

# UNCLASSIFIED

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2015 Air Force **Date:** March 2014

<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 4: Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>					<b>R-1 Program Element (Number/Name)</b> PE 0603742F <i>I Combat Identification Technology</i>							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	-	25.987	13.386	10.980	-	10.980	24.915	23.067	23.573	24.074	Continuing	Continuing
642596: <i>ADS-B TIP (Technology Insertion Program)</i>	-	3.990	-	-	-	-	-	-	-	-	Continuing	Continuing
642597: <i>Non-cooperative Identification Subsystems</i>	-	20.133	11.512	9.104	-	9.104	23.005	21.121	21.589	22.053	Continuing	Continuing
642599: <i>Cooperative Identification Techniques</i>	-	1.864	1.874	1.876	-	1.876	1.910	1.946	1.984	2.021	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

## A. Mission Description and Budget Item Justification

The Combat Identification (CID) Technology program element analyzes, develops, demonstrates and evaluates promising target identification technologies to facilitate platform transition decisions prior to Engineering and Manufacturing Development (EMD). The Joint Capability Document (JCD) for CID BFT (Blue Force Tracking), operational documents, lessons learned, and NATO requirements state the need for positive CID. High confidence CID increases combat effectiveness, prevents fratricide, and reduces collateral damage. It also enables combatant commanders to effectively command and control their forces in all weather, day or night. This program element focuses on the cooperative and non-cooperative technologies that have the capability to positively identify surface and air targets in both air-to-surface and air-to-air engagements.

In order to rapidly make available promising CID technologies for platform EMD decisions, the program element funds design studies, engineering analysis, and other efforts associated with demonstration of prototype CID related technologies and subsystems on platforms. It also supports the development, testing, and implementation of international standards (to include NATO standardization agreements) to ensure joint, Allied, and coalition interoperability.

Non-cooperative CID employs a number of sensing technologies and signal processing techniques. The observations may be compared to a database of known objects to identify surface or air threats from air platforms. These technologies include: (1) Laser Vision, an Electro-Optical/Infrared (EO/IR) imaging system that significantly increases ID ranges and includes exploiting synergies between non-cooperative and cooperative identification systems (radio, millimeter wave, infrared, and laser).

Cooperative CID employs technologies required to rapidly identify friendly platforms. The program develops, integrates and evaluates technologies that provide AF platforms with a means of positively identifying an air or ground platform as a friendly, via active or passive cooperative ID capabilities. Development funded by this program element ensures availability of Automatic Dependent Surveillance - Broadcast (ADS-B) as well as Mode 5 IFF (Identification Friend or Foe) upgrade path for implementing ground and air platforms across the Air Force fleet. Activities also include studies and analysis to support both current program planning and execution and future program planning.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Air Force	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 4: Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0603742F I <i>Combat Identification Technology</i>
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This program is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P) because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	32.243	15.899	29.116	-	29.116
Current President's Budget	25.987	13.386	10.980	-	10.980
Total Adjustments	-6.256	-2.513	-18.136	-	-18.136
• Congressional General Reductions	-0.038	-0.025			
• Congressional Directed Reductions	-3.000	-2.488			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.806	-			
• Other Adjustments	-2.412	-	-18.136	-	-18.136

**Change Summary Explanation**

FY13 Congressional reduction of \$3M dollars was a mark against the ADS-B TIP for under-execution in FY12.

Decrease in Other Adjustments (FY13) was due to sequestration.

Decrease in Congressional Directed Reductions in FY14 was due to sequestration.

FY15 funding reduced to support higher AF priorities.

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force										Date: March 2014		
Appropriation/Budget Activity 3600 / 4					R-1 Program Element (Number/Name) PE 0603742F / Combat Identification Technology				Project (Number/Name) 642596 / ADS-B TIP (Technology Insertion Program)			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
642596: ADS-B TIP (Technology Insertion Program)	-	3.990	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
Automatic Dependent Surveillance - Broadcast (ADS-B) Technology Insertion Program (TIP): This program element will fund preliminary RDT&E for integration of ADS-B architecture into the APX-119 Mark XIIA IFF (Identification Friend or Foe) transponder. The ADS-B TIP will develop ADS-B "Out" capability which leverages synergies between ADS-B and Mode 5 Level 2 (M5L2) to achieve M5L2 "Out" capability. The ADS-B TIP specifically addresses implementing air platforms.												
This program element is upgrading the Digital IFF Control Panel as part of the ADS-B TIP to comply with DO-260B and AIMS 03-1000B. This is an upgrade to basic Mode 5 Digital IFF Control Panel for ADS-B, Mode 5 software changes, and Mode 5 Level 2 corrections.												
B. Accomplishments/Planned Programs (\$ in Millions)										FY 2013	FY 2014	FY 2015
Title: Automatic Dependent Surveillance - Broadcast (ADS-B)										1.608	-	-
Description: Automatic Dependent Surveillance - Broadcast (ADS-B) Technology Insertion Program (TIP): This program element will fund preliminary RDT&E for integration of ADS-B architecture into the APX-119 Mark XIIA IFF (Identification Friend or Foe) transponder. The ADS-B TIP will develop ADS-B "Out" capability which leverages synergies between ADS-B and Mode 5 Level 2 (M5L2) to achieve M5L2 "Out" capability. The ADS-B TIP specifically addresses implementing air platforms.												
FY 2013 Accomplishments: Continued ADS-B TIP development of software into the APX-119 transponder. Awarded contract for Phase 2 and ADS-B upgrade for the Digital IFF Control Panel.												
FY 2014 Plans: N/A												
FY 2015 Plans: N/A												
Title: Digital IFF Control Panel ADS-B Upgrade										2.382	-	-

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<b>Appropriation/Budget Activity</b> 3600 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603742F / <i>Combat Identification Technology</i>	<b>Project (Number/Name)</b> 642596 / <i>ADS-B TIP (Technology Insertion Program)</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2013</b>	<b>FY 2014</b>
<p><b>Description:</b> This program element is upgrading the Digital IFF Control Panel as part of the ADS-B TIP to comply with DO-260B and AIMS 03-1000B. This is an upgrade to basic Mode 5 Digital IFF Control Panel for ADS-B, Mode 5 software changes, and Mode 5 Level 2 corrections.</p> <p><b>FY 2013 Accomplishments:</b> Continued to upgrade the Digital IFF Control Panel for ADS-B, Mode 5 changes, and Mode 5 Level 2 corrections.</p> <p><b>FY 2014 Plans:</b> N/A</p> <p><b>FY 2015 Plans:</b> N/A</p>			
<b>Accomplishments/Planned Programs Subtotals</b>		3.990	-
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A			
<p><b>Remarks</b> ADS-B TIP is a cooperative technology. Schedule for the ADS-B TIP and Digital Control Panel are on Cooperative schedule, page 15.</p>			
<b>D. Acquisition Strategy</b> ACAT III project, sole source, fixed price contract to develop software for the APX-119 transponder. User purchase will be through the GATM catalogue.			
<b>E. Performance Metrics</b> Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force										Date: March 2014		
Appropriation/Budget Activity 3600 / 4					R-1 Program Element (Number/Name) PE 0603742F / Combat Identification Technology				Project (Number/Name) 642597 / Non-cooperative Identification Subsystems			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
642597: Non-cooperative Identification Subsystems	-	20.133	11.512	9.104	-	9.104	23.005	21.121	21.589	22.053	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
Non-cooperative Combat Identification (CID) employs a number of sensing technologies and signal processing techniques. The observations may be compared to a database of known objects to identify surface or air threats from air platforms. These technologies include: (1) Laser Vision, an electro-optical/infrared (EO/IR) imaging system that significantly increases identification ranges and includes exploiting synergies between non-cooperative and cooperative ID systems (radio, millimeter wave, infrared, and laser). The Laser Vision Program is working on performance improvements, laser vibrometry development, 3-dimensional laser detection and ranging, laser radar, synthetic aperture laser (SAL) radar, hyper spectral phenomenology exploitation, aided/automatic target recognition, image fusion and studies to support decisions on future EO/IR technologies; (2) Radar Vision, an air-to-ground radar imaging technique to identify stationary and moving targets using their radar signatures; including passive techniques and electronic warfare identification technologies; (3) Hydra Vision, a balanced (robust) amalgamation of sensor data from multiple sources to provide warfighters with higher confidence CID results on surface or air targets potentially including fusion with intelligence sources, identification of non-traditional targets, fusion to counter camouflage, concealment and deception (CCD), and multi-phenomenology features for sustainable databases; (4) Compact ATR (Aided Target Recognition) and Sustainable Environments (CASE), a CID approach that focuses on tailoring algorithms to utilize smaller, more efficient databases that are faster and less expensive to generate and maintain; and (5) X-Patch, a validated set of prediction codes and analysis tools that predicts realistic far-field radar signatures from 3-D (3 dimensional) target models in order to predict 1D and/or 2D data. X-Patch is vital for development of radar signatures of potential high-threat weapons systems; it is a critical capability of database production centers which support Joint Sensors Signature Database (JSSD) pathfinders.												
Activities also include studies and analysis to support both current program planning and execution and future program planning.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2013	FY 2014	FY 2015	
Title: Laser Vision/3-D Ladar									1.015	-	0.800	
Description: Laser Vision, a family of electro-optical (EO) systems that significantly increase ID ranges. Provides the demonstration and evaluation data necessary to support decisions on future EO technologies supporting CID. Includes 3-D (3 dimensional) imaging laser radar (Ladar) and exploration of advanced concepts. The 3-D ladar technology provides a display of an 3-D EO image to the pilot for high confidence combat identification and is a potential for the next generation targeting pods for the USAF.												
FY 2013 Accomplishments:												

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
Completed the Advanced Mode Processing (AMP) Project demonstration of prototype 3D video display modes, providing a baseline approach to the use of 3D sensing in the cockpit. Started the development of the 3DTO 2D/3D active receiver with DRS Technologies in Dallas, Texas. Under this contract, completed the design and fabrication of a 16x16 test readout integrated circuit (ROIC). Started the detector processing (attaching photodiodes) on the test chip ROIC. When complete the test chip will be fully evaluated and support the finalization of the ROIC design for submission to the foundry for fabrication in mid CY14. Started development of a full CID 3D simulation (CIDS-3D) to support high-fidelity flight performance predictions.  <b>FY 2014 Plans:</b> N/A  <b>FY 2015 Plans:</b> Will continue integration of the 3-D ladar system into form fit function of a podded system for laboratory and field testing.					
<b>Title:</b> Laser Vision/Siren  <b>Description:</b> Develop, demonstrate and evaluate a laser vibrometry sensor in a targeting pod and its utility as a low cost CID discriminator.  <b>FY 2013 Accomplishments:</b> Conducted Preliminary and Critical Design Reviews. Conducted critical risk reduction test utilizing pod and shaker stand. Initiated vibrometry aided target recognition (ATR) development. Began long lead procurement.  <b>FY 2014 Plans:</b> Continue material procurement and software development for SIREN system. Initiate subsystem requirements validations and laboratory performance testing. Continue ATR development. SEEK EAGLE certification.  <b>FY 2015 Plans:</b> Will complete ground testing. Will initiate flight test planning. Will begin integrating ATR software.			5.233	3.616	2.664
<b>Title:</b> Radar Vision  <b>Description:</b> The Radar Vision (RV) technology applies Aided Target Recognition (ATR) algorithms to Radar Imagery and Radar Signature returns which puts target ID labels on the radar imagery and tracks using a common database of target signatures. Develop technologies that can utilize new wide area radar sensors and signal processing.  <b>FY 2013 Accomplishments:</b>			1.020	-	-

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
Completed detailed final performance evaluation of combined fixed and moving target combat identification capability including algorithms and real sensor data. Completed denied target development and demonstration. Completed development and implementation of technologies that will utilize wide area radar identification.					
<b>FY 2014 Plans:</b> N/A					
<b>FY 2015 Plans:</b> N/A					
<b>Title:</b> Hydra Vision  <b>Description:</b> Hydra Vision (Multi-Sensor Enhanced ID) is a family of balanced (robust) amalgamation of sensor data from multiple sources to provide warfighters with higher confidence CID results on surface or air targets.  <b>FY 2013 Accomplishments:</b> Air to Air: An ATR was developed and prepared for a real time demonstration. Air to Ground: Completed a lab and flight testing as well as ATR performance evaluation. Initiated Compact ATR and sustainable environments (CASE) technology analysis efforts.  <b>FY 2014 Plans:</b> Air to Air: Continue to refine fusion algorithms to maximize performance. Demonstrate 2 feature fusion with ground based Radar. Air to Ground: Analyze ATR performance and plan for a real-time flight demonstration.  <b>FY 2015 Plans:</b> Air to Ground: Will continue with a full up real time flight demonstration. Air to Air: Will continue with a real time flight demonstration of a two feature air target Identification.			8.284	4.052	2.715
<b>Title:</b> Compact ATR and Sustainable Environment (CASE)  <b>Description:</b> CASE is a family of efforts to address efficiency and sustainability issues associated with the development, operation and maintenance of non-cooperative ATR technology. Develop sustainable multi-phenomenology ATR based on low fidelity, compact, and inexpensive database technology.(Compact Feature ATR)  <b>FY 2013 Accomplishments:</b>			-	0.994	1.925

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<b>Appropriation/Budget Activity</b> 3600 / 4		<b>R-1 Program Element (Number/Name)</b> PE 0603742F / <i>Combat Identification Technology</i>		<b>Project (Number/Name)</b> 642597 / <i>Non-cooperative Identification Subsystems</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
N/A					
<b>FY 2014 Plans:</b> Continue technology development in compact feature ATR initiated in Hydra Vision study. Analyze feature extraction / uncertainty using low fidelity / physical feature target models. Create compact feature ATR database and assess saliency and target discrimination utility.					
<b>FY 2015 Plans:</b> Will finalize a compact feature recognition end to end system. Will prepare for laboratory demonstration in FY16. Will provide expected cost and performance on a set of pre defined metrics.					
<b>Title:</b> Enhanced Combat Identification (ECID)  <b>Description:</b> Develop a robust ability to quantitatively evaluate promising CID technologies using enhanced modeling and simulation (M&S) capabilities.			1.000	-	-
<b>FY 2013 Accomplishments:</b> Developed and refined M&S tools. Defined Air Interdiction (AI) and Close Air Support (CAS) mission scenarios for F-15E platform within a major conflict scenario (Classified); several potential F-15E sensor suite configurations used in the model. Stressed ECID M&S tool's capabilities to support Combat ID emulation within tactical air-to-ground scenario vignettes. Determined ECID capabilities to support robust analysis efforts of M&S CID activities.					
<b>FY 2014 Plans:</b> N/A					
<b>FY 2015 Plans:</b> N/A					
<b>Title:</b> Studies  <b>Description:</b> Conduct CID-related studies/demos.			0.420	0.350	0.500
<b>FY 2013 Accomplishments:</b> Continued study projects leading to new concepts for non-cooperative and cooperative CID efforts.					
<b>FY 2014 Plans:</b> Continue study projects leading to new concepts for non-cooperative and cooperative CID efforts.					
<b>FY 2015 Plans:</b>					



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<b>Appropriation/Budget Activity</b> 3600 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603742F / <i>Combat Identification Technology</i>	<b>Project (Number/Name)</b> 642597 / <i>Non-cooperative Identification Subsystems</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2013</b>	<b>FY 2014</b>
Will continue study projects leading to new concepts for non-cooperative and cooperative CID efforts.			
<b>Title:</b> X-Patch		3.161	2.500
<b>Description:</b> X-Patch consists of software code refinement based on feedback from the X-Patch user community.			-
<b>FY 2013 Accomplishments:</b> Continued funding X-Patch RDT&E tool development and sustainment.			
<b>FY 2014 Plans:</b> Continue funding X-Patch RDT&E tool development and sustainment.			
<b>FY 2015 Plans:</b> X-Patch transfers to Combat Air Intelligence System Activities, PE 0207431F O&M funding for sustainment.			
<b>Title:</b> Passive RF ID Environment (PRIDE)		-	0.500
<b>Description:</b> Develop passive RF target ID capability for denied access environment utilizing passive RF and EW information with potential non-traditional ISR capabilities. Passive RF ID is a new start in FY15.			
<b>FY 2013 Accomplishments:</b> n/a			
<b>FY 2014 Plans:</b> n/a			
<b>FY 2015 Plans:</b> Will explore concepts for RF-based CID to include bistatic / multi-static, passive incorporation of electronic warfare techniques and multi-mode applications.			
<b>Accomplishments/Planned Programs Subtotals</b>		20.133	11.512
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b> Award multiple, competitive contract vehicles emphasizing off-the-shelf technology and maximizing the use of non-developmental items (NDIs).			

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Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603742F / <i>Combat Identification Technology</i>	Project (Number/Name) 642597 / <i>Non-cooperative Identification Subsystems</i>
<b>E. Performance Metrics</b> Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.		

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force

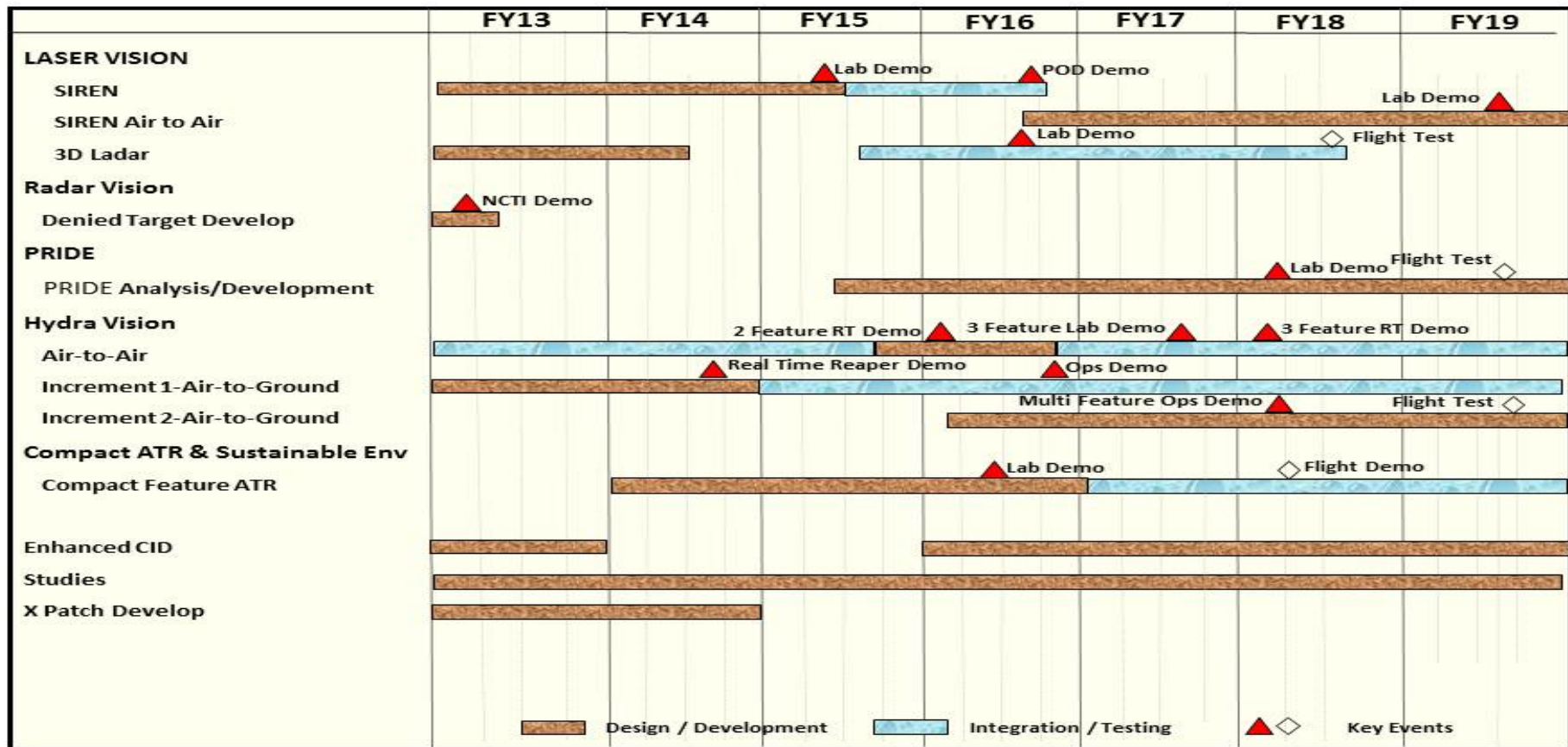
Date: March 2014

Appropriation/Budget Activity  
3600 / 4

R-1 Program Element (Number/Name)  
PE 0603742F / Combat Identification  
Technology

Project (Number/Name)  
642597 / Non-cooperative Identification  
Subsystems

## Non-Cooperative CID Technology Schedule



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force										Date: March 2014		
Appropriation/Budget Activity 3600 / 4					R-1 Program Element (Number/Name) PE 0603742F / Combat Identification Technology				Project (Number/Name) 642599 / Cooperative Identification Techniques			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
642599: Cooperative Identification Techniques	-	1.864	1.874	1.876	-	1.876	1.910	1.946	1.984	2.021	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
Cooperative Combat Identification (CID) employs technologies required to rapidly identify friendly platforms. The program develops, integrates and evaluates technologies that provide AF platforms with a means of positively identifying an air or ground platform as a friendly, via active or passive cooperative identification capabilities. Development funded by this project ensures availability of a Mode 5 upgrade path for implementing ground and air platforms across the Air Force fleet.												
Within the air-to-air domain, programs funded to meet this intent include:												
Mode 5 Technology Insertion Program (TIP): This project funds preliminary RDT&E for Mark XIIA, the next generation Identification Friend or Foe (IFF) standard for the DoD and NATO. Mark XIIA represents a substantial enhancement to the Mark XII IFF system. It is expected to achieve Joint Initial Operational Capability in 2014. The "A" denotes the addition of Mode 5 (an encrypted challenge-and-reply mode) to the other Mark XII system modes (Modes 1, 2, 3/A, C, S, and 4). The Mode 5 secure IFF program is a DoD-wide, Navy-led development and acquisition program. The Mode 5 TIP specifically addresses implementation for air platforms by integrating Mode 5 into APX-119, APX-114, APX-113 and the UPX-40 transponder systems.												
Within the air-to-ground domain, development funded by this project ensures development, integration, test and evaluation of friendly identification systems focused on reducing air-to-ground fratricide. CID efforts include investigation of radio based identification technologies; including the exploitation of state of the art digital radios and software defined radios and integration of cooperative and non-cooperative technologies for improved target recognition which could be incorporated into targeting pods or directly into the cockpit.												
Fund Air Traffic Control Radar Beacon Systems Identification Friend or Foe Mark XIIA System (AIMS)Program Office test engineers. The DoD International AIMS PO has system level interoperability testing and certification responsibilities for the present Mark XII system, development and integration of Mark XIIA (Mode 5) and transition to Mark XIIA Mode S systems. AIMS PO will continue to test and certify IFF equipment for the services now as long as IFF is used for combat identification.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2013	FY 2014	FY 2015	
Title: AIMS Program Office									1.864	1.874	1.676	

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2013</b>	<b>FY 2014</b>
<p><b>Description:</b> Fund Air Traffic Control Radar Beacon Systems Identification Friend or Foe Mark XIIA System (AIMS)Program Office test engineers. The DoD International AIMS PO has system level interoperability testing and certification responsibilities for the present Mark XII system, development and integration of Mark XIIA (Mode 5) and transition to Mark XIIA Mode S systems.</p> <p><b>FY 2013 Accomplishments:</b> Continued to fund AIMS for interoperability testing, FAA liason, and support of Mode 4 / Mode 5 equipment.</p> <p><b>FY 2014 Plans:</b> Continue to fund AIMS for interoperability testing, FAA liason, and support of Mode 4 / Mode 5 equipment.</p> <p><b>FY 2015 Plans:</b> Will continue to fund AIMS for interoperability testing, FAA liason, and support of Mode 4 / Mode 5 equipment.</p>			
<p><b>Title:</b> RID (Radio ID)</p> <p><b>Description:</b> Develop cooperative ID technologies exploiting combined cooperative/non-cooperative technologies, radio based ID, and signals of opportunities such as can be achieved with software programmable radios. Radio ID is a new start in FY15.</p> <p><b>FY 2013 Accomplishments:</b> N/A</p> <p><b>FY 2014 Plans:</b> N/A</p> <p><b>FY 2015 Plans:</b> Will begin development of cooperative ID technologies exploiting combined cooperative/non-cooperative technologies, radio based ID, and signals of opportunities such as can be achieved with software programmable radios.</p>		-	-
			0.200
<b>Accomplishments/Planned Programs Subtotals</b>		1.864	1.874
<b>C. Other Program Funding Summary (\$ in Millions)</b>			
N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b>			
Award multiple, competitive contract vehicles emphasizing off-the-shelf technology and maximizing the use of non-developmental items (NDIs).			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
<b>Appropriation/Budget Activity</b> 3600 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603742F / <i>Combat Identification Technology</i>	<b>Project (Number/Name)</b> 642599 / <i>Cooperative Identification Techniques</i>

## E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force**

**Date:** March 2014

**Appropriation/Budget Activity**  
3600 / 4

**R-1 Program Element (Number/Name)**  
PE 0603742F / *Combat Identification Technology*

**Project (Number/Name)**  
642599 / *Cooperative Identification Techniques*

## Cooperative CID Technology Schedule

