Robust Affordable Next Generation EV Storage (RANGE) Teaming List

Updated: May 31, 2013

This document contains the list of potential teaming partners for the Robust Affordable Next Generation EV Storage (RANGE), solicited in DE-FOA-0000869 and is published on ARPA-E eXCHANGE (https://arpa-e-foa.energy.gov), ARPA-E's online application portal. This list will periodically undergo an update as organizations request to be added to this teaming list. If you wish for your organization to be added to this list please refer to https://arpa-e-foa.energy.gov/ for instructions. **By enabling and publishing the RANGE Teaming List, ARPA-E is not endorsing or otherwise evaluating the qualifications of the entities that are self-identifying themselves for placement on this Teaming List.**

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
24M Technologies, Inc.	Taison Tan	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	24M Technologies is developing a unique lithium-ion energy storage system with significantly higher energy densities and dramatically lower cost for pure EV transportation.	www.24-m.com	ttan@24-m.com	617-553-1012 x129	One Kendall Square, Suite B6103, Cambridge, MA 02139
All Cell Technologies	Said Al-Hallaj	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	AllCell designs and builds cutting-edge lithium-ion battery packs for transportation and renewable energy applications. Our batteries are protected by our proprietary thermal management technology using phase change material (PCM), which allows AllCell to produce lightweight and compact packs with extended cycle-life and industry-leading safety. AllCell's PCM technology was commercialized in defense and civilian applications is using phase change material (PCM) technology.	www.allcelltech.com	salhallaj@allcelltech.com	773-922-1155	2321 W.41st Street, Chicago, IL 60609
Amastan LLC	Kamal Hadidi	Business < 500 Employees	None of the above	Amastan has developed a unique technology to manufacture advanced nanostructured materials. Amastan's UniMelt process offers precise control of process kinetics, which leads to precise control of materials' physical, chemical, mechanical, electrical and magnetic characteristics. Amastan's nanomaterials include single phase and multiphase composite oxides, nitrides, borides, and carbides. These materials are produced with narrow size distribution, high chemical and phase purity and precise desired nanostructure.	amastan.com	khadidi@amastan.com	860 486 5171	270 Middle Turnpike Storrs, CT 06269

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
American Lithium Energy Corporation	Jiang (John) Fan	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	1) High capacity and safe lithium ion cell development for the military applications and EV applications using the advanced negatives (such as high capacity graphite, nano Si , and hard carbon) and high energy positives such as the metal doped lithium nickel cobalt oxides, lithium iron phosphate, and various kinds o f lithium nickel cobalt manganese oxides 2) High capacity and safe patented NanoBead material development and characterization 3) Cell and battery characterization including the cell and battery performance and abuse tolerance 4) Lithium-ion cell prototype and manufacturing i) 18650 cell pilot line in the drying room - Commercial cell parts from the production line ii) Pouch cell pilot line in the drying room - Commercial cell parts from the production line iii) Lithium ion and battery manufacturing plant (JV) in China - Production trial of lithium ion battery for the light electric car and EV battery module	www.americanlithiumenergy.com	jfan@americanlithiumenergy.com	760-591-0611	935 Bailey Court STE 106, San Marcos, CA 92069
Angel Alternative Energy	Phillip Hutton, PHD	Individual	Bioenergy	I have a Ph.D. in Engineering from UND with an emphasis in energy systems, M.S. in Chemical Engineering and in Colloids, Polymers, and Surfaces from CMU; an M.S. in Applied Physics from ODU; and a B.S. in Electrical Engineering from the PITT. My academic credentials are complimented by over 16 years of engineering and research experience. My principal area of expertise is the application of advanced technology and processes within the renewable energy industry, i.e., innovative energy systems employing biomass gasifiers, solid oxide fuel cells and microturbines. As a Research Manager at the University of North Dakota Energy and Environmental Research Center (EERC), I managed a staff of 4 engineers working on projects ranging from biofuels, to fuel cells, to CO2 sequestration, to biomass gasification. I have proposed and been awarded biomass energy projects in excess of $4M in competitive solicitations. Google Keywords: Phillip Hutton Biomass	N/A	phillipnhutton@gmail.com	(701) 215-1036	03 S. 5th Street, Grand Forks ND 58201

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
Angstron Materials	Ron Beech	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	Angstron, is committed to helping you bridge the gap between innovation and application. Angstron is the first advanced materials company to offer large quantities of ultra-thin, pristine nano-graphene platelets (NGPs). Angstron is also significantly reducing production cost barriers with its high performance energy storage materials. Nano graphene material is being used for next generation Li-Ion battery, fuel cell bipolar plate and supercapacitor electrode applications. For Li Ion battery applications, NGPs can serve as a conductive additive for both the anode and cathode. NPGs are also suited to act as a conductive support for Si nano particles, nano coatings or anode active materials providing a dramatically enhanced specific capacity, prolonged cycle life, fast charging rate, and high-current discharge capability.	1240 McCook Avenue	ron.beech@angstronmaterials.com	9373319884	1240 McCook Avenue, Dayton, OH 45404
Argonne National Lab	Lynn Trahey	Federally Funded Research and Development Center (FFRDC)	High Energy Density Electrical Energy Storage for Transportation	Electrochemistry, X-ray science, Electrodeposition, Synthesis, Characterization	www.anl.gov	trahey@anl.gov	6302526848	9700 S. Cass Ave., Argonne IL, 60439
Arkema Inc	Stephen Carson	Business > 1000 Employees	None of the above	Arkema Inc. is a global chemical and technology provider with expertise in a broad range of materials and applications. Arkema has specific expertise in polymer synthesis, polymer formulating and polymer processing. Specific polymer systems include polyaryl ketones, fluoropolymers, polyamides, acrylate polymers, blends thereof, and novel block copolymers created using controlled radical polymerization. Technical expertise extends to a broad range of thiochemicals, organic peroxides, hydrogen peroxide and fluorochemicals. Expertise includes processing techniques such as RIM, extrusion, coating, and membrane formation, as well as coating formulation development, performance testing and material analysis.	www.arkema.com	steve.carson@arkema.com	610-878-6708	900 First Avenue, King of Prussia, PA 19406

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
ATMI	Mackenzie King	Business 500-1000 Employees	High Energy Density Electrical Energy Storage for Transportation	ATMI is developing advanced materials for advanced energy storage applications based on our years of experience in tailoring the porosity, surface area, and density of carbons for high purity applications in the semiconductor market. Our high purity BrightBlack® carbon shows high volumetric capacitances that can be tailored for the appropriate electrolyte system. BrightBlack® carbon is manufactured both as a monolithic element, smaller pellets, beads or powders useable in traditional slurry coated electrode production. ATMI also has extensive and unique analytical capabilities for carbon characterization in house.	WWW.ATMI.COM	mking@atmi.com	203 794 1100	7 Commerce Drive, Danbury CT 06810
Auburn University	Jay M. Khodadadi	University	Other	Working on thermal conductivity improvement of phase change materials (PCM), the applicant leads a multi-campus DOE-sponsored project on Nanostructure-enhanced PCM (NePCM). The core expertise of thermal energy storage and waste heat recovery is blended with nanotechnology (www.eng.auburn.edu/nepcm). Basic science and applied aspects of NePCM are addressed by mech./chem./mat. engineers & chemists. Specific to this FOA, thermal runaway concerns can be addressed through adopting novel PCM-based solutions.	http://www.eng.auburn.edu/nepcm	khodajm@auburn.edu	(334) 844-3333	1418 Wiggins Hall, Auburn, AL 36849-5341
Beam & Plasma Technologies, Inc	Dr. Sergey Korenev	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	Experimental study of robust high energy storage. Experimental study of transfer on energy form pulsed energy systems.	http://www.beamplasma.com	info@beamplasma.com	(847)-613-0881	582 Fairway View Drive, Unit 3G, Wheeling, IL 60090

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
Boulder Ionics	Dr. Jerry Martin	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	Boulder Ionics is commercializing advanced electrolytes based on ionic liquids and novel lithium salts, including Li FSI. Our proprietary, highly-scalable synthesis approach enables cost-effective production of ionic liquids on the multi-ton scale. Boulder Ionics' electrolytes are non-flammable, operate over extended temperature ranges (-50 C to >100 C possible) and are stable with high-voltage cathodes and lithium anodes. Ionic liquid-based electrolytes can be used in both liquid electrolyte systems and in solid-state electrolytes including polymer gels. With near-zero vapor pressure, Boulder Ionics' Iolyte® series electrolytes are also candidates for metal-air chemistries where the electrolyte is exposed to air. BI's flexible synthesis platform and deep expertise in fluorine and synthetic chemistry enables our team to adapt electrolytes and additives for a wide range of chemistries. Contact Boulder Ionics to add our custom electrolyte development expertise to your team.	www.boulderionics.com	jerry.martin@boulderionics.com	303-396-0347	18300 Highway 72, Suite 6, Arvada, CO. 80007
businessman	Andrey	Individual	Building Efficiency	If you look closely at my know-how, it may be you will see that it will turn out not just charger and uninterrupted source of energy! and do not have any outlet of a nuclear power plant! -my device is ready to release it to the industry. and its modernization has no boundaries! it can be uninterrupted device not only computers, but also electro-mobility. it can become a home electricity station! e-mail: murhauzen@yahoo.com	https://www.facebook.com/mur.hauzen	murhauzen@yahoo.com	+7 9021307469	Murmansk Russia

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
Cellular Materials International (CMI)	Scott Kasen	Business < 500 Employees	Other	CMI's expertise lies in the design and fabrication of lightweight, structurally efficient sandwich panels engineered for energy absorption and thermal management applications. We have experience leading and supporting a number of large R&D programs (DARPA, ONR, and others) in these areas. Our scientific backgrounds are in polymer science, mechanical systems, materials science and manufacturing process development, offering an interdisciplinary approach for the RANGE program. CMI performs much of its R&D work in our 14,400sqft manufacturing & development center with scientists and fabricators operating in the same space, streamlining the design and development process. Our manufacturing & development center has a full complement of metal and polymer processing capabilities including full machining, sheet metal cutting/forming operations, CNC plasma cutting (metals) and laser cutting (polymers), and full manual/robotic welding capabilities, among others.	www.cellularmaterials.com	skasen@cellularmaterials.com	434-296-7989 ext. 317	1201 Five Springs Road, Charlottesville, Va 22902
Center for Electromechanics	Dr. Robert Hebner	Non-Profit	Grid	system modeling and simulation, power electronics, alternative fuel vehicles,electrical machinery and system level prototyping	//www.utexas.edu/research/cem	r.hebner@cem.utexas.edu	512-232-1628	10100 Burnet Rd, Bldg 133, Austin, TX 78758
Ceramatec, Inc.	Sai Bhavaraju	Business < 500 Employees	Grid	Ceramatec, Inc. – is a small – but very diverse firm with expertise in the field of ceramics and electrochemical devices. Recently, we have been developing batteries based on our proprietary Na & Li ion conducting membranes for Grid Scale Energy Storage application. The Na & Li ion conducting membranes developed at Ceramatec have practical ambient to intermediate temperature ionic conductivities and strength characteristics and their commercial viability has been demonstrated in large-scale electrosynthesis applications. We are currently fabricating these membranes in a variety of shapes, sizes, thicknesses and can either be single or multi layered. Ceramatec has begun transitioning the large-scale production of the Na conducting ceramics to the sister company, CoorsTek (largest U.S.-based manufacturer of high-technology ceramic materials). We believe that reliable, long-lasting & low-cost EV batteries can potentially be constructed utilizing our ion-conducting ceramic membranes.	www.ceramatec.com	sbhavaraju@ceramatec.com	801-510-7682	2425 South 900 West, Salt Lake City, UT 84119

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
CFD Research Corporation	Richard Thoms	Business < 500 Employees	Other	Focus Areas/Expertise: Modeling and Simulation for Electrolyte Development as well as Experimental Test and Evaluation at the Cell Level. CFDRC has expertise in several areas relevant to this opportunity. We have significant experience in application of molecular-scale to continuum models for materials design, with particular emphasis on ionic liquids. (Specific capabilities include prediction of electrochemical windows, ionic conductivity, and reaction pathways during operation and exposure to ambient air). Our experience in detailed, predictive modeling of batteries, flow batteries, and fuel cells can be leveraged to analyze the interactions between materials properties and cell designs to improved performance, controllability, safety, and lifetime. In addition to modeling, CFDRC has complementary prototyping and testing capabilities. These include the ability to synthesize novel electrodes, assembly battery test cells, and evaluate electrochemical performance.	www.cfdrc.com	rdt@cfdrc.com	256-726-4810	215 Wynn Drive, Huntsville, AL 35805
Czero	Guy Babbitt	Business < 500 Employees	Transportation	Czero is a premier engineering service company that specializes in working with startup companies to accelerate new technology development in the areas of clean tech, automotive and hydraulic systems. Our strength lies in our ability to take our clients rough idea and work with their team to quickly and cost effectively generate robust prototypes to demonstrate proof of concept, yet are applicable to high volume production. We are an analytically based company and have the capability to do detailed analysis work such as FEA, CFD, dynamic simulations, magnetic modeling, high bandwidth hydraulic simulation, electronic controls, 3-d solid modeling (CAD) work, make prints and use GD&T.. We combine those skills with strong hands on experience and hard work to rapidly develop new technologies and IP for our customers.	www.czero-solutions.com	guy.babbitt@czero-solutions.com	(719) 331-9662	320 E Vine Drive, Suite 325 Fort Collins CO 80524

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
Design Flux Technologies, LLC	Courtney Gras	Business < 500 Employees	Technologies that enable active cell-level balancing and control	Design Flux Technologies, LLC (DFT) specializes in the design of cell-level power electronics and advanced control systems in support of battery charging, management, and load control. DFT's technology enables significant reduction in cost, form-factor, and weight in the balance of the system by eliminating the need for traditional chargers, converters, battery management systems, and load controllers. This combined hardware & software platform technology is applicable to all battery chemistries and energy storage devices, ranging from consumer electronics, to EV's & grid storage. DFT has the capability to design custom power management solutions to fit the needs of a variety of applications - offering a comprehensive turnkey power management solution to its partners.	www.designfluxtech.com	cgras@designfluxtech.com	2165436066	PO Box 37092 Maple Hts. OH 44137
DuPont	George K Kodokian	Business > 1000 Employees	High Energy Density Electrical Energy Storage for Transportation	DuPont Experimental Station is in Wilmington, DE. The site contains more than 50 buildings in which more than 1000 Ph.D. scientists and engineers conduct R&D. Small-scale synthesis of safer fluorinated compounds to be used as electrolyte solvents is carried out in one of the many chemical laboratories. For scale up of inorganic reactions (such as safer lithium titanate anodes), a Special Services lab is available and equipped for kg-scale synthesis. Several dry boxes are available for lithium-ion battery materials research, one of which is equipped with 12 stations and an argon atmosphere. Furthermore, DuPont has extensive capabilities in electrolyte, electrode, coin cell and battery testing equipment with more than 600 battery cycling channels. DuPont scientists are supported by the Corporate Center for Analytical Science (CCAS), a corporate analytical organization of more than 60 principal investigators. CCAS has many of the state of the art analytical equipment.	www.DuPont.com	george.k.kodokian@dupont.com	(302) 695-3124	200 Powder Mill Road, Wilmington, DE 19803

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
Eaglepicher Technologies, LLC	Dave Lucero	Business 500-1000 Employees	High Energy Density Electrical Energy Storage for Transportation	EaglePicher Technologies, LLC is a leading provider of technologically advanced products and solutions for critical energy storage applications in the aerospace, defense, and medical markets, as well as the emerging alternative/grid energy storage ("A/GES") market. EPT has provided millions of proprietary battery and related products such as battery management systems, energetic devices, and smart chargers to its customers. With expertise in more than 25 specialty battery chemistries, EPT offers a diverse portfolio of products to provide its customers with best-in-class power system solutions. EPT remains to date the largest battery manufacturer and supplier to the DOD. Each of our unique designs is the result of individual development projects and long term research projects, and most have been produced to the requirements of MILQ-9859. We are certified as being ISO9001-2000 compliant and were recently certified as compliant to the Aerospace 9100B Quality Standard.	eaglepicher.com	dave.lucero@eaglepicher.com	(719) 330-8018	PO Box 47, Joplin, MO 64804
EMF1v	Charles Scuilla	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	Looking for a Prime Contractor for this effort. Have successfully remanufactured Prius Ni-MX batteries. Test Facility is located in Idaho and Kansas. Experienced battery packaging and safety testing. All type of chemistries.	6520 Raftelis Road	charlie@emf1v.com	703 4409319	6520 Raftelis Road, Burke VA, 22015
Enerdel Inc.	Kelly Ledbetter	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	EnerDel designs, builds and manufactures lithium-ion energy storage solutions and battery systems with a focus on heavy duty transportation, on- and off-grid electrical, mass transit and task-oriented applications.	www.enerdel.com	kelly.ledbetter@enerdel.com	317-374-4856	3023 Distribution Way #100, Greenfield, IN 46140

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
EnerG2	Aaron Feaver	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	EnerG2 develops and manufactures energy storage materials based on its proprietary Carbon Technology Platform (CTP). The CTP is capable of engineering amorphous carbon-based materials with virtually any pore structure, surface area, or pore volume. Modulating the molecular structure of low cost polymer precursors produces this wide range of carbon structures. EnerG2's materials have the highest purity of any commercially available carbon, and our polymer-based precursor is ideal for strategic doping of carbon with other active materials. The CTP is commercially deployed in the fields of ultracapacitors; carbon enhanced lead acid batteries; and lithium ion anode materials. EnerG2 scientists operate a state of the art R&D facility capable of material synthesis, characterization, electrode coating and medium format cell construction. A full-scale CTP-based manufacturing plant is online and has the capacity to produce all EnerG2 materials at a rate of tens-of-tons per month.	www.energ2.com	afeaver@energ2.com	206-547-0445	100 NE Northlake Way, Suite 300, Seattle, WA 98105
EnergiaQ/University of Texas at Austin	Andy Chao	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	Our team members consist of senior faculty members and research scientists at the University of Texas at Austin and Stanford University. We would like to develop advanced high-energy-density, electrostatic energy storage devices, systems, and technologies for future electric vehicles. We are the 2010 U.S.A. winner of the Global Clean Tech Idea Competition sponspored by the Clean Tech Open. Our mission is to develop disruptive innovation in energy storage technology for future electric vehicles.	www.energiaq.com	achao@energiaq.com	512 4681146	9101 La Cresada Drive Apt 2637 Austin, TX 78749

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
Eos Energy Storage	Philippe Bouchard	Business < 500 Employees	Grid	Eos is developing a proprietary rechargeable zinc-air based battery technology with six hours of storage that can be sold for $160/kWh. Fully rechargeable for over 10,000 cycles (30 years) with intensive use and full or partial discharge, the battery is safe, stable, non-combustible, and made from low-cost, readily available materials. Our grid battery has an energy density of >250Wh/l; and we believe that we could achieve >600Wh/l for an automotive battery. In addition, the battery chemistry is entirely safe, even in a collision. Eos offers the following capabilities in looking to partner with automotive manufacturers for product specification as well as battery pack manufacturers and OEMs for product engineering and manufacturing: • Cell optimization, architecture, and design (electrolyte, electrode materials/treatment, cathode formulation and catalysts, etc.) • Battery development and testing • Battery and electrolyte mgmt system • Rapid product design and prototyping	www.eosenergystorage.com	pbouchard@eosenergystorage.com	951-552-0655	214 Fernwood Avenue, Edison, NJ 08818
Eskra Technical Products, Inc.	Mike Eskra	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	Electrochemistry, cell and battery design, solvent free electrode manufacturing process	na	mikeeskra@aol.com	262 268 1750	2595 Hwy I Saukville, WI 53080
Evgentech	Jackie Hutter	Business < 500 Employees	Technologies that offer new control capabilities via advanced models, mechanisms, or actuators	Evgentech is a startup company with patent-pending pulse charging that leverages real time electrochemical processes to allow higher charging rates in conventional lithium ion cells without expected overvoltage and temperature spikes. Early results indicate the methodology could also be used in other electrochemical cells. Unlike other advanced pulse charging, basic implementation of our process does not require complex BMS componentry and/or sophisticated algorithms. Our PhD team understands that our process presents a viable alternative to conventional charging in EV's, as well as other devices. Further, our unique technical insights could allow simplification of BMS's that measure and respond to battery behavior in real time, thus accelerating innovation in this active area of research. We are interested in partnering with entities having research capabilities and facilities to allow evaluation of the commercial potential of our methodology in charging and management systems.	http://evgentech.com	jhutter@evgentech.com	4047978124	2897 N. Druid Hills Road NE, Suite 351, Atlanta, GA

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
Fisker Automotive	Jin Ho Jung	Business < 500 Employees	Transportation	Fisker Automotive designs, manufactures and distributes through a network of retailers the world's first commercial luxury plug-in hybrid electric vehicle – the Fisker Karma, which conformed to crash impact requirements including High-Voltage Battery Integrity requirement for all markets (including U.S. and European markets). The Computer-Aided Engineering (CAE) and Safety Testing Group within Fisker specialize in the crash testing and computational modeling and analysis of detailed, full-scale vehicle structure (including a simplified FE representation of a Li-ion battery pack energy storage system) under various crash impact conditions. Areas of focus are in the development of: • Robust energy storage system. • Robust vehicle structure architecture for high voltage electric components and energy storage system.	www.fiskerautomotive.com	jjung@fiskerautomotive.com	949-466-5816	5515 E. La Palma Ave., Anaheim, CA 92807
Flywheel Energy Systems Inc.	Dean Flanagan	Business < 500 Employees	Transportation	High power flywheel energy storage devices for charge sustaining hybrid vehicles. High speed permanent magnet synchronous machines. Testing services.	www.flywheelenergysystems.com	dean.flanagan@fllywheelenergysystems.com	6135960856	25C Northside Road, Ottawa Canada
FMC Lithium Division	Marina Yakovleva	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	The lithium-ion battery industry needs new approaches to advance high capacity anode materials, particularly for large format batteries, for example, EV/PHEV automotive markets. FMC's innovative material, Lectro® Max Powder (SLMP®) enables a new generation of lithium-ion batteries by providing an independent source for lithium, which opens up choices for both anode and cathode materials. Introducing lithium in a stabilized powder form with the anode host material, such as Si and Sn-based, leads to a higher energy battery with more efficient utilization of lithium. Using non-lithium providing cathodes like manganese, vanadium or other metal oxides and metal fluorides that are more overcharge tolerant and potentially have lower costs, leads to safer and cheaper batteries. When used in combination, these anode and cathode materials can potentially double the energy density of the current lithium-ion battery	www.fmclithium.com	marina.yakovleva@fmc.com	704-426-5391	Seven LakePointe Plaza, 2801 Yorkmont Road, Charlotte, NC 28208
Frontier Applied Sciences and Technologies, LLC	Gholam-Abbas Nazri	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	Energy storage and conversion, All solid state battery, Hydrogen storage and production Light metal extraction, and nano-composites, Corrosion prevention in auto and aerospace, Real-time characterization, and sensing.	FrontierAST.com	nazri@wayne.edu	248-761-0096	2050 South Blvd, P.O. Box 887, Bloomfield Hills, Michigan 48303

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
Gas Technology Institute	Al Darzins	Non-Profit	Bioenergy	Gas Technology Institute (GTI) is the leading research, development and training organization addressing energy and environmental challenges to enable a secure, abundant, and affordable energy future. We provide economic value to the natural gas industry and energy markets by developing technology-based solutions for industry, government, and consumers. Our expertise in mechanical, chemical, civil, environmental and bioprocessing engineering enables us to bring technology concepts to maturity and to develop and test advanced energy technologies from laboratory to large pilot scale. GTI's biotechnology program is exploring options to use methane as a feedstock to produce liquid transportation fuels and value-added chemicals. GTI is also a world leader in biomass conversion R&D, and from this strong foundation GTI was able to develop a new economical technology, Integrated Hydropyrolysis and Hydroconversion (IH2) for the direct conversion of biomass into liquid transportation fuels.	http://www.gastechnology.org/Pages/default.aspx	al.darzins@gastechnology.org	847 768-0688	1700 South Mount Prospect Road, Des Plaines, IL 60018
Green Meadows Preservation Trust	William Todorof	Non-Profit	High Energy Density Electrical Energy Storage for Transportation	Our proprietary, SeaWave™ long term storage battery (LTSB) is scaleable from 5 kWhr to 2500 kWhr and delivers high performance, back-up electric power 24/7 for homeowners, industries, utilities and renewable resources such as wind and solar power. Furthermore, it is non-flammable, non-toxic and over 90% recyclable. Our calculations show that compared to a commercial lithium ion (Li-ion) battery, the SeaWave™ long term storage batteries (1) are more efficient, (2) have a higher charge density in a given volume as well as in a given weight, (3) have more charge cycles over its life time, (4) use materials that are inexpensive and readily available, (5) have no threat of fire or combustion and (6) cost 1/2 as much to manufacturer.	NA	tdrfresearch@gmail.com	949-542-2694	Palo Alto, CA

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
HEVO Inc.	Steve Monks	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	HEVO is developing a wireless power network to ameliorate commercial EV fleets' range issues and limited access to plug-in charging stations. HEVO's products will merge both magnetic resonance and induction technologies into one easy-to-use, universal, opportunistic charging solution to mitigate range limitation and optimize fleet operations. The HEVO Power Network consists of the HEVO Power Station (HPS), a durable unit embedded in pavement and able to provide full interoperability with any EV up-fitted with an on-board HEVO Receiver. These two devices communicate and interface with the end user via HEVO Mobile (HM) telematics, so users can locate an HPS, determine availability, reserve a charging time, efficiently park, pay wirelessly and monitor battery status from one mobile device.	www.hevopower.com	steve@teamhevo.com	2122923191	137 Varick Street, Floor 2, New York, NY 10013
Honeywell ACS Labs	Stephen Piro	Business > 1000 Employees	Storage Technologies for Ubiquitous Deployment by Customers	The Honeywell ACS Labs is a leading provider of storage control and optimization and is a large building and power systems optimization integrator.	http://acscorp.honeywell.com	stephen.piro@honeywell.com	763-954-5186	1985 Douglas Drive Golden Valley, Minnesota 55422
Hybrid Design Services, Inc.	James Pinon	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	Hybrid Design Services (HDS) provides expert simulation, design, manufacturing and integration of highly-engineered systems including energy storage systems, retrofit kits and other custom products for EVs, HEVs. Since 2004, HDS specializes in the commercialization of advanced transportation and renewable energy technologies. HDS designs and builds Energy Storage Systems using all available storage technologies including Lithium, Ni-MH, Ultra-capacitors, Hydraulics, Flywheels, etc. HDS has worked on many custom System Design and Development Projects from start to production. HDS' services include: System Engineering Advanced concept development Structural Design Thermal System Design Battery Management System Design and Customization Electrical Design FMEA, Robustness, Quality, DVP etc. System Hazard Analysis Mechanical Protection Systems Sensing Systems Diagnostics & Prognostics Controls / Management Systems Prototyping and Testing	www.hybriddesignservices.com	operations@hybriddesignservices.com	313-673-6917	2479 Elliott Ave. Troy, MI 48083 USA

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
Illinois Institute of Technology	Aditya Unni	University	High Energy Density Electrical Energy Storage for Transportation	The synthesis of new materials for battery applications, this would include catalysts, ionic liquids, chemistry in high pressure/supercritical CO2, synthesis of composite electrodes including designer electrode materials.	http://www.iit.edu/csl/che/faculty/unni_aditya.shtml	aunni@iit.edu	510-529-8542	3101 S. Dearborn St., Chicago, IL 60616
Illinois Institute of Technology	Karoly Nemeth	University	High Energy Density Electrical Energy Storage for Transportation	Theoretical/computational design of new battery materials and processes for improved energy storage and charge/discharge rate capacity with environmentally benign materials. Also some experience with chemical synthesis design of battery electrode materials and their actual synthesis. A recent reference work is US-patent US8389178, "Electrochemical Energy Storage Device Based on Carbon Dioxide as Electroactive Species".	http://www.iit.edu/csl/phy/faculty/nemeth_karoly.shtml	nemeth@agni.phys.iit.edu	630-632-2382	Illinois Institute of Technology, 182 LS, Physics 3101 South Dearborn, Chicago, IL 60616
Imperial College London	Dr Emile S Greenhalgh	University	High Energy Density Electrical Energy Storage for Transportation	Leaders in development of structural power supercapacitors, and lead European research Group in development and application of these multifunctional materials in automotive applications. Also one of the leading European groups in research into high performance composite materials.	http://www3.imperial.ac.uk/people/e.greenhalgh	e.greenhalgh@imperial.ac.uk	+44 (0)207 5945070	Room 362B, Aeronautics, Imperial College London, UK, SW7 2AZ
iZonEMC2	Steven R. Parks	Individual	High Energy Density Electrical Energy Storage for Transportation	Consulting: Technology Development/Systems/Application/Sync&Integration, Current & Available Cutting Edge & Next Gen.ongoing Research(ie.DesignLLCdatakings, UW SolarResearch cree led nxt gen., flexfilmphotovoltaics16% 2ndtestlic.avail.nanotech zn popcorn multi-photonelectron capture org.Blueberrydye sublimation of nano zn popcorn blackholes, Alternate Energy Systems, InfinitelyRechargeableStorageBatterriesofZincYitriunSolution) AA Equiv. TheEvergreenStateCollege73.ENUF.com	G Mail for now	Medcinman1@gmail.com	1 (360) 628-4002	505 Leisure Cir., Aberdeen, WA. 98520-8536

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
Lawrence Berkeley National Laboratory	Wanli Yang	Federally Funded Research and Development Center (FFRDC)	High Energy Density Electrical Energy Storage for Transportation	Soft x-ray spectroscopy for probing the key electronic states of energy storage materials: Techniques include steady access to 80-1300eV (edges of C, N, O, & all 3d transition-metals etc.) soft x-ray absorption, emission, and resonant inelastic scattering, and moderate access to ultra-soft (Li edge) and tender (S edge) x-ray spectroscopy. Electron states in both conduction band (LUMO) and valence band (HOMO) could be mapped out, and soft x-ray techniques are extremely sensitive to these electron states that regulate the electronic properties and charge-transfer in the materials. Current research interest focuses on cathode materials for Li-ion batteries and SEI. We have recently showcased the power of soft x-ray on fingerprinting the electron-state evolution in cathodes during charge/discharge process, and have developed the methodology for employing soft x-ray spectroscopy to obtain insights on battery safety and performance, in the electronic-state (non-structural) point of view.	http://bl8.lbl.gov/staff/Yang.html	WLYang@lbl.gov	510 486 4989	MS6-2100, LBNL, One cyclotron road, Berkeley, CA 94720
Lawrence Berkely National Laboratory	Lin-Wang Wang	Federally Funded Research and Development Center (FFRDC)	Other	Fast and large scale ab initio (DFT type) simulations of ion transport, interface, and ion intercalations. Large scale computation on supercomputers (with one INCITE project, 20M hours computer time/year). Linear scaling divide-and-conquer DFT methods for 10,000 atom systems, for their total energy and atomic relaxations. Planewave pseudopotential based fast ab initio molecular dynamics simulations (500 atoms, 11 sec/MD step) using GPU machine. Alloy and cluster expansion theory. Binding energy calculations. Diffusion barrier height calculations, and diffusion pathway searching. Electronic transports (polaron hopping and free carrier scattering). Interface and surface states. Both for organic system (e.g., polymers) and inorganic systems (semiconductors). Nanostructure simulations, 1000 atom quantum dots and wires.	http://cmsn.lbl.gov	lwwang@lbl.gov	510-486-5571	MS-66, One cyclotron road, Berkeley, CA, 94720.

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
Lawrence Livermore National Laboratory	A.J. Simon	Federally Funded Research and Development Center (FFRDC)	High Energy Density Electrical Energy Storage for Transportation	LLNL delivers world-class science and technology for a broad range of energy storage systems: * Wireless sensor systems for battery system management and safety (ARPA-E funded) * Large-scale quantum molecular dynamics simulations of the bulk phases and solid-electrolyte interphase layer in Li-Ion Batteries (BES Funded) * Flywheel energy storage systems (Industry partnership) * Destructive and non-destructive battery system testing at LLNL's Site 300 and High Explosives Applications Facility (HEAF) * Design, model, additively manufacture, and characterize three-dimensional micro-architectures for electrochemical energy storage (LDRD funded) * Develop, characterize and test new high surface area bulk materials, specifically carbon based materials, for energy storage and conversion	http://www.llnl.gov	simon19@llnl.gov	952-422-9862	7000 East Avenue, L-103, Livermore, CA 94551
Los Alamos National Laboratory	Gang Wu	Federally Funded Research and Development Center (FFRDC)	High Energy Density Electrical Energy Storage for Transportation	We propose to develop an all-solid-state Li-air battery technology by using inorganic Li+ superionic solid electrolytes integrated with high-performance bifunctional composite cathodes capable of catalyzing the oxygen reduction reaction (ORR) and oxygen evolution reaction (OER) for the discharge and charge processes, respectively. Our newly invented Li-rich anti-perovskite (LiRAP, LANL/UNLV) solid electrolytes have demonstrated 3D superionic conductivity, broad potential window, wide temperature range, economic viability and environmental friendliness in preliminary studies. The novel bifunctional oxygen cathode consisting of highly active graphene composite ORR non-precious metal catalysts (LANL) and high cyclic rate perovskite oxide OER catalysts (UT Austin) enables the rechargeable Li-air battery system to be more efficient, stable, safe, and low-cost.	www.lanl.gov	wugang@lanl.gov	505-665-0659	30 Bikini Atoll Rd, Los Alamos, New Mexico 87545
Magnetic Concepts	Philip A. Studer	Individual	Transportation	Patents and Intelectual Properties,consulting and preliminary systems designs for high efficiency, highly reliable,environmentally immune motion (linear or rotary)devices.Propulsion, suspension, and/or steering &misc.	none	pastuder@netzero.com	301 572 7214	3126Gracefield Rd apt 209 SILSPG MD.20904
Massachusetts Institute of Technology	Tomasz Wierzbicki and Elham Sahraei	University	High Energy Density Electrical Energy Storage for Transportation	Crash and Mechanical Abuse testing and modeling of Li-ion Batteries. Calculation of energy absorption and detection of onset of electric short circuit. Structural Mechanics, Experimental and Computational Mechanics	http://web.mit.edu/icl	elhams@mit.edu	6173245025	77 Mass Ave, room 5-218, Cambridge, MA, 02139

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
MaxPower, Inc.	Ben Meyer	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	MaxPower, Inc. is dedicated to the research and development of special purpose Lithium-based batteries and components. Electrochemical systems include lithium ion, primary, and reserve. MaxPower specializes in evolving a concept from initial design through prototyping to small production. Our staff has expertise in theory, materials development, analysis, design, and experimental development of cells and battery systems to provide pulse and steady power for a wide range of applications. We also specialize in hardware integration of third-party components and materials in both baseline and newly conceptualized design form factors. MaxPower also offers full integration with Battery Management System (BMS) capabilities for required applications. Facilities also include a full line of equipment for long cycle life, environmental, and safety testing.	www.maxpowerinc.com	ben.meyer@maxpowerinc.com	215-256-4575 x111	141 Christopher Lane, Harleysville, PA 19438
Maxwell Technologies, Inc.	Kimberly McGrath	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	Maxwell Technologies is the leading developer of capacitive energy storage solutions to address higher power demand, regenerative power, and back-up power applications. Key capabilities include cell development and hybrid energy storage system development.	www.maxwell.com	kmcgrath@maxwell.com	858-503-3351	3912 Calle Fortunada, San Diego, CA 92123
MER Corporation	Dr. Raouf O. Loutfy	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	MER developed safe high performance anode and electrolyte that have excellent performance at very low and very high temperature	http://www.mercorp.com	rloutfy@mercorp.com	520 574 1980 ext 112	7960 S. Kolb Rd. Tucson AZ 85756

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
Michigan State University	Professor Lawrence T. Drzal	University	High Energy Density Electrical Energy Storage for Transportation	The Center for Alternative Energy has an active research program in fundamental and applied research in materials, technology and systems for batteries and supercapacitors. Projects include: Nanomaterials for High Performance Energy Storage Devices; Nanostructured electrode design to facilitate ionic transport; Identification of Device Failure Mechanisms during System Performance; and Multi-level Modeling and Simulation, Incorporating Self-diagnostics for Energy Storage System Design. Facilities have been constructed for new materials and electrode manufacturing technology to reduce cell cost, improve energy density and improve safety and low temperature performance. Laboratory and dry room facilities and instrumentation is available for analysis, characterization and fabrication as well as development of a scaleable process for manufacturing graphene ensembles for anode materials, current collectors or conductive additives.	http://www.egr.msu.edu/cmsc/	DRZAL@EGR.MSU.EDU	517-353-5466	428 S Shaw Lane, 2100 Engr Bldg, East Lansing, MI 48824-1226
Molecular Rebar Design, LLC	Wendy Hoenig	Business < 500 Employees	Other	MRD has a unique manufacturing process that provides the only cost-efficient conversion and transportation of CNT's for effective use in commercial applications. Molecular Rebar are functionalized and discrete CNT's produced in a patent-protected process that enables both the safe handling and the theoretical performance of CNT's to be realized for the first time at commercial scale and in multiple applications. Special focus has been on using MR in energy storage applications (lithium and lead batteries), capacitors, and sensors.	www.molecularrebar.com	whoenig@molecularrebar.com	512-394-0922 X105	13477 Fitzhugh Rd. Austin, TX 78736
Moment Research & Consulting	Dana Swalla	Business < 500 Employees	Technologies that facilitate low-cost, high-performance, and/or plug-and-play hybridization and integration of disparate devices	Our team comprises a network of companies and individuals with extensive experience in design, product development, materials, testing, and characterization. Using our methods, we can help you minimize unnecessary tests, limit re-design time, and select the best materials and manufacturing process for your desired application. We have experience guiding companies through concept, to prototype, to commercialization.	www.momentconsulting.net	dana@momentconsulting.net	5185777874	1017 Phoenix Avenue, Schnectady, NY 12308

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
Motivo Engineering	Praveen Penmetsa	Business < 500 Employees	Technologies that facilitate low-cost, high-performance, and/or plug-and-play hybridization and integration of disparate devices	Motivo is a nimble, creative engineering company focused on developing electro-mechanical and energy systems from clean sheet through tested, fielded systems. Motivo develops products and prototypes in diverse market segments including automotive, defense, robotics and clean energy. Motivo excels in taking ideas and designs through the conceptual and detail engineering phases, solving complex engineering challenges along the way, and in transitioning the initial concept/idea to a fully engineered solution. Motivo specializes in EV, HEV and energy storage system development. Past projects include the complete drivetrain (including liquid-cooled battery) for a 210kW continuous all-electric boat, data-center lithium-ion based backup systems, and the conceptual design of a 1MW grid-tie battery storage system. Motivo principals have been developing battery systems for over 15 years, with sizes ranging from 10Wh to 2MWh in PbA, NiCad, NiMH, LiFePO4, NMC, LiPoly, and other chemistries.	www.motivoengineering.com	penmetsa@motivoengineering.com	724-426-5521	19821 Hamilton Ave, Torrance, California, 90502
National Renwable Energy Laboratoy	Ahmad Pesaran	Federally Funded Research and Development Center (FFRDC)	Transportation	Physics-based energy storage modeling toolset – NREL models span from material- to -system-scale analysis for battery life, performance, safety, & range from empirical to 3D multi-physics models. Suitable for embedded control applications, NREL has fast-running models based on vector fitting, fractional derivative & other order-reduction techniques. Robust fault detection – Fail-safe pack-level design architecture for cell fault detection & isolation Safety testing & thermal abuse modeling – thermal runaway, internal short circuit, nail penetration, mechanical & crush modeling of batteries. On-demand internal short trigger for testing field failures in cells. Unique test laboratory for electrical, thermal, & mechanical characterization for battery performance, life, safety & balance of systems Electric vehicle simulation, testing, & evaluation - Simulation & testing based evaluation of advanced technologies to determine their impact on fuel economy, & vehicle performance	http://www.nrel.gov/vehiclesandfuels/energystorage/	ahmad.pesaran@nrel.gov	303-275-4441	15013 Denver West Parkway, Golden, Colorado 80401

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
NATURBO Technology Centers	Armando Celorio-Villaseno r	Business < 500 Employees	Storage Technologies for Ubiquitous Deployment by Customers	Distributed Generation logistics optimization for electric energy storage and all-electric vehicles viability (BATT-Stations Project). Distributed Generation. New Gas Turbines with Inertial Cooling and Product Engineering, optimized for CHP and ORC applications.	http://www.naturbo.com.mx	national.turbo.llc@gmail.com	5558158325	Mexico City and Texas (prox.)
Navitas Systems	Michael Wixom	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	Our staff of 40 scientists and engineers operates world class materials science, cell testing, and pilot scale electrode coating capabilities in a 20,000 sq. ft. facility including wet lab, electrode coating, prototype assembly, machine shop, and hardened cell test facility. The Navitas Systems Advanced Products Group (formerly the government business unit of A123 Systems) features a semi-automated cell development and production facility. This facility has been built around state of the art production equipment to produce a variety of small to large format prismatic lithium ion cells in a highly reproducible assembly process, offering an excellent foundation for validating a pilot or limited volume production capability. A number of cell chemistries have been prototyped, including 270+ Wh/kg cells with 200+ cycle life being delivered to customers.	www.navitassys.com	mwixom@navitassys.com	734.205.1432	3850 Research Park Drive, Ann Arbor MI 48108
NEI Corporation	Ganesh Skandan	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	NEI Corporation (www.neicorporation.com) develops, manufactures and distributes nanotechnology-based materials for a broad range of applications. The products, which are sold under the registered trademark NANOMYTE®, are primarily for the energy, environmental and industrial sectors. Using our core competencies in synthesizing novel nanoscale materials and prototyping products that incorporate these advanced materials, we develop application-specific nanomaterials. Specific to the Energy Storage industry, we produce and supply specialty cathode and anode materials at both the nano- and micron scales. We provide battery developers and manufacturers the opportunity to experiment with new materials. We continue to custom-develop materials with new compositions and particle morphologies for companies and institutions. NEI has two operating facilities (combined 15,000 square feet) in Somerset, New Jersey, and is equipped with an array of materials synthesis and characterization equipment.	www.neicorporation.com	gskandan@neicorporation.com	7328683141	400 Apgar Drive, Unit E, Somerset, NJ 08873

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
Northeastern University	Sanjeev Mukerjee	University	HIGH ENERGY DENSITY ELECTRICAL ENERGY STORAGE FOR TRANSPORTATION	New Materials synthesis, in situ synchrotron spectroscopy, Site directed high throughput nanoscale assembly for novel interfacial structures	www.northeastern.edu/nucret	s.mukerjee@neu.edu	617 373 2382	317 Egan Center, 360 Huntington Avenue, Boston
Nrgtek Inc.	Subra Iyer	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	Electrochemical and materials analysis for low-cost, high energy density rechargeable batteries. Capabilities include andoe and cathode fabrication, using high-volatge materials, electrolyte synthesis, testing and analysis of various organic and inorganic materials for batteries capable of the goals of RANGE.	www.nrgtekusa.com	siyer@nrgtekusa.com	714-283-1067	17120 Fremont Lane Yorba Linda CA 92886
Nrgtek Inc.	Subra Iyer	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	Electrocehmical investigations of new materials and electrolytes for low-cost, high energy density batteries and systems. Capabilities include system architecture, anode and cathode fabricationa and electrolyte sytnthesis and testing technologies.	www.nrgtekusa.com	siyer@nrgtekusa.com	714-283-1067	17120 Fremont lane, Yorba Linda CA 92886
Oak Ridge National Laboratory	Shaun Gleason	Federally Funded Research and Development Center (FFRDC)	High Energy Density Electrical Energy Storage for Transportation	We have developed a set of computer codes and models for simulating coupled multi-physics phenomena in Li-ion batteries. The developed models couple electric charge, mass, and thermal transport, electrochemical reactions, and structural response at length scales of battery components, and combine them into large-scale performance models for various pack configurations. High fidelity modeling approaches based on detailed hierarchical modeling of battery components under impact are under development. Our research also has links to ORNL's Battery Manufacturing Facility, experimental expertise in abuse testing, development of solid electrolytes, and utilizes High Performance Computing (HPC). The relevant expertise includes modeling of high speed impact and automotive crash, design optimization using HPC and material modeling at various length scales.	www.ornl.gov	gleasonss@ornl.gov	865-574-8521	1 Bethel Valley Road, PO Box 2008, Oak Ridge, TN 37831

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
Ohio State University, Center for High Performance Power Electronics	Jin Wang	University	Grid	The research at Center for High Performance Power Electronics is focused on harnessing the strengths of wide band gap (WBG) devices, currently created from Silicon Carbide (SiC) and Gallium Nitride (GaN), in emerging power electronics applications. These devices have ability to operate at higher temperatures, switch at faster speeds, and achieve better efficiency over their Silicon (Si) based counterparts. The WBG technology allows designers to realize smaller, more efficiency hardware, as well as develop power electronics for new applications in the aerospace, auto, and utility industry.	http://chppe.osu.edu/	wang@ece.osu.edu	614-688-4041	205 Dreese Lab. 2015 Neil Ave. Columbus. OH
OptiXtal, Inc.	Sagar Venkateswaran	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	WE make form factored and flexible supercapacitors for a vriety of aplications. We have recently worked on transforming an e-scooter to a supercapacitor vehicle (SCV)-a lighter, safer power dense alternative for urban transport. We also have some experienmce with sensors having co-developed GreenPatch a flexible device for reducing building erngy use.	www.optIxtal.com	sagar@optixtal.com	267 257 8139	1901 S 54th St, Philadelphia, PA 19143
Palo Alto Research Center (PARC)	Rob McHenry	Business > 1000 Employees	High Energy Density Electrical Energy Storage for Transportation	PARC is an applied R&D center operating with an open innovation model for technology invention, development, and transition to commercial partners. Over our 40 year history, we have delivered billions of dollars of value and transformed multiple industries. Our core competencies include material deposition and structuring, applied physics, intelligent control systems and analytics, and integrated system optimization. Within our Energy Technology Program we have a portfolio of battery enablers such as advanced manufacturing methods, internal battery sensors, and economic optimization control layers, including two current ARPA-E awards. For this solicitation we are focused on robust design of energy storage chemistries and architectures. We are seeking partners for engineered additive materials development, and downstream battery manufacturing and integration partners to take the resulting technologies to market.	www.parc.com	rob.mchenry@parc.com	650-812-4730	3333 Coyote Hill Rd., Palo Alto, CA 94304

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
Paper Battery Company	Shreefal Mehta	Business < 500 Employees	Storage Technologies for Ubiquitous Deployment by Customers	Ultrathin supercapacitors with very low ESR can be integrated into or around individual battery cells, allowing for selection of lower cost, higher energy battery design with short term pulse power capabilities provided by the ultracapacitor cells. Specifically, higher voltage cells can provide enough energy density to reduce the battery voltage droop in each cell, actively balance during charge and discharge and deliver lower cost batteries with more accessible energy, longer life and better performance is part of the package. With working prototypes already demonstrating ultrathin dimensions and ultralow ESR, the Company is looking for a strong partner with battery manufacturing capabilities.	www.paperbatteryco.com	shreefal@paperbatteryco.com	15183318078	65 First St Troy NY 12180
Parker Hannifin	Lyndy Rutkowski	Business > 1000 Employees	Transportation	Parker's RunWise hybrid drive system is designed for high power, high start & stop applications. Accumulated energy from the vehicle's braking system is stored & used as power upon acceleration. As the truck reaches highway speed, the Power Drive Unit transfers from hydrostatic drive to mechanical drive to maximize operational efficiency. Lower Operating Costs: RunWise captures brake energy while engine decoupling allows for engine management resulting in less energy from the engine & less fuel. Reduced Fuel Consumption & Emissions: RunWise reduces fuel consumption 35%-50%, while improving vehicle acceleration by over 20%. CO2 emissions are reduced up to 55 tons per year, equivalent. Less Brake Wear: Brake energy recovery converts vehicle inertia into stored energy saving brake heat & wear. The system's brake energy recovery pushes brake replacement to once in the life of the truck, reducing maintenance & increasing uptime.	www.parker.com	lyndy.rutkowski@parker.com	2168963000	6035 Parkland Blvd. Cleveland OH 44125

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
Performance Power Materials	Michael C. Furman	Business < 500 Employees	Other	Performance Power Materials specializes in delivering unique high specific strength cast and forged Aluminum Alloys, which have the ability to operate under higher temperature ranges while providing significant weight savings and performance improvements in a multitude of applications. Our goal is to introduce the Pandalloy® Aluminum Alloy series to various markets so that it may be written into engineering programs for its incredible properties ultimately providing higher performance capabilities, enhanced safety , and an increased level of consistency in the structural properties of extreme aluminum markets and products. Developed with significant improvements over all other aluminum alloys, Pandalloy® is a viable alternative to many Alloy-based products on the market. Pandalloy™ Performance Cast aluminums are currently being developed with a higher modulus, temperature, and strength than anything currently available.	www.performancepowermaterials.com	MCF7272@gmail.com	561-202-7345	124 Lindy Lane Unit A, West Palm Beach, FL 33406
pH Matter, LLC	Paul Matter	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	Durable and low-cost air cathode development, electrochemical testing, and cathode catalyst manufacturing.	www.phmatter.com	info@phmatter.com	614-484-5038	1275 Kinnear Rd.
Powdermet Inc	Gerald P Willnecker	Business < 500 Employees	Other	Nano technology R&D, materials development for battery anodes, cathodes, electrolytes both wet and dry and dielectrics for super caps. Bulk production capability for nano-particle coating and encapsulation	www.powdermetinc.com	gwillnecker@powdermetinc.com	2164040053	24112 Rockwell Drive Euclid, OH 44117

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
Prieto Battery, Inc.	Derek Johnson	Business < 500 Employees	Transportation	3-D solid-state Li-ion cell technology: Predicted high power density (10 kW/L cell), good energy density (~0.5 kWh/L), low cell manufacturing cost, low manufacturing capital investment, long cycle life Non-flammable solid-state cell Aqueous based electrode and solid polymer electrolyte (SPE) synthesis Direct electrodeposition of anode (Cu2Sb) Direct electropolymerization of SPE Sub-micron thick SPE Ability to utilize multiple cathode chemistries Assembly and testing capability: Coin and pouch cell fabrication and assembly capability Arbin and Maccor cycling capability Elevated temperature characterization and testing capability Potentiostat/Galvanostat (PAR and Gamry) Electrochemical impedance spectroscopy (EIS) Argon glovebox Air-free Schlenk line synthesis Materials characterization capability: FT-IR with ATR Thermal evaporator (most metals) X-ray photoelectron spectroscopy NMR TOF-MS XRD (powder and thin film) Optical microscopy SEM, TEM	www.prietobattery.com	derek.johnson@prietobattery.com	970-492-4416	3185 Rampart Rd, Building A, 0922 Campus Delivery, Fort Collins, CO 80523-0922
Purdue University	Wayne Chen	University	Other	Design of impact-resistant structures; Development of impact test methods; Development of failure criteria for materials and structures under crash and impact loading; Extensive experiences collaborating with industry and government laboratories.	https://engineering.purdue.edu/AAE/People/Faculty/Faculty/showFaculty?resource_id=1261	wchen@purdue.edu	765 494 1788	701 West Stadium Avenue, ARMS 3323, West Lafayette, IN 47907-2045
RFK ONE, LLC.	Rory Krieger	Business < 500 Employees	Technologies that facilitate low-cost, high-performance, and/or plug-and-play hybridization and integration of disparate devices	Human Transportatin (HT) is the most prolific use in today's society. We need help refining our HT product to stem the use of fossil fuels.	xxxxxxxxxx	rfkone@earthlink.net	303-238-3243	PO Box 280704, Lakewood, CO 80228
Rhombus Enegry Solutions	Joseph Gottlieb	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	Rhombus Energy Solutions' engineering capabilities include: battery management system design, power mixing & integration of various cell chemistries, system level control & interface, thermal management, cell monitoring & prediction and active cell balancing & control.	www.RhombusEnergySolutions.com	Joseph@RhombusEnergy.com	8889786564	13230 Evening Creek Dr. So. #205 San Diego, CA 92128

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
Ricardo Inc.	David Berels	Business > 1000 Employees	Transportation	Ricardo is a global, world-class, multi-industry consultancy for engineering, technology, project innovation and strategy. With a century of delivering value, we employ over 2,300 professional engineers, consultants and staff. From R&D to production, Ricardo can take complete ownership of your battery project, from appropriate chemistry and cell supplier choices, through pack design and vehicle integration. With in-house vehicle simulation and thermodynamic expertise, we're able to deliver premium battery life and maximum energy for minimum weight. Our established BMS HW and SW designs have been refined through numerous R&D and full production programs, enabling us to deliver you a real world production ready program.	Ricardo.com	David.Berels@Ricardo.com	734 394-3721	4000 Ricardo Dr. Van Buren Twp, MI 48111
Russamer Lab LLC, Nickel Cobalt Battery LLC	Anna Berkovich	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	development of Nickel Cobalt battery with high specific energy and robust features. more on http://www.russamer.com/nickel-cobalt-battery.html	www.nickelcobaltbattery.com	admin@russamer.com	412-567-6828	2364 Eldridge street, Pittsburgh PA 15217
Rutgers University	Stephen Garofalini	University	High Energy Density Electrical Energy Storage for Transportation	Molecular simulations of conversion reactions using dynamically adaptive reactive interatomic potentials that allow for charge variation from ionic to metallic state.	glass.rutgers.edu	shg@rutgers.edu	8484452216	Dept. of Materials Science and Engineering, Rutgers University, Piscataway NJ 08855
Sail D. White Enterprises, Inc.	Don White	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	Innovations involving energy conversions and articulated systems plus dual application energy and weight saving measures	none	sdwhite@centurylink.net	479-967-5277	1212 S. Muskogee Ave.; Russellville, AR
Sandia National Laboratories	Terry Aselage	Federally Funded Research and Development Center (FFRDC)	High Energy Density Electrical Energy Storage for Transportation	Quantitative electrochemical transmission electron microscopy Electrochemical surface spectroscopies Mechanistic modeling of surface electrochemical reactions Electrochemical characterization of electrode materials and cells Electrode fabrication and cell prototyping Cell, pack and large format module testing Calorimetry Abuse response testing Energy storage system evaluation and analysis Integrated test bed for large format energy storage systems	http://energy.sandia.gov	tlasela@sandia.gov	(505) 845-8027	PO Box, 5800, MS 0885, Albuquerque, NM 87185
Shakti Technologies, Inc.	Subhash Narang	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	Development of high energy.high power,organic electrolyte batteries with inherent flame resisting capabilities.	www.shaktitech.com	Subhash.Narang@Shaktitech.com	650 248 6990	728 Garland Drive, Palo Alto, CA 94303

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
SHERIF ZUKIC LTD	Mr Sherif Zukic	Individual	Renewable power (non-bio)	1. The proposal is for a new system that uses naturally found high pressure in the deep oceanic water to produce electricity. I have a collaboration with Professor Brian Azzopardi of the University in Lithuania. 2. The advantage of our technology is that it offers unlimited capacity. The Proposal is environmentally friendly; it is efficient and has no waste or pollution. The Unit would be built away from human habitation and it would not affect the marine biology. 3. The Proposal is Patent Pending. A small scale prototype for demonstration purposes would cost £250,000 - £2.000.000. My project can deploy a 1000mw device at a cost of £7.2 million. 4. The Proposal brings the price of the Megawatt to $8 and this is very favourable indicator. 5. Once the unit is connected to the Grid, it would supply renewable electricity 24/7. The full scale power plant could be installed worldwide.	http://screencast.com/t/yVaOeyd8Te	s01733841064@btinternet.com	4.4786798865e+011	6 Chaplins Close,Coates, Whittlesey, Peterborough, Cambridgeshire, PE7 2BZ, United Kingdom of Great Britain
Smart Grid Power Systems Lab at the University of South Florida	Zhixin Miao	University	Grid	Microgrid, renewable energy integration, energy storage, smart grid, vehicle to grid, power grid planning and operation	http://power.eng.usf.edu	zmiao@usf.edu	813-6999188	4202 E. Fowler Ave., Tampa FL 33620
Solarno Inc.	John Ferraris	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	We produce carbon nanofibers for electrochemical double layer capacitors (supercapacitors) via electrospinning and heat treatment of novel polymer precursors. We fabricate flexible, binder-free, free-standing electrodes which can be used directly in commercial coin cell, pouch, and other configurations. Testing capability: Arbin Supercapacitor Test Station, PARSTAT 2273 Advanced Electrochemical System. Available materials characterization techniques include FT-IR, Raman, XPS, XRD, and BET surface area and pore size analysis.	www.solarno.com	jferraris@solarno.com	(214)616-6443	153 Hollywood Drive, Coppell, TX 75019

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
SRI International	Barbara Heydorn	Non-Profit	Other	SRI is developing batteries with novel chemistries and form factors. Projects range from understanding the fundamental science behind cell performance to prototyping and testing new cell, module, or system designs. One example of an early stage concept SRI is seeking partners to develop is a lithium-ion carbon-fiber battery for structural and conformable batteries. SRI holds patents in the areas of non-flammable electrolytes for lithium batteries; high-power, high-energy lithium ion batteries; and water-activated, flow-through batteries with high energy densities. As a non-profit, contract research organization, SRI International has flexible working arrangements. We develop new solutions to address industry needs but also work with clients to prototype and scale-up technologies developed outside of SRI. SRI employs 2,100 staff. The organization's main research facility is in Menlo Park, California.	www.sri.com	energy-center@sri.com	650 859 5717	333 Ravenswood Ave., Menlo Park, CA 94025
Stanford University	Fu-Kuo Chang	University	High Energy Density Electrical Energy Storage for Transportation	Working on design of light-weight composite structures for automobile crashworthiness studies as well as development of multifunctional composite structures with capabilities of self-sensing, self-diagnostics, and mitigation. Capable of manufacturing multifunctional composites, crashing simulation on composite materials, integration of software, hardware, and sensors/actuators, processors, etc. within composite materials.	http://structure.stanford.edu/people/chang.html	fkchang@stanford.edu	650 723 3466	Dept. of Aeronautics and Astronautics, Stanford University, CA 94305
Swerea SICOMP AB	Leif Asp	Non-Profit	Other	Swerea SICOMP is a Swedish private, not-for-profit, research institute. It is devoted to R&D on polymer composites. Since 2007 we have conducted research on multifunctional, structural energy storing, composite materials. In this line of work we have developed batteries from carbon fiber reinforced polymer materials that can carry mechanical loads. We have strong network across Europe. In collaboration with the Royal Inst. Techn. (KTH), Stockholm, we have developed a technique where we coat individual carbon fibres in a yarn with thousands of fibres with a thin sheath of solid polymer electrolyte (SPE)that allows novel battery designs.	www.swereasicomp.se	leif.asp@swerea.se	46317066349	Box 104, S-43122, Molndal, Sweden

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
The Ohio State Center for Automotive Research (OSU CAR)	Dr. Giorgio Rizzoni	University	High Energy Density Electrical Energy Storage for Transportation	The Ohio State Center for Automotive Research (OSU CAR) provides the battery and automotive industries with an ex-tensive set of R&D and testing facilities related to battery materials, cells, modules, and packs. OSU CAR offers a range of experimental facilities supported by research and technical staff with expertise ranging from materials charac-terization to battery testing, modeling, system integration and full vehicle development.	www.car.osu.edu	rizzoni.1@osu.edu	614-688-3856	930 Kinnear Rd., Columbus, OH 43210
The Pennsylvania State University	Kofi Adu	University	Other	Using novel and innovative techniques to develop superior Al-CNT based composites that exhibit simultaneously, an enhanced electrical conductivity, an enhanced mechanical properties, an enhanced thermal conductivity and a reduced coefficient of thermal expansion, while at the same time maintaining the unique lightweight properties of the Al for aerospace and automobile applications.	http://www.personal.psu.edu/cxa269	cxa269@psu.edu	8149403335	3000 Ivyside Park, Altoona, PA 16601
Tremont Electric, Inc	Benjamin Brooks	Business < 500 Employees	Renewable power (non-bio)	Specializes in kinetic energy harvesting. Using patented generator technology, Tremont Electric is able to directly covert energy lost to shock, vibration, or noise back into usable/ storable electricity	www.npowerpeg.com/about-us	bbrooks@npowerpeg.com	6194957139	2221 Professor Ave, Cleveland OH 44113
U. of S. Carolina	Ralph E. White	University	Offline or Online characterization for fast monitoring and prediction	Physics-based modeling, battery testing, data analysis	http://www.che.sc.edu/faculty/white/resume.htm	white@cec.sc.edu	803 240 7132	Dept. of Chem. Eng., U. of S. Carolina, Columbia, SC 29208
U.S. Naval Research Laboratory	Dr. Debra R. Rolison	Government Owned and Operated (GOGO)	High Energy Density Electrical Energy Storage for Transportation	The NRL nanoarchitectural team led by Rolison and Dr. Jeffrey W. Long created the 3D sponge concept in 1998 as a means to redesign electrochemical energy-storage (EES) systems; we have subsequently demonstrated the ability to chemically and physically modify the interior of conductive sponges with 3D-interconnected voids sized on the submicrometer scale. We have obtained EES performance improvements in 3D-based asymmetric aqueous electrochemical capacitors and cathodes for metal/air batteries and derived pulse power from 3D Zn/air cells and demonstrated cycling recharge for zinc sponge anodes. We offer the ability to fabricate, characterize, and test 3D batteries, based on Zn and either aqueous or solid-state electrolytes with energy density that meets or exceeds Li-ion without the inherent safety issues that accompany high energy density batteries using nonaqueous, flammable liquid electrolytes. We seek to partner with a proven EES systems integrator.	http://www.nrl.navy.mil	code6171@nrl.navy.mil	202-767-3617	Code 6170; Surface Chemistry Branch; Washington, DC 20375

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
UCI	yun wang	University	High Energy Density Electrical Energy Storage for Transportation	Heat transfer analysis, design, and measurement; Electrode design, structure analysis, and measurement; three dimensional multiphysics modeling of batteries and fuel cells; Analysis and optimization of heat transfer, fluid flow, species transport, ion movement, and two-phase flow	http://ywang.eng.uci.edu/	yunw@uci.edu	9494688643	4200 engineering gateway; UCI, 92697-3975
University of Alabama	Shuhui Li	University	Renewable power (non-bio)	• Smart Grid and Smart Microgrid • Renewable Energy Systems • Power Electronics, Electric Machines and Drives, Power Systems • Artificial Intelligence and Neural Networks • Modeling, Analysis, and Simulation of Dynamic Systems • Massively Parallel Processing Applications • Software Engineering • Dynamic and Digital Control Systems • Measurements and Instrumentations	http://bama.ua.edu/~shli/index.html	sli@eng.ua.edu	205-348-9085	101 Houser Hall, University of Alabama, Tuscallosa, AL 35487
University of Arkansas at Little Rock	Tito Viswanathan	University	High Energy Density Electrical Energy Storage for Transportation	Synthesis of hetero atom doped mesoporous carbon with potential application in supercapacitors Cyclic voltammetry to determine charge storage capacity (and also oxygen reduction reactions)	www.ualr.edu	TXViswanatha@ualr.edu	(501) 569--8825	Dept of Chemistry, 2801 S Univ Ave, Little Rock, AR 72204
University of California, Irvine	Feng Liu	University	Other	Fluid mechanics, heat transfer, combustion, two-phase, and reactive flow modeling, multi-physics modeling, gas-turbine technology, cycle optimization.	http://fliu.eng.uci.edu	fliu@uci.edu	949-295-6601	Department of Mechanical and Aerospace Engineering, University of California, Irvine, CA 92697-3975
University of California, San Diego	Raymond de Callafon	University	Other	Modularized battery architecture designed for safety, robustness, reconfiguration, and cost-effectiveness. Expertise in battery pack design, battery management systems, and techno-economics.	http://ccsd.ucsd.edu/	callafon@ucsd.edu	858-534-3166	9500 Gilman Drive, Mail Code 0411, La Jolla, CA 92093-0411, U.S.A.
University of Illinois	Scott White	University	High Energy Density Electrical Energy Storage for Transportation	Advanced safety concepts in materials systems, including microencapsulated release of battery additives, flame retardants, and shutdown chemicals. Self-healing batteries using capsule and vascular networks. Flow cells integrated in advanced fiber composites.	autonomic.beckman.illinois.edu	swhite@illinois.edu	217-333-1077	405 N. Mathews Ave, Beckman Institute, Urbana, IL 61801
University of Nevada, Reno	Chanwoo Park	University	Technologies that enable active cell-level balancing and control	1. Aedvanced battery modeling for cell/system-level thermal management/control. 2)Industrial experience in designing EV/HEV cooling systems for IC engine, electronics, and battery system.	http://web.me.unr.edu/park/	chanwoo@unr.edu	775-682-6301	1164 N. Virginia Street, Reno, NV 89521
University of Notre Dame	Paul McGinn	University	Other	processing of bulk solid state batteries (oxide electrolyte) using thick film technologies	http://www3.nd.edu/~pmcginn/	pmcginn@nd.edu	574-631-6151	178 Fitzpatrick, Notre Dame, IN 46556

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
University of South Carolina	Sirivatch Shimpalee	University	High Energy Density Electrical Energy Storage for Transportation	Electrochemical Modeling, Computational Fluid Dynamics, Energy Conversion, Multiphase-Flow.	http://www.che.sc.edu/researchfaculty/shimpalee.htm	shimpale@cec.sc.edu	803-576-6140	Department of Chemical Engineering, University of South Carolina, 301 Main St. Columbia, SC 29208
University of Wisconsin-Milwaukee	Ying Li	University	High Energy Density Electrical Energy Storage for Transportation	Design and synthesis of low-cost, nanostructured, and mesoporous composite electrode materials for electrical vehicle energy storage.	https://pantherfile.uwm.edu/liying/web	liying@uwm.edu	414-229-3716	3200 N Cramer St., Milwaukee, WI, 53211
Valence Technology	Paul Malone	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	Valence Technology is a global leader in the development and manufacture of safe, long-life lithium iron magnesium phosphate advanced energy storage solutions and integrated command and control logic. Headquartered in Austin, Texas, Valence enables and powers some of the world's most innovative and environmentally friendly applications, ranging from commercial electric vehicles to industrial and marine equipment. Valence Technology today offers a proven technology and manufacturing infrastructure that delivers ISO-certified products and processes that are protected by an extensive global patent portfolio. In addition to the corporate headquarters in Texas, Valence Technology has its Research & Development Center in Nevada, its Europe/Asia Pacific Sales office in Northern Ireland, manufacturing facilities in China, and global fulfillment centers in North America and Europe.	http://www.valence.com	paul.malone@valence.com	512-527-2971	12303 Technology Blvd. Suite 950, Austin, Texas 78727

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
Vanguard Space Technologies, Inc.	Eldon Kasl	Business < 500 Employees	Other	Expertise relevant to composite flywheel development : space satellite & instrument hardware product development & qualification; develop & improve processes to increase hardware performance; develop solutions by defining computational & experimental approaches; conduct design, analysis, manufacturing, test & correlation; identify, evaluate, & develop advanced & multifunctional materials including fibers, matrices, adhesives, coatings, & film surface treatments; characterize composite materials, subcomponents & assemblies including laminates, cylinders & bonded joints; mechanical, dynamic, thermal, structural & materials engineering; characterize composite to composite & metallic to composite adhesive bond behavior & properties; measure strain, displacement, and/or response over temperature via contact & noncontact techniques; metrology includes laser trackers, Keyence sensor, strain gauges, photogrammetry & a CO2 interferometer; familiar with dimensional tolerances (micron & larger).	www.vst-inc.com	ekasl@vst-inc.com	858-587-4210	9431 Dowdy Drive; San Diego, CA 92126
WattJoule Corporation	Greg Cipriano	Business < 500 Employees	Storage Technologies for Ubiquitous Deployment by Customers	WattJoule is a startup technology commercialization company for next generation energy storage products. We have extensive experience developing and deploying advanced, robust military and commercial energy storage and power systems. We are seeking additional partners in the EV, transportation, grid, industrial and defense markets. One of our early products is a next generation lithium titanate cell that has high-power, a large DOD window, is highly durable, and can be fully charged in under 5 minutes over a thousand cycles. This cell has inherent functionality and safety features not possible with other lithium chemistries. Evaluation modules with these cells are being developed. We also have ongoing innovation work in the areas of BMS, thermal management, non-flammable electrolytes and flow batteries. Our team is highly product focused with a deep interdisciplinary skillset. We invite your inquiries on partnering and collaboration. Please visit our website for more info.	www.wattjoule.com	greg@wattjoule.com	508-942-8995	Unit M2D2 600 Suffolk St. Lowell, MA 01854

Organization	Name	Organization Type	Area of Expertise	Background	Website	Email	Phone	Address
Wildcat Discovery Technologies	Ross Russo	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	Wildcat develops new materials for energy storage, including cathodes, anode and electrolytes for batteries and capacitors. We use proprietary high throughput tools capable of synthesizing and testing over 3000 materials per week, each in actual cells. We work with leading chemical companies, battery manufactures and OEMs in the US, Europe and Asia.	www.wildcatdiscovery.com	rrusso@wildcatdiscovery.com	858-735-7973	6985 Flanders Drive, San Diego CA 92121
Worcester Polytechnic Institute	Yan Wang	University	High Energy Density Electrical Energy Storage for Transportation	We are developing a high energy density flow batteries, which can potentially be used for electric vehicles.	www.wpi.edu	yanwang@wpi.edu	508-831-5453	100 Institute Road, Worcester, MA 01609
www.rotarywingengine.com	Simon Saba	Business < 500 Employees	Transportation	Ultra efficient compact light weight engines and engine generators. Engines running Natural Gas, Diesel, or Gasoline. Ultra light weight vehicle chassis designs	www.rotarywingengine.com	saba@sbcglobal.net	4082198675	1577 Via Campagna, San Jose CA 95120
XG Sciences	Rob Privette	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	XG Sciences Inc. is a leading supplier of xGnP® graphene nanoplatelets supplying bulk materials and custom graphene-based energy products to large multi-national and Tier 1 customers around the world. Our Silicon/graphene nanocomposite high specific energy anode material delivers high capacity, long cycle life and is produced in our proprietary 80 ton/year xGnP graphene manufacturing process commissioned in 2012. All of our energy storage materials are based on the company's xGnP® graphene nanoplatelets and XG Leaf™ graphene sheet products that can be formulated into electrodes, with high charge storage and superior current carrying characteristics for batteries, ultracapacitors and fuel cells.	www.xgsciences.com	r.privette@xgsciences.com	517-999-5444	3101 Grand Oak Drive, Lansing, MI 48911
York Industries, Inc.	Edward J. York	Business < 500 Employees	High Energy Density Electrical Energy Storage for Transportation	Approved patent-The Vehicular Wind Propulsion System. Three components. 1.Electric auto creates power from wind. 2.Portable version for retrofitting 3. Wind Propulsion for UAVs.	York Industries, Inc	ejy1040@aol.com	919-751-1888	102 Park Place, Goldsboro, NC 27534