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**Exhibit R-2, PB 2010 Office of Secretary Of Defense RDT&E Budget Item Justification** **DATE:** May 2009

<b>APPROPRIATION/BUDGET ACTIVITY</b>					<b>R-1 ITEM NOMENCLATURE</b>					
0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 3 - Advanced Technology Development (ATD)					PE 0603665D8Z Biometrics Science and Technology					
<b>COST (\$ in Millions)</b>	<b>FY 2008 Actual</b>	<b>FY 2009 Estimate</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	9.838	10.521	10.993						Continuing	Continuing
P665: Biometrics Science and Technology	9.838	10.521	10.993						Continuing	Continuing

**A. Mission Description and Budget Item Justification**

In Oct 2006, the Deputy Secretary of Defense designated the Director for Defense Research and Engineering (DDR&E) as Principal Staff Assistant (PSA) for biometrics with the responsibility to fully address and exercise control over all facets of the Department's biometrics programs, initiatives, and technologies. Biometrics technologies have the unique potential to provide the Department with the capability to take away an adversary's anonymity; this program provides focused investment to fill current technology gaps.

Biometrics technologies can be used to both verify an individual's claimed identity and, when combined with additional intelligence and/or forensic information, biometrics technologies can establish an unknown individual's identity, thus stripping away his anonymity. The biometrics science and technology program addresses the technology gaps that preclude our ability to quickly and accurately identify anonymous individuals who threaten our interests, in whatever domain they operate.

This program develops a comprehensive biometrics science and technology plan and implements multiple projects to advance capability to identify anonymous individuals using individual biometrics.

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 3 - Advanced Technology Development (ATD)	<b>R-1 ITEM NOMENCLATURE</b> PE 0603665D8Z Biometrics Science and Technology
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**B. Program Change Summary (\$ in Millions)**

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
Previous President's Budget	10.113	10.579	11.194	
Current BES/President's Budget	9.838	10.521	10.993	
Total Adjustments	-0.275	-0.058	-0.201	
Congressional Program Reductions				
Congressional Rescissions		-0.058		
Total Congressional Increases				
Total Reprogrammings				
SBIR/STTR Transfer	-0.255			
Other	-0.020		-0.201	

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 3 - Advanced Technology Development (ATD)				<b>R-1 ITEM NOMENCLATURE</b> PE 0603665D8Z Biometrics Science and Technology					<b>PROJECT NUMBER</b> P665	
<b>COST (\$ in Millions)</b>	<b>FY 2008 Actual</b>	<b>FY 2009 Estimate</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
P665: Biometrics Science and Technology	9.838	10.521	10.993						Continuing	Continuing

**A. Mission Description and Budget Item Justification**

This program will develop the technology that will improve the quality of biometrics derived information provided to the operational forces for the purpose of identifying and classifying anonymous individuals. It will enable execution of a DoD and interagency coordinated biometrics science and technology plan that supports technology transition to acquisition programs in FY10 and the out-years.

**B. Accomplishments/Planned Program (\$ in Millions)**

	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
<p>Biometrics S&amp;T Planning</p> <p>A comprehensive Biometrics Science and Technology (S&amp;T) Strategic Plan was developed and will be continually refined to guide component level investment in biometrics technology.</p> <p><i>FY 2008 Accomplishments:</i> Established baseline of technology and developed near term S&amp;T objectives. Completed a comprehensive S&amp;T strategy to coordinate the biometrics investment within the Department. Leveraged membership in the Center for Identity Technology Research (CITeR) to support research in priority biometrics areas relevant to DoD. Prepared assessment of biometrics capability areas to support initiation of biometrics acquisition programs of record in FY 2010. Developed a detailed biometrics process modeling and simulation tool to assess and guide investment decisions.</p> <p><i>FY 2009 Plans:</i> Completed Biometrics S&amp;T plan and roadmap to guide component biometrics S&amp;T investments. Developed beta version of a biometrics “dashboard” to assess performance metrics and return on investment. The S&amp;T roadmap was developed in consideration of the recently completed Joint Staff Biometrics Capability Based Assessment (CBA) which is part of the process of defining formal biometrics requirements.</p>	0.575	0.750	0.500	

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
<p><i>FY 2010 Plans:</i> Continued maintenance of the Biometrics S&amp;T roadmap to incorporate emerging technologies and evolving capability requirements and gaps. Transition the biometrics “dashboard” to the Executive Agent (Army) for continued refinement and maintenance.</p>				
<p><b>Biometrics Technology Projects</b></p> <p>Biometrics capabilities and gaps are continually evaluated though the planning process addressed above and those gaps will be addressed through the competitive solicitation of focused proposals. Broad Agency Announcements (BAA), technical proposal reviews, selections and awards will recur annually.</p> <p><i>FY 2008 Accomplishments:</i> Completed technology gap analysis and issued a BAA soliciting proposals to the full range of biometrics capabilities. Reviewed 175 proposals and selected 10 projects for funding. As of 12 Dec 08, awarded contracts on 9 of the 10 projects. Projects range from \$0.165 to \$0.750 million and are of 6-12 months in duration.</p> <p>High Throughput Rapidly Deployable Iris Biometric Capture System: Delivered prototype designed to demonstrate a low cost, light weight, high speed iris image capture using a single camera in a portal environment.</p> <p>Multispectral Iris Fusion for Enhancement and Interoperability: Developed and demonstrated a capability to match iris images taken in the near infrared spectrum with images taken in the visible light spectrum using data fusion techniques at the pixel and feature levels to increase matching accuracy and enrollment performance.</p> <p>Acquiring High-Quality Iris Images from Moving Subjects with a Fluttering Shutter: Developed and demonstrated a fluttering shutter technology to enable the capture of high quality iris images in the presence of camera or subject motion and demonstrate the compatibility of the image with existing iris matching algorithms.</p>	5.563	7.000	7.155	

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<p>A Daytime/Nighttime Long Range Multi-biometric System for Military Operations: Development and delivery of a 5 beam BioLidar prototype capable of capturing 3-D facial images from moving subjects out to 50 meters and facial recognition software capable of working with both 3-D and 2-D databases.</p> <p>Development of an Advanced Hand-held Iris Biometric Imager Brassboard and Demonstration: Developed and delivered of a functional brassboard based on adaptive optics for handheld simultaneous capture of face and iris images in less than one second.</p> <p>Miniature, non-contact, rolled equivalent fingerprint collection device: Delivered a prototype to demonstrate a non-contact, nail-to-nail fingerprint scanner that can capture a 3-D fingerprint image quickly accurately and independent of an operator.</p> <p>Face Recognition for Physical and Logical Access Control: Developed a robust accurate and cost effective 3-D/2-D face recognition algorithm that combines 2-D images obtained using COTS 2-D cameras with 3-D data obtained from dedicated enrollment stations to rapidly identify subjects. and information Demonstration and Assessment</p> <p>Novel Long Range Illuminator: Designed and demonstrated an illuminator based on super luminescent LEDs capable of capturing an Iris image to standard at 50 meters.</p> <p>Finger, Face, and Iris Biometric Fusion Technology Demonstration for DoD Applications: Demonstrated on a field deployable portable computing platform of score-based fusion algorithms for face, iris and fingerprint data using both quality and match scores.</p> <p>Rugged Field Portable Fingerprint Workstation: Developed and delivered a low-cost, rugged, field-portable, fingerprint workstation combining commercial optics, electronics, hardware and software for field use.</p>				

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<p><i>FY 2009 Plans:</i>                      Compe multiple demonstrations of various technologies to improve the standoff collection, quality and matching accuracy of facial and iris images. Results provided to Army to inform the development of their FY 2010 new start acquisition program for tactical biometrics collection devices.</p> <p>As a follow-up to the FY 2008 BAA, solicited focused proposals to develop innovative means to capture fingerprint, face and iris images in all conditions with a single sensor, and to demonstrate the Ability to leverage matching across multiple modalities.</p> <p><i>FY 2010 Plans:</i>                      Continue to review the results of technology demonstrations and focus technology development solicitations on achieving technology readiness levels needed to transition to FY 2010 new start programs of record.</p>				
<p>Forensics</p> <p>Commercially available forensics technologies have been developed for use in permissive law enforcement operations and fixed site laboratories. DoD has a requirement to collect, preserve, exploit and analyze forensics materials from site exploitations in forward deployed expeditionary operations and with field hardened equipment suitable for use by military personnel. The forensics projects under this program will develop expeditionary forensic collection, processing and exploitation systems capable of operating in all tactical environments.</p> <p><i>FY 2008 Accomplishments:</i>                      Initiated forensics S&amp;T planning to include the first DoD wide and interagency forensics S&amp;T conference. Assessed current state of forensics technologies, identified gaps and initiated comprehensive forensics S&amp;T strategy for delivery in the first quarter of FY 2009.</p> <p><i>FY 2009 Plans:</i>                      Completed development of a forensics S&amp;T strategy and solicited focused proposals consistent with identified gaps. Leveraged forensics technology development efforts of other US government activities</p>	0.500	2.771	3.338	

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<p>to include DHS, FBI and the National Institute of Justice. Initial investments focused on technologies that enhance latent print collection and examination in tactical environments, materials and ballistics examination, and forensics reach-back support to fully capable laboratories and forensics experts. Additionally, co-sponsored a field-deployable rapid DNA profiling system using advanced micro-fluidic technologies to demonstrate accelerated DNA sequencing and matching in a field deployable system.</p> <p><i>FY 2010 Plans:</i> Continued to review the results of technology demonstrations and focus technology development solicitations on achieving improved technology readiness levels for expeditionary forensics capabilities.</p>				
<p>Variable Distance Iris Identification on the Move (Congressional Add)</p> <p>The DOD Biometric Fusion Center has a requirement to develop a stand-off biometric (iris) collection capability. The inability to collect biometrics in a stand-off, covert manner is an identified capability gap which is of interest to the DOD Combatant Commands, and Military Services. The Eagle Eyes System, a biometric identification system designed to capture iris images at distances up to 50 meters and perform biometric matching services against pre-loaded databases, currently under development by Retica Systems Inc. will fill this capability gap.</p> <p><i>FY 2008 Accomplishments:</i> Completed demonstration of Retica's Eagle Eyes System, to capture iris images at distances up to 50 meters and perform biometric matching services against pre-loaded databases.</p> <p><i>FY 2009 Plans:</i> Project completed. Outcome to be used to inform FY 2010 biometrics programs of record.</p>	3.200	0.000	0.000	
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A				
<b>D. Acquisition Strategy</b> N/A				

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**E. Performance Metrics**

N/A

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