

<u>INTERNATIONAL PROJECT</u>		Project under Management	
Summary Form:		Agreement Reached	
Input date: 04/02/25		Country of origin: Spain Country of Interest: India	

✓ <u>Information about the company requesting the partner search service</u>							
Name of the company		Scandic Medical					
Contact Person (name, position)		Julia Waleij					
Address		BIC Sciencepark Malaga					
Zip Code and City		25 950 Malaga					
Telephone		+34 636 55 57 56					
Email		Julia@scandic-medical.com					
Fax							
Web Page		www.scandic-medical.com					
Last exercise Revenues M€	-	Number of employees	4	Year of Constitution	2021	Share Capital M€	3000 EUR
<p>Firm profile: main activity, sector, market position, main product or service, previous R&D experience, etc.</p> <p>SCANDIC Medical: Established in 2021, the company is based in the technology park of Andalucia, Malaga, and focuses on two main business and R&D programs:</p> <ol style="list-style-type: none"> 1. Revolutionizing Critical Care with Portable ECMO-Cooler Technology: The company aims to introduce a unique portable ECMO (extracorporeal membrane oxygenation) product designed for both pre-hospital and inter-hospital settings. This product will address the needs of emergency treatment in communities, disaster sites, and battlefields, as well as facilitate inter-hospital transfers and evacuations. The miniaturized and portable ECMO-Cooler device will become a key solution in the critical care market. 2. Advancing Invasive Brain Cancer Treatment with Innovation: The company's second R&D program delves into developing a novel invasive technology for treating brain cancer tumors. This project demonstrates their commitment to pushing the boundaries of cancer care. While the initial focus is on brain tumors, the long-term vision is to expand this technology's application to breast and lung cancers as well. Their dedication to this innovative approach signifies a significant step forward in the fight against these aggressive malignancies. <p>In Europe alone, out-of-hospital cardiac arrests (OHCA) claim 300,000 lives annually. The leading cause of death and disability in these cases is severe brain damage. This devastating</p>							



outcome is likely caused by a widespread lack of oxygen and blood flow (ischemia/reperfusion injury) throughout the body, especially the brain.

Extracorporeal life support (ECLS) has become increasingly used worldwide in recent years to provide mechanical support for patients experiencing heart and circulatory failure. This technology acts as a temporary artificial lung by removing carbon dioxide and adding oxygen to the blood outside the body before pumping it back in. It allows the heart and lungs to rest and recover, offering a chance for survival. In Germany, for example, ECLS cases have skyrocketed from under 300 in 2010 to over 2,800 in 2020.¹² Despite its lifesaving potential, ECLS is an invasive and resource-intensive therapy with limitations in addressing the underlying ischemia/reperfusion injury.

The key to improving outcomes after OHCA lies in neuroprotection. Studies show that therapeutic hypothermia, initiated very early during CPR or within 15 minutes of regaining circulation, significantly reduces brain injury. But inducing hypothermia in the field during resuscitation remains a major challenge.

This critical gap highlights the need for a readily available solution for early hypothermia during cardiac arrest. Enter the concept of a **Portable Cooling Device for Early Neuroprotection during ECMO after Cardiac Arrest**. This innovative technology would integrate with existing ECMO machines, maximizing neuroprotection and potentially improving patient survival and neurological recovery.

Beyond Cardiac Arrest: Expanding the Reach of Neuroprotection

The potential applications of this technology extend far beyond cardiac arrest. Here are some additional situations where it could be life-changing:

- **Severe Respiratory Failure:** Conditions like acute respiratory distress syndrome (ARDS), pneumonia, or COVID-19 can overwhelm the lungs, hindering oxygen exchange. This portable cooling device could provide crucial support.
- **Severe Cardiac Failure:** In situations like cardiogenic shock, heart attack, or myocarditis, the heart struggles to pump enough blood. This technology could assist by providing temporary support and potentially improving outcomes.

By combining the life-saving capabilities of ECLS with targeted neuroprotection, this portable cooling device has the potential to revolutionize how we treat a range of critical conditions.

The core competence of the company is innovation and development of medical devices within emergency medicine and clinical development of these devices. By combining these core competencies, SCANDIC Medical is able to develop and deliver innovative medical devices that have the potential to significantly improve patient outcomes in emergency settings.

¹ Beckmann A, Meyer R, Lewandowski J, Markewitz A, Gummert J. German Heart Surgery Report 2020: the annual updated registry of the German Society for Thoracic and Cardiovascular Surgery. Thorac Cardiovasc Surg 2021; 69

² Karagiannidis C, Brodie D, Strassmann S, Stoelben E, Philipp A, Bein T, Muller T, Windisch W. Extracorporeal membrane oxygenation: evolving epidemiology and mortality. Intensive Care Med 2016; 42: 889–896.

✓ Technology Cooperation Project

Describe your Project:

Out-of-hospital cardiac arrests (OHCA) are a leading cause of death and disability, often resulting in severe brain damage. Extracorporeal life support (ECLS) can provide critical support but has limitations in addressing the underlying ischemia/reperfusion injury.

To improve outcomes, early neuroprotection is essential. Therapeutic hypothermia can significantly reduce brain injury, but its implementation in the field during resuscitation remains challenging.

SCANDIC Medical's Portable Cooling Device aims to bridge this gap by integrating with existing ECMO machines to provide early hypothermia. This innovative technology has the potential to revolutionize the treatment of OHCA and other critical conditions.

Key work packages include:

- Concept development and feasibility study: Assessing technical viability, market need, and regulatory requirements.
- Prototype development and testing: Building and evaluating functional prototypes.
- Preclinical studies: Conducting in-vitro and in-vivo testing to ensure safety and efficacy.
- Clinical trials: Evaluating the device's performance in real-world settings.
- Commercialization: Scaling up production and launching the device to market.

By addressing the critical need for early neuroprotection in OHCA, SCANDIC Medical's portable cooling device has the potential to save lives and improve patient outcomes.

Describe the innovative part of your project: The innovative part of the project lies in the integration of a portable cooling device with existing ECMO machines to provide early hypothermia during cardiac arrest. This approach offers several key advantages:

1. **Portability:** The device can be easily integrated with existing ECMO setups, making it accessible in a wide range of settings, including pre-hospital care and emergency departments.
2. **Early Intervention:** By providing early hypothermia, the device can reduce brain injury significantly, even before the patient reaches the hospital.
3. **Enhanced Neuroprotection:** The combination of ECLS and early hypothermia offers a more comprehensive approach to neuroprotection, potentially improving patient outcomes.
4. **Versatility:** The technology can be adapted to treat other critical conditions beyond cardiac arrest, such as severe respiratory failure and severe cardiac failure.

This innovative combination of technologies has the potential to revolutionize the treatment of critical illnesses by providing a timely and effective solution for neuroprotection.

Describe the market expectations of your project:

The market for the portable cooling device is expected to be significant due to the following



factors:

- **Growing Demand for ECMO:** The increasing prevalence of critical illnesses, such as cardiac arrest, respiratory failure, and severe sepsis, is driving the demand for ECMO. Additionally, advancements in ECMO technology and supportive care have improved survival rates, further boosting its demand..
- **Potential for Neuroprotection:** Early hypothermia has been shown to significantly reduce brain injury in patients with cardiac arrest, a potential benefit that is expected to drive demand for the device. By minimizing brain injury, survivors can experience better functional outcomes and an improved quality of life.
- **Potential for Cost Savings:** The portable cooling device could potentially reduce healthcare costs by improving patient outcomes and reducing the need for long-term care.
- **Regulatory Support:** Governments and regulatory agencies are increasingly supportive of innovative medical technologies that can improve patient care.

Based on these factors, the market expectations for the portable cooling device are positive. The device has the potential to become a valuable tool for critical care providers, improving patient outcomes and enhancing the capabilities of emergency medical services.

Estimated Foreseen Budget M€		New Partner contribution M€	
Public Funds %		Funding %	

✓ Profile of the partner wanted: activities to do by the new partner

Describe the expertise of possible partner(s) required for your project:

To successfully develop and commercialize our portable cooling device, we seek partners with expertise in:

- **Medical device development:** Design, engineering, manufacturing
- **Clinical research:** Trial design, execution, regulatory affairs
- **Healthcare economics:** Market analysis, pricing
- **Business development:** Partnerships, intellectual property

Describe the role of possible partner(s) in your project:

Potential partners will play a key role in:

- **Research and development:** Collaborating on design, conducting studies.
- **Clinical trials:** Designing, executing, obtaining approvals.
- **Manufacturing and commercialization:** Scaling up production, marketing.
- **Business development:** Forming partnerships, protecting IP.

By partnering with experts in these areas, we can accelerate our project and achieve success.