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AlternÅ•'s Sand Battery Enters Japan: Decarbonizing Industrial Heat and Supplying Clean Heat for Greenhouse FarmingÂ

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"JapanÂ represents a key step in AlternÅ•'s journey to build a global network of clean heat solutions," saidÂ **Hai Ho**, Co-Founder & CEO of AlternÅ•. "Through our partnerships inÂ IbarakiÂ â?? one ofÂ Japan'sÂ most innovation-driven and agriculture-focused regions â?? we're creating a pathway to decarbonize industries that have long depended on fossil fuels. Our goal is simple: make clean heat accessible, reliable, and affordable for every factory."

PoweringÂ Japan'sÂ Industrial Heat Transition

AlternÅ•'s patentedÂ **Sand Battery**Â stores renewable electricity as high-temperature heat (up to 600Â°C) using abundant, recyclable sand as the storage medium. The system enables factories to transition from fossil fuels to renewable heat without compromising performance or safety. Unlike lithium-ion batteries, AlternÅ•'s system isÂ **non-toxic, fireproof, and made from locally sourced materials**, ensuring both environmental and economic sustainability.

InÂ Japan, AlternÅ• will focus on delivering solutions for agriculture, such as low-carbon heat for greenhouses and food drying, as well as light manufacturing, including textile and material drying processes.

The company is also developingÂ **AlternÅ• E**, a next-generation sand-based electricity storage system forÂ **data centers and critical infrastructure**, designed to replace lithium batteries while ensuring safe, stable and clean backup power.

Two Product Lines for the Japanese Market

AlternÅ•Â JapanÂ will introduce two key product systems:

- **AlternÅ• Hybrid**Â â?? a modular thermal battery that combines electric and biomass heating for continuous renewable heat supply in rural agro-processing. The system enables farmers to convert organic waste into energy, reducing both costs and emissions.
- **AlternÅ• Mini**Â â?? a compact thermal battery designed for small-scale facilities, research institutes, and demonstration projects. The system is being developed in partnership withÂ **Yamazaki Industry Co., Ltd.**, under technical coordination fromÂ **Kikuchi Seiki Co., Ltd.**

AlternÅ• will publicly debutÂ **AlternÅ• Mini**Â atÂ **Tokyo ENEX 2026**, one ofÂ Japan'sÂ leading energy exhibitions, featuring live demonstrations for both Japanese and international audiences.

BuildingÂ Japan'sÂ Clean Heat Manufacturing Ecosystem

AlternÅ•'sÂ JapanÂ operations bring together a network of engineering and manufacturing partners â?? includingÂ **Kikuchi Seiki**Â for coordination and precision engineering, andÂ **Yamazaki Industry**Â for prototype fabrication. This collaboration aims to accelerate product certification, reduce manufacturing costs through localization, and align AlternÅ•'s Sand Battery systems with Japanese industrial standards.

"We're deeply grateful for the trust and collaboration fromÂ Japan'sÂ manufacturing ecosystem,"Â Hai added.Â "Working with Kikuchi, Yamazaki, and our partners in Tsukuba allows us to merge deep-tech innovation withÂ Japan'sÂ world-class engineering excellence."

Investor and Ecosystem Support

AlternÅ•'s expansion intoÂ JapanÂ is supported by leading ecosystem partners and investors, includingÂ **ADB Ventures**,Â **UntroD Capital**,Â **JETRO, JICA**,Â **Leave a Nest**,Â **P4G**, andÂ **NTT East**.

Â "We strongly believe in the power of technology transfer, and AlternÅ•'s expansion intoÂ JapanÂ demonstrates how Asian innovation can transcend borders to help decarbonize hard-to-abate sectors. AlternÅ•'s expansion intoÂ JapanÂ marks an important milestone, and we're proud to support their growth," said Pang Sittakaradej of ADB Ventures.

"JapanÂ is a critical market for scaling clean energy technologies," saidÂ Daiki Kumamoto, Director at UntroD Capital Asia.

"AlternÅ•'s sand battery directly addresses one of the toughest challenges in industrial and agricultural decarbonizationâ??reliable, high-temperature heat. We are proud to back their next phase of global growth."

Recognized asÂ **Deep Tech Venture of the Year 2025**, AlternÅ• continues to leadÂ Asia'sÂ transition toward sustainable industrial energy through scalable, sand-based heat and power storage solutions.