

# 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 its vision and mission, the potential of its product, market penetration and gaining market share, its reimbursement strategy, regulatory submissions, market potential for its products, commercialization of its product, the potential to use its product together with mechanical ventilation, reimbursement strategy for its product, regulatory approval process of its product candidates, the benefits and use of its product candidates intended patient population, lines of therapy and market milestones 2022-2023 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. For a more detailed description of the risks and uncertainties affecting the Company, the reference is made to the Company's reports filed from time to time with the Securities and Exchange Commission (the "SEC"), including, but not limited to, the risks detailed in the Company's preliminary prospectus dated, 2021, filed with the SEC as a part of the Company's Registration Statement on Form F-1 (File No. 333- 253920), and documents incorporated by reference therein. 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.



# Investment Highlights



#### A novel therapy

Revolutionary early-stage extracorporeal respiratory support system, intended to rebalance oxygen saturation levels<sup>1</sup> and carbon dioxide levels in non-invasive ventilation patients with acute respiratory failure to minimize the need for invasive mechanical ventilation.



#### **Forecasting growth**

The potential market for the company is expected to grow steadily in the coming years due to the increasing prevalence of chronic disorders, growing geriatric population which is typically at high risk of acute respiratory failure, the COVID-19 pandemic and its long-term comorbidities (Based on the number of patients being treated with invasive mechanical ventilation)<sup>2</sup>.



#### **Evidence-based Pre-Clinical studies**

Initial pre- clinical studies (In-vivo) performed on swine model demonstrated the ART's unique capabilities to rebalance saturation levels by oxygenating the blood and removing excessive CO2 in a significant manner<sup>3</sup>.



#### Increase pipeline for future orders

The company has secured 3 strategic agreements for the deployment of the ART system in Spain, Portugal, Poland, Czech Republic, Slovakia and six states in the U.S.: Texas, New Jersey, New York, Florida, North Carlina and South Carolina. Agreement signed targets up to \$386 million over a 7-year period, subject to regulatory approval.

- 1. Oxygen saturation levels measure the degree to which the hemoglobin contained in the red blood cells (erythrocytes) has bonded with oxygen molecules. Oxygen is taken in by the lungs when we breathe in.
- 2. Invasive mechanical ventilation, MARKET ANALYSIS & SEGMENT FORECAST FOR 2021 AND FROM 2022 TO 2028, Grand View Research 2021, pages 25-38.
- 3. During 2019-2020, in August 2020, and in November 2021, animal studies were performed in swine model at LAHAV CRO in Israel.

Targeted medical Device companies















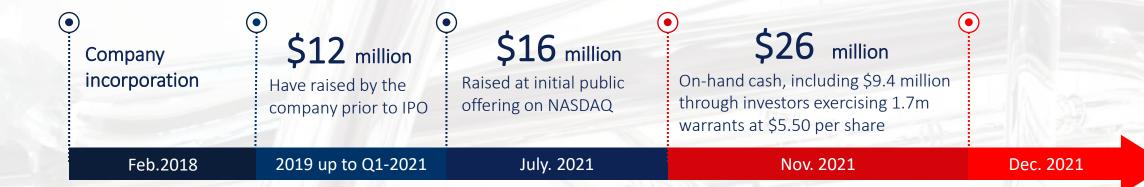






\* Trademarks are the property of their respective owners.

# Inspira – Capital Raising Pathway





Our mission is to provide an alternative to invasive mechanical ventilation for acute respiratory patients who continue to deteriorate while being treated with noninvasive ventilation treatment.

- Non-invasive ventilation (NIV) is the delivery of oxygen (ventilation support) via a face mask and therefore eliminating the need of an endotracheal airway.
- Invasive mechanical ventilation is positive pressure delivered to the patient's lungs via an endotracheal tube or a tracheostomy tube.

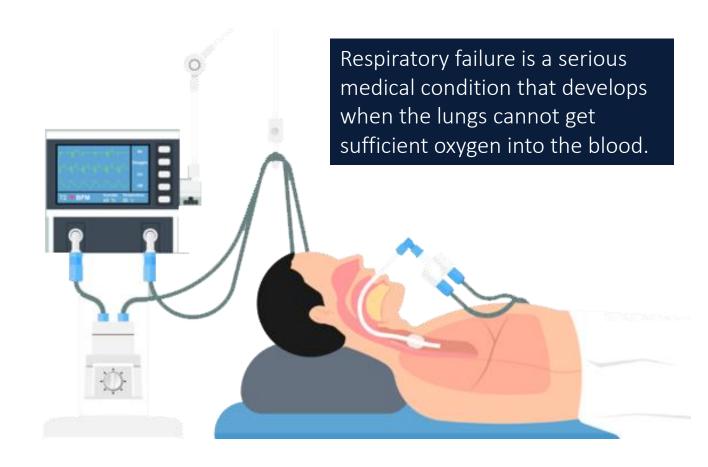




# Respiratory Failure - Definition

Respiratory failure is a serious medical condition that develops when the lungs cannot get sufficient oxygen into the blood. Buildup of carbon dioxide can also damage the tissues and organs and further impair the oxygenation of blood and, as a result, reduce the amount of oxygen delivered to the tissues.

Acute respiratory failure can occur quickly and without much warning. It is often caused by a disease or injury that affects breathing, such as pneumonia or a lung or spinal cord injury. Acute respiratory failure requires immediate emergency treatment<sup>1</sup>.



<sup>1.</sup> National Heart, Lung and Blood Institute website. https://www.nhlbi.nih.gov/health-topics/respiratory-failure

# Mechanical Ventilation for Treating Patients With Acute Respiratory Failure Has Significant Downsides<sup>1-3</sup>



MV requires intrusive intubation, coma induction, and can be very traumatic for patients:

#### Potential Risks & Complications

- Ventilator-induced lung injury (VILI)
- Ventilator-associated pneumonia (VAP)
- Ventilator-induced diaphragmatic dysfunction
- Pneumothorax & tracheomalacia
- Oxygen toxicity of the lung
- Delirium
- Muscular atrophy

#### High Cost of Treatmen

- Long hospital stays
- Increased complication rate
- Patient re-admissions
- Requires weaning process
- Extended rehabilitation period

<sup>1.</sup> Am J Respir Crit Care Med Vol. 196, P3-4, 2017. ATS Patient Education Series © 2017 American Thoracic Society

<sup>2.</sup> Diling Wu et al. Frontiers in pharmacology MINI REVIEW published: 09 May 2019. doi: 10.3389/fphar.2019.00482

<sup>3.</sup> Kalil AC, Metersky ML, Klompas M, et al. Management of Adults With Hospital-acquired and Ventilator-associated Pneumonia: 2016 Clinical Practice Guidelines by the Infectious Diseases Society of America and the American Thoracic Society. Clin Infect Dis. 2016;63:e61-e111.

# Acute Respiratory Failure: Current Treatment Paradigm



**Acute Respiratory Failure** 

Hypoxemia

Hypercarbia

Hypoxemia & Hypercarbia

### Non-Invasive Ventilation<sup>1</sup>

- Nasal mask
- Face mask
- Nasal plugs
- BIPAP CPAP



- Oxygen Helmet
- HFNC (High Flow Nasal Cannula)

### Invasive ventilation<sup>2</sup>

Mechanical Ventilation





ECMO<sup>3</sup>

Extracorporeal Membrane Oxygenation

#### TREATMENT ESCELATION

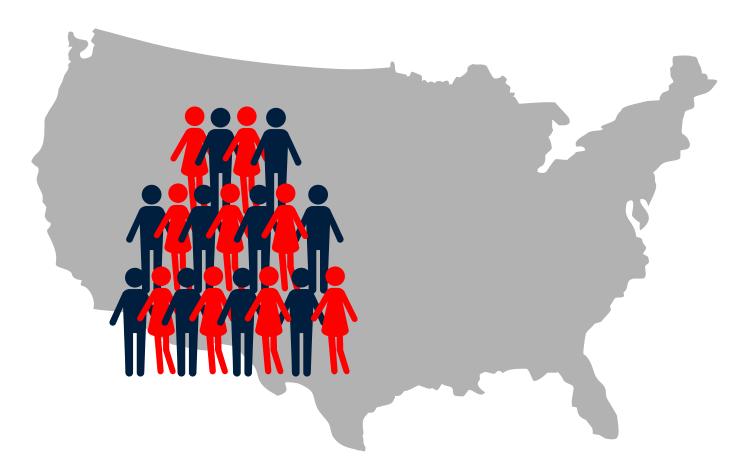
- 1. A Grade 2C recommendation is a very weak recommendation; other alternatives may be equally reasonable.
- 2. Brown 3rd CA, Walls RM. The decision to intubate. In: The Walls Manual of Emergency Airway Management, 5th ed, Lippincott Williams & Wilkins, Philadelphia 2018. p.3.
- 3. https://www.elso.org/Portals/0/ELSO%20Guidelines%20General%20All%20ECLS%20Version%201 4.pdf (Accessed on July 23, 2018).

Inspira Technologies is developing a minimally invasive, costeffective early-stage extracorporeal blood oxygenation system that utilizes a proprietary hemo-protective flow technology to rebalance oxygen saturation levels in order to minimize the need for invasive mechanical ventilation.



# Potential Market Size in the U.S. (Primary Market)

The ~633,000 acute respiratory failure patients in the U.S. each year, are Inspira's target population for the ART system<sup>1</sup>. With current treatments they continue to deteriorate following non-invasive ventilation treatment, are intubated, anesthetized, and put on invasive mechanical ventilation<sup>2</sup>.



#### Etiologies: ARDS, Pneumonia, Sepsis, COPD and acute Asthma patients

- 1. Kempker, Jordan A. MD, MSc et al. "The Epidemiology of Respiratory Failure in the United States 2002–2017: A Serial Cross-Sectional Study". Critical Care Explorations: June 2020 Volume 2 Issue 6 p e0128
- 2 Invasive Mechanical Ventilation Market MARKET ESTIMATES & TREND ANALYSIS FROM 2016 TO 2028 Grand View Research

### Multiple Trends Propelling the Market in the Coming Years

#### U.S. Market is Expected to Grow Steadily – A stable growth is expected

(Based on invasive mechanical ventilation market – Inspira's patient population target market)

The global mechanical ventilators market size was valued at \$7.24 billion in 2020 and is expected to record a CAGR of 4.9% from 2022 to 2028.



#### Increase in the prevalence of respiratory diseases

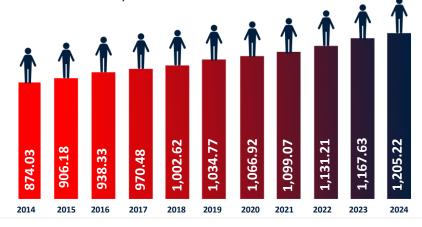
One of the key driving factors for invasive mechanical ventilation is the rising prevalence of respiratory diseases, which is expected to have a significant impact on the market.



#### Growing geriatric population

According to estimates published by the WHO, the global population aged 60 years and above is expected to increase to 2 billion by 2050





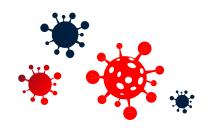
### Respiratory comorbidities following COVID-19

"Post-infection COVID-19 patients showed impaired lung function; the most important of the pulmonary function tests affected was the diffusion capacity1".



Respiratory function in patients post-infection by COVID-19: a systematic review and meta-analysis

R. Torres-Castro<sup>a,b,e</sup>, L. Vasconcello-Castillo<sup>a,b</sup>, X. Alsina-Restoy<sup>c,d</sup>, L. Solis-Navarro<sup>a</sup>, F. Burgos<sup>c,d,e</sup>, H. Puppo<sup>a,b</sup>, J. Vilaró<sup>b,f</sup>



1. R.Torres-Castro et al. "Respiratory function in patients post-infection by COVID-19: a systematic review and meta-analysis". Pulmonary, Volume 27, Issue 4, Pages 281-382 (July-August 2021)

# Experience Gained by the Medical Community with ECMO Following COVID-19 May Potentially Facilitate Faster Adoption of ART<sup>TM</sup>

In the last 5 years, 26,582 adults with pulmonary diseases were treated with VV-ECMO (international data) as a last resort treatment<sup>1</sup>

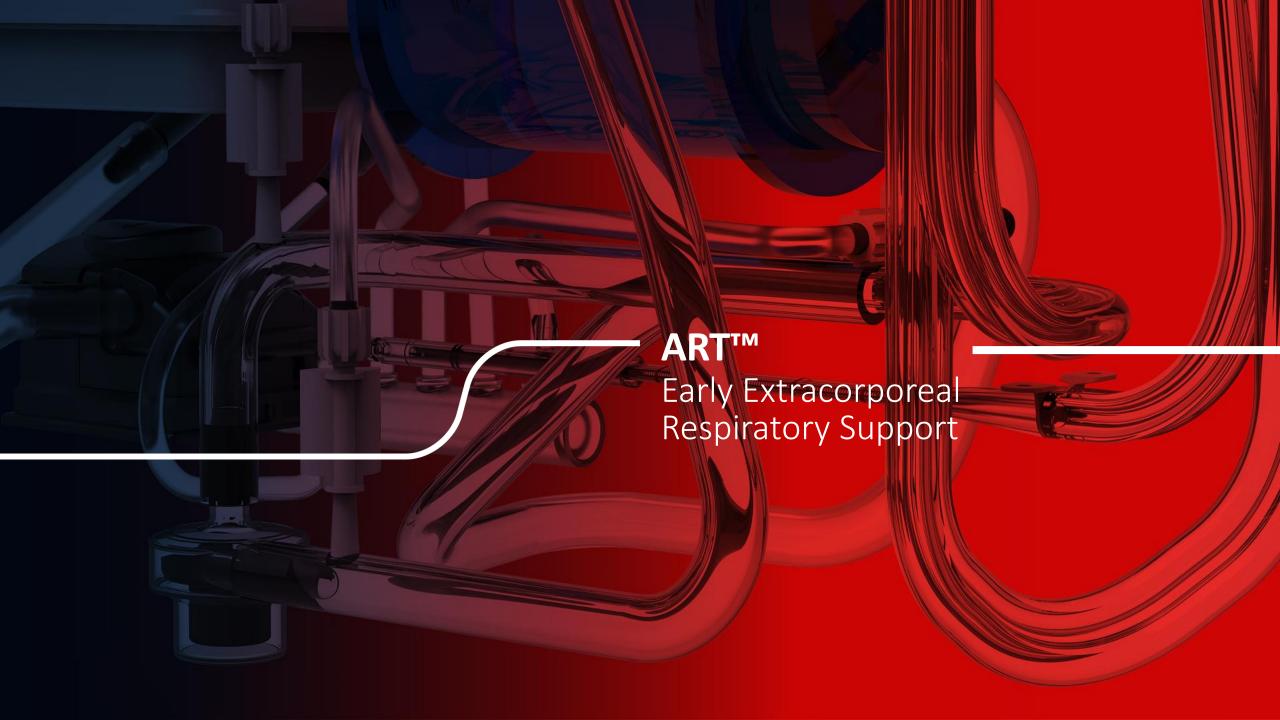
717 hospitals in the world have experience with ECMO<sup>2</sup>

North America - 359 Europe - 178 (During COVID-19)



ECMO = extracorporeal membrane oxygenation

- 1. ELSO Registry Dashboard. Data included patients from North America, Europe, Asia Pacific, Latin America, SWAAC
- 2. https://www.elso.org/Registry/SupportDocuments/CenterIDList.aspx



### A New Approach to Minimize the Need for Mechanical Ventilation



### **Mechanical Ventilation**

IV sedation

Intubation

**Artificial Respiration** 

**Ventilator Associated Complications** 

Weaning

Discharge



### Inspira's ART™ System\*

**Awake Patient** 

Cannula Insertion

Hemo-protective extracorporeal treatment

Discharge

<sup>\*</sup>These photos are for illustration purposes only. The Company's product has not yet been tested or used in humans and has not been approved by the CE and the U.S. Food and Drug Administration (FDA).

### About ART™

### **Extracorporeal approach**

A system specifically designed to provide continuous low-flow venous-venous early-stage extracorporeal respiratory support

Cannula is designed to draw blood at a rate of 1-1.5L per minute<sup>1</sup>

.....

### Rebalancing oxygenation saturation levels & CO2 removal

O2 saturation level is raised in minutes<sup>2</sup>

Hemo-protective low flow approach

Designed to reduce clotting and hemolysis

### **Compact & portable**

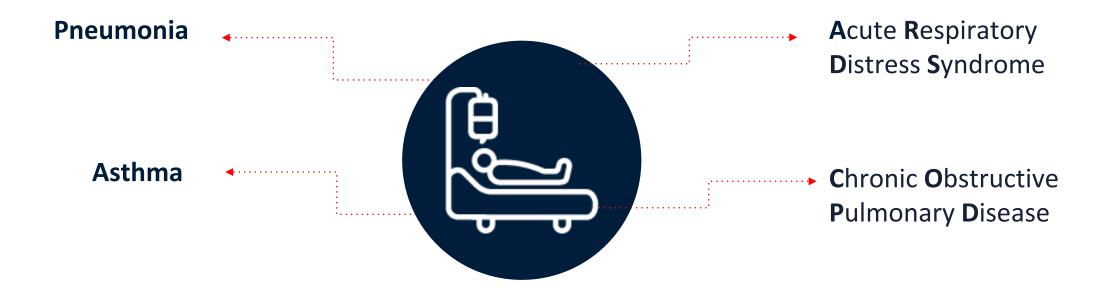
Designed for ICUs, general medical wards & ambulatory settings



- 1. In adult patients
- 2. In August 2020, animal studies were performed in swine model at LAHAV CRO in Israel. 25 hypoxemic events were induced, in order to test ARTs' oxygenation and carbon dioxide removal capabilities. In 20 out of the 25 hypoxemic events induced, ART treatment was provided with a blood flow rate of 1 liter per minute.

# ART<sup>™</sup> Treatment - Possible Indications

ART<sup>TM</sup> may be used for the treatment of acute respiratory failure patients suffering from hypoxemia and hypercarbia or both, who continue to deteriorate while being treated with non-invasive ventilation treatment.



To date, the Company's product has not yet been tested or used in humans and has not been approved by the U.S. Food and Drug Administration (FDA) or the CE or other required regulatory agencies.

### The ART<sup>TM</sup> Device

How does it work?





### **INSERT**

Dual lumen cannula inserted into the jugular vein



### **WITHDRAW**

Utilizing hemo-protective flow technology, the blood is treated with a minimum drop in blood pressure & a low sheer force, protecting the red blood cells



### **ENRICH**

Blood is enriched with high concentrations of oxygen, and CO2 is removed



### CIRCULATE

The enriched blood is returned to the patient via the dual lumen cannula



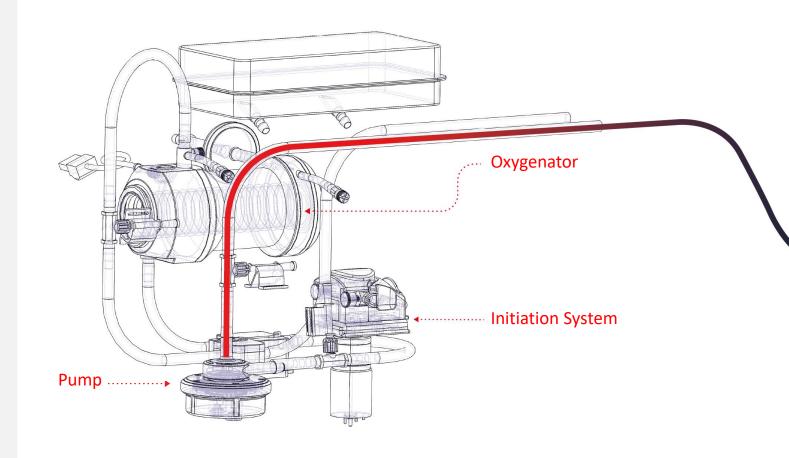
### REBALANCE

The returned enriched blood rebalances the patient's saturation levels, reducing the burden on the lungs

# THE ART<sup>TM –</sup> Hemo Protective System

The ART System is a medical device including a replaceable disposable respiratory support unit (kit) for each patient treatment.

The ART's design supports the company's strategic business model to encourage the extension of acute respiratory care **beyond** the ICU.



# **ART™** System Primary Components



#### **Dual Lumen Cannula**

#### **Component:**

Dual lumen cannula, with small diameter (16-21Fr\*) designed to draw blood at a rate of 1-1.5 Liter per minute\*\*



# Hemo-Protective Flow Pump

#### **Component:**

Proprietary hemo-protective pump; designed to prevent hemolysis and thrombosis



### **Initiation System**

#### **Component:**

Autonomous initiation system for self-priming of the entire blood circuit, potentially eliminating the need for a perfusionist\*\*\*

<sup>\*</sup> The diameter of the cannula depends on the flow volume required to perform the treatment. As the volume of flow decreases, the cannula diameter is reduced accordingly

<sup>\*\*</sup> In August 2020, an animal study was performed in swine model at LAHAV CRO in Israel.

<sup>\*\*\*</sup> Perfusionist - operates a heart-lung machine (extracorporeal respiratory system), which is an artificial blood pump, which propels oxygenated blood to the patient's tissues (Britannica.com)

# **ART™ System Primary Components**



# Disposable Respiratory Support Unit (kit)

#### **Component:**

Plug-and-play disposable cartridge. suitable for deployment in both in ICUs and in general medical unit settings



#### **Control unit**

#### **Component:**

An algorithm enhanced digital platform, controls and displays all sensor data via an interactive Graphical User Interface



## Non-Invasive Blood Sensor

#### **Component:**

Sensor using optical technology and AI algorithm to measure five key blood values, including Saturation, HB, HCT, PCO2 and PO2. The sensor is attached to the tube, while blood is flowing through the tube either venous or arterially.

### **ART's Innovative Features**



**Hemo-protective flow technology** aimed to reduce the risks of hemolysis & thrombosis

**Single insertion point** of dual-lumen cannula will potentially be lowering the risk of multiple infections & bleeding

Eliminates the need for a perfusionist **Proprietary plug-and-play replaceable disposable unit** expected to reduce need for ICU-Level staff

**Self-priming capability** designed to reduce operational errors and need for perfusionist

- Hemolysis breakdown or destruction of red blood cells so that the contained oxygen carrying pigment hemoglobin is freed (dissolves) into the surrounding medium<sup>1</sup>
- Thrombosis formation of a blood clot in the heart or in a blood vessel<sup>2</sup>
- Perfusionist operates a heart-lung machine (extracorporeal system), which is an artificial blood pump, which propels oxygenated blood to the patient's tissues<sup>3</sup>

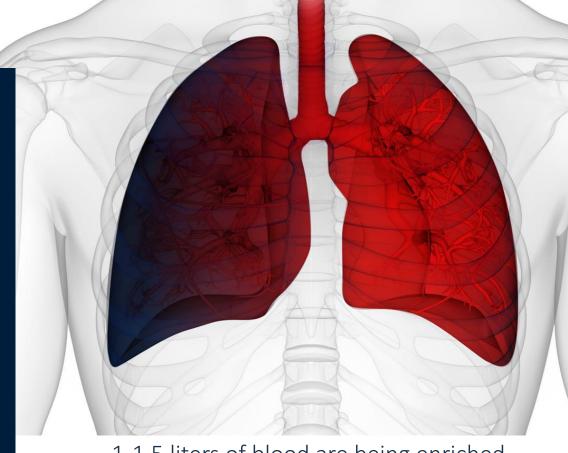
1,2 - Britannica.com | 3.www.explorehealthcarees.org

ART's Proprietary Hemo-Protective Flow Technology Features

### Blood protection

ART's designed features	Hemolysis reduction	Thrombosis reduction
A unique Low flow-velocity ratio maintained throughout blood passage in disposable kit	V	V
A low-volume oxygenator		V
Pump head designed for low flow	V	V
Short dual lumen cannula design	V	
Entire disposable kit is coated with anticoagulants		V

Hemolysis –breakdown or destruction of red blood cells so that the contained oxygen carrying pigment hemoglobin is freed into the surrounding medium<sup>2</sup> Thrombosis – formation of a blood clot in the hart or in a blood vessel<sup>3</sup>



1-1.5 liters of blood are being enriched with oxygen, rebalance patient's oxygen saturation levels in minutes<sup>1</sup>

In August 2020, animal studies were performed in swine model at LAHAV CRO in Israel.

www.Britannica.com

## ART's Respiratory Support System Potential Benefits







### The patient's perspective

- Immediate oxygen saturation elevation
- No need for induced coma
- Decreased work of breathing Improving compliance to High Flow Nasal Cannula
- Patient can communicate their symptoms and needs to the medical team
- Avoiding some forms of complications associated with MV

### The clinician's perspective

- Clinicians would be able to offer an alternative to mechanical ventilation
- Minimal learning curve
- Self priming system, can potentially minimize the need for perfusionist
- Self priming system results in less human errors
- Designed for use in ICUs, general wards & ambulatory settings

### The hospital perspective

- Reduced costs and staff burden associated with MV complications
- Increased patient throughput
- New level of acute respiratory care available outside of ICUs
- Reduction of patient load in ICU
- Reduced staffing No need for perfusionists
- No need for surgical access team

# ART<sup>TM</sup> System Offers Two Intervention Modalities

### When

### Prevention of mechanical ventilation

Patients who continue to deteriorate while being treated with non-invasive ventilation treatment would be treated with ART

- **Objectives**
- Prevent mechanical ventilation
- Avoid, VILI (Ventilator-induced lung injury) ,VIDD (Ventilator induced diaphragmatic dysfunction) and VAP (Ventilator-associated pneumonia)

Where

**General Medical ward** 

ICU

### Shortening mechanical ventilation duration

Mechanically ventilated patients would be treated with ART shortly following the initiation of mechanical ventilation

- Shorten mechanical ventilation period
- Reduce VALI, VIDD and VAP

ICU

### What Differentiates ART from ECMO?

### **ART<sup>TM</sup> System**

ART has the potential to prevent invasive mechanical ventilation and its associated long-term damages

ART is designed to allow for early intervention

One (16-21 fr) dual lumen cannula, will be used to withdraw and return 1-1.5 liters of blood per minute

Patients may be awake and spontaneously breathing

Since ART's target population consists of patients who are candidates for mechanical ventilation, its market size may resemble that of invasive mechanical ventilation

### **ECMO**\*

ECMO is a salvage therapy

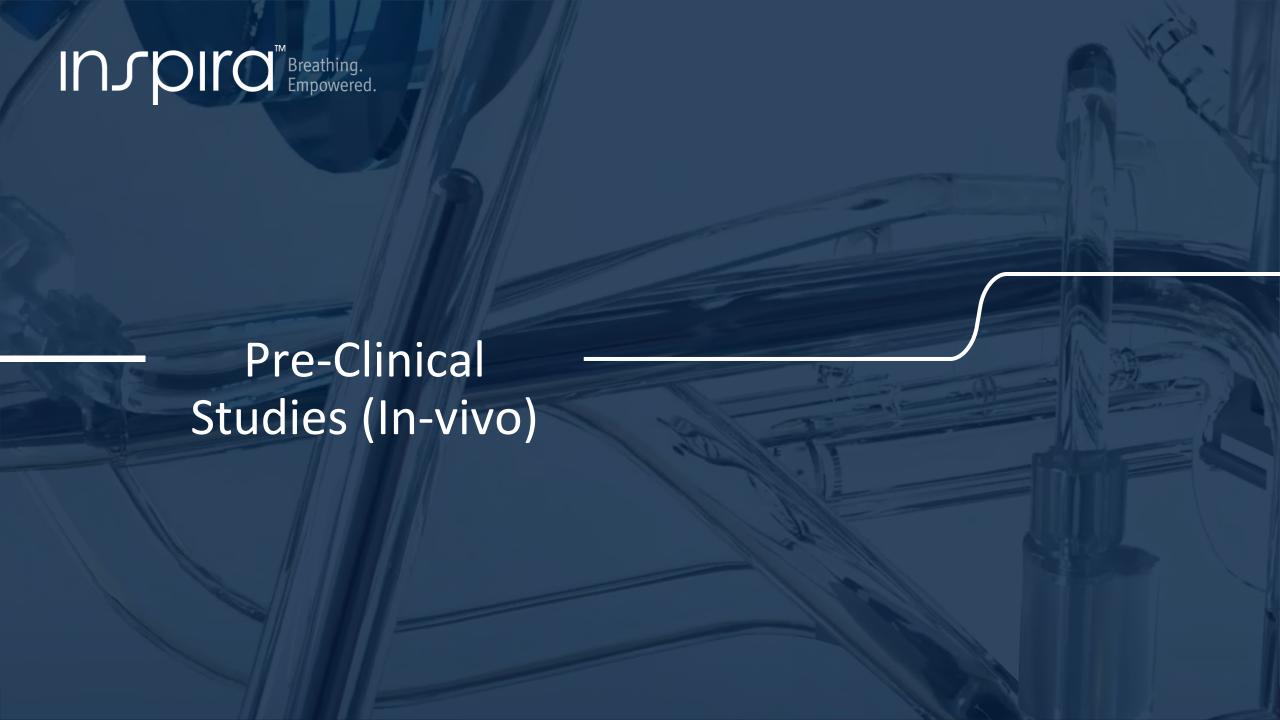
There is no "plan B" when a patient is not improving with ECMO

Two single lumen cannulas - Typically, two large (21-25 fr) single lumen cannulas are used to withdraw and return 5-7 liters of blood per minute

Patients are sedated and paralyzed

The number of patients treated with ECMO is limited since it's a salvage therapy used as a last resort treatment

<sup>\*</sup> https://www.elso.org/Portals/0/ELSO%20Guidelines%20General%20All%20ECLS%20Version%201\_4.pdf (Accessed on July 23, 2018)



# Studies Results Highlights



- ✓ ART treatment in hypoxemic swine model, resulted in significant increase of oxygen saturation by 8%-10%
- ✓ A flow of 1 liter per minute, was sufficient to provide a saturation increase of 8-10%
- ✓ Pulmonary artery saturation increase is attributed to ART device activity. Documented saturation values in the Pulmonary artery represent ART activity as it captures oxygenation level just before the blood enters the lung. Additional increase in oxygen saturation may result via native lung gas exchange and is influenced by the lung condition and underlying lung disease.
- ✓ ART increased Pulmonary artery oxygen saturation by 26%. Increase was statistically significant
- ✓ ART exhibited a significant decrease of PaCO2. Decrease was statistically significant
- ✓ Blood pressure was unaffected

# Pre-clinical Studies (In-vivo)

When: August 2020<sup>1</sup>

Test: ART's ability to rebalance oxygen saturation levels within minutes

Where: LAHAV CRO in Israel<sup>2</sup>

Model: Swine model

ART system used for the studies: Lab unit constructed from lab components 25 hypoxemic events were induced

In 20 out of the 25 hypoxemic events induced, ART treatment<sup>3</sup> was provided with a blood flow rate of 1 liter per minute.

The results are presented here from these studies

#### Additional studies were conducted

- During 2019-2020, additional 15 pre-clinical studies were conducted as feasibility tests.
- On November 2021, an additional pre-clinical study was conducted in LAHAV CRO in Israel.
- 1. Research protocol was approved by the national ethics committee of animal experimentations.
- 2. LAHAV CRO https://lahavcro.com/
- 3. ART Treatment = extracorporeal blood oxygenation with one liter of blood

### Method

In these initial pre-clinical studies the goal was to assess the oxygenation effectiveness of ART system<sup>1</sup> in swine model.



#### Swine model

The swine species chosen for the current study is Large-White X Landrace. This breed was chosen due to a well-known resemblance of the anatomy, cardiovascular and respiratory physiology, size scale and other characteristics to adult humans.



#### Study setup

Two anesthetized mechanically ventilated swine, were cannulated in the right internal jugular vein via a double lumen cannula. The cannula conduits were connected inlet & outlet tubes, allowing for blood transportation to and from the veno-venous ART device.



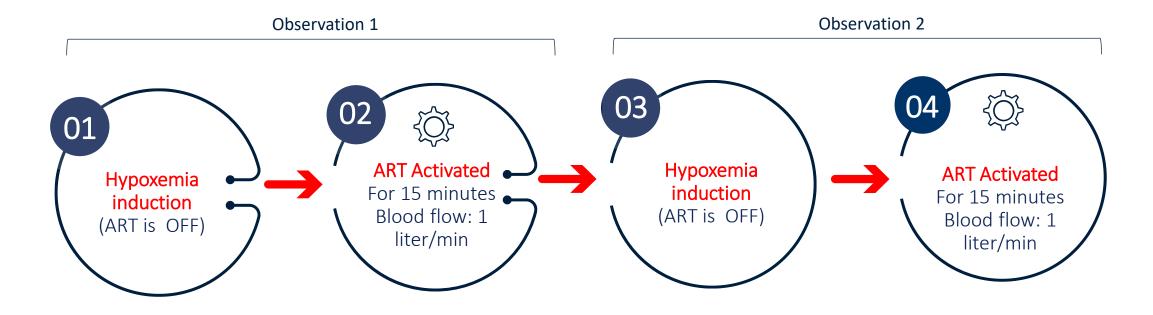
#### Hypoxemia induction

Intubated swine were ventilated with a hypoxemic gas-mixture resulting in oxygen saturation levels dropping to between ~80-85%. Hypoxemia was medically induced prior to each initiation of ART treatment

1. An extracorporeal respiratory support system composed of an oxygenator, a pump, a plug-and-play cartridge, sensors, and a control unit

# Study design

Blood oxygenation and CO2 removal at a flow rate of 1 liter/min was assessed in 20 consecutive observations, with each test, the following steps were repeated:



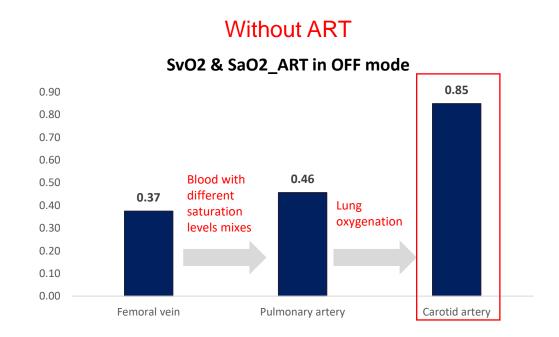
Blood samples are taken from the (1) femoral vein (2) pulmonary artery, and (3) carotid artery at baseline (prior to the activation of ART) and 15 minutes following the system's activation.

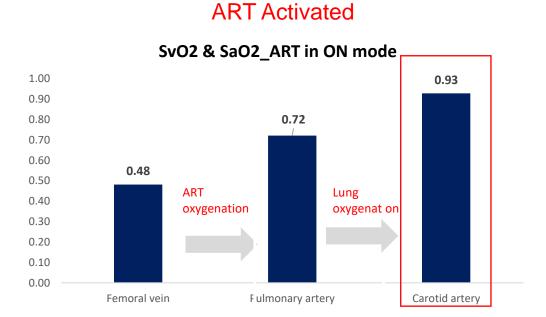
# Study Results



### ART Provides Significant Increase In Saturation

The saturation levels in the pulmonary artery increased on average by 26%, and in the carotid artery by about 8-10%



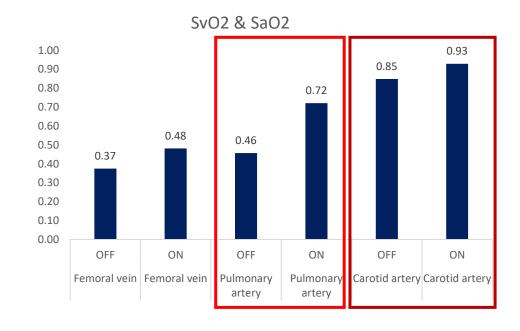


Parameter	Blood sample location	Prob> t
SvO2 (%)	Femoral vein	< 0.005
SaO2 (%)	Pulmonary artery	<.0001
SaO2 (%)	Carotid artery	<.0001

# ART's Contribution to Oxygen Saturation Should Be Reviewed Independently From the Lung Activity

ART increased saturation by 26% in the Pulmonary Artery

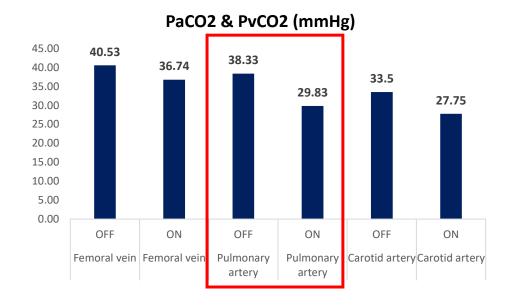
The contribution of ART to saturation should be assessed via saturation measured in the Pulmonary artery; right after ART oxygenates 1 liter of blood and just before the patients' entire Cardiac Output further oxygenates via the lungs.



**Disclaimer:** The oxygenation capabilities of a patient/animal model lung will depend on the underlying pathophysiology, the level of severity and response to treatment.

#### CO2 Removal Via ART Is Significant

ART contribution to PCO2 decrease is 8.5 mmHg in the pulmonary artery



Parameter	Blood sample location	Prob> t
PCO2 (mmHg)	Femoral vein	0.1609
PCO2 (mmHg)	Pulmonary artery	<.0001
PCO2 (mmHg)	Carotid artery	<.0001



### Inspira's Product Pipeline

#### **ECLS** system



Intended use: Extracorporeal Life Support, last resort

treatment

Flow rate: will be used to withdraw and return 5-7 liters of

blood per minute, all patient's cardiac output

**Treatment setting:** Intensive Care Unit





**Intended use:** Extracorporeal Respiratory support

Flow rate: will be used to withdraw and return 1-1.5 liters of

blood per minute

Treatment setting: Phase 1- Intensive Care Unit | Phase 2-

General wards, Ambulatory settings



#### Go-to-Market Strategy

Establishing multiple recurring revenue streams across medical sectors & markets

01

Pursuing regulatory approvals in key markets:

United States – Primary market Europe – Secondary Market



02

Exclusive deployment agreements for the potential deployment in Spain, Portugal, Poland, Czech Republic and Slovakia



Market penetration and gaining market share in collaboration with hospitals

Market penetration through hospitals with prior experience with extracorporeal respiratory systems to facilitate faster adoption

Collaboration with leading hospitals and professional associations

Strategic partners for regional deployments.

Target health associations, such as: "The American Thoracic Society", "The Extracorporeal Life Support Organization"

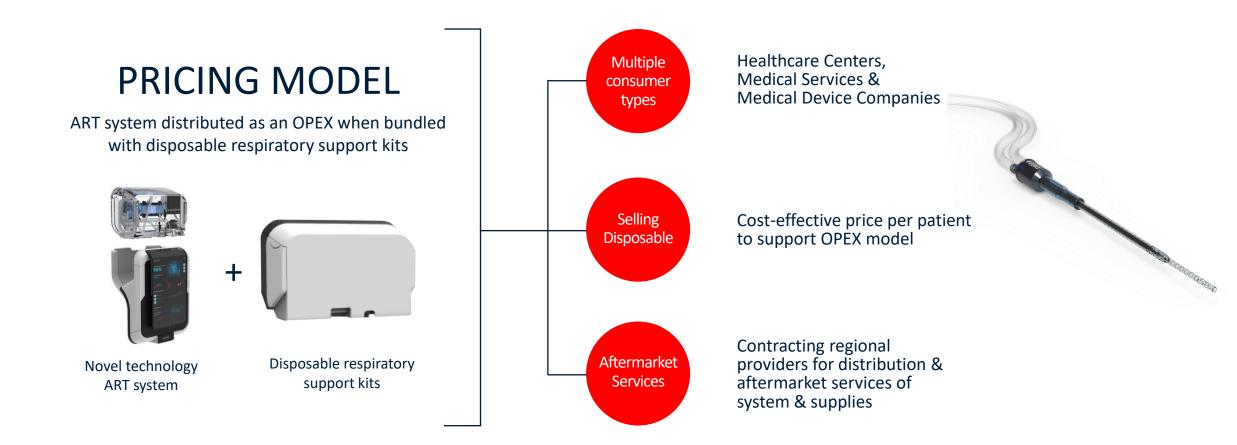
#### Pursuing collaboration with strategic partners

05

Global medical device companies, multinational electronics contract manufacturers and global medical device companies, may acquire ART primary components for blood enrichment applications

# Market Penetration and Gaining Market Share

We have developed a flexible business model to drive global deployment



<sup>\*</sup> Subject to change

### Reimbursement Strategy

Inspira plans to utilize existing CPT Codes using a "New Approach" to an existing procedure



Expected to eliminate complications associated with MV



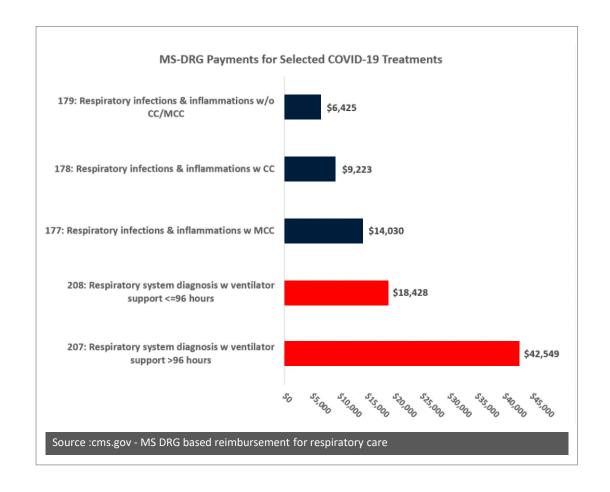
Designed to reduced costs & operational expenses



Aimed to reduce length of stay & re-admissions

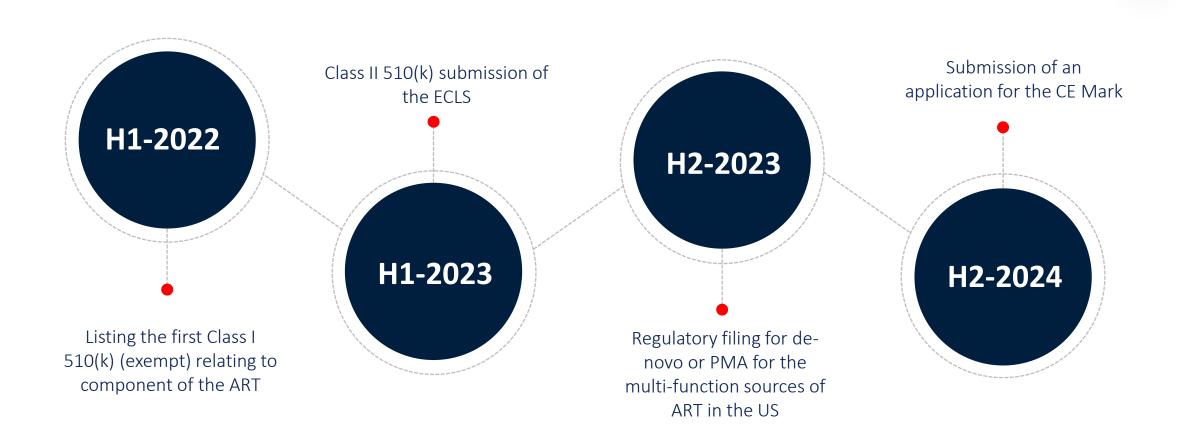


Designed to reduce hospital & staff burden



### Regulatory Submission (Multi-Step approach)





To-date the ART has not been tested on humans and is subject to the regulator's requirement.

\*Will require a new 510(k) marketing clearance or, depending on the modification, a de novo or other

#### Targeting Major Milestones 2022-2023



Timelines are subject to change. 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 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 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.

#### •······ H1-2023

- 510K submission of the ECLS
- **9** Generation of clinical data
- Strategic agreement

- Regulatory Filings
- ▲ Distribution Agreement
- Strategic Agreement
- Product Deployment
- Medical Collaboration/data collection
- **V** Clinical data

#### H2-2022

- ▲ Distribution Agreement
- Medical collaboration

#### H2-2023

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- FDA IDE Submission
- Deployment of the ECLS system
- ART's FDA IDE submission
- Inspira's Jugular dual lumen cannula FDA submission



#### Leadership



Prof. Benad Goldwasser, MD, MBA
Chairman

Urologic surgeon, inventor, entrepreneur & venture capital investor.

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).



**Joe Hayon, MBA**Co-Founder, President & CFO

Former CFO, CIO and Corporate Manager Elscint (Formerly NASDAQ & TSE: ELT), Sanmina - Medical Division (NASDAQ: SANM).

Plasan Group - Executed M&As and strategic joint ventures.

Experience in manufacturing & setting up operations to support high-growth delivery.



Dagi Ben-Noon, BSc Co-Founder, CEO

Co-Founded Nano Dimension

(NASDAQ : NNDM) Served as COO & Director . Serial entrepreneur & investor.

Multi-industry experience in growing companies from concept to market penetration and sales.



**Avi Shabtay, BSc** 

Shabtai has over 25 years experience managing high-tech companies, particularly in their R&D and operations departments.

Prior to joining Inspira, Shabtay served as VP of R&D at Nano Dimension Ltd. (Nasdaq: NNDN).



Yafit Tehila
VP Finance

Yafit is an experienced financial professional and accountant with extensive experience working in public companies.

Prior to joining Inspira, Yafit held senior financial positions at Nano Dimension Ltd. (Nasdaq: NNDN), Migdal Capital Markets, and PWC.

#### Scientific Advisory Board



Prof. Daniel Brodie
Intensivist & ECMO Advisor

The Section Chief for Critical Care within the Division of Pulmonary, Allergy and Critical Care Medicine, the Director of the Adult ECMO Program and the Director of the Center for Acute Respiratory Failure at the Columbia University/New York-Presbyterian Hospital.

Prof. Brodie is the President-elect of the Extracorporeal Life Support Organization (ELSO) and the chairman of the Executive Committee of the International ECMO Network (ECMONet)



**Prof. Eddy Fan**Intensivist & ECMO Advisor

An associate professor in the Interdepartmental Division of Critical Care Medicine and the Institute of Health Policy, Management and Evaluation at the University of Toronto and a staff intensivist at the University Health Network/Mount Sinai Hospital. Prof. Fan currently holds the medical director of the extracorporeal life support program at the Toronto General Hospital.



**Dr. Stephan Ledot**Intensivist & ECMO Advisor

Dr. Stephane Ledot is a world-renowned expert in critical care, ECMO, anesthesia and echocardiography.
Prior to his current roles, Dr. Ledot has undertaken a large number of educational duties, including advanced cardiovascular life support (ACLS) instruction, critical care module for physiotherapists instruction, critical care module nursing school instruction, among others.



**Dr. Yigal Kasif, MD**ECMO Advisor

Cardiac Surgeon & Director of ECMO Israel, Adult Cardiac Surgery, Heart Transplants, Assist Devices & ECMO, Intensive Care Treatment, Sheba Medical Center at Sheba Hospital.

Cambridge University, UCLA, Hebrew University of Jerusalem, Cardiac surgery clinical fellowship in UCLA and research fellowship at Cedars Sinai Medical Center.

### Scientific Advisory Board - cont.



**Dr. Dekel Stavi, MD**Intensivist Advisor

Has considerable experience in leadership and Extracorporeal Life Support programs, cardiology aspects of Intensive Care Unit ("ICU") patients and treating hemato-oncology patients in ICUs. Prior to joining the interdepartmental program of critical care at the University of Toronto, he served as a senior intensive care physician at a leading Israeli hospital - the Tel Aviv Sourasky Medical Center (Ichilov), where he initiated its institutional extracorporeal membrane oxygenation (ECMO) program.



**Dr. Avraham Abutbul, MD**ICU Respiratory Advisor

Senior physician at the Medical Intensive Care unit and at the Pulmonology Institute at the Hadassah Medical Center.
Lecturer at the Hebrew University Faculty of Medicine & Hadassah Medical School. Current research: Chronic Obstructive Pulmonary Diseases, &prevention of sepsis related organ dysfunction with Allocetra.



Dr. Yael Lichter, MD
Intensivist Advisor

A director of the Medical ICU at Sourasky Medical Center since 2020 and is also Treasurer of the Israeli ECMO Society since 2019. Dr. Lichter completed her residency programs in Internal Medicine (2015) and Intensive Care (2017) at the Sourasky Medical Center. Prior to this, Dr. Lichter was a Captain in the IDF, holding several positions as a field doctor in combat units.



**Dr. Orit Cohen Jacob, MDV**Clinical & Research Advisor

Veterinary surgeon & expert in laboratory animal science, Israeli Prime Minister's Office, Chairwoman of the National Animal Experimentation Ethics Committee, Founder of GLP/GMP companies:
SeruMed GMP Ltd.: Production of anti-venom serum.BioSphera Ltd.: Specialized in pre-clinical research

## THANK YOU