

Fiscal Year 2011 Defense Investment Requests – Senator Inhofe

- ***\$7,500,000 for Acoustic Intelligence (ACINT) Measurement Signature Intelligence (MASINT) Tape Digitization Program***
 - **Purpose:** To continue the efforts to digitize and preserve the vital intelligence data stored within the analog tapes of the ACINT Archive and used by the Office of Naval Intelligence (ONI). Funding would be utilized to increase the percentage of analog data to be digitally preserved.
 - **Justification:** This initiative is intended to enhance the survivability of critical intelligence data used by the U.S. Navy being stored on aging analog tapes in the ACINT Archive. This project has been previously funded: FY09 - 1,200,000 and FY08 - 2,000,000
 - **Authorization:** The National Acoustic Intelligence Laboratory at the Office of Naval Intelligence (ONI) within the National Maritime Intelligence Center (NMIC) has been authorized to analyze and validate authority for hydro –acoustic signatures. ACINT will facilitate this charge. Appropriated in Public Law No: 110-329. Authorization requested in FY10 National Defense Authorization Bill.
 - **Location** – Oakdale, MN
- ***\$2,000,000 for Advanced Ultrasonic Inspection of Helicopter Rotor Blades and Condition Monitoring of Helicopter Components***
 - **Purpose:** To complete development of an advanced ultrasonic inspection system. Currently, the method for inspecting helicopter rotor blades and other laminated structures is by performing a visual inspection and a physical inspection through the use of a tap hammer. This rudimentary inspection method is not capable of determining the exact degree or boundaries of the damage to a rotor blade and is open to inspector interpretation.
 - **Justification:** There have been over 50 "incidents" reported over the past 10-15 years involving helicopter rotor blade corrosion related problems. An incident means that the aircraft must be landed immediately and cease operations. Nine deaths have been attributed to corrosion related maintenance issues during the same time period. Advanced NDI methods could have precluded these occurrences. The technology developed will, eventually, be able to be modified to supplement the depot work being done at Tinker, AFB Air Logistics Center.
 - **Authorization:** The Department of the Army is required to maintain their helicopter fleet, robotic inspection will aid in this mandate. Authorization requested in FY10 National Defense Authorization Bill. Appropriated in Public Law No: 110-329.
 - **Veracity Technology Solutions, LLC**- Tulsa, OK

- **\$5,000,000 for Aging Systems Sustainment and Enabling Technologies (ASSET) (OSU Project)**
 - **Purpose:** The ASSET program augments military readiness by expanding the Department of Defense manufacturing base for producing problem-parts for aging aircraft and weapons systems. ASSET has a successful 14-year record of support for DOD, creating savings that range from 15%-85%. Funding provided by this request will be used to continue the ASSET program and to enhance its effectiveness in performing its mission.
 - **Justification:** The ASSET program develops, tests, and transfers cost-effective logistics support technologies to reduce the costs associated with support of aging weapon systems and aircraft. This improvement program addresses DOD needs for procuring replacement parts for aging systems and aircraft, and helps DOD confront problems associated with corrosion.
 - **Authorization:** Supports the principal missions of the Office of the Assistant Deputy Under Secretary of Defense for Maintenance Policy and Programs [ADUSD (L&MR) MPP] to: Serve as the principal advisor for policies and procedures for maintenance support of major weapon systems and military equipment. Provide the functional expertise for centralized maintenance policy and management oversight for all weapon systems and military equipment maintenance programs and related resources within the Department of Defense. Authorization requested in FY10 National Defense Authorization Bill. Appropriated in Public Law No: 110-329.
 - **Oklahoma State University-** Stillwater, OK
- **\$3,700,000 for Arctic Fire-Freeze - Fire Suppression System**
 - **Purpose:** The Arctic Fire-Freeze® liquid fire suppression product is being sought via an urgent UNS to protect warfighters from deadly IED secondary fires.
 - **Justification:** The reduction in both the number and severity of burn casualties, as well as a reduction in the loss of military equipment and vehicles, will save the U.S. government millions of dollars annually.
 - **Authorization:** The Arctic Fire-Freeze® liquid fire suppression product is being sought via an Urgent UNS to protect warfighters from deadly IED secondary fires. Fielding of this product has been delayed due to antiquated testing methods that favor environmentally harmful and often toxic products that have been used for decades. Authorization requested in FY10 National Defense Authorization Bill. Appropriated in Public Law No: 110-329.
 - **Global Safety Labs:** Tulsa, OK
- **\$6,800,000 for B-2A (B-2 CEESIM Modernization Program)**
 - **Purpose:** The CEESIM Modernization Program will enable the Air Force to conduct critical testing on the modernized survival equipment that is installed on the B-2.
 - **Justification:** The additional funding is needed to procure and deploy the last Combat Electromagnetic Environment Simulator (CEESIM) system at Tinker AFB, OK to support the B-2 weapon system.
 - **Authorization:** This is an ongoing program of record, the 1st system is under construction and the 2nd system is going on contract during 1st quarter of 2010. Partial funding for the 3rd system is in the PB for FY11; however, additional funding is needed to complete the 3rd and final system.
 - **Northrop Grumman Corporation:** Tinker AFB, OK

- ***\$18,000,000 for B-2 Squadrons (Integrated Strike Warfare/ Communications Reach-Back)***
 - **Purpose:** The project accelerates certification and purchase of biomass-derived alternative fuels and prompts DOD to plan for acquisition, blending, distribution, and storage issues that will arise upon introduction of alternative fuels as commodity in DOD.
 - **Justification:** Enables two-way secured information exchange between the B-2 and F-22 and F-35 strike assets, into the B-2 avionics systems, and with BLOS Theater Command Elements via EHF SATCOM. Additional funds (\$18M) for ISW/Communications Reachback in FY11 would integrate two primary stealth force communications systems: EHF and MADL.
 - **Authorization:** H.R. 3326 FY10 Defense Appropriations Act, section 8115
 - **Northrop Grumman Corporation:** Tinker AFB, OK
- ***\$3,700,000 for City of Enid Emergency Ops, Airport and Communication project for Vance AFB Support***
 - **Purpose:** The purpose of the project is to strengthen and enhance the City of Enid's current support to Vance AFB with respect to Emergency Response, use of Woodring Airport, and Interoperable Communication. Vance AFB is located in Enid, Oklahoma; emergency capabilities must be readily accessible from the City of Enid. Communication and security are critical components of response to threats and crisis.
 - **Justification:** The City of Enid's proposed Emergency Ops, Airport Security and Communication for Vance support project will strengthen and enhance the partnership between Enid and Vance Air Force Base by increasing support to the base and the majority of Vance military personnel residing within the City of Enid.
 - **Authorization:** Authorization requested in FY10 National Defense Authorization Bill for force protection and maintenance of Air Force assets.
 - **City of Enid:** Enid, OK
- ***\$6,100,000 for Compliance Tools Development for Metals in Antifouling Paints and Sediments***
 - **Purpose:** Funding will continue the development of a bioavailability model for copper and zinc assessment in estuarine and marine waters, and alternative bioavailability-based cleanup targets for metal contaminants in sediment. NAG has joined a consortium of industry members and Navy in order to research tools for scientific based cleanup standards.
 - **Justification:** The Department of Defense has been named as a Potentially Responsible Party (under CERCLA, RCRA and similar State laws) at 98 sites where copper and other metals drive adverse environmental risk in local sediments.
 - **Authorization:** Project appropriated funds in H.R. 3326 FY10 Defense Appropriations Bill.
 - **North American Galvanizing:** Tulsa, OK

- ***\$100,000,000 for Directed Energy Research– Airborne Laser Test Bed (ALTB)***
 - **Purpose:** The Missile Defense Agency will conduct research into the transmission and control of directed energy through and above the atmosphere at operationally relevant ranges.
 - **Justification:** To provide a robust advanced missile defense technology development program as a part of our strategy to hedge against future ballistic missile threat uncertainties.
 - **Authorization:** S. 3001 FY 2009 Defense Authorization - Airborne Laser System (sec. 235) The Senate bill contained a provision (sec. 233) that would require the Director of Operational Test and Evaluation (DOT&E) to assess and report on the operational effectiveness, suitability, and survivability of the Airborne Laser (ABL) System. The provision would also limit the availability of funds for procurement of a second or subsequent ABL aircraft until the Secretary of Defense, after receiving the DOT&E assessment, submits a certification that the ABL system has demonstrated a high probability of being operationally effective, suitable, survivable, and affordable. The House bill contained a provision (sec. 221) that would, among other things, prohibit the use of funds to acquire a second ABL aircraft until 60 days after Congress receives an independent study on boost-phase missile defense programs required by the provision. The agreement includes the Senate provision with an amendment that would incorporate the House funding prohibition into the Senate provision. H.R. 2647 FY 2010 House Authorization - Airborne Laser The budget request contained \$186.7 million in PE 603883C for the Airborne Laser (ABL) program.
 - **The Boeing Company:** Arlington, VA
- ***\$3,000,000 for Enhancing Military Force Protection through Police Training***
 - **Purpose:** This project seeks to integrate internal and external force protection measures, and enhance information collection and sharing capabilities between police and military installations by establishing a formal partnership between DoD bases and local first responders. This partnership will be enhanced by training provided by the Memorial Institute for the Prevention of Terrorism (MIPT).
 - **Justification:** There are 377 police departments whose jurisdictional boundaries are contiguous with 151 major United States (CONUS) military installations. The majority of these departments have insufficient resources for training, no formal intelligence process, and no well defined information sharing agreements with their counterparts. Yet it is these departments' officers who play a critical role in force protection, with responsibility for law enforcement and public safety in the regions in which these bases lie. Funding will provide 4 additional jobs at the Memorial Institute for the Prevention of Terrorism.
 - **Authorization:** Authorization requested in FY10 National Defense Authorization Bill. The Department of Defense Concept of Operations (CONOPS) for Police Intelligence Operations (PIO) states "PIO supports the homeland defense goals of detecting, deterring, preventing and defeating threats and attacks. PIO supports the range of homeland defense operations and civil support protection capabilities."
 - **The Memorial Institute for the Prevention of Terrorism:** Oklahoma City, OK

- **\$33,800,000 F-16, Block-42 engine upgrades**
 - **Purpose:** Engine upgrade will allow ANG aircraft to match the combat performance of new F-16 aircraft. Funding this year would complete this program, which Congress has strongly supported each year.
 - **Justification:** The P&W 229 modification provides immediate improved combat capability to Block 42 units. These aircraft have been deployed to Operation Northern Watch in 2002 and Operation Iraqi Freedom in 2005. The Air National Guard F-16 units were fully compatible in combat operations with their active duty AEF F-16 counterparts. The engine upgrade provides a cost-effective method of upgrading fighter performance at a tiny fraction of the cost of new aircraft and provides the F-16 Block 42 with a 20% improvement in thrust, with improved durability, reliability and survivability; speed and maneuver. This improvement allows the ANG to match the combat performance of new F-16 aircraft.
 - **Authorization:** Authorization requested in FY10 National Defense Authorization Bill. Funding will ensure that ANG F-16s based in Tulsa, OK have the best capability to defend our nation.
 - **Pratt and Whitney/Air National Guard:** Tulsa, OK
- **\$2,300,000 for Facility Access Control and Tracking System (FACTS)**
 - **Purpose:** Design, procure, install and integrate FACTS in facilities throughout the AFRL site with the Facility Access Control and Tracking System. This includes procurement/installation of the individual components including card readers, panels, sensors, locking mechanisms, replacement doors, wiring, and video monitoring for exterior and selected interior access doors. Doors will be self-closing (e.g. latching) and properly contain/protect required power, sensors, and locks. Exterior doors and selected interior doors will track entry and exit of personnel.
 - **Justification:** Design solution will ensure continuous (.99999%) availability of central management server and communications equipment. There are approximately 300 doors (including an estimated 90 entry control points) that will be integrated into the system. Security personnel will have the ability to dynamically adjust access to facilities and determine system status (doors secure/ajar) during elevated threats or emergency response.
 - **Authorization:** EAFB AFRL Propulsion Directorate (RZ) Secure Information Technology Infrastructure is vital to Military, Aerospace and National Security systems. The Secure Emergency Notification System (SENS) will assist Military & Homeland Security components at the touch of a button within a secure biometric environment to protect and secure the OK/OH Defense & U.S. Aerospace Industry against Terrorism per 2002 Congressional Mandate: H.R. 3482 – instructing federal agencies to be compliant with cyber space/ physical security requirements.
 - **STI Technologies:** Tulsa, OK

- ***\$7,000,000 for FIDO Explosive Detector***
 - **Purpose:** To provide soldiers with the capability to identify and interdict both explosive devices and those who manufacture these devices by detecting explosive vapors and residues.
 - **Justification:** The FIDO explosive detector was initially developed under Defense Advanced Research Projects Agency (DARPA) funding for the detection of landmines. Its successful use in combat operations in Iraq and Afghanistan for the detection of IEDs and persons involved in the manufacturing and placement of IEDs has led the Army to select this capability for expedited program fielding through its CDRT process. FIDO received the Army's 2005 10 Greatest Inventions Award and systems, both Hand Held and mounted on UGVs, have been arriving in Theater throughout 2007 and 2008, purchased mainly by unit level O&M funds. By the early 2009 the density reached over 1500 systems. Based on current Army planning, there is a requirement for the completion of the additional enhanced capability of detecting C-4 and homemade explosives (peroxides/ANFO). This will provide the capability to detect most of the explosives being used against Coalition Forces operating in Iraq and Afghanistan.
 - **Authorization:** To fund unfunded ONS and JUONS in the Army for FIDO. FIDO received the Army's 2005 10 Greatest Inventions Award and systems, both Hand Held and mounted on UGVs, have been arriving in Theater throughout 2007, purchased mainly by unit level O&M funds. By the end of 2008 the density should reach over 1200 units. The driving factors for the funding are support, replacement and procurement of deployed systems.
 - **ICx Nomadics:** Sillwater, OK
- ***\$4,000,000 for Forward Osmosis Water Purification***
 - **Purpose:** Request will ensure that US Special Operations Forces and eventually all services have the capability to generate safe drinking water during remote deployments, emergencies, or sustainment disruptions, giving commanders new capabilities for mission planning by extending mission duration, thereby enhancing force projection.
 - **Justification:** Forward osmosis is the only personal water technology that can reliably work with the very cloudy, contaminated waters typically found in the current theaters of operations.
 - **Authorization:** Ensures the capability to generate safe drink from available, contaminated water sources during remote deployments, emergencies, or during the disruption of scheduled resupply. Authorization requested in FY10 National Defense Authorization Bill.
 - **Hydration Technologies:** Albany, OR
- ***\$2,600,000 for High Density Power Conversion and Distribution Equipment***
 - **Purpose:** of advanced, high density power conversion and distribution equipment using inline switching devices will eliminate the trade-off effects that limit these advanced naval power architectures.
 - **Justification:** Without space and weight savings obtained by this system, greater electrical demands required by advanced weapons systems cannot be accomplished. The end use of the equipment would be for future Naval combatant power architectures including future U.S. Navy Destroyer programs, and retrofit of existing warships. The weight savings are estimated at 50 tons per ship, and space savings are estimated at 1000sq. feet per ship. Fuel savings are estimated at \$100,000 per year allowing for greater range.
 - **Authorization:** The 2010 Quadrennial Defense Review (QDR) notes the persistent need for a global US naval capability. More efficient use of space and fuel cost savings will make the US navy more capable while showing positive efforts made by DoD in protecting the environment.
 - **L-3 Comm/Westwood:** Tulsa, OK

- ***\$5,240,000 for Human Performance Cyber Security Initiative***
 - **Purpose:** The Osage Nation with oversight from the Air Force Research Laboratory and the National Air and Space Intelligence Center and support from Radiance Technologies, Inc. will establish the Human Performance Cyber Traffic Monitoring Center that will research, develop, and employ advanced cyber security tools, technology and products.
 - **Justification:** Funds will establish the Human Performance Cyber Traffic Monitoring Center infrastructure, install and begin to operate cyber security technology test-bed, to train, qualify and certify Osage LLC personnel in cyber skills and methodology, and to begin to conduct research, development and operational tasks leading to improved cyber security tools.
 - **Authorization:** Cyber-security is a prescient security concern. The 2010 Quadrennial Defense Review (QDR) notes the standing up of the DoD Cyber Command. Training members of the Osage Nation in cyber –security positions Oklahoma to become a key cyber-security node in the future, and assist DoD Cyber Command with their overall mission.
 - **Osage Nation/Radiance Technologies:** Pawhuska, OK
- ***\$5,000,000 for Information Operations – Network Threat Reduction/ Preemptive Defense***
 - **Purpose:** The Information Operations (IO) Network Threat Reduction and Preemptive Defense (I/O NTR-PD) initiative provides a web-based portal expanded and adapted to support OSD’s worldwide interagency planning process from which OSD and component commanders (COCOMS) are provided “before the event” insight into U.S. vulnerabilities from an adversaries’ point of view while providing a comprehensive picture of potential threats to U.S. national security.
 - **Justification:** In addition to conventional means, adversaries will increasingly use networks as an avenue of attack against the United States. The convergence of networks, understanding of network relationships; how they function (e.g., their predictability) and thus ways networks could be used by potential adversaries. As mitigation, OSD must enhance the worldwide interagency planning process from which combatant commanders (COCOMS) will gain greater “before the event” insight into U.S. vulnerabilities including the ability to maintain a comprehensive picture of potential threats. The end state objective is to develop a set of tactical and strategic Pre-War Scenarios to improve early detection of attacks and effective preemptive defense along with a web-based portal capable of supporting OSD and COCOM threat awareness and preparedness objectives.
 - **Authorization:** DoD Strategic Information Operations Directives.
 - **Triton Scientific, LLC:** Ponca City, OK
- ***\$3,000,000 for Infrared Materials Laboratories***
 - **Purpose:** This program will eliminate DoD dependency on a single foreign source for a key component of high performance IRFPAs and save taxpayers \$100,000,000 over 10 years.
 - **Justification:** This program will provide U.S. warfighters and sea-, air- and spaceborne platforms advanced technology to locate, track, and destroy enemy threats. This made-in-USA effort also will create 150 jobs.
 - **Authorization:** P.L. 110-181, P.L. 110-417. Also note: "INFRARED FOCAL PLANE ARRAYS Infrared Focal Plane Arrays (IFPA) are the key to infrared sensor systems widely used by the military. New and improved military capabilities will require the development of new and more complex arrays. Recent reports reveal that the United States, which has traditionally held the lead in IFPA technology, is falling behind. This poses the very real threat that the United States government could lose control of this technology." - Report to accompany P.L. 110-329
 - **Amethyst Research:** Ardmore, OK

- **\$6,300,000 for Irregular Warfare: An Independent RDTE COIN Aircraft Study**
 - **Purpose:** US Aircraft Engineers will guide the survivability team in the full assessment and development of the work plan for the 46th Test Wing. The aircraft is designed specifically for the Irregular Warfare and for Counterinsurgency (COIN) and Intelligence, Surveillance and Reconnaissance (ISR) missions.
 - **Justification:** The 46th Operations Group (OG), as a part of the United States Air Force Air Armament Center, is charged with test and evaluation of all USAF weapons as well as Surveillance, Command and Control Systems. The Aerospace Survivability and Safety Flight is part of the 46th OG's Munitions Test Division (OGM) and provides the 46 OG/OGM with the capability to perform live fire testing of weapon systems in a highly instrumented test facility (Aerospace Vehicle Survivability Facility - AVSF).
 - **Authorization:** Fulfills 2006/2010 Quadrennial Defense Review (QDR) requirement for DoD to shift to irregular warfare. According to USAF Irregular Warfare (IW) Doctrine 2-3, "The Air Force should maintain the ability not only to conduct IW operations, but to assist and train partner [nations], enabling them to resolve internal challenges at all stages of development. The key to Building Partnership Capacity is not finding high or low-tech answers, but the right mix of technology, training, and support that provides a Partner Nation with affordable, sustainable, and capable airpower."
 - **STI Technologies, Inc.:** Tulsa, OK
- **\$5,000,000 for Institute for Information Security (University of Tulsa)**
 - **Purpose:** The Institute for Information Security (iSec) at The University of Tulsa (TU) is one of America's premier cyber security programs integrating education, training, research and outreach activities.
 - **Justification:** iSec is the lead institution in the NSF and DoD Cyber Service (Cyber Corps) initiatives, which train students for security positions with the U.S. government and military. Funding provided under this request will provide iSec with financial resources for advanced instrumentation and research. Continued financial support for iSec will enhance the Institute's ability to carry out its mission of providing training and instruction in cyber security skill sets, which are vital for confronting and thwarting cyber threats to national security. At least 23 jobs in the Tulsa area.
 - **Authorization:** Section 214 of the FY09 NDAA: PL 110-417 provides funding for certain information security and assurance programs and sets a precedent for iSec.
 - **University of Tulsa:** Tulsa, OK
- **\$6,500,000 for Joint Standoff Weapon-Extended Range (JSOW)**
 - **Purpose:** Continued development and demonstration of the extended range version of the JSOW.
 - **Justification:** This funding will culminate in the free flight demonstration of a tactical prototype weapon with an inert warhead delivered by an F/A-18E/F aircraft. If this funding is secured, no additional funding will be needed for development.
 - **Authorization:** DoD/MDA have a persistent requirement to ensure the US Ballistic Missile Defense Shield is sound.
 - **LaBarge:** Tulsa, OK

- **\$6,000,000 for KC-135 Real Time Information in the Cockpit (RTIC)**
 - **Purpose:** There is a need for the KC-135 to have a net centric Real Time Information in the Cockpit (RTIC) capability to provide enhanced Situational Awareness (SA) of the battlespace. The KC-135 tanker is performing a myriad of missions that involve aerial refueling, airlift and Aeromedical Evacuation (AE) missions which require a RTIC or situational awareness capability.
 - **Justification:** The ability to provide the KC-135 tanker a Real Time Information in the Cockpit (i.e., Situational Awareness or RTIC/SA) capability involves a system that integrates a data link capability and a method to display the information in the cockpit. The essential elements for this system are available today (very little development costs): the data link capability can be provided by installing a current version of the ARC-210 multiband/mode radio which would be a drop-in replacement for an existing ARC-210.; the display capability can be provided by a 9x12 inch LCD display that is programmed to be installed as part of the Block 45 upgrade to replace the analog engine instrument dials which are becoming logistically unsupportable. In addition, the KC-135 fleet will be in the inventory for the next 20+ years, thus, providing the fleet with an RTIC/SA capability which is being planned for the KC-X is not “nice-to-have” but, a necessity for future KC-135 mission readiness.
 - **Authorization:** The FY10 NDAA: PL 111-84 requires the maintenance of the aging KC-135 fleet.
 - **Rockwell Collins, Inc:** Cedar Rapids, IA
- **\$4,000,000 for Large Area Inspections for Composite Aircraft**
 - **Purpose:** To develop a large area composite inspection system that will provide the war fighter with increased capabilities in the detection of composite defects. Funding will complete the research and development of an integrated ultrasonic inspection system for the inspection of large area composite structures on military aviation components. This funding will be used for the technical personnel, facilities, and equipment required to develop and deploy an integrated system that includes an ultrasonic tomography inspection system, that will allow joint service engineers and depot crews the ability to accurately and instantly identify defects that are currently undetectable with traditional Nondestructive Inspection Methods. The end product provides a permanent 3-dimensional image of large area composites such as the AV-8B Harrier wings and the V-22 Osprey rotors, wings, and other fuselage components that need to be monitored for subsurface structural damage that is currently undetectable.
 - **Justification:** Currently the amount of time it takes to perform the inspection of one AV-8 Harrier wing section is up to eight days. This project could cut the inspection time of this component in half, saving the USMC critical days to the maintenance process. With the current need to increase operational capability and decrease maintenance downtime, this project is essential in returning these operational assets back to the warfighter. This project will also be capable of being utilized on the next generation of Military aviation to include the V-22 and the upcoming heavy lift helicopter. 4 jobs in Oklahoma and future capability for the ALC at Tinker, AFB.
 - **Authorization:** Authorization requested in FY10 National Defense Authorization Bill to adequately and efficiently maintain DoD assets.
 - **Veracity Technology Solutions:** Tulsa, OK

- ***\$4,000,000 for Lightweight Composite Structure Development for Aerospace Vehicles***
 - **Purpose:** The overall objective of the program is to increase the technology readiness level of OOA processing using OOA structural material that was developed by ACG for the Navy and the Air Force.
 - **Justification:** The technology that will be matured under this project is vital to increasing the capability and reducing the cost of future military aircraft.
 - **Authorization:** Section 132 of the FY09 NDAA: PL 110-417 requires the maintenance of the aging KC-135 fleet.
 - **Advanced Composites Group:** Tulsa, OK
- ***\$5,000,000 for Liquid Propulsion Technology***
 - **Purpose:** Demonstration of practical low cost reusable engines on common fuels that leads to low cost Theater ISR, Low Cost missile Defense Targets.
 - **Justification:** Budget constraints and judicious adjudication of taxpayer dollars suggests a need for a low cost reusable engine for DoD/MDA/ and NASA testing.
 - **Authorization:** Authorization requested in FY10 National Defense Authorization Bill.
 - **TGV Rockets:** Norman, OK
- ***\$6,000,000 for MCAAP Bomb Line Automation***
 - **Purpose:** Funding will provide critical upgrades to the Bomb Explosive load lines at McAlester Army Ammunition Plant (MCAAP). MCAAP serves as the only load facility for all Air Force and Navy general purpose bombs. MCAAP also loads all Penetrator and specialty bombs for the services such as the Massive Ordnance Penetrator (MOP), Massive Ordnance Air Burst (MOAB), and the BLU 126 Low Collateral Damage Bomb. The load facilities at MCAAP were constructed in 1942. While they have been upgraded over the years there is no funding mechanism in place at Working Capital Funded facilities for major modernization efforts. Funding is necessary to support new explosive load requirements and much needed modernization upgrades to the equipment used throughout the explosive load facilities.
 - **Justification:** It is the Army's mission as the single manager for conventional ammunition to support both the Air Force and Navy's bomb loading requirements. Will maintain employee base at MCAAP.
 - **Authorization:** MCAAP has received funding in the annual defense authorization and appropriations bills.
 - **MCAAP:** McAlester, OK
- ***\$1,300,000 for Mental Health Counselor Training program for military personnel serving in Oklahoma and the Nation***
 - **Purpose:** Funding will expand MACU's Mental Health Counselor Training program for military personnel serving in Oklahoma and the nation.
 - **Justification:** Provides a solution to the severe shortage of military counselors and military chaplains, particularly given the numerous incidences of suicides and divorces on military bases and the recent Fort Hood tragedy.
 - **Authorization:** DoD has consistently expressed a need for more counselor's and chaplains to assist with the multitude of mental injuries suffered in today's battlespace. Authorization requested in FY10 National Defense Authorization Bill.
 - **Mid America Christian University:** Oklahoma City, OK

- **\$2,500,000 for Micro-Defense Advanced GPS Receiver (MicroDAGR)**
 - **Purpose:** There is a need for the soldier to have a lightweight, wrist-mounted GPS device that can enhance his personal situational awareness. The MicroDAGR provides an applications-oriented graphical-user interface touch screen product, commensurate with the technologies found in today's high-technological products (Cell, PDA)
 - **Justification:** It is recognized that the war-fighter of today is technology-savvy, and that handheld GPS requirements can be met with an enhanced MicroDAGR. However, more application and performance development needs should be integrated to make the MicroDAGR the product the war-fighter requires in a rapidly changing battlefield environment.
 - **Authorization:** The FY03 NDAA: Authorizes the MicroDAGR's predecessor, the DAGR.
 - **Rockwell Collins, Inc.:** Cedar Rapids, IA
- **\$7,000,000 for Mobile Ammunition Processing Facility**
 - **Purpose:** Each Mobile Ammunition Processing Facility (MAPF) is a self sufficient ammunition processing system. The Mobile Ammunition Processing Facility (MAPF) is a totally self sufficient facility capable of processing a broad range of ammunition.
 - **Justification:** Three systems are currently in Afghanistan and are being used to process ammunition being returned by in theatre military units. Each MAPF consist of 3 explosion proof transportable ammunition workshops, a remote power generating capability, a hard surface bravo mat system capable of handling forklift traffic and an integral shadecover. It is critical that these systems be available to the soldiers as we continue to process soldiers in and out of the conflict with a major drawdown planned over the next several years.
 - **Authorization:** Funding for field based ammunition processing and sorting was appropriated in the FY08 and FY09 Defense Appropriations Acts.
 - **MCAAP:** McAlester, OK
- **\$9,500,000 for Navigation, Location and Tracking in GPS-Denied Environments**
 - **Purpose:** To accelerate the integration and demonstration of critical technology which will provide increased situational awareness and force protection to forward operating bases in complex environments.
 - **Justification:** Provides the capability to navigate and/or track inside buildings, caves, underground structures, triple canopy, and other challenging locations currently facing our warfighters.
 - **Authorization:** Authorization requested in FY10 National Defense Authorization Bill.
 - **GWACS Defense, Inc.:** Tulsa, OK
- **\$3,600,000 for Oklahoma Unmanned Systems Alliance (OK-USA)(OSU-OU)**
 - **Purpose:** OK USA conducts research and testing in critical areas where team members from Oklahoma State University and the University of Oklahoma have significant experience and where an immediate contribution to the wider Unmanned Aerial Systems (UAS) support to the Department of Defense can be made.
 - **Justification:** Funding this joint OU/OSU venture will support the testing and research activities of OK USA. The research and testing initiatives will contribute to the development of policy to govern the use of Unmanned Aerial Systems for military and civilian purposes.
 - **Authorization:** The 2010 Quadrennial Defense Review (QDR) highlights the importance of unmanned aerial systems.
 - **OSU-OU:** Stillwater/Norman, OK

- **\$5,000,000 for OverSite WMD Multi-Sensor Response and Infrastructure Protect System**
 - **Purpose:** Enhance OKNG 63rd CST ability to deploy advanced remotely operated sensors, hazard characterization, and the latest generation of chemical and biological detection and analysis suites. OKNG-CST has limited capabilities to provide enhanced protection measures and improve response to WMD and other incidents at critical infrastructure and soft venues. The RDM corrects this deficiency. The OverSite RDM enhances existing capability within the OKNG-CST CMOC vehicle and will deploy advanced remotely operated sensors, hazard characterization, and the latest generation of chemical and biological detection and analysis suites.
 - **Justification:** When combined with the FY-2010 OverSite™ RDM Suites, the FY-2011 RDM Suites will comprise the greatest combination of protection yet deployed to protect critical infrastructure and soft target venues. .
 - **Authorization:** Received funding in H.R. 3326 – the FY10 Defense Appropriations Act.
 - **Oklahoma National Guard:** Oklahoma City, OK
- **\$4,500,000 for Plating & Coating Replacement (PACR) Program**
 - **Purpose:** The Plating and Coating Replacement Program accelerates comprehensive solutions for eliminating hard chrome and development of coatings to extend the life and refurbish magnesium aircraft parts.
 - **Justification:** Aircraft maintenance is an increasingly expensive requirement for the Air Force, with greater workloads being given to workers at ALC's like Tinker, AFB. Developing implementable solutions to refurbish worn aircraft parts with new coating technologies and replacing hard chrome procedures will increase aircraft availability while reducing costs.
 - **Authorization:** The 2010 Quadrennial Defense Review (QDR) highlights the increasing burden the maintenance of aging aircraft has, is, and will continue to be if new strategies/technologies such as PACR due not assist ALC workers in their efforts to keep airframes flight ready.
 - **General Atomics Systems Integration:** Midwest City, OK/ Tinker, AFB
- **\$4,500,000 for Precision Guidance Kit (PGK) Performance Enhancements**
 - **Purpose:** Improve Precision Guidance Kit performance to meet accuracy requirements at all ranges and in conditions where GPS signal is lost/degraded. Requirements established by the Field Artillery School and deployed fire support units to enable timely, accurate fires for ground forces while minimizing collateral damage to non-combatants.
 - **Justification:** The Army's 155mm PGK program is providing more responsive, more precise fire support capabilities. This same technology is adaptable to 105mm artillery and 120mm mortar rounds. Units in the field have expressed the need for this capability specifically for the 105mm Artillery and 120mm mortar systems.
 - **Authorization:** Army Regulation AR 525-13, Antiterrorism, implements DODD 2110.12- DOD Antiterrorism Program, and DODI 2000.16- DOD Antiterrorism Standards.
 - **ATK Advanced Weapons Systems:** Plymouth, MN

- **\$4,800,000 for Premium Power Virtual Grid Technology for Forward Operating Bases**
 - **Purpose:** To accelerate the completion and demonstration of a virtual grid that will allow wireless synchronization of various distributed mobile generators for reliability, redundancy and premium power
 - **Justification:** This technology mitigates increased power demands caused by technology and greater power demands on Forward Operating Bases while providing an unprecedented reliability and flexibility.
 - **Authorization:** Forward Operating Bases current power generation is increasingly being burdened by advances in technology and greater power demand. Current solutions rely on individual generators creating islands of electrical power subject to outages. The GO Technologies Virtual Grid adds reliability, redundancy, fuel savings and surge capabilities with premium power to FOBs. This technology will also greatly enhance the Department of Defense' capabilities in their increasing role as first responders to natural disasters and humanitarian relief.
 - **GO Technologies, LLC:** Tulsa, OK
- **\$6,200,000 for Rare Earths Alternatives for Permanent Magnet Motors**
 - **Purpose:** This project will identify and develop domestically produced alternative materials, material technology, and manufacturing methods involving rare earth elements currently imported from China.
 - **Justification:** Rare earth elements using “green technologies” are no longer mined in the United States – China accounts for 95 percent of the world’s supply. The project seeks to provide DoD with a domestic source.
 - **Authorization:** Due to their importance and the ever growing concern over the supply available for military readiness, a provision was included in the FY10 defense authorization measure (NDAA- Section 828) that directed DoD to conduct a comprehensive review of the American military’s dependence on imported rare earths. This report is due by April 1.
 - **Baldor Electric:** Westville, OK
- **\$35,000,000 for Readiness and Environmental Protection Initiative**
 - **Purpose:** REPI has proven to be highly effective in addressing encroachment. REPI funding, combined with funding from state and NGO partners, prevents this encroachment through acquisition of easements from willing landowners, thereby ensuring the continued viability of key installations like Fort Sill.
 - **Justification:** Encroachment resulting from incompatible development and loss of habitat continues to pose a major long-term threat to readiness and to the viability of Ft Sill and other military installations, ranges, and airspace throughout the country. This threat will intensify over the near to midterm as a result of the convergence of ongoing initiatives to increase the end strength of the Army and Marine Corps, the global restationing of forces, realignments resulting from BRAC 2005, and the fielding of new weapons systems. REPI involves partnerships between DOD and state and local governments and conservation NGOs to share the costs of acquiring protective easements from willing landowners.
 - **Authorization:** Program authority is 10 USC 2684a.
 - **Land Legacy:** Lawton, OK

- ***\$9,000,000 for Rehabilitation Technology Transition Center***
 - **Purpose:** This funding would transition prosthetics technology that has been developed through DARPA's \$70 million R&D program to clinical practice to improve amputee patient care. Commercialization of this technology would be essential to military and veteran amputees, especially those from the wars in Iraq and Afghanistan.
 - **Justification:** Substantial investment in prosthetic research since the start of the war efforts in Iraq and Afghanistan may not reach the military and veteran amputee users intended to benefit without the support and development of a mechanism to transfer technology from DOD into patient care. The Rehabilitation Technology Transition Center is one such mechanism.
 - **Authorization:** DARPA Revolutionizing Prosthetics 2009 program began much of the research and development that the RTTC seeks to transfer to veteran, civilian, and robotic use. Also, the 2010 Quadrennial Defense Review (QDR) highlights the need to ensure that our wounded warriors receive the best care.
 - **Orthocare Innovations Foundation:** Oklahoma City, OK
- ***\$2,000,000 for Secure Supply of High Purity Carbon Nano Tube Solutions***
 - **Purpose:** SouthWest NanoTechnologies is working with the nation's largest supplier of nanotube solutions for micro-electronic applications, Brewer Science. This collaboration will enable SWeNT to provide micro-electronic grade nanotubes for US Defense applications, and to meet DOD's mandate to assure a U.S. supply source for these materials.
 - **Justification:** This request will provide a consistent U.S. source for nanotube and micro-electric materials.
 - **Authorization:** Securing a domestic supply of mission critical components is and should be a persistent priority for DoD.
 - **SouthWest Nano Technologies:** Norman, OK
- ***\$1,300,000 for Secure Information Technology Emergency Notification System (SENS)***
 - **Purpose:** Provide/Install Common Access Card (CAC) Physical Security Entry System: Scope, procure and install a secure card reader system for various buildings at the AFRL/RZ Edwards AFB Rocket Site. This will consist of providing secure entry for numerous locations and sites throughout the Propulsion Directorate's Edwards Rocket Site. The contractor will be responsible for working with RZ-west personnel to scope the security requirements of the site, analyze options, procure and install equipment.
 - **Justification:** Secure Emergency Notification System, (SENS) will provide a common, integrated, secure emergency notification.
 - **Authorization:** Technology will protect & secure the OK, OH & U.S. Aerospace Industry against Terrorism in compliance to the 2002 Congressional Mandate *H.R. 3482*.
 - **STI Technologies, Inc.:** Tulsa, OK

- **\$2,800,000 for Smart Apparel Systems for Prevention and Protection (SASPP)**
 - **Purpose:** SASPP will rapidly design, prototype, and evaluate innovative, wearable protective apparel systems and related technologies to support our soldiers and first responders.
 - **Justification:** Deficiencies exist in Personal Protective Equipment for both military and first responders. OSU will expand its teaming with academic, industry and government experts in applied research and development and testing of the next generation of multifunctional materials and technologies desperately needed for body armor and other systems to save the lives and limbs of soldiers. This research will seek to improve enhanced protective and load bearing capabilities, yet be lighter in weight. In addition, this research will contribute to robust protective garments and other equipment that can monitor vital signs of personnel in unsafe conditions and provide supplementary tracking and locating systems to aid in finding incapacitated persons thus reducing search and rescue efforts.
 - **Authorization:** After visiting amputees in a military hospital in January 2004, Secretary of the Navy Gordon England ordered the Office of Naval Research to develop body armor to envelop soldiers' limbs." - Per Army Research Lab synopsis of the current Office of Naval Research "Limb Protection Program", for which IPART at OSU plays a key role.
 - **Oklahoma State University:** Stillwater, OK
- **\$4,451,183 for Technology Applications for Security Enhancement (OSU)**
 - **Purpose:** An effective National Biosecurity Plan must address components of Prevention, Preparedness, Response and Attribution in quarantine and defense, including international commercial trade in civilian and military contexts. The work of the multidisciplinary Oklahoma State University team that makes up the Center for the Mitigation of Evolving Threats (CMET) will enhance our national chemical and biological (CB) threat preparedness in an integrated multi-stage framework, including early detection systems, mediation of CB threat impacts, and forensic investigation for criminal prosecution.
 - **Justification:** Funding for this initiative will be used by CMET to assist in the effort to develop an effective National Bio-security Plan that addresses prevention, preparedness, response and attribution in quarantine and defense, and international commercial trade in civilian and military contexts.
 - **Authorization:** Received congressional support in H.R. 3326 the FY10 Defense Appropriations Act.
 - **Oklahoma State University:** Stillwater, OK
- **\$2,000,000 for The Integration of Nanoscale Techniques for an Improved Battery Technology for Electric Vehicles**
 - **Purpose:** Prototype battery systems have been developed; however, further research and development is needed to make a commercial battery, along with the plan for manufacturing.
 - **Justification:** Battery technology is critical for military operations today, including advanced artillery systems.
 - **Authorization:** Present funding is from the DoD Army Research Office titled, "The Integration of Nanoscale Techniques for an Improved Battery Technology." The research and experience gained from these grants laid the foundation for the work proposed and has allowed the PI to assemble a team of graduate students, post docs and research associates who can continue the development of the project.
 - **University of Tulsa:** Tulsa, OK

- **\$3,500,000 for UAV Based Sensor Development & Demonstration**
 - **Purpose:** Seeks to develop engineering to integrate infrared sensors to UAV platform in support of the ballistic missile defense system. UAV-Based Sensor represents one of the emerging capabilities that will become critically important to the MDA Early Intercept strategy. With the vast number of short-range missiles in regional areas, the BMDS is made significantly more robust through the employment of a net of pervasive sensors such as UAV-Bases Sensor. The utilization of this capability represents a technology investment to hedge against the growth of future missile threats.
 - **Justification:** UAV based sensors will provide significant additional capability to the nation's ballistic missile defense system, contributing to cueing and targeting of missile threats.
 - **Authorization:** Follow on to the AIRS program that has gained Congressional support in several defense appropriations acts. Since 2002, the MDA Airborne Infrared Surveillance (AIRS) concept within the MDA Sensors Directorate has exploited the operational utility of the HALO-II infrared sensor system initially developed under the Missile Defense Agency (MDA) Airborne Test and Measurement Support (ATMS) program.
 - **L-3 Comm/Aeromet:** Tulsa, OK
- **\$6,000,000 for UCO Military Sports Program Expansion**
 - **Purpose:** The purpose of this project is to enhance the University of Central Oklahoma's Archery, US Paralympic Training Site and military program initiatives.
 - **Justification:** This project requests funds for the expansion of the Military Sports Program at the University of Central Oklahoma, to better serve the growing population of injured soldiers returning from war. Hundreds of wounded warriors are currently served by the UCO Military Sports Program. The expansion of these initiatives will allow several hundred additional soldiers to be served annually.
 - **Authorization:** With 21 million physically disabled Americans, including more than 28,000 military personnel who've been injured during the conflicts in Iraq and Afghanistan, this is an important national need.
 - **University of Central Oklahoma:** Edmond, OK
- **\$6,600,000 for UML UAV/UAS Test Facility(OSU)**
 - **Purpose:** The OSU University Multispectral Laboratories (UML) has established a National Unmanned Aerial Systems (UAS) Test Facility adjacent to Fort Sill restricted airspace. This facility provides unique opportunity to conduct UAS flight testing while remaining within restricted airspace where UAS flights are exempt from Federal Aviation Administration (FAA) regulations.
 - **Justification:** The OSU-UML National UAS test site provides a powerful force multiplier for SOF activities to include design, test, evaluation and fielding of next-generation UAS platforms. The USSOCOM requires greater access to test ranges where less restrictive UAV test flights may occur. The OSU-UML has established a site in Lawton, OK within Fort Sill restricted airspace. The SAFC program within USSOCOM is a formal program to develop and deploy special capabilities to perform ISR for deployed SOF using non-traditional means.
 - **Authority:** OSU-UML has received Congressional support in H.R. 3326 the FY10 Defense Appropriations Act.
 - **Oklahoma State University:** Stillwater, OK

- **\$2,000,000 for Universal ISR POD Mounting System**
 - **Purpose:** Seeks to create a universal airborne ISR pod mounting system, potentially saving DoD millions of dollars in redundant aircraft and ISR system procurement. The requested funding will be used to directly support DoD airborne Intelligence, Surveillance and Reconnaissance (ISR) efforts that will increase capabilities (save lives) while ultimately saving taxpayer dollars; potentially hundreds of millions of dollars.
 - **Justification:** There are currently hundreds of RF transparent PODS being flown on hundreds of light turbine aircraft supporting Intelligence, Surveillance and Reconnaissance (ISR) operations for DOD and other government agencies, most under CAT STC # SA8986SW. Currently, each POD has a unique mounting system that only allows a single pod to be mounted to a single aircraft, as per the approved FAA Supplemental Type Certificate (STC) for each aircraft. This results in excess required aircraft and collections systems being employed to support collections mission sets dependent upon pod and system configuration. No longer will unique pods, systems, and aircraft be required to support ISR operations; instead, pods can be uniquely configured (instead of aircraft) and be distributed across the geo-graphic and task force commands, based upon the commander's priority. This eliminates stove pipe single mission aircraft and effectively transforms all light turbine aircraft into multi-mission capable platforms.
 - **Authorization:** Briefed to Task Force ISR in 2009. Follows language included in S.1390 FY10 National Defense Authorization Act.
 - **Commuter Air Technology (CAT):** Midwest City, OK
- **\$12,000,000 for Unmanned Aerial Systems (UASs) with Electronic Skin**
 - **Purpose:** To develop scalable Blended Wing Body (BWB) Unmanned Aerial Systems (UAS) with Printed Electronic Skin (PES). UASs can know where the enemy is hiding, where IED's are hiding, and can monitor borders that soldiers cannot.
 - **Justification:** UASs have a decisive detection advantage and can monitor borders that soldiers cannot.
 - **Authorization:** The 2010 Quadrennial Defense Review (QDR) notes the current and future importance of unmanned systems to the DoD, and operations world-wide.
 - **Sciperio:** Oklahoma City, OK
- **\$7,900,000 for U.S. Air Force Supply Chain Innovation Initiative**
 - **Purpose:** Seeks to enable the GLSC to identify, develop, assess, and implement new and innovative supply chain solutions, enabling faster and more effective responses to the needs of the war fighter. Will improve delivery times and ensure higher quality while at the same time lowering O&M costs
 - **Justification:** The GLSC has a stated mission to: Execute the Air Force supply chain by integrating enterprise-wide planning and strategy with global command and control as the single-focal point to the warfighter. In order to meet these demands efficiently and effectively, the GLSC must be provided with reliable state-of-the-art supply chain technologies and processes and an ability to maintain close collaboration with critical stakeholders across the industrial base and government.
 - **Authorization:** The GLSC's FY11 budget does not account for the launch of the Supply Chain Innovation Initiative. It is the GLSC's intention to include funding for the steady-state execution of the Initiative in its out-year budget submissions.
 - **Logistics Specialties, Inc.:** Oklahoma City, OK

- ***\$10,000,000 for US Stunner Interceptor***
 - **Purpose:** Endeavors to begin moving toward insertion of the Stunner Interceptor in U.S. air and missile defense systems. This project will initiate US specific efforts to assess insertion of the Stunner into US air and missile defense systems.
 - **Justification:** The requested funds will go to support systems engineering and integration studies for Stunner insertion into MDA, Army and Navy air and missile defense systems; Stunner flight simulation architecture development to evaluate performance against threats of U.S. interest; and development of a US Stunner technology/road map to address US-unique requirements.
 - **Authorization:** Project supports the joint DoD/MDA mission of ensuring that the US ballistic missile defense shield is sound.
 - **LaBarge, Inc.:** Tulsa, OK