phase 1 clinical trial
- MagSense<sup>®</sup> product pipeline targets deadliest and frequently metastatic cancers

**Imagion Biosystems, Ltd.**

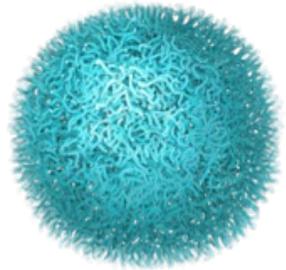
**ASX: IBX**

Imagion is delivering  
molecular spatial resolution  
in Magnetic Resonance  
Imaging to *change the  
way we look at  
cancer*

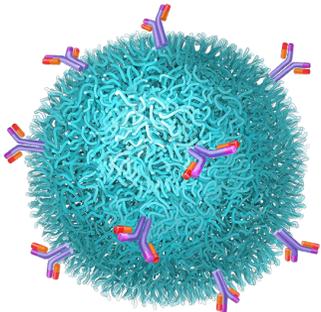
# MagSense<sup>®</sup> - Molecularly Targeted Magnetism



Superparamagnetic Iron Oxide Nanoparticles (SPIONs)



Biocompatible polymer coatings improve bioavailability



Conjugation of targeting molecules confers specificity

## Versatile synthesis platform enables biomedical application diversity

- Positive and negative MRI contrast
- Therapeutic hyperthermia (e.g., tumor ablation)
- Nanoparticle-based vaccines

## Tunable polymer coatings optimize performance

- Bioavailability
- Immune response
- Target-ability

## Array of chemistries facilitates drug-loading and biomolecular targeting

- Proteins and peptides
- Small molecules and toxins

# How MagSense<sup>®</sup> Works

MagSense<sup>®</sup> nanoparticles are directed to the tumor and 'sense' MRI magnetism on tumor binding



## 01. Inject

Single, low-dose  
MagSense<sup>®</sup> imaging agent  
injection



## 02. Target

MagSense<sup>®</sup> nanoparticles  
are biomolecularly  
targeted with highly  
specific, high-affinity  
binders



## 03. Bind

Tumor binding makes  
MagSense<sup>®</sup> nanoparticles'  
superparamagnetism  
detectable for MRI  
imaging

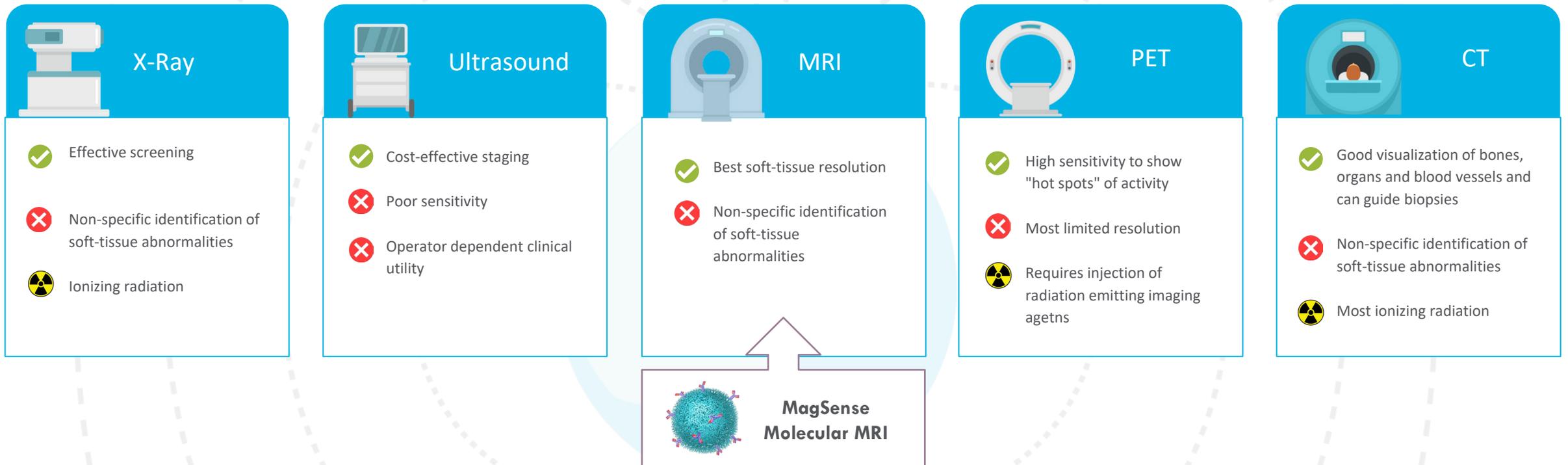


## 04. Clear

MagSense<sup>®</sup> nanoparticles are  
safely cleared by the liver  
where the iron core is  
metabolized to ferritin in the  
hemoglobin production  
pathway

# Molecular MRI Changes the Way We Look at Cancer

Diagnostic imaging is fundamental in precision oncology



Molecular MRI differentiates benign from malignant lesions



# MagSense<sup>®</sup> HER2 Imaging Agent

# MagSense<sup>®</sup> HER2 Imaging Agent

*Changing the way we look at HER2+ Breast Cancer*

- **Detection of nodal metastases in HER2+ breast cancer**
- **Safe & well-tolerated in 13 patient Phase 1 trial**  
(enrollment completed July, 2023)
  - 3 patients no / limited lymph drainage
  - 2 patients excess MRI susceptibility
- **Full results reported December, 2023 at San Antonio Breast Cancer Symposium**
  - **7/8 interpretable patients yield accurate molecular MRI**
    - Blinded review by independent radiologists has corroborated pathologists' findings
    - 1 pt had incomplete pathology



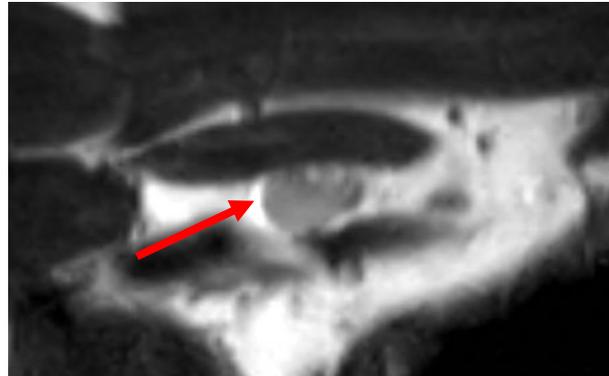
# MagSense<sup>®</sup> Molecular MRI Makes the Difference

## Homogeneous Hypointensity by Normal Lymph Nodes

### Pre-dose

Enlarged, ovoid axillary lymph node

**Tumor Involved?**



### Post-dose

Uniformly darkened lymph node suggests

**Benign / Normal**



## Heterogeneous Hypointensity in Suspicious Lymph Nodes

### Pre-dose

Enlarged axillary lymph node with replacement of the normal fatty hilum

**Tumor Involved?**



### Post-dose

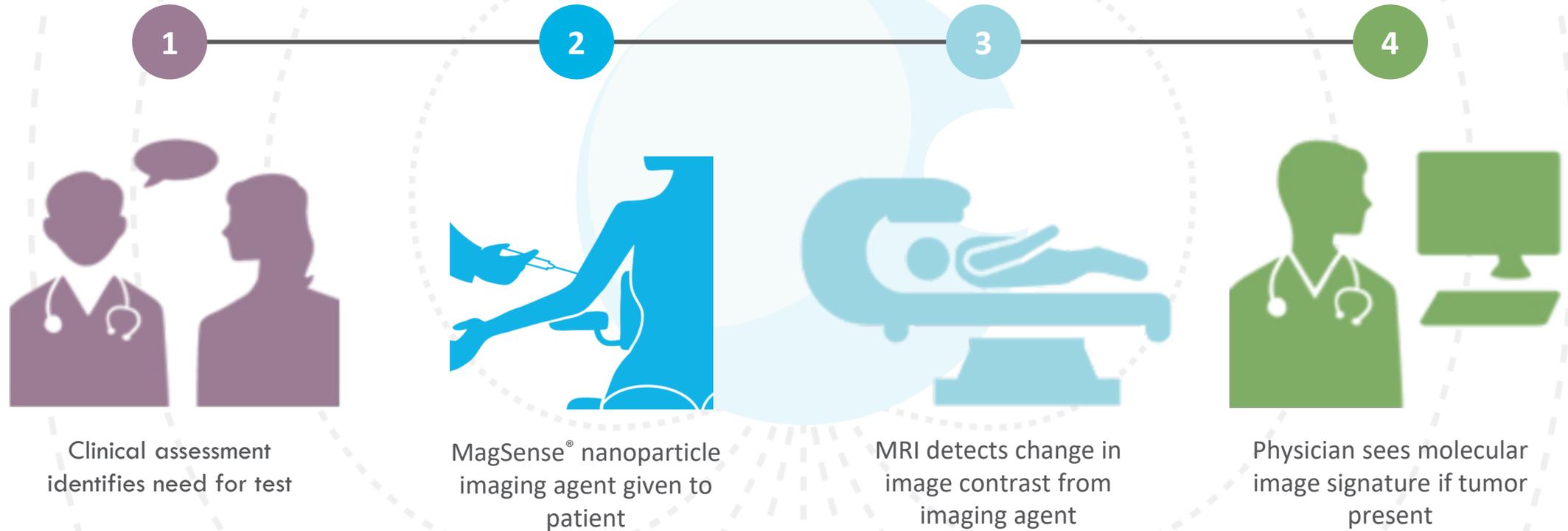
Heterogeneous hypointensity and slightly darkened cortex confirms

**Metastatic Disease**



# MagSense<sup>®</sup> Fits Clinical Workflows

MagSense<sup>®</sup> delivers molecular discrimination with conventional MRI instruments

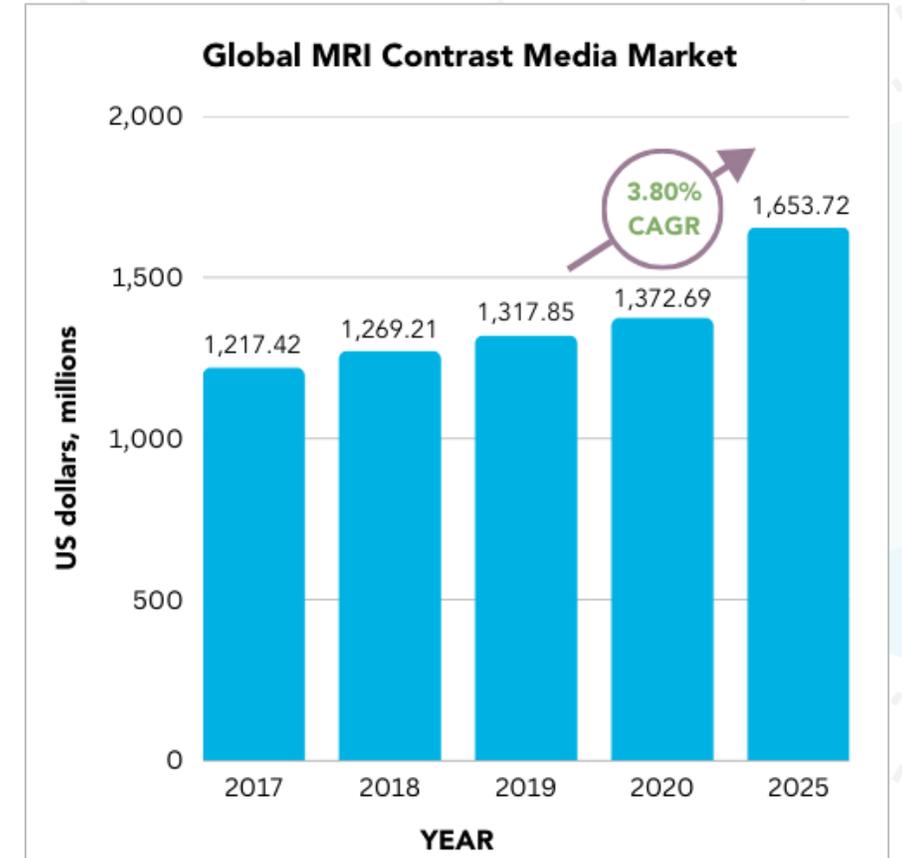




# Imagion's Approach

# Market Fundamentals & Momentum Support MagSense®

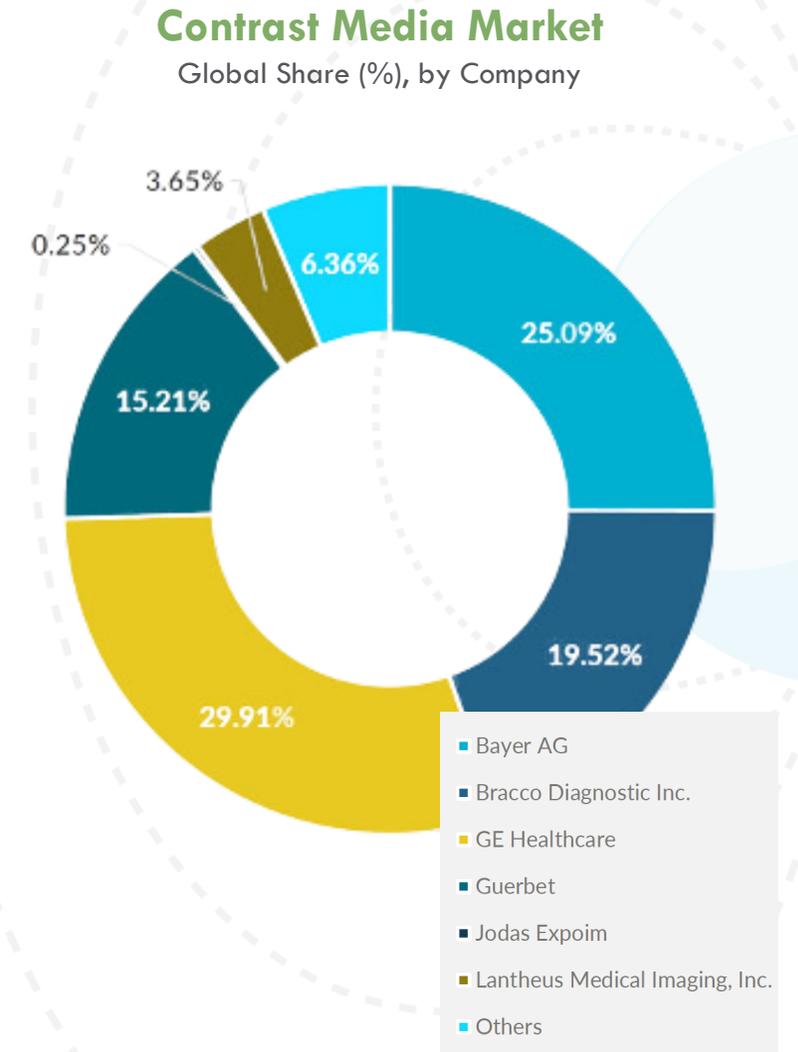
- **Increasing chronic disease incidence**
  - Accelerating Neurovascular & Cardiovascular applications
- **Rising cancer incidence**
  - Global cancer burden grew 26% last decade<sup>1</sup>
  - By 2030: ~22M New Cancer Diagnoses & ~13M Cancer Deaths<sup>2</sup>
- **Precision oncology producing an ever-expanding oncology therapeutic arsenal**
  - Companion Dx opportunities
- **Increasing procedure volume focused on ‘malignant vs. benign?’**
  - Screening & Diagnostic Imaging: Fastest growing healthcare services spend / Medicare beneficiary<sup>3</sup>



Sources: (1) JAMA Oncology. 2022. (2) International Agency for Research on Cancer. (3) Medicare Payment Advisory Commission (MedPAC) and Centers for Medicare and Medicaid Services (CMS). Mordor Intelligence. Global Contrast Media Market

# MagSense®: Imagination's Compelling Investment Thesis

- **GE, Bayer, & Bracco dominate imaging contrast media market**
  - Highly consolidated market ripe for disruption
  - Molecular imaging subsector is most dynamic and driving growth
- **Accelerating approvals for imaging contrast reagents globally**
  - Market still responding to FDA's >5 year-old safety warning on Gadolinium-based agents
  - SPIONs are the safe and efficient alternative
- **Molecular imaging advantage: Immuno-MRI applications will outpace Immuno-PET**
  - MRI is >4X Global installed base of PET scanners
  - Positron emission constrains supply chain and clinical application
  - Accelerating demand for non-invasive evaluation of treatment efficacy & prognosis prediction



# Differentiated in Consolidating Competitive Landscape

							
Private / Public: Mkt Cap	NASDAQ: GEHC \$29.5B Mkt Cap	OTC: BAYRY \$52.9B Mkt Cap	Private; ~\$1.4B '22 Revenue; 3450 FTEs	Euronext: GBT €258M Mkt Cap	NASDAQ: LNTH \$4.5B Mkt Cap	Private; ~\$68M Rev 2021	ASX: IBX \$15M Mkt Cap
Radiopharm Segment(s)	XR, XR-fluoro, CT, U/S, MRI, MRA, PET, SPECT	XR, XR-fluoro, CT, MRI, MRA  Tx: Phase 1: BAY2315497 is anti- PSMA targeted <sup>227</sup> Th	XR, XR-fluoro, CT, U/S, MRI, MRA, PET, SPECT	XR, XR-fluoro, CT, MRI, MRA	U/S, PET, SPECT  Tx: Azedra® <\$10M annual Revenue	XR, XR-fluro, MRI, MRA	MRI, MRA
Operating Footprint	Chicago HQ; Global footprint	Berlin HQ; Global footprint	Milan HQ; commercial partnership channels reach >100 countries	Villepint HQ; commercial partnership channels reach >80 countries	Boston HQ; PR, Canada & Australia ops; distribution deals to EU, APAC, & LatAm	Hyderabad HQ; Product approvals in EU & Russia	San Diego HQ; Australia ops
Pipeline Promise	<b>Ph1: 1<sup>st</sup> Mn-based MRI contrast agent</b>	<b>Tx: Xofigo® \$250M annual Revenue</b>	<b>Gadopiclenol Collaboration</b>		<b>Phase 3: Point Biopharma collaboration anti- PSMA <sup>177</sup>Lu- PNT2002</b>		<b>1<sup>st</sup> Mover Molecular MRI: Ph1 Complete for MagSense HER2 Imaging Agent (MSH2IA)</b>

# MagSense<sup>®</sup> Molecular MRI: Transforming Precision Oncology

## MagSense<sup>®</sup> HER2 Imaging Agent (MSH2IA)

- 13 Patient Phase 1 Study Complete
- IND submitted to US FDA 1Q:24

## MagSense<sup>®</sup> PSMA Imaging Agent (MSPIA)

- In vivo PoC complete
- Mature project - Approaching IND-enabling studies

## MagSense<sup>®</sup> FR Imaging Agent (MSFIA)

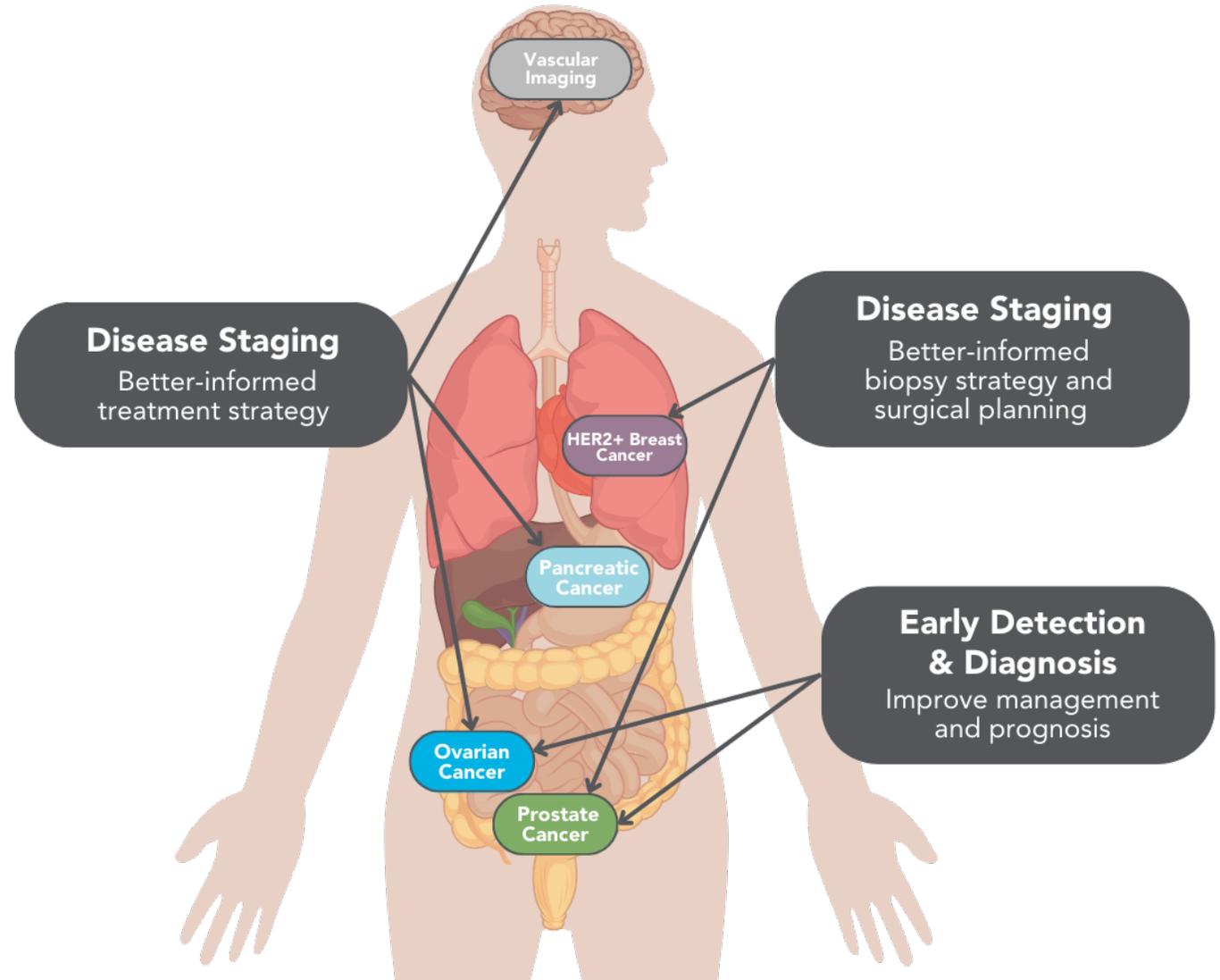
- In vivo PoC complete
- Mature project - Approaching IND-enabling studies

## Vascular Imaging Agent

- In Vivo PoC complete
- Mature project - Approaching IND-enabling studies

## Pancreatic Cancer Concept

- In vitro discovery underway
- Active partnership

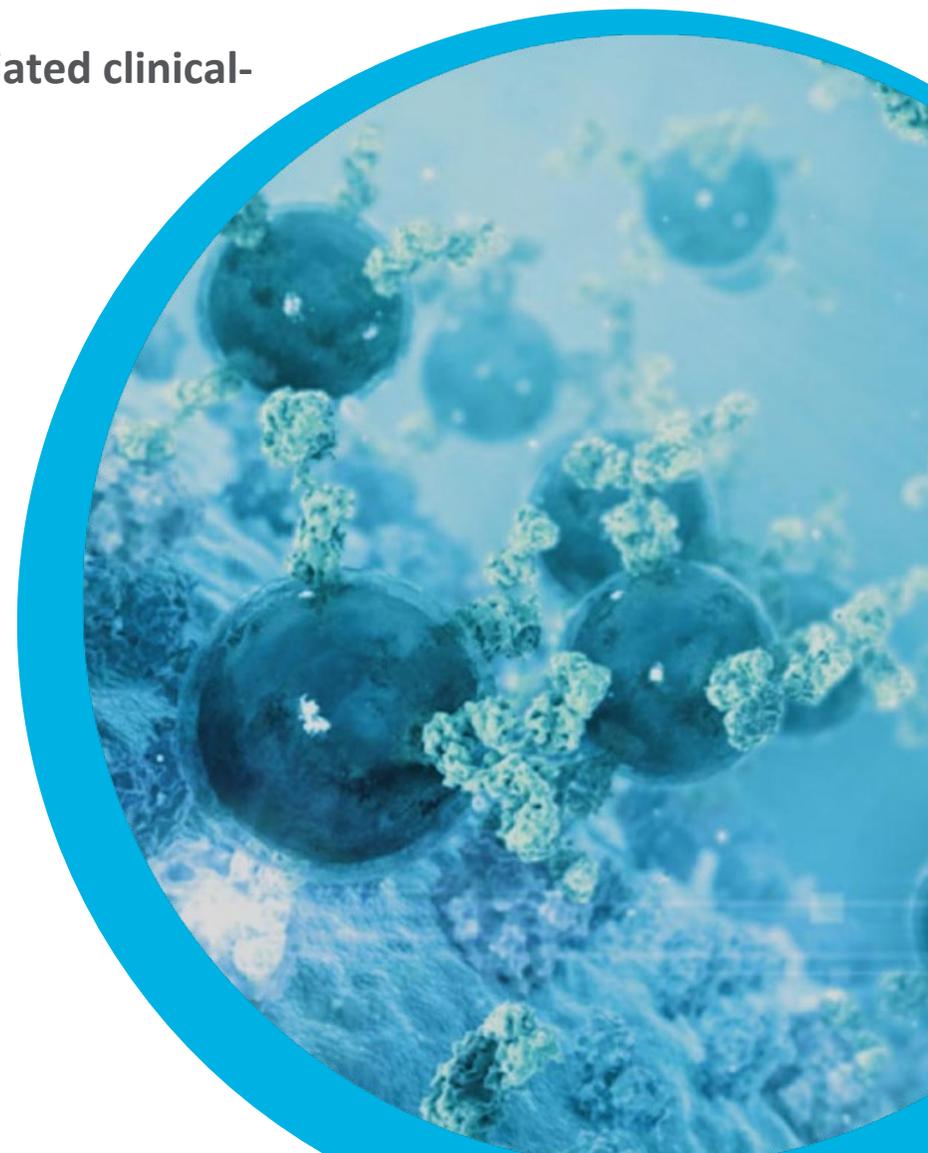




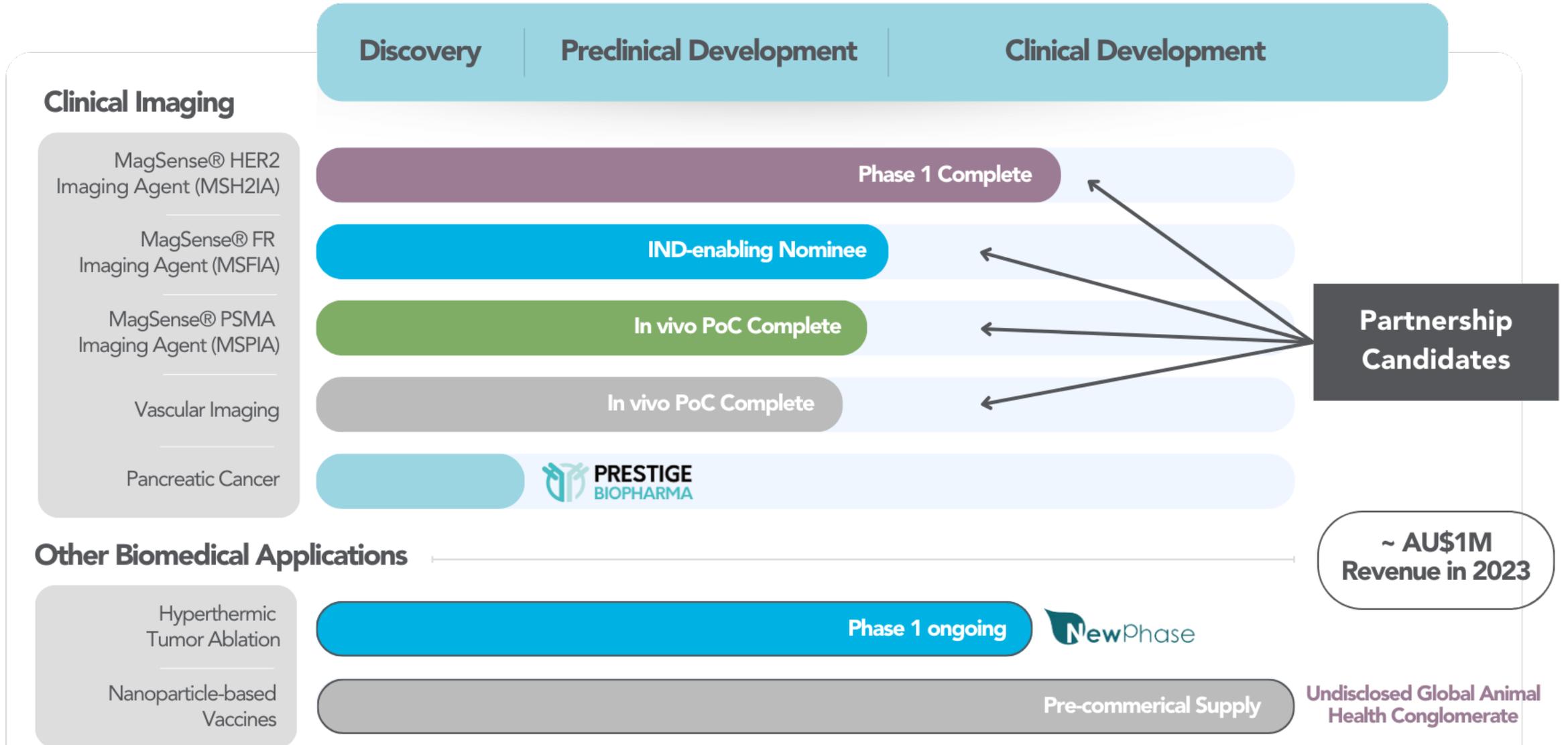
# Building Imagination's Business

# Approaching MagSense® Partnerships

- **Niche-leading incumbents continue making attractive deals for differentiated clinical-stage assets**
  - Upfronts: <\$1M to >\$30M
  - Clinical and Regulatory Milestones
  - Sales Milestones & up to double-digit Royalties
- **MagSense® products are disruptive - enabling Molecular MRI**
  - Primary Diagnosis
  - Primary staging & treatment planning
  - Companion Diagnostics
- **1<sup>st</sup> collaboration candidate: MagSense® HER2 Imaging Agent**
  - >2M Women Diagnosed with Breast Cancer Annually
  - HER2+ patients constitute 20% of Global Breast Cancer population
  - \$100M - \$250M Addressable Market Opportunity



# SPIONs: Core of Capital-efficient Business Model



# Investment Highlights



## Key Initial Clinical Milestones Achieved

- MSH2IA safe and well tolerated in Phase I study
- Successful pre-IND with US FDA Q1:24 IND Submission



## MagSense®: Differentiated Molecular MRI Product Pipeline

- First 3 products address \$4-5B markets for non-invasive detection of cancers
- Reduces need to rely on invasive biopsies
- Earlier detection known to improve patient outcomes



## Imagion's SPION Technology Advancing Biomedical Applications

- Hyperthermic tumor ablation
- Nanoparticle-based vaccines
- Magnetic particle imaging



## Strong Leadership and Advisory Boards

- Talented and experienced leadership with strong track-record in lifesciences & drug development
- Multi-specialty Advisory Boards with collective expertise in oncology, medical imaging, nanotechnology

# Experienced Board & Management

Commercially focused team with deep industry & clinical experience



**ISAAC BRIGHT, MD**  
CHIEF EXECUTIVE OFFICER

- >20 years entrepreneur & VC investor in biotherapeutics, diagnostics, and medtech



**GEOFF HOLLIS**  
CFO & COSEC

- ASX experienced CFO with over 20 years as a Chartered Accountant



**MARIE ZHANG, PH.D.**  
VP RESEARCH & DEVELOPMENT

- Over 20 years in drug development
- Leadership in early stage and start-up founder



**ROBERT PROULX**  
NON-EXECUTIVE CHAIRMAN

- Over 25 years in life science & medical devices
- Product development & commercialization



**DAVID LUDVIGSON**  
NON-EXEC DIRECTOR

- Over 35 years in pharma, medical devices
- Corporate strategy, M&A, & financing



**MICHAEL HARSH**  
NON-EXEC DIRECTOR

- Former CTO of GE Healthcare
- Over 35 years in medical imaging product development



**MARK VAN ASTEN**  
NON-EXEC DIRECTOR

- Strong track record in diagnostics & healthcare
- Over 25 years commercializing diagnostic products



**JOVANKA NAUMOSKA**  
NON-EXEC DIRECTOR

- Attorney with over 20 years experience advising research organisations
- Expertise in commercialisation, regulatory compliance, governance & risk management



**DIANNE ANGUS**  
NON-EXEC DIRECTOR

- Over 20 years in Australian & US listed Biotechnology companies



Presented by:

**Isaac J. Bright, MD**

Chief Executive Officer

[Isaac.bright@imaginationbio.com](mailto:Isaac.bright@imaginationbio.com)

[imaginationbiosystems.com](http://imaginationbiosystems.com)

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