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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Air Force **Date:** February 2016

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>Manufacturing Technology Program</i>							
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	-	51.613	52.630	46.344	0.000	46.344	45.386	43.906	44.780	45.675	Continuing	Continuing
635280: <i>Manufacturing Technologies</i>	-	51.613	52.630	46.344	0.000	46.344	45.386	43.906	44.780	45.675	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Manufacturing Technology 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 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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	52.772	42.630	46.344	0.000	46.344
Current President's Budget	51.613	52.630	46.344	0.000	46.344
Total Adjustments	-1.159	10.000	0.000	0.000	0.000
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	10.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-1.159	0.000			
• Other Adjustments	0.000	0.000	0.000	0.000	0.000

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

Project: 635280: *Manufacturing Technologies*
Congressional Add: *Additive Manufacturing*

FY 2015	FY 2016
10.000	10.000

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Congressional Add Details (\$ in Millions, and Includes General Reductions)		FY 2015	FY 2016	
Congressional Add Subtotals for Project: 635280		10.000	10.000	
Congressional Add Totals for all Projects		10.000	10.000	
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2015	FY 2016	FY 2017
Title: Sustainment Manufacturing Technologies		11.652	11.841	12.873
Description: Develop and implement cost-effective maintenance, repair, and manufacturing technologies for sustainment of Air Force weapon systems.				
FY 2015 Accomplishments: Continued development of cost effective conventional and low-observable production and repair technologies to enable affordable sustainment of aircraft systems. Aided in the development of Low Observable (LO) imaging tool and adding robotics into the depot. Continued manufacturing technology development for depot maintenance.				
FY 2016 Plans: Continue development of cost effective conventional and LO production and repair technologies to enable affordable sustainment of aircraft systems. Continue manufacturing technology development for depot maintenance.				
FY 2017 Plans: Continue development of cost effective conventional production and low-observable repair technologies to enable affordable sustainment of aircraft systems. Continue agile sustainment manufacturing technology development for depot maintenance.				
Title: Advanced Manufacturing Technologies		29.961	30.789	33.471
Description: Develop and transition pervasive affordability and producibility technologies for weapon systems and processes.				
FY 2015 Accomplishments: Continued development and demonstration of manufacturing capabilities for more affordable advanced turbine engine propulsion technologies, communications technologies, advanced active electronic scanned array (AESA) sensor applications, and Mid-Wave Infrared optics producibility. Developed a slurry dip automated system to keep employees safe. Developed fuel sealant application caps to aid in production. Continued development of agile manufacturing applications and hot structures affordability and continue to mature advanced material development.				
FY 2016 Plans: Continue development and demonstration of manufacturing capabilities for more affordable advanced turbine engine propulsion technologies, communications technologies, advanced AESA sensor applications, and Mid-Wave Infrared optics producibility.				

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2015	FY 2016	FY 2017
Continue development of agile manufacturing applications and hot structures affordability and continue to mature advanced material development. FY 2017 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; and continue to mature advanced material manufacturing development and get it to the field.			
Accomplishments/Planned Programs Subtotals	41.613	42.630	46.344

	FY 2015	FY 2016
Congressional Add: Additive Manufacturing	10.000	10.000
FY 2015 Accomplishments: Conducted Congressionally-directed effort.		
FY 2016 Plans: Conduct congressionally directed effort		
Congressional Adds Subtotals	10.000	10.000

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.

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