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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force										Date: February 2018		
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 3: Advanced Technology Development (ATD)					R-1 Program Element (Number/Name) PE 0603680F I Manufacturing Technology Program							
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	-	62.272	46.450	42.025	0.000	42.025	43.116	44.416	46.252	47.187	Continuing	Continuing
635280: Manufacturing Technologies	-	62.272	46.450	42.025	0.000	42.025	43.116	44.416	46.252	47.187	Continuing	Continuing

A. Mission Description and Budget Item Justification

This 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. Value stream modifications and manufacturing throughput improvements are effected to shorten cycle times of weapon systems during design, development, production and sustainment. Manufacturing Technologies 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 Department of Defense Science and Technology Executive Committee process to harmonize efforts and eliminate duplication.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver science & technology capabilities. The use of program funds in this PE would be in addition to the civilian pay expenses budgeted in program elements 0601102F, 0602102F, 0602201F, 0602202F, 0602203F, 0602204F, 0602601F, 0602602F, 0602605F, 0602788F, 1206601F, and 0602298F.

This program is in Budget Activity 3, Advanced Technology Development because this budget activity includes development of subsystems and components and efforts to integrate subsystems and components into system prototypes for field experiments and/or tests in a simulated environment.

B. Program Change Summary (\$ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	46.344	46.450	42.953	0.000	42.953
Current President's Budget	62.272	46.450	42.025	0.000	42.025
Total Adjustments	15.928	0.000	-0.928	0.000	-0.928
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	16.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	1.600	0.000			
• SBIR/STTR Transfer	-1.672	0.000			
• Other Adjustments	0.000	0.000	-0.928	0.000	-0.928

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Congressional Add Details (\$ in Millions, and Includes General Reductions) Project: 635280: Manufacturing Technologies Congressional Add: Program increase - Additive Manufacturing Congressional Add: Program increase - Manufacturing Technology Congressional Add Subtotals for Project: 635280 Congressional Add Totals for all Projects		FY 2017	FY 2018	
		9.729	-	
		5.837	-	
		15.566	-	
		15.566	-	
Change Summary Explanation Increase in Fiscal Year 2017 is due to reprogramming for Hypersonics Science and Technology activities.				
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018	FY 2019
Title: Sustainment Manufacturing Technologies		12.976	13.006	11.925
Description: Develop and transition pervasive affordability and producibility technologies for the sustainment of weapons systems and processes.				
FY 2018 Plans: Develops cost effective conventional production and special material repair technologies to enable affordable sustainment of aircraft systems. Continue agile sustainment and automation manufacturing technology development for depot maintenance.				
FY 2019 Plans: Continue development of cost effective conventional production and special material repair technologies to enable affordable sustainment of aircraft systems. Continue agile sustainment and automation manufacturing technology development for depot maintenance.				
FY 2018 to FY 2019 Increase/Decrease Statement: FY 2019 decreased compared to FY 2018 by \$1.081 million. Justification for the decrease is due to realignment of funds for directed energy game changer technologies.				
Title: Advanced Manufacturing Technologies		33.730	33.444	30.100
Description: Develop and transition affordable advanced manufacturing technologies for weapons systems.				
FY 2018 Plans: Develop and demonstrate agile manufacturing capabilities for more affordable advanced turbine engine propulsion technologies, Intelligence, Surveillance, and Reconnaissance (ISR) and communications technologies, transparent ceramics producibility, and the producibility of air armaments. Develop agile manufacturing applications and structures affordability with a focus on low cost				

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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 3: Advanced Technology Development (ATD)</i>		R-1 Program Element (Number/Name) PE 0603680F <i>I Manufacturing Technology Program</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018	FY 2019
attritable aircrafts and open pod architecture. Develop manufacturing capabilities for producibility and affordability of aerospace structures, precision guided munitions, and hypersonics. FY 2019 Plans: Continue development and demonstration of agile manufacturing capabilities for more affordable advanced turbine engine propulsion technologies, ISR and communications technologies, transparent ceramics producibility, and the producibility of air armaments. Continue development of agile manufacturing applications and structures affordability with a focus on low cost attritable aircrafts and open pod architecture. Continue to develop manufacturing capabilities for producibility and affordability of aerospace structures, and hypersonics. FY 2018 to FY 2019 Increase/Decrease Statement: FY 2019 decreased compared to FY 2018 by \$3.344 million. Justification for the decrease is due to realignment of funds for directed energy game changer technologies.				
Accomplishments/Planned Programs Subtotals		46.706	46.450	42.025
		FY 2017	FY 2018	
Congressional Add: Program increase - Additive Manufacturing		9.729	-	
FY 2017 Accomplishments: Conducted congressionally directed efforts.				
Congressional Add: Program increase - Manufacturing Technology		5.837	-	
FY 2017 Accomplishments: Conducted congressionally directed efforts.				
Congressional Adds Subtotals		15.566	-	
D. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
E. Acquisition Strategy				
N/A				
F. 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.				