Inspira Technologies Files a PCT Patent Application for its Flagship ART Device and Proprietary Method of Use to Minimize the Need for Mechanical Ventilation

The ART device is an early-stage extracorporeal respiratory support system designed to treat patients while awake and breathing spontaneously

Ra'anana, Israel, December 8, 2021 – Inspira Technologies OXY B.H.N. Ltd. (Nasdaq: IINN, IINNW) (the "Company" or "Inspira Technologies"), a groundbreaking respiratory support technology company, announced today it has filed a Patent Cooperation Treaty (PCT) patent application for its novel ART device and its proprietary methods of use to minimize the need for invasive mechanical ventilation which requires intubation and induced coma.

Inspira Technologies designed the ART, a novel low-flow early extracorporeal blood oxygenation system intended to offer acute respiratory patients, who continue to deteriorate following non-invasive ventilation treatment, a new alternative to invasive mechanical ventilation. Today, despite that, at the non-invasive ventilation treatment stage, these patients are still breathing spontaneously, the only alternative treatment available to them after non-invasive ventilation has failed is invasive mechanical ventilation.

The ART is designed to enrich approximately 1-1.5 liters of blood in a minute to rebalance oxygen saturation levels in minutes.

The ART device utilizes a hemo-protective flow approach intended to increase blood oxygenation levels and remove CO2 to potentially prevent invasive mechanical ventilation and minimize the risks and complications associated with this type of treatment.

The ART device, a novel extracorporeal oxygenation system, is being developed for treatment of patients in order to maintain spontaneous breathing. This initiates a circulation rate of 30 ml/Kg per minute that is significantly lower than the circulation rate used in extracorporeal membrane oxygenation (ECMO) that ranges between 60-80 ml/kg/min for veno-venous ECMO and 50-60 ml/kg/min for veno-arterial ECMO[1].

ART is being mechanically engineered and designed to optimize the safety profile of low flow extracorporeal treatment due to the reduction of shear forces on the blood, therefore contributing to reducing hemolysis and blood clotting. These methods of use

and mechanical design are intended to provide a safe profile of treatment potentially resulting in the following: (1) prevention or minimization of mechanical ventilation and all its associated damages to the patient lung and his/her overall survival; and (2) reduction of bleeding and occurrences of infection due to a single cannula insertion point.

In addition, the ART is designed to allow deployment and utilization in hospitals without prior extracorporeal membrane oxygenation (ECMO) experience. A novel design minimizes the need for a perfusionist for the following reasons: (1) a “plug and play” disposable cartridge, minimize the need for a perfusionist to assemble disposable parts prior to utilization; and (2) an auto-priming system -eliminates the need for a perfusionist, required today for priming ECMO systems. Additional potential advantage of ARTs’ auto priming system includes the prevention of human errors and ensures a safe, emboli-free connection to the patient’s vascular system.

Dagi Ben-Noon, Inspira Technologies’ Chief Executive Officer, stated: "The PCT patent application for our ART device - the first respiratory device to potentially substitute mechanical ventilation, designed for deployment and use both in and outside of the ICU. ART’s safety profile design is targeted to allow for an early extracorporeal intervention aimed to prevent mechanical ventilation while also offering a cost-benefit solution from a payor perspective."

1. “Extracorporeal Life Support: The ELSO Red Book”, 5th Edition, p. 75.

Abut Inspira Technologies OXY B.H.N. Ltd.

Inspira Technologies is an innovative medical device company in the respiratory care industry. Inspira is developing the ART device, a cost effective early extracorporeal respiratory support system with an intent to function as an “Artificial Lung” for deteriorating respiratory patients. The ART device is designed to utilize a hemo-protective flow approach aimed at rebalancing oxygen saturation levels while patients are awake and breathing, potentially minimizing the patient's need for mechanical ventilation. 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.

For more information, please visit our corporate website: www.inspirao2.com

Forward-Looking Statement Disclaimer

This press release contains express or implied forward-looking statements pursuant to U.S. Federal securities laws. For example, the Company is using forward-looking statements when it discusses the potential advantages of its ART device and benefits of the ART design. These forward-looking statements and their implications are based on the current expectations of the management of the Company only and are subject to several factors and uncertainties that could cause actual results to differ materially from those described in the forward-looking statements. Except as otherwise required by law, the Company undertakes no obligation to publicly release any revisions to these forward-looking statements to reflect events or circumstances after the date hereof or to reflect the occurrence of unanticipated events. More detailed information about the risks and uncertainties affecting the Company is contained under the heading "Risk Factors" in the Company's Registration Statement on Form F-1 filed with the SEC, which is available on the SEC's website, www.sec.gov.

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