



StemoniX

# Human First Drug Discovery

Integrating Novel Human  
Spheroid Biology & Data  
Science Technologies with  
IND-Enabling Expertise

Company Presentation Q1 2021

# SAFE HARBOR

## Additional Information about the Proposed Merger and Where to Find It

In connection with the proposed Merger between Cancer Genetics (“CGIX”) and StemoniX (the “Merger”), CGIX and StemoniX filed relevant materials with the Securities and Exchange Commission, or the SEC, including a registration statement on Form S-4 that contains a prospectus and a proxy statement. INVESTORS AND SECURITY HOLDERS OF CGIX AND STEMONIX ARE URGED TO READ THESE MATERIALS (AS WELL AS AMENDMENTS AND SUPPLEMENTS THERETO AND ANY DOCUMENTS INCORPORATED BY REFERENCE THEREIN) BECAUSE THEY CONTAIN IMPORTANT INFORMATION ABOUT CGIX, STEMONIX AND THE PROPOSED MERGER. The proxy statement, prospectus and other relevant materials, and any other documents filed by CGIX with the SEC, may be obtained free of charge at the SEC website at [www.sec.gov](http://www.sec.gov). In addition, investors and security holders may obtain free copies of the documents filed with the SEC by CGIX by directing a written request to: Cancer Genetics, Inc., c/o John A. Roberts, Chief Executive Officer, 201 Route 17 North 2nd Floor, Rutherford, NJ 07070.

These slides shall not constitute an offer to sell or the solicitation of an offer to sell or the solicitation of an offer to buy any securities, nor shall there be any sale of securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction. No offering of securities in connection with the proposed Merger shall be made except by means of a prospectus meeting the requirements of Section 10 of the Securities Act of 1933, as amended.

## Participants in the Solicitation

CGIX and its directors and executive officers and StemoniX and its directors and executive officers may be deemed to be participants in the solicitation of proxies from the shareholders of CGIX in connection with the proposed transaction under the rules of the SEC. Information about the directors and executive officers of CGIX and their ownership of shares of CGIX's common stock is set forth in its Annual Report on Form 10-K for the year ended December 31, 2019, which was filed with the SEC on May 29, 2020, and in subsequent documents to be filed with the SEC, including the Registration Statement referred to above. Additional information regarding the persons who may be deemed participants in the proxy solicitations and a description of their direct and indirect interests in the proposed merger, by security holdings or otherwise, are included in the Registration Statement and other relevant materials filed with the SEC. These documents are available free of charge at the SEC web site ([www.sec.gov](http://www.sec.gov)) and from the Chief Executive Officer at CGIX at the address described above.

## Forward Looking Statements:

These slides contain Forward-looking statements which involve risks and uncertainties, including, without limitation, risks inherent in our ability to satisfy all closing conditions to the merger with StemoniX, Inc. and realize the expected benefits therefrom, our attempts to adapt to the global coronavirus pandemic, our attempts to achieve profitability by increasing sales of our pre-clinical services, maintain our existing customer base and avoid cancellation of customer contracts or discontinuance of trials, our attempts to raise capital to meet our liquidity needs, market and other conditions, and other risks discussed in the Cancer Genetics, Inc. Form 10-K for the year ended December 31, 2019, Form 10-Q for the quarter ended September 30, 2020, and the Form S-4, as amended, referred to above along with other filings with the Securities and Exchange Commission. These forward-looking statements speak only as of the date hereof. Cancer Genetics, Inc. disclaims any obligation to update these forward-looking statements.

# VISION

Focus on the transformation of our business strategy to participate as a disruptor in therapeutic discovery

Our approach includes partnering with biotech and pharma to identify unique therapeutics through the **integration** of novel human biology with AI driven data science, engineering and regulatory expertise

# DRUG DISCOVERY

## Needs A Disruption



Widely used models for predicting drug efficacy & safety have underperformed

Human biology is introduced late in the R&D process resulting in high failure rates & costs

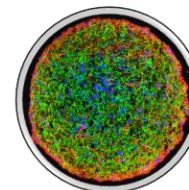
# DEFINING A

## New Approach



DATA SCIENCE capabilities bring human data to the EARLIEST stages of the R&D process and OPTIMIZE THERAPEUTIC EFFICACY & SAFETY

StemoniX has created HIGHLY FUNCTIONAL HUMAN spheroids (organ-like models) at SCALE



*Human neurosphere with oscillating neural network*

# Strategic Value Proposition

## Human-First Drug Discovery Engine:



Industrialized Human  
Spheroids (Discovery)  
Data Science  
Machine Learning  
Global Pharma  
Partners

Cancer Big Data  
Tumor Line Library  
Global Partners  
Efficacy & Safety Data  
Late Stage  
Preclinical Experts  
*in vivo* Research

## Vertically Integrated Development



World-leading human spheroid technology is predictive of success. Biology- and AI-enabled Data Science Seasoned *in vivo* Expertise

## Global Partnership Footprint



Leading Pharma Partners  
Validated Human Model Platforms  
Trusted Pre-clinical & Regulatory Capabilities

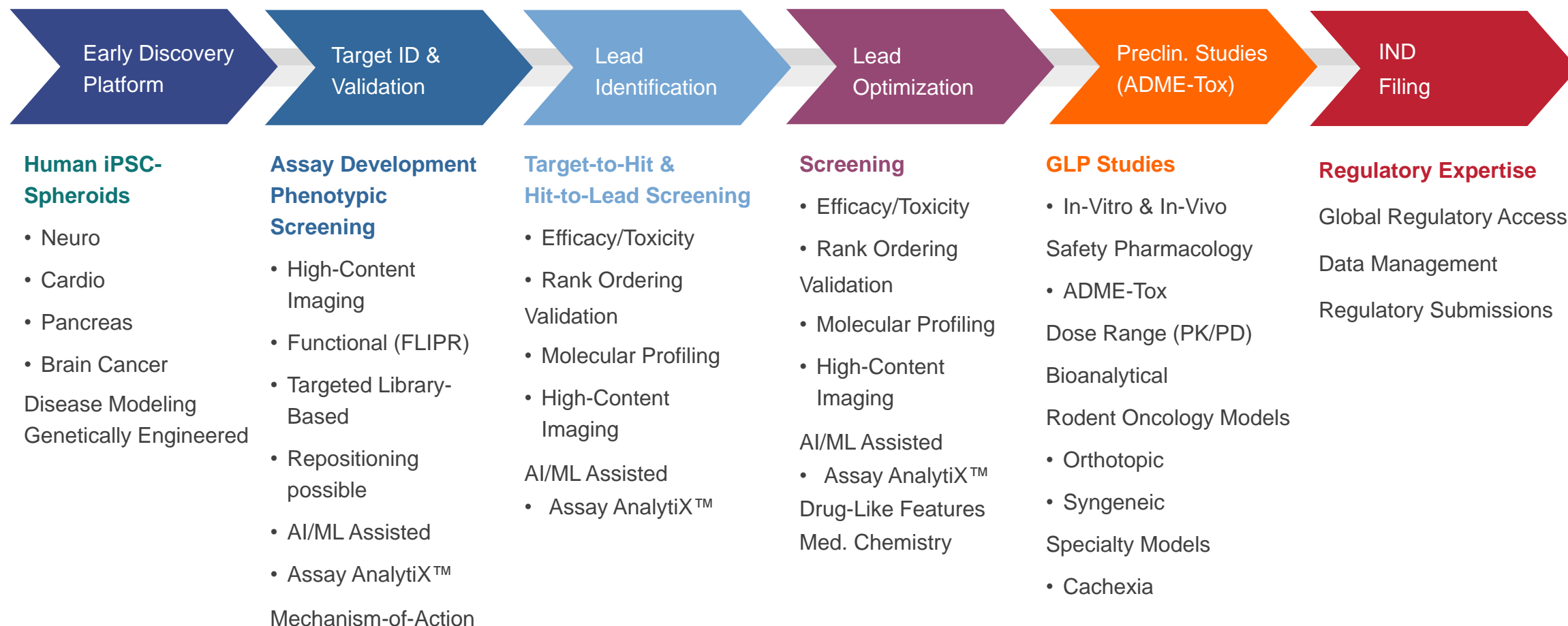
## Multi-shot on Goal Drug Discovery



High-Throughput Human  
Pre-clinical Screening  
Modality Convergence (Novel In Vitro Biology + Software +  
In Vivo)

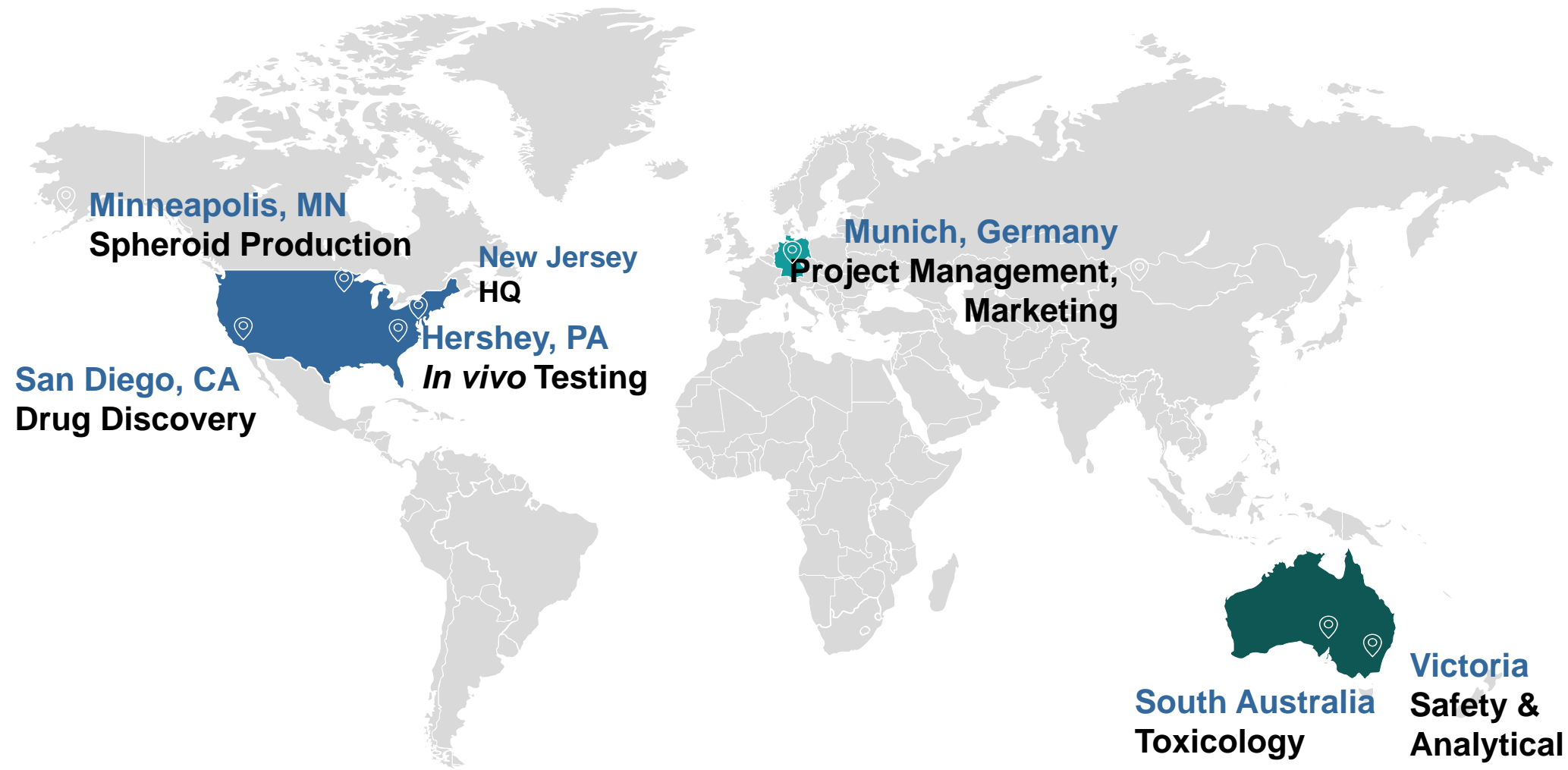
# Value Throughout Preclinical Discovery

From ID to IND



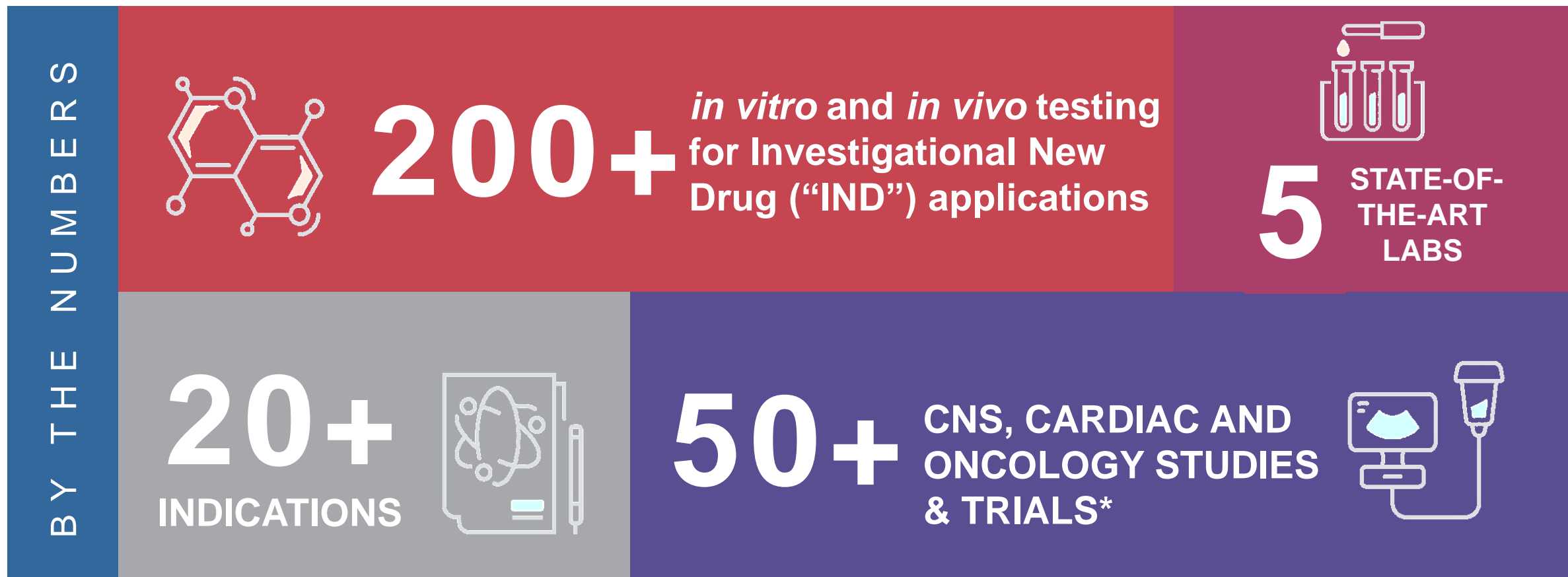
**COMPREHENSIVE COVERAGE** Human Novel Biology + In Vivo Support + AI/ML

# Global Reach



# Discovery In Action

Highly-scalable platform for early discovery, pre-clinical, and pharmacology provides guidance, preparation of samples, and clinical trial design



\* \* CNS and Cardiac are from StemoniX and Oncology are from vivoPharm



# World Class Board of Directors

## John Fletcher, MBA

Chairman



30+ years Life Science Executive

CEO/Fletcher Spaght - MD/Fletcher Spaght Ventures

Board of Koru Medical, Clear Point Neuro, Axcelis

NACD Board Member of the Year 2018

## Joanna Horobin, M.B., Ch.B.

Director, Chair Governance Committee



30+ years Drug Developer and Biotech Leader

Chair – iOnctura SA, Board of Kymera Therapeutics,  
Nordic Nanovector, Liquidia Technologies

CMO of Idera Pharmaceuticals

CEO of Syndax Therapeutics

## Marcus Boehm Ph.D.

Director



Cofounder and CSO of Escient Pharmaceuticals

Cofounder and CTO of Receptos, Inc. acquired  
by Celgene

Cofounder of Conforma Therapeutics

NIH Postdoctoral Fellowship at Columbia

## Paul Hanson, MBA

Director



25+ years experience in executive leadership roles  
with 3-M corporation

Cofounder and CEO Minnepura Technologies

President/CEO 3M Mexico, 3M Consumer  
Healthcare, Executive Director 3M in EMEA

## Geoff Harris, M.S.

Director, Chair Audit Committee



30+ years Life Science Investor and Analyst

Managing Director C7 Advisors – Life Science  
Investor

Healthcare Investment Banking at Cantor Fitzgerald  
and Gleacher

## Howard McLeod, PharmD

Director, Chair Compensation Committee



25+ years Pharmacogenomics, Applied Therapeutics  
and Clinical Pharmacology

Medical Director - DeBartolo Personalized Medicine

Senior Member Moffitt Cancer Center

Founding Director UNC Institute for  
Pharmacogenomics and Individualized Therapy

Building a sustainable  
process of living

# Proven Team Led By Passion

**Jay Roberts, MBA**  
Chief Executive Officer



30+ years healthcare executive leader

50+ capital markets and M&A transactions

17 years in public company leadership roles with multiple premium exits

**Ping Yeh, MS MBA**  
Chief Innovation Officer



Cofounder/CEO of StemoniX and nanotechnologist

Brought multiple innovations to market in the semiconductor and storage industries

Formed and led multiple global teams in technology development

**Robert Petcavich, PhD**  
Interim Chief Science Officer



Cofounder/CSO of StemoniX

30 year experienced Senior Executive of public and PE-backed biotech and medical device companies

Ph.D. Chemistry, Polymer Science

**Andy LaFrance, CPA**  
Chief Financial Officer



KPMG Audit Partner & IPO Readiness Practice

Ten years of operational CFO experience, including 5 years public company

36 years providing financial and business strategy

**Ralf Brandt, PhD**  
President, Discovery Services



25+ years in biochemistry and cell biology

Co-founder of international vivoPharm drug discovery CRO

Lead scientist at Novartis and in vivo pharmaceutical testing expertise

**Barb Jones, PhD**  
SVP, External and Regulatory Affairs



20+ years international standards, regulatory, and health leadership

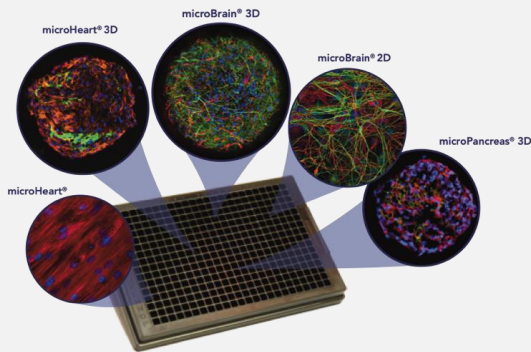
Quality, compliance, and scientific collaboration expertise

National Lab R&D and pharma manufacturing background

*Building a successful business process of hiring*

# Convergence Of Biology and Computing

## Industrialized Highly-Functional Human Spheroids



### Disease Models

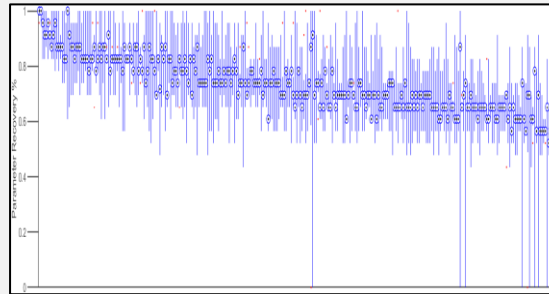
Brain: Neurodevelopment, Neurodegen.

Cardiac: Fibrosis

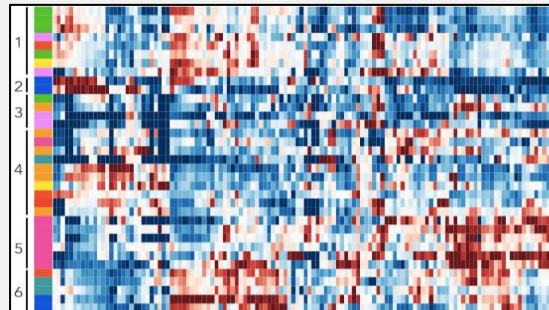
Pancreas: Diabetes

Oncology Models (brain, pancreas)

## AnalytiX™ Software Technologies Data Science, Analytics, ML



Drugs rank-ordered by parameter performance



Clustering of mechanisms

## Prioritize the Most Effective Compounds

### Rank-ordered Compound Listing

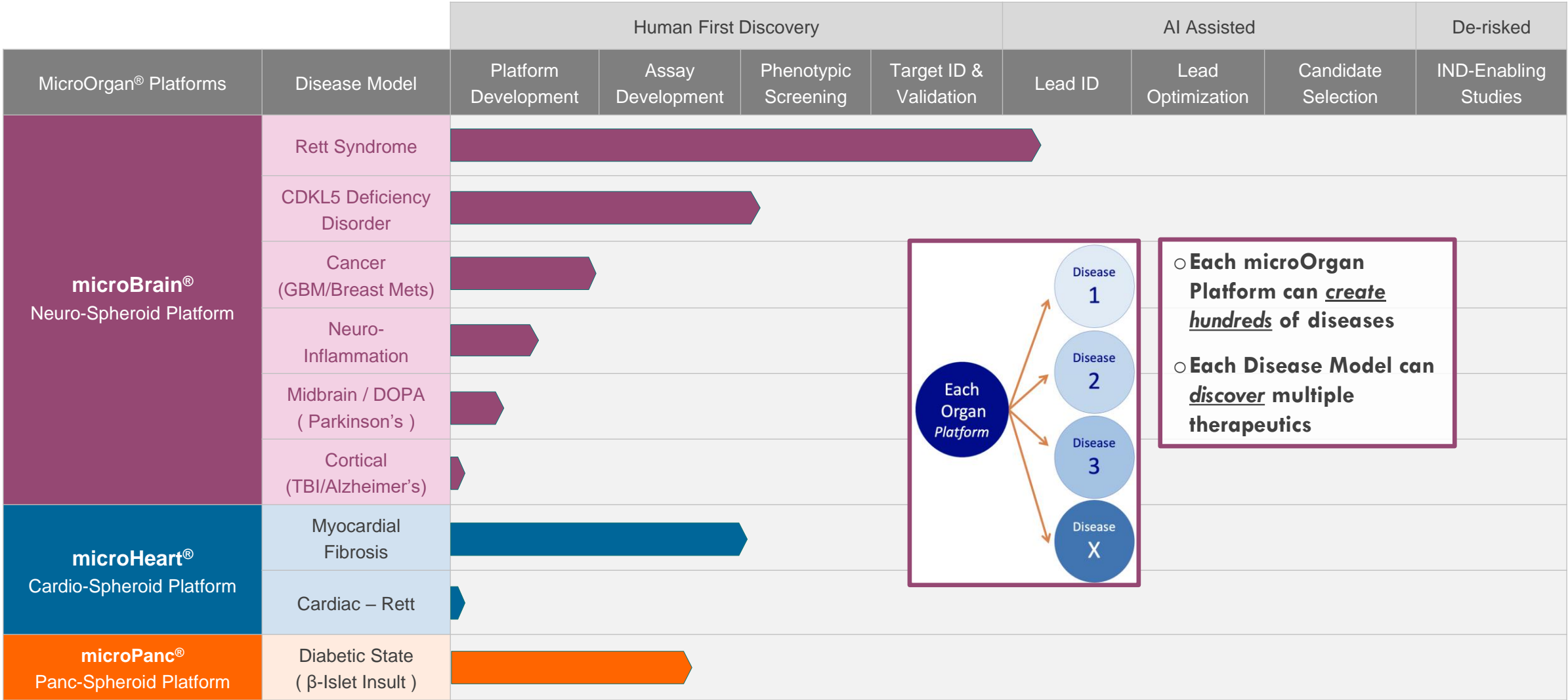
Target	Drug	Recovery (%)
A	1	100%
	2	92%
	3	86%
	4	83%
	5	64%
	6	58%

Example from recent Neuro Disease Screen:

*Compound stratification over multiple targets*

C	15	81%
	16	69%
	17	72%
	18	58%
	19	53%
	20	50%
	21	50%
	22	47%
	23	50%

# Human Disease Models and Capabilities



# Biopharma Relationships

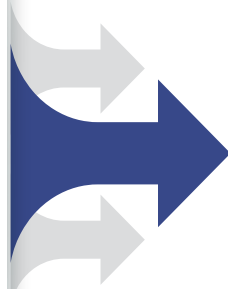
## Achievements

Partnering with **7 of the Top 10** global biopharma companies

### 1st Neurospheroid<sup>1</sup> Technology

Evaluated within the IQ Consortium

(Data presented to the FDA in March of 2020)



## Partnership Case Studies

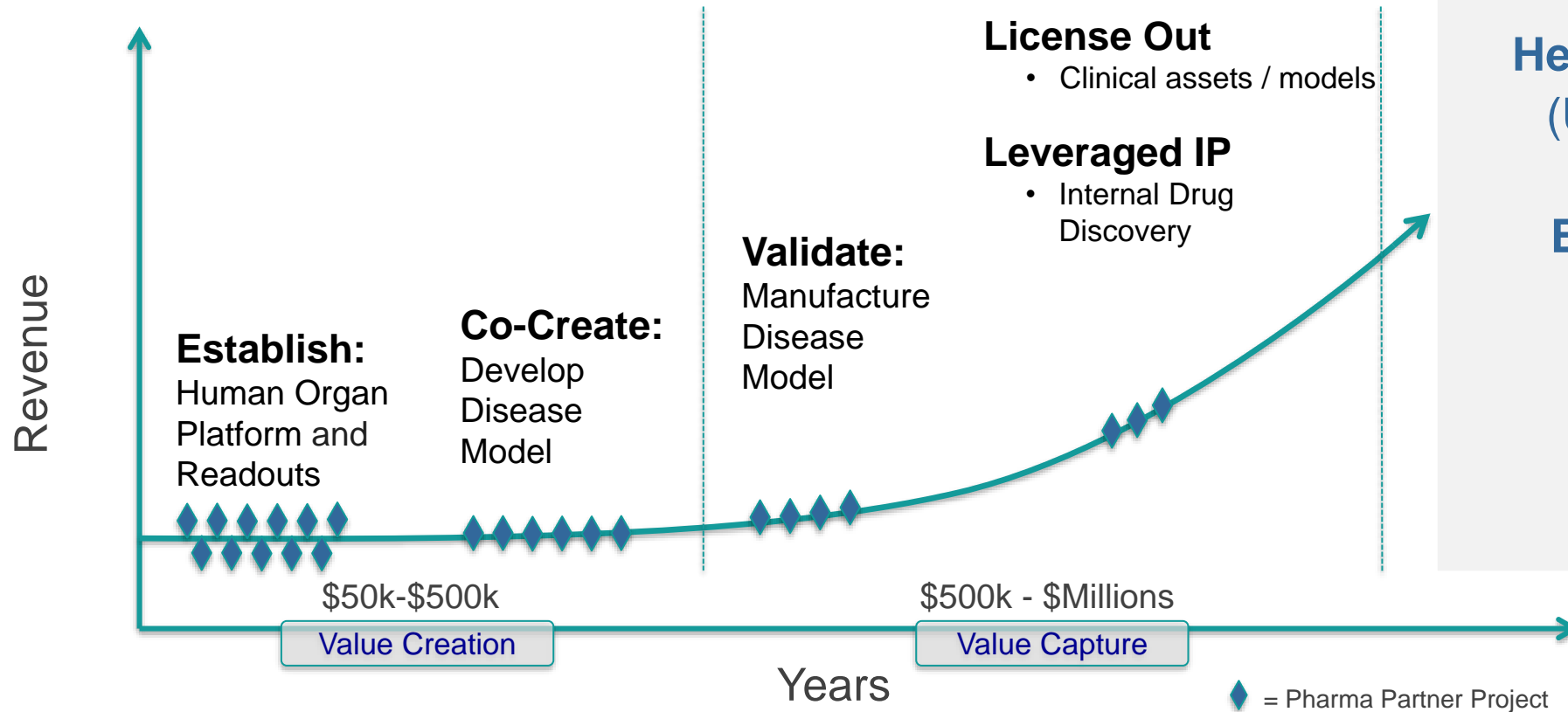
- Large and small molecule drug discovery
- Custom model development
  - *Patient-derived/genetically engineered iPSC lines*
- High throughput screening<sup>2</sup>
- Validated for early neurotoxicity detection
- Lead optimization
- iPSC-based cancer (co-culture) models
  - Brain Cancers & Metastases

<sup>1</sup> Spheroids are industrialized organoids and serve as organ-like models

<sup>2</sup> Woodruff *et al.*, (2020) Screening for modulators of neural network activity in 3D human iPSC-derived cortical spheroids. PLOS ONE

# Seeding & Monetizing Partnerships

## Single Partner Lifetime Value



### Representative Market Deals (Upfronts + Royalty Potential)

**Hemoshear & Takeda**  
(Upfronts + \$470M)

**Evotec & Celgene**  
(\$65M + \$250M)

**Insitro & BMS**  
(\$50M + \$2.1B)

Case Study with top 40 Pharma: Single purchase for tox study and target ID leads to larger custom discovery projects



# A Human First Approach

## Benefits of Incorporating Human Insights into Traditional Drug Discovery

### De-risks

Human relevant in vitro screening and in silico investigation allows for forecasting of therapeutic success prior to clinic and results in superior tox & efficacy

### Optimizes

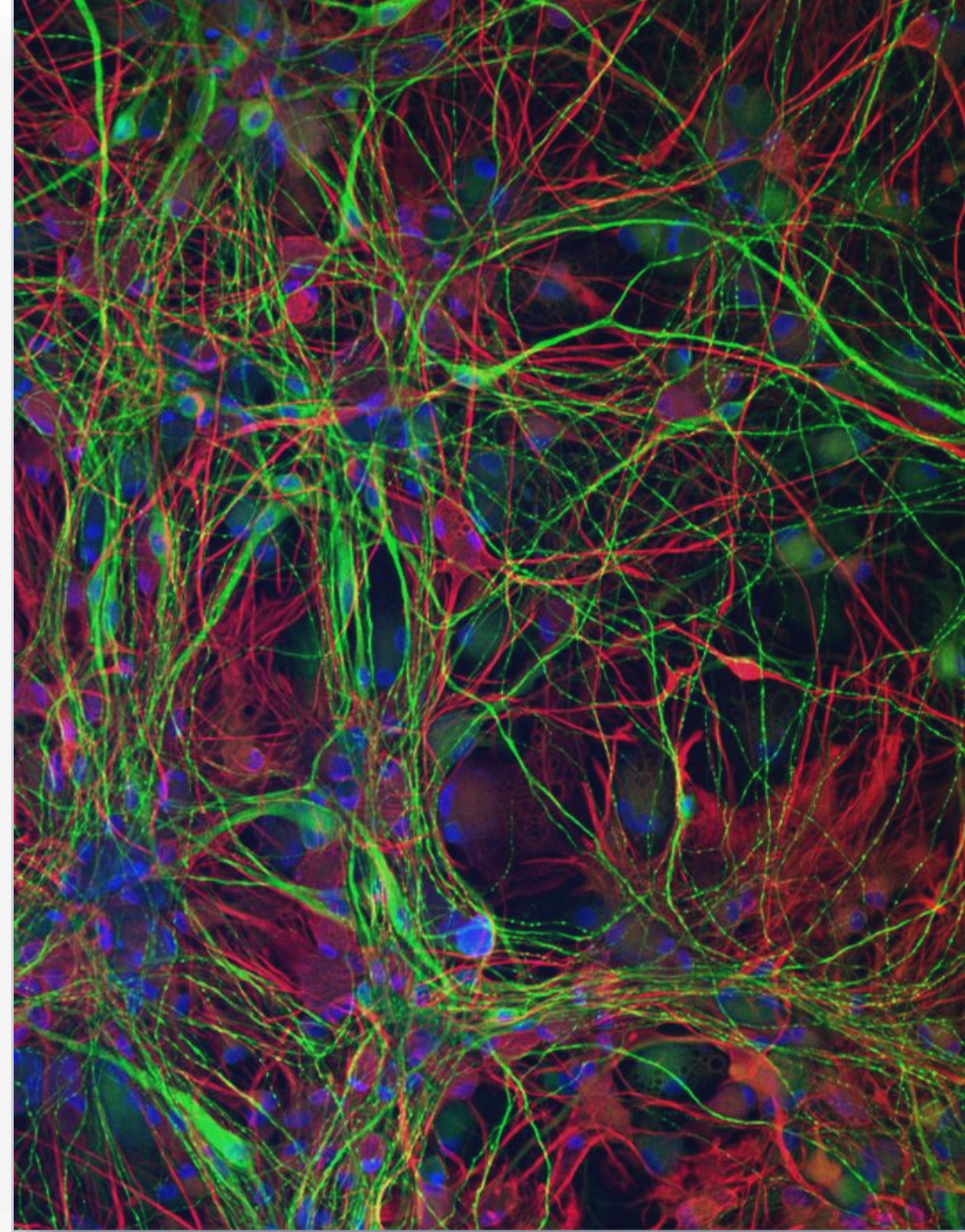
Human disease models may lead to synergy between in vitro and in vivo candidate screening

### Drives Confidence

Clinical candidates rigorously tested with internal regulatory expertise

### Accelerates Timelines

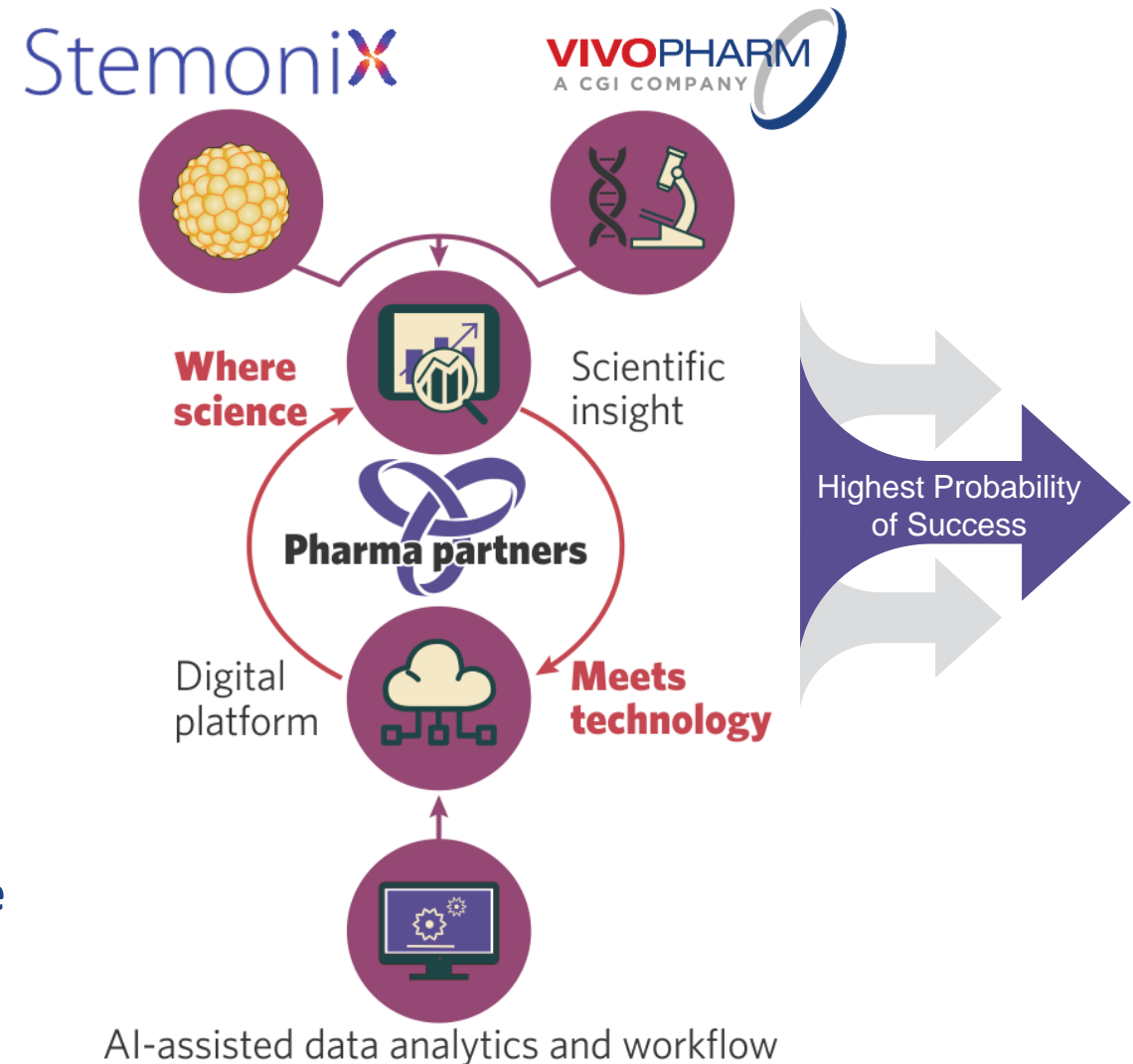
Proprietary technologies potentially maximize patent life, extends commercialization windows, and saves millions in R&D costs



# Transformational Strategy

## Human-First Drug Discovery & Development Engine:

- Vertically Integrated Insights ➤ Predictive of Clinical Success
- Software-accelerated Development ➤ Faster Path to Market
- Partnership & collaboration models ➤ Economical Route to Drug Assets







Stemonix



**CGI** CANCER  
GENETICS  
INCORPORATED



**VIVOPHARM**  
A CGI COMPANY

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