

# Clarios invests in Altris to accelerate development of software enhanced Low Voltage Sodium-Ion battery systems for vehicles

- Clarios and Altris aim to commercialize low-voltage, sodium-ion (Na-ion) automotive batteries by 2026
- Altris to develop the sodium-ion cell technology, Clarios to provide advanced electrical modeling software for powering increasingly complex vehicle systems
- Readily-available minerals render sodium-ion batteries ideal for meeting growing demand for sustainable automotive solutions for advanced low-voltage power systems

**Glensdale, Wisc. USA, 17 October 2024.** Clarios, a global leader in advanced low-voltage battery solutions, announced a strategic investment in Altris, a pioneer in sustainable sodium-ion battery technology, with the aim of manufacturing low-voltage, sodium-ion (Na-ion) batteries for the automotive sector.

This equity stake builds on a joint development agreement (JDA) between Clarios, producer of one in three of the world's low-voltage car batteries, and Altris, a leader in sodium-ion cathode material and battery cell technology, focused on low-voltage Na-ion batteries.

Clarios will leverage its expertise in Battery Management Systems (BMS), software, and system integration to design the Na-ion low-voltage automotive battery system to optimize battery performance.

Altris will focus on developing the sodium-ion cell technology for this low-voltage application. Every vehicle, including hybrid electric and fully electric vehicles, requires a low-voltage energy source to power an increased number of software-based functions such as steer-by-wire, break-by-wire, autonomous functions, and enhanced in cabin experiences.

Clarios expects its investment to initially enable Altris to finalize and start pilot production of Na-ion automotive batteries, followed by commercial production beginning in 2026.



The Clarios low-voltage system architecture, comprising multiple networks and battery power sources, is essential for powering critical safety features and ensuring redundancy in vehicle electrical systems. Sodium-ion batteries are well suited to meet these increased power demands. At the same time, they are inherently sustainable and easy to recycle.

"A sodium-ion battery solution perfectly complements our chemistry-agnostic portfolio, neatly dovetailing with lithium-ion and lead-acid options to capture the best attributes of both: high performance and lower cost," said Federico Morales-Zimmermann Vice President and General Manager, Global OEM Customers and Technology at Clarios. "A sodium-ion battery system provides agility for automakers seeking options in meeting intensifying low-voltage demands created by advanced vehicle technologies."

The materials used to produce sodium-ion cells – salt, wood, iron and those found in air – are abundant globally and are free from harmful chemicals or minerals. Developing Na-ion batteries for vehicles would represent an important advancement in automotive battery technology, while advancing the auto industry's circularity goals.

Clarios will be a member of the Altris Supervisory Board, overseeing the strategic direction and governance of the partnership. The board will consist of experienced professionals in battery technology, automotive industry trends, and corporate governance. David Patel, Vice President and General Manager Energy Systems at Clarios, will represent Clarios on the Supervisory Board and chair the Technical Committee, which will oversee the development and implementation of sodium-ion battery technology, ensuring compliance with industry regulations and driving innovation in battery design and performance. "The Clarios partnership will enable a leap ahead in high-performance sodium-ion automotive batteries by integrating our technology with Clarios' superior software embedded in its state-of-the-art battery management systems," Christer Bergquist, interim CEO of Altris. "Plus, the unmatched global market reach and deep relationships with automakers provides ample opportunities to accelerate commercial deployment."



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#### **About Clarios**

Clarios is the global leader in advanced, low-voltage battery technologies for mobility. Our batteries and smart solutions power nearly every type of vehicle



and are found in 1 of 3 cars on the road today. With around 18,000 employees in over 100 countries, we bring deep expertise to our Aftermarket and OEM partners, and reliability, safety and comfort to everyday lives. We answer to the planet with a rigorous sustainability focus – advancing best-inclass sustainability practices and advocating for them across our industry. We work to ensure 100% of our products sold are recyclable, and we recycle 8,000 batteries an hour in our network. Clarios is a Brookfield portfolio company. Find out more <a href="here">here</a> (PDF).