NEWS RELEASE

Advent Technologies Unveils its Serene Power Systems, Providing Clean Electric Power to the Marine Industry

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BOSTON--(BUSINESS WIRE)-- Advent Technologies Holdings, Inc. (NASDAQ: ADN), an innovation-driven leader in the fuel cell and hydrogen technology space, is pleased to unveil its range of Serene Power Systems, an innovative clean power solution resulting from the synergy of the Company's High-Temperature Proton Exchange Membrane ("HT-PEM") fuel cells with a compact battery unit, designed to fulfill both primary and auxiliary power requirements for vessels.

Advent's new product line is designed to provide clean and reliable power for marine propulsion, auxiliary applications, and shore power (Photo: Business Wire)

Serene Power Systems integrate a compact battery, significantly smaller than traditional battery-only solutions, with a small fuel cell configuration operating on methanol or eMethanol. This combination not only serves as the primary power source for smaller vessels, including leisure boats, sailboats, ferries and inland river vessels, but also replaces conventional diesel generators, providing a clean and efficient power alternative for a wide range of marine applications. Furthermore, Serene Power Systems offer robust power capacity for supporting auxiliary loads on larger vessels and supply convenient shore power solutions for vessels at ports.

Leveraging Advent's patented HT-PEM technology, Serene Power Systems are purpose-built for optimal performance with various fuels, including methanol, biomethanol, and eMethanol. Operating at high

temperatures, they efficiently generate electricity while producing heat, significantly boosting overall efficiency, which can reach up to 85%. These systems exhibit exceptional resilience in diverse environmental conditions, spanning extreme heat, cold, humidity, and air pollution, operating within an ambient temperature range of -20°C to +50°C, all without the need for modifications. Methanol, a standout energy delivery and storage medium, excels as a superior hydrogen carrier, releasing hydrogen catalytically through a fuel reformer. Moreover, methanol offers the advantage of efficient storage and wide availability through existing infrastructure, with a distribution network akin to conventional fuels, establishing it as a safe and cost-effective marine fuel option.

Serene Power Systems offer several key advantages:

- Customized for Every Vessel: Meticulously designed with modular flexibility, Serene Power Systems adapt to each vessel's unique specifications, ensuring durability and simplicity while allowing for effortless customization.
- Near Silent Operation: Operating in near silence, Serene Power Systems preserve the tranquility of the vessel experience by eliminating disruptive noise and vibration.
- Minimal Maintenance, Cost-Efficiency: Advent's innovative design significantly reduces the need for Maintenance, Repair, and Operations (MRO), sparing vessel owners from mid-journey engine servicing inconveniences and providing more uninterrupted time on the open waters.
- Competitive Pricing: Efficiency extends to cost-effectiveness. Advent's low-maintenance fuel cell solutions offer a competitive total cost of ownership, benefiting both the environment and the financial bottom line.
- Effortless Refueling: Advent's Serene Power Systems recharge themselves by converting liquid green methanol fuel into electric power. Advent is planning to introduce 100% green eMethanol, derived from green hydrogen and sustainable power sources, enabling vessels to harness the energy of the sun and wind.

Advent will introduce Serene Power Systems for the first time at the Monaco Yacht Show, taking place from September 27th to 30th. Dr. Vasilis Gregoriou, Advent's Chairman and CEO, will deliver a presentation on September 27th at 15:40 CET, highlighting the capabilities and diverse applications of Serene Power Systems. Furthermore, Advent's booth at the Sustainability Hub at the event (Booth Number: SH4) will be manned by a team of marine experts, who will be available to discuss how Advent's Serene Power Systems can enhance any vessel experience.

Dr. Vasilis Gregoriou, Advent's Chairman and CEO, stated, "We are delighted to introduce this groundbreaking solution that eliminates the need for recharging and the burden of lugging a heavy onboard battery. As methanol becomes more widely adopted in the marine industry, our purpose-designed systems for this environmentally-friendly fuel sets us apart. Serene Power Systems are designed to operate efficiently and cost-

effectively at high temperatures, ensuring practical and trouble-free methanol utilization."

Dr. Chris Kaskavelis, Advent's Chief Strategy Officer, added, "Serene Power Systems use liquid green fuel (methanol) and are much smaller and cheaper than battery-only solutions. Our goal is to make them as cheap and reliable as diesel generators, and to fuel with eMethanol made from green hydrogen. This way we achieve zero emissions and zero pollution at an affordable cost."

- For more details on Advent's Serene Power Systems, please download our recently published marine brochure: **Download-Marine - Advent Technologies**

- To explore Advent's marine collaboration with Siemens Energy, please click here: **https://press.siemens-energy.com/global/en/feature/fuel-cell-projects-are-wave-future-decarbonizing-maritime-sector**

About Advent Technologies Holdings, Inc.

Advent Technologies Holdings, Inc. is a U.S. corporation that develops, manufactures, and assembles complete fuel cell systems as well as supplying customers with critical components for fuel cells in the renewable energy sector. Advent is headquartered in Boston, Massachusetts, with offices in California, Greece, Denmark, Germany, and the Philippines. With more than 150 patents issued, pending, and/or licensed for fuel cell technology, Advent holds the IP for next-generation HT-PEM that enables various fuels to function at high temperatures and under extreme conditions – offering a flexible fuel option for the automotive, aviation, defense, oil and gas, marine, and power generation sectors. For more information, visit **www.advent.energy**.

Cautionary Note Regarding Forward-Looking Statements

This press release includes forward-looking statements. These forward-looking statements generally can be identified by the use of words such as “anticipate,” “expect,” “plan,” “could,” “may,” “will,” “believe,” “estimate,” “forecast,” “goal,” “project,” and other words of similar meaning. Each forward-looking statement contained in this press release is subject to risks and uncertainties that could cause actual results to differ materially from those expressed or implied by such statement. Applicable risks and uncertainties include, among others, the Company’s ability to maintain the listing of the Company’s common stock on Nasdaq; future financial performance; public securities’ potential liquidity and trading; impact from the outcome of any known and unknown litigation; ability to forecast and maintain an adequate rate of revenue growth and appropriately plan its expenses; expectations regarding future expenditures; future mix of revenue and effect on gross margins; attraction and retention of qualified directors, officers, employees and key personnel; ability to compete effectively in a competitive industry; ability to protect and enhance Advent’s corporate reputation and brand; expectations concerning its relationships and actions with technology partners and other third parties; impact from future regulatory, judicial and legislative

changes to the industry; ability to locate and acquire complementary technologies or services and integrate those into the Company's business; future arrangements with, or investments in, other entities or associations; and intense competition and competitive pressure from other companies worldwide in the industries in which the Company will operate; and the risks identified under the heading "Risk Factors" in Advent's Annual Report on Form 10-K filed with the Securities and Exchange Commission ("SEC") on March 31, 2023, as well as the other information filed with the SEC. Investors are cautioned not to place considerable reliance on the forward-looking statements contained in this press release. You are encouraged to read Advent's filings with the SEC, available at **www.sec.gov**, for a discussion of these and other risks and uncertainties. The forward-looking statements in this press release speak only as of the date of this document, and the Company undertakes no obligation to update or revise any of these statements. Advent's business is subject to substantial risks and uncertainties, including those referenced above. Investors, potential investors, and others should give careful consideration to these risks and uncertainties.

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