

BiVACOR Receives Honorable Mention in Health Category of Fast Company's 2023 World Changing Ideas Awards

From a palm oil alternative and a handheld x-ray to an animal-free egg white and a repurposed airport, the annual awards honor creative solutions



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2023 /EINPresswire.com/ -- The winners of Fast Company's 2023 World Changing Ideas Awards were announced today, honoring sustainable designs, innovative products, bold social initiatives, and other creative projects that are changing the way we work, live, and interact with the world. We are proud to announce that <u>BiVACOR</u>'s Total Artificial Heart received an honorable mention in

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The BiVACOR TAH is designed as a long-term therapy offering patients with severe biventricular heart failure a solution. We are honored to be recognized by Fast Company as a World Changing Idea" Thomas Vassiliades the health category.

BiVACOR is developing the BiVACOR Total Artificial Heart (TAH), designed as the first long-term therapy dedicated for patients with severe biventricular heart failure. The BiVACOR device is an implantable total artificial heart based on rotary blood pump technology. Similar in size to an adult fist, it is small enough to be implanted in many women and some children yet capable of providing enough cardiac output to an adult male undergoing exercise. The design, using magnetic levitation (MAGLEV) technology, the same principle used in high-speed trains,

includes left and right vanes positioned on a common rotor to form the only moving part, a magnetically suspended double-sided centrifugal impeller. Even though there are no valves or flexing ventricle chambers, the pulsatile outflow is made possible by rapidly cycling the rotational speed of the impeller. The non-contact suspension provides large blood gaps minimizing blood trauma and eliminating mechanical wear to offer a durable, reliable, and biocompatible heart replacement.

"For the past 20 years, heart disease has remained the leading cause of death globally, becoming an international epidemic affecting an estimated 64.3 million people worldwide. As the condition worsens, the heart muscle pumps less blood to organs, precluding them from receiving the

oxygen and nutrients to thrive. Over time, the quality of life of patients with heart failure deteriorates inexorably. For end-stage heart failure patients, heart transplantation is the most effective therapy, but there aren't enough donor hearts to go around," said Thomas Vassiliades, MD, BiVACOR CEO. "For more than 50 years, cardiac surgeons and biomedical engineers have pursued an artificial heart that can entirely replace natural ones. There have been many attempts with metal and plastic devices that used a variety of pumping mechanisms, but none of these could match the sophisticated performance of the human heart."

The BiVACOR TAH builds on the successful transition of Left Ventricular Assist Device (LVAD) technology from volume displacement to durable rotary blood pumps and aims to be the next generation TAH that sufficiently restores quality of life to patients suffering from severe biventricular heart failure. This therapy may be initially utilized as a short-term device in a patient awaiting a heart transplant or ultimately serve as a long-term alternative to heart transplantation.

Continued Vassiliades, "The BiVACOR TAH is designed as the first long-term therapy offering patients with severe biventricular heart failure a solution. We are honored to be recognized by Fast Company as a World Changing Idea as we work diligently to bring this life-saving device to the many that need it."

This year's World Changing Ideas Awards showcase 45 winners, 216 finalists, and more than 300 honorable mentions—with health, climate, energy, and AI among the most popular categories. A panel of Fast Company editors and reporters selected winners and finalists from a pool of more than 2,200 entries across urban design, education, nature, politics, technology, corporate social responsibility, and more. Several new categories were added this year, including rapid response, crypto and blockchain, agriculture, and workplace. The 2023 awards feature entries from across the globe, from Italy to Singapore to New Zealand.

"It's thrilling to see the creativity and innovation that are so abundant among this year's honorees," says Fast Company editor-in-chief Brendan Vaughan. "While it's easy to feel discouraged by the state of the world, the entrepreneurs, companies, and nonprofits featured in this package show the limitless potential to address society's most urgent problems. Our journalists have highlighted some of the most exciting and impactful work being done today—from housing to equity to sustainability—and we look forward to seeing not only how these projects evolve but how they inspire others to develop solutions of their own."

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