



# Capital Markets Day

NOVEMBER 10, 2022

BiCO 

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# This is BICO

BICO's mission is to enable the pharmaceutical and biopharma industries to develop new treatments faster and safer, with more specificity and less need for animal testing. Our laboratory automation technologies are at the forefront, enjoying a significant and growing demand, in many cases driven by their uniqueness and accessibility.

We embody the spirit of bioconvergence, creating user-friendly solutions by combining well-proven, conventional technologies with biology (biology, biomaterials, advanced genomics, bioprinting, artificial intelligence, robotics and computer science). Customers benefit from our accessible solutions that streamline and automate their workflows to ensure faster, more accurate results. This is the BICO foundation and our contribution to the future of healthcare.

Our growth strategy is to acquire innovative technology companies once they are de-risked and ready for commercialization and growth. This strategy is aimed to identify the most cutting-edge technologies and bring them into the BICO environment. We are proud of our early success in building a family of 15 promising companies with complementary and synergistic technologies, ready to scale up.

We are now well positioned for profitable growth, positioning us as a leading provider of drug discovery and laboratory automation tools. The result is an unparalleled product offering with a strong underlying patent portfolio.

In general alignment with the recent changes in the macro-economical climate, we are now entering an earlier phase of consolidation. We are streamlining the BICO organization to increase technical and commercial synergies among our companies, as well as creating processes to ensure a successful and efficient scaling-up of their businesses. The core of BICO will evolve to oversee this organic growth agenda, while also driving a more customer-focused approach. This is the key to creating customer value and stable, predictable performance over time.

Exceptional talent is the main ingredient in this phase of our journey. The improvements we are implementing will allow us to realize the full value of our brilliant team, resulting in continued value creation for all our customers around the globe.





MISSION

# The Future of Life-saving Treatments

To reduce the world's organ shortage and speed up drug development by providing accessible life science solutions.





ERIK GATENHOLM, MSc, PRESIDENT AND CEO

# Introduction to BICO Group

In 2015, Erik Gatenholm and Hector Martinez founded the first bioink company in the world to enable bioprinting of human tissues.

Today, BICO aims to reduce the organ shortage and speed up drug development by providing accessible life science solutions that combine biology and technology, fundamentally shifting the global healthcare industry.

We are industry-leading experts using bioconvergence as our operating system, namely the art of combining robotics, artificial intelligence, advanced genomics, and 3D bioprinting. With this, we create life science tools and automation that create the future of life-saving treatments. We extend the boundaries of what's possible, as we enable our customers to improve people's health and lives.

The company was listed on Stockholm Nasdaq in 2020. BICO operates through three business areas: Bioprinting, Biosciences and Bioautomation.



# Agenda

09.15 – 09.45	Introduction, Market and Strategy	Erik Gatenholm
09.45 – 10.10	Biosciences – CEO Biosero	Tom Gilman
10.10 – 10.35	Bioautomation – Business Area Director	Dr. Holger Eickhoff
10.35 – 11.00	Bioprinting – CEO MatTek	Alex Armento
11.00 – 11.15	Q&A Session	
11.15 – 11.30	Financial Performance and New Targets	Mikael Engblom
11.30 – 11.35	Summary and Key Takeaways	Erik Gatenholm
11.35 – 11.45	Q&A Session	





Intro Film: BICO

## THE CHALLENGE

1

Developing new treatments takes too long and costs too much money.

2

The technologies used are outdated and rely on archaic use of animals

3

Treating symptoms rather than the illness

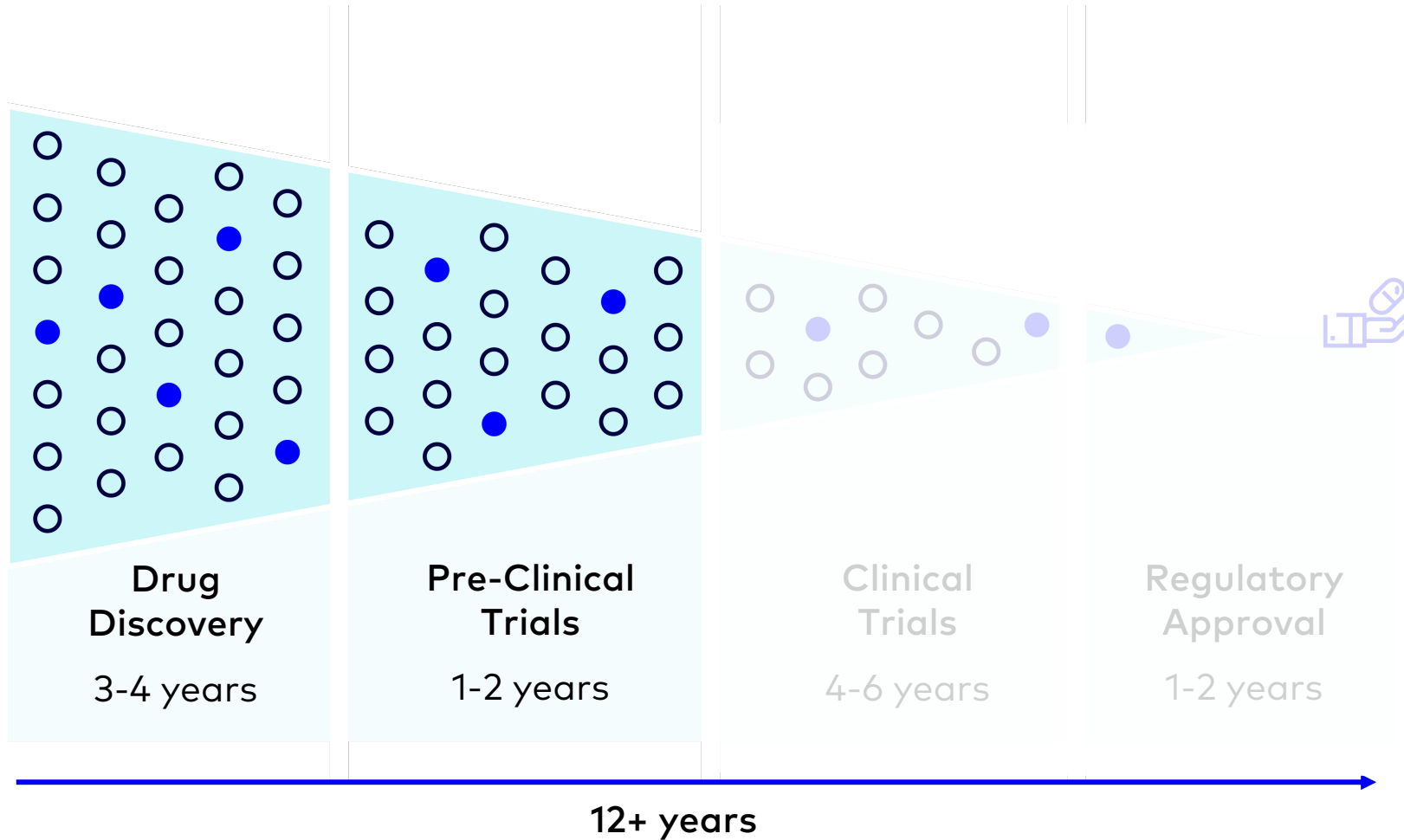


Modern healthcare challenges that we address





# The Winding Road to Life-saving Treatments



9 out of 10 drugs fail in clinical stages of development

It can take 12+ years to develop a new drug at a cost of more than 2B USD

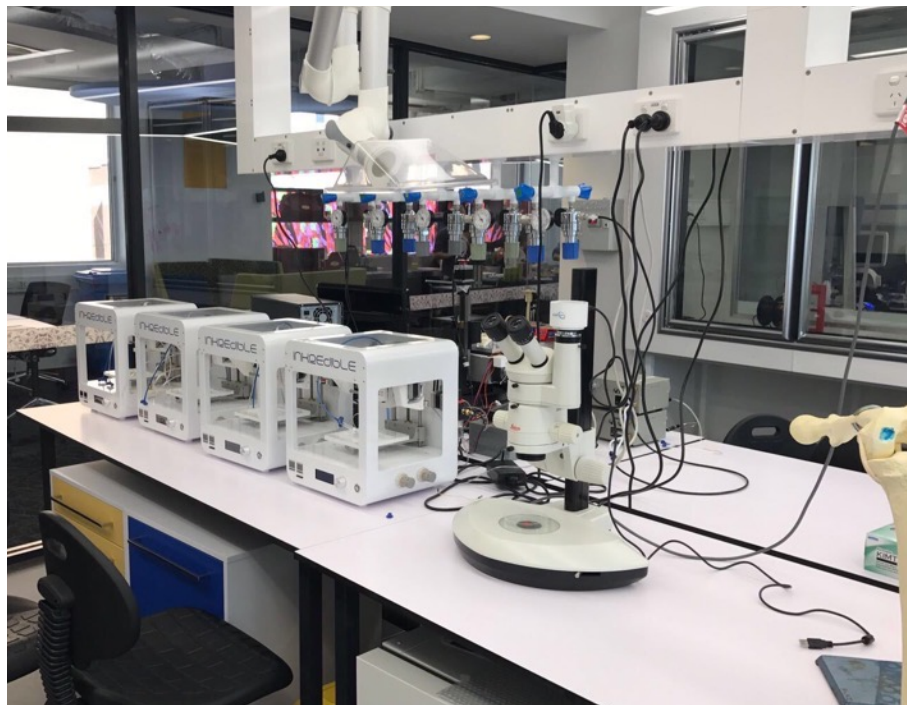
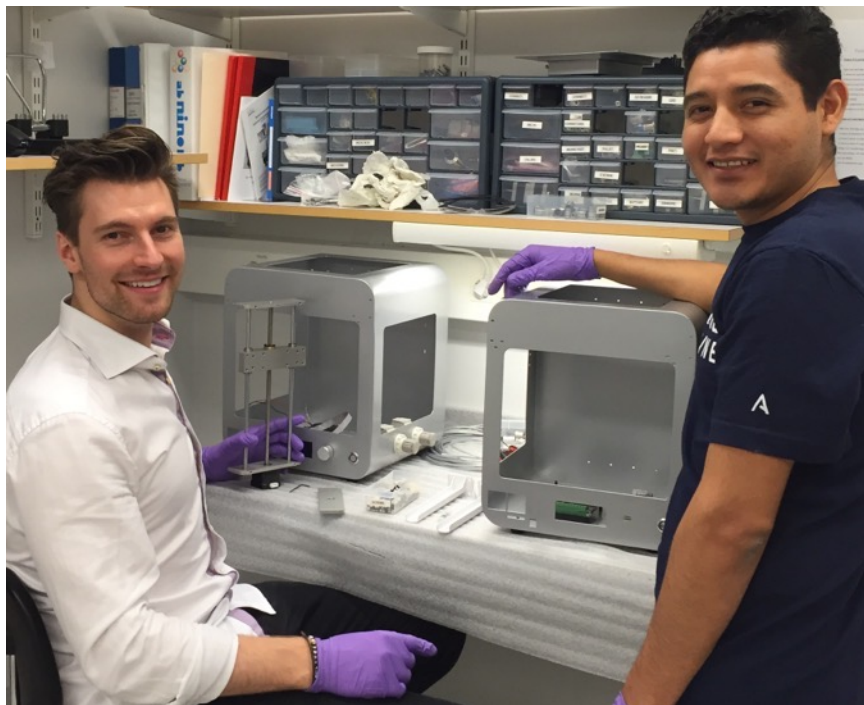
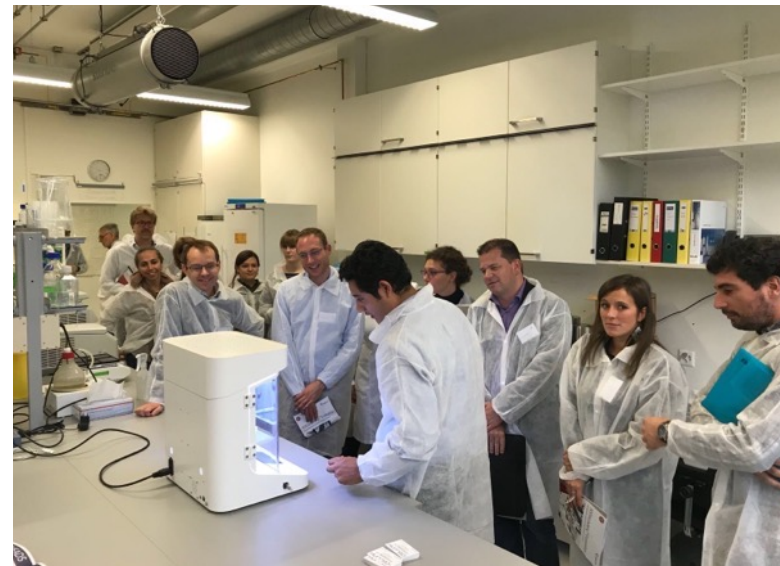
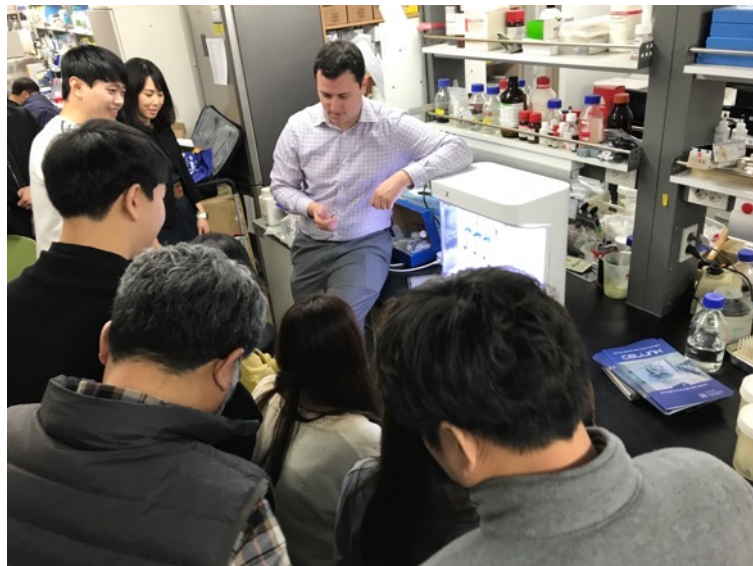
"Getting medicines faster to market by saving time and money – in the end, and most importantly, this means saving lives"

ERIK GATENHOLM

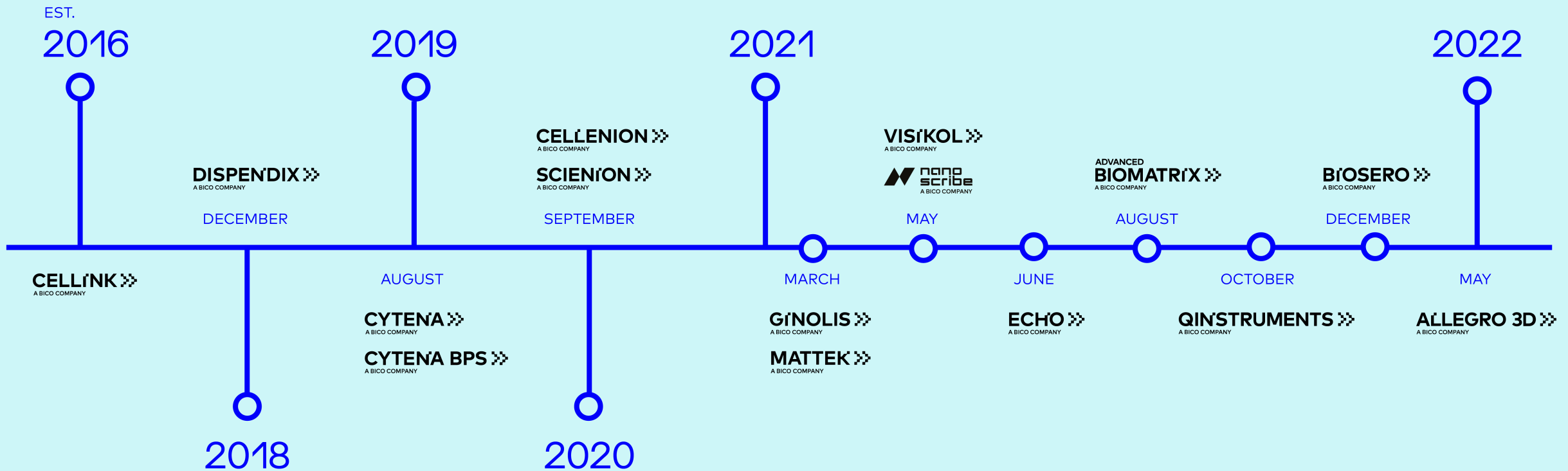


"In the fight against cancer bioconvergence has immense potential to help researchers customize treatment through omics-based tumour profiling, miniaturized drug delivery, and personalized medicine"

ERIK GATENHOLM



# Acquisition & History Timeline



# Business Model Evolution Towards Automation



# Business Model Evolution Towards Automation



# BICO by Numbers



**32,000+**

Instruments in the field



**65+**

Countries



**3**

Business Areas



**11,000+**

Publications



**38**

Offices



**1,200+**

Employees

CREATE THE FUTURE  
OF HEALTH >>



# Achievements of a Lifetime

## PRINTING IMPLANTS

Our **bioprinting technologies** are enabling new, clinical application for bioprinting. Printing implants is now fully possible.

## ENABLING BIOPHARMACEUTICALS

Our **bioprocessing technologies** enable development and manufacturing of new treatments.

## ILLNESS MONITORING

Our **diagnostics technologies** enable more than 1,300,000 patients to monitor different disease states around the world, every single day.

## EARLY CANCER DETECTION

Our **laboratory automation technologies** are being used by the largest cancer diagnosis system in the world, running tests on patient samples that detect multiple types of cancers through a single blood draw, contributing to early cancer detection and monitoring a patient's response to treatment.





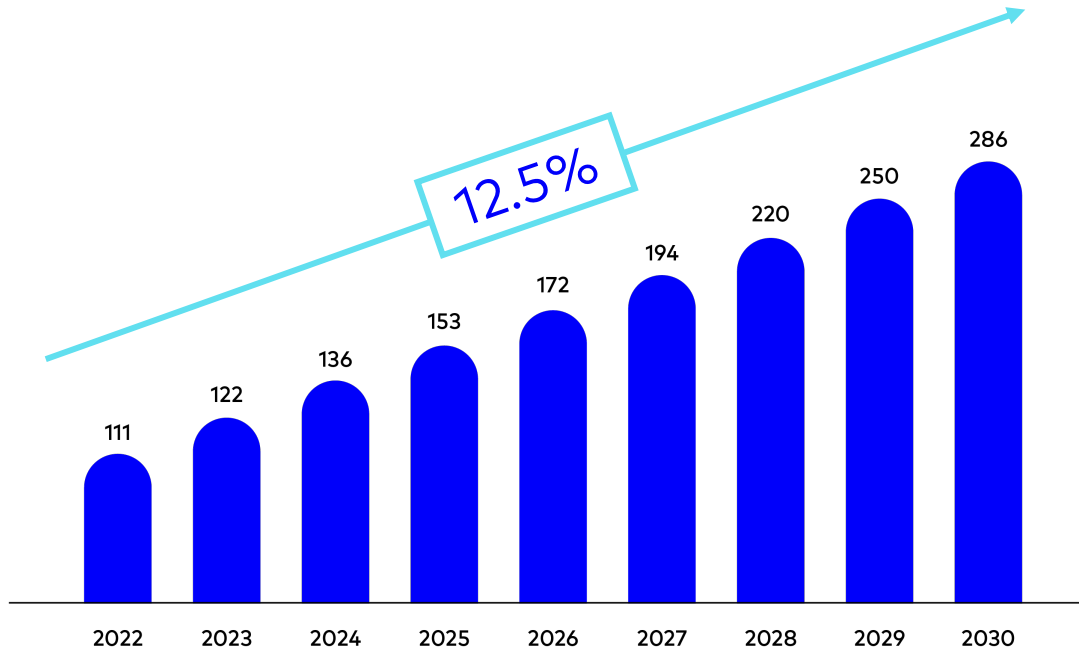
**BICO STRATEGY 2030**

Become the world's leading life-science tools and laboratory automation company for specific treatment development applications by 2030.





# The Market



GLOBAL LIFE SCIENCE TOOLS MARKET VALUE, 2022 – 2030

(BILLION USD)

## MAIN MARKET

BICO operates in a global market of life science tools with focus on treatment development

USD 111B

## FOCUS AREAS

BICO offers products, solutions, and services specialized within:

- **Tissue Engineering**
- **Multomics**
- **Cell Biology Technologies**
- **Diagnostics**

## PLAYERS

- Thermo Fisher
- Beckman Coulter
- Tecan
- Hamilton
- Waters

## OUR CUSTOMERS

# The makers of life saving treatments

### UNIVERSITIES & RESEARCH ORGANIZATIONS



### PHARMACEUTICAL COMPANIES



### DIAGNOSTICS COMPANIES



### COSMETIC & MEDICAL DEVICE COMPANIES



## OUR CUSTOMERS

# The makers of life saving treatments

### UNIVERSITIES & RESEARCH ORGANIZATIONS

- Human implants
- Biomaterials research
- Cell biology
- Teaching
- >11,000 out of 26,000, applicable academic institutions on a global basis

### PHARMACEUTICAL COMPANIES

- Drug discovery and compound screening
- Cancer research
- Biopharmaceuticals
- Gene therapy
- Catering to the largest pharmaceutical companies in the world

### DIAGNOSTICS COMPANIES

- Novel diagnostic products for disease screening
- Multiplex assays
- Point of Care tests
- Biosensors
- Oncology, STI, flu, diabetes, etc.

### COSMETIC & MEDICAL DEVICE COMPANIES

- Toxicity and cosmetic tests on human tissues
- Personalized treatments and devices



# Trends & Market Drivers

TRENDS	MARKET DRIVERS	CORE AREAS	SALES MODEL AND MARKET
Desire to increase reproducibility in experimentation	<ul style="list-style-type: none"> <li>• Personalized medicine</li> <li>• Decrease costs, improve efficiency in drug discovery and reduce time to find safe and effective treatments</li> <li>• Enable transplantation of printed organs</li> <li>• Early detection of diseases with better and faster</li> <li>• FDA Modernization Act 2.0</li> <li>• Integrated and automated workflows in laboratories</li> </ul>	Next Generation Diagnostics	<p><b>Customer base:</b> Diagnostics, Pharma</p> <p><b>Sales model:</b> Instruments, consumables, services, contract manufacturing</p> <p><b>Market position:</b> Market challenger</p>
Alternatives to animal testing		Next Generation Tissue Engineering	<p><b>Customer base:</b> Academia and Pharma</p> <p><b>Sales model:</b> Instruments, consumables, reagents, services</p> <p><b>Market position:</b> Market leading</p>
Higher cost and lower availability of skilled labor		Next Generation Multiomics	<p><b>Customer base:</b> Academia and Pharma</p> <p><b>Sales model:</b> Instruments, consumables, services</p> <p><b>Market position:</b> Market challenger</p>
Increased focus on personalized medicine		Next Generation Cell Biology Technologies	<p><b>Customer base:</b> Pharma</p> <p><b>Sales model:</b> Instruments, reagents, consumables</p> <p><b>Market position:</b> Market challenger</p>
Rapid evolving field of gene therapies and biopharmaceuticals			
Remote work and WFH initiatives			



## TRENDS & MARKET DRIVERS

# Next Generation Tissue Engineering

The end-to-end solution for biofabrication of personalized, medical devices and tissues – trusted by the best.



## FEATURED WORKFLOW

- 1 Load patient-specific cells in cartridges with bioink and initiate human tissue bioprinting protocol
- 2 Automated bioprinting at high throughput
- 3 Stimulate tissue development with growth factors
- 4 Tissue stabilization & quality assurance
- 5 Tissue maturation and non-destructive analysis
- 6 Personalized implant process completed





Film: Customer

## TRENDS & MARKET DRIVERS

# Next Generation Cell Biology Technologies

Trusted by all top 20 pharmaceutical companies



Using the I.DOT, researchers can save **80% on reagent costs** and using **75% less plastic tips** than regular processes.

Item	Standard Protocol	I.DOT & C.WASH Protocol	Reduction
Reagent Cost	\$3000	\$600	~80%
Plastics Consumption	1,285 Tips	304 Tips	~75%



# Our Life-Science Tools and Solutions

## 1 SPEED

### Our products

- Help researchers automate manual and previously slow processes
- Enable researchers to reduce downtime between manual steps

## 2 ACCURACY

### Our products

- Help researchers improve research outcomes by improving repeatability, accuracy, and reliability
- Enable researchers to generate better data using better models and sample preparations techniques

## 3 EFFICIENCIES

### Our products

- Enable researchers to save time and money
- Reduce dependencies on manual labor
- Help researchers save money on expensive reagents through miniaturization





# Bico Strategy 2030

Become the world's leading life-science tools and laboratory automation company for specific treatment development applications by 2030.



# Summarizing 2021

<p><b>M&amp;A &amp; Tech</b> <b>development agenda</b> Strengthen bioconvergence position</p>	<ul style="list-style-type: none"><li>• Active customer-centric M&amp;A agenda</li><li>• Develop and capitalize on our strong R&amp;D and tech development agenda (Group synergies)</li><li>• Continue collaboration through partnerships with academia, research organizations and customers</li></ul>	
<p><b>Financials</b> Deliver on financial targets</p>	<ul style="list-style-type: none"><li>• Deliver on financial targets (35% organic growth and show positive EBITDA)</li><li>• Focus on sales and value drivers for growth at Group company level</li></ul>	
<p><b>Customers</b> Best customer care, design, quality and supply chain in the industry</p>	<ul style="list-style-type: none"><li>• Continue to build direct sales organization in main/growth markets</li><li>• Unified global service capabilities at business area level</li><li>• Focus on product design based on user experience by global design team</li><li>• Implement lean and efficient supply chain</li><li>• Implementation of ERP and CRM system</li></ul>	
<p><b>People</b> Happy and motivated team</p>	<ul style="list-style-type: none"><li>• Integration strategy for acquisitions, initial 100-day plan</li><li>• Create a shared digital workplace for the Group and encourage knowledge sharing</li><li>• Continuous monitoring employee satisfaction</li><li>• Training and development on Group level thru CELLINK academy</li></ul>	
<p><b>Sustainability</b> Develop sustainability agenda</p>	<ul style="list-style-type: none"><li>• Sustainability agenda for the Group with sustainability targets (to be launched 2021/2022)</li><li>• Development of products and services through technologies for minimizing animal trials</li><li>• Mapping towards UN's Sustainable Development Goals</li></ul>	



# Strategy 2022-2030

## BICO 2030

The world's leading life-science tools and laboratory automation company for specific treatment development applications

## Our Vision & Mission

Create the future of life-saving treatments by aiming to reduce the organ shortage and speed up drug development by providing accessible life science solutions that combine biology and technology

## Our Core Values

Persistence

Execution

Transparency

Inspiration

Passion

## Our Focus Areas for 2023

### Financials

Market-leading financial performance

### Customers

Best-in-class supply chain, quality, and commercial strategy

### Market Leadership

Continue to lead the bioconvergence revolution in automation

### Organization

High-performing and motivated team!

### Sustainability

Further expand ESG agenda

- People
- Planet
- Product



# Full steam ahead for 2023

## Our Focus Areas for 2023

### Financials

Market-leading financial performance

### Customers

Best supply chain, quality, and commercial strategy in the industry

### Market Leadership

Continue to lead the Bioconvergence revolution

### Organization

High-performing and motivated team!

### Sustainability

Further expand ESG agenda

- People
- Planet
- Product

- Double-digit, organic growth with focus on generating cash flow.
- Responsibly strengthen internal control, policies, integration efforts, and strategic alignment



# Full steam ahead for 2023

## Our Focus Areas for 2023



- Streamline direct sales channels in main markets (US, EU), expand new channels in APAC
- Further implement centralized ERP and CRM systems to better control margins, pricing, supply chain development, drive working capital improvements
- Strengthen global IT infrastructure for enhanced IT security, internal resource sharing, CRM, ERP, and digitalization efforts
- Focus on expanding high margin, reoccurring revenue business model with software and reagents



# Full steam ahead for 2023

## Our Focus Areas for 2023



- Focus on tools for drug discovery, toxicology, and compound screening applications with accessible, user-friendly, and value generating products/workflows.
- Promote natural synergies to further improve profitability, cash generation, and efficiencies. Most importantly, let the companies accelerate and thrive.
- Focus on smaller, bolt-on acquisitions to strengthen offerings of earlier acquired companies
- Continue to develop NXCIS strategy for improved long-term market positioning



# Full steam ahead for 2023

## Our Focus Areas for 2023



- Ensure the best people, teams, and processes in right places to deliver extraordinary results
- Support sharing digital knowledge and data environment globally
- Further implement decentralized corporate governance structure through improved business review processes and KPI alignment
- Implement responsible, results-oriented incentive programs to further motivate all employees



# Full steam ahead for 2023

## Our Focus Areas for 2023

### Financials

Market-leading financial performance

### Customers

Best supply chain, quality, and commercial strategy in the industry

### Market Leadership

Continue to lead the Bioconvergence revolution

### Organization

High-performing and motivated team!

### Sustainability

Further expand ESG agenda

- People
- Planet
- Product

- Strengthen sustainability agenda with focus on People, Planet, Products
- Expand development of products and services directly minimizing animal trials
- Accelerate work towards UN's Sustainable Development Goals 3, 9 & 12





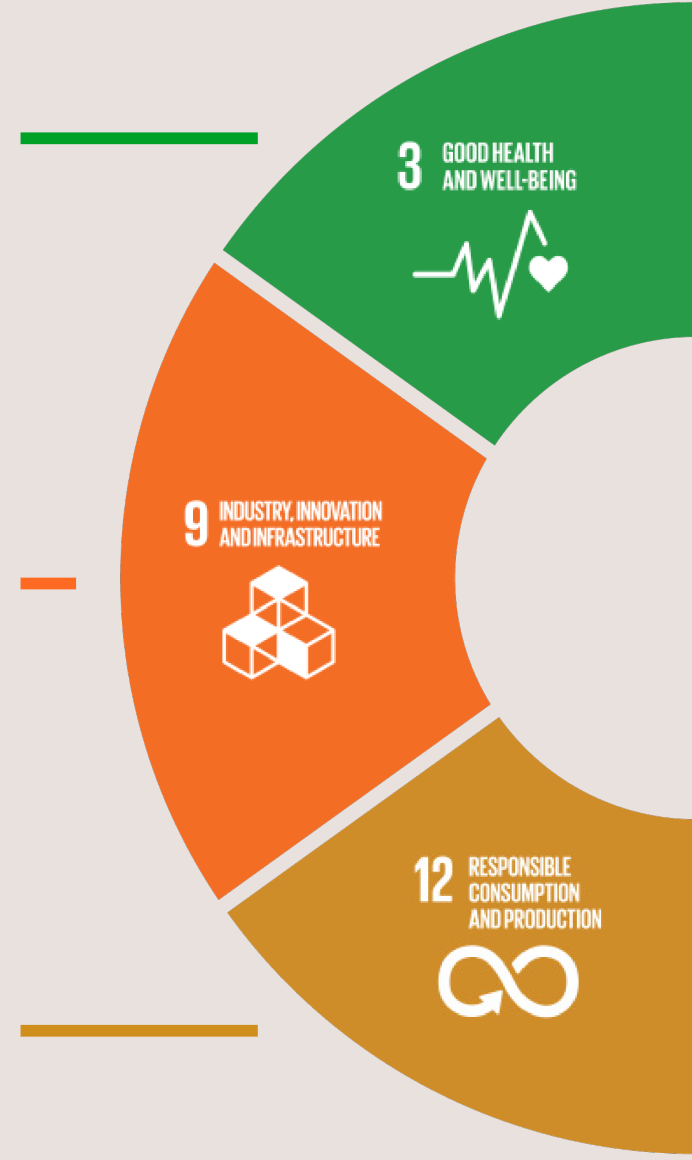
# Sustainably Changing the Industry by Supporting the UN Global Compact



A healthier society is a direct effect of BICO's products and services. Our business model contributes to the fundamental human right for everyone to be healthy and prosper.

By producing high-quality products and ensure responsible sourcing throughout the value chain BICO strives to minimize harmful effects on the planet and the people on it.

To be the world-leading bioconvergence company and change the future of medicine we must have the number one talents to drive innovation.



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# 95,000+

LABORATORY ANIMALS SAVED (2017-2021)

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Thank You



Intro Film: Biosero Acquisition



TOM GILMAN, CEO BIOSERO, INC.

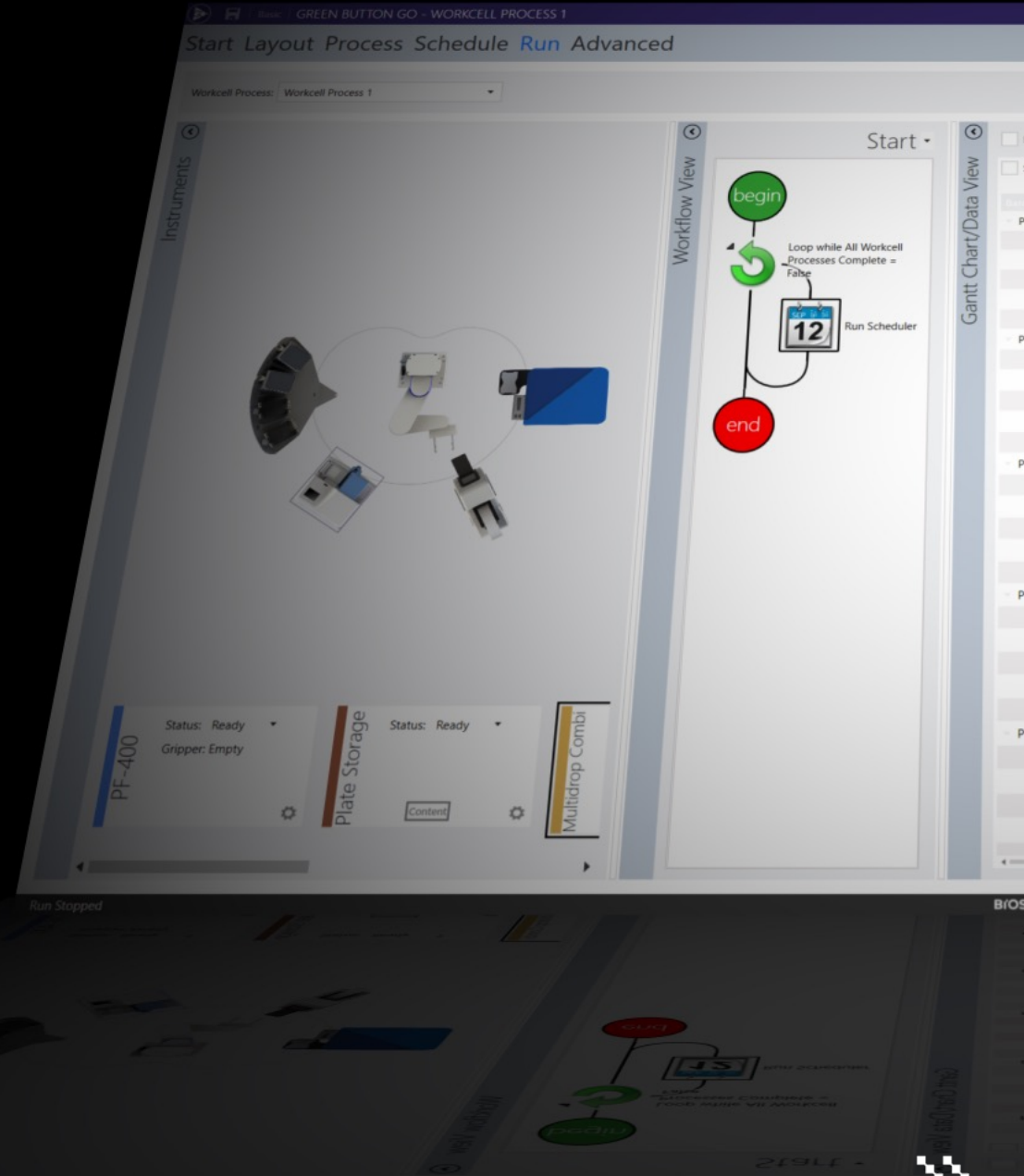
## About Biosciences

Biosciences supplies advanced lab instrumentation and smart workflow connectivity software to analyze data from applications in cell culture, cell imaging, cell sorting, and sample preparation for different analytics, such as genomics. We also deliver laboratory integration and automation solutions that enable researchers to orchestrate and accelerate their discoveries at every stage. Customers include pharma and biotech companies, as well as academic research labs. Our instruments are sold with proprietary consumables and/or proprietary software.



# About Biosero

Biosero, member of the BICO group since December 2021, develops science-centric software and laboratory automation solutions that enable researchers to orchestrate their discoveries at every stage. Our Green Button Go® Scheduler software and integration services match laboratory automation to customer workflows, creating a cohesive technology ecosystem that accelerates operations and increases productivity. Our Green Button Go Orchestrator applications provide an end-to-end laboratory management solution, directing workflows and operations in life science, biotechnology, pharma-ceutical, and diagnostic research. We are passionate about partnering with organizations dedicated to enhancing life by addressing the world's most significant needs.



# Biosero Quick Facts

On track for 75% growth in 2022 – record revenue year

**110+**  
EMPLOYEES

**750+**  
CUSTOMERS

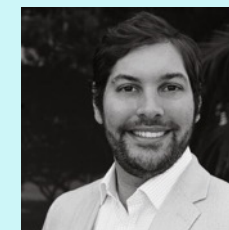
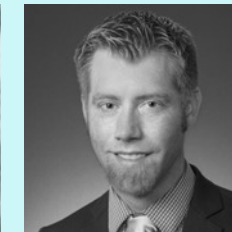
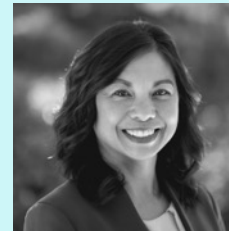
**2,500+**  
INSTALLS

**20+**  
COUNTRIES

FOUNDED IN  
**2003**

BICO SUBSIDIARY SINCE  
**2021**

## INDUSTRY EXPERT TEAM



**17**

AVERAGE # OF YEARS IN LIFE SCIENCES PER PERSON



# Biosero Advisory Board

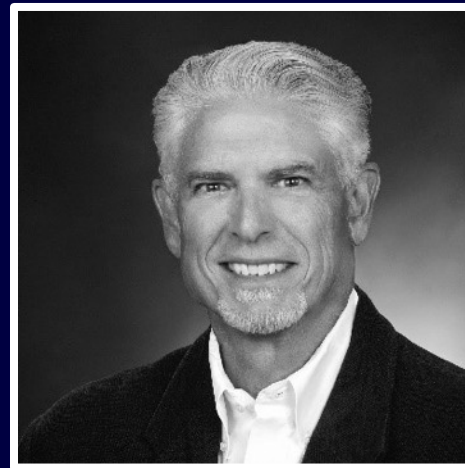
Guidance from leaders in diverse industries



**BILL DAVIDSON**

Chief Operating Officer  
*Amionx*

36-year career in sales,  
marketing, and operations



**STEVE PROIA**

Chief Financial Officer  
(retired) *NASA JPL*

37-year career at JPL and  
others with an emphasis  
on contracts and finance



**MARITZA DIAZ**

Chief Executive Officer  
*ITJuana*

25-year career in IT and  
software engineering





# Why Lab Automation and Why Now?

## LIFE SCIENCE COMPANIES' GOALS FOR THE FUTURE

1

Reduce Medicine/Cures to Market by 50% of the Time (Extend Hours of Productivity)

4

Real-Time Insights to Meaningful Information with Higher Data Integrity

2

Minimize Costs associated with Drug Development Cycle

5

Better Predict the Future = Artificial Intelligence and Machine Learning

3

Process More Samples and Data than ever before (Covid-19 Pandemic Effect)



# Biosero Technology Timeline

2003

- Biosero founded
- 8-year emphasis on hardware integrations

2011

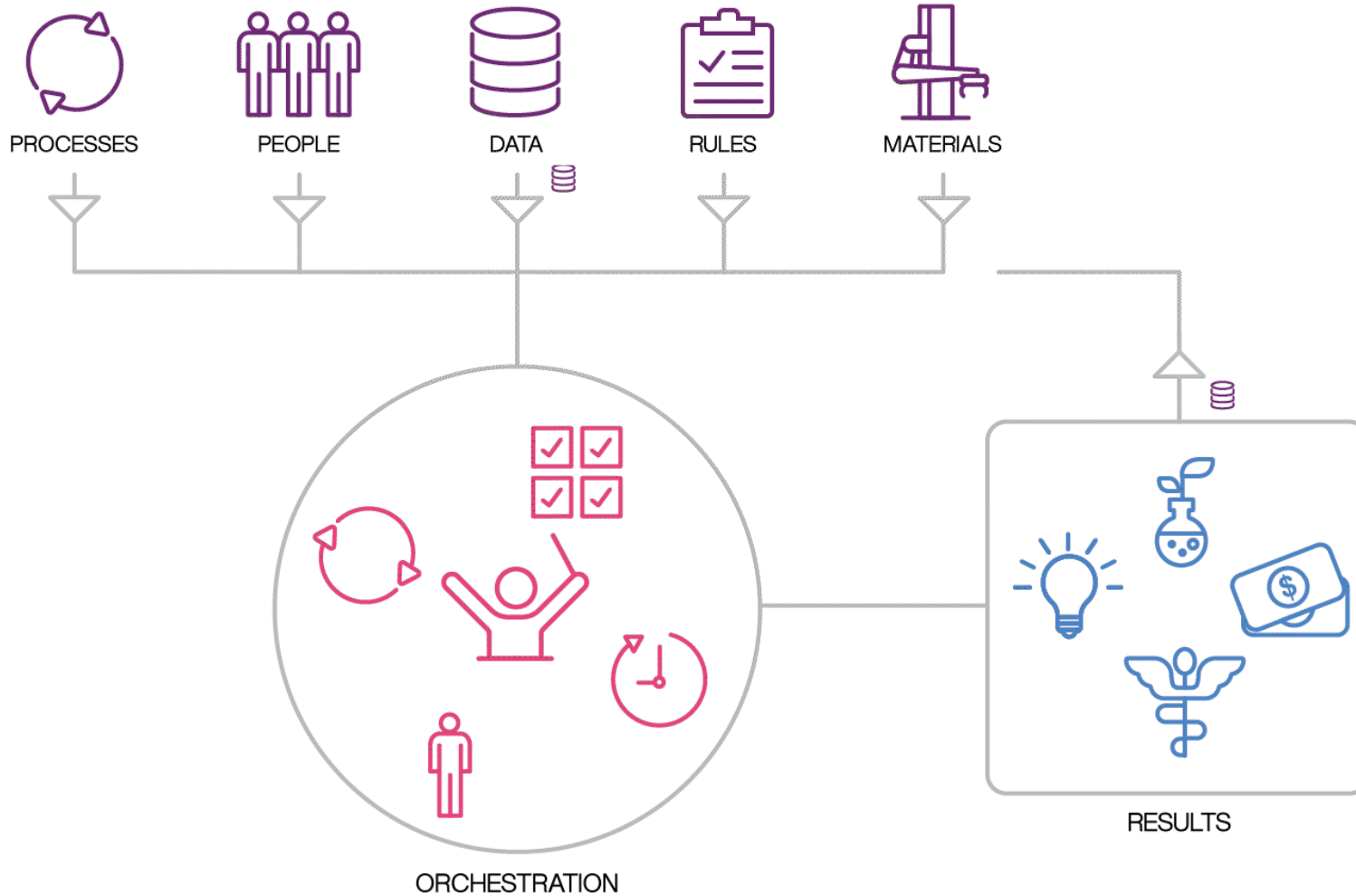
- Green Button Go Scheduler launched
- Another 8 years focused on
  - Improving integration UX
  - Increasing complexity of integration models

2019

- Green Button Go Orchestrator launched
- Emphasis on taking lab automation to the next level
  - Whole-lab automation controls
  - Data management and visualization

PRESENT





THE EVOLUTION:

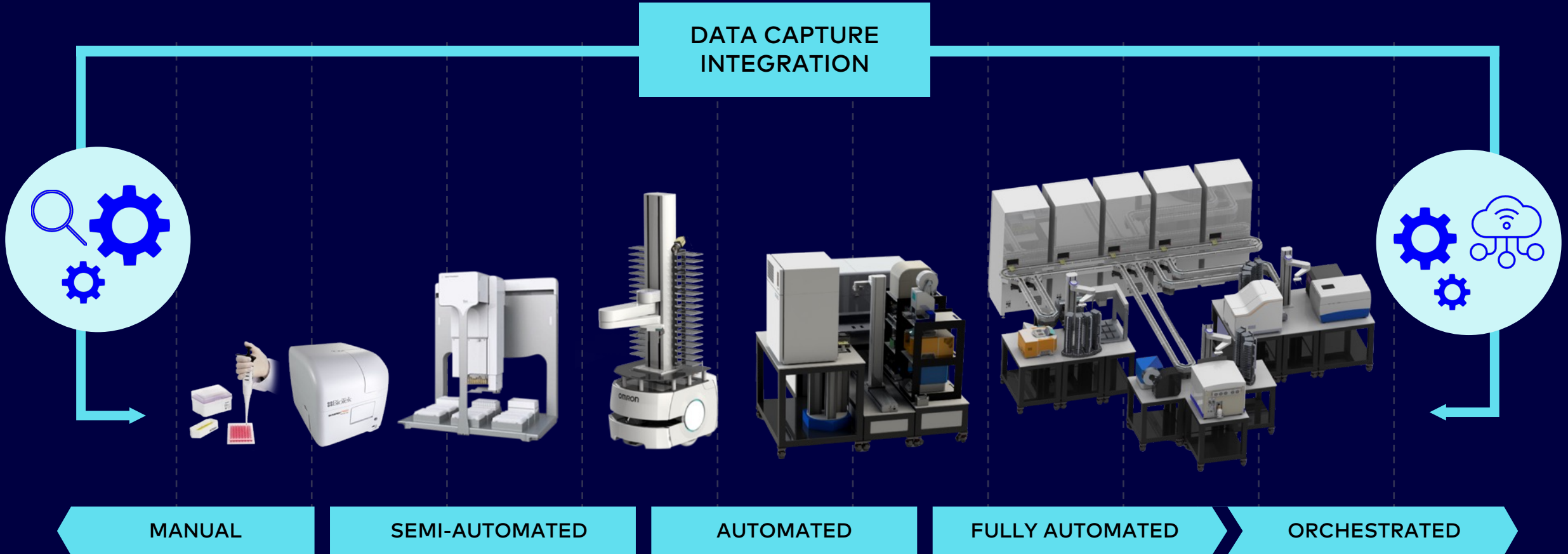
# Lab Orchestration

Manage workflows by harmonizing processes, people, data, business rules, and materials to achieve desired results.



# Lab Automation Continuum

SOLUTIONS BEYOND THE AUTOMATED WORKSTATION



# Our Customers





Film: Biosero, Biofactory, Industry 4.0

## KEYS TO BIOSERO SUCCESS

# Partnering with Scientists since 2003



Long-term partnerships  
with repeat customers  
and low churn



Automating science at  
the highest levels



Mission-driven team  
focused on finding  
cures



# Major Trends / Market Drivers

**1/** Reduce drug to market time by 50%

**2/** Minimize costs associated with drug discovery cycle

**3/** Process more samples and data than ever before

**4/** Realtime insights to meaningful information with higher data integrity





# Focus 2023

Streamline internal processes to accelerate the delivery of solutions to customers around the world

Extend our OEM business and software sales via market-leading instrument provider pursuing lab automation

Grow our direct sales business through the release and implementation of new products that enable larger and fully automated biofactories





**DR. HOLGER EICKHOFF, SVP, BUSINESS  
AREA DIRECTOR & FOUNDER OF SCIENION AG**

## About SCIENION

Founded in 2001, SCIENION is a renowned specialist in ultra-low volume precision liquid handling in the pico-liter to micro-liter range, enabling applications from research to high-throughput production of assays in diagnostics and life sciences. Addressing the dynamically increasing needs for miniaturization and multiplex analyses, SCIENION is a complete solution provider offering a unique portfolio of automated precision dispensing systems, readers, consumables, assay development and contract manufacturing services. The company operates from Dortmund and Berlin, Germany, as well as subsidiaries in Arizona, USA; Chichester, UK; and Cellenion in Lyon, France. BICO Group acquired SCIENION in August 2020.



# About Bioautomation

Bioautomation offers scientific instruments and solutions for scalable manufacturing of diagnostics as well as consumables to enable single cell- and other workflows. Our customer base is mainly in diagnostics, with increasing interest from biopharma CROs and pharma companies. A typical customer journey might start as an R&D project, then turn the results into manufacturing for clinical studies, and finally full-scale manufacturing for worldwide use. Our main differentiator is that we can scale projects to any size, while utilizing only marginal volumes (e.g., 100 pl) of typically expensive biological reagents, or just a single cell. This results in enormous savings of resources and costs. We also offer contract manufacturing services on all the technologies we offer, letting customers decide if they want to invest in equipment or just obtain a service. All services can later be tech transferred to customers at any time.



# Business Area Bioautomation

Cutting-edge robotics and automated solutions for manufacturing of diagnostic devices including lateral flow and microfluidics.

1

## MARKET SEGMENTS

Diagnostics, biosensors, single-cell Imics and Liquid handling

2

## SALES MODEL

Instruments, consumables, services and contract manufacturing

3

## MAIN COMPETITORS

Tecan, ATS, HP, Sanmina, EvoSep, Nordson, 10xGenomics, Nanocollect, INHECO

4

## TAM

Diagnostics & biosensors: \$40Bn  
Single-cell analysis \$2.1Bn  
CAGR 10% / 17.2% p.a

5

## MARKET POSITION

>15 of the top 25 diagnostics companies are using BICO Bioautomation products to manufacture diagnostics. Precision dispensing market leader. We are a very fast mover in single-cell genomics and proteomics.

6

## CUSTOMER BASE

Diagnostics companies, bioprocessing companies, pharma companies, research organizations, academic institutions

7

## PRODUCT OFFERINGS

sciFLEXARRAYER S3-S100, LFDA 1-8, Pixie, Cecilia-L Dispenser, Ginger Software, cellenONE, cellenONE FL, cellenCHIP, proteoCHIP, sciREADERs, Contract Manufacturing, BioShake, ColdPlate



# Next-Generation Technology for Low Volume Precision Dispensing

SCIENION and Cellenion are the only companies capable of dispensing both biological reagents and viable single cells at an industrial scale.



Core  
Technology

PRECISION DISPENSING IN PL TO  $\mu$ L RANGE

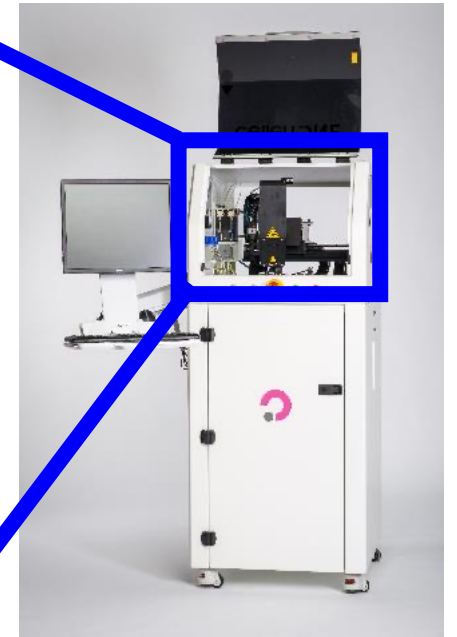
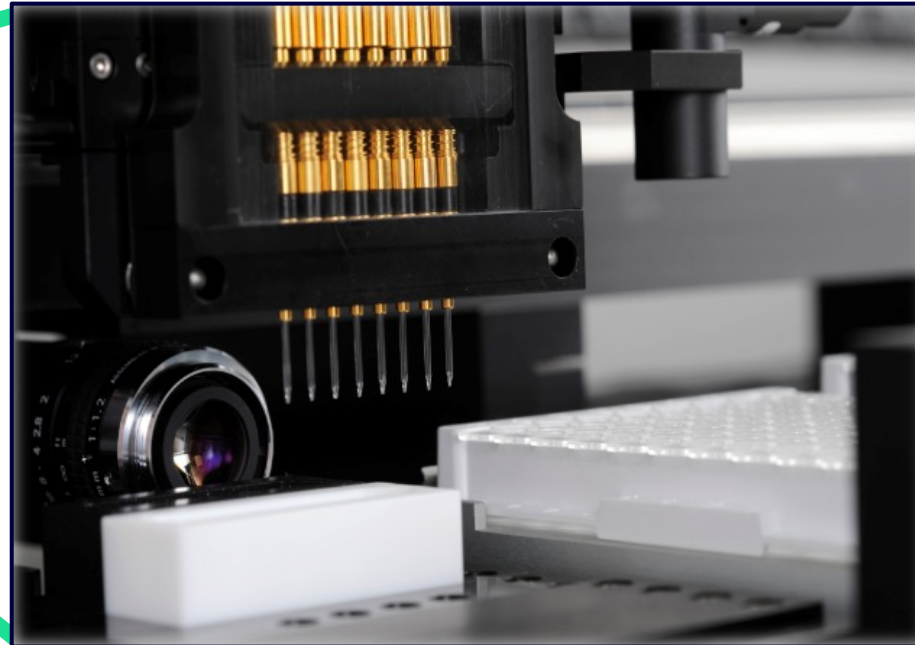
SINGLE CELL ISOLATION AND HANDLING

sciDROPS NANO

sciDROPS PICO

Nanoliter to microliter dispensing in bulk or aspirate/dispense mode

High precision droplet dispensing in the pico- to nanoliter range



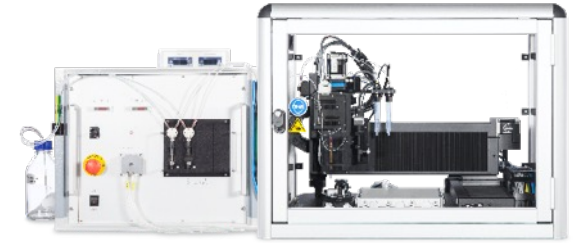
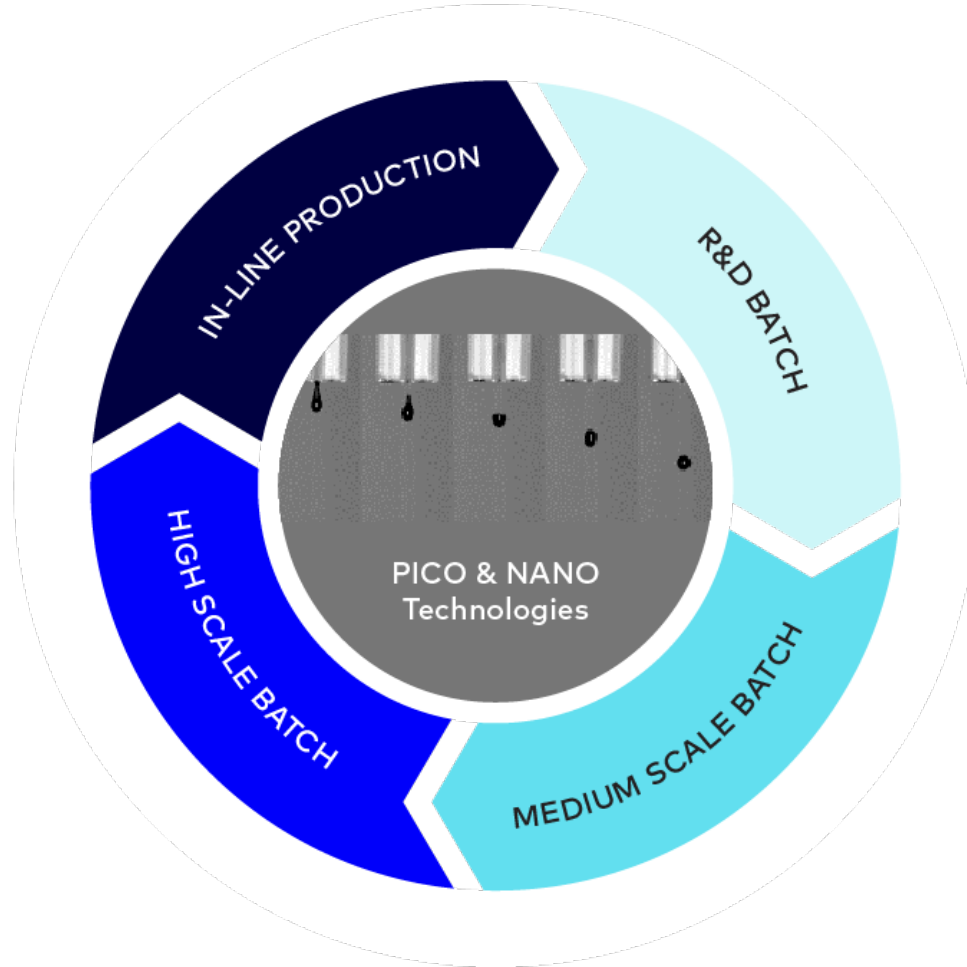
# One Technology - From R&D to Production



sciFLEXARRAYER S100



sciFLEXARRAYER SX



sciFLEXARRAYER S3



sciFLEXARRAYER S12



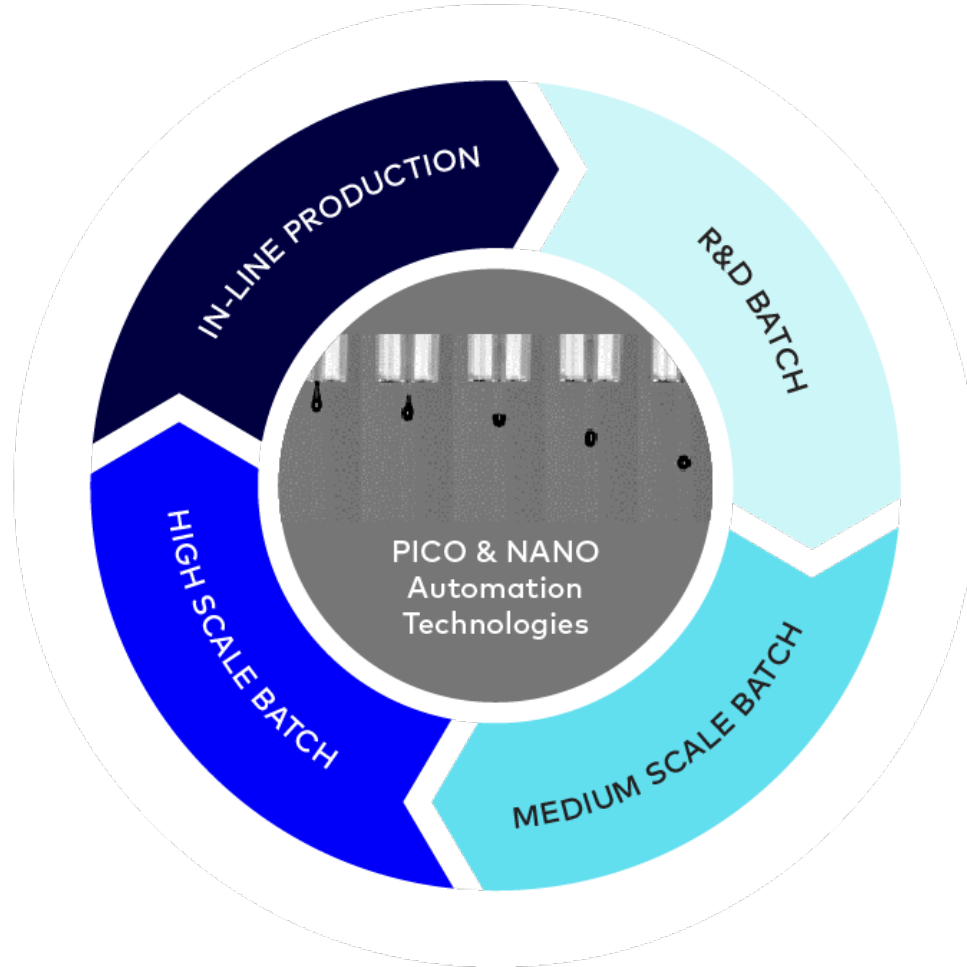
# One Technology - From R&D to Production



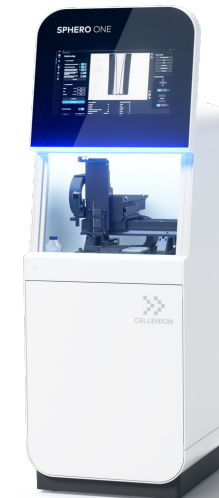
cellenONE HT



cellenONE BSC



cellenONE



spheroONE





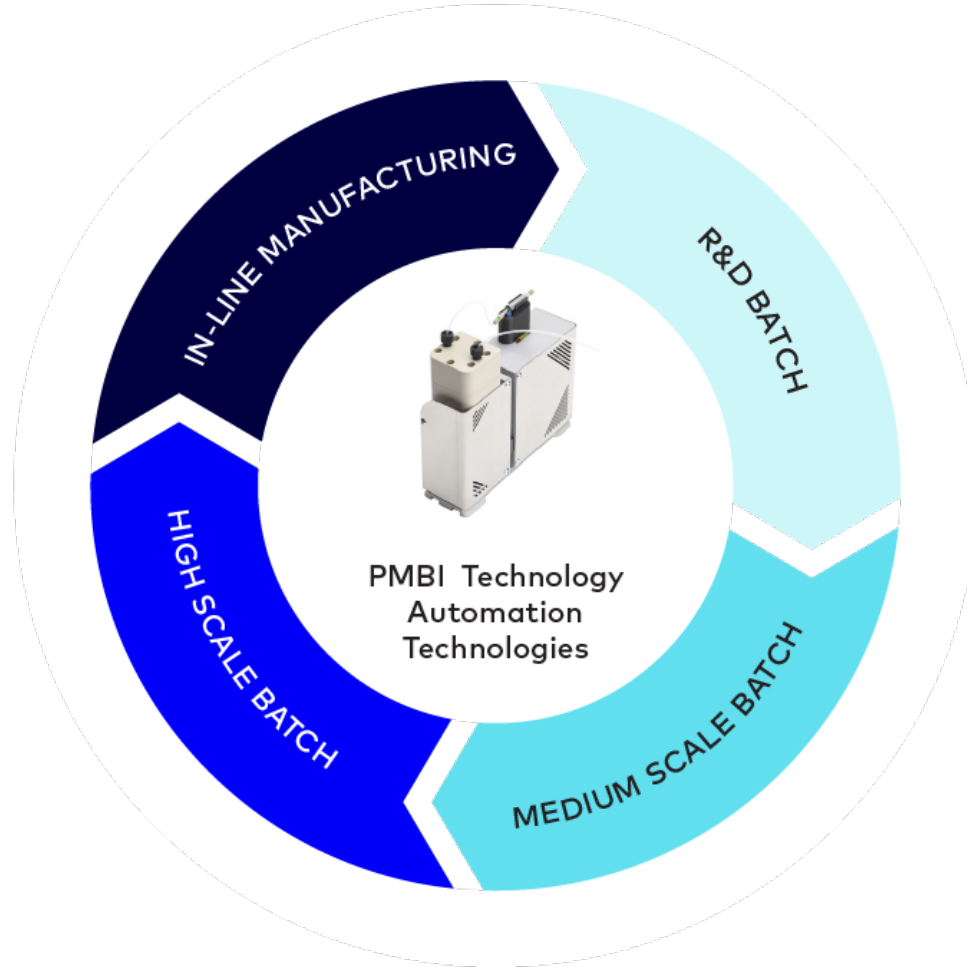
# One Technology - From R&D to Production



Ginolis – Medical Device Systems



Ginolis LFDA-6



Ginolis LFDA-1



Ginolis LFDA-3



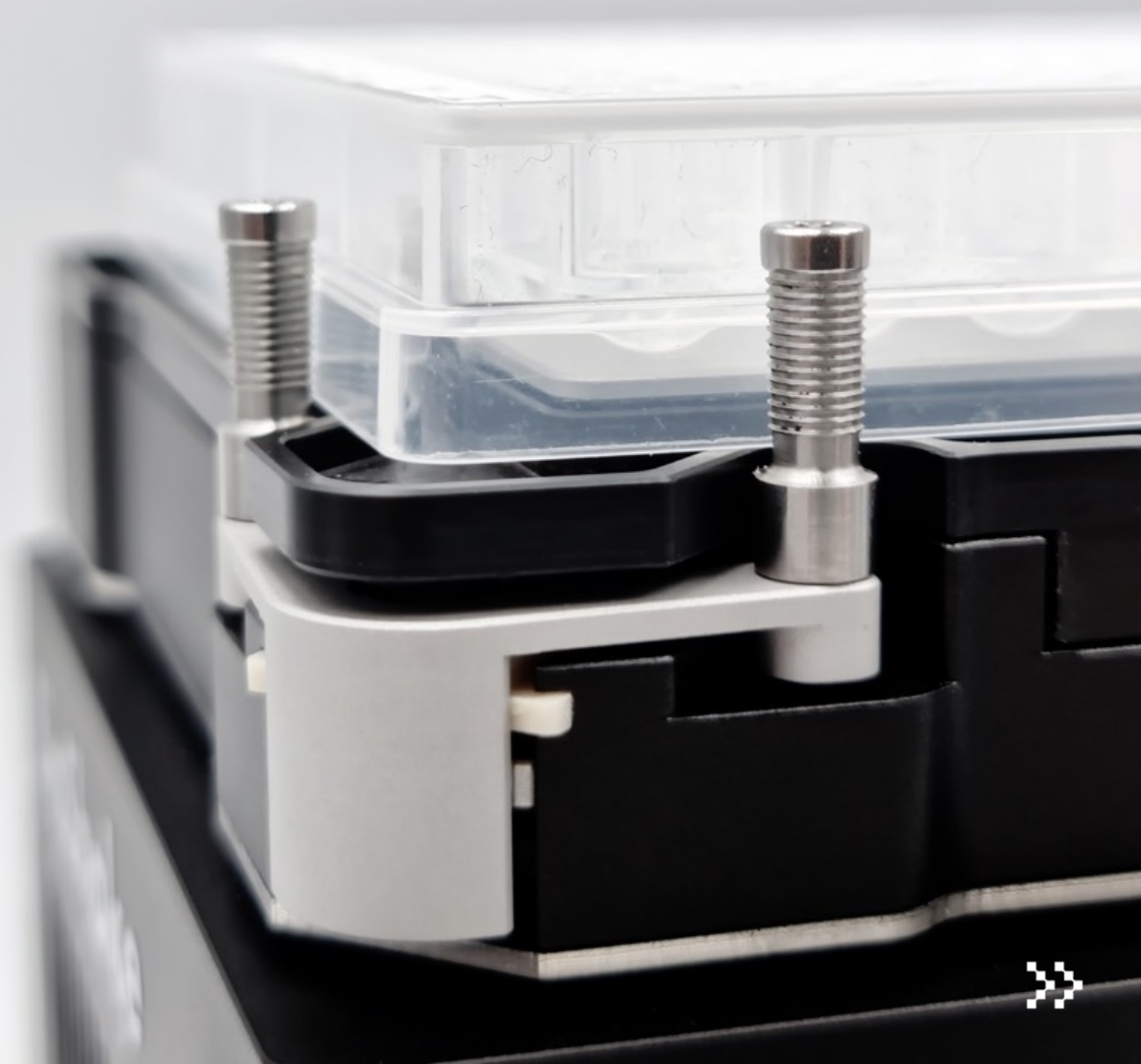
# Q-Instruments

- Improve sample preparation and mixing process
- Support separation & extraction processes
- Support cell-based applications
- On liquid handling and robotic platforms, it's a fast and easy-to-use accessory that accelerates and streamlines discovery

## OFFERING

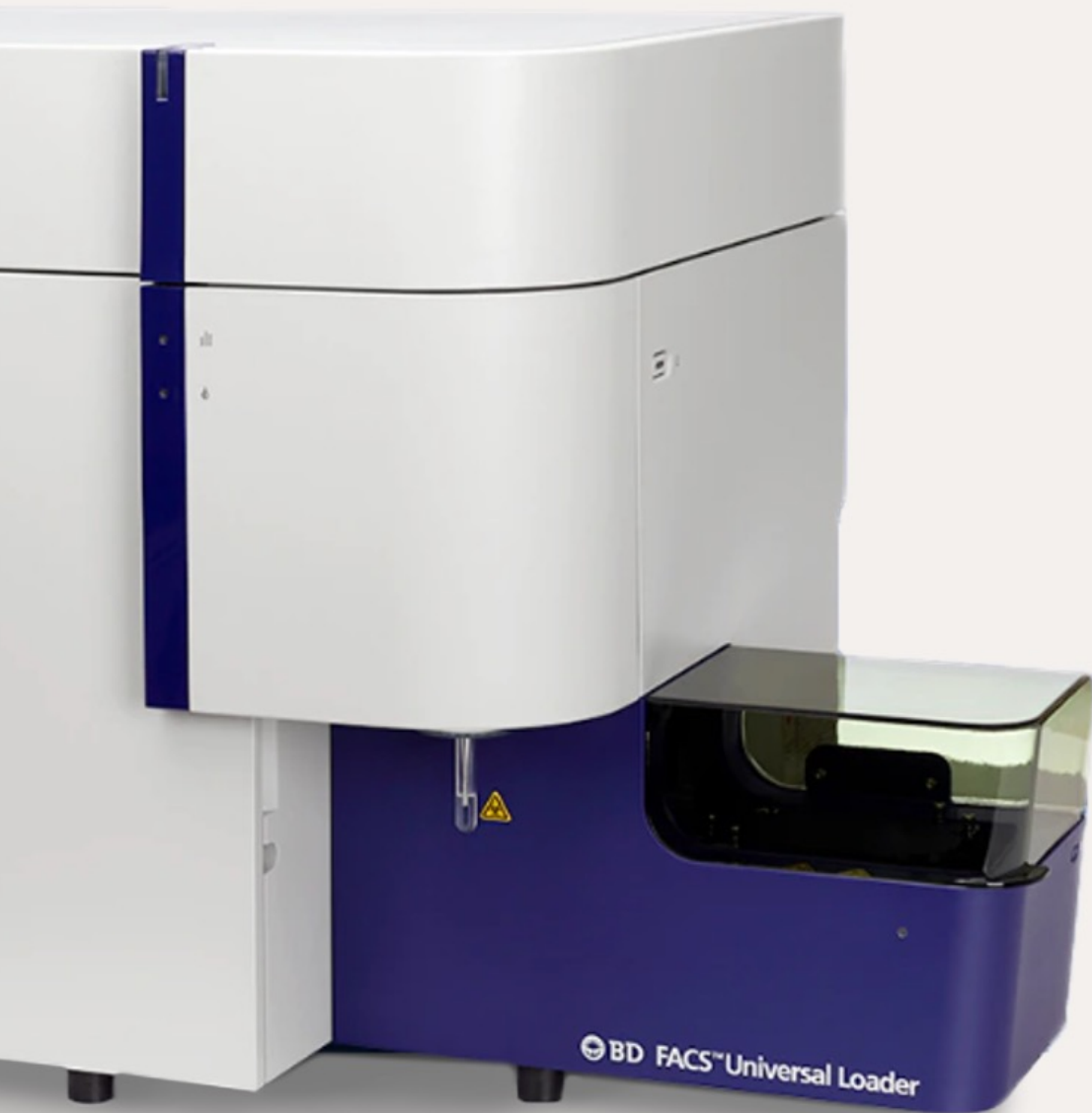
- Precise orbital shaking for improving biological and chemical reactions
- Temperature control devices to heat and cool labware such as microplates, tubes and vials
- All-in-one solutions with heated shakers and cool/heat shakers
- Different orbits for different use cases and labware
- Adapter for optimal thermal transfer

Shaking and heating in any laboratory with ultimate precision



BIOAUTOMATION

# Our Customers



## We are present in many Flow Cytometry systems

- Built on a foundation of excellence, experience and expertise, the BD FACSLyric™ Flow Cytometry System is a new standard for cell analysis, transforming the way your lab does flow cytometry.
- As with all BD instruments, the BD FACSLyric™ Flow Cytometry System is backed by 40 years of BD expert training, service and support—so there's no limit to your potential.
- Q-Instruments has established a business relationship with BD for over a decade
- All systems come to customers with a Q-Instruments shaker

Reference: BD website



## cellenONE HT

### Applications

B-cell cloning for mAb development and unsupervised daytime operation – initial expansion of modified CHO cultures upstream of upscaling to bulk production

### Automated platform description

Automated liquid handler, incubator, arm, barcode reader, plate imager, monoclonality plate imager

### cellenONE

Source sample: vials or well plates

Target plates: 10(32) x 384 deep-well plates

### Throughput

12.000 Clones in 11 hours (not optimized)

### USPs

Sample prepared during day

Fully automated overnight operation





# cellenCHIP

A consumable to miniaturize and automate our customers' single-cell sample preparation

- 1 Offer full solutions to our customers (system + consumables + reagents) for single-cell genomics and single-cell proteomics
- 2 Fast market access: Allows miniaturization of existing microplate-based protocols
- 3 Enable development of tomorrow's leading single-cell (multi)omics protocols, including a picture of each cell deposited



# Success story - DLP+

cellenONE technology enabled Professors Sam Aparicio and Sohrab Shah's research team to develop a groundbreaking miniaturized single-cell Whole Genome Sequencing method named DLP+ (published in Cell, 2019).

## IMPACT:

- DLP+ is now in routine use at the British Columbia Cancer Research Institute, where it is used to find new therapeutic strategies in hard-to-treat patients.
- This method also led to an outstanding study (published in Nature, 2021) looking at clonal fitness of breast cancer over time (Nature 2021).
- This method is now implemented at multiple cancer research centers around the world in New York, London, Tokyo and Sydney.



THE  
UNIVERSITY OF  
BRITISH  
COLUMBIA



Memorial Sloan Kettering  
Cancer Center





# 12-year journey with Mobidiag / Hologic





## SCIENION AND GINOLIS

# Successful Combination of Bioautomation Technologies

**SCIENION and Ginolis established partnerships with Mobidiag/Hologic from R&D to high throughput manufacturing.**

Novodiag provides near-patient, molecular diagnostic platform for acute care conditions including gastrointestinal and respiratory infections, antimicrobial resistance management, and healthcare associated infections (HAIs).

- Results in 50 minutes to two hours.
- Combination of real-time PCR and microarray capabilities to provide high-level multiplexing.
- Identification of pathogens in a single sample, streamlining workflows for laboratories and providing rapid results to physicians

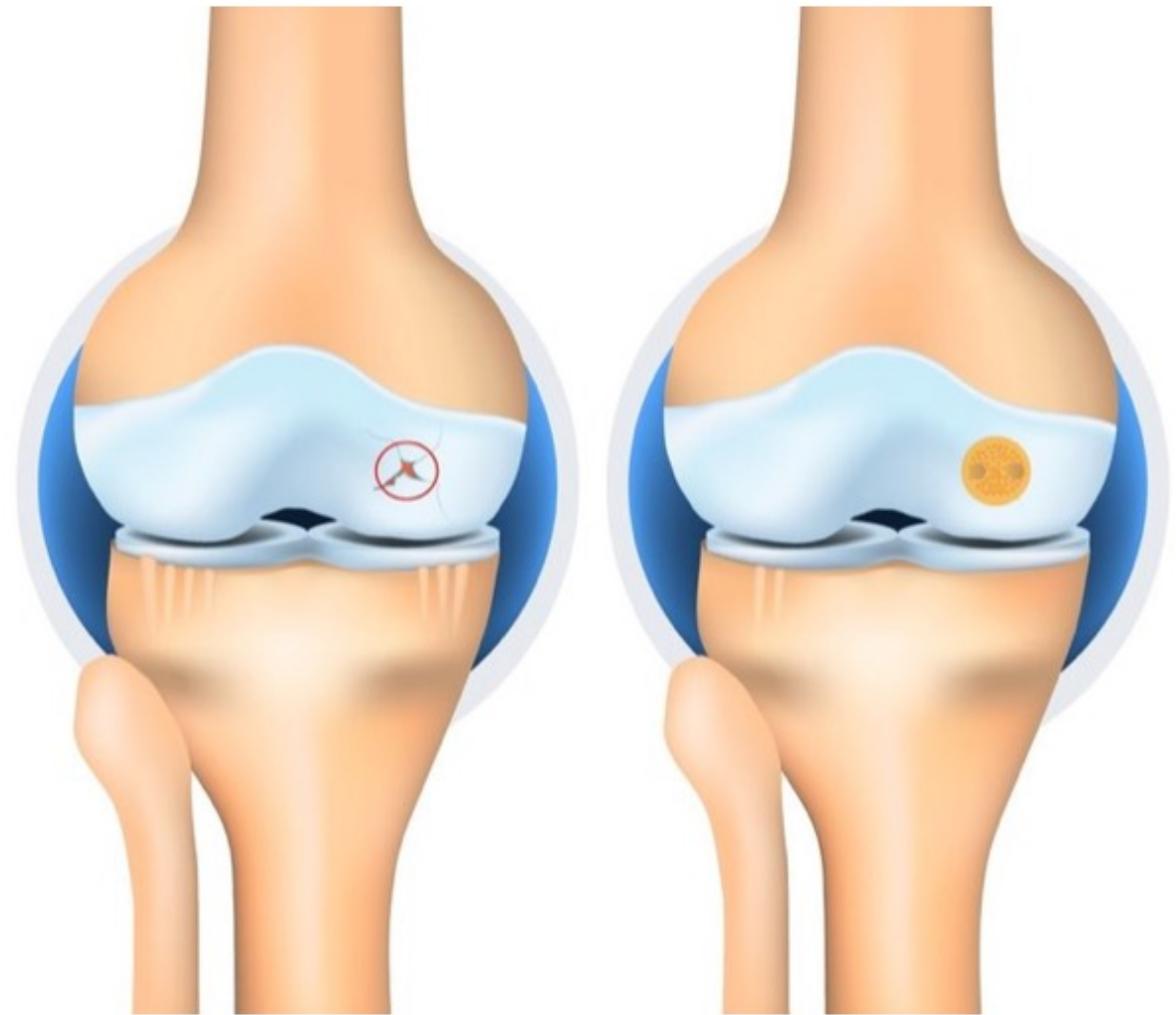




Film: Bioautomation/Ginolis

# Nanochon Background

- Nanochon's mission is to develop a new approach to treat cartilage replacement and repair so that the hundreds of thousands of young, active patients with knee damage can return to their lifestyles without having to undergo costly and invasive short-term fixes.
- Founded in 2016, the technology is a minimally-invasive early intervention that could help avert the need for total knee replacement.
- Today, there is a solid clinical standard for treating joint disease: total joint replacement.



# SCIENION & Nanochon

- Nanochon's Chondrograft™ device is a sturdy medical advancement that is one part orthopedic load-bearing implant, one part tissue growth scaffold, and completely revolutionary.
- The implant replaces lost or damaged cartilage and encourages new growth using innovative nanomaterial and 3D printed designs.
- 2 months post operation, data from pre-clinical study looks very promising.
- Subjects were able to walk immediately after surgery with conservative pain management.
- 2 months follow up confirmed extremely high scoring repair with very positive MRI images showing durability of the implant and integration with the tissue.
- Documentation is in place to support scale-up for clinical tests.



# SCIENION & Nanochon

## SCIENION WAS CONTRACTED TO

- Transfer the basic Nanochon process and optimize it further for stability
- Produce pilot lots for veterinary (horse) clinics
- Develop and optimize supporting assays
  - sterilization
  - PVA leaching levels
- Create documentation to ultimately support an ISO13485 process



Debrided  
cartilage defect



Trimmed nanochon  
chondrograft  
implant fixed with  
fibrin glue



Cartilage defect with  
microfractionation and  
chondrograft fixed  
with fibrin glue



# Focus 2023 - Bioautomation

- Combined SCIENION / Ginolis / Cellenion / QInstruments offering for early detection and monitoring of diseases with affordable diagnostics.
- Offer complete solutions for medical device manufacturing and drug delivery

- Expand in single-cell genomics and proteomics markets
- Expand contract manufacturing
- Automated cell line development

- Excellent Bioautomation salesforce
- Be the "multi-omics" sample prep leader
- Business Area cashflow generating



ALEX ARMENTO, CEO MATTEK

## About MatTek

MatTek Life Sciences was founded in 1985 and acquired by BICO in March 2021. We began producing human tissue models as reliable replacements for animal testing. MatTek's advanced tissue models of the skin, eye, oral, respiratory and intestinal systems empower companies in the cosmetics, chemical, and pharmaceutical industries to achieve our goals of non-animal testing, while lowering preclinical costs and providing human-relevant results.



# About Bioprinting

Bioprinting is a world leader in 3D bioprinters, 3D printers and bioinks with a wide range of technologies for different demanding applications, resolutions (50 micro – 200 nanometer), and volume/speed requirements. Our hardware, software and biomaterials have earned us a premiere position in reliable in vitro human tissue model innovation. In vitro models mimic different organs of the human body and are used to assess safety and efficacy throughout the cosmetics, chemical, pharmaceutical, and household product industries – while lowering drug development costs and time and reducing animal testing. Our pioneering work in additive microfabrication uses 2PP 3D printing with a resolution down to 200 nanometers, enabling applications in micro-optics, micromechanics, biomedical engineering, and photonics. In addition, we provide CRO services focused on accelerating drug discovery and development, with advanced tissue imaging and cell culture services. Customers include research labs and pharma companies, as well as semiconductor and optics manufacturers.

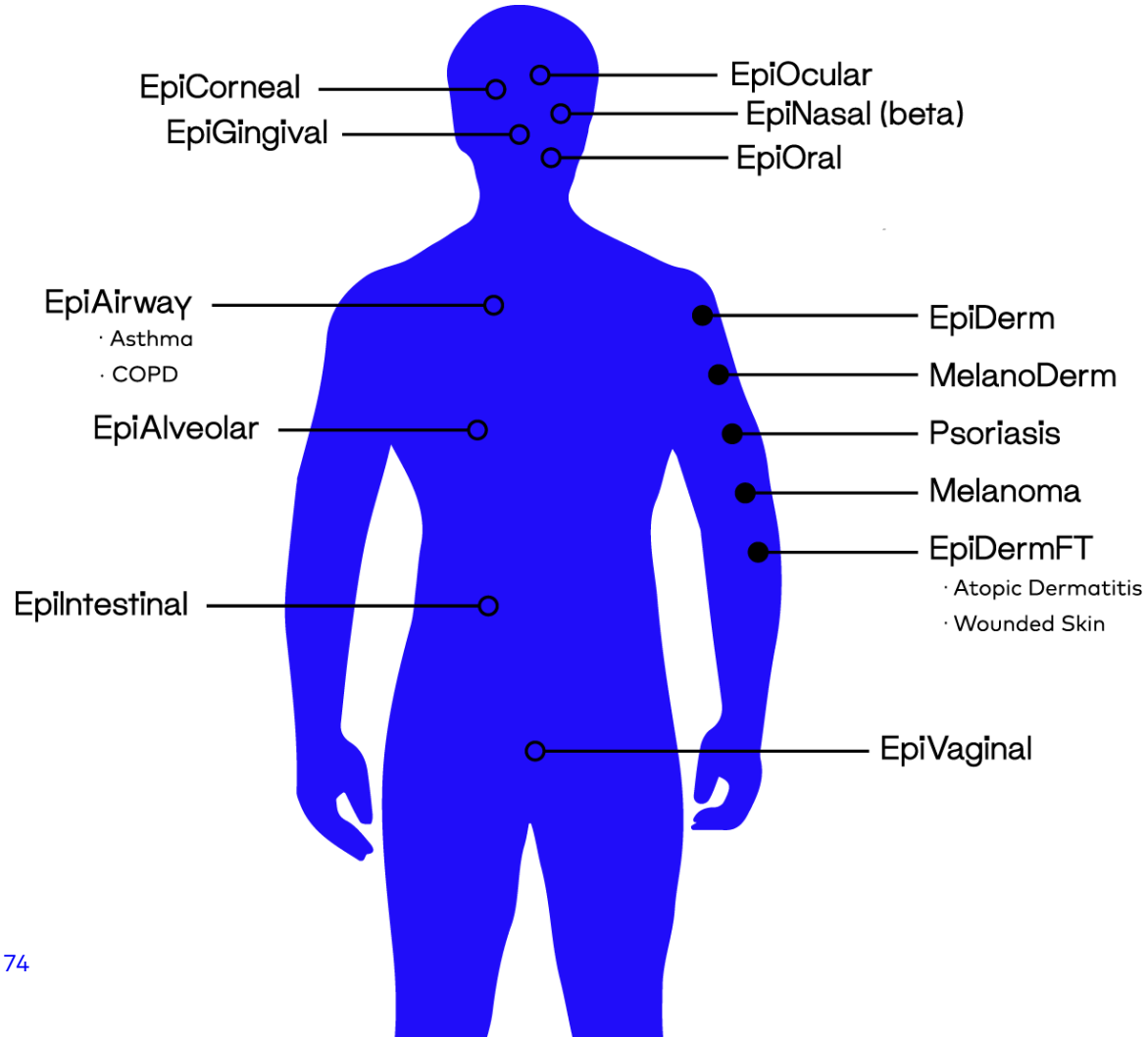






Intro Film: MatTek Acquisition

## MATTEK TISSUE MODELS



Primary human tissues at the cutting edge of tissue engineering technology





# MatTek Quick Facts

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**1,000+**

TECHNICAL REFERENCES

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**500+**

PATENT CITATIONS

---

**93**

EMPLOYEES

---

**20+**

YEARS OF PUBLICALLY  
AVAILABLE VALIDATION DATA

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**95,000+**

LABORATORY ANIMALS SAVED



## Market Position

PIONEER AND WORLD-LEADING  
PROVIDER OF 3D HUMAN TISSUE  
MODELS



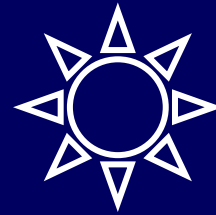
# Application Areas



Cosmetics  
& Personal Care



Pharma  
& Biotech



Environmental  
& Chemical



Disease  
Modeling

- In vitro toxicology testing market – **USD 11B, CAGR 10.8%**
- 3D cell culture market – **USD 1.3B, CAGR 15.6%**



# Our Customers

375+

ANNUAL TISSUE  
MODEL CUSTOMERS

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80%+

RECURRING  
REVENUE

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15+

YEAR CUSTOMER  
RELATIONSHIPS

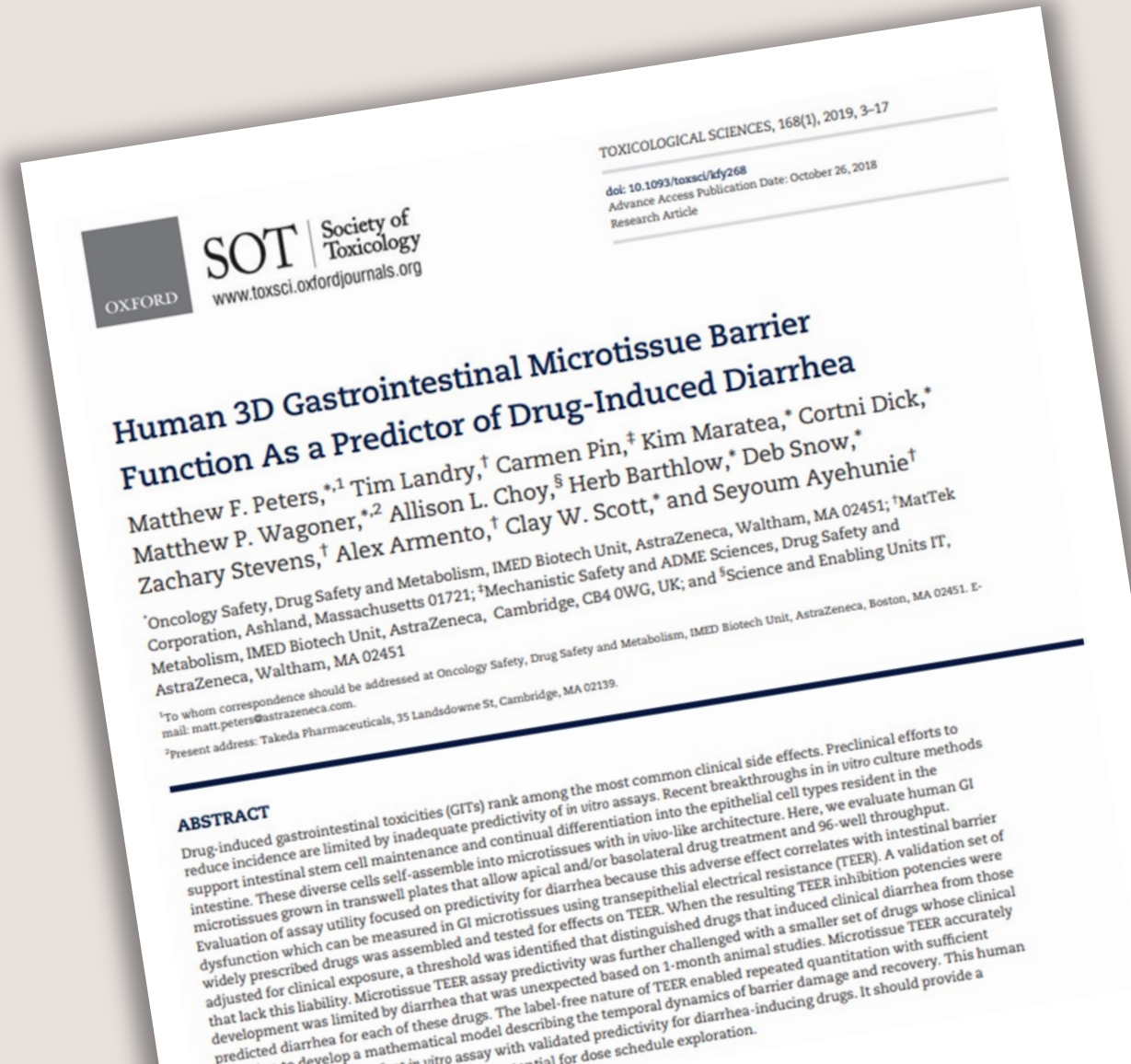


# Customer Spotlight

The Problem - Gastrointestinal toxicities are among the most common drug adverse events in Phase 1 clinical trials. Current preclinical GI safety assessment depends on animal tests to achieve translational accuracy.

- Rodent models had only 46% clinical concordance in predetecting GI toxicities
- Due to ethical and cost considerations, testing in higher-order species is limited
- The predictive accuracy of MatTek's Epilntestinal toxicity assay was 84%

The Epilntestinal toxicity assay is the first *in vitro* assay validated for GI drug safety testing.



# Major Trends / Market Drivers

**1** Major focus on alternatives to animal testing

**2** Microfluidics and organ-on-chip technologies

**3** Increased pharma R&D expenditures

**4** Personalized medicine applications

# Focus 2023

- Commercialize new 3D human tissue models for pharmaceutical drug development applications.
- 3D human liver model
- 3D human kidney model
- Product line of 3D human cancer tumoroid models

- Commercialize complex co-culture models for high throughput applications.
- First-pass metabolism assay
- 3D Epilntestinal + Hurel Liver

- Focus on development of organ-on-chip/microfluidics platform designed to integrate multiple 3D tissue models for high-content data collection





# Q&A Session



# Financial Performance & New Targets



MIKAEL ENGBLOM, INTERIM GROUP CFO

## Introduction

On 29 April 2022, BICO Group announced that Mikael Engblom was appointed Interim Group CFO, while the CFO search process is still underway.

Engblom most recently came from the role of CFO at Vitrolife AB.



# Signs of improvement despite weak profitability

- **Organic sales growth** during Jan-Sep 2022 amounted to **24%**.
- Consistent **strong gross margins**.
- Operating expenses increased during 2022 to support growth.
- Large differences in profitability in group companies. Top four group companies reported combined **EBITDA of SEK 185 million** during Jan-Sep 2022. The weakest four companies reported combined **EBITDA of SEK -137 million** (including SEK -44 million one-off bad debt provision).
- Decision in July to launch **cost-reduction program targeting reducing expenses by SEK 100 million on a twelve-month basis** with full effect from Q1 2023. Program directed towards loss-making companies and Group central costs.
- Continued investments to **support profitable growth** in high-performing companies.

	2021Q3	2021Q4	2022Q1	2022Q2	2022Q3
	(MSEK)	(MSEK)	(MSEK)	(MSEK)	(MSEK)
Net Sales	315,6	519,1	477,2	537,6	550,6
Raw materials and supplies	-84,9	-144	-124,6	-145,2	-129,5
Gross result	230,7	375,1	352,6	392,4	421,1
Gross margin %	73,1%	72,3%	73,9%	73,0%	76,5%
Capitalized work for own account	23,5	28,1	41,5	49,1	43,5
Personnel expenses	-182,3	-262,9	-281,6	-314,1	-313,6
Other external costs	-113,8	-164,3	-142,1	-212,9	-168,9
Other operating income and expenses	8,1	37	10,2	22,5	19,7
<b>EBITDA</b>	<b>-33,8</b>	<b>13,0</b>	<b>-19,4</b>	<b>-63,0</b>	<b>1,8</b>
EBITDA margin %	-10,7%	2,5%	-4,1%	-11,7%	0,3%

**EBITDA strengthened during Q3 2022 following increased sales, currency and initial effects of cost reduction program.**



	2021Q3	2021Q4	2022Q1	2022Q2	2022Q3
	(MSEK)	(MSEK)	(MSEK)	(MSEK)	(MSEK)
Cash-flow from operating activities	-160,3	-112,4	-69,2	-115,4	-15,6
Cash-flow from investing activities	-212,4	-1514,2	-137,2	-209,8	-256,9
Cash-flow from financing activities	20,8	1992,5	47,2	-15,3	-29,5
Cash flow for the period	<u>-351,9</u>	<u>365,9</u>	<u>-159,2</u>	<u>-340,5</u>	<u>-302,0</u>
Opening cash (incl. short-term investments)	1462,6	1107,1	1475,0	1313,4	990,8
Exchange difference in cash etc	-3,6	2	-2,4	17,9	-0,5
Closing cash (incl. short-term investments)	1107,1	1475,0	1313,4	990,8	688,3
Inventory	278,3	353,5	416,5	489,6	556,9
Inventory/Sales r12m %	29,4%	28,1%	26,0%	26,5%	26,7%
Accounts receivables	332,7	576,9	553,0	537,6	583,7
Accounts receivables / Sales r12m %	35,2%	45,9%	34,5%	29,1%	28,0%
CapEx facilities Germany/Finland	-1,7	-28,3	-27,1	-42,4	-54,5
Investments in subsidiaries / earn-outs	-159,7	-1423,6	-2,5	-72,7	-115,0

## Improvements in cash flow from operations

- Total cash flow 2022 YTD including changes in short-term investments amounts to SEK -802 million.
- Excluding investments in subsidiaries and earn-outs (SEK 190 million) and facility investments in Germany/Finland (SEK 124 million), cash flow 2022 YTD amounts to SEK -488 million.
- Cash flow from operating activities amounted to SEK -200 million and was impacted by increase in inventories of SEK -178 million.
- Cash flow from investments, besides the facility investments and acquisition-related items, was impacted by acquisition of intangible fixed assets, primarily capitalized development costs, of SEK -189 million.



# Strengthening Profitability and Cash Flow

1

Continue sales expansion in all companies driven by market growth.

2

Cost-reduction program that targets reducing expenses in excess of SEK 100 million on a twelve-month basis in loss-making companies and in the Group common costs.

3

Continue profitable growth expansion in high-performing companies.

4

Secure external financing for facilities in Germany and Finland.

5

Establish factoring to finance accounts receivable in some subsidiaries in the beginning of 2023.

6

Reduce inventory levels by high anticipated deliveries in Q4 2022 and reviewing safety inventory levels.

7

Expected earn-out payments financed by available cash.



# New Financial Targets

**1** DOUBLE-DIGIT ORGANIC GROWTH  
IN CONSTANT CURRENCY

**2** EBITDA MARGIN LESS CAPITALIZED  
DEVELOPMENT COSTS  $\geq 10\%$

**3** NET DEBT / EBITDA  $< 3.0x$

- Valid from 2023 on a mid-term basis
- Growth target captures market growth opportunities
- Margin target secures focus on profitability including total R&D spending and enables positive cash flow excluding acquisition-related items
- Net Debt target enables flexibility in future financing alternatives
- The ambition with the new financial targets is to support self-financed profitable growth



# Key Takeaways



# Key Takeaways & Focus 2023

**1** **Improving operational excellence** through intensified focus on profitability, internal processes, costs and improved cash flow.

**2** **Strengthening market position** by delivering first-in class products and services with benefit for customers and society.

**3** **Consolidating and strengthening synergies** across our three business areas.

**4** **Optimizing our investments in automation** to deliver on our strategy gain market share.





# Q&A Session



**JOIN THE  
BIO-CONVERGENCE  
REVOLUTION **