

Fiscal Year 2021 Advanced Vehicle Technologies Research

FOA # DE-FOA-0002420

| Applicant | Location city, state | Project Description | Federal Share |
|---|----------------------|--|---------------|
| AOI 1a: Next-generation Liquid Electrolytes for Lithium-ion Cells under Extreme Conditions | | | |
| General Motors LLC | Warren, MI | Novel Organosulfur-Based Electrolytes for Safe Operation of High Voltage Lithium-ion Batteries Over a Wide Operating Temperature | \$2,500,000 |
| SUNY University @ Stony Brook | Stony Brook, NY | Fluorinated Ester Local High Concentration Electrolytes For Operation of Lithium-ion Batteries Under Extreme Conditions | \$2,285,813 |
| Mexichem Fluor Inc. | Waltham, MA | Extending the operating range and safety of Lithium-ion batteries with new fluorinated electrolytes | \$2,499,842 |
| AOI 1b: Liquid Electrolytes for Lithium-Sulfur (Li-S) Cells | | | |
| Navitas Advanced Solutions Group, LLC | Ann Arbor, MI | Fluorinated Glyme Electrolytes to Extend Li-S Battery Life | \$1,671,604 |
| Penn State University Park | University Park, PA | Development of Functional Electrolytes for Li-S Battery Cells | \$1,666,667 |
| Giner, Inc. | Newton, MA | Liquid Electrolytes for Lithium-Sulfur Batteries with Enhanced Cycle Life and Energy Density Performance | \$2,500,000 |
| AOI 2: Development of State-of-the-art Lithium Sulfur and Lithium Air Battery Cells | | | |
| Penn State University Park | University Park, PA | Development of Li-S Battery Cells with High Energy Density and Long Cycling Life | \$1,250,000 |
| University of California, San Diego | La Jolla, CA | Strategies to Enable Lean Electrolytes for High Loading and Stable Li-S Pouch Cells | \$1,250,000 |
| University of Illinois at Chicago | Chicago, IL | Development of a High-Rate Lithium-Air Battery using a Gaseous CO2 Reactant | \$1,200,000 |
| University of Pittsburgh | Pittsburgh, PA | New Engineering Concepts to High Energy Density Li-S Batteries | \$1,250,000 |
| AOI 3: High Power Density Inverters | | | |
| Cummins, Inc. | Columbus, IN | Cummins High Power Density Inverter | \$4,998,714 |
| BorgWarner Inc | Kokomo, IN | Scalable Ultra Power-Dense Extended Range (SUPER) Inverter | \$4,997,064 |
| AOI 4: Integrated Simulation of Combustion and Aftertreatment - Optimizing for Near-Zero Emissions (ISCA-ONE) | | | |
| West Virginia University Research Corporation | Morgantown, WV | Fast Simulation of Real Driving Emissions from Heavy-duty Diesel Vehicle Integrated with Advanced Aftertreatment System | \$2,500,000 |
| University of Wisconsin-Madison | Madison, WI | Comprehensive Integrated Simulation Methodology for Enabling Near-Zero Emission HD Vehicles | \$2,604,870 |
| AOI 5: Demonstration of Lightweight Multi-Material Glider System | | | |
| Clemson University | Greenville, SC | Manufacturing Demonstration of a Large-scale, Multi-material Vehicle Sub-system | \$5,750,000 |
| AOI 6: Low-cost Infrastructure-based Enablers for Cooperative Driving Automation | | | |

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| University of South Florida | Tampa, FL | Visual-Enhanced Cooperative Traffic Operations (VECTOR) System | \$3,500,000 |
| Western Michigan University | Kalamazoo, MI | Development and Validation of Infrastructure-Enabled High-Quality Perception Data to Achieve Energy Efficient Autonomous Vehicle Operation through Computation Reductions and Offloading | \$1,999,994 |
| AOI 7 Implementation of Energy Efficient Mobility Systems Technologies into Real-World System Applications | | | |
| University of California: Irvine | Irvine, CA | AI-Based Mobility Monitoring System and Analytics Demonstration Pilot | \$3,000,000 |
| Los Angeles Cleantech Incubator | Los Angeles, CA | Testing and Evaluation of Curb Management and Integrated Strategies to Catalyze Market Adoption of Electric Vehicles | \$3,798,455 |
| Xtelligent | Los Angeles, CA | Cooperative Traffic Signal Network for Freight Energy Efficiency, Safety, Sustainability, and Public Health | \$3,589,506 |
| Optimus Ride Inc. | Boston, MA | Scaling Automated-Connected-Electric-Shared (ACES) Fleets: Advancing Energy Efficiency, Decarbonization, and Social Equity Goals | \$4,333,333 |
| AOI 8: Transportation and Energy Analysis | | | |
| ElectroTempo, Inc. | Dover, DE | Scalable Truck Charging Demand Simulation for Cost-Optimized Infrastructure Planning | \$324,000 |
| Rocky Mountain Institute | Snowmass, CO | Projecting and Optimizing Medium and Heavy Truck Charging With Real World Data | \$339,899 |
| Colorado State University | Fort Collins, CO | Agent-Based, Bottom-Up Medium- and Heavy-duty Electric Vehicle Economics, Operation, Charging, and Adoption | \$292,541 |