



Pennsylvania  
U.S. Senator Bob Casey



## FISCAL 2011 DEPARTMENT OF DEFENSE APPROPRIATIONS REQUESTS

The following is a list of projects that Senator Bob Casey has submitted to the Subcommittee on Defense for the fiscal year 2011 appropriations cycle. Projects are listed in alphabetical order by name of potential recipient. The goal of each of these initiatives is to ensure that our military is well served by providing them the necessary resources to fulfill their mission efficiently and effectively.

**Name of Potential Recipient:** ACES America  
**Location:** Finleyville, PA  
**Amount:** \$3,000,000  
**Project Name:** ACES Material Additive to Improve Diesel Engine Efficiency

**Purpose:** In a partnership with the Army Research Lab (ARL), ACESII would be tested and analyzed through both generator and vehicle testing. ACESII has great potential to make diesel engines run more efficiently with fewer emissions. Specifically, if awarded, funding will be used to support research and development of ACESII, a fuel catalyst that increases fuel efficiency, benefits the environment and can decrease dependence on foreign oil.

**Name of Potential Recipient:** Accipiter Systems  
**Location:** Pittsburgh, PA  
**Amount:** \$3,400,000  
**Project Name:** Next Generation Communications Systems

**Purpose:** The Next Generation Communications System utilizes the almost limitless capacity of optical fiber. This new system establishes end-to-end communication directly over the optical fiber, removing the need for the infrastructure elements such as switches and routers. Building off of their efforts last year, Accipiter Systems will continue to create a novel computer networking architecture and related software protocols that offer significant increases in bandwidth usage from existing optical fiber.

**Name of Potential Recipient:** Alcoa  
**Location:** Alcoa Center, PA  
**Amount:** \$5,000,000  
**Project Name:** Optimizing Aluminum Marine Structures

**Purpose:** During the past year, Alcoa has designed, produced, and delivered a hull structure component to Austal (Amah Tip) for the LSC that has achieved weight, cost and survivability objectives. If awarded, funding will be used to address the cost of fabrication, assembly, and joining of aluminum marine structures through advanced aluminum designs that will offer enhanced performance at a lower cost.

**Name of Potential Recipient:** Analytical Graphics, Inc.  
**Location:** Exton, PA  
**Amount:** \$3,000,000  
**Project Name:** Navigational Warfare Analysis Tools

**Purpose:** FY2011 funding will be used to continue the progress made thus far by developing the first true “effects-based” analysis tools to fully assess effectiveness of EW tactics, techniques and procedures as well as advanced waveforms and algorithms designed to mitigate fratricide while providing highly effective spectrum specific denial to adversary forces and weapon systems.

**Name of Potential Recipient:** ARCCA, Inc.  
**Location:** Penns Park, PA  
**Amount:** \$4,000,000  
**Project Name:** Dual Stage Variable Energy Absorbers

**Purpose:** The Dual Stage Variable Energy Absorber (DSVEA) is an advanced approach to dealing with the multiple shock events that are prevalent during today’s warfare. The HMMWV is still the most prevalent vehicle used in theater, and three of the seating positions contain no blast protection. If awarded, funding will be used to develop a Dual Stage Variable Energy Absorber technology device for ground vehicle seats that would respond to a variety of input blast conditions, including the initial blast phase of a vehicle and its subsequent slam down. This would reduce brain and spinal cord injuries that occur in multiple shock events prevalent in warfare.

**Name of Potential Recipient:** ArcelorMittal Steelton  
**Location:** Steelton, PA

**Amount:** \$5,000,000  
**Project Name:** Navy Production Capacity Improvement Project at ArcelorMittal Steelton Facility (PHASE I)

**Purpose:** The ArcelorMittal Steelton Plant supplies all of the steel ingots processed by Lehigh Heavy Forge for the production of Navy Ship Shafts and Navy Nuclear Reactor components. If awarded, funding will be used to maintain, modernize and expand the production capabilities of the ArcelorMittal Steelton Plant for production of Navy Ship Shafts and Navy Nuclear Reactor components. The plant is integral in the supply chain that provides 100% of the ship shafts used for surface and sub-surface vessels, due to restrictions on relying on foreign sources for components critical to national security. The ArcelorMittal plant is the only domestic producer of its kind.

**Name of Potential Recipient:** Arkema  
**Location:** King of Prussia, PA  
**Amount:** \$2,400,000  
**Project Name:** Chemical & Biological Resistant Clothing

**Purpose:** The Joint Service Lightweight Integrated Suit Technology (JSLIST) is the current protective-clothing solution employed by our armed forces. While improved over past clothing offerings, neither the decade-old JSLIST nor any other planned technologies appear able to meet the extremely difficult combination of requirements needed for optimal chem-bio protection. If awarded, funding will be used to continue to develop a 21<sup>st</sup> century chemical and biological resistant suit.

**Name of Potential Recipient:** Army Air Force Exchange Services  
**Location:** Pittsburgh, PA  
**Amount:** \$6,000,000  
**Project Name:** Post Exchange

**Purpose:** Funds are to be given to the Army Air Force Exchange Services via a grant to build a Post Exchange on Pittsburgh International Airport Property. The facility will provide Post Exchange services to the eligible active military and veterans of Pennsylvania, West Virginia, Ohio, and Maryland. The Post Exchange will continue to provide the military and their families with discounted retail items, along with additional Morale Welfare Recreational (MWR) services. The Post Exchange will complement the already approved new Commissary on the airport property. The establishment of both facilities will result in the military having access to a full range of necessary services.

**Name of Potential Recipient:** ATI Powder Metals  
**Location:** Oakdale, PA  
**Amount:** \$4,000,000  
**Project Name:** National Asset for HIP

**Purpose:** If awarded, funding will be used to design a very large Hot Isostatic Processing (HIP) capable of manufacturing large critical components for the military and industrial base including: USN critical marine hardware; advanced military aviation turbine engines; ultra-high efficiency land-based gas turbines; and critical components for steel making and oil production.

**Name of Potential Recipient:** Aurora Optics  
**Location:** Broad Axe, PA  
**Amount:** \$3,000,000  
**Project Name:** Field Support of Fiber Optic Cable

**Purpose:** The military services, major prime contractors, and major aerospace subcontractors have recognized for many years that fiber cables deployed in challenging applications lacked any viable means of technical support. If awarded, Aurora Optics will create and bring to market a complete technology and kit for field repair, maintenance, and installation of fiber cables in many critical applications and challenging environments, most particularly fueled military aircraft and UAV's.

**Name of Potential Recipient:** Axion Power  
**Location:** New Castle, PA  
**Amount:** \$2,000,000  
**Project Name:** Hybrid PbC Ultracacitor for Marine Combat Vehicle

**Purpose:** The Hybrid PbC Ultra capacitor will allow the military to replace the heavy lead acid battery in their vehicles with a new, more reliable and less temperature dependant energy source that is 25-40% lighter. If awarded, funding will be used to develop a hybrid ultra capacitor to allow the military to replace heavy lead acid battery in vehicles with an energy power source that is (1) more reliable, with a much longer cycle life, (2) less temperature dependant, (3) is 25-40% lighter in weight, and (4) is cost effective.

**Name of Potential Recipient:** Azevan Pharmaceuticals  
**Location:** Pittsburgh, PA  
**Amount:** \$2,200,000  
**Project Name:** Combat Related Intermittent Explosive Disorder Treatment

**Purpose:** Combat-related Intermittent Explosive Disorder (CRIED) and other stress-related mental health indications are recognized as a major medical issue by the Department of Defense. These conditions have been observed at alarming rates in our warfighters and returning veterans. At this time, no drug therapies specifically address this condition. If awarded, funding would be used to enable comprehensive, FDA-authorized Proof-of-Concept Clinical Trials required before initiation of additional Phase II and Phase III pre-registration clinical studies for a potential drug that can treat CRIED.

**Name of Potential Recipient:** Bear Metallurg  
**Location:** Butler, PA  
**Amount:** \$4,000,000  
**Project Name:** Vanadium Safety Readiness Program

**Purpose:** Funding will allow a cooperative relationship between the vanadium microalloyed steel industry, academia and the US Army to continue research designed to fill data gaps on the environmental/exposure risks of vanadium in military applications.

**Name of Potential Recipient:** Bliley Technologies, Inc.  
**Location:** Erie, PA  
**Amount:** \$2,500,000  
**Project Name:** EQUATE (Ensemble of Quartz Oscillators Adapting to the Environment)

**Purpose:** Bliley Technologies Inc would use FY2011 funding for a joint project with the Army Research Laboratory to further development of the EQUATE technology used in advanced “denied –GPS” environments. Bliley Technologies seeks to develop EQUATE technology to provide precise time and frequency, position, velocity, acceleration, local vertical and orientation in a denied-GPS field environment (including building interiors, underground, and in forestation).

**Name of Potential Recipient:** Body Media  
**Location:** Pittsburgh, PA  
**Amount:** \$1,800,000  
**Project Name:** Wearable Hemorrhagic Shock Monitor

**Purpose:** Over 50% of fatalities in the combat setting are directly related to hemorrhage. The Wearable Hemorrhagic Shock Monitor will significantly improve the ability of a medic to effectively triage and treat wounded soldiers with priority and timely intervention. It monitors the physiological responses to injury which assists in the diagnosis of hemorrhagic shock in injured victims.

**Name of Potential Recipient:** Boeing Company  
**Location:** Philadelphia, PA  
**Amount:** \$1,000,000  
**Project Name:** Mobile Laser Systems for Aircraft Structures

**Purpose:** Laser peening is an innovative surface-enhancement technology that has proven very effective in solving many of the fatigue problems currently plaguing military aircraft. Laser peening has been used quite successfully to extend fatigue performance of turbine engine blades. If awarded, funding will be used to develop Laser Bond Inspection; a technology that tests the integrity of adhesively bonded composite materials and structures and ensures the reliability of vehicles and aircraft. Laser Bond Inspection is a mobile technology that would improve crew safety and mission readiness across the Army and Air Force and replace the laser peening technology identified as too costly and too cumbersome.

**Name of Potential Recipient:** California University of Pennsylvania  
**Location:** Hershey, PA  
**Amount:** \$1,000,000  
**Project Name:** Cal U of PA Workforce Curriculum – National Center for Robotics Engineering and Technology Education (NCRETE)

**Purpose:** The DOD has mandated that 1/3 of all military vehicles must be unmanned by 2015. Cal U of PA has created a comprehensive, integrated Robotics/Mechatronic curriculum, standardized to align with the defense community, capable of meeting the evolving Robotic/Mechatronic environment workforce needs. If awarded, funding will be used to permit the CALU National Center for Robotics Engineering and Technology Education to expand the dissemination of its Robotics curriculum with an expanded focus on workforce

development and the implementation of the 4-year (MET) Mechatronics Engineering Technology degree.

**Name of Potential Recipient:** Catalyst Connection  
**Location:** Pittsburgh, PA  
**Amount:** \$2,500,000  
**Project Name:** Small Manufacturers Defense Initiative– Rapid Prototyping Solutions for the Warfighter

**Purpose:** In order to meet the challenges of rapidly changing environments, the Department of Defense must organize all available resources, skills, and innovative technologies to manufacture a complex array of supplies quickly and efficiently to meet the current and future demand for the national defense. The Small Manufacturers Defense Initiative (SMDI) is a quick response manufacturing service supply chain protocol developed for the U.S. Army ARDEC headquarters in Picatinny Arsenal, New Jersey. If awarded, funding will also provide for the SMDI system to be expanded into the other four ARDEC sites and will allow for additional supplier qualification and technical assistance for Pennsylvania manufacturers.

**Name of Potential Recipient:** Center for Vaccine Research: University of Pittsburgh  
**Location:** Pittsburgh, PA  
**Amount:** \$5,000,000  
**Project Name:** Novel Vaccine and Diagnostics for Biodefense and Infectious Diseases

**Purpose:** If awarded, the Center for Vaccine Research will use the funding to focus on translating basic research into practical applications to enhance the design of vaccine specificity based on comprehensive characterization of strain variation and human exposure (EPI-CHIP) and to develop new vaccine platforms that can provide protection against diverse virus populations and that are amenable to rapid and flexible production methods.

**Name of Potential Recipient:** CHI Systems, Inc  
**Location:** Fort Washington, PA  
**Amount:** \$2,600,000  
**Project Name:** HapMed Combat Medic Trainer

**Purpose:** Insufficient training is currently provided to soldiers on tourniquet application, needle chest decompression, and cricothyrotomy, which treat the top three leading causes of preventable death. Current techniques cannot fill

the need for better hands-on skills training because they are very rudimentary, only practiced initially, and in the case of emergency cricothyrotomy, very costly. Chi Systems will finalize the HapMed Combat Medic Trainer elements, support maturing and validate the needle chest decompressions and cricothyrotomy trainers. Hapmed is portable, so servicemembers can practice their techniques while deployed.

**Name of Potential Recipient:** Cirrus Technology Inc/Baker & Company  
**Location:** Philadelphia, PA  
**Amount:** \$3,000,000  
**Project Name:** Program to Increase Minority Contracting in Defense Implementation Program (PIMCID-IP)

**Purpose:** One of the Department of Defense's goals is to increase minority participation in contracting. To meet this objective and to reap the well documented benefits and competitive advantages that diversity brings, Cirrus and Baker & Company propose to develop a program that overcomes barriers to increased participation by minority firm in Air Force contracting.

**Name of Potential Recipient:** Clear Align  
**Location:** Eagleville, PA  
**Amount:** \$6,900,000  
**Project Name:** Miniature Universal Electro-optic Soldier Sensor Platform for IED Detection (M-SSP)

**Purpose:** Requested funding will develop a Miniature Universal Electro-Optic Soldier Sensor Platform (M-SSP) for improvised explosive device (IED) detection based on newly available nano-technology advances. M-SSP is designed to integrate into a wrist watch sized sensor enabling network centric systems used by infantry, rangers and seals analyzing dangers in theater and enabling faster response.

**Name of Potential Recipient:** Cobham Sensor Systems Lansdale  
**Location:** Landsdale, PA  
**Amount:** \$3,000,000  
**Project Name:** ALQ-99 Band 5/6 Traveling Wave Tube Replacement Module (TRMA) Program

**Purpose:** The EA-6B Prowler, a four-seat, twin-engine, electronic attack, tactical aircraft carries the ALQ-99 Tactical Jamming System (TJS) is the primary weapon system that uses a number of jamming transmitters (designated by

frequency band) to jam enemy radar and communications signals. FY2011 funding would be used to develop significant modifications to the transmitter to increase its reliability.

**Name of Potential Recipient:** CoExprise  
**Location:** Pittsburgh, PA  
**Amount:** \$4,000,000  
**Project Name:** HIPER (Highly Integrated Production for Expediting RESET)

**Purpose:** The Highly Integrated Production for Expediting RESET (HIPER) program will utilize laser scanning technology at Anniston Army Depot to (1) quickly determine battle damaged and/or defective parts that need replacing, avoiding the need to replace good parts, and 2) rapidly determining if a part is non-conforming before it is inserted into a weapon (and subsequently has to be replaced). Funding will be used to enable the utilization of DSN Innovation laser scanning technology to shorten the time and reduce the costs of modernizing the military's small arms and crew-served weapons. This technology will help 1) quickly determine battle damaged and/or defective parts that need replacing, and 2) rapidly determine if a part is non-conforming before it is inserted into a weapon.

**Name of Potential Recipient:** Collegiate Consortium for Workforce and Economic Development  
**Location:** Philadelphia, PA  
**Amount:** \$1,000,000  
**Project Name:** Delaware Valley Continuing Education Initiative for Veterans, National Guard and Reserves

**Purpose:** If awarded, funding will be used to continue providing workforce training and education to veterans, National Guard and Reserve personnel returning from Iraq and Afghanistan. Scholarships have been provided to more than 300 area veterans, and additional funding is needed to serve an additional 200-300 veterans. Funds will also be used for military and civilian personnel displaced by the closure of the Willow Grove Naval Air Station.

**Name of Potential Recipient:** Compass Systems  
**Location:** Pittsburgh, PA  
**Amount:** \$4,000,000

**Project Name:** HAMMER – Hand–Held Mobile Mapping Apparatus for Expedited Reporting

**Purpose:** HAMMER is a one man system. Its ability to record and transmit data allows remote commanders or headquarters units to know precisely what the battlefield looks like, including threats that can be detected from a distance. If awarded, funding will be used to provide the Army with a hand–held surveillance instrument for geo–referencing data. When fielded, a HAMMER operated by an individual soldier will replace a 3 or 4 man team presently used to locate and document battlefield items.

**Name of Potential Recipient:** Converteam  
**Location:** Pittsburgh, PA  
**Amount:** \$2,500,000  
**Project Name:** IPS Power Dense Harmonic Filter and Auxiliary Propulsion System Design

**Purpose:** The Integrated Power System Converter (IPSC) forms the heart of the IPS concept and its development will provide significant advantages in size, weight, and cost reduction across all IPS equipment. FY2011 funding would continue development of this new type of hybrid active/passive filter for shipboard power systems, which is able to greatly exceed the performance of a passive filter without the higher cost and weight associated with a purely active filter.

**Name of Potential Recipient:** Curtiss–Wright Electro–Mechanical Corporation  
**Location:** Cheswick, PA  
**Amount:** \$5,000,000  
**Project Name:** Advanced Hybrid Drive System

**Purpose:** This project aims to complete a prototype power dense hybrid propulsion system for existing and future combatants and complete the design of a compact electric machine to attach to the DDG 51 gear to provide power generation.

**Name of Potential Recipient:** CyOptics, Inc.  
**Location:** Breinigsville, PA  
**Amount:** \$4,000,000  
**Project Name:** TeraPIC Networking Semiconductor Device Initiative

**Purpose:** The TeraPIC initiative provides critical device technology to multiple system platforms in the DoD and secures the future military success of the U.S. by improving the collection, analysis and delivery of intelligence information to the warfighter. If awarded, funding will be used to upgrade CyOptics' Photonics device fabrication and packaging infrastructure and to support the networking initiatives of the defense and intelligence community.

**Name of Potential Recipient:** DIApedia, LLC  
**Location:** State College, PA  
**Amount:** \$1,300,000  
**Project Name:** Advanced Orthotics for Prevention of Lower Extremity Overuse Injuries

**Purpose:** Lower extremity overuse injuries (LEOI) affect over 720,000 service members annually resulting in over 20 million limited duty days. If awarded, funding will be used to develop a customized orthotic prescription for a soldier's combat boots that will reduce the risk to soldiers of developing a lower extremity overuse injury.

**Name of Potential Recipient:** Discovery Machine  
**Location:** Williamsport, PA  
**Amount:** \$550,000  
**Project Name:** Domain Specific Knowledge Capture Interface Enhancement

**Purpose:** Current Navy synthetic training environments lack the ability for SMEs to quickly encode cognitively rich, automated behaviors. Rapid creation of automated behaviors is on the Navy's list of priorities, and the need for this technology is also identified in the Navy Aviation Simulation Master Plan Part II. This program will enable the Warfighter Sustainment Advanced Technology training program to capture and leverage the expertise of senior naval personnel for use in training exercises.

**Name of Potential Recipient:** Drexel University  
**Location:** Philadelphia, PA  
**Amount:** \$2,500,000  
**Project Name:** Defense Energy and Awareness Program (DEAP)

**Purpose:** The Defense Energy Awareness Program (DEAP) will use FY 2011 funding to investigate and research the application and use of service-based architectures, energy management control systems, and alternative energy sources to centrally integrate “best-in-class” advanced solutions applied to selected DoD facilities and pilots. Funding will help DoD facilities to meet new federally mandated meter readings in all Federal facilities.

**Name of Potential Recipient:** DSN Innovations  
**Location:** Wexford, PA  
**Amount:** \$1,500,000  
**Project Name:** Supply Chain Solution Lab

**Purpose:** Today’s manufacturing supply chains are complex and often global, which lead to challenges in the areas of assembling and managing widely separated supply chain activities, coordination, and identifying natural disaster or financial risks. If awarded, funding will be used to specialized software and communications to create virtual supply chains allowing defense industry manufacturers, supplier, and the military to solve supply chain problems such as high costs and delayed deliveries. By increasing supply chain flexibilities and efficiencies, the military and its supporting industries can better support the war fighter by assuring more timely and accurate deliveries.

**Name of Potential Recipient:** El Detection and Imaging Systems  
**Location:** Saxonburg, PA  
**Amount:** \$2,000,000  
**Project Name:** Portable Radionuclide Detection Systems

**Purpose:** The Department of Defense’s Defense Threat Reduction Agency’s (DTRA) Research and Development Enterprise Nuclear Technology Directorate has initiated a development program to broaden and strengthen current unique nuclear domestic detector and system manufacturing capabilities. If awarded, funding will be used to support DTRA’s need for high quality nuclear detectors to reduce the proliferation of WMD’s and enhance capabilities to counter and eliminate them. El Detection and Imaging Systems would build on improvements already made to the semiconductor nuclear sensors and accelerate the advanced, cost effective, domestic fabrication capability required by DTRA.

**Name of Potential Recipient:** Electromet Corp  
**Location:** Johnstown, PA

**Amount:** \$1,000,000  
**Project Name:** LCS Mission Support Module

**Purpose:** The Littoral Combat Ship (LCS) employs a number of Mission Support Modules that can be easily taken on/off of each LCS as operational needs change. If awarded, funding will be used to employ a new shipboard mechanical connection, at select decks and bulkheads, to reduce the total payload for any given mission supported by LCS's Mission Support Modules. This infrastructure could provide standardized, lightweight and easily reconfigurable storage cabinets to support multiple LCS missions. The current LCS performance now requires an improved design to fully satisfy the Navy's need.

**Name of Potential Recipient:** Environmental Tectonics Corp  
**Location:** Southampton, PA  
**Amount:** \$5,000,000  
**Project Name:** Joint Strike Fighter (JSF) TACModule™ Project

**Purpose:** FY2011 funding will support the Air Force Research Lab (AFRL) 711 Human Performance Wing/Warfighter Readiness Research Division (HPW/RHA) to develop and support execution of the Test & Evaluation of the JSF TACModule™ in the Authentic Tactical Fighting System (ATFS-400™). The 711 HPW/RHA will assist in the development of a comprehensive test plan and provide oversight for this project.

**Name of Potential Recipient:** ESM Group  
**Location:** Saxonburg, PA  
**Amount:** \$1,500,000  
**Project Name:** Second Source for Atomized Magnesium

**Purpose:** Funding will be used to provide DoD with a second source for atomized magnesium to include process improvements. Ammunition requirements for current and future programs require the use of atomized magnesium in order to prolong shelf life. There is only one US industrial base source currently able to provide atomized magnesium. Industrial users are seeking atomized magnesium for an increased number of purposes also suggesting the need for a second source.

**Name of Potential Recipient:** Fidelity Technologies Corporation  
**Location:** Reading, PA

**Amount:** \$5,000,000  
**Project Name:** Power Distribution Illumination System, Electrical (PDISE)

**Purpose:** Today's world-wide, combat operations are conducted in a field environment where electricity is required to power mission critical and life saving equipment. The Power Distribution Illumination System, Electrical (PDISE) provides reliable, quick to assemble, modular designed power distribution equipment that is critical to deploying power networks. It is used to subdivide and distribute electricity from single power sources to multiple equipment users within shelters and various unit complexes, and thus is a critical element of the DOD power structure. The power distributor would help with ensuring that loose electrical wires are not strewn across Army camps conducting overseas missions. If awarded, funding would be used to help the Army to meet this requirement by fielding more PDISE units sooner.

**Name of Potential Recipient:** General Dynamic C4 Systems  
**Location:** Pittsburgh, PA  
**Amount:** \$2,000,000  
**Project Name:** Command Post of the Future (CPOF)

**Purpose:** CPOF is a software application used by commanders and staff for decision making, planning, rehearsals, and execution of operations. CPOF reduces complexity and saves lives by allowing collaboration from geographically dispersed headquarters via a shared operational picture. Over 6000 CPOF systems are deployed in continuous use by the Army and Marines as well as NATO's ISAF headquarters. If awarded, funding will be used to support the increased demand for CPOF software application used by commanders and staff.

**Name of Potential Recipient:** General Dynamics: OTS Scranton  
**Location:** Scranton, PA  
**Amount:** \$5,300,000  
**Project Name:** Ammunition Production Base Support

**Purpose:** Scranton AAP, an "inactive" facility from 1992 to 2002, was re-designated an "active" facility in 2002. This funding will assist in modernizing the facility. Despite reactivation, the funding for updating the equipment and facility has been inadequate. If awarded, funding would continue production capital improvements, including the modernization of key electrical systems, production control platforms, computer systems, and plant infrastructure.

**Name of Potential Recipient:** Gentex  
**Location:** Carbondale, PA  
**Amount:** \$5,000,000  
**Project Name:** Ground-Modular Advanced Combat Helmet (G-MACH)

**Purpose:** If awarded funding, Gentex would develop a single, fully integrated, mission capable helmet for the mounted soldier community that will ultimately help save lives by upgrading the oldest helmet platform used in the Army. G-MACH would improve the mounted community's combat effectiveness by removing their tether to the vehicle platform for survivability and situational awareness. The modular designs will easily transition between mounted and dismounted modules.

**Name of Potential Recipient:** Global Seating Systems LLC  
**Location:** Exton, PA  
**Amount:** \$5,000,000  
**Project Name:** Next Generation Protective Seat

**Purpose:** Global Seating System seeks to create a next generation, modular seat required to address the safety of all Soldiers. Unlike current systems that are single stage and tuned for one specific occupant weight and one specific dynamic blast, the Next Generation Protective Seat will (i) sense the weight of the occupant and blast pulse and automatically adjust the seat energy attenuating system to that dynamic profile and (ii) recover for subsequent events. If awarded, funding would be used to continue the development of the next generation military seating system. Specific focus is on mine/IED blast and occupant crash protection. The project optimizes soldier survivability through a critically damped seat design.

**Name of Potential Recipient:** Hart Metals, Inc.  
**Location:** Tamaqua, PA  
**Amount:** \$3,000,000  
**Project Name:** Lightweight Magnesium Parts for Military Applications

**Purpose:** The program's objective is to develop high-performance magnesium alloy and composite powders and magnesium casting alloys for the manufacture of lightweight components for the Army. If awarded, funding will

be used to develop prototype lightweight magnesium components for field trials.

**Name of Potential Recipient:** HMS Technologies  
**Location:** Carnegie, PA  
**Amount:** \$4,000,000  
**Project Name:** U.S. Army Individual Deceased Personnel Files (IDPF)

**Purpose:** Rubicon Aviation Training, a Pennsylvania-based SDVOSB along with its partner HMS Technologies are currently completing a Pilot that digitizes and preserves Individual Deceased Personnel File (IDPF) records currently existing only in hardcopy. IDPFs are a historically important and sensitive repository of over 375 million individual items representing the Service records of approximately 1 million deceased Army/Army Air Corps veterans dating to World War I. If awarded, funding would be used to open an additional USA/CMAOC center in Pennsylvania.

**Name of Potential Recipient:** Impact Technologies  
**Location:** State College, PA  
**Amount:** \$1,900,000  
**Project Name:** Smart Oil Sensor

**Purpose:** The Smart Oil Sensor is an engine lubricant quality sensor for application to Army ground vehicles, wheeled and tracked, all of which have a requirement for an oil condition sensor. If awarded, funding will be used to develop and implement an engine lubricant quality sensor for application to army ground vehicles. This technology would eliminate the need to change oil based on inherently conservative estimates and allow for the safe extension of oil drain intervals by developing oil quality sensing hardware.

**Name of Potential Recipient:** International Battery  
**Location:** Allentown, PA  
**Amount:** \$1,500,000  
**Project Name:** Silent Watch, NATO 6T Lithium-Ion Advanced Battery and Ultra-capacitor

**Purpose:** FY2011 funding will be used to develop an improved, drop-in replacement NATO 6T style tactical military vehicle battery based on lithium-ion and ultra-capacitor technology and continue development of the NPS1160

non-primary power system based on large format Lithium-Ion technology. The project will greatly improve the performance and reliability of the starting battery and auxiliary power unit within military vehicles.

**Name of Potential Recipient:** KCF Technologies  
**Location:** State College, PA  
**Amount:** \$3,000,000  
**Project Name:** Self-Powered Prosthetic Limb Technology

**Purpose:** The objective of this project is to further develop an energy harvesting device as a component in a lower extremity prosthetic limb. This captured energy is stored to automatically recharge the batteries of the leg, which greatly extends the operational time of a battery charge, or eliminates the need for battery charge altogether. If awarded, funding will build upon the project's successes over the past two years during which KCF Technologies modeled, designed, fabricated, and tested a prototype energy harvesting component. KCF Technologies will further develop structural aspects of the prosthetic and design training and rehabilitation techniques for military amputees.

**Name of Potential Recipient:** L-3 SPD Electrical Systems  
**Location:** Philadelphia, PA  
**Amount:** \$2,500,000  
**Project Name:** High Speed Power Node Switching and Control Centers

**Purpose:** SPD Electrical Systems (SPDES), in cooperation with the U.S. Navy (ONR & NAVSEA), has developed and is in the process of developing two flexible/multifunctional power distribution systems that will bring increased capability to the war fighter while enabling the reduction of man-power, energy consumption, installation and life-cycle costs. FY11 funding would facilitate the installation of Power Node Control Centers (PNCC) on U.S. Navy Ship Modernization, Re-Start and New Construction Programs as well as continue enhanced development of the High Speed Power Node Switching and PNCC's for US Navy ships.

**Name of Potential Recipient:** L-3 Telemetry East  
**Location:** Bristol, PA  
**Amount:** \$2,500,000

**Project Name:** High Assurance Internet Protocol Encryptor  
Module for  
UAV's and Dismounted Soldier

**Purpose:** The Office of the Secretary of Defense (OSD) has mandated Advanced Encryption Standard (AES) encryption on all Unmanned Air Vehicles (UAV's) to communicate vital information to ground forces in theater. This is the result of insurgents using inexpensive software like SkyGrabber to access UAV data. If awarded, funding would be used to increase the security for the vital information that the UAV's provide.

**Name of Potential Recipient:** Lackawanna College

**Location:** Scranton, PA

**Amount:** \$5,000,000

**Project Name:** Creating High Tech Jobs for Disabled Service Veterans

**Purpose:** For veterans returning from Iraq and Afghanistan, especially service disabled veterans, finding meaningful employment is a serious challenge. It is well documented that returning veterans, especially disabled veterans, face many social and psychological challenges reintegrating into society, and meaningful employment assists veterans in overcoming these challenges. If awarded, funding will be used help service disabled veterans achieve meaningful comfortable employment and an opportunity to work together as the increase in veterans returning to the U.S. is expected to increase in the coming months.

**Name of Potential Recipient:** Lafayette College

**Location:** Easton, PA

**Amount:** \$2,000,000

**Project Name:** Lafayette College/Institute for Human & Machine Cognition Undergraduate Research Collaborative

**Purpose:** Lafayette College, in partnership with the Institute for Human and Machine Cognition, will use FY2011 funding to support researchers and students who will create and prototype new biologically-inspired robotic concepts designed to increase the stealth and efficiency of littoral operations. This project is designed to advance and integrate important capabilities in high fidelity reconnaissance and surveillance scenarios involving coordinated operation of multiple types of unmanned land and sea vehicles, bringing them to greater maturity and moving them towards the field of operations.

**Name of Potential Recipient:** Lehigh Heavy Forge Corporation  
**Location:** Bethlehem, PA  
**Amount:** \$5,000,000  
**Project Name:** Navy Production Capacity Improvement Project

**Purpose:** If awarded, funding for this project would continue to help Lehigh Heavy Forge expand, modernize, and maintain the production capabilities of Lehigh Heavy Forge needed to support production of Naval Ship shafting and Naval Nuclear Reactor components. Lehigh Heavy Forge is the only domestic company that can handle producing these types of components. In recognition of the important role that Lehigh plays in delivering these products, Pentagon has instituted an administratively-imposed DFARS restriction, which allows only DoD to acquire ship propulsion shafts, periscope tubes, and ring forgings for bull gears.

**Name of Potential Recipient:** Lehigh University  
**Location:** Bethlehem, PA  
**Amount:** \$2,000,000  
**Project Name:** Engineered Materials and Manufacturing Technologies for Defense and Industry

**Purpose:** Lehigh University and the U.S. Army Benet Weapons Laboratories, with industry and academic partners in Pennsylvania and New York, will develop engineered materials and manufacturing technologies for large caliber armaments, followed by technology transfer of the newly developed materials and processing innovations to civilian use. This research will develop innovative advanced technologies that will result in more reliable and effective weapon systems with improved life cycles.

**Name of Potential Recipient:** LifeWatch  
**Location:** Philadelphia, PA  
**Amount:** \$2,500,000  
**Project Name:** Remote Arrhythmia Monitoring Initiative

**Purpose:** According to cardiology reports within the Military Health System, cardiac complications are the 2nd leading cause of evacuation of troops from deployment costing the military approximately \$75M annually. If awarded, funding will be used to evaluate and document the diagnostic capabilities and cost savings of new arrhythmia monitoring services for the military. LifeWatch will work with medical providers to determine the appropriate criteria for a

demonstration project and work with 1–2 National Guard deployment centers as well as with a large number of reservists to implement the trail.

**Name of Potential Recipient:** LithChem Energy  
**Location:** Pittsburgh, PA  
**Amount:** \$4,250,000  
**Project Name:** Low Cost Automated Production of Superior High Capacity, High Rate, Rechargeable Lithium–Ion Batteries

**Purpose:** LithChem Energy (LCE) will take the high energy density (40% lighter) rechargeable lithium–ion battery they developed into a functioning robust battery for use by the individual warfighter. In addition to achieving an 80% gain in capacity (40% weight reduction) for the All–American resourced battery, LCE believes the manufacturing cost of these batteries and cells per contained Wh in quantity will be lowered by this new automated process to be competitive in cost per Wh with international suppliers.

**Name of Potential Recipient:** LORD Corporation  
**Location:** Erie, PA  
**Amount:** \$5,000,000  
**Project Name:** Omni–Directional Active Vibration Control  
**Purpose:** The CH–47 Chinook is a multi–mission helicopter for the U.S. Army and international defense forces. It is the most proficient and recognized transport helicopter in the world with applications for the U.S. Army and Air National Guard. If awarded, funding will be used to advance the test and evaluation of LORD’s OMNI Active Vibration Control System integration on the CH–47 Chinook aircraft with manufacturing to be complete in Northwest Pennsylvania. LORD’s Active Vibration Control Systems are being used to minimize vibration and reduce weight (up to 120 lbs) in helicopters.

**Name of Potential Recipient:** LR Kimball  
**Location:** Ebensburg, PA  
**Amount:** \$2,000,000  
**Project Name:** National Guard Bureau J–3 Civil Support Team Implementation Assistance

**Purpose:** FY2011 funding would be used to provide Civil Support Teams with a solution and enterprise architecture for developing a capability to deploy a communications resource to address operating systems to enable critical C4ISR

capabilities across tiered DOD and Non-DOD response entities to respond to DOD's Civil Support/Homeland Defense mission. This would improve the DoD response, which currently is comprised of response from various entities that are utilizing disparate communications systems.

**Name of Potential Recipient:** MaxPower, Inc.  
**Location:** Lane Harleysville, PA  
**Amount:** \$1,800,000  
**Project Name:** CERAMIC MEMBRANE – 10(X) Times More Energy for Battery Systems

**Purpose:** The US Army has been trying to develop technologies that can lighten the load of the warfighter. A reduction in the number of batteries would lighten the overall dead weight load. FY 2011 funding will continue to develop a ceramic membrane for a lithium air battery system that has superior high energy density [10(x) times more], resulting in a battery technology that provides the soldier with a high power, high energy battery that is reliable and is safe in high temperature desert environments.

**Name of Potential Recipient:** Medico Industries  
**Location:** Wilkes-Barre, PA  
**Amount:** \$3,200,000  
**Project Name:** Large Caliber Parts Upgrade

**Purpose:** The Large Caliber Parts Upgrade project will address the ability of the National Technology and Industrial Base (NTIB) to provide legacy item manufacturing enhancement to rapidly prototype and produce new and improved munitions for the warfighter. If awarded, funding would establish new manufacturing science and techniques, capture the knowledge, and demonstrate transferability for large caliber projectiles, warheads, cartridge cases and other metal parts. The Integrated Data Environment (IDE) will be enhanced and expanded. This expanded Adaptable Manufacturing Test bed (AMT) will support development of the latest manufacturing methods.

**Name of Potential Recipient:** Morgan Advanced Materials & Technologies  
**Location:** St. Marys, PA  
**Amount:** \$2,800,000  
**Project Name:** High Performance Light-weight Body Armor Development Initiative

**Purpose:** A requirement for body armor is the use of lightweight, ballistic resistant advanced armor materials that can be integrated into the design and operation of the vest. If awarded, funding for this project will be used to build on previously developed silicon carbide (SiC) ceramic technology to develop low cost materials processing and fabrication methods for the accelerated development of SiC vehicle armor applications.

**Name of Potential Recipient:** Mikros Systems  
**Location:** Fort Washington, PA  
**Amount:** \$2,000,000  
**Project Name:** Adaptive Diagnostic Electronic Portable Testset (ADEPT)

**Purpose:** ADEPT is an automated electronic system for maintenance, alignment, calibration, and error diagnosis of shipboard radar and other complex electronic systems supporting critical operational missions such as ship self-protection and ballistic missile defense. If awarded, funding will be used to expand ADEPT capabilities to other Navy equipment and ship classes.

**Name of Potential Recipient:** Mine Safety Appliances  
**Location:** Cranberry Township, PA  
**Amount:** \$4,000,000  
**Project Name:** Indoor Personnel Location and Tracking System

**Purpose:** MSA has made significant progress since early 2007 in developing an Indoor Personnel Location and Tracking System, to the point of proving the effectiveness of a custom inertial navigation based technology to a panel of 25 industry experts in October 2009. If awarded, funding will be used to develop and complete an indoor location and tracking system that tracks personnel within a one meter radius.

**Name of Potential Recipient:** Morgan Technical Ceramics  
**Location:** Allentown, PA  
**Amount:** \$2,500,000  
**Project Name:** Military Protective Coatings Initiative (MPCI)

**Purpose:** FY2011 funding would be used to build highly innovative Chemical Vapor Deposition chambers that coat components with a diamond-like hard

carbon coating that solves abrasion, wear, fatigue, and corrosion issues, and provides a safe alternative to hexavalent chrome and cadmium.

**Name of Potential Recipient:** NanoBlox  
**Location:** Clarion, PA  
**Amount:** \$2,000,000  
**Project Name:** Domestic Production of Nanodiamond for Military Applications

**Purpose:** NB™ is the smallest known diamond particle. NB™ nanodiamond enables dramatic physical and chemical improvements to many materials. If awarded, funding would build off previous successes for the establishment of a domestic production source for NanoBlox nanodiamond for military and commercial applications, including ballistics, lubricants, Teflon replacement, and lightweight armor.

**Name of Potential Recipient:** National Center for Manufacturing and Machining  
**Location:** Latrobe, PA  
**Amount:** \$2,000,000  
**Project Name:** The National Center for Defense Manufacturing and Machining

**Purpose:** The NCDMM was established in 2003 to address the DoD need for manufacturing expertise to reduce overall defense program costs (initial development and sustainability costs). The NCDMM identifies specific defense manufacturing operations for improvement and implements more modern technology; resulting in reduced costs, shorter lead times and/or enhanced quality of manufactured components. If awarded, funding will be used to assist the U.S. defense industrial base in being globally competitive and provide support to local shops in Western Pennsylvania who wish to pursue defense-industry opportunities.

**Name of Potential Recipient:** Nokomis, Inc.  
**Location:** Charleroi, PA  
**Amount:** \$3,000,000  
**Project Name:** AELED IED/WMD Electronic Signature Detection

**Purpose:** The AELED technology developed over several years for IED/WMD trigger detection provides unique opportunities for IED Defeat and WMD

counterproliferation activities. Nokomis' Advanced Electromagnetic Location of Electronic Devices (AELED) technology locates and identifies electronic trigger devices rapidly, thereby providing an effective countermeasure against IEDs. IED/WMD triggers are identified and located based on device-specific passive and active characteristic electromagnetic signatures. Specifically, these funds will continue the completion of active source development and integration, advance phenomenology and signature database enhancements, and advance receiver development and algorithm enhancements.

**Name of Potential Recipient:** PA NanoMaterials Commercialization Center  
**Location:** Pittsburgh, PA  
**Amount:** \$2,000,000  
**Project Name:** Pennsylvania NanoMaterials Commercialization Center

**Purpose:** The project will identify promising new nanomaterials research at PA universities and companies, and match it to those applications needed by the US Air Force warfighter.

**Name of Potential Recipient:** Pennsylvania National Guard  
**Location:** Fort Indiantown Gap, PA  
**Amount:** \$5,000,000  
**Project Name:** Northeast Counterdrug Training Center

**Purpose:** The Northeast Counterdrug Training Center (NCTC) provides Drug Law Enforcement and Demand Reduction Agencies with a no-cost training center. NCTC provide the facilities, instruction and support to enhance the capabilities to reduce and remove illegal drugs, and educate communities in the most up-to-date prevention techniques. This funding would meet the demand for the upcoming year.

**Name of Potential Recipient:** Pennsylvania State University  
**Location:** University Park, PA  
**Amount:** \$2,800,000  
**Project Name:** Hybrid Power System for Large Unmanned Undersea Vehicles (UUV)

**Purpose:** This project will develop a hybrid power system consisting of reactant storage, low and high power conversion and power transmission, and aluminum/seawater combustion, which will provide significantly higher power

densities for unmanned undersea vehicles (UUV). This increase in power density will enable large UUVs to operate at ranges and speeds that will allow full coverage of the world's oceans for exploration, data collection, and national security purposes.

**Name of Potential Recipient:** Pennsylvania State University: The Milton S. Hershey Medical Center  
**Location:** Hershey, PA  
**Amount:** \$3,000,000  
**Project Name:** Tele-Medicine Delivery of Sedation-Analgesia Training for Far Forward Battlefields

**Purpose:** The primary purpose of the program is to prevent over-sedation of wounded soldiers who receive far-forward battlefield analgesia and sedation by non-physician military personnel. If awarded, funding will be used to provide new procedures and training for the safe administration of sedation to patients in military and civilian arenas, preventing over-sedation of wounded soldiers by non-physician military personnel.

**Name of Potential Recipient:** Piasecki Aircraft Corporation  
**Location:** Essington, PA  
**Amount:** \$7,300,000  
**Project Name:** Vectored Thrust Ducted Propeller (VTDP) Compound Helicopter Flight Demonstration Program

**Purpose:** The X-49A VTDP Demonstrator completed initial Phase 1 flight testing in Oct '08, successfully achieving all technical milestones and demonstrating up to a 47% increase in speed, and 50% reduction in vibration and fatigue loads. If awarded, funding will be used to demonstrate the VTDP Compound Helicopter technology to redefine performance and flight control. The objective of the project is to validate this technology's ability to increase speed and range, and to reduce life cycle costs.

**Name of Potential Recipient:** Piezo Resonance Innovations  
**Location:** Bellefonte, PA  
**Amount:** \$1,000,000  
**Project Name:** Lightweight Battery Driven and Battlefield Deployment Ready NG Feeding Tube Cleaner

**Purpose:** Wounded soldiers are often treated with NG Feeding Tubes (FTs) until able to swallow again. Clogging of FTs is a serious problem for the US Military since replacement of a clogged tube can be difficult, dangerous, or impossible depending on the tactical situation. If awarded, funding will be used to develop a device to prevent clogging of feeding tubes that aid wounded soldiers in swallowing.

**Name of Potential Recipient:** Pittsburgh Tissue Engineering Initiative  
**Location:** Pittsburgh, PA  
**Amount:** \$5,000,000  
**Project Name:** Advanced Regenerative Medicine Therapies for Combat Injuries

**Purpose:** Hand and facial tissue transplantation is a clinical reality with over 45 hand and 4 facial transplants performed to date with extremely encouraging functional outcomes. The focus of this program is to implement cell-based immunomodulatory strategies to improve the safety, efficacy and applicability of these promising reconstruction modalities. To maximize the life-enhancing benefits and clinical applicability of these procedures, there exists an equally imminent need to optimize nerve regeneration after transplantation.

**Name of Potential Recipient:** PPG Industries  
**Location:** Allison Park, PA  
**Amount:** \$1,500,000  
**Project Name:** Chem-Bio Threat Decontamination Coatings

**Purpose:** PPG Industries, Inc. will use FY 2011 funding to design self-decontaminating coatings for military equipment, enabling improved operational readiness with no additional training and to reduce costs/complexity associated with current systems for chemical and biological decontamination.

**Name of Potential Recipient:** ProModel  
**Location:** Allentown, PA  
**Amount:** \$1,500,000  
**Project Name:** Modeling Support for the Army Material Command Equipping Strategy

**Purpose:** This project would help provide the Army Material Command with software from the ProModel Corporation that will help the Army deal with short

and long range equipping issues. The software is a modified version of proven software the Army is already utilizing to budget and schedule complicated troop rotations in multiple theaters.

**Name of Potential Recipient:** QinetiQ North America  
**Location:** Pittsburgh, PA  
**Amount:** \$1,500,000  
**Project Name:** Robotic System for Neutralization of Defense Threats in Subterranean Warfare

**Purpose:** In recent years, over 112 tunnels were dug under U.S. borders, and the Taliban and Al Qaeda continue to hide in and fight from caves. Subterranean operations to counter these threats mean exposing our personnel to risks from traps, ambush, and structural or geologically unsafe conditions. Robots are ideal for these operations, but robotic technology tailored to subterranean warfare and operations is lacking. If awarded, funding will be used to accelerate the development and implementation of an advanced robotic autonomy integrated in a larger surveillance system used in subterranean warfare.

**Name of Potential Recipient:** Rajant  
**Location:** Malvern, PA  
**Amount:** \$5,000,000  
**Project Name:** Multi Frequency Meshed Battle-Cloud Network (formerly Portable Mobile Emergency Broadband System)

**Purpose:** The Portable Mobile Emergency Broadband System consists of mobile communication devices, also referred to as BreadCrumbs, that wirelessly link together to form a digital broadband network. If awarded, funding will advance the basic functionality of the technology and develop new capabilities urgently needed to support a broad range of important uses. These include direct integration with sensors used for IED, chemical, biological, and nuclear warning systems, support for rapid, in-the-field reconfiguration to avoid interference and security compromises, and integration with legacy communication systems to enable a practical, phased transition from older, less capable systems.

**Name of Potential Recipient:** Saint Francis University CERMUSA  
**Location:** Loretto, PA  
**Amount:** \$3,000,000

**Project Name:** Rural Health–Center of Excellence for Remote and Medically Under– Served Areas (CERMUSA)

**Purpose:** CERMUSA’s research efforts have brought distinct benefits to both military and civilian communities. If awarded, funding would be used to develop cellular multimedia content distribution, testing and evaluation of bandwidth–efficient content distribution, refine deployable tactical and communications networks for rural military and first responders units. Additional funding would go towards developing pre–deployment physical and psychological health screenings and needs assessment for TBI and PTSD.

**Name of Potential Recipient:** Sechan Electronics

**Location:** Lititz, PA

**Amount:** \$5,000,000

**Project Name:** Oberon (Data Distribution System)

**Purpose:** Over the past couple of years, Sechan Electronics’ OBERON system has put intuitive technology in the hands of soldiers and provides a common data interface for all GFE connected systems. The system reduces space, weight and power demands by eliminating the need for redundant processors, laptops and excess cabling. If awarded, funding will be used to procure and install 100 OBERON data distribution systems in MRAP vehicles for the Army’s Rapid Equipping Force. The funding will be used for manufacturing, operational experimentation and deployment of the OBERON system.

**Name of Potential Recipient:** SCHOTT Research and Technology Development

**Location:** Duryea, PA

**Amount:** \$4,000,000

**Project Name:** Advanced Ballistic Testing of Lithia Alumina Silicate (LAS) and Disilicate Glass Ceramic Armor

**Purpose:** Glass ceramic armor currently employed by the DoD use “off the shelf” materials, adapted from home appliance applications. If awarded funding, the Advanced Ballistic Testing of Lithia Alumina Silicate (LAS) and Disilicate Glass Ceramic Armor project will provide materials for lighter weight and more survivable armor.

**Name of Potential Recipient:** Silicon Power Corporation

**Location:** Malvern, PA

**Amount:** \$2,500,000

**Project Name:** Advanced Power Processor

**Purpose:** If awarded, funding will be used to produce low cost, highly reliable military advanced power processors that are optimal for electronic defense systems that have substantial power requirements. This project aims to meet the military requirement of constant and efficient power supply to critical electronic systems such as electromagnetic guns.

**Name of Potential Recipient:** Snake Creek Lasers

**Location:** Hallstead, PA

**Amount:** \$2,000,000

**Project Name:** High Power Cryogenic Laser

**Purpose:** Snake Creek Lasers (SCL) has demonstrated cryogenically-cooling solid-state lasers can lead to efficient High Power Solid State Lasers (“HPSSL”) with near perfect beam-quality. If awarded funding, SCL will demonstrate a >10,000 Watt cryogenic HPSSL with higher wall-plug efficiency and unprecedented beam-quality, using a far simpler approach than room temperature HPSSL's use. This technology could potentially allow Humvee or fighter aircraft platforms to acquire speed of light shoot-down capabilities to disable enemy missiles, vehicles, mines, unexploded bombs and UAVs.

**Name of Potential Recipient:** Stemnion, Inc.

**Location:** Pittsburgh, PA

**Amount:** \$4,500,000

**Project Name:** Regenerative Wound Repair Technology

**Purpose:** Many attempts to develop new wound care products fail because of fundamental misconceptions about the nature of wound healing. Rather than a single generic event, wound healing: – the body’s natural restorative response to tissue injury – is the end result of a complex series of interrelated cellular processes. If awarded, funding for this project will go towards developing proprietary cell-based technologies for regenerative wound repair to better aid the treatment of combat-related injuries and trauma.

**Name of Potential Recipient:** Temple University

**Location:** Philadelphia, PA

**Amount:** \$2,000,000

**Project Name:** Terrorism Threat Detection Research

**Purpose:** Temple University will use FY2011 funding to combine laser technologies with state of the art hyper-spectral detection, mass spectral detection and imaging methods to develop the most sensitive, selective and long range (up to 15 miles) chem-bio detection regime in the world. Applications include standoff detection of improvised explosive devices, chemical mapping of cities and remote terrains, detection of hidden bunkers, weapons caches and stockpiles.

**Name of Potential Recipient:** Tyco Electronics  
**Location:** Freeport, PA  
**Amount:** \$3,500,000  
**Project Name:** Carbon Nanotube Technology for Wire and Cable Development

**Purpose:** Carbon Nanotube Technology is near term technology that eliminates weight on every military vehicle and airborne platform currently loaded down with higher-weight copper wire and cable. If awarded, funding would be provided to expedite the development of Carbon Nanotube Technology (CNT) to reduce total weight in military airborne platforms.

**Name of Potential Recipient:** University of Pennsylvania Health Systems  
**Location:** Philadelphia, PA  
**Amount:** \$2,200,000  
**Project Name:** Blood Safety and Decontamination Technology

**Purpose:** Cerus' INTERCEPT Blood Systems™ technology inactivates infectious agents (bacteria, viruses, and parasites) in blood components prepared for transfusion. This technology significantly improves the safety of blood transfusions in military and civilian populations, makes more blood available for care of military personnel and their families, and prevents transmission of new infectious agents by military blood donor populations, especially during deployments. If awarded, funding will be used to develop technology that would inactivate infectious pathogens that may contaminate donated blood, thus preventing infections in wounded military personnel who are vulnerable during deployments when routine testing of blood donors is not feasible.

**Name of Potential Recipient:** University of Pittsburgh Medical Center  
**Location:** Pittsburgh, PA  
**Amount:** \$1,980,000  
**Project Name:** Collaborative Brain Injury Biomarkers Development Network

**Purpose:** The Collaborative Brain Injury Biomarkers Development Network (CBBDN) will provide innovative methods for detecting and treating Traumatic Brain Injury (TBI). The CBBDN will build on the work accomplished through earlier federal funding to further explore the utility of biomarkers in identifying patients with TBI and patients at risk for a number of post traumatic complications.

**Name of Potential Recipient:** U.S Army National Automotive Center  
**Location:** Warren. MI  
**Amount:** \$3,000,000  
**Project Name:** Next Generation Line Haul Tractor Test and Evaluation

**Purpose:** It has been approximately nine years since the Army held a full and open competition to procure new line haul vehicles. Consequently, Army procurement officials may not know what industry has to offer in terms of technology and price. If awarded, funds would be used by the Army to do a cost benefit analysis to determine whether it is more cost effective to purchase new Line Haul Tractors or to modify existing ones.

**Name of Potential Recipient:** United Service Organizations (USO)  
**Location:** Multiple locations  
**Amount:** No amount specified.

**Purpose:** Request funding to help the USO continue and expand its programs in support of deployed service members, wounded warriors and their families. [See Attachment.](#)

**Name of Potential Recipient:** Vital Probes, Inc.  
**Location:** Mayfield, PA  
**Amount:** \$1,000,000  
**Project Name:** Recombinant Universal/Seasonal Vaccine for Influenza

**Purpose:** Funding will be used to assess, in animals, the efficacy of a protein adjuvant vaccine attached to influenza proteins and perform studies and human immunogenicity trials. This novel vaccine developed by Vital Probes, Inc. will induce an immune response to conserved portions of the virus, which is intended to provide broad-spectrum immunity to influenza. It will also

enhance antigens to seasonal variants resulting in a more efficacious vaccine. This vaccine is ready for animal efficacy studies and human clinical trials.

**Name of Potential Recipient:** Wavefront Research, Inc.  
**Location:** Bethlehem, PA  
**Amount:** \$1,500,000  
**Project Name:** Hybrid Standoff Sensor System

**Purpose:** Funding will be used to make a superior hybrid sensor that will detect chemical and biological weapons from a standoff distance and more rapidly than current sensors. Early warning of threats is a critical capability gap in U.S. defenses.

**Name of Potential Recipient:** 171<sup>st</sup> Air National Guard Air Refueling Wing  
**Location:** Pittsburgh, PA  
**Amount:** \$4,150,000  
**Project Name:** Air National Guard Advanced Squadron Level Simulator

**Purpose:** Funding will be used to provide for non-recurring engineering costs and placement of two KC-135 Advanced Squadron Level Simulators (ASLS), to expand Air National Guard training capability and enhance training effectiveness while significantly reducing costs. As a type specific flight simulator, ASLS will be very beneficial in initial, recurrent, instrument, and crew resource management. ASLS allows the Air National Guard to improve training, reduce cost, and maintain a high standard of operational readiness.