

Line	Item	Change from budget estimate
1	Silicon Carbide Armor Manufacturing Initiative	2,400
2	Perpetually Available and Secure Information Systems (PASIS)	4,000
2	Functionally integrated Reactive Surface Technologies (FIRST) Program	2,400
2	UT-Tyler Organic Semiconductor Modeling and Simulation	1,000
2	John H. Hopps, Jr. Defense Research Scholars Program	2,000
2	Innovative, Computational Water-borne Pathogen Research for Chemical/Biological Detection	1,000
2	Direct Methanol Fuel Cell - Battery Recharger Program	1,600
2	Combat Mental Health Initiative	2,800
2	Technology Commercialization and Management Network	1,600
2	Cyber Threat Analytics	2,400
2	Activated Nanostructures for De-icing	1,200
2	Document Exploitation for Handwriting Recognition	1,000
2	Flexible Electronics Research Initiative	1,000
2	Global Military Operating Environments	1,600
2	Integrated nanosensors for NBC threat detection	1,600
2	Secure Open Systems Institute	2,400
2	Semiconductor-based Nanotechnology Applications	800
3	Laboratory for Engineered Human Protection (LEAP)	1,600
3	Massively Broadband Wireless integrated Circuits Consortium for Bone and Tissue Repair	1,200
3	Consortium for Bone and Tissue Repair and Regeneration	1,000
3	Nanomedical Technologies Research	2,000
3	Imaging Research Center	900
3	Burn and Shock Trauma Institute	1,600
3	Hi-tech Eyes for the Battlefield	1,000
3	Low Temperature Vehicle Performance Research	800
3	University Research Initiatives	8,000
4	NAC University Automotive Research Coalitions	1,600
4	Florida Collaborative Development of Advanced Materials for Strategic Applications	950
4	Transparent Nanocomposite Armor	300
4	Development of Enabling Chemical Technologies for Power from Green Sources	1,600
4	Center of Excellence In Industrial Metrology & 3D imaging Research	1,600
4	Research Support for Nanoscale Sciences and Technologies	1,000
4	Nanotubes Optimized for Lightweight Exceptional Strength Composite Materials	2,800
4	Manufacturing and Industrial Technology Center	1,000
4	Center for Information Assurance	800
4	Detecting and Eradicating Corrosion in Army vehicles	1,200
4	Electron Microprobe Research	1,500
4	Infotonics Research	2,400
4	Integrated Systems in Sensing, Imaging and Communications	800
4	MEMS Antenna for wireless comms/UAVs	2,400
4	Modeling and Analysis of the Response of Structures	1,000
4	Nanoscale Biosensor Research	2,500
4	National Network Security test bed	1,600
4	University-based Automotive Research	2,000
4	Visualization for Training and Simulation in urban terrains	1,120
5	Ultra Lightweight Metallic Atmore	1,600
5	Cold Spray Wear Coating for FCS	1,000
5	Enhanced Holographic Imaging Program	1,600

Line	Item	Change from budget estimate
5	Control System-for Laser Powder Deposition	400
5	Improvised Explosive Device Simulation In Different Solis	400
5	Next Generation Lightweight Drive System for Army Weapon Systems	2,000
5	Novel Extremity Body Armor	480
5	Advanced Materials Development and Manufacturing of Body Armor	2,000
5	Nickel Boron Coating-Technology for Army Weapons	2,400
5	Lightweight Motors for the Future Combat System	1,600
5	Project Kryptolite	1,200
	Advanced Lightweight Transparent Armor for Tactical Wheeled Vehicles and Force	
5	Protection	800
5	Future Affordable Multi-Utility Materials for the Army Future Combat Systems	6,400
5	Polymer Center of Excellence for Blast-Ballistic Protective Amcor	2,000
5	Cutting Tools for Aerospace Materials	1,200
5	Ultra-Endurance Coating	2,400
5	3D Woven Ballistic Materials for Future Combat Systems	2,000
5	Advanced Ceramic Surface Engineering for helicopter compressor blades	2,400
5	Complex-shaped armor for soldier torso and extremity protection	2,000
5	Multi-scale modeling of impact resistant materials for body armor	1,500
5	Nanomanufacturing of multifunctional sensors	1,600
5	Nanotechnologies Initiative	4,000
5	Protection against Improvised Explosive Devices	4,000
5	Titanium Fabrication for Military/Industrial equipment	1,350
6	High Brightness Diode-pumped Fiber Laser (HIBriD-FL)	1,600
6	Electromagnetic Geolocation	1,000
6	Urban Warfare Analysis Center (UWAC)	2,000
6	Urban Warfare Knowledge Base	1,000
	Single Crystal Chemical Vapor Deposition Diamond Thermal Management Elements for	
6	high-energy lasers	1,000
6	Terahertz Spectrometer Technology	1,600
6	Network Enabled Combat Identification (CID)	2,400
6	Wearable Video Capture System	800
6	Land and Sea Special Operations (LASSO)	1,000
6	One-Step JP-6 Bio Diesel Fuel	4,500
6	Advanced Detection of Explosives Program	1,000
6	Advanced Bonded Diamond for optical applications	2,000
6	Center for Advanced Microelectronics Manufacturing (CAMM)	2,000
6	Integrated Multi-Target Remote-Sensing Technology and Its Applications	2,000
6	Nanophotonic devices	1,600
6	S31 Technology	800
8	Aircraft Structural Condition Monitoring (ASCM) for Diagnostics and Prognostics	2,400
8	Composite Small Main Rotor Blades	1,600
9	Silver Fox and Manta UAS	3,200
9	Electromagnetic Gun Initiative	2,000
9	Integrated Information Technology Policy Analyses Research	1,600
9	Battlefield Connectivity, Multi-Level Secure Networks	1,600
9	Dominant Military operations on urbanized Terrain Viewer	2,400
9	Knowledge Integration and Management	3,000
10	Materials Application Research Center	1,000
10	LENS XX Hypervelocity Ground Testing	800
10	Mariah II Hypersonic Wind Tunnel Development	4,000
10	Jam Resistant Technology for INS/GPS Precision	1,500
10	Novel Lightweight Armor Material for Insensitive Munitions Protection of Tactical Missiles	1,000

Line	Item	Change from budget estimate
11	Remote Video Weapon Sight, USSOCOM Phase III	1,000
11	Missile Aero-propulsion Computer System (MACS) Modernization	6,000
11	Army Missile and Space Technology Initiative	5,000
11	Unmanned Systems Technology Development	1,600
12	Development and Simulation for Advanced Troop Protection Concepts in Urban Warfare	800
12	Mobile Medic Training Program	1,600
12	Boston University Photonic Center	4,000
13	Development of Logistical Fuel Processors to Meet Army/TARDEC/TACOM Needs	2,800
13	Tactical Metal Fabrication System (TacFab)	2,400
13	Light Utility Vehicle	1,000
13	Institute for Advanced Materials and Manufacturing Strategies (IAMMS)	2,400
13	Quick Reaction Advanced Tactical Vehicle Technology	2,800
13	Globally Accessible Manufacturing and Maintenance Activity (GAMMA)	2,400
13	DoD Hydrogen PEM Fuel Cell Medium/Heavy Duty Vehicle Demonstration Program	3,200
13	Extreme-Condition Vehicle Tribology for Military Vehicle Technology at Northwestern University	1,000
13	Secure Mobile MANET System	1,200
13	Digital Engine/Hydraulic Valve Actuation Technology	800
13	Advanced Digital Hydraulic Hybrid Drive System	2,000
13	Center for Advanced Vehicle Design and Simulations	1,600
13	Hydraulic Hybrids, Advanced Materials, and Multi-fuel Engine Research (HAMMER)	4,000
13	Spring-Suspended Airless Tires for Convoy Protection	4,500
13	Rapid Up-Armor Synthesis and Crashworthiness Design for Improved Soldier Survivability	1,600
13	Advanced Manufacture of Lightweight Materials and Components	1,600
13	Automotive Research Equipment Purchase	1,600
13	Military Fuels Research Program	1,600
13	Nano-Engineered Multi-Functional Transparent Armor	800
13	SkyPure-Water from Air	1,600
14	Small Unmanned Aerial Vehicles (UAVs and Sensors)	500
14	Multi Mission Armored Watercraft (MMAW) Project	1,200
14	Advanced Composite Materials Research for Air and Ground Vehicles	1,600
14	Advanced Composite Armor for Force Protection Beneficial Infrastructure for Rotocraft	3,000
14	Risk Reduction	800
14	Beneficial Infrastructure for Rotorcraft Risk Reduction Demonstrations (BIRRRD)	800
14	Super High Accuracy Range Kit - 105mm Artillery Technology	3,200
14	Flexible Solar Cell for Man-Portable Power Generator	1,840
14	Laser-based Explosives and Chem/bio Standoff and Point Detector	3,200
15	Paint Shield for Protecting People from Microbial Threats	1,600
15	Systems Biology Biomarker Molecular Toxicology initiative	1,600
15	Rapid and Accurate Pathogen Identification/Detection (RAPID) Program	1,200
15	Enhanced Vapor Aeration Capabilities (EVAC)	2,400
17	CZT-Based Liquid Explosives Detections Systems	1,360
17	SLEUTH Tungsten Heavy Ailey Penetrator and Warhead Development	1,600
17	Effects Based Operations Decision Support Services (EBODSS)	800
17	Renewable Energy Testing Center	2,000
17	Long Range Initiator	1,400
17	Hospital Emergency Planning and Integration (HEPI) Letterkenny Army Depot and Chambersburg Hospital	1,600
17	Advanced Materials & Process for Armament Structures (AMPAS)	5,600
17	Remotely Operated Weapons and Sensor Technology	3,200
17	Energetic Formulation and Fabrication	4,000

Line	Item	Change from budget estimate
17	Developmental Mission Integration	4,000
17	Mitigation of Energetics Single Point Failures	2,400
	Strategic Technology Development and Integration for the Joint Munitions and Lethality	
17	Life Cycle Management Command	1,000
17	Green Armaments/RangeSafe	2,400
17	Armament System Engineering and Integration Initiative (ASEI2)	2,400
17	Advanced Rarefaction Weapon Engineered System	1,600
17	Rapid Response Force Protection System (Remote Weapons Platform)	3,200
17	Army Center of Excellence in Acoustics	3,280
17	Center for Borane Technology	2,000
	Development and Demonstration of Multi-use/Urban Operations Joint Training System at	
17	Fort Dix	2,400
17	Electroconversion of Energetic Materials	5,800
17	Electrolytic Super-Capacitor	2,400
17	Engineered Surfaces for Weapons Life Extension	3,000
17	Exploding Foils Initiators with Nanomaterial-based Circuits	2,400
17	Fatigue Odometer for Vehicle Components and Gun Barrels Project Cannon Systems	2,640
17	Research for Army Cannon Systems	1,840
17	Ripsaw Unmanned Ground Vehicle Weaponization	1,600
18	Non-Flammable, High Energy Density, Low temperature Warrior Battery	800
18	ONAMI Miniature Tactical Energy Systems Development	2,500
18	Advanced Portable Power Institute (APPI)	1,600
18	Miniature Cooling Unit for Electronic Devices	1,000
18	Revolutionary Self-Seating Plastic Enclosure for Military Batteries	1,600
18	Defense Modernization and Sustainment Initiative, Rochester Institute of Technology	2,000
18	Advanced Wearable Microcell Power System Process Development	2,000
18	Roll-to-Roll Microelectronics Manufacturing in Support of the Flexible Display Initiative	1,600
18	Low Signature Portable Fuel Cell Power Systems	2,800
18	Mega-Capacity Hybrid Chemistry Lithium Primary Portable Batteries	1,600
	Manufacturing Technology Development of Advanced Components for High Power Solid-	
18	State Lasers	1,600
18	Micromachined Switches in Support of Transformational Communications Architecture	1,600
18	Lithium Air Metal Battery	4,000
18	Soldier Portable Solid Fuel Hydrogen Generator Cartridge	4,000
18	Silicon Carbide MOSFETs for Electric Power Systems	1,600
	High-Frequency, High-Power Electronic and Optoelectronic Devices on Aluminum Nitride	
18	(AlN)	2,400
18	Novel Zinc Air Power Sources for Military Applications	2,000
18	Ceramic Membrane - 10(X) More Energy for Battery Systems	1,000
18	Advanced Lithium-Carbon Monofluoride Combat Portable Batteries	3,920
18	Bio-Battery	1,200
18	Soldier Fuel Cell System	800
18	Blast Risk Analysis and Mitigation Application (BRAMA)	1,600
18	Advanced, Integrated Portable Power Generation and Charging System	2,480
18	Cogeneration for Enhanced Cooling and Heating at Advanced Tactical Vehicles	2,400
18	Enzyme Biofuel Cell (SEBC)	1,000
18	Improved Energy Density Battery	800
18	Large Format Li-Ion Battery	800
18	PEM Fuel Cell Tactical Generators	5,000
18	Portable Hydrogen Generator and Hybrid Power Source	1,600
18	Renewable Energy for Military Applications	1,500

Line	Item	Change from budget estimate
18	Self-powered, lightweight, flexible display unit on a plastic substrate	1,600
18	Thin Lithium-Iron Disulfide Primary Batteries	2,400
19	Next Generation Communications System	1,000
19	Enhanced Micro-Image Display Technology	1,600
19	Power Efficient Microdisplay Development for US Army Night Vision	2,400
19	Personal Miniature Thermal Viewer (PMTV)	800
19	Hyperspectral Sensor for UAV Surveillance/Targeting	1,600
19	Miniaturized Sensors for Small and Tactical Unmanned Aerial Vehicles (MINISENS)	1,000
19	Robotics Workforce and Military Curriculum	800
19	Small Business Infrared Materials Manufacturing-Silicon Alternatives	1,600
20	Standoff Improvised Explosive Device Protection Program	3,200
20	Hawaii Undersea Military Munitions Assessment	5,500
21	High Optempo Performance Soldier Training	1,600
21	LWI Training-Based Collaborative Research	21,000
22	Biowaste to Bioenergy: Phase Two	1,600
22	Vanadium Technology Program	1,600
22	Propelling Agent for Slurry Gel	1,200
23	Integrated Lightweight Electronics Shelter	1,400
23	Dynamically Managed Data Dissemination	1,000
23	Advanced 3-D Locator (A3DL) Technology	3,200
23	C4ISR Integrated Digital Environment Service Model (IDESM)	2,000
	Development of a High Performance Computing System Based on a Modern High Speed	
23	Switch Fabric	1,000
	Research of Advanced Communications Technologies for enhanced secure, mobile,	
23	networked communications	800
23	Lightweight Theater Transportable TOC	2,400
23	Intelligent Distributed Command & Control (IDC2)	2,000
23	Portable Flexible Communication Display Devices	1,200
24	Ruggedized Cylinders for Expandable Mobile Shelters	4,500
25	C-RAM Armor Development	1,200
	Nano-Crystalline Cement for High Strength, Rapid Curing Concrete with Improved Blast	
25	Resistance	1,600
25	Airborne Threats	1,280
25	Biologically Inspired Security Infrastructure for Tactical Environments	2,000
25	Geosciences/Atmospheric Research	2,000
27	Chemical And Biological-Protective Hangars (CAB-PH)	1,600
27	Modular Ballistic System for Force Protection	4,000
	Nano-enabled Ultra High Storage Density Non-volatile Memory for Next Generation	
27	Commander's Digital Assistant	1,000
27	Active and Smart Packaging for Combat Feeding	1,000
27	Advanced Fabric Treatment for Flame Resistant Uniforms	1,000
27	Injection Molded Ceramic Body Armor	400
27	Biosecurity Research for Soldier Food Safety	2,000
27	Carbon Nanotube Armor Protection System	1,600
27	Protective Textile Fabric	800
28	Advanced Bio-engineering for Enhancement of Soldier Survivability	1,600
28	Armed Services Gynecological Cancer Health Program	1,600
28	BioFoam Protein Hydrogel for Battlefield Trauma	2,000
28	Bone Health and Military Medical Readiness Program	800
28	Cancer Prevention through Remote Biological Sensing	1,600
28	Cedars-Sinai Core Imaging Center	2,400
28	Center for Advanced Surgical and Interventional Technology (CASIT)	1,000

Line	Item	Change from budget estimate
28	Center for Vaccine Scale-Up Process Research (Phase I)	800
28	Center for injury Biomechanics	3,200
28	Center for Ophthalmic Innovation	2,000
28	Center for Research an integrative Medicine for the - Military (CRIMM)	1,000
28	Center for Resuscitation Research	3,000
28	Cold Spring Harbor Laboratory Women's Cancer Genomics Center	3,200
28	Cone Beam CT Scanners	3,200
28	Copper Air Quality Program	1,600
28	Defense Against Viral infection (DAVI)	1,600
28	Disposable Unit Dose Drug Pumps for Anesthesia and Antibiotics	2,000
28	Electronic Technology-infrastructure in Support of Military Missions	1,600
28	Epigenetic Disease Research	1,600
28	Fibrin Adhesive Stat (FAST) Dressing	2,000
28	impact of intensive Lifestyle Modification on Chronic Medical Conditions	2,000
28	Improving Musculoskeletal Health & Function	1,200
28	Injury Research Center-Ryder Trauma Center	2,800
28	Integrated Medicine, Communications, Compassion, Chronic Care Program	1,600
28	Mass Decontamination and Biosecurity Initiative	350
28	Medical Image Database Holographic Archiving Library System (MIDHALS)	1,000
28	Medical Resources Conservation Technology Pilot Energy Cost Control Evaluation (PECCE)	1,200
28	Military Interoperable Digital Hospital Testbed	4,000
28	Molecular Switch Vaccines for Biodefense and Cancer	1,600
28	Nanofabricated Bioartificial Kidney and Bioterrorism	1,000
28	Neuroscience Research Consortium to Study Spinal Cord Injury	800
28	Neutron/Hadron Particle Therapy	1,600
28	Orthopedic Implant Design and Manufacturing for Traumatic injuries	1,600
28	Oxygen Diffusion Dressings for the Accelerated Healing of Battlefield Wounds and Burns	500
28	Pain and Neuroscience Center Research Center	5,600
28	Plant-based Vaccine Research	2,000
28	Prevention of Radiation Injury by use of Statics	1,600
28	Proton Therapy	2,400
28	Rapid Vaccine Discovery Technology	2,000
28	Rapid Wound Healing Technology Development Project	1,200
28	Regional NMR Facility	1,000
28	Remote Robotic Teleproctoring to Promote Rapid Surgical Skills Acquisition	1,000
28	Respiratory Biodefense Initiative	1,600
28	Storage Area Network	1,000
28	Synchrotron-Based Scanning Research	5,000
28	Synthetic Malaria Vaccine	2,400
28	Technological Regional Center of Excellence for PTSD	1,600
28	West Nile Virus Vaccine	940
28	Wound Infection Treatment Program	1,200
28	Carbon Nanotube Production	1,000
28	Complementary and Alternative Medicine Research (MIL-CAM)	5,000
28	MRI-DTI Technology to improve Diagnosis and Treatment of TBI	2,500
28	New Vaccines to Fight Respiratory Infection	4,000
28	Orthopedic Extremity Trauma Research Program	4,800
28	Staph Vaccine	2,000
29	High Pressure Airbeam Shelter Cost Reduction Technology Improvements	1,440
29	Flame & Thermal Protection for Individual Soldier	1,600
29	Remote Environmental Monitoring and Diagnostics in the Perishables Supply Chain	4,504
29	Extended Shelf Life Produce for Remotely Deployed Forces	800

Line	Item	Change from budget estimate
29	Multifunctional Protective Packaging Technology	3,000
29	Ration Packaging Materials and Systems for Meals Ready-to-Eat	4,600
29	BioSensor Communicator and Controller System	3,000
29	ChemBio Integrated Material for Tent Structures	1,600
29	Deployment of Affordable Guided Airdrop System	1,600
29	High-Pressure/Microwave MRE Processing	1,600
29	Joint Precision Airdrop System (WADS) Program for Payloads up to 30K lbs	3,200
30	Acellular Matrix Constructs for Military Casualties	2,000
30	Advanced Diagnostic and Therapeutic Digital Technologies	1,600
30	Advanced Non-Invasive Glucose Monitoring	800
30	Advanced Protomics Program	1,200
30	Advanced Regenerative Medicine (ARM) Skin Cell Therapies, Limb and Digi Treatment	1,900
30	Advanced Regenerative Medicine Development	2,000
30	Advanced Restoration Therapies in Spinal Cord Injuries	1,000
30	Alliance for NanoHealth	4,000
30	ALS Therapy Development for Gulf War Illness Research	1,200
30	Angiogenesis and Tissue Engineering Research	1,200
30	Assistive Technology Research Center at the National Rehabilitation Hospital	2,400
30	National Oncogenomics and Molecular Imaging Center	3,000
30	Battlefield Exercise and Combat Related Spinal Cord Injury Research	3,000
30	Bioceramic Bones for Battlefield Trauma	1,600
30	Blood Safety and Decontamination Technology	2,000
30	Cartledge Infuser	1,000
30	Cellular Therapy for Battlefield Medical Care	800
30	Center for Genetic Origins of Cancer	2,400
30	Center for Integration of Medicine and Innovative Technology (CIMIT)	8,000
30	Christian Sarkine Autism Treatment Center	2,000
30	COG/USOC Pediatric Cancer Center	1,600
30	Combat Wound Initiative at Walter Reed Army Medical Center	2,000
30	Composite Tissue Allotransplantation Research and Clinical Program	2,000
30	Cooperative international Neuromuscular Research Group (CINRG)	5,200
30	Dangerous Pathogens DNA Forensics Center	2,000
30	Electronic Medical Records Technology Infrastructure	1,200
30	Feeding Tube for Trauma and Bum Patients	500
30	Health Science Center Rapid Bio-Pathogen Detection Technology	4,000
30	Human Genomics, Molecular Epidemiology and Clinical Diagnostics for infectious	1,200
30	Immersive Medical Environment for Distributed Intuitive Consultation (iMedic)	1,500
30	Indiana-Ohio Traumatic Amputation Rehabilitation Research	1,000
30	Integrated Functional Materials Initiative	1,000
30	Joint Medical Simulation Technology Research & Development Center	1,280
30	Maine Institute for Human Genetics	500
30	Medical Information Network Decision Support (MINDS) Tool Development	1,000
30	Medical Surveillance initiative-Clinical Looking Glass	800
30	Military Biomaterials Institute for Acute and Regenerative Care	800
30	Military Low Vision Research	1,600
30	Military Molecular Medicine Initiative	12,000
30	Mobile Integrated Diagnostic and Data Analysis System (MIDDAS)	800
30	National Bioterrorism Civilian Medical Response Center (CIMERC)	2,000
30	National Center of Ophthalmology Training and Education al Wills Eye Health System	2,000
30	National Functional Genomics Center	6,000
30	Neural Control of External Devices	1,000
30	Neurofibromatosis (NIF) Research	8,000
30	Neuroimaging & Neuropsychiatric Trauma in US Warfighters	4,000

Line	Item	Change from budget estimate
30	Neurotoxin Exposure Treatment Research Program	20,000
30	Norfolk State University Center for Systems and Modeling & Simulation	2,480
30	Nursing Clinical Simulation Lab	1,000
30	Obesity and Cancer in the Military Medical Research Program at WRAMC	1,600
30	PBRC Four Tasks to Address Personnel Readiness and Warfighter Performance	2,000
30	Pediatric Brain Tumor & Neurological Disease institute	1,600
30	Peoria Robotics	1,000
30	Personalized Orthopedic Implants for Combat Trauma Induced Orthopedic Surgery	500
30	Portable Bum Debridement Laser Demonstration	2,400
30	Portable Digital X-Ray	3,200
30	Host Pathogen Interaction Study	1,000
30	Prader-Willi Syndrome (PWS) Research	1,500
30	Proton Beam Therapy	8,000
30	Remote Bio-Medical Detector	1,000
30	Rural Health - CERMUSA	1,600
30	Severe Battlefield Injury Treatment (Note: Technology to Prevent Compartment Syndrome)	1,600
30	Spinal Muscular Atrophy (SMA) Research Program	3,200
30	Technologies for Metabolic Monitoring (TMM)	1,600
30	Telehealth Access and Infrastructure Expansion	1,600
30	Telepharmacy Robotic Medicine Device Unit	1,600
30	The Institute for the Advancement of Bloodless Medicine	1,600
30	Three Dimensional Projection Environment for Molecular Design and Surgical Simulation	1,000
30	Tracking of Health of Soldiers with Advanced Implantable Nanosensors	1,600
30	Ultra High-Speed MEMS Electromagnetic Cell Sorter	2,400
30	Ultra-High Resolution Display for Army Medicine	3,600
30	UMDNJ Cancer Initiative (Note' includes continuation of the Gallo Prostate Cancer Center)	2,400
30	Targeted Radiation Therapy for Cancer Initiative	1,000
30	University of Kentucky Robotic Surgery Research	2,000
30	University of Kentucky Tissue Repair Research	1,000
30	Warfighter Cancer Care Engineering	1,200
30	Wireless Electronic Patient Records, WPIC-Personal Information Center	2,000
30	Advanced Lower Limb Prosthesis for Battlefield Amputees	3,000
30	Advanced Medical Training Platform: Madigan Army Medical Center	400
30	Advanced Surface Technologies for Prosthetic Development	1,600
30	Battlefield Tracheal Intubation for Wounded Soldiers	1,600
30	BEAR (Battlefield Extraction-Assist Robot)	1,600
30	Brain, Biology, and Machine Applied Research	2,000
30	Burns Outcomes Infrastructure Project-only for dual military/civilian application	2,400
30	Control of Inflammation and Tissue Repair (CITR)	1,600
30	Hibernation Genomics	1,600
30	Institute for Regenerative Medicine	2,400
30	Integrated Patient Quality Program	1,600
30	Limb Tissue Regeneration after Battlefield Injuries using Bone Marrow Stem Cells	4,000
30	Medical Modeling and Simulation Through Synthetic Digital Genes	1,600
30	National Biodefense Training	1,750
30	Post-IED Craniofacial Injury Reconstruction	1,600
30	Robotic Telesurgery in Combat Environments	3,500
30	Rugged Electronic Textile Vital Signs Monitoring	1,600
30	Surgical Wound Disinfection and Biological Agents	1,600

Line	Item	Change from budget estimate
30	Trauma Care, Research and Training	2,000
30	U.S. Approved Drugs for Malaria and Leishmaniasis in U.S. Military and Civilian Personnel	3,400
30	Walter Reed Preventive Medicine Pilot Program	5,500
31	Drive System Composite Structural Component Risk - Reduction Program	2,400
31	Fuel Cells for Mobile Robotic Systems Project	2,400
31	Universal Control Full Authority Digital Engine Centre!	3,000
31	UAV-Resupply BURRO	2,000
31	Night Vision Goggle Compatible Electrostatically Conductive Windscreen Laminates for use on Acrylic/polycarbonate windscreens on helicopters	1,200
31	Power Dense Transmissions	800
31	Inter Turbine Burner for Turbo Shaft Engines	4,000
31	Technologies for Military Equipment Replenishment	4,000
31	Autonomous Cargo Acquisition for Rotorcraft Unmanned Aerial Vehicles	2,400
31	Alternate Payload Bomb Live Unit Munition	2,240
31	Enhanced Rapid Tactical Integration and Fielding of Systems	1,600
31	Excalibur	2,400
31	Helmet Mounted Display/visor Projection for Army Helicopters	1,600
31	Improved VAROCIUAV compression system development	2,400
31	Joint Technical Data Integration-Wide Intelligraf Content Enhancements	4,000
31	Parts-on-Demand for CONUS Operations	3,600
31	Quick-MEDS Automated Release Pod	1,600
31	Vectored Thrust Ducted Propeller (VTDP) Compound Helicopter Advanced Technology Demonstration	4,000
32	Micro Electrical Mechanical Systems (MEMS) Application for Armor and Munitions	2,500
32	Lightweight Munitions and Surveillance System (LMSS) for Unmanned Air & Ground Vehicles	4,000
32	Reactive Nanocomposite Materials	1,000
32	Advanced Tungsten Penetrators and Ballistic Materials	1,600
32	Nanotechnology Fuze-on-a-Chip	3,600
32	Rapid Prototyping for Special Projects	5,000
32	Rapid Insertion of Developmental Technologies	2,400
32	Common Smart Submunition (CSS)	1,000
32	Disruptive Technology Acceleration	1,600
32	Development of Truck-deployed Explosive Containment Vessel	1,440
32	Integrated Aircraft Test Bed	1,600
32	Knowledge Driven Manufacturing System (KDMS)	1,000
32	Lightweight Cannon Recoil Reduction	800
32	Raman Chemical Identification System	1,600
33	Tactical Wheeled Vehicle Structures for Improved Survivability and Performance	4,000
33	Special Operations Vehicle - lightweight, Armored, Hybrid, Power Generating, Tactical Vehicle	1,600
33	Tactical Rocket Propelled Grenade Airbag Protection System (TRAPS) Enhancement	1,600
33	LEAN Digital Product Development	2,000
33	Networked Reliability and Safety Early Evaluation. System (NRSEES)	1,600
33	Advance Lithium Iron Phosphate Battery System for Army Combat Hybrid HMMWV and Other Army Vehicle Platforms	1,600
33	Antiballistic Windshield Armor (AWA)	4,000
33	Center for Tribology and Coatings	1,600
33	Defect-Free Commercially Viable SiC Semiconductor Using Superlattice Technology	3,200
33	On-Board Vehicle Power Management	1,600
33	High Performance Aluminum Structures and Components	1,600

Line	Item	Change from budget estimate
33	Military and interstate Commercial Truck Component Weight Reduction Program	2,400
33	Hydraulic Hybrid Vehicles (HHV) for the Tactical Wheeled Fleet	1,000
33	3-D Advanced Battery Technology	3,200
33	High Speed Diesel Combustion	3,200
33	Vehicle Armor Structure Development and Testing for Future Combat Systems and Joint Light Tactical Vehicle	1,000
33	Liquid Desiccant-Based Atmospheric Water Generation without Reverse Osmosis	900
33	Diminishing Manufacturing Sources and Material Shortages (DMSMS) Case Resolution Program	2,000
33	Battlefield Requirements Management Support System	1,000
33	High Strength, Powder Metal Gears for Vehicle Transmissions	2,600
33	Improved HMMWV Tactical Shelter Project	1,000
33	No Idle System (NIS)	1,000
33	Advanced Thermal Management System	3,200
33	Advanced Composites Development for Light Weight, Low Cost Transportation Systems	
33	Using 3+ Extruder	3,200
33	Tactical Wheeled Vehicle Composite Component Weight Reduction Program	2,400
33	Diesel Hybrid-Electric Utility Vehicles	2,000
33	Secure On-the-Move Information Analysis and Control for Advanced Combat Vehicles	1,600
33	Full Spectrum Close-in Layered Shield (FCLAS) for thin skinned vehicles	1,600
33	Active Protection Systems Initiative for the Joint Light Tactical Vehicle	3,040
33	Advanced Lightweight Composite Armor	1,600
33	Advanced Thermal and Oil Management Controls	1,600
33	Armor Ready Composite Cab Transition	3,000
33	Center for Military Vehicle Technologies	4,080
33	Crosshairs Hostile Fire Indicating System	3,000
33	Enhanced Directed Armor RPG Vehicle Protection System	800
33	Field Deployable Fleet Hydrogen Fueling	2,400
33	Fuel Cell Cost Reduction and Durability improvements	1,600
33	Ground Forces Readiness Enabler for Advanced Tactical Vehicles (GREAT-V)	1,600
33	Ground Vehicle Fastening and Joining Research	800
33	Hybrid Engine Development Program for the Tactical Wheeled Vehicle Fleet	8,000
33	Lightweight Structural Composite Armor for Blast and Ballistic Protection	2,000
33	Next Generation Manufacturing Technologies for Defense Supply Chain	3,200
33	Next Generation Non-Tactical Vehicle Propulsion	1,600
33	Novel Onboard Hydrogen Storage System Development	2,400
33	Rotary Multi-Fuel Auxiliary Power Unit for MIAI Abrams Tank	2,000
33	Unmanned Ground Vehicle Initiative (UGVI)	12,000
33	Vehicle Information Manager Display for Drivers (VMID)	800
33	Vehicle Maintenance and Prognostics System	2,560
34	No-Idle Climate Control for Military Vehicles	2,000
36	Applied Communications and Information Networking (ACIN)	4,000
36	Advanced Wireless Technologies	500
36	Portable Mobile Emergency Broadband Systems (PMEBS)	3,400
38	Joint Fires and Effects Training System (JFETS)	2,000
38	Vigilant Auto-ID and Access Control System	1,000
38	Experiential Technologies for Urban Warfare and Disaster Response	800
40	Compact Pulse Power Initiative	2,400
41	Sierra Army Depot Cryofracture/Plasma Arc Transportable System	2,400
41	Cryofracture/Plasma Arc Demilitarization Program	2,400
41	Missile Recycling Capability-Letterkenney Munitions Center	6,500

Line	Item	Change from budget estimate
45	Advanced IED Jammer Research and Development Program	2,400
45	WIZARD - Remotely Controlled Improvised Explosive Device Countermeasures	1,600
45	Advanced Communications ECM Demonstration (Augments current program)	9,600
45	Non-communications ECM Technology Demonstration (Augments current program)	6,400
45	US Army Future Force ELINT	2,000
45	DAIRCM/CMWS for Army helicopters	2,800
46	Waterside Wide Area Tactical Coverage & Homing (WaterWATCH)	3,000
46	Smart Energetics Architecture for Missile Systems	1,600
46	Rapid Response System for Protection of Air and Ground Vehicles	4,000
46	High Fidelity Virtual simulation and Analysis (HFVSA)	1,000
46	Army Virtual Emergency Research Teethed (AVERT)	2,400
46	Perimeter & Maritime Sensor Network	2,400
46	Software Engineering Enhancements	3,000
48	Enhanced Landmine and IED Detection Technology	1,600
48	Advanced Demining Technology	4,000
49	Modular Individual Weapon Sight and Low Cost Remote Weapon Station	1,000
49	Polymer Small Arms Production	1,600
50	Hyperspectral Sensors for Improved Force Protection (Hyper-IFP)	1,600
50	Advanced Night Vision Sensors	2,000
50	Cable Warning and Obstacle Avoidance System	1,200
50	Hand Launched Unmanned Aerial System High Performance Payload (SUAS HPP)	2,400
50	Enhanced Digital Electronic Night Vision (EDEN)	3,200
50	FCS Short Range Electro Optic (SRE0) Sensor for Stryker	3,200
50	UCXR System	3,200
50	Next Generation FPA Development	1,600
52	Gas Engine Driven Air Conditioning Demonstration	1,200
52	Synthetic Auto Virtual Environment (SAVE)	1,600
52	Defense Applications of Carbonate Fuel Cells	1,600
52	Zero Energy Homes at Ft. Knox, Kentucky	1,000
52	Natural Gas Firetube Boiler Demonstration	500
52	JGES for Improved Combat Situational Awareness	4,000
52	Fireproofing/Corrosion Resistant Coating System for Military Infrastructure	1,000
52	Army Applications of Direct Carbon Fuel Cells	1,600
52	Advanced Tactical Fuels for the Military	2,000
52	Development and Research of Zero Energy Homes at Ft. Campbell	2,200
52	Direct Methanol Fuel Cell Development	2,000
52	Regenerative Fuel Cell System for Silent Camp Operations	3,000
53	Advanced Radar Transceiver Integrated Circuits Development	800
53	Sensor Visualization and Data Fusion (SVDF)	1,200
53	X-band Interferometric Radar	2,000
53	1 Megawatt Molten Carbonate Fuel Cell Demonstrator at 29 Palms	3,200
53	Aviation Responsive Maintenance System	1,600
53	Software Li-recycle Affordability Management (SLAM)	2,000
53	Enhanced Multi-Mission Radar	2,400
53	HYPERSAR Radar	3,200
53	Shared Vision	3,200
55	Standoff Hazardous Agent Detection & Evaluations System (SHADES)	2,000
55	BAFST (Biological Air Filtration System Technology)	1,600
55	Advanced Standoff Technologies for National Security	800
55	Micro Seeker System for Small Steerable Projectiles	1,600
55	Advanced Hypersonic Weapon Mission Planning	2,400
55	Next Generation Interceptors Materials Research	1,600

Line	Item	Change from budget estimate
55	Thermal and Electrical Nanoscale Transport (TENT)	1,600
55	Integrated Composite Mounting Hardware	1,000
55	Transfer Missile Power System	2,400
	Advanced Fuel Cell Research Program, also known as Advanced Laser Electric Power	
55	(ALEP)	2,400
55	Radiation Hardening Initiative (RHI)	2,000
55	Remote Explosive Analysis and Detection System (READS)	1,600
55	Micro-systems and nano-technology for Advanced Technology Development	1,000
55	Orion High Altitude Long Endurance UAV	6,000
55	Next Generation Passive Sensors (NGPS)	4,000
55	Dielectrically Enhanced Sensor System (DESS)	4,400
55	Advanced Battery Technology	1,000
55	Adaptive Lightweight Materials for Missile Defense	1,600
55	Advanced Cavitation Power Technology	5,420
55	Advanced Electronics Rosebud Integration	4,000
55	Advanced Environmental Control System	4,000
55	Advanced Hypersonic Weapon Technology Demonstration	41,700
55	AHW BMC2 HWIL Technology Demonstration	2,400
55	Alternative Power Technology (APT) for Missile Defense	3,200
55	Compact Pulsed Power for Defense Applications	1,600
55	Future TOC Hardware/Software Integration	1,600
55	Heat Dissipation for Electronic Systems & Enclosures	2,400
55	Model-Based Enterprise	800
55	Neutralization of IEDs	3,000
55	Vertical Integration for Missile Defense Surveillance Data	4,720
56	Simulation and Design of Large Electromagnetic Systems	1,520
56	Spatial Acquisition and Measurement of Power Sources	1,000
56	Integrated Modeling of Air & Ground Environments (IMAGE)	2,400
56	Geospatial Airship Research Platform (GARP)	3,200
56	Ultra Light UAV Sensor Platform (ULSP)	1,600
56	High Altitude Airship (Transfer from Senate GP 8116)	2,500
56	High Energy Matter Space Propulsion	800
56	Applied Counterspace Technology (ACT) Test bed	5,120
56	HiSentinel	4,640
56	Integrated Nanosat Delivery System	2,400
56	Low Cost Interceptor (LCI)	5,000
56	Tactical Overwatch High Altitude System (TOHAS)	2,000
57	Army Extended Range Attack Missile (AERAM) Turbine Engine Development	1,600
57	Advanced Extended Range Attack Missile	800
57	Border Security and Defense Systems Research	3,000
61	High Explosive Air Burst (HEAB) 25mm Ammunition	3,200
62	Northern Ohio Integrated Command Operations Program	2,000
63	Responsive Textiles	1,000
66	Western Hemisphere Information Exchange Program (WHIX)	2,400
66	National Defense Center for Environmental Excellence	1,200
	Integrated Mission Critical Environment, Safety and Occupational Health Technology and	
66	Regional Sustainability Solutions Program	2,400
66	Battlefield Plastic Biodiesel	1,650
66	Modifications to mVHP for use against TICs/TIMs	2,500
66	Web-Based Environmental Compliance Management System	2,400

Line	Item	Change from budget estimate
	Total Quality System for FDA Regulated Activities at U.S. Army Medical Research and Materiel Command	800
72	Lightweight Trauma Module (LTM)	2,400
72	Future Medical Shelter System-44/48 Bed Combat Support Hospital	6,000
72	Future Medical Shelter System (FMSS)	2,000
72	Pneumothorax Detection Device	1,200
72	Electroosmotic Pain Therapy System	1,600
72	Leishmaniasis Skin Test Antigen	1,000
72	Wireless Medical Monitoring System (WiMed)	2,400
73	Acid Alkaline Direct Methanol Fuel Cell Technology	1,600
73	Warrior SIGINT Capability	1,840
78	Bi-Directional English-Iraqi Instant Language Translation System	1,840
	Integration of the Javelin Antitank Missile onto the US Army Common Remotely Operated Weapon Station	1,600
83	Integration of MK47, 40mm Air Burst Fuse Capability onto U.S. Army Common Remotely Operated Weapon Station	1,000
	Common Remotely Operated Weapon Station (CROWS) with Acoustic Target Recognition and Cueing Control	800
83	Protector Enhancements and Integration on New Vehicle Platforms Program	1,600
83	Enhanced Flame Retardant Body Protection	1,600
83	Enhanced Self-Sintered Silicon Carbide Body Armor	1,600
83	XM312	10,000
84	Track Over Tire System	800
84	Universal Diagnostic Data Management System - Deployment	1,600
84	Fuel Saving Continuously Variable Transmission for FMTV and JLTV	2,000
86	High Performance Aluminum Military Trucks	800
86	Heavy Expanded Mobile Tactical Truck A3	10,000
88	Second Source Tires for JLTV	1,200
90	Enforc-IT Anti Tamper System	1,280
93	Small Business Technology Insertion	20,000
94	FC3, FCS Reconnaissance (UAV) Platforms	2,500
99	Lightweight Multi-purpose Laser	3,000
105	Joint Training Integration and Evaluation Center	1,720
108	Mortar Anti-Personnel/Anti-Materiel (MAPAM) Development	2,400
108	HYBRID Propellant for Medium and Large Caliber Ammunition	6,400
108	Lightweight Multi-Functional Material Technology	1,500
109	2kW Military Tactical Generator Product Improvement	2,400
111	Advanced Packaging Solutions for Biotherapeutics	800
111	Plasma Sterilizer	3,000
111	Rotary Valve Pressure Swing Absorption Oxygen Generator	1,600
111	Veterinary Research Manpower Development for Defense	500
111	Military Applications of Medical Grade Chitosan	3,000
111	Life Support for Trauma and Transport (LSTAT/LSTAT-Life)	3,200
112	Magneto Inductive Remote Activation Munitions Systems MI-RAMS	3,200
114	Advanced Cargo Projectile Technology	1,600
116	C3T CDSCD (Cross Domain Strategic and Operational Solution)	1,680
120	Optimized M-25 Soldier Fuel Cell System	1,600
124	Health Informatics Initiative	2,400
124	Electronic Commodity Program	900
126	Electronic Combat and Gaunter Terrorism Training -	1,600
127	Next Generation Ice Protection Technologies System for UAVs	2,000
127	Mobile Objects for Net-Centric Operations	2,400

Line	Item	Change from budget estimate
130	Arroyo Center program adjustment	4,000
132	Gunfire Detection System for Unmanned Aerial Vehicles	1,600
	Development of a Robust, Mobile Multispectral Fingerprint Capture Device Employing	
132	Multispectral Imaging Technology	2,000
132	2D-3D Face Recognition System	2,400
132	Arabic Language Training Program	800
132	Automated Communication Support System	1,600
133	Electro-Magnetic Flak Impulse System	2,400
135	Mobile Optical Tracking System (MOTS)	1,960
135	Dugway Testing and Infrastructure Upgrade	2,800
135	Joint Directed Energy Test Site-IED Defeat	4,800
135	Joint Tactical Network Test Environment	2,000
135	Robotic Manipulators for Explosive Ordnance Disposal	480
136	Rotorcraft Survivability Assessment Facility	1,600
137	Mid-Infrared Advanced Chemical Laser (HELSTF) (Transfer from Senate GP 8117)	3,000
137	Sealight Beam Directors (HELSTF) (Transfer from Seante GP 8118)	3,000
142	EQUATE at Army Operational Test Command	1,600
142	Denied GPS	2,400
144	Passive Walking Beam Tracked Platform for Unmanned Ground Vehicles	1,000
146	Knowledge, Tech Sharing Program	2,400
147	Medium Caliber Metal Parts Upgrade	2,400
147	Advanced Cluster Energetics	5,000
147	Defense Metals Technology Center	2,000
147	National Polymer Innovation Center (NPIC)	1,000
147	Domestically Produced Atomized Magnesium for Defense	1,000
147	Depleted Uranium Sensing and Treatment for Removal	4,900
147	Gun Propellant Demilitarization	2,400
147	Thermal Battery Qualification	2,900
155	Component Optimization for Ground Systems	1,600
155	Ground Combat Systems Open Architecture Electronic Enhancements	2,800
155	Virtual Simulation and Modernization of Bradley Fighting Vehicle	1,600
155	Combat Vehicle Transmission Improvement	3,840
155	Vehicle Health Management Systems Development	4,000
	ARH-70A Armed Reconnaissance Helicopter Vehicle Health and Usage Management	
156	System (VHUMS) Demonstration	1,600
157	Operator Situational Awareness System - MEDEVAC	2,000
157	Aircraft Component Remediation	2,400
157	CH-47 Integrated Vehicle Health Management System (IVHMS)	10,000
157	Helicopter Autonomous Landing System	4,000
158	Fort Hood Digitization	1,000
169	Biometrics Automated Toolset Enhancements	1,600
169	Mobile Object Search Toolkit for Intelligence Analysts	2,000
169	ISR Synchronization and Visualization Tool for the Battle Command Laboratory Collection	1,000
	Multiple Independent Levels of Security (MILS) Separation Kernel Technology	
170	Development	950
170	Information Assurance Development	2,400
175	Integrated Vehicle Health Monitoring System for UAVs	4,000
177	Asymmetric Threat Response and Analysis Project (ATRAP)	2,400
177	Defense Common Ground Station - Army All Source Analysis System Integration	2,400
177	Advanced Architecture Designs Supporting U.S. Army Net Centric Warfare	1,600

Line	Item	Change from budget estimate
177	Heuristic Internet Protocol Engine	1,900
177	Effect Based Approach to Operations	800
179	Smart Machine Platform Initiative	3,000
179	Specialized Compact Automated Mechanical Clearance Platform (SCAMP)	400
179	SuperPulse Laser System Development for Turbine Engine Applications	1,600
179	National Center for Defense Manufacturing and Machining	1,600
179	Advanced Materials Processing for Ultra-Efficient Power Systems	1,000
179	Aging Weapons Systems Structural Repair	1,600
179	Electrodeposited Coatings Systems	1,600
179	High Temperature Ceramic Manufacturing Technology	2,000
179	Improved Manufacturing Process for SAPI	3,200
179	Laser Engineered Net Shaping (LENS) Qualification for Aging Weapons Systems	1,600
179	Legacy Aerospace Gear Drive Re-Engineering Initiative	1,000
179	Next Generation Combat Helmet	<u>2,400</u>
	<b>Total</b>	<b>1,610,104</b>