

## CharIN Testival North America 2023 Convenes the Automotive and EV Charging Industries to Test Equipment in Real-World Applications

- Dubbed "speed dating" between vehicles and chargers, the second annual CharlN Testival North America 2023 replicated everyday driver scenarios to reveal where electric vehicles and chargers fail to operate together.
- The event gathered over 300 participants, including engineers and executives from prominent automakers and EVSE providers.
- The three-day event, hosted by Lincoln Electric in Cleveland, OH, was the largest Testival in North America to date, demonstrating the high demand for EV charging testing.

[WASHINGTON, DC and CLEVELAND, OHIO, December 13, 2023] — As EV adoption grows, drivers seek better compatibility between their electric vehicles (EVs) and charging infrastructure. The recent CharlN Testival North America 2023, hosted by Lincoln Electric in Cleveland, Ohio, offered the EV industry the unique opportunity to test the interoperability of their equipment and uncover integration challenges, communication errors, and incompatibilities that can occur when EVs and electric vehicle supply equipment (EVSE) interact. As the leading international industry association advocating for EV charging interoperability, CharlN gathered over 300 participants between November 28-30. Participants included engineers and executives from 17 automakers, 18 EV charging providers, and 4 test systems. The Cleveland event was the largest Testival in North America to date.

"With billions invested every year in EV charging equipment in North America, it's important to verify that the equipment is compatible and using open standards so that any consumer can use it safely, reliably, and affordably," said Erika Myers, Executive Director of CharlN North America. "Events like the Testival are incredibly important to ensure that the equipment we're putting out into the field will work as intended so every EV driver has a flawless charging experience."

As a global event series, CharlN Testivals aim to replicate real-world scenarios customers face with EVs and charging equipment. When seeking charging solutions, drivers frequently meet challenges such as "smart" or optimized charging; bi-directional power transfer; security, encryption, and authentication of transactions; and safety, including plug locking mechanisms. These Testivals provide OEMs and suppliers with staged interoperability tests to witness how their technology performs in order to prevent these driver frustrations. The tests analyze communication protocols, data exchange, and the performance of charging sessions. Such simulations can help OEMs uncover incompatibility that can occur when EVs and EVSEs interact before products are deployed into the market.

"We are pleased to partner with an organization like CharlN and host the North American Testival," states Steve Sumner, Vice President of Corporate Innovation at Lincoln Electric. "The event enables us to collaborate with industry stakeholders and showcase our technology and manufacturing capabilities to the EV charging community."

Testivals provide a platform for the EV and charging industry to convene with their equipment and test their technology in a round-robin-style rotation scheme that focuses on the system, product-level, and near-serial production feature testing. In ten 90-minute testing slots, equipment providers are paired together to conduct their interoperability tests. After each test is complete, and at timed intervals, EVs rotate to the next testing slot according to a pre-planned pairing schedule.

In a Testival exclusive, CharlN included testing of the proposed SAE <u>J3400<sup>TM</sup></u> standard. Additionally, the North American Testival featured the debut testing of EV charging error codes recently proposed by the <u>National Charging Experience Consortium (ChargeX)</u> and new cybersecurity protocols developed by a CharlN working group.

"The Testival is a speed dating among vehicles and chargers designed to allow participants to test interoperability in many combinations and use cases," says Oleg Logvinov, Chair of CharlN North America and President and CEO of IoTecha Corp, a Testival sponsor. "It's also a valuable tool for the end-to-end testing. During the Testival we had an opportunity to test the implementation of Plug and Charge with multiple PKI roots."

"As the e-mobility market accelerates, interoperability challenges intensify due to the evolution of charging standards and growing complexities in the underlying technology stack," cautions Claas Bracklo, Chair of CharlN's Executive Board. "Bridging these interoperability gaps is critical to not only delivering the reliable charging experiences that consumers increasingly demand but also ensuring the growth and success of the electric vehicle market."

The November event in Cleveland was the sixth Testival held in North America since 2018. The next global Testival will be held in January in Arnhem, the Netherlands and in April in Ansan-si, Korea. For more information about CharlN and the Testival event series, please visit https://www.charin.global/events/global-testivals/.

## About CharlN Inc.

The Charging Interface Initiative (CharIN) Inc. is a global non-profit association dedicated to bringing the electric vehicle (EV) charging ecosystem together with unified standards, interoperable charging technologies, and best practices. With over 300 members globally, CharIN assists its members in coordinating, advancing, and advocating for interoperability across electric vehicle charging infrastructure by convening industry-wide stakeholders, including automakers, charging station manufacturers, component suppliers, energy providers, government officials, and grid operators. CharIN's goal is to ensure all forms of electric transportation operate seamlessly with available charging stations and services to create a superior driver experience that will promote further EV adoption. For more information, visit https://www.charin.global/.

## **About Lincoln Electric**

Lincoln Electric is the world leader in the engineering, design, and manufacturing of advanced arc welding solutions, automated joining, assembly and cutting systems, plasma and oxy-fuel cutting equipment, and has a leading global position in brazing and soldering alloys. Lincoln is recognized as the Welding Expert™ for its leading materials science, software development, automation engineering, and application expertise, which advance customers' fabrication capabilities to help them build a better world. Headquartered in Cleveland, Ohio, Lincoln has 71 manufacturing locations in 20 countries and a worldwide network of distributors and sales offices serving customers in over 160 countries. For more information about Lincoln Electric and its products and services, visit the Company's website at https://www.lincolnelectric.com.

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