

## **AeroVironment, Inc. Efficient Energy Systems Overview**

### **Background**

While legislators, lobbyists, environmentalists and think tank analysts have debated for the past 20+ years how best to solve America's energy issues, a Southern California-based technology company has been quietly helping to spark an efficient energy revolution. [AeroVironment, Inc.](#) (NASDAQ: AVAV) earned its "pioneer" status as joint-developer of the [GM Impact](#), the world's first modern all-electric car, and the record-setting, solar-powered [Sunracer](#). In addition, the company introduced one of the first fast-charge systems for early consumer electric vehicles.

Today, AeroVironment continues to lead the efficient energy charge by providing practical and affordable solutions supporting electric transportation. These solutions include an array of [electric vehicle charging systems](#) and EV testing and simulation systems that ultimately are designed to help make industrial and passenger EVs more efficient and practical.

### **EV Solutions for the Everyday Driver**

AeroVironment developed its EV solutions to help electric vehicle drivers embrace clean transportation in a practical real-world setting. Low-power charging systems located at the home and workplace combined with fast charging systems distributed strategically in metropolitan areas and along major highways provide multiple charging options to help alleviate concerns of being stranded without energy. With accessible home and public charging infrastructure, the electric vehicle becomes a practical alternative to the gas-powered vehicle.

AeroVironment's breadth of EV Solutions – including home, office, and commercial charging stations, combined with public fast charging stations – enhances the utility of

EVs by putting to rest “range anxiety” concerns and perceptions. The home and public network provides:

- Ubiquitous charge access with stations located where drivers need and expect them - home, work, retail and roadways
- The ability for consumers to subscribe to a public fast charging network
- Open networks and standard charging connectors (“plugs”) that will work with all standardized EVs

Just as internal combustion engine vehicles need fuel, EVs need electricity – and charging infrastructure is critical to the practical, widespread roll out of electric vehicles.

AeroVironment has been working closely with numerous automakers, battery manufacturers, utilities, businesses and government agencies to implement practical and modern charging infrastructure, and to deploy a wide array of ancillary EV-related solutions such as usage analysis tools, network subscription software and advanced battery test services. All of these elements will be integral to the development, broad adoption and practical use of electric vehicles.

Learn more at [www.evsolutions.com](http://www.evsolutions.com)

### **PosiCharge™ for Industrial Applications**

AeroVironment’s PosiCharge smart charging systems support thousands of electric utility vehicles at Fortune and Global 500 facilities and airports throughout North America.

PosiCharge systems allow industrial, airport ground support equipment (GSE) and heavy-duty equipment fleet managers to operate electric vehicles efficiently while increasing the longevity of their battery assets and eliminating costly, hazardous battery rooms. PosiCharge systems help fleet managers recover run time, enhance productivity, optimize battery and vehicle assets, and improve workplace safety. Charging systems within the PosiCharge suite re-charge batteries in-vehicle during idle times such as shift changes and scheduled breaks. The result is instant productivity

improvement, a cleaner and safer work environment and a streamlined workflow that no longer stops for battery changing. With proprietary technology that safeguards batteries by customizing each charge, PosiCharge systems can actually extend a battery's useful life compared to traditional charging solutions, further optimizing operations.

The broad line of industrial electric fleet systems includes the Battery Rx health monitor, PosiNET Web-based asset management software and the Port Splitter, which turns each charge port into two ports. By optimizing charging systems, battery management, and fleet/asset management, PosiCharge systems significantly reduce the amount of time required to charge electric vehicle battery packs while maximizing range, performance and lifespan.

### **EV Test Systems**

AeroVironment's power cycling and test systems consist of an industry-leading family of grid-tied, DC power processing hardware and software solutions that are used to test and vet advanced power and alternative energy storage systems, including advanced vehicles. Having earned a reputation for reliability and ease of use, these systems have become the standard for EV and hybrid test procedures in the United States and provide the flexibility to simulate numerous electrical driving cycles. Customers include the world's leading automotive, battery, defense, and fuel cell companies, universities, utilities, government agencies and advanced engineering laboratories.