Applicant	Location	Project Title/ Description	Federal Cost Share[1]
Wide Bandgap (WBG) Power Module R&D – Integrated Power Modules (Area of Interest 1)			
General Motors LLC	Pontiac, MI	This project will research, develop, and demonstrate a highly integrated wide bandgap power module for next generation plug-in vehicles.	$3,993,697
Delphi Automotive Systems, LLC	Troy, MI	This project will develop a low cost, ultra-compact power module using innovative integrated-cooling to increase power density, improve performance, and reduce cost.	$1,788,303
Ultra-Light Door Design, Manufacturing and Demonstration (Area of Interest 2)			
Vehma International of America, Incorporated	Troy, MI	This project will develop and demonstrate an advanced drivers-side front door architecture comprised of lightweight materials, functionally integrated component parts, innovative mechanisms and door seal systems.	$4,222,292
TPI Composites, Incorporated	Warren, RI	This project will design, develop, and demonstrate an ultra-light hybrid composite door and utilize predictive engineering (PE) to identify robust material and process design cycles.	$2,987,269
Clemson University	Clemson, SC	This project will utilize a systems approach to design and demonstrate an ultra-lightweight carbon fiber reinforced thermoplastic composites door assembly through the integration of unique designs, novel materials, and manufacturing technologies and joining/assembly of sub-systems.	$2,249,994
Body-In-White Joining of Carbon Fiber Composites to Lightweight Metals (Aluminum, Advanced High Strength Steel, or Magnesium) at Prototype Scale for High-Volume Manufacturing (Area of Interest 3)			
General Motors LLC	Warren, MI	This project will develop and demonstrate the joining of carbon fiber reinforced thermoplastic composites to lightweight aluminum using friction stir scribe (FSS) technology enabling multi-material (CFRP / aluminum) body-in-white structures for vehicles.	$1,608,687
Advances in Existing and Next-Generation Battery Material Manufacturing Processes (Area of Interest 4)			
Cabot Corporation	Billerica, MA	This project will develop and demonstrate low cost flexible aerosol manufacturing technology for the production of high performance lithium-ion battery cathodes with long cycle life.	$2,977,876
The Curators of The University of Missouri	Columbia, MO	This project will develop an integrated flame spray process for low cost production of battery materials for lithium ion batteries and beyond.	$2,215,560
Boulder Ionics Corporation	Arvada, CO	This project will demonstrate advanced lithium salt and electrolyte production using continuous-flow process intensification techniques to enable higher performance and lower cost.	$2,399,833
Navitas Advanced Solutions Group, LLC	Ann Arbor, MI	This project will demonstrate a commercially scalable process to fabricate nanocomposite silicon anodes.	$1,125,430
Advances in Electrode and Cell Fabrication Manufacturing (Area of Interest 5)			
Miltec UV	Stevensville,	This project will develop and demonstrate the use of	$2,054,560

[1] Through the Advanced Vehicle Power Technology Alliance between the Department of Energy and the Department of the Army, the Army is contributing $2.259 million co-funding in several areas where there are joint development opportunities.

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International, LLC	MD	ultraviolet curing technology to reduce manufacturing cost and improve the performance of lithium ion battery electrodes.	
Palo Alto Research Center, Incorporated	Palo Alto, CA	This project will utilize co-extrusion technology to fabricate and validate high-energy and high-power electrodes for electric vehicle applications.	$2,999,115
PPG Industries, Incorporated	Allison Park, PA	The project will develop novel binders and active materials to enable a low-cost, water-based, electrodeposited lithium ion battery (LIB) electrode coating system and manufacturing process.	$2,999,275
Electric Drive Vehicular Battery Modeling for Commercially Available Software (Area of Interest 6)			
General Motors LLC	Warren, MI	This project will develop commercially available software that improves the computational processing time of battery pack performance modeling by a factor of 100.	$2,955,360 (jointly funded)
Analysis and Design Application Company Ltd	Melville, NY	This project will develop a commercially available software tool that is capable of predicting battery performance at the electrode level in order to improve battery cycle life and computational efficiency at the cell and pack level.	$2,880,000 (jointly funded)
Ford Motor Company	Dearborn, MI	This project will develop commercially available software that is capable of predicting battery safety performance under typical abuse test conditions.	$3,500,000 (jointly funded)
Enabling Technologies for Heavy-Duty Vehicles (Area of Interest 7)			
Cummins Incorporated	Columbus, IN	The project will leverage the design, analysis and development work that has been invested through the Cummins SuperTruck program to demonstrate a peak diesel engine system efficiency of 55% Brake Thermal Efficiency (BTE) while also implementing an advanced, highly integrated combustion/aftertreatment system.	$4,500,000
Eaton Corporation	Menomonee Falls, WI	The project will design and demonstrate an innovative approach to utilize the engine cooling system in a simplified Rankine cycle that converts engine exhaust heat energy to useful work for heavy duty diesel engines (HDDE).	$2,013,571
Physics-Based Computational Fluid Dynamics (CFD) Sub-Model Development and Validation (Area of Interest 8)			
The Pennsylvania State University	University Park, PA	This project will develop improved computer models for simulating heat losses related to engine combustion. Understanding these losses will enable them to be minimized, contributing to the next-generation clean and efficient engines.	$684,236 (jointly funded)
Board of Trustees of the University of Illinois	Champaign, IL	This project will develop improved computer models for simulating fuel vaporization in internal combustion engines. Better understanding of this process will contribute to higher efficiency engines in the future.	$698,040 (jointly funded)
Michigan Technological University	Houghton, MI	This project will develop improved computer models for the fuel spray evaporation process in internal combustion engines, including how fuel sprays interact with engine cylinder walls. Better understanding of this process will contribute to higher efficiency engines in the future.	$750,000 (jointly funded)
The Board of	Madison, WI	The proposed research will develop a new computer model	$541,727

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Applicant	Location	Project Title/ Description	Federal Cost Share[1]
Regents of the University of Wisconsin		for prediction of exhaust emissions from internal combustion engines. The new model will facilitate the rapid development of high-efficiency, low emissions engine concepts.	(jointly funded)
The University of Alabama	Tuscaloosa, AL	This research will develop an accurate computer models of fuel injection under supercritical fluid conditions. The model will improve the accuracy in predicting high-pressure diesel fuel sprays of future engines.	$596,012 (jointly funded)
High-Efficiency, Medium and Heavy-Duty Natural Gas (Dedicated or Dual-Fuel) Engine Technologies (Area of Interest 9)			
Robert Bosch LLC	Farmington Hills, MI	This project will develop and demonstrate a high-efficiency spark-ignited natural gas engine and develop a hybrid three-way catalyst (TWC)-selective catalytic reduction (SCR) exhaust aftertreatment system to maximize engine efficiency at a significantly lower cost than competing, diesel-based, dual-fuel approaches.	$1,756,225

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