FY 2009: Comparative Testing Office New Projects
Defense Acquisition Challenge (DAC) and Foreign Comparative Testing (FCT) Programs

Army

FCT:	DAC:
▪ Pyrolysis Solid Waste Disposal with Energy Recovery – United Kingdom	▪ Intelligent Power Management and Distribution ▪ Shockwave Therapy for Traumatic Wounds and Burns of the Extremity ▪ Uniform Repair Patch Kit

Navy and Marine Corps

FCT:	DAC:
▪ H-53 Low Cost and Reliable Generator Control Unit – Germany ▪ Improved Speed Sensor for Ships and Submarines – United Kingdom ▪ Improved Photonics Mast for US Navy Submarines – Germany, France, United Kingdom ▪ M1A1 Crew Cooling System – Israel, Canada, Sweden ▪ Insensitive Munitions Improvement of Light Armored Weapon Rocket Motor – Norway, United Kingdom, Sweden	▪ Digital Solid State Combat Display for the Phalanx Weapons System ▪ Expeditionary Water Packaging System ▪ M1A1 Sniper Detection System

Air Force

FCT:	DAC:
▪ 25MM round for F-35 Joint Strike Fighter – Switzerland	▪ Advanced Infrared Expendable Decoy ▪ Portable Electrical Power Supply for Aeromedical Evacuations

US Special Operations Command (SOCOM)

FCT :	DAC:
▪ Carl Gustaf 20MM Training System – Sweden ▪ Enhanced Fuze for 70MM Multi-Purpose Penetrating Warhead – Norway ▪ Submersible, Multi-fuel Outboard Engine – Italy ▪ Precision Sniper Rifle – Canada, Finland, United Kingdom	▪ Handheld Total Fluid Condition Monitor ▪ Improved Viper Strike Precision Guided Munition ▪ Next Generation Night Vision Imaging Technology for Visual Augmentation System ▪ Special Operations Forces Forward Trauma Management Set

Defense Intelligence Agency (DIA)

FCT:	
▪ COSMO SkyMed Constellation Evaluation – Italy	

Description of FY 2009 Comparative Testing Office New Projects

U.S. ARMY

Foreign Comparative Testing (FCT) Program

Pyrolysis Solid Waste Disposal with Energy Recovery – United Kingdom. Tests a transportable waste disposal system which if successful will allow the US Army to thermally destroy solid, oil and medical waste on forward operating bases. The system can also recover excess heat that in turn lowers the energy requirement from generators and thereby reduces daily fuel consumption.

Defense Acquisition Challenge (DAC) Program

Intelligent Power Management and Distribution. Tests a 100 amp power management and distribution system to meet US Army electrical and environmental requirements for Tactical Operations Centers. If successful the system will reduce setup time of mobile power grids, allow for a more reliable and robust power grid setup, increase soldier safety around electrical power equipment, and allow for more efficient fuel consumption of generators.

Shockwave Therapy for Traumatic Wounds and Burns of the Extremity. Evaluates an acoustic energy, shockwave therapy, device to treat the soft tissue wounds of our warfighters. The device provides treatments that are anesthesia-free, non-invasive, simple-to-administer, and most of all provide rapid healing of difficult-to-heal wounds.

Uniform Repair Patch Kit. Tests a repair patch kit for use with the Fire Retardant (FR) Army Combat Uniform. The FR Repair Patch Kit provides Soldiers and other service personnel the means to patch fire resistant uniforms with a non sewing repair kit. The patch kit will allow the Soldier to maintain the integrity of the fire resistant uniform and extend the reliability of the uniform by 50% or greater.

U.S. NAVY & MARINE CORPS

Foreign Comparative Testing (FCT) Program

Improved Photonics Mast for US Navy Submarines – Germany, France, United Kingdom. Tests alternative photonics masts with modular construction and color HDTV capability. Additionally this FCT has the potential to correct a reliability shortfall with the current system that is impacting operational availability of the Virginia Class and Ohio Class submarines.

M1A1 Crew Cooling System – Israel, Canada, Sweden. Currently, there is no dedicated cooling system on the US Marine Corps M1A1 Main Battle Tank and crewmembers must endure temperatures in excess of 140°F. This FCT will evaluate foreign Crew Cooling Systems to reduce heat related illness, battle fatigue, and to improve crewmember performance.

H-53 Low Cost and Reliable Generator Control Unit – Germany. Test a lower cost and higher reliability generator control unit (GCU) which will increase the mean time between failure from 640 hours to 16,000 hours. This GCU is currently deployed on German Army CH-53G helicopters and has demonstrated very high reliability and predictable lifecycle support costs.

Improved Speed Sensor for Ships and Submarines – United Kingdom. Test an improved advanced composite rodmeter currently deployed with the Royal Navy. If successful this rodmeter will deliver more accurate readings and improve shipboard navigation command and control.

Insensitive Munitions Improvement of Light Armored Weapon Rocket Motor – Norway, United Kingdom, Sweden. In its current configuration the M72A7 66MM Light Anti-armor Weapon (LAW) system is not Insensitive Munition (IM) compliant. This FCT evaluates IM compliant solutions from Norway, the United Kingdom, and Sweden, to improve the overall safety of the LAW and field an IM compliant rocket motor system.

Defense Acquisition Challenge (DAC) Program

Digital Solid State Combat Display for the Phalanx Weapons System. Tests an advanced digital display to improve the performance of Phalanx Weapon System operators. If successful this display will allow operators to visually see the full range of enhancements the Phalanx Thermal Imager can provide, increase target discrimination and overall system effectiveness.

Expeditionary Water Packaging System. Tests an expeditionary hydration solution for deployed Marines. The Expeditionary Water Packaging System is a fully ruggedized and automated, commercial water packaging system that addresses the safety hazards associated with the distribution of unregulated bottled water as well as the tremendous costs for sustained logistics operations.

M1A1 Sniper Detection System. Currently US Marine Corps M1A1 tank crews and dismounted infantry encounter deadly and demoralizing enemy sniper fire without an effective counter measure for threat suppression. This DAC Tests an acoustically based Sniper Detection System to increase the survivability, lethality and situational awareness of the M1A1 tank.

U.S. AIR FORCE

Foreign Comparative Testing (FCT) Program

25MM Round for F-35/Joint Strike Fighter – Switzerland. This is a test of a multi-purpose frangible penetrating round that can be used to engage hard and soft targets, fitting the mission profile for the Joint Strike Fighter.

Defense Acquisition Challenge (DAC) Program

Advanced Infrared (IR) Expendable Decoy. Evaluates an IR Decoy that has the potential to protect US Air Force aircraft (C-130, F-16, A-10) against current and emerging IR threats.

Portable Electrical Power Supply for Aeromedical Evacuations. Tests a stretcher mountable, lightweight hydrogen fuel cell that if successful will be used to power Aeromedical Evacaution and US Air Force medical team equipment.

U.S. SPECIAL OPERATIONS COMMAND (USSOCOM)

Foreign Comparative Testing (FCT) Program

Carl Gustaf 20mm Training System – Sweden. Evaluate 20mm HEDP 502 rounds and sub-caliber training adapters for the Carl Gustaf 84mm anti-armor and anti-personnel weapon used by Special Operations Forces. This 20mm round with the sub-caliber device provides a realistic blow-back feel to the shooter. Training rounds are less costly and more affordable.

Enhanced Fuze for 70mm Multi-Purpose Penetrating Warhead – Norway. Evaluate a settable electronic fuze that will enable the Special Operation "Little Bird" helicopter pilots to change the delay settings on the 70mm rocket warhead in-flight and allow them to engage a wider range of targets.

Precision Sniper Rifle – Canada, United Kingdom and Finland. Evaluate multiple sniper rifle systems that are capable of accurately engaging enemy personnel out to ranges of 1,500 meters. This enhances SOF sniper survivability during engagements by providing more stand-off distance.

Submersible, Multi-fuel Outboard Engine – Italy. Test an air-assisted direct-injection fuel delivery system currently used on commercial off-the-shelf, lightweight, submersible outboard engines. These new engines meet DoD requirements for safe fuels. Special mission units have an urgent requirement to replace their submersible outboard engines for Combat Rubber Raiding Craft by 2010.

Defense Acquisition Challenge (DAC) Program

Handheld Total Fluid Condition Monitor. Tests handheld monitors that provide real-time, on-demand, point-of-use, fluid condition assessment for hydraulic and lubrication oils for use by the Army's Special Operations aviation. Handheld monitors will eliminate the time and expense of shipping ship oil and other fluids to a centralized laboratory for processing and analysis. Readiness and safety of aircraft will increase.

Improved Viper Strike Precision Guided Missile. Tests a more capable semi-active laser that increases the field of view of Viper Strike precision-guided missiles to strike fleeing targets. Additionally this project tests a more jam-resistant GPS that will have 24, vice 12, channels. These upgrades will reduce unit cost and increase the production rate of the Viper Strike missile.

Next Generation Night Vision Imaging Technology for Visual Augmentation System. Evaluates low-light camera components for next-generation Special Operations Forces Ground Mobility Visual Augmentation Systems and Hand Held Imagers. The components will provide better resolution and easier processing as well as increase identification of targets. The camera components will also increase production rate and lower unit cost.

Special Operation Forces (SOF) Trauma Management Set. Evaluates deployable equipment for SOF Medical Emergency Response Facilities that will stabilize and sustain casualties with trauma care in remote areas evacuation to appropriate level casualty facilities is unavailable. The trauma sets are modular and can be tailored for specific missions.

DEFENSE INTELLIGENCE AGENCY

Foreign Comparative Testing (FCT) Program

COSMO-SkyMed Constellation – Italy. Evaluate synthetic aperture radar imagery from a commercial satellite constellation. The system to be tested provides high resolution images from sub-meter range through several tens of meters with direct download, processing, distributing and archiving of the satellite images.