

Line Item	Change from budget estimate
1 Blast and Impact Resistant Composite Structures for Navy Ships	1,600
1 Cell-Based Sensors for Chemical Threats	1,200
1 Center for Hetero-Functional Materials	2,000
1 Center for Nanoscience and Nanomaterials	1,200
1 CSTARS (Center for Southeastern Tropical Advanced Remote Sensing)	2,000
1 Microwave Ferrites and Multifunctional Integrated Circuits	800
1 National Security Training	2,000
1 Research Infrastructure for the Applied Physics Laboratory (UW)	3,200
1 Low Acoustic and Thermal Signature Battlefield Power Source	2,000
1 University Research Initiatives	8,000
3 Energetics Technology Center/Energetics S&T Workforce	2,400
3 Mobile Ad Hoc Data Communications for Unmanned Systems	800
3 ONAMI Nanoelectronics and Nanometrology initiative	2,000
3 Stand-off Biochemical Agent Detection	800
3 Evaluating ELF Signals in Maritime Environment	1,600
3 Navy Science and Technology Outreach	800
3 Texas Microfactory	3,500
3 Rotational Molded Double Wall for Un-manned Patrol Boat	3,000
4 Aging Evaluation of Advanced Materials Used for Military Aircraft	1,200
4 Clustered Millimeter Wave Imaging Sensors	1,600
4 High Energy Conventional Energetics (Phase One)	5,000
4 High Power Free Electron Laser Development for Naval Applications	2,000
4 Marine Mammals - Effects of Sound	800
4 Modular Payload Systems	2,000
4 Multifunctional Oxide Materials, Their Application and Devices (MFMA)	2,000
4 Strike Weapon Propulsion (SWEAP)	2,000
4 Advanced Propulsion for Gun Launched Projectiles and Missiles	800
4 Combustion Light Gas Gun Projectile	3,200
4 High Performance Alloy Materials Steel Castings	2,000
4 Unmanned Aerial Vehicle Fuel Cell Power Source	2,000
5 Advanced Simulation Tools for Aircraft Structures Made of Composite Materials	2,000
5 Critical Composites Technologies for Enabling Special Operations Forces Medium Range Endurance Craft	1,000
5 High Temperature Super Conducting Magnetic Energy Storage	400
5 High Toughness Aluminum Structures	1,200
5 Optical Recognition Protocol for Biologics Detection	800
5 Planar Solid Oxide Fuel Cell System Demonstration at UTC SimCenter	3,500
5 Stabilized Laser Designation Capability	1,000
5 Alternative Energy Research	16,000
5 Force Protection Applied Research	2,000
5 Lithium-Ion Cell Development	3,000
5 Magnetic Refrigeration Technology	3,200
5 PMRF Force Protection Lab	2,000
5 Shipboard Production of Synthetic Logistics and Aviation Fuel	1,600
5 Undersea Perimeter Security Integrated Defense Environment	2,800
6 High Power Lightweight Zinc-Air Battery	1,000
6 Survivability Program	1,500
6 Warfighter Rapid Awareness Processing Technology for Distributed Operations	3,000
7 Infrared Materials Center	2,000
8 Advanced Panoramic Sensor Systems for UAV's	800
8 All Weather Sense & Avoid for UAV's	2,400
8 Radio Sensor Module (RASM)	1,600

Line Item	Change from budget estimate
8 UGV Mobility & Coordination in Joint Urban/Littoral Environments	800
8 M2C2	3,200
8 Theater Undersea Warfare Initiative (TUSW)	3,200
9 Advanced Fouling and Corrosion Control Coatings	2,000
9 Advanced Reinforced Materials and New Materials Research for Aircraft Tires	1,000
9 Atmospheric Water Harvesting	1,000
9 Durability of Composite Materials and Structures	1,600
9 Mast-mounted In-Port Video Force Protection Surveillance System	1,600
9 Mission Deployable Surveillance Biometrics	1,600
9 Nanotechnology Engineer & Manufacturing Operation (NEMO)	800
9 Virtual Clinical Learning Lab and Center of Excellence	2,400
9 Amelioration of Military Hearing Loss	800
9 Biosensors for Defense Applications	2,000
9 Digital Directed Manufacturing Project	1,280
9 Miniaturization, Systemization of Semiconducting Metal Oxide	800
9 Nanotechnology Research	4,000
10 Gallium Nitride RF Power Technology	2,000
10 Notre Dame Center for the Engineering of Oxide-Nitride Structures (CEONS)	1,600
10 Reparative Core Medicine	1,000
10 Ultra Stable Coherent Laser	800
10 National Initiatives for Applications of Multifunctional Materials	1,600
11 Autonomous Undersea Vehicle Applications Center	1,200
11 Autonomous Marine Sensors and Networks for Rapid Littoral Assessment	1,600
11 Littoral Battlespace Sensing (LBS) & Autonomous Underwater Vehicle System (UAV) Program	1,000
11 Underwater Acoustic Imaging for Maritime Domain Awareness	1,000
13 Autonomous Unmanned Undersea Vehicle (UUV) Delivery & Communications Demonstration	2,000
13 Galfenol Energy Harvesting	1,600
13 High Power Lithium Battery	800
14 Autonomous Underwater Vehicle (AUV) Docking and Recharging Station	2,800
14 Center for Detection and Neutralization of Electronically Initiated Improved Explosive Devices	2,400
14 Navy Special Warfare (NSW) Unattended Sensor Network	1,600
14 Electromagnetic Signature Assessment System Using Multiple Autonomous Underwater Vehicles	2,000
14 NMSU Water Security Program	800
14 Virtual Onboard Analyst (VIRONA) for Multi-Sensor Mine Detection	1,000
14 Remote Controlled Surveillance Sonar System	1,000
15 Flow Path Analysis Tool (FPAT)	1,000
15 High Speed Anti-radiation Demonstration (HSAD)	1,600
15 Magdalena Ridge Observatory (MRO)	6,500
15 Advanced Motor-Propulsor Development and Testing	4,000
15 Excalibur	800
15 Expeditionary Craft	20,000
15 Information Sharing for ISRTE	1,000
15 Long Wavelength Array	2,400
16 Accelerating Fuel Cells Manufacturability and their Application in the Armed Forces	2,750
16 Advanced Logistics Fuel Reformer for Fuel Cells Advanced Navy Boat Lift (13,000 - 24,000 tbs.)	2,400
16 Research and Development	1,000
16 Agile Port and High Speed Ship Technology	2,400
16 Cryogenic Power System for Unmanned Underwater Vehicles	1,000
16 Detecting Improvised Explosive Devices	1,000
16 Direct Motor Driven Waterjet	1,600
16 High Speed Power Node Switching and Control Center	1,600
16 Innovative Methods for Ship-Building Affordability	1,600

Line Item	Change from budget estimate
16 Integrated Advanced Communications Terminal (IACT)	1,000
16 Multi-Fuel Combustor for Shipboard Fuel Cells	1,600
16 M65 Bismaleimide Carbon Fiber Prepreg	2,400
16 Pure Hydrogen Supply from Logistic Fuels	2,400
16 Secure Infrastructure Technology Laboratory (SINTEL)	3,200
16 Solid-State DC Protection System (SSDCP)	400
16 Tactical Compact Optical Interrogator	1,600
16 Underground Coordination of Managed Mesh-networks	800
16 Wide Area Sensor for Force Protection Targeting	1,600
16 Advanced Volume Sensor System	1,600
16 Electrochemical Field-Deployable System for Potable Water Generation	2,400
16 Formable Textile for Complex Shaped Aerospace Composites	1,600
16 Future Fuel Non-Tactical Vehicle Initiative	1,600
16 Laser Perimeter Awareness System	1,500
16 Manufacturing and Repair Cell	4,000
16 Maritime Mobile Force Protection Program	1,600
16 Single Generator Operations Lithium Ion Battery	5,000
16 Wide-Band Gap Semiconductor Materials	1,600
17 Computer Forensics for Enhanced Maritime Domain Awareness	1,000
17 Maritime Identification Surveillance Technology (MIST)	1,600
18 Environmentally-Sealed, Ruggedized Avionics Displays	1,600
18 Littoral Combat Ship (LCS) Networked Tactical Training System (NTTS)	1,000
18 NADEP Cherry Point Center for Vertical Lift - Institute for Maintenance, Science and Technology National Center for Research on Evaluation, Standards, and Student Testing (CRESST) Skill Set Analysis (Note: Including \$2M to support CRESST as a UARC for Educational and Training Technology Assessment)	2,400
18 Validation of Prognostic and Health Management Systems	2,500
18 Protective Apparel Technology Systems	800
19 C-Band Active Array Radar System	4,000
19 Pacific Airborne Surveillance and Testing	15,000
20 Craft Integrated Electronic Suite (CIES)	2,400
20 Dual-Stage Ultra-Reliable Water Filtration Technology Development	2,000
20 MEMS Microdetonator Packaging Technology	2,400
20 Marine Air-Ground Task Force Situational Awareness	1,000
21 Chameleon Chemical Detection Armband	2,500
23 C. W. Bill Young Bone Marrow Donor Recruitment and Research Program	31,500
23 Integrated Warfighter Biodefense Program	2,400
23 Massive Tissue Injury/Amputation Repair with Composite Tissue Transplantation	3,000
23 Neural Control of External Devices (artificial limb movement)	800
24 Upward Looking Sonar (ULS)	1,000
24 Deep Water Acoustic Detection System	3,200
26 Joint Explosive Ordnance Disposal (JEOD) Diver Situational Awareness System	800
27 Gateway System	1,600
27 Naval Observatory Joint Milli-Arcsecond Pathfinder Survey (J-MAPS) Program	4,000
27 Semi-Submersible UUV	1,000
28 Equipment Life Extension Project (ELEP)	1,200
28 Intelligent Autonomy Technology Transition Program (IA)	2,000
28 Modular Advanced Helmet Vision System	1,600
28 Silver Fox UAS	800
28 Smart Visor	1,600
28 Technology Collaboration for Aerospace Engineering Programs	1,600
28 Unmanned Force Augmentation System	2,400
28 Intelligence Gathering Uninhabited System	1,600

Line Item	Change from budget estimate
28 Unmanned Aircraft Systems Optimization Technologies	2,800
30 Marine Mammal Awareness, Alert and Response Systems (MMAARS)	2,400
30 Tactical E-Field Buoy Development Program	1,600
34 Anti-Torpedo Torpedo (ATT)	2,400
34 Anti-Submarine Warfare (ASW) Enhancements	8,000
34 Sensor Arrays for Multiple Applications	1,500
35 Carrier Plant Automation and Manning Reduction Technology Insertion	800
35 Improved Corrosion Protection for Electromagnetic Aircraft Launch System (EMALS) for CVN-21	2,000
Quiet Interlude Processing System (QuiPS) Integration with Undersea Warfare - Decision Support System (USW-35 DSS)	800
36 Advanced Combatant Materials Research	1,600
36 Advanced Fluid Controls for Shipboard Applications	2,400
36 Advanced Repair Technology for the Expeditionary Navy	800
36 Air Gun Ship Shock Testing of Naval Vessels	1,600
36 Circuit Breaker for Navy Shipboard Power Distribution Systems	600
36 High Efficiency Quiet Electric Drive	1,600
36 High Temperature Superconductor (HTS) Navy Propulsion Motor for DDG-100	2,000
36 Integrated Power System Converter	800
Internet Protocol over Power Line Carrier Technology Integration with integrated Condition Assessment System	
36 (ICAS)	1,600
36 Naval Flywheel Energy Storage System	600
36 Smart Valve	2,400
36 Shipboard Wireless Maintenance Assistant (SWMA)	1,200
36 Advanced Steam Turbine	4,000
36 DDG 51 Homopolar Hybrid Drive	5,500
36 MTTC/1PI and National Surface Treatment Center	3,200
36 Power Conversion Equipment for High Density Power Generation	800
36 Propulsor Manufacturing Technology	2,400
36 High Temperature Superconductor AC Synchronous Propulsion Motor	2,000
41 Small Business Technology insertion	20,000
41 Improved Surface Vessel Torpedo Launcher	1,600
43 Acoustic Materials for Integral Bow Conformal Array	1,000
43 Navy Submarine Hydraulic Oil Recycling and Waste Reduction	1,000
43 Low Cost - Laser Module Assembly for the Navy's Acoustic Sensors (LC-LMA)	1,000
43 Twinline Thinline Submarine Towed Array	3,200
43 CISRT Enabling Materials Technology	2,400
43 Controllable Shock Absorber for Advanced Submarines	1,800
43 Organic Submarine Airborne ISRT Demonstration	2,800
43 Submarine Artificial Intelligence-Based Combat System Kernel	2,400
43 Undersea Launched Missile Study	5,000
44 High Awareness Littoral Observing (HALO) Sensor - 360 Degree Imaging for Submarines	1,000
44 Submarine Targeting Agile Array with Rapid Zooming	1,320
45 Advanced Video Processing Technologies (AVPT)	1,000
45 SCOUT MK3	1,000
45 Autonomous Maritime Navigation Program	4,800
45 LoX-Signature Modular Weapon Platform	2,400
46 Common Composite Island Concept	2,700
46 Support for Naval Ship Hydrodynamic Facilities	5,000
50 Anti-Submarine Warfare (ASW) Contact Management Mission Planning Improvement	2,800
50 LCS Mission Package Enterprise	4,000
50 Remote Multi-Mission Vehicle Anti-Submarine Warfare (ASW) Mission Module for LCS	2,400

Line Item	Change from budget estimate
50 New Payloads and Sensors Unmanned Surface Vehicle System	1,600
51 Open Architecture/Maintenance Free Operating Period	2,400
51 Automated Test and Re-Test	1,600
55 Intelligent Machining of Advanced Defense Materials	2,800
55 Anti-Sniper Infrared Targeting System	5,000
55 Urban Operations Environmental Lab	4,000
57 Cooperative Engagement Capability	4,000
59 Puget Sound Anoxia Research	1,200
60 Ocean Thermal Energy Conversion (OTEC)	800
61 Advanced Photovoltaic Material Integration Development	950
61 Kinetic Hydropower System (KHPS) Turbine	3,200
61 Swimmer Detection Sonar Network	1,200
63 Defense Integrated Technical Data Center	1,200
63 National Item Identification Number Validation and Correction	1,600
63 Unique Identification of Tangible Items	8,500
63 Highly Integrated Optical Interconnects	1,600
63 Multi-Colored Infrared Sensors	3,200
71 Affordable Weapon System	15,200
71 Modular Advanced Ultra Light Weapons System prototype mount	4,000
71 76mm Super Rapid Medium Caliber Gun System Explosives Safety Review	1,600
72 Spherical Airship Research and Development	1,600
72 High-Power Microwave System for Vehicle Immobilization	1,000
78 Global Personal Locator Beacon for Counter-narcoterrorism	1,600
78 Project Athena	6,400
77 Lasers for Navy Applications	2,000
78 Assault Directed Infrared Countermeasures	4,000
78 High Power Fiber Laser (HPFL) - Based Pod	1,600
85 Advanced Measurement Standards Development	3,200
89 Agent-based Expeditionary Security System for Anti-Terrorism Afloat	800
89 Wireless Imaging and Sensor Network	1,000
89 Distributed Detection Classification and Localization (DCL)	1,600
90 Distributed Multi-Platform Sensor Support System	2,500
93 Deep Extended Echo Ranging (DEER)	800
96 Next Generation Electronic Warfare Simulator (NGEWS)	1,600
97 EA-8B ALQ-99 Band 516 Traveling Wave Tube (TWT) <i>Driver</i> Modification	1,000
97 Point Mugu Electronic Warfare Lab Upgrade	2,000
100 Floating Area Network (FAN) Littoral Sensor Grid	4,000
100 SmartLink Planar Scanner Antenna Modernization	1,600
100 Wireless Maritime Inspection System	1,000
100 Permanent Magnet Motor	9,000
100 Advanced Wireless Encryption Module	2,400
100 Bio/Nano-MEMS for Defense Applications	3,200
101 Aegis Combat Information Center (CIC) Virtualization/Common Presentation Layer Integration	2,400
101 Smart Integrated Data Environment	1,000
105 Airborne Mine Countermeasures (AMCM) "Open Architecture" Technology Insertion	2,400
106 Sustainability of AN/SPS - 49 Common Signal Data Processor	3,600
108 Advanced Intercept Ranging Systems (AIRS)	3,200
108 Improved Submarine Thin Line Towed Array Handler	3,200
112 Environmentally Sealed Ruggedized Large Scale Display for Tactical Operations Centers	1,600
113 Oxygen Generator	800
113 Small Business Technology insertion	20,000
113 Combat Control for Distributed Netted Systems	1,600

Line Item	Change from budget estimate
113 Submarine Electronic Chart Updates	2,700
115 Submarine Maintenance Automation and Communication System (SMACS)	1,600
115 Automated Submarine Command and Control Center	1,600
116 Automated Fiber Optic Manufacturing initiative	1,000
125 Joint Stand Off Weapon Research and Development	4,800
126 Expeditionary Swimmer Defense System	1,600
126 Autonomous Unmanned Surface Vessel (AUSV)	1,000
127 Phalanx Next Generation	6,800
128 Advanced Radar Absorbing Tiles for Surface Ships	2,000
128 Electronic Warfare Concept Demonstrator for the Littoral Combat Ship	800
130 Advanced Research and Development of Hemostatic Agents (Note: USMC)	3,200
130 Center for Deployment Psychology	1,000
130 Granular Chitosan Clotting Agent for Anti-Coagulated Hypothermic Blood (Note: USMC)	1,200
130 Implantable Middle Ear Hearing System	1,000
130 Military Dental Research	1,600
130 Mobile Oxygen, Ventilation and External Suction (MOVES)	2,000
130 On-Demand Custom Body Implants and Prosthesis for Injured Personnel	1,600
130 Penn State Cancer Institute	5,600
130 Somatic Cell Processing Program	1,600
130 Strategies to Mitigate Individual Stress Reactivity and Operational Stress Reactions in the Military	1,200
130 US Navy Pandemic Influenza Vaccine Program	1,600
130 VisualDX Image-Based Real-Time Clinical Decision Support	2,400
130 Multivalent Dengue Vaccine Program	3,000
130 Next Generation Networking Electronic Medical Records Project	4,000
130 Phase 1 Clinical Trials for Infusible Hemostatic Agent	3,200
130 Hampton University Cancer Treatment Initiative	1,000
133 Competitive Engine Program	240,000
133 Production Initiatives and Information Assurance	100,000
135 Electronic Portal for Analysis, Workload and Zoonotic Surveillance	2,400
135 Oblique imaging and software tool for Marine Installations	1,000
136 Navy Condition Based Maintenance for Shipyard Facilities and Equipment	3,000
136 National Terrorism Preparedness Institute Counter-Terrorism Technology Development Training	2,400
136 SPAWAR System Center Information Technology Center (ITC)	10,000
136 Condition Based Maintenance Enabling Technologies	2,700
136 Digitization of NCIS Investigative Files	6,400
136 Integration of Logistics Info for Knowledge Projection and Readiness	1,800
139 Military Aircraft Loss of Control Training Research	1,000
140 AN/SSQ-137 (V) Ships Signals Exploitation Equipment Increment E	1,600
143 Network Expansion & Integration of Navy/NASA RDT&E Ranges & Facilities	4,100
148 Commercialization of Advanced Technology (CAT)	2,400
148 Integrated Manufacturing Enterprise	1,600
148 HTDV	10,000
148 Naval Aviation Technology Exploration Initiative	800
148 Pacific-Based Joint Info Tech Center	6,500
158 Automated Identification and Data Capture (AIDC) Solutions Center	2,800
158 USMC Logistics Analysis and Optimization	1,200
158 Individual Chemical Alert System	800
165 Advanced Linear Accelerator Facility	3,000
169 US Navy Mobile Condition Assessment System Pilot	800
170 Airborne Tactical Server	2,400
170 F/A-18 Roadmap Procurement Plan Fidelity Upgrade	2,400
170 F/A 18 Tactical Operational Flight Trainers Fidelity Upgrade	1,600

Line Item	Change from budget estimate
170 NAVAIR CPI Tech Manual Conversion and Support	1,600
172 AN-USQ-155 Card Upgrade for Navy Voice over internet Protocol Telephony	1,000
173 Precision Terrain Aided Navigation	3,200
173 Tomahawk Weapons Control System	1,280
174 Autonomous Anti-Submarine Vertical Beam Array	1,000
174 Low Cost, Expendable, Fiber Optic Sensor Array	1,000
174 Distributed Maritime Surveillance System	1,600
176 Anti-Submarine Warfare (ASW) Training Interoperability Enterprise Demonstration Test Bed	1,200
176 Total Ship Training System (TSTS) Support System	1,600
179 Advanced Anti-Radiation Guided Missile (AARGM)	3,500
179 Advance Precision Kill Weapons System	6,000
181 Advanced Composite Materials for Acoustic Window Applications	6,400
181 Long Range Synthetic Aperture Sonar (SAS) for Anti-Submarine Warfare (ASW)	800
182 Digital Data for Weapon System Readiness	800
182 MK-48 Torpedo Post-Launch Communication System	1,600
183 Age Exploration Model Enhancement & Vibration Analysis/Precision Measurement Integration	2,000
183 Advanced Avionics Miniaturization Program	1,000
183 Lightweight Composite Structure Development for Aerospace Vehicles	1,200
183 Aviation Improvements - Low Observable Aircraft Sealants	1,600
183 Rotor Blade Protection Against Sand and Water Erosion	800
183 Real-Time Weight and Balance Measurement System for C-130s	3,200
183 Arc Fault Circuit Breaker with Arc Location System	800
183 Rapid Repair UV Curable Structural Adhesives	4,000
183 Structural Life Tracking	1,600
183 F/A-18 Avionics Ground Support System	1,600
183 Wireless Sensors for Navy Aircraft	1,600
186 Battlefield Sensor Netting	2,400
STRIKE Research and Development and Integration with Intelligence C2 Systems / Counter Intelligence and	
186 Human Intelligence Equipment Program (CIHEP)	2,000
186 Performance Enhancements for Information Assurance and Information Systems	6,100
187 Expeditionary Fire Support System (EFSS) Projectile Technology Enhancements-- USMC	4,400
187 Tractable Durable Net Complex Shaped Body and Extremity Armor	1,600
187 Ultrasonic Consolidation of Embedded Sensors	1,200
192 Secure Data Sharing for Digital Radiographic Imaging	1,200
192 Surf Eagle Open Source Environmental Intelligence	3,600
195 Field Programmable Processor Array (FPPA) for Space Based "Reconfigurable" Wide Field of View Sensor	1,600
195 Joint Integrated Systems for Advanced Digital Networking (JIST-NET)	1,000
195 Transformational Satellite Communications (TSAT) upgrade to <i>Navy</i> Multi-Band Terminal (NMT)	1,600
196 Tactical Key Loader	3,200
196 Universal Description Discovery and Integration	2,800
203 Coastal Airship Surveillance Demonstrator	1,600
203 Micro-munitions Interface for Tactical Unmanned Systems	4,000
203 Unmanned Air Systems 'Open Architecture' Migration	3,000
203 Advanced Airship Flying Laboratory	2,000
203 Skybus 80k and 130k LTA-UAS Multirole Technologies	1,800
205 EP-3E Environmental Cooling System Upgrade	5,040
205 Fusion, Exploitation, Algorithm, Targeting, High-Altitude Reconnaissance (FEATHAR)	4,000
206 Collective Aperture Multi-Band Sensor System	1,200
207 Distributed Common Ground System- Navy/AFATDS Interoperability	1,000
207 Maritime Intelligence Integration for Shared Situational Awareness	1,000
212 Improved Advanced Watertight Door (IAWD) for Navy Surface Ships	1,000
212 U.S. Navy Nuclear Power Plant and Ship Propulsion Shaft Manufacturing Improvement Project	1,000

Line Item	Change from budget estimate
213 Enhanced Tracking and Asset Control (ETAC)	1,200
213 National Shipbuilding Research Program	12,000
213 Navy Automatic Identification Technology (AID) Engineering Support	<u>800</u>
Total	1,249,920