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# **Bluechiip Fundamentals**





**Drives** productivity



**Redefines** Quality



- World first, highly differentiated technology: 40 granted patents
- >>\$1B growing target markets: Pharma, clinical trials, cell therapies, biobanking, IVF and vaccines requiring Ultra Low temperature ID and temperature traceability
- >>300M/yr high value bio-samples handled at -80°C & -196°C
- New Go To Market Strategy: CE & FDA Registered Bluechiip Enabled Solutions
- Expanded US sales team driving significant customer pipeline
- Growing customer base 28 Labs across 17 customers with over 130 lab opportunity
  - 3 Global top 20 pharma already customers
  - IVY league research institute and leading biopharma groups as customers
- Accelerating repeat orders from customer base up 85% growth Qtr on Qtr
- FujiFilm Partnership in IVF
- >\$3m inventory & scaled production capacity of over 5m chips/yr

# **Bluechiip Overview**





Link to corporate video

https://www.bluechiip.com/investor/company-overview/

## **Key Achievements**

#### **Bluechiip Enabled Solutions Product in Market**

- ISO9001, CFR21-11 software, CE IVD & FDA registration
- Scaled chip supply chain (3m+)
- Hierarchy of Storage Range Released
- Refined Bluechiip reader platforms
- Stream 23 software released

#### **Accelerating Customer Adoption & Pipeline Building**

- Expanded US sales & Marketing Team from 2 to 7
- Customer adoption in EU, US & APAC with rapidly growing repeat orders
- Rapidly expanded customer opportunity pipeline

## **Bluechiip Enabled Storage**

## **Bluechiip** Readers

## **Bluechiip Stream Software**



(5) bluechiip<sup>®</sup>













# **Bluechiip Enabled Laboratories**

## **End-user Feedback and Market Progression**



"The Bluechiip System allows me to have a significant amount of oversight throughout our banking process" Dr Akhil Chawla MD Clinical Assistant Professor of Surgery



"Bluechiip helps us work more efficiently with confidence in sample integrity and identity" Dr Mary Clare McCorry

Director of Technology and Process Development



"The Bluechiip system provides a full audit trail to help us adhere to Good Manufacturing Practice"

Dominika Lykova
Cell Therapy Specialist

#### New York State Psychiatric Institute

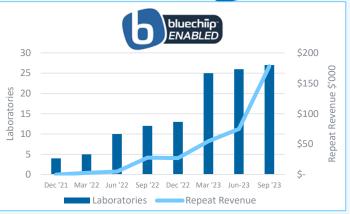


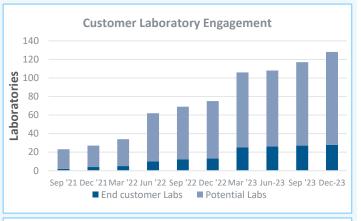


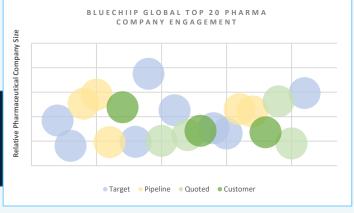
Palacký University Olomouc

Growing install base 28 labs across 17 accounts including 3 large Global Pharma companies & Ivy League Core Facility









## **Vision**

To be the global leader in ID and sensing technology for extreme environments

## **Mission**

To advance research and medicine by providing confidence in every sample

# Major ID and Sensing Technology Sectors

#### **Primary Focus**



#### **Lifesciences Cold Chain incl** Logistics, Storage and Monitoring

Item level **ID** and temperature tracking of containers holding high value samples through-out the **cryogenic** cold chain cycle. Including Banking, Transport and Monitoring where **frost** is usually present, and ID errors have high risk and impact.



#### **Cold Chain Logistics Food**

Item level tracking of frozen, and temperature sensitive food products through-out the cold chain cycle.



#### Industrial and **Manufacturing**

Item level ID and high/low temperature tracking tools and parts, structural health monitoring, items exposed to ionizing radiation such as nuclear products, sterilised medical devices, disposables and some food products.



#### Security and Defence

Anti counterfeiting fashion, art, and high value commercial items. Cloning a bluechiip tag is extremely difficult. Parts that are exposed to ionizing radiation, security and defence.

Bluechiip is highly differentiated in Lifescience Cold Chain with core technology benefits and large market opportunity

## Life-science Cold Chain Market Trends



**Increasing sample** numbers and retrieval rates

#### **PRODUCTIVITY**

Minimise total cost of sample ownership and ROI



Increased demand for advanced therapies and sensitive samples

#### SAMPLE VALUE

ID tech needs to keep up with higher value samples



**Criticality of** sample history maps and reports

#### SAMPLE QUALITY

Maximise specimen integrity via adequate cold chain handling and reporting



**Increasing demand for** cryo (-196°C and - 80°C) storage

#### **CRYO TECH**

Utilisation of cryo-safe technology and processes

# Biosample Management Technology is Not Keeping up With the Increasing Value of Biosamples





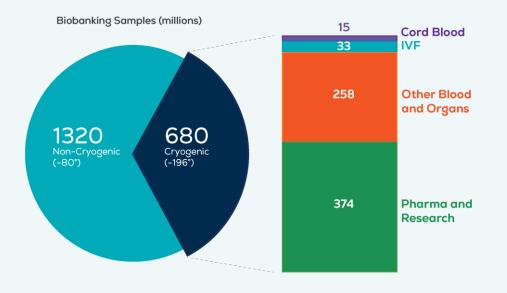




# **Primary Market Opportunity**

Global Bio-Preservation Market \$3.1B in 2020 -Projected \$4.9B in 2025 (CAGR 9.2%)^

#### Samples in Storage\*



#### **Primary Bluechiip Applications**

#### **Life Science Market Opportunities**

Target Market	Market Size by Samples	Bluechiip Addressable Market
Bio-preservation	300m+ samples/year >2B in storage	US\$600m+
Assisted Reproductive Technology (IVF)	2.5m IVF Cycles/year 5-8 consumables per cycle >33m samples in storage	US\$50m+
Clinical trials and research	>35m samples/year	US\$70m+
Cell therapies, Pharmaceuticals	3m samples/year 15m+ in storage	US\$30-50m+

**Total Bio-Preservation: 2B Samples in Storage** 300M new samples per year in over 10,000 laboratories

Sources: ^Markets and Markets 2020 \*Visual Fuse and MarketsandMarkets 2014

# **Bluechiip MEMS Core Technology Advantages**

Bluechiip's sensor tag consists of a silicon chip (1mm<sup>2</sup>) with 52 mechanical beams that provide a unique ID when read. The chip is connected to an antenna available in multiple form factors, providing communication of both ID and temperature to a centralized database. Bluechiip's Tag provides key advantages over other forms of ID in cryogenic environments.

		RFID		6	
		RFID	Barcodes	Bluechiip	
	Non-visual ID Reads through frost	~*	×	✓	
NACK NACK	Cryosafe Operates down to -196C	×	*	✓	
	Guaranteed unique ID ID cannot be overwritten or duplicated	×	×	✓	
	On-board sensor Senses temperature on each scan	*	*	<b>√</b>	
Y	Sterilization proof Gamma, E-beam, Autoclave	*^	<b>✓</b>	✓	



<sup>\*</sup>Majority of RFID unreliable below -40C.

<sup>^</sup>Some newer RFID's have resistance

# Bluechiip offers the only Advanced Sample Management solution providing sample temperature with ID in cryogenic environments

We understand that every sample is critical and managing each one with optimal quality, in the most efficient way is the objective

Storage

Bluechiip Readers Software





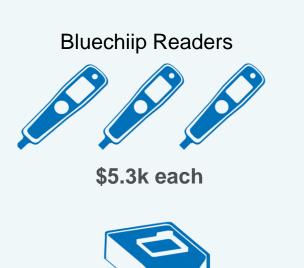


Bluechiip's goal is to deliver confidence in every sample



# Bio-Pharma – Single Tank Revenue Model







Stream Sample Manager Software



**Initial Capital Expenditure** \$42.9k

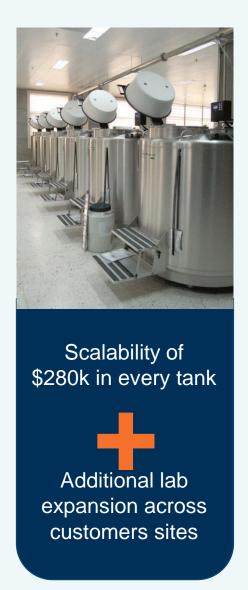


65k vial tank \$280k/yr



Modular software license \$12k/yr

Yearly revenue



# **Confidence in Every Sample**

Bluechiip's unique and patented technology is designed to operate across a wide temperature range from -196°C to over +150°C, creating the perfect system for managing sensitive samples. Bluechiip Enabled Sample Storage, Readers and Software combine to provide an unparalleled ability to track and store sample level data, including temperature across the cold chain process.

#### **Redefining Quality**

- Eliminating errors through optimized inventory management
- Enabling compliance to industry standards and internal procedures
- Capturing ID and temperature at the sample level for cold chain integrity
- Reducing the risk of temperature excursions in cryogenic conditions
- Providing key workflow insights to drive continuous improvement

#### **Driving Productivity**

- Reducing manual processes and eliminating double witnessing
- Identifying multiple samples instantly through frost
- Simplifying inventory handling for faster processing
- Driving efficiency at every step of the workflow





# Bluechiip Enablement – Research Institute







## Challenge

The Research Institute needed a solution to centralize and standardize sample management across multiple user groups and locations, many without traceability of their freezers' contents.

### **Solution**

By digitizing existing and new sample inventory, Bluechiip provides the Institute with a single, easy to use platform to track a variety of sample types across multiple freezers.

Starting with 5 freezers and 1 user group, the system has now been rolled out to more than 20 lab groups across the freezer farm.

Freezers 45+



Samples 0.5M+





# Bluechiip Enablement Global Pharma R&D Lab











## Challenge

A major pharmaceutical R&D facility had poor control of cryovial location data within their LN2 storage tank. Required a solution that could operate across their LN2 sample inventories and their -80C and reagent (-20C) freezers.

## **Solution**

Bluechip's Multivial reader provides the laboratory a reliable traceability of individual cryovial locations within cryoboxes being transferred into and out of the automated LN2 store.

The laboratory manages their entire inventory of tanks and freezers in the Bluechiip Stream database and Bluechiip's Flexi Module is being utilized to enabled the registration and tracking of reagents in the -20C freezer.



**Multiple -80 Freezers** 



Reagent tracking at -20C





## **Bluechiip - Path to Market**





#### **Bluechiip Direct Solutions**

Direct to market: North America

Global distribution network

Consumables, Readers, Software Sales model



#### **Primary Target Markets**

- Bio-preservation
- Clinical trials and research
- Cell therapies & Pharmaceuticals





#### **Partnerships: Bluechiip Enabled Solutions**

- Developer kits sold to global corporations for due diligence
- Conversion to licence agreements and Bluechiip Enabled solutions
- Ongoing licence fees
- Development and service revenues
- Sale of Bluechiip Enabled Consumables, readers & software



#### **Major Licence agreements**

- FujiFilm Industries Irvine Scientific
- Labcon distribution agreement

# **Growth Initiatives For A Bluechip Future**



- Landing New Accounts through Aggressive Sales & Marketing in US
- Expanding within accounts into new labs & expanding repeat revenue
- Building distribution networks in Europe & Asia in FY'24
- Growing our direct customer base globally across the >>\$1B, Ultra Low temperature clinical trials, cell therapies, pharma biobanking markets
- Execution and conversion of our Major partnerships
- Continued expansion and protection of our world first, highly differentiated technology: >40 granted patents
- Building operational & manufacturing capabilities to meet demand



Landing and expanding new accounts, new labs and growing repeat orders



Building global distribution channels





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