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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2013 Air Force	<b>DATE:</b> February 2012
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 3: <i>Advanced Technology Development (ATD)</i>				PE 0603680F: <i>Manufacturing Technologies</i>							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	46.564	40.103	37.045	-	37.045	36.353	41.444	38.884	41.233	Continuing	Continuing
635280: <i>Manufacturing Technologies</i>	44.618	39.119	37.045	-	37.045	36.353	41.444	38.884	41.233	Continuing	Continuing
635281: <i>Manufacturing Readiness</i>	1.946	0.984	-	-	-	-	-	-	-	Continuing	Continuing

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

The Manufacturing Technology (ManTech) program executes technical programs to maintain and develop an affordable and reliable industrial base and manufacturing capability that will be responsive to warfighter needs. The program develops and improves manufacturing technologies and processes to enable cost reduction, improve component and system quality, and enhance industrial capability. Further, value stream modifications and manufacturing throughput improvements are effected to shorten cycle times of weapon systems during design, development, production and sustainment. ManTech objectives are conducted through industrial partnerships which enable the demonstration of manufacturing technologies for existing weapon system upgrades and/or for new warfighter systems. Efforts in the program have been coordinated through the Reliance 21 process to harmonize efforts and eliminate duplication. Manufacturing Technologies is in Budget Activity 3, Advanced Technology Development, since it develops and demonstrates manufacturing technologies for existing upgrades and/or new system developments that have military utility and address warfighter needs.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013 Base</b>	<b>FY 2013 OCO</b>	<b>FY 2013 Total</b>
Previous President's Budget	39.701	40.103	40.534	-	40.534
Current President's Budget	46.564	40.103	37.045	-	37.045
Total Adjustments	6.863	-	-3.489	-	-3.489
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.022	-			
• SBIR/STTR Transfer	-0.872	-			
• Other Adjustments	7.757	-	-3.489	-	-3.489

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** 635280: *Manufacturing Technologies*

Congressional Add: *Best Industrial Processes for Department of Defense Depots*

FY 2011	FY 2012
8.000	-

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 3: <i>Advanced Technology Development (ATD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603680F: <i>Manufacturing Technologies</i>	
<b><u>Congressional Add Details (\$ in Millions, and Includes General Reductions)</u></b>		<b>FY 2011</b>	<b>FY 2012</b>
Congressional Add Subtotals for Project: 635280		8.000	-
Congressional Add Totals for all Projects		8.000	-
<b><u>Change Summary Explanation</u></b> FY11: Other Adjustments include -0.243 Congressional General Reductions and 8.000 Congressional Adds  Decrease in FY13 is due to higher Department of Defense priorities.			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force								DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 3: Advanced Technology Development (ATD)				R-1 ITEM NOMENCLATURE PE 0603680F: Manufacturing Technologies				PROJECT 635280: Manufacturing Technologies				
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost	
635280: Manufacturing Technologies	44.618	39.119	37.045	-	37.045	36.353	41.444	38.884	41.233	Continuing	Continuing	
A. Mission Description and Budget Item Justification												
The Manufacturing Technology (ManTech) program executes technical programs to maintain and develop an affordable and reliable industrial base and manufacturing capability that will be responsive to warfighter needs. The projects include development and improvement of manufacturing technologies and processes; collaboration with government program offices, industry, and academia; investments in generic technologies that can be applied to different applications; cost-sharing; multiple system/customer applications; potential for significant return on investment; and customer commitment to implement. To this end, ManTech develops and demonstrates advanced manufacturing processes and technologies to reduce costs, improve quality/capability, and shorten cycle times of weapon systems during design, development, production, and sustainment. Where mature processes are not available, laboratory-developed and demonstrated initial process capabilities are made available for transition into weapon system programs. ManTech objectives are conducted through partnerships with all industry levels, from large prime contractors to small material and parts vendors.												
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Major Thrust 1								14.647	16.309	12.798	-	12.798
Description: Develop and implement cost-effective maintenance, repair, and manufacturing technologies for sustainment of Air Force weapon systems.												
FY 2011 Accomplishments: Continued efforts for cost-effective repair and manufacturing technologies enabling affordable sustainment of both conventional and low-observable aircraft, and turbine engine components. Continued assessments and manufacturing technology development to reduce logistics support costs, lead times for high value supply chain commodities, and cycle times for depot repair. Continued demonstration of productivity improvement efforts with selected high value programs. Conducted efforts supporting High Velocity Maintenance concept at Air Logistics Centers to reduce Programmed Depot Maintenance cycle times and cost.												
FY 2012 Plans: Continue efforts for cost-effective development of conventional and low-observable repair and manufacturing technologies enabling affordable sustainment of aircraft and turbine engine components. Continue assessments and manufacturing technology development to reduce logistics support costs, lead times for high value supply chain commodities, and cycle times for depot repair. Continue efforts supporting High Velocity Maintenance concept at Air Logistics Centers to reduce Program Depot Maintenance cycle times and cost.												

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force				DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 3: Advanced Technology Development (ATD)		R-1 ITEM NOMENCLATURE PE 0603680F: Manufacturing Technologies		PROJECT 635280: Manufacturing Technologies		
B. Accomplishments/Planned Programs (\$ in Millions)						
		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Pursue improvements in energy consumption required during manufacturing operations to reduce processing costs. Training responsibilities have been transitioned to Air University to be utilized for Manufacturing Readiness Assessment (MRA) and Manufacturing Readiness Level (MRL) support.						
FY 2013 Base Plans: Continue efforts for cost effective development of conventional and low observable production and repair technologies enabling affordable sustainment of aircraft systems. Continue assessments and manufacturing technology development to reduce logistics support costs, lead times for high value supply chain commodities, and cycle times for depot repair. Provide subject matter expertise in support of Manufacturing Readiness Assessments (MRAs) on Advanced Technology Demonstrations (ATDs), selected high-visibility technology programs and selected Air Force acquisition programs to aid in Milestone Decision Reviews and/or to mitigate cost, schedule issues.						
FY 2013 OCO Plans: N/A.						
Title: Major Thrust 2		21.971	22.810	24.247	-	24.247
Description: Develop and transition pervasive affordability and producibility technologies for weapon systems and processes.						
FY 2011 Accomplishments: Continued development and demonstration of rapid response and flexible manufacturing methods, commercial/military integration, quality processing, and supply stream improvements. Advanced development and demonstration of manufacturing capabilities for more affordable low-observable structures, advanced propulsion technologies, electronics manufacturing technologies for command and control; intelligence, surveillance, and reconnaissance (C2ISR); space; and advanced radar applications.						
FY 2012 Plans: Continue development demonstration of rapid response and flexible manufacturing methods, commercial/military integration, quality processing, and supply stream improvements. Continue demonstration of manufacturing capabilities for more affordable low-observable structures, advanced propulsion technologies, electronics manufacturing technologies for C2ISR, space, and advanced radar applications.						
FY 2013 Base Plans:						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2013 Air Force				<b>DATE:</b> February 2012			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 3: <i>Advanced Technology Development (ATD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603680F: <i>Manufacturing Technologies</i>		<b>PROJECT</b> 635280: <i>Manufacturing Technologies</i>			

  

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013 Base</b>	<b>FY 2013 OCO</b>	<b>FY 2013 Total</b>
Continue development demonstration of rapid response and flexible manufacturing methods, commercial/military integration, quality processing and supply stream improvements. Continue demonstration of manufacturing capabilities for more affordable low observable structures, advanced propulsion technologies, electronics and optics manufacturing technologies for C2ISR, space solar cells, and advanced radar applications.  <b>FY 2013 OCO Plans:</b> N/A.					
<b>Accomplishments/Planned Programs Subtotals</b>	36.618	39.119	37.045	-	37.045

  

	<b>FY 2011</b>	<b>FY 2012</b>
<b>Congressional Add:</b> Best Industrial Processes for Department of Defense Depots  <b>FY 2011 Accomplishments:</b> Conducted Congressionally-directed effort.  <b>FY 2012 Plans:</b> N/A.	8.000	-
<b>Congressional Adds Subtotals</b>	8.000	-

  

<b>C. Other Program Funding Summary (\$ in Millions)</b>										
<b>Line Item</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013 Base</b>	<b>FY 2013 OCO</b>	<b>FY 2013 Total</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>Cost To Complete</b>
• N/A.: N/A	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing
<b>D. Acquisition Strategy</b> N/A.										
<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 2013 Air Force									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 3: Advanced Technology Development (ATD)				R-1 ITEM NOMENCLATURE PE 0603680F: Manufacturing Technologies				PROJECT 635281: Manufacturing Readiness			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
635281: Manufacturing Readiness	1.946	0.984	-	-	-	-	-	-	-	Continuing	Continuing

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

Manufacturing readiness of technologies is a key concern when identifying and mitigating risk to successfully transition these technologies and systems into production. Within each product sector (aeronautical, space, munitions/directed energy, and C2ISR), manufacturing readiness assessments (MRAs) will be applied and manufacturing readiness levels (MRLs) utilized to gauge and manage manufacturing related issues. Advanced Technology Demonstrations (ATDs) will be used when appropriate to aid in efficient transition. Selected acquisition programs will also be assessed to determine readiness for milestone decisions and/or to reduce manufacturing risk. Pervasive, generic and system-specific manufacturing maturation plans will be developed and implemented based on the assessments to reduce overall program risk and to provide an increased awareness of manufacturing issues throughout major weapon system life cycles. Generic and pervasive manufacturing issues will be identified and considered as potential ManTech programs to transition advanced manufacturing technologies into multiple sectors.

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

	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013 Base</b>	<b>FY 2013 OCO</b>	<b>FY 2013 Total</b>
<b>Title:</b> Major Thrust 1	1.946	0.984	-	-	-
<b>Description:</b> Through application of MRAs, develop and implement manufacturing maturation plans to improve affordability and producibility and mitigate transition risk from development to production.					
<b>FY 2011 Accomplishments:</b> Continued development of Manufacturing Maturation Plans (MMPs) for Category I ATDs and selected high-visibility programs based on MRAs. Executed selected MMPs to increase the MRL and improve technology transition to production. Conducted MRAs on selected Air Force acquisition programs to aid in Milestone Decision Reviews and/or to mitigate cost, schedule, or rate issues. Documented manufacturing risk based on the assessments and deliver results to the appropriate program offices. Vetted pervasive manufacturing issues discovered during the assessments through the ManTech requirements process.					
<b>FY 2012 Plans:</b> Continue development of MMPs for Category I ATDs and selected high-visibility programs based on MRAs. Conduct MRAs on selected Air Force acquisition programs to aid in Milestone Decision Reviews and/or to mitigate cost, schedule, or rate issues.					
<b>FY 2013 Base Plans:</b> Work completed in FY12.					
<b>FY 2013 OCO Plans:</b>					

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013 Base</b>	<b>FY 2013 OCO</b>	<b>FY 2013 Total</b>
N/A.					
<b>Accomplishments/Planned Programs Subtotals</b>	1.946	0.984	-	-	-

  

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013 Base</b>	<b>FY 2013 OCO</b>	<b>FY 2013 Total</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• N/A: N/A	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

  

<b>D. Acquisition Strategy</b> N/A.
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<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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