Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

3600: Research, Development, Test & Evaluation, Air Force

PE 0604858F: Technology Transition Program.

BA 4: Advanced Component Development & Prototypes (ACD&P)

COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	0.000	9.611	12.260	0.000	12.260	2.782	0.000	0.000	0.000	Continuing	Continuing
645350: Transition Prioritization	0.000	9.611	12.260	0.000	12.260	2.782	0.000	0.000	0.000	0.000	0.000

A. Mission Description and Budget Item Justification

The Technology Transition Program (TTP) provides funding to demonstrate and evaluate technologies to enable or accelerate their transition to acquisition programs of record and operational use. It addresses the gap that exists between when a technology is first demonstrated and when it can be successfully acquired as an operational capability. This gap is often referred to as the technology transition "valley of death." TTP bridges that gap by funding promising concepts for a period of one to two years, allowing technology integration and demonstration to continue beyond the laboratory. It allows acquisition program managers (the capability developers and providers) and warfighters (the capability recipients and end users) to integrate, prototype, and demonstrate candidate technologies and assess them in an operational environment. As a result, the warfighters can assess the capability first-hand and accurately fund the follow-on acquisition program during the next budgeting cycle ("try before you buy"). TTP includes research and development funds for the following transition activities: (1) prototyping (both full-scale and subscale to include competitions) of promising, high-priority concepts and technologies in an operational environment to lower acquisition risk by raising the technology readiness level; (2) performing pre-acquisition systems engineering to facilitate transition of concepts and technologies from a demonstration program (e.g., Advanced Technology Demonstrations (ATDs), Joint Capability Technology Demonstrations (JCTDs)) into acquisition programs of record; (3) assessing external interface requirements of candidate concepts, technologies, and demonstration projects to better understand true engineering costs resulting from insertion of new technologies into the AF enterprise architecture; and (4) capturing data through information technology tools and databases to help formulate technology transition acquisition strategies and gather proposals for technology and prototype development that have

TTP is specifically designed to deal with technology transition opportunities throughout the fiscal year as they arise, resulting in a prioritized distribution of TTP funding over the course of the entire execution year. Although analogous to major investment programs, the TTP process allows the AF flexibility to transition innovative concepts and initiatives to the warfighter annually in a manner that coincides with the development of the President's Budget. Candidate projects will receive TTP approval and funds based on identified and demonstrated operational impact, cost savings, project development, production feasibility, lifecycle costs, project risk and cost of delay. The TTP will nominate projects to the AF Service Acquisition Executive (SAE) for final approval. Potential sources of projects include, but are not limited to Joint Expeditionary Force Experiments, Joint Experimentation, ATDs, JCTDs, Defense Advanced Research Projects Agency, Science and Technology, and Independent R&D efforts. This effort is Budget Activity 4, Advanced Component Development and Prototypes, since it involves system specific efforts that help expedite technology transition from the laboratory to operational use.

UNCLASSIFIED

Exhibit R-2, **RDT&E Budget Item Justification:** PB 2011 Air Force **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

3600: Research, Development, Test & Evaluation, Air Force

PE 0604858F: Technology Transition Program.

BA 4: Advanced Component Development & Prototypes (ACD&P)

B. Program Change Summary (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	0.000	9.611	0.000	0.000	0.000
Current President's Budget	0.000	9.611	12.260	0.000	12.260
Total Adjustments	0.000	0.000	12.260	0.000	12.260
 Congressional General Reductions 		0.000			
 Congressional Directed Reductions 		0.000			
 Congressional Rescissions 	0.000	0.000			
 Congressional Adds 		0.000			
 Congressional Directed Transfers 		0.000			
 Reprogrammings 	0.000	0.000			
 SBIR/STTR Transfer 	0.000	0.000			
 Other Adjustments 	0.000	0.000	12.260	0.000	12.260

Change Summary Explanation

The FY 2010 President's Budget submittal did not reflect FY 2011 through FY 2015 funding. A detailed explanation of changes between the two budget positions is not provided because it cannot be made in a relevant manner.

Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY R-1 ITEM NOMENCLATURE PROJECT

3600: Research, Development, Test & Evaluation, Air Force PE 0604858F: Technology Transition Program. | 645350: Transition Prioritization

BA 4: Advanced Component Development & Prototypes (ACD&P)

COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
645350: Transition Prioritization	0.000	9.611	12.260	0.000	12.260	2.782	0.000	0.000	0.000	0.000	0.000
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Technology Transition Program (TTP) provides funding to demonstrate and evaluate technologies to enable or accelerate their transition to acquisition programs of record and operational use. It addresses the gap that exists between when a technology is first demonstrated and when it can be successfully acquired as an operational capability. This gap is often referred to as the technology transition "valley of death." TTP bridges that gap by funding promising concepts for a period of one to two years, allowing technology integration and demonstration to continue beyond the laboratory. It allows acquisition program managers (the capability developers and providers) and warfighters (the capability recipients and end users) to integrate, prototype, and demonstrate candidate technologies and assess them in an operational environment. As a result, the warfighters can assess the capability first-hand and accurately fund the follow-on acquisition program during the next budgeting cycle ("try before you buy"). TTP includes research and development funds for the following transition activities: (1) prototyping (both full-scale and subscale to include competitions) of promising, high-priority concepts and technologies in an operational environment to lower acquisition risk by raising the technology readiness level; (2) performing pre-acquisition systems engineering to facilitate transition of concepts and technologies from a demonstration program (e.g., Advanced Technology Demonstrations (ATDs), Joint Capability Technology Demonstrations (JCTDs)) into acquisition programs of record; (3) assessing external interface requirements of candidate concepts, technologies, and demonstration projects to better understand true engineering costs resulting from insertion of new technologies into the AF enterprise architecture; and (4) capturing data through information technology tools and databases to help formulate technology transition acquisition strategies and gather proposals for technology and prototype development that have

TTP is specifically designed to deal with technology transition opportunities throughout the fiscal year as they arise, resulting in a prioritized distribution of TTP funding over the course of the entire execution year. Although analogous to major investment programs, the TTP process allows the AF flexibility to transition innovative concepts and initiatives to the warfighter annually in a manner that coincides with the development of the President's Budget. Candidate projects will receive TTP approval and funds based on identified and demonstrated operational impact, cost savings, project development, production feasibility, lifecycle costs, project risk and cost of delay. The TTP will nominate projects to the AF Service Acquisition Executive (SAE) for final approval. Potential sources of projects include, but are not limited to Joint Expeditionary Force Experiments, Joint Experimentation, ATDs, JCTDs, Defense Advanced Research Projects Agency, Science and Technology, and Independent R&D efforts. This effort is Budget Activity 4, Advanced Component Development and Prototypes, since it involves system specific efforts that help expedite technology transition from the laboratory to operational use.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY

PROJECT R-1 ITEM NOMENCLATURE 3600: Research, Development, Test & Evaluation, Air Force PE 0604858F: Technology Transition Program.

645350: Transition Prioritization BA 4: Advanced Component Development & Prototypes (ACD&P)

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

FY 2009 **FY 2010** Base OCO Total MAJOR THRUST: SAE-approved technology transition project execution to facilitate long-term acquisition 0.000 9.611 12.260 0.000 12.260 planning and budget development.

FY 2011

FY 2011

FY 2011

FY 2009 Accomplishments:

In FY 2009: N/A

FY 2010 Plans:

In FY 2010: Approved by the AF SAE to support the demonstration and transition of an advanced optical self-protection system for protection of aircraft from guided projectiles; a multi-intelligence correlation, visualization and analysis software tool for rapid integration of multi-source data into a scalable analysis environment supporting combat zone command and control facilities; a no or low collateral damage counter-electronics capability; a satellite communications capability for simultaneous multiple satellite links and advanced antenna control; a command and control facility decision support software tool to aid the planning of ISR support to operations, including dynamic tasking and re-tasking capabilities for emerging operational requirements; and an integrated performance, readiness, test, and training assessment system combining live and simulated aircraft, ground assets, and command and control nodes, allowing operations beyond the limited geographical boundaries of physical training ranges in accordance with the capabilities of modern weapons systems.

FY 2011 Base Plans:

In FY 2011: Pending the approval of the AF SAE, will support the demonstration and transition of technologies supporting persistent wide area air and maritime surveillance to enable defense against threats in the interior of and in the approaches to North America; will complete supporting the demonstration and transition of an advanced optical self-protection system for protection of aircraft from guided projectiles; a multi-intelligence correlation, visualization and analysis software tool for rapid integration of multi-source data into a scalable analysis environment supporting combat zone command and control facilities; a no or low collateral damage counter-electronics capability; a satellite communications capability for simultaneous multiple satellite links and advanced antenna control;

UNCLASSIFIED

R-1 Line Item #57 Page 4 of 9

Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force

DATE: February 2010

FY 2011 | FY 2011 | FY 2011

0.000

12.260

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force

BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

PE 0604858F: Technology Transition Program.

PROJECT

9.611

12.260

0.000

645350: Transition Prioritization

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

	FY 2009	FY 2010	Base	oco	Total
and an integrated performance, readiness, test, and training assessment system combining live and simulated aircraft, ground assets, and command and control nodes, allowing operations beyond the limited geographical boundaries of physical training ranges in accordance with the capabilities of modern weapons systems.					
FY 2011 OCO Plans: In FY 2011 OCO: N/A					

C. Other Program Funding Summary (\$ in Millions)

			FY 2011	FY 2011	FY 2011					Cost To	
<u>Line Item</u>	FY 2009	FY 2010	<u>Base</u>	OCO	<u>Total</u>	FY 2012	FY 2013	FY 2014	FY 2015	Complete	Total Cost
PE Not Provided (16145):	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Activity Not Provided											

Accomplishments/Planned Programs Subtotals

D. Acquisition Strategy

TTP enables a more effective and prioritized transition of technologies to the warfighter. It allows more accurate cost estimating and more comprehensive systems integration to occur through the use of prototypes and user assessments until the sponsoring MAJCOM can incorporate the technology into their subsequent budget submission. The AF, through appropriate program offices, will manage the acquisition and development process for the integration and fielding of SAE-approved TTP projects. Each project will have a complete acquisition plan defined and approved as a criterion for project selection and subsequent funding. The Air Staff and AF corporate structure will complete an Operations and Acquisition Review to ensure project affordability and appropriateness within the overall AF program. In order to rapidly transition warfighting capabilities, the TTP process nominates projects directly to the AF SAE for final approval.

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.

UNCLASSIFIED

R-1 Line Item #57 Page 5 of 9

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force

BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

PE 0604858F: Technology Transition Program.

PROJECT

645350: Transition Prioritization

Product Development (\$ in Millions)

				FY 20	010	FY 2 Ba		FY 2	-	FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Continuing	TBD/TBD	TBD TBD	0.000	9.611		12.260		0.000		12.260	0.000	21.871	0.000
		Subtotal	0.000	9.611		12.260		0.000		12.260	0.000	21.871	0.000

Remarks

Support (\$ in Millions)

	,				040	FY 2		FY 2		FY 2011			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2	Award Date	Ba:	Award Date	Cost	Award Date	Total Cost	Cost To	Total Cost	Target Value of Contract
TBD - Pending Contract Award	TBD/TBD	TBD TBD	0.000	0.000		0.000		0.000		0.000	0.000	0.000	0.000
		Subtotal	0.000	0.000		0.000		0.000		0.000	0.000	0.000	0.000

Remarks

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

PROJECT

3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P) PE 0604858F: Technology Transition Program.

645350: Transition Prioritization

Test and Evaluation (\$ in Millions)

				FY 2	010	FY 2 Ba	-	FY 2		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
TBD - Pending Contract Award	TBD/TBD	TBD TBD	0.000	0.000		0.000		0.000		0.000	0.000	0.000	0.000
		Subtotal	0.000	0.000		0.000		0.000		0.000	0.000	0.000	0.000

Remarks

Management Services (\$ in Millions)

management corrie	ου (ψ III IIII			FY 2	040	FY 2	-	FY 2		FY 2011			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Ba Cost	Award Date	Cost	Award Date	Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TBD - Pending Contract Award	TBD/TBD	TBD TBD	0.000	0.000		0.000		0.000		0.000	0.000	0.000	0.000
		Subtotal	0.000	0.000		0.000		0.000		0.000	0.000	0.000	0.000

Remarks

	Total Prior Years Cost	FY 2010		2011 Ise	FY 2	-	FY 2011 Total	Cost To	Total Cost	Target Value of Contract
						-				
Project Cost Totals	0.000	9.611	12.260		0.000		12.260	0.000	21.871	0.000

Remarks

Total Prior Years Cost may include only FY 2009 data.

R-1 Line Item #57 Page 7 of 9

Exhibit R-4, RDT&E Schedule Profile: PB 2011 Air Force

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

PROJECT

3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P) PE 0604858F: Technology Transition Program.

645350: Transition Prioritization

Technology Transition Program - PE 0604858F

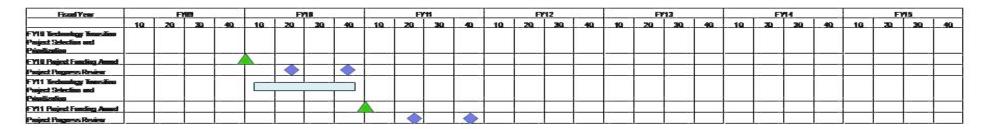


Exhibit R-4A, RDT&E Schedule Details: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force

BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

PE 0604858F: Technology Transition Program.

PROJECT

645350: Transition Prioritization

Schedule Details

	St	art	Eı	nd
Event	Quarter	Year	Quarter	Year
FY10 Project Funding Award	1	2010	1	2010
Project Progress Review	2	2010	2	2010
Project Progress Review (1)	4	2010	4	2010
FY11 Technology Transition Project Selection and Prioritization	1	2010	4	2010
FY11 Project Funding Award	1	2011	1	2011
Project Progress Review (2)	2	2011	2	2011
Project Progress Review (3)	4	2011	4	2011
FY12 Technology Transition Project Selection and Prioritization	1	2011	4	2011