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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force	Date: February 2018
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0401132F / C-130J Program
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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	273.710	16.199	26.821	15.409	0.000	15.409	2.640	0.666	0.679	0.691	29.700	366.515
675061: C-130J	273.710	16.199	26.821	15.409	0.000	15.409	2.640	0.666	0.679	0.691	29.700	366.515
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Program MDAP/MAIS Code: 220

A. Mission Description and Budget Item Justification

The C-130J is a medium-sized transport aircraft capable of performing a variety of combat delivery (tactical airlift) operations across a broad range of mission environments. The C-130J aircraft, with its extended (by 15 feet) fuselage, provides additional cargo carrying capacity for the USAF combat delivery mission compared with legacy C-130E/H and the C-130J (short). Special mission variants of the C-130J conduct airborne psychological operations (EC-130J), weather reconnaissance (WC-130J), search and rescue (HC-130J), and special operations (MC-130J and AC-130J). All aircraft variants must be capable of worldwide operations.

This project provides RDT&E funding for required capabilities that are grouped as "Block" upgrades or "Capability" updates. Content/requirements for block modifications is documented in International Program Directives (IPDs) as determined in the Cooperative Systems and Software Upgrade Requirements Management (COSSURM) process. This project will integrate the common-core capabilities developed under this program into the HC-130J, MC-130J and AC-130J.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver C-130J weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F, 0605827F, 0605828F, 0605829F, 0605830F, 0605831F, 0605832F, and 0605898F.

This program is in Budget Activity 7, Operation System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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B. Program Change Summary (\$ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	
Previous President's Budget	16.776	26.821	10.825	0.000	10.825	
Current President's Budget	16.199	26.821	15.409	0.000	15.409	
Total Adjustments	-0.577	0.000	4.584	0.000	4.584	
• Congressional General Reductions	0.000	0.000				
• Congressional Directed Reductions	0.000	0.000				
• Congressional Rescissions	0.000	0.000				
• Congressional Adds	0.000	0.000				
• Congressional Directed Transfers	0.000	0.000				
• Reprogrammings	0.000	0.000				
• SBIR/STTR Transfer	-0.577	0.000				
• Other Adjustments	0.000	0.000	4.584	0.000	4.584	
Change Summary Explanation The FY 2019 funding request was increased by \$4.584 million to fund the non-recurring engineering required to meet the January 2020 ADS-B Out mandate.						
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2017	FY 2018	FY 2019
Title: Cooperative Systems and Software Upgrade Requirements Management (COSSURM)				0.280	0.200	0.260
Description: COSSURM - Collects potential requirements for inclusion into a Block Upgrade or Capability Management Update.						
FY 2018 Plans: Continuation of CMU COSSURM requirements review and analysis.						
FY 2019 Plans: Continuation of COSSURM requirements review and analysis.						
FY 2018 to FY 2019 Increase/Decrease Statement: FY18 requirement funded jointly by USAF and Navy. FY19 requirement will be funded by USAF only.						
Title: Block 8.1				14.112	24.890	12.859
Description: BLOCK 8.1 Adds Identification Friend or Foe (IFF) Mode 5, Civil Data Link, Automatic Dependent Surveillance - Broadcast (ADS-B), Air Traffic Services (ATS)/Airline Operational Control (AOC) Data Link for Line of Sight (LOS) and Beyond Line of Sight (BLOS) communication, enhanced covert lighting, improved Public Address(PA) System, and Approach Procedure with Vertical guidance (APV)/ Localizer Performance with Vertical guidance (LPV) approach capability. Several avionics platforms are impacted that include Flight Management System Software, Mission Computer Software, Bus Interface Unit software, and Maintenance Management System.						

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018	FY 2019
<i>FY 2018 Plans:</i> Continue the development of the Block 8.1 ADS-B Out. <i>FY 2019 Plans:</i> Continue development of the Block 8.1 ADS-B Out to meet the FY2020 FAA Mandate <i>FY 2018 to FY 2019 Increase/Decrease Statement:</i> FY18 requirement is higher than FY19 due to the phasing of the effort. Effort is expected to ramp down in FY19 toward conclusion.				
<i>Title:</i> Test & Evaluation <i>Description:</i> Test and evaluation planning, conduct, and support for developmental, and operational testing. <i>FY 2018 Plans:</i> Continuation of test planning and support for follow on TKIs. <i>FY 2019 Plans:</i> There are currently no new testing requirements for FY19. <i>FY 2018 to FY 2019 Increase/Decrease Statement:</i> Currently there are no new requirements for testing in FY19.		0.950	0.436	0.000
<i>Title:</i> Capability Management Update (CMU) <i>Description:</i> CMU's refine Block upgrade modifications that improve operational effectiveness, satisfy emerging operational needs, and enhance human machine interface (HMI) to allow a workload that meets human factors standards and maintains the present crew complement. Avionics software impacted includes Flight Management System (FMS) Software, Mission Computer (MC) Software, Bus Interface Unit (BIU) software, and Maintenance Management System. <i>FY 2018 Plans:</i> Continuation of Common Core development. <i>FY 2019 Plans:</i> Continuation of Common Core Development, correcting deficiencies and developing enhancements. <i>FY 2018 to FY 2019 Increase/Decrease Statement:</i> Increase in requirement for FY19 based on identified deficiencies.		0.283	0.385	1.563
<i>Title:</i> Other AMC Initiatives		0.574	0.910	0.727

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C. Accomplishments/Planned Programs (\$ in Millions)										FY 2017	FY 2018	FY 2019
Description: C-130J initiatives/studies. FY 2018 Plans: Complete Wheel/Brake System Improvement (WBSI) Brake Energy/Takeoff Landing Data (TOLD) Data Collection. Mission Planning software studies and updates continue. FY 2019 Plans: Mission Planning software and updates continue. FY 2018 to FY 2019 Increase/Decrease Statement: FY18 requirement is higher than FY19 due to the phasing of the effort. Effort is expected to ramp down in FY19 toward conclusion.												
Accomplishments/Planned Programs Subtotals										16.199	26.821	15.409
D. Other Program Funding Summary (\$ in Millions)												
Line Item	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	
• APAF 05 Line Item C1300J: C-130J Mods	89.424	171.230	132.045	-	132.045	144.028	114.338	164.002	166.983	946.882	1,928.932	
• APAF 05 Line Item C130J0: C-130J	0.000	10.727	10.831	-	10.831	12.158	12.392	12.667	12.897	0.000	71.672	
• APAF 02 Line Item C130J0: C-130J	378.654	159.708	35.858	-	35.858	39.335	37.182	8.593	38.671	1,612.013	2,310.014	
Remarks												
E. Acquisition Strategy												
<p>The C-130J aircraft will be modified using a "block upgrade" strategy. The CNS/ATM, navigation safety requirement will initially, be met in three block upgrades. Block 6.0 development was funded from FY03-07. Block 7.0 started in FY07, and Block 8.1 which began in FY12. Subsequently, C-130J modifications will be grouped into smaller CNS/ATM updates known as Capability Management Updates (CMU). Other AMC initiatives are upgrades to hardware and software that have arisen after the formation of the block upgrades and CMUs.</p> <p>In order to better manage the fleet and to avoid having to simultaneously support three separate aircraft configurations (Block 6, Block 7 and Block 8.1) the USAF has decided to combine the Block 7 and Block 8.1 mods. This will allow the aircraft and trainers to only have to be modified one time.</p>												

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<p>The proportion of CNS/ATM and navigation safety requirements allocated to Blocks 6.0 through 8.1 was determined via a design trade study conducted by Lockheed Martin (the C-130J prime contractor) and verified by the C-130J system program office and AMC. The development costs are being shared via a global Project Arrangement (PA) by the United States (USAF, USMC, USCG), the United Kingdom, Italy, Australia, Denmark, Canada, and Norway. An international program office (IPO), with USAF lead (Wright Patterson AFB, OH), manages the block upgrades development and CMU efforts. Retrofit of a Block on the aircraft is the responsibility of each nation.</p> <p>In order to meet the Federal Aviation Administration 2020 mandate the USAF will install the Block 8.1 ADS-B Out/Mode V IFF solution on all C-130J variants not scheduled to receive Block 8.1 by January 2020. This is Mod #8649, ADS-B Out Acceleration. All C-130Js will still require Block 8.1.</p> <p>F. Performance Metrics</p> <p>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.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Air Force **Date:** February 2018

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401132F / C-130J Program	Project (Number/Name) 675061 / C-130J
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Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
C-130J Block 7.0, Air Force Life Cycle Mgmt Ctr (AFMC), WPAFB, OH	SS/CPAF	Lockheed Martin Aeronautics : Marietta, GA	130.251	-		-		-		-		-	0.000	130.251	129.503
C-130J Block 8.1, Air Force Life Cycle Mgmt Ctr (AFMC), WPAFB, OH	SS/CPAF	Lockheed Martin Information Sytems : Marietta, GA	68.512	12.107	Apr 2017	23.016	Apr 2018	11.070	Feb 2019	-		11.070	17.076	131.781	180.030
C-130J Capability Management Upgrades (CMU), Air Force Life Cycle Mgmt Ctr (AFMC), WPAFB, OH	SS/CPAF	Lockheed Martin Aero : Marietta, GA	0.220	0.283	May 2017	0.385	May 2018	1.563	Jan 2019	-		1.563	10.706	13.157	6.480
C-130J AMC-Initiatives, Air Force Life Cycle Mgmt Ctr (AFMC), WPAFB, OH	SS/CPAF	Lockheed Martin Aero : Marietta, GA	50.451	0.574	Feb 2017	0.910	Feb 2018	0.727	Feb 2019	-		0.727	4.629	57.291	14.730
Subtotal			249.434	12.964		24.311		13.360		-		13.360	32.411	332.480	N/A

Remarks
C-130J Block 8.1 Total Cost is below Target Value of Contract to account for the expected cost reduction initiatives on this Cost Plus Award Fee Contract.

Test and Evaluation (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
C-130J Block 8.1 DT and E	PO	EGLIN AFB : Eglin, FL	0.500	0.950	Nov 2016	0.436	Jan 2018	-		-		-	0.000	1.886	7.490
Subtotal			0.500	0.950		0.436		-		-		-	0.000	1.886	N/A

Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
C-130J IPO Support	TBD	N/A : NV	7.908	2.005	Nov 2016	1.874	Nov 2017	1.789	Oct 2018	-		1.789	0.000	13.576	5.014
C-130J COSSURM	TBD	RAF : NV	15.868	0.280	Jan 2017	0.200	Jan 2018	0.260	Jan 2019	-		0.260	0.000	16.608	2.443

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Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			23.776	2.285		2.074		2.049		-		2.049	0.000	30.184	N/A

Remarks
The COSSURM contract is managed by the United Kingdom Royal Air Force (RAF)

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	273.710	16.199		26.821		15.409		-		15.409	32.411	364.550	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Air Force															Date: February 2018				
Appropriation/Budget Activity 3600 / 7										R-1 Program Element (Number/Name) PE 0401132F / C-130J Program					Project (Number/Name) 675061 / C-130J				

	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
C-130J																												
Block 8.1 Development																												
Block 8.1 Development Test & Evaluation																												
Block 8.1 FCA/ PCA (Functional & Physical Configuration Audit)																												
Block 7.0/ 8.1 Trial Kit Installation (TKI) 2 - 7																												
CMU																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401132F / C-130J Program	Project (Number/Name) 675061 / C-130J

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
C-130J				
Block 8.1 Development	1	2017	4	2020
Block 8.1 Development Test & Evaluation	1	2017	1	2018
Block 8.1 FCA/ PCA (Functional & Physical Configuration Audit)	1	2017	2	2017
Block 7.0/ 8.1 Trial Kit Installation (TKI) 2 - 7	1	2017	1	2019
CMU	1	2017	4	2022