

IoTecha's Advanced IoT.ON™ Platform Powers Mobilize's Newest Bidirectional AC Charger Showcased at CES 2024

CRANBURY, NJ, UNITED STATES, January 3, 2024 /EINPresswire.com/ -- The adoption of electric vehicles (EVs) is surging at an unprecedented rate globally, signaling a major shift in transportation preferences towards more sustainable and environmentally friendly options. This rapid growth is fueled by decreases in EV prices, increases in drivable range, an uptick in government support, and a rising awareness of environmental concerns among consumers. As more people embrace EVs and more critical charging infrastructure is built, EV driver charging behavior is changing. Most notably, consumers are looking for opportunities to charge during vehicle dwelling time, whether at home, at work, or destination locations. Many of these locations present the need and opportunity to participate in grid integration and services.



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Vehicle-to-Grid (V2G) technology allows EVs to not only draw power from the grid for charging but also to return energy back to the grid when needed. For EV drivers this means charging when energy rates are more affordable and earning revenue for the flexibility provided to the grid and the energy market. This bidirectional flow of energy can enhance grid stability and efficiency, particularly in integrating renewable energy sources and managing peak load times.

To effectively deliver these innovative energy services, a robust, reliable, and secure charging infrastructure is essential. IoTecha has developed IoT.ON™, a verticalized platform including hardware, embedded software, and cloud services that enables the delivery of turnkey EV charging solutions. The platform was recently upgraded with a new processor (the brain of a Smart Charger) that leverages the cutting-edge capabilities of the STMicroelectronics STM32MP1 MPU along with the ST33 Trusted Platform Module, providing improved performance and security. IoTecha's platform provides the following benefits:

- Proven interoperability with major EV auto manufacturers including support of the latest ISO 15118 standard
- Unidirectional- (V1G) and bi-directional (V2X) power transfer for both AC and DC applications
- State-of-the-art cybersecurity at the hardware and software levels, including support of Trusted Platform Module and Multi-PKI, as well as a rigorous control of the component supply chain
- Faster time-to-market through the rapid development of customized designs and user experiences featuring tailored Human-Machine Interface (HMI) integrations
- Pre-tested integration with the leading Charge Point Operators through OCPP protocol, as well as onboarding on IoTecha's IoT.ON™ cloud platform

IoTecha's platform enables customers to utilize and maximize the full potential of their solar energy systems. IoTecha recently collaborated with Hager Energy to develop a DC home power station, the S10 Compact series, for the first Volkswagen ID. models to support bidirectional charging. This project gives end users control over their energy use and consumption, ultimately resulting in increased efficiency and cost reduction.

IoT.ON™ also plays a pivotal role in grid stabilization by enabling EVs and the smart charging infrastructure to deliver capacity at scale as well as a variety of ancillary grid services. School buses in particular provide an ideal use case for bidirectional charging as a result of long dwelling times, and therefore are increasingly used as a resource for grid stabilization in North America. IoTecha has worked closely with Borg Warner and Nuvve to integrate the DC charging controller and successfully support bi-directional school bus projects across the country.

And at CES 2024, together with Mobilize, Software République (Orange, Renault Group, STMicroelectronics, and Thales), and Lacroix, IoTecha will showcase the first smart, connected, secure and bidirectional AC charger to be manufactured in France, the Mobilize Powerbox EV charger. The Powerbox not only allows EV drivers to charge their vehicle but also to send electricity back to the domestic and public grid, generating significant savings for users. Thanks to AC technology, Mobilize PowerBox allows access to bidirectional charging to as many people as possible, helping to maximize the impact of smart energy management.

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