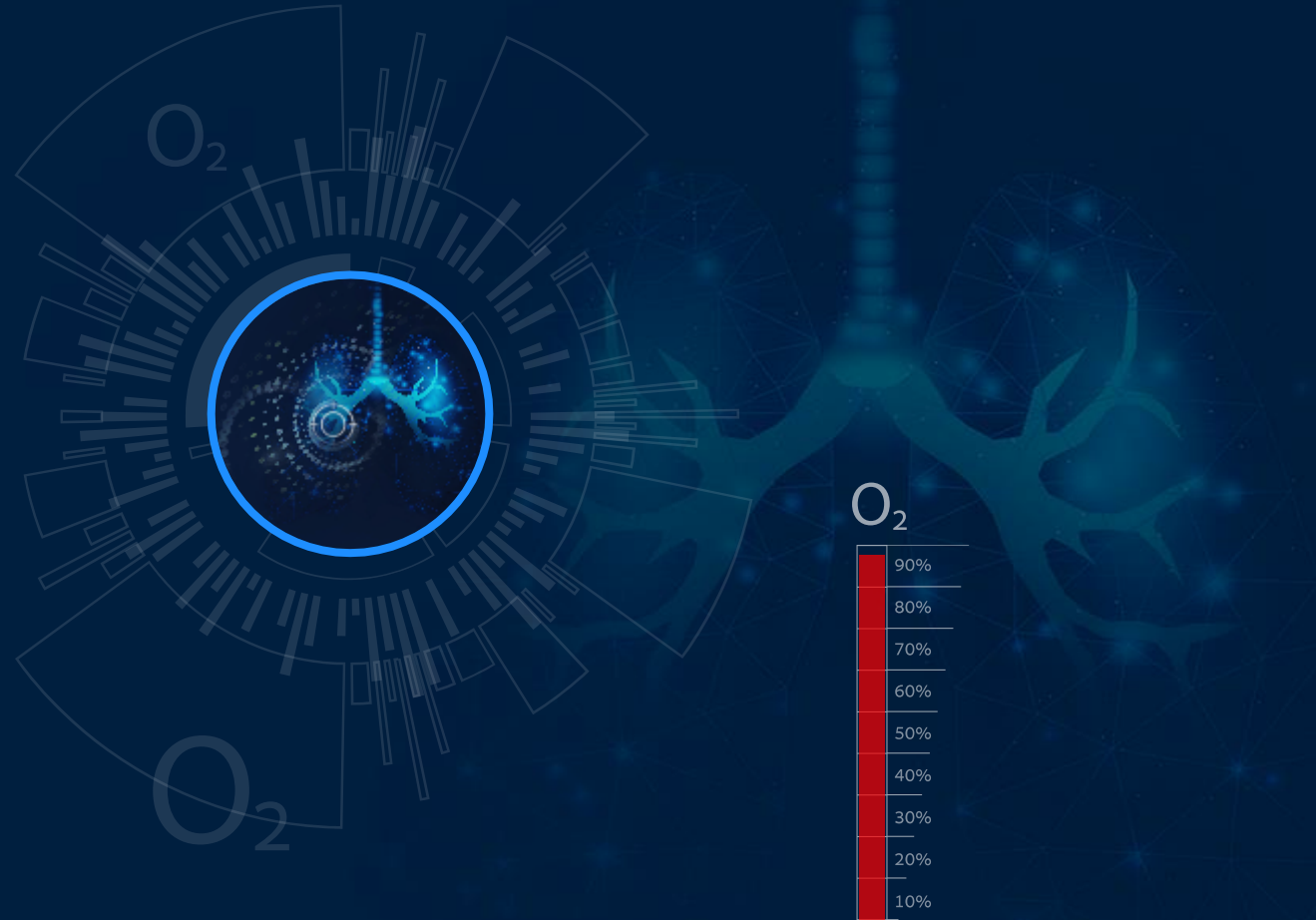


inspira™

EMPOWERED BREATHING WITHOUT LUNGS™

REVOLUTIONIZING ACUTE RESPIRATORY CARE

Corporate Presentation | June 2023



FORWARD LOOKING-STATEMENTS

This presentation of Inspira™ Technologies Oxy B.H.N. Ltd. (“Inspira Technologies” or the “Company”) contains “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act and other securities law. Words such as “expects,” “intends,” “plans,” “believes,” “seeks,” “estimates,” and similar expressions or variations of such words are intended to identify forward-looking statements. For example, the Company is using forward-looking statements when it discusses the acute respiratory distress syndrome device and mechanical ventilator projected market sizes and the potential market sizes of each of its potential future products, its plans to reveal the INSPIRA™ ART100 device at the 2023 ELSO conference, its planned commercial advancement of the INSPIRA™ ART100 device, its expectation of its INSPIRA™ ART500 patent to be granted by the USPTO, the continuing status of its conditional distribution agreements across its three product lines, the potential outcome that INSPIRA™ ART500 can eliminate complications associated with mechanical ventilation, intended uses and potential benefits of its products and technology, its business model, its projected milestone timelines for each of the products, its strategy for market penetration and gaining market share, its go-to market strategy, potential strategic collaborations with third parties, its reimbursement strategy, its regulatory strategy, market potential for its products, commercialization of its products, the regulatory approval process of its product candidates and the potential submission of approvals with such regulators, the benefits and uses of its product candidates for intended patient populations, lines of therapy, the timing, and design of its clinical studies and expected timing of regulatory approvals, the potential revenue stream that may be realized pursuant to its various distribution agreements, planned milestones for 2023, 2024, and 2025, and its future growth. The presentation also contains estimates with respect to the Company’s health economics model. Forward-looking statements are not historical facts, and are based upon management’s current expectations, beliefs and projections, many of which, by their nature, are inherently uncertain. Such expectations, beliefs and projections are expressed in good faith. However, there can be no assurance that management’s expectations, beliefs and projections will be achieved, and actual results may differ materially from what is expressed or indicated by the forward-looking statements. Forward-looking statements are subject to risks and uncertainties that could cause actual performance or results to differ materially from those expressed in the forward-looking statements. More detailed information about the risks and uncertainties affecting the Company is contained under the heading “Risk Factors” in the Company’s annual report on Form 20-F for the fiscal year ended December 31, 2022 filed with the U.S. Securities and Exchange Commission (the “SEC”), which is available on the SEC’s website, www.sec.gov. Forward-looking statements speak only as of the date the statements are made. The Company assumes no obligation to update forward-looking statements to reflect actual results, subsequent events or circumstances, changes in assumptions or changes in other factors affecting forward-looking information except to the extent required by applicable securities laws as well as subsequent filings with the SEC. If the Company does update one or more forward-looking statements, no inference should be drawn that the Company will make additional updates with respect thereto or with respect to other forward-looking statements.

DISCLAIMERS

The INSPIRA™ ART and the ART presented in this presentation are both referring to the INSPIRA™ ART products (as a platform). INSPIRA™ ART500 was previously known as the INSPIRA™ ART. INSPIRA™ ART100 was previously known as the ALICE™.

INSPIRA™ ART or Hyla™ products may either have embedded or integrated INSPIRA™ AI with selective levels or functionality, yet to be decided by the company. These products may also not be embedded or integrated with INSPIRA™ AI and have limited or other types of software.

To-date the Augmented Respiration Technology, INSPIRA™ AI, Hyla™, INSPIRA™ ART100, INSPIRA™ ART500, VORTX and any other Inspira devices, disposables, components or technologies are still in development and have not been tested or used on humans and have not been cleared or approved by the U.S. Food and Drug Administration (FDA) or any other regulatory authority.

The Hyla™ is currently in on-going clinical studies as part of the product research and development process.

Timelines and planned or projected milestones are subject to change.

There is no guarantee as to the success of any trial or regulatory approval or clearance. In addition, there is inherent risk and variability in the overall regulatory process. Approval or clearance by the FDA may not be granted or the FDA may require different parameters from those that are intended to be included in the submissions. The estimated date/time of FDA clearance or approval may be subject to change and subject to approval or clearance of products by the FDA.

Some or all the clinical studies may be conducted outside of the U.S.

Pilot Study refers to a study that includes a small group of patients to be defined/decided by the company, to be selected according to criteria chosen by those who will design the trial for the purpose of deriving clinical information from a representative population

sample size. There is no guarantee as to the success of any trial. In addition, there is inherent risk and variability in the overall regulatory process. Approval or clearance by the FDA may not be granted, or the FDA may require different study parameters from those that are intended to be included in the submission.

While the Company intends to execute on strategic distribution agreements, there is no guarantee any sales will occur pursuant to those existing agreements, and agreements that may be executed in the future. The pre-conditional distribution agreements are for a period of up to seven years and are subject to the completion of the development and the required regulatory approvals and/or clearances.

\$20B Market Size and Total Addressable Market for the INSPIRA™ ART HUB is based on company estimates (slides 4,6,30,31) and internal analysis of various sources including, but not limited to:

1. <https://www.ihealthcareanalyst.com/global-acute-respiratory-distress-syndrome-devices-market/>
2. <https://www.globenewswire.com/en/news-release/2022/09/29/2525390/0/en/Mechanical-Ventilators-Market-Size-to-Hit-USD-19-2-Bn-by-2030.html>
3. <https://www.ihealthcareanalyst.com/global-acute-respiratory-distress-syndrome-devices-market/>
4. <https://www.marketdataforecast.com/market-reports/perfusion-systems-market>

The statement “Expanding The Extracorporeal Blood Circulation Market to \$20B”, refers to the \$20B Market Size & Total Addressable Market for the INSPIRA™ ART HUB.

There is no guarantee that the patents or patent families will be granted.

MV = Invasive Mechanical Ventilation

KOLs = Key Opinion Leaders

INSPIRA™ END-TO-END SOLUTIONS

inspira™
ART100
AUGMENTED RESPIRATION TECHNOLOGY

LIFE SUPPORT

Providing cardiac and pulmonary support



inspira™
ART500
AUGMENTED RESPIRATION TECHNOLOGY

ACUTE RESPIRATORY SUPPORT

Preventing the need for Mechanical Ventilation



Expanding The Extracorporeal Blood Circulation Market to **\$20B***

* based on Company estimates

INSPIRA™ ART HUB

Augmented Respiration
Technology



inspira™
ART100 



HYLA™
Blood Sensor &
Supporting Technologies



INSPIRA™ AI



inspira™
ART500 

MARKET SIZE

\$19.5B

**Acute respiratory distress
syndrome devices**
by 2029¹ at a CAGR of 7.3%

Driven by increasing prevalence of
acute lung injury and growing
aging population.

INSPIRA™ ART HUB

\$20B

Company Estimate

\$19.2B

Mechanical Ventilators
by 2030² at a CAGR of 14.01%

Mechanical ventilation increases risk
of infections in the airway as well as
lung damage.

1. <https://www.ihealthcareanalyst.com/global-acute-respiratory-distress-syndrome-devices-market/>

2. <https://www.globenewswire.com/en/news-release/2022/09/29/2525390/0/en/Mechanical-Ventilators-Market-Size-to-Hit-USD-19-2-Bn-by-2030.html>

H2-2023 PLANNED NEWS ALERTS



inspira™
ART100
AUGMENTED RESPIRATION TECHNOLOGY

On track to submit the INSPIRA™ ART100 medical device to the U.S. FDA under the 510(k) pathway

New INSPIRA™ ART100 device to be revealed at the world's largest Extracorporeal Life Support Organization (ELSO) conference



inspira™
ART500
AUGMENTED RESPIRATION TECHNOLOGY

INSPIRA™ ART500 expected to receive additional patent grant by the U.S. Patent and Trademark Office (USPTO)

INSPIRA™ CORE TECHNOLOGIES

AUGMENTED RESPIRATION TECHNOLOGY





inspira[™]
ART500 

Specifically designed
extracorporeal blood
circulation boosts oxygen
saturation levels in
minutes.

**Patient treated while
awake**

NEW TREATMENT CATEGORY





Click to
watch video



INSPIRA™ AI BREAKTHROUGH

Augmented Respiration
Technology



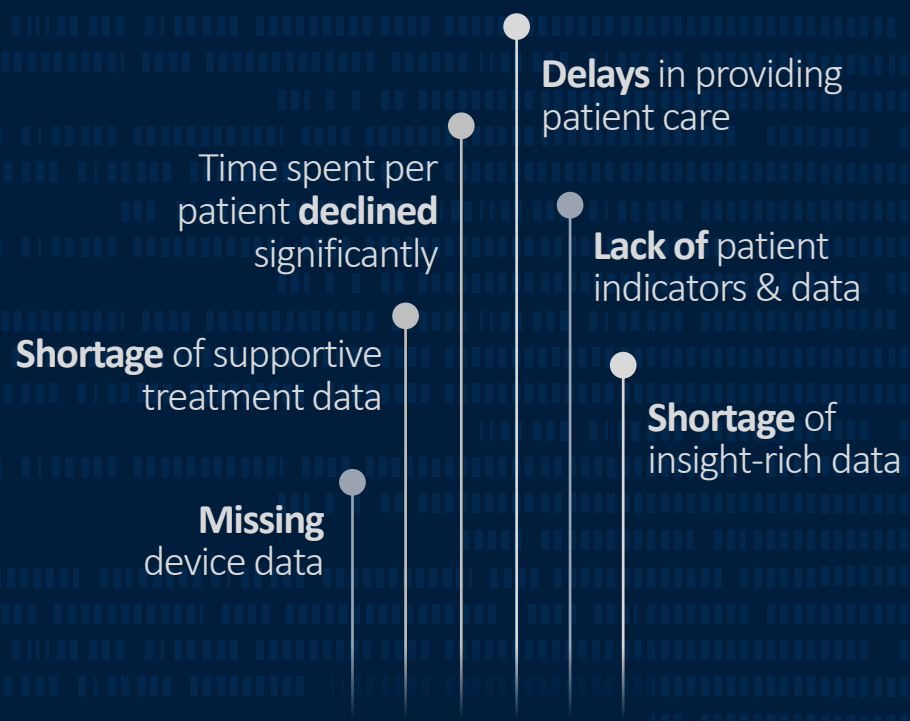
TARGETING HYPER- PERSONALIZATION CARE



- Designed to continuously learn the patient and devices in real-time
- Decision-supportive data
- Aims to provide physicians with monitoring and predictive analytics
- Targeted to identify and monitor health issues or risks
- Intends to alert the need for attention or intervention

SHORTAGE OF **REAL-TIME** PATIENT TREATMENT

Impacts quality of patient diagnosis and level of care

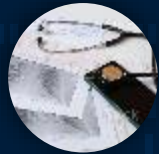


Can mean a significant difference in patient recovery...

LACK OF
PERSONALIZED HEALTHCARE*

INSPIRA™ AI PERSONALIZING TREATMENT

DATA COLLECTION



Patient & Data Sources

Health Indicators, EMR, Patient
Personal Data



HYLA™

Blood Sensor & Supporting
Technologies



INSPIRA™ ART500

Augmented Respiration
Technology



ADAPTIVE ANALYTICS

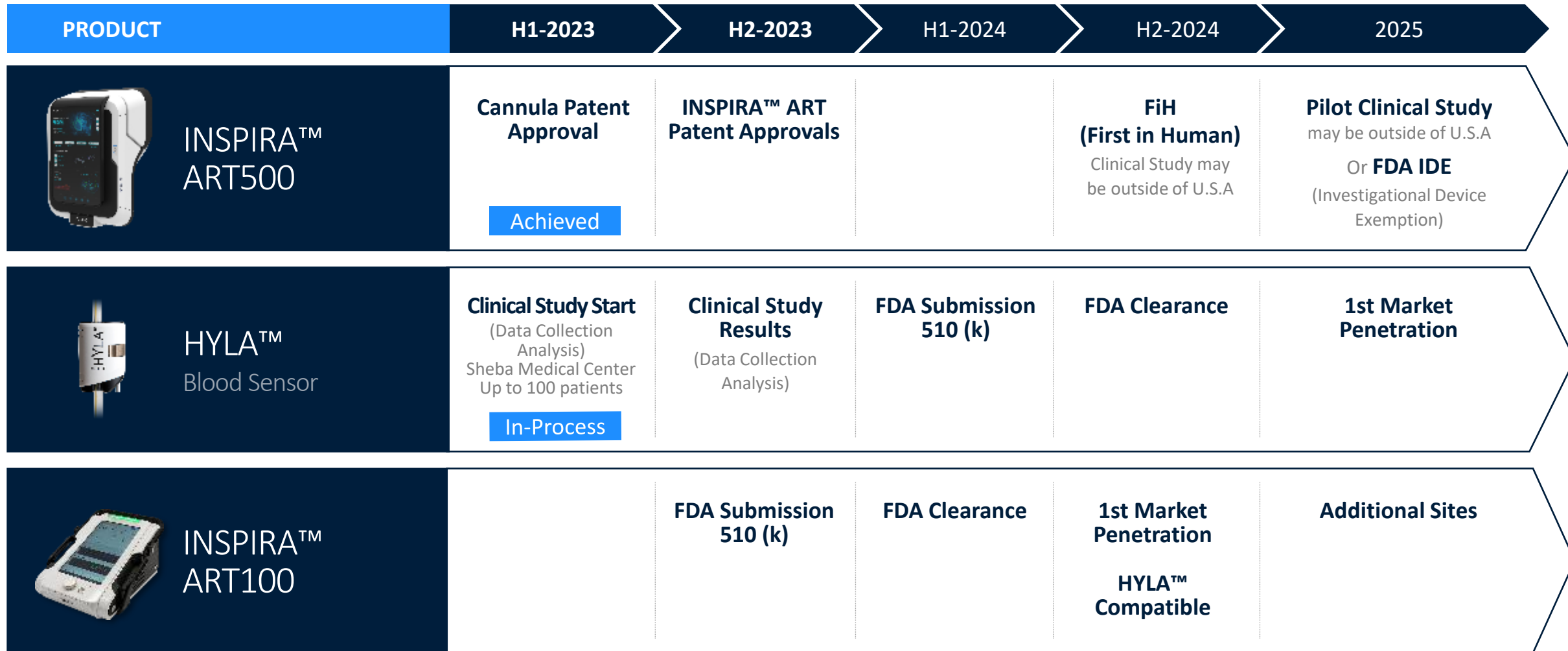
Collects data and generates simulations
& augmented data models

Analyzes and identifies patterns,
anomalies, trends to generate insights
and prediction-based analytics

Query analytics to obtain more
information or confirmation about
certain aspects of patient health or
device performance

PROJECTED MILESTONE TIMELINE

Targeting additional strategic & distribution agreements



INSPIRA™ PATENT PORTFOLIO

THREE PATENT FAMILIES

FAMILY #1

INS-001 A Cannula
Fixation Device

Granted in Israel November 2022,
Filed in U.S. September 2022

FAMILY #2

INS-002 Dual Lumen
Cannula and
Methods of Use

Granted January 2023 in U.S.

FAMILY #3

INS-003
Extracorporeal
Oxygenation System
for Low Flow Rates
and Methods of Use

Filed in U.S. September 2022



MANAGEMENT TEAM



Prof. Benad Goldwasser, MD, MBA
Executive Chairman

Urologic surgeon, inventor & entrepreneur.
Multiple well-known industry exits



Dagi Ben-Noon, BSc
Co-Founder, Director & CEO

Co-founded Nano Dimension
Nasdaq: NNMD



Joe Hayon, MBA
Co-Founder, Director & President

M&A experience & track record Elscint Technologies
Arazim Integrated Technologies



Avi Shabtay
COO

New technology development &
delivery track record



Dr. Dekel Stavi, MD
Medical Director

Senior Intensive Care physician at
Tel Aviv Sourasky Medical Center.
Chairman of the Israeli ECMO Society



Dr. Adi Rizansky Nir, PhD
CMO

Extensive experience in clinical strategy
implementation



Dr. Daniella Yeheskely-Hayon, PhD
CTO

Renowned Expert in the field of
Artificial Lung Development



Yafit Tehila, CPA
CFO & Legal

Financial management experience in
multiple public companies

CHAIRMAN OF THE BOARD



Prof. Benad Goldwasser **MD, MBA**

Urologic surgeon, inventor, entrepreneur
& venture capital VC

Vast experience in leading high growth,
publicly traded medical companies.

Co-founded Vidamed Inc., acquired by
Medtronic Inc. (NYSE: MDT).

Co-founded Medinol, partnered with
Boston Scientific (NYSE: BSX).



FIRST QUARTER 2023 **FINANCIAL RESULTS**

\$11.5M

in cash, cash equivalents and
deposits as of March 31, 2023

COMPANY WELL FINANCED FOR

INSPIRA™ ART100
FDA Clearance

On-going **HYLA™**
Research Clinical Study

APPENDICES





SUPPLEMENTAL

THE RESPIRATORY GAP



MECHANICAL VENTILATION



20M
PATIENTS EACH YEAR ON
MECHANICAL VENTILATION*

* Forum of International Respiratory Societies. The Global Impact of Respiratory Disease – **Second Edition. Sheffield, European Respiratory Society, 2017**

MECHANICAL VENTILATION – THE CURRENT STANDARD

A SLIDING
50%
MORTALITY RATE

- Intubation & coma
- No real-time patient data monitoring
- High risks of bacterial infections
- High risks of pulmonary edema & lung damage
- High risk of collapsed lung
- Risk of vocal cord paralysis
- Heart & blood flow changes (less oxygen gets to your blood)
- Risk of not being able to wean patient off ventilator
- Prolonging the dying process
- Liquid nutrition, usually through a tube that goes through your nose and into your stomach
- Mostly limited to ICUs

<https://my.clevelandclinic.org/health/treatments/15368-mechanical-ventilation>

[https://www.intechopen.com/chapters/59759#:~:text=Prolonged%20intubation%20is%20the%20major,\)%20or%20bilateral%20%5B6%5D.](https://www.intechopen.com/chapters/59759#:~:text=Prolonged%20intubation%20is%20the%20major,)%20or%20bilateral%20%5B6%5D.)

The use of mechanical ventilation in patients with idiopathic pulmonary fibrosis in the United States: A nationwide retrospective cohort analysis - ScienceDirect

INSPIRA™ ART100

OVERVIEW



LIFE SUPPORT

An extracorporeal blood circulation device designed to provide cardiac and pulmonary support



ABOUT INSPIRA™ ART100

WHAT IS THE INSPIRA™ ART100?

An extracorporeal blood circulation device designed to provide cardiac and pulmonary support.

HOW DOES IT WORK?

In order to replace the entire heart-lung function, the INSPIRA™ ART100 circulates the entire output of a patient's blood (5-7 liters per minute) in a procedure that enriches the blood with oxygen and removes carbon dioxide. The blood is then returned to the patient to provide oxygen to the patient's tissues and organs.

WHERE IS IT USED?

Suitable for a wide range of extracorporeal treatments in the ICU and during heart surgery.



INSPIRA™ ART100 COMPETITIVE ADVANTAGE

USER FOCUS

- Intuitive user-centric software and display
- Ergonomic device configuration
- Troubleshooting

PATIENT FOCUS

- Enabling in-hospital patient transfer with integrated lithium batteries provide up to 240 minutes of operating time when fully charged
- Portable and light weight



NEXT GENERATION - KEY FEATURES

- Compatible with Inspira's Hyla™ blood sensor intended to provide continuous blood parameter measurements in real-time during extracorporeal procedures
- Allowing integration of additional new sensors
- Integrated with INSPIRA™ AI

HYLA™ BLOOD SENSOR

OVERVIEW



BLOOD DETECTION & MEASUREMENT

A non-invasive optical blood sensor to measure blood parameters continuously and in real-time during extracorporeal blood circulation procedures

ABOUT HYLA™ BLOOD SENSOR

WHAT IS THE HYLA™ BLOOD SENSOR?

A non-invasive optical blood sensor being developed using INSPIRA™ AI to measure blood parameters, intended to provide continuous blood parameter measurements in real-time during extracorporeal procedures.

HOW DOES IT WORK?

The optical blood sensor takes continuous measurements of the blood as it flows through the extracorporeal tube.

The data is processed utilizing INSPIRA™ AI to provide continuous readings in real-time that are displayed on the system monitor. INSPIRA™ AI displays alerts of projected trending changes in the patient's condition to allow early medical intervention.

WHERE IS IT USED?

Suitable for a wide range of extracorporeal treatments in the ICU and during heart surgery.



HYLA™ BLOOD SENSOR COMPETITIVE ADVANTAGE

USER FOCUS

- Easy clip-on sensor mounted onto the blood tube
- INSPIRA™ AI provides continuous information of key blood parameter in real time
- INSPIRA™ AI alerts of trending changes in the patient's condition to allow early medical intervention
- Intuitive user-centric software and display
- Stand-alone

PATIENT FOCUS

- Non-invasive blood sensor
- No direct contact with the blood
- Reduces the need for blood sampling



NEXT GENERATION - KEY FEATURES

- Compatible with the INSPIRA™ART to provide continuous blood parameter measurements and alerts of trending changes in the patient's condition in real-time during extracorporeal procedures
- Integrated device

INSPIRA™ PATHWAY TO MARKET



TOTAL ADDRESSABLE MARKET



INSPIRA™
ART500

~\$18B
Company Estimate



INSPIRA™
ART100

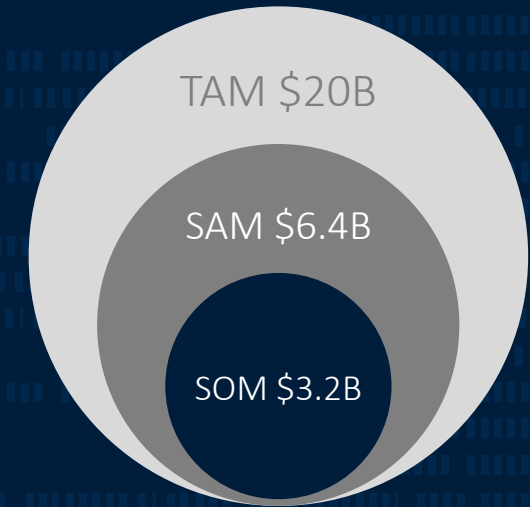
~\$0.9B
by 2030¹ at a CAGR of 5.75%



HYLA™
& Supporting
Technologies

~\$1.1B
Company Estimate

INSPIRA™ MARKET OPPORTUNITY



SOM Company Estimates

Primary markets: North America & Europe

TAM- Total addressable market
SAM- Serviceable Available Market
SOM- Serviceable Obtainable Market

INSPIRA™ REIMBURSEMENT STRATEGY

Inspira plans to utilize existing CPT Codes

inspira™



Expected to eliminate complications associated with MV



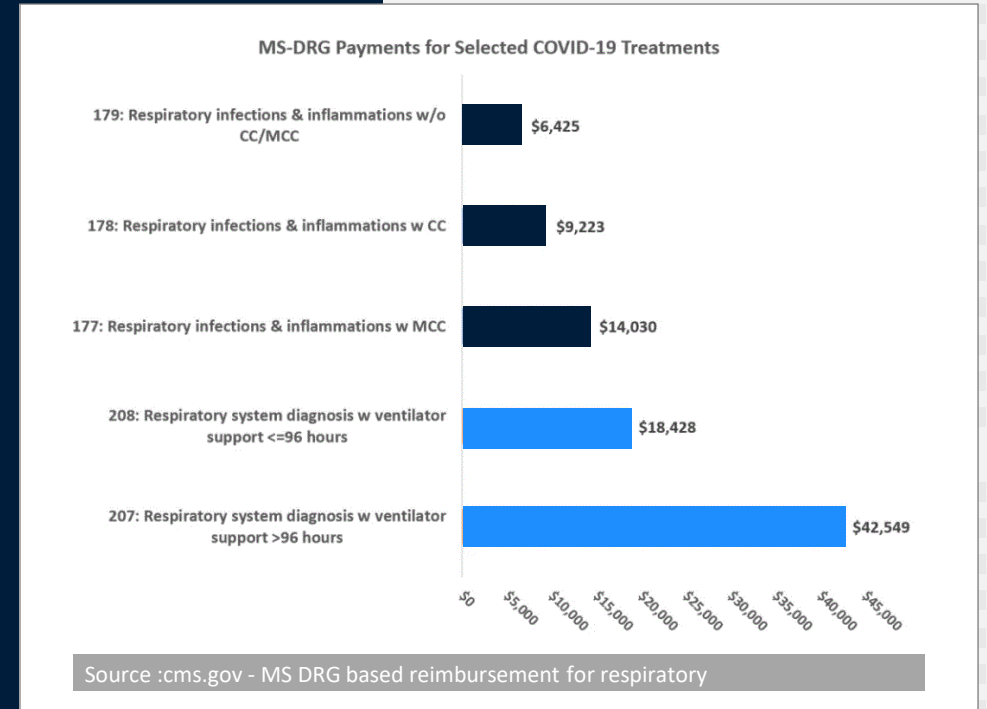
Aimed to reduce length of stay & re-admissions



Designed to reduced costs & operational expenses



Designed to reduce hospital & staff burden



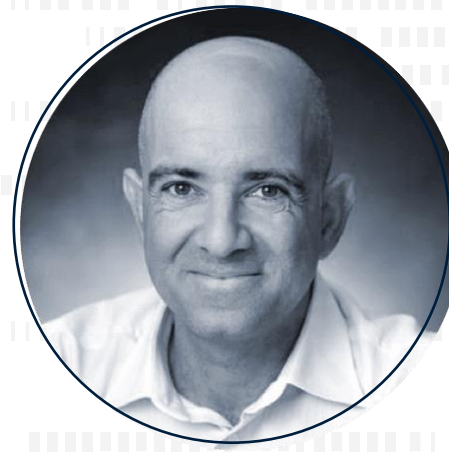
STRONG BOARD OF DIRECTORS



Prof. Benad Goldwasser, MD, MBA
Chairman of the Board of Directors



Tal Parnes
Director



Lior Amit
Director



Limor Rozen
Director

SCIENTIFIC ADVISORY BOARD

World-Renowned Key Opinion Leaders



Prof. Daniel Brodie
Intensivist & ECMO Advisor

President-elect of the Extracorporeal Life Support Organization (ELSO).
Chairman of the Executive Committee of the International ECMO Network (ECMONet)



Prof. Eddy Fan
Intensivist & ECMO Advisor

Medical director of the extracorporeal life support program at the Toronto General Hospital. Intensivist at the University Health Network/Mount Sinai Hospital



Dr. Stephan Ledot
Intensivist & ECMO Advisor

World-renowned expert in critical care, ECMO, anesthesia and echocardiography. Fellowships in ECMO at the NHS, UK and cardiothoracic anesthesia at Harefield Hospital`

KOLS = Key Opinion Leaders

SCIENTIFIC ADVISORY BOARD

World-Renowned Key Opinion Leaders



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Respiratory Disease Specialist

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University of Notre Dame
(Australia) Medical School & The
University of Western Australia
Medical School



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Intensivist

Senior physician at Hadassah
Medical Center's Medical ICU &
Pulmonology Institute, leads the
hospital's nationwide research
of COPD



Dr. Orit Cohen Jacob
Veterinary Surgeon

Specialist in laboratory animal
medicine, consults in pre-clinical
research, GMP regulations



Dr. Sharon Marx
Physical Organic Chemistry

Department head at the Israel
Institute for Biological Research

THANK YOU!



inspira™

EMPOWERED BREATHING WITHOUT LUNGS™