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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Defense Logistics Agency **Date:** February 2016

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 3: Advanced Technology Development (ATD)</i>	R-1 Program Element (Number/Name) PE 0603680S / <i>Manufacturing Technology Program (ManTech)</i>
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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	-	0.000	0.000	31.259	-	31.259	36.483	35.605	35.567	36.035	Continuing	Continuing
<i>7: Improving Industrial Base Manufacturing Processes (formerly Material Availability)</i>	-	0.000	0.000	10.924	-	10.924	12.965	12.433	12.203	12.176	Continuing	Continuing
<i>8: Maintaining Viable Supply Sources (formerly High Quality Sources)</i>	-	0.000	0.000	16.923	-	16.923	19.056	18.738	18.902	19.360	Continuing	Continuing
<i>9: Improving Technical and Logistics Information (formerly Industry and Customer Collaboration)</i>	-	0.000	0.000	3.412	-	3.412	4.462	4.434	4.462	4.499	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Defense Logistics Agency (DLA) Manufacturing Technology (ManTech) Program supports the development of a responsive, world-class manufacturing capability to affordably meet the warfighters' needs throughout the defense system life cycle. IP ManTech: Provides the crucial link between invention and product application to speed technology transitions. The program matures and validates emerging manufacturing technologies to support low-risk implementation in industry and Department of Defense (DoD) facilities, e.g. depots and shipyards. It addresses production issues early by providing timely solutions, thereby reducing risk and positively impacting system life cycle affordability by providing solutions to manufacturing problems before they occur.

Beginning in FY 16 DLA ManTech was realigned into three Strategic Focus Areas (SFA): 1) Improving Industrial base Manufacturing Processes; 2) Maintaining Viable Sources of Supply; and 3) Improving Technical and Logistics Information.

- The Improving Industrial Base Manufacturing Processes SFA includes efforts to reduce industrial base material costs and production lead-times, while improving the quality of DLA managed products. This SFA subsumed the former supply chain oriented efforts in Subsistence Network (formerly Combat Rations Network for Technology Implementation), Procurement Readiness Optimization—Advanced Casting Technology (PRO-ACT), Procurement Readiness Optimization—Forging Advance System Technology (PRO-FAST), and Battery Network (BATNET). New manufacturing processes within the scope of this SFA include emerging technologies such as Additive Manufacturing.

- Maintaining Viable Supply Sources includes efforts to assure the commercial industrial base can satisfy DLA materiel requirements. This SFA subsumed the Material Acquisition Electronics ManTech efforts. In the future it will include other DLA efforts to maintain a viable industrial capability in areas such as Strategic Materials.

- The Improving Technical and Logistics Information SFA include efforts to improve and facilitate the exchange of engineering and logistics information among DLA industry partners and customers. It includes the MANTECH program Military Uniform System Technology (MUST) (formerly Customer Driven Uniform Manufacturing) and the Defense Logistics Information Research Program from P.E. 0603712S. A primary focus of this SFA is to capitalize on the emerging "Model Based Enterprise" paradigm and the semantic web as an enabler to a logistics system that is smart and connected.

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Over the FY 17- FY 21 Planning Period, \$9.606M per year was realigned within the ManTech PE, from the DLA Log R&D PE (0603712S) and DLA Procurement Defense-Wide Fund. These funds will address critical shortfalls in the Improving Industrial Base Manufacturing Processes and Maintaining Viable Supply Sources. The largest requirement was in the Maintaining Viable Supply Sources to develop a long-term, reliable source of linear microcircuits. These devices are critical to maintaining the readiness of front line weapon system electronics. High priority requirements in the Improving Industrial Base Manufacturing Processes SFA included additional funding for battery technology, castings and forging manufacturing technology.

B. Program Change Summary (\$ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	31.259	-	31.259
Total Adjustments	0.000	0.000	31.259	-	31.259
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Inflation for Non-Pay/Non-Fuel Purchases	-	-	-0.263	-	-0.263
• Underexecution	-	-	-2.691	-	-2.691
• Civ Pay Adjustment	-	-	0.002	-	0.002
• Program Realignment	-	-	34.211	-	34.211

Change Summary Explanation

MANTECH is being realigned from BA 07 to BA 03 in FY 2017.

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Defense Logistics Agency										Date: February 2016		
Appropriation/Budget Activity 0400 / 3					R-1 Program Element (Number/Name) PE 0603680S / <i>Manufacturing Technology Program (ManTech)</i>				Project (Number/Name) 7 / <i>Improving Industrial Base Manufacturing Processes (formerly Material Availability)</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
<i>7: Improving Industrial Base Manufacturing Processes (formerly Material Availability)</i>	-	0.000	0.000	10.924	-	10.924	12.965	12.433	12.203	12.176	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Material Availability (MA) Strategic Focus Area (SFA) are R&D efforts undertaken with DLA's industrial base to reduce material costs, reduce the length and variability of Production Lead-Times, assure the DLA managed products meet requirements, and continuously improve quality and reliability. Benefits of this SFA include lower material costs, lower inventory levels and more predictable Customer Wait Times, fewer quality deficiencies, and lower customer support costs. This strategic focus area includes within its scope the former Combat Rations Program, the Battery Program, the Castings and the Forgings programs.

This SFA is comprised of five roadmaps for Batteries, Subsistence Network, Castings, Forgings, and Additive Manufacturing.

The Battery network objective is to develop the next generation of battery manufacturing technologies for cost and price efficiency, longer shelf life, and lighter batteries with higher energy. The network conducts R&D initiatives to address sustainment gaps and bridge technical solutions into higher MRLs for specific groups of batteries. For FY2014, DLA received 139,163 orders for 2.85 million batteries at \$183M net value - compared to FY13 \$176M and FY12 \$216M. The Battery network focuses on projects to develop the production capability for advanced lithium-based non-rechargeable and rechargeable batteries to ensure the prompt and sustained availability, quality, and affordability of batteries. Desired outcomes include: streamlined inventory and associated cost reductions through standardization and improved distribution practices; resolved obsolescence issues; addressed surge and sustainment issues; enhanced security of supply chain; increased competition and manufacturing base; reduced per unit battery cost; and leveraged Service-level (Army, Navy, Air Force) and other governmental (DOE, DOT, NASA) R&D efforts to insert new technology and practices into the existing DLA battery inventory.

The 'Subsistence Supply Chain' which consists of the supply chain for military subsistence including combat rations, field feeding equipment, garrison feeding and 'market fresh.' The Subsistence Network (SUBNET) Program is a Manufacturing Technology Program and is the successor to the CORANET R&D program. SUBNET will form a community of practice to research and promote manufacturing improvements in the Subsistence Supply Chain with the goals of maximizing capability and capacity to produce, and to encourage innovation and modernization needed to leverage the latest technologies.

The Castings consortium objective is to develop new materials and technologies for the metalcasting industry to help DLA improve the supply of parts that contain castings. Weapon system spare parts managed by DLA that contain castings are responsible for a disproportionate share of DLA's backorders or unfilled orders (UFOs). Cast parts are ~2% of National Stock Numbered Class IX parts but represent ~5% of all backorders, and when only the oldest backorders are considered up to 10% are castings. This program includes tasks to develop new capabilities in the areas of inspection, materials, processes, modeling, and design. Once developed these capabilities will support the foundry industry, where the technologies will be tested and implemented in conjunction with the industry associations. These advancements will improve the metalcasting supply chains for the DOD and the DLA to better support the warfighter. This is achieved through investments in projects aimed at reducing lead-time, reducing cost, and improving quality of castings critical to DOD weapon systems.

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The Forgings consortium objective is to develop new materials and technologies for the forging industry to help DLA improve the supply of parts that contain forgings. Weapon system spare parts managed by DLA that contain Forgings are responsible for a disproportionate share of DLA's backorders or unfilled orders (UFOs). Forged parts are ~2% of National Stock Numbered Class IX parts but represent ~5% of all backorders, and when only the oldest backorders are considered up to 10% are forgings. This program includes tasks to develop new capabilities in the areas of inspection, materials, processes, modeling, and design. Once developed these capabilities will support the forging industry, where the technologies will be tested and implemented in conjunction with the industry associations. These advancements will improve the forging supply chains for the DOD and the DLA to better support the warfighter. This is achieved through investments in projects aimed at reducing lead-time, reducing cost, and improving quality of forgings critical to DOD weapon systems.

The Additive Manufacturing (AM) objective is to establish AM as an effective alternative to conventional manufacturing and document the process for AM benefits. DLA needs to exploit AM technology as a lead-time and inventory reduction enabler.

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

	FY 2015	FY 2016	FY 2017
Title: Improving Industrial Base Manufacturing Processes (formerly Material Availability)	-	-	10.924
FY 2017 Plans:			
<p>The Subsistence Network plan in FY17 is to expand to the broader subsistence network; having awarded the Broad Agency Announcement in 2016. DLA will work STPs with the community of practice partners of the military services, industry and academia. SUBNET plans to improve process capabilities by identifying targets for product, automation and business operation changes, and implementing solutions in the Subsistence Supply Chain to produce such improvements as shorter lead times, higher throughput, reduced inventory and overhead cost, and improved quality. The STPs are required to have a business case, developed in advance to include specific metrics for success as well as return on investment where applicable to ensure that all SUBNET STPs are fully documented, all projects have the potential for implementation in industry; and all projects address a specific DoD/DLA need.</p> <p>The Castings program will receive a significant increase in funding starting in FY17 to cover most of the unfunded requirements identified during the PBR 17 process. Projects identified will investigate, develop and deploy innovative enterprise and technical solutions to improve casting supply chains for the Department of Defense and the Defense Logistics Agency to support the warfighter. Contracts will be competitively awarded in FY17. Proposals are required to include a business case with specific metrics and transition plan for success.</p> <p>The Forging program will receive an increase in funding to cover most of the unfunded requirements identified during the PBR17 process. Proposals are required to include a business case with specific metrics and transition plan for success. The Forging consortium will also pursue additional forging manufacturing advances from successful DLA SBIR projects selected in FY2014.</p>			

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2015	FY 2016	FY 2017
<p>The Battery Network funding will be applied to pursue additional projects including production readiness of lithium conformable soldier batteries, military ground vehicle batteries, and aviation batteries; manufacturing transition of legacy and obsolete lead acid and nickel cadmium batteries to advanced lithium-ion batteries; and battery manufacturing automation and optimization technologies. These projects will address pressing supply chain issues by migrating from declining manufacturing to a high growth industrial base, and will achieve cost reduction by optimizing the manufacturing design, assembly, and test processes.</p> <p>The Additive Manufacturing plan is for DLA to partner with the Military Services to use AM to produce parts. DLA and the Services will identify candidate parts, convert technical data to 3D format to facilitate AM, procure the parts, and document the process for AM benefits. The Services will review newly created technical data packages (TDP), test the parts, and qualify AM as an acceptable process to produce the parts.</p> <p>FY 16 – FY 20: Funding for Additive projects will be reallocated from other MA SFA thrusts and classified into the Additive Manufacturing Thrust.</p>			
Accomplishments/Planned Programs Subtotals	-	-	10.924

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

N/A

Remarks

D. Acquisition Strategy

The Subsistence Network acquisition strategy is delivery orders against competitively awarded IDIQ R&D contracts via the forthcoming BAA. The current contracts will reach the end of their base period of performance by December 2016. A new BAA has been drafted and will be released in January 2016 with award of contracts in FY16 and FY17. A Joint Steering Group made up of government representatives from the Military Services, DLA, U.S. Department of Agriculture, U.S. Public Health Center, and the Natick Soldier Research, Development and Engineering Center will review ongoing projects, identify new areas for investment, assess proposed projects, examine procedures and processes, keep abreast of new technologies, and understand DLA and DoD subsistence needs and requirements.

The Castings involved a competitive Broad Agency Announcement (BAA). Evaluations were completed and two contracts were awarded competitively September 2011. The current contracts reached the end of their base period of performance on September 30, 2016. A new BAA has been drafted and will be released in FY16 with award of contracts(s) in FY17.

The Battery Network plan is to establish contract partners through a competitive Broad Area Announcement (BAA) based upon proposals that demonstrated knowledge, experience, and expertise in the following areas of interest: Automation, Diminishing Manufacturing & Supply, Battery Safety, Reducing Acquisition Costs, Shelf Life, Supply Chain Logistics, Surge/Sustainment, and Technology Transition/Insertion. A Government Steering Group (GSG) of power source technical experts from the

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<p>military services R&D groups will inform general R&D requirements for supply chain and technology improvement. The plan also includes awarding Phase 2 and 3 projects from DLA's Small Business Innovation Research (SBIR) in advanced battery manufacturing technology.</p> <p>The Acq. Strategy for Forgings involved a competitive Broad Agency Announcement (BAA). Evaluations were completed and a contract awarded September 2014.</p> <p>The Additive Manufacturing plan will partner with the Military Services and use organic and commercial AM parts production capabilities.</p> <p>E. Performance Metrics</p> <p>The Battery Network plan is to report returns on investments and achievements to the Joint Defense Manufacturing Technology Panel (JDMTP) for evaluation.</p> <p>The Subsistence Network plan is to execute reductions in cost for shipping, storage, supply chain process, inventory, waste and inspections, as well as reduced lead times for combat ration production, field feeding equipment, garrison feeding and "market fresh."</p> <p>For example, SUBNET will provide the following technical achievements: 1) a microwave-assisted capability to sterilize group-sized entrees and components, packaged in Institutional Sized Pouches (ISP) and Polymeric Trays and 2) identify and produce at least one or more alternate sealant layers that can be used by the rations industry to pack high acidic food products and to ensure uninterrupted supply of MRE rations.</p> <p>The Castings consortium plan is to report returns on investments and achievements to the Joint Defense Manufacturing Technology Panel (JDMTP) for evaluation.</p> <p>The Forgings consortium plan is to report returns on investments and achievements to the Joint Defense Manufacturing Technology Panel (JDMTP) for evaluation.</p> <p>The Additive Manufacturing metric is the number of parts qualified for AM and the lead-time savings achieved to make small quantities of items.</p> <p>At least 30% of the completed projects will transition.</p> <p>OSD-C financial metrics (obligation and disbursement) will be achieved.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Defense Logistics Agency **Date:** February 2016

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Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Manufacturing Technology Development – Combat Rations	C/CPFF	Clemson University : SC	0.000	-		-		0.015	May 2017	-		0.015	-	-	-
Manufacturing Technology Development – Combat Rations	C/CPFF	Michigan State University : MI	0.000	-		-		0.015	May 2017	-		0.015	-	-	-
Manufacturing Technology Development – Combat Rations	C/CPFF	Rutgers State University of New Jersey Division of Grants & Contracts Accounting : NJ	0.000	-		-		0.000		-		0.000	-	-	-
Manufacturing Technology Development – Combat Rations	C/CPFF	SOPAKO Inc : SC	-	-		-		0.050	Apr 2017	-		0.050	-	-	-
Manufacturing Technology Development – Combat Rations	C/CPFF	University of Illinois : IL	-	-		-		0.015	May 2017	-		0.015	-	-	-
Manufacturing Technology Development – Combat Rations	C/CPFF	University of Tennessee : TN	-	-		-		0.050	Apr 2017	-		0.050	-	-	-
Manufacturing Technology Development – Combat Rations	C/CPFF	Washington State University : WA	-	-		-		0.100	Apr 2017	-		0.100	-	-	-
Manufacturing Technology Development – Combat Rations	C/CPFF	Cadillac Products Inc : MI	-	-		-		0.015	May 2017	-		0.015	-	-	-
Manufacturing Technology Development – Combat Rations	C/CPFF	Oregon Freeze Dry Inc : OR	-	-		-		0.015	May 2017	-		0.015	-	-	-
Manufacturing Technology Development – Combat Rations	C/CPFF	Research and Development Associates : TX	-	-		-		0.015	May 2017	-		0.015	-	-	-

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Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Manufacturing Technology Development – Combat Rations	C/CPFF	The Wornick Company : AL	-	-		-		0.100	Apr 2017	-		0.100	-	-	-
Manufacturing Technology Development – Combat Rations	C/CPFF	Sterling Foods : TX	-	-		-		0.100	Apr 2017	-		0.100	-	-	-
Manufacturing Technology Development – Combat Rations	C/CPFF	Analytic Strategies LLC : VA	-	-		-		0.202	Apr 2017	-		0.202	-	-	-
Casting Manufacturing Technology Process Development	C/CPFF	Advanced Technology International : SC	-	-		-		4.592	Nov 2016	-		4.592	0.000	4.592	-
Casting Manufacturing Technology Process Development	C/CPFF	Global Support Services LLC : AK	-	-		-		0.150	Mar 2017	-		0.150	0.000	0.150	-
Casting Manufacturing Technology Process Development	C/CPFF	Honeywell International Inc : AZ	-	-		-		0.100	Feb 2017	-		0.100	0.000	0.100	-
Forging Sustainment Manufacturing Technology Process Development	C/CPFF	Advanced Technology International : SC	-	-		-		1.695	Mar 2017	-		1.695	0.000	1.695	-
Advanced Military Battery Manufacturing Technology Process Development	C/CPFF	Alion Science and Technology Corporation : IL	-	-		-		1.445	Mar 2017	-		1.445	0.000	1.445	-
Advanced Military Battery Manufacturing Technology Process Development	C/CPFF	Eskra Technical Products Inc : WI	-	-		-		0.300	Mar 2017	-		0.300	0.000	0.300	-
Advanced Military Battery Manufacturing Technology Process Development	C/CPFF	EaglePicher Technologies LLC : MO	-	-		-		0.350	Mar 2017	-		0.350	0.000	0.350	-
Advanced Military Battery Manufacturing Technology Process Development	C/CPFF	Quallion LLC : CA	-	-		-		0.350	Mar 2017	-		0.350	0.000	0.350	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Defense Logistics Agency **Date:** February 2016

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Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Advanced Military Battery Manufacturing Technology Process Development	C/CPFF	Saft America Inc : MD	-	-		-		0.350	Mar 2017	-		0.350	0.000	0.350	-
Advanced Military Battery Manufacturing Technology Process Development	C/CPFF	American Energy Technologies : IL	-	-		-		0.300	Mar 2017	-		0.300	0.000	0.300	-
Advanced Military Battery Manufacturing Technology Process Development	C/CPFF	Giner Inc : MA	-	-		-		0.300	Mar 2017	-		0.300	0.000	0.300	-
Advanced Military Battery Manufacturing Technology Process Development	C/CPFF	PneumatiCoat Technologies : CO	-	-		-		0.300	Mar 2017	-		0.300	0.000	0.300	-
Subtotal			0.000	-		-		10.924		-		10.924	-	-	-
Project Cost Totals			0.000	-		0.000		10.924		-		10.924	-	-	-

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Defense Logistics Agency			Date: February 2016
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	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	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
Emerging Projects	[REDACTED]																											
Temperature Evaluation Defense Depot San Joaquin	[REDACTED]																											
Chemical Resistance Packaging Condiments	[REDACTED]																											
Low Cost Dry Electrode Production Capability	[REDACTED]																											
Production Design & Processes for LI-Ion 6T	[REDACTED]																											
Advanced Battery Manufacturing Technologies	[REDACTED]																											
Tools for Streamlining Casting Supply Chains	[REDACTED]																											
Defense Casting for Supply Integration and Statistical Properties for MMPDS Standard	[REDACTED]																											
Modeling of Steel Casting Performance Dimensions and Distortion	[REDACTED]																											
Lube-Free Die Casting	[REDACTED]																											
Lightweight High Strength Cast Alloys Process Development	[REDACTED]																											
Forging Process Improvement Using Intensive Quenching	[REDACTED]																											
FORGE-IT, AFCAT, and MetaLFACT for Streamlining Forging Supply Chains	[REDACTED]																											
Innovations in Repair of Forging Dies	[REDACTED]																											
Large-Scale Forging Die Fabrication in Support of the Defense Logistics Agency	[REDACTED]																											
Simulation as an Integral Tool in the Development and Optimization of Advanced Forging Processes	[REDACTED]																											
Forged Fiber Reinforced Aluminum Engine Components	[REDACTED]																											

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Defense Logistics Agency **Date:** February 2016

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	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	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
Production Processes for NAVAIR Lithium-ion																												
Production Processes for LRAS Battery																												
Lithium Ion Replacement for TOW MGS NICd Battery																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Defense Logistics Agency		Date: February 2016
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Emerging Projects	1	2016	4	2021
Temperature Evaluation Defense Depot San Joaquin	1	2016	4	2021
Chemical Resistance Packaging Condiments	1	2016	4	2021
Low Cost Dry Electrode Production Capability	1	2016	4	2021
Production Design & Processes for LI-Ion 6T	4	2016	4	2021
Advanced Battery Manufacturing Technologies	1	2016	4	2021
Tools for Streamlining Casting Supply Chains	1	2016	4	2021
Defense Casting for Supply Integration and Statistical Properties for MMPDS Standard	1	2016	4	2021
Modeling of Steel Casting Performance Dimensions and Distortion	1	2016	4	2021
Lube-Free Die Casting	1	2016	4	2021
Lightweight High Strength Cast Alloys Process Development	1	2016	4	2021
Forging Process Improvement Using Intensive Quenching	1	2016	4	2021
FORGE-IT, AFCAT, and MetaLFACT for Streamlining Forging Supply Chains	1	2016	4	2021
Innovations in Repair of Forging Dies	1	2016	4	2021
Large-Scale Forging Die Fabrication in Support of the Defense Logistics Agency	1	2016	4	2021
Simulation as an Integral Tool in the Development and Optimization of Advanced Forging Processes	1	2016	4	2021
Forged Fiber Reinforced Aluminum Engine Components	1	2016	4	2021
Production Processes for NAVAIR Lithium-ion	1	2016	2	2018
Production Processes for LRAS Battery	1	2016	2	2017
Lithium Ion Replacement for TOW MGS NiCd Battery	1	2016	2	2017

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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
8: <i>Maintaining Viable Supply Sources (formerly High Quality Sources)</i>	-	0.000	0.000	16.923	-	16.923	19.056	18.738	18.902	19.360	Continuing	Continuing

A. Mission Description and Budget Item Justification

The High Quality Sources SFA are projects undertaken to assure that the industrial base can respond to DLA requirements and DLA can fill military customers' material requirements reliably and consistently. Benefits include eliminating cancelled requisitions returned to customers as "non-procurable." This strategic focus area includes within its scope the former Material Acquisition Electronics program.

The Material Acquisition Electronics roadmap has four major thrusts in Digital Microcircuits: Advanced Schottky TTL, TTL Compatible CMOS, 512 Kilobit RAM/ROM and Mega Gate ASIC. The Roadmap also includes a new major thrust area: Linear Microcircuits. Over the past several years, obsolescence in this class of microcircuits has greatly increased and has become a significant concern. These are classes of microcircuits that are expected to become non-procurable in FY 17 and beyond. Without the technologies planned on the MAE Roadmap, DLA will not be able to support DoD's requirements for high quality spare parts for critical electronic systems and subsystems.

The Strategic Materials roadmap is a new thrust for the DLA Mantech program. It is designed to ensure that critical strategic materials are available from domestic sources and that process innovations are in place to efficiently process or recover strategic materials. Domestic capabilities can enhance national security and potentially reduce Defense Stockpile requirements.

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

	FY 2015	FY 2016	FY 2017
Title: Maintaining Viable Supply Sources (formerly High Quality Sources)	-	-	16.923
FY 2017 Plans:			
MAE will continue planning for the specific emulation technology implementations to support specific device family groups in consonance with Customer and Agency requirements. MAE will begin a major new thrust in emulation to address Linear Microcircuits in addition to its traditional focus on Digital. Several efforts will address basic design, manufacturing, electrical test and quality/reliability requirements for establishing a basis for product-oriented developments across the FYDP. MAE will also complete development and transition Advanced Schottky TTL Digital Microcircuit Emulation capability into full-scale production increasing DLA's ability to re-establish sourcing of non-procurable microcircuit NSNs. The newly transitioned emulation capabilities will address several discontinued device families and will increase the potential emulation production envelope by several hundred NSNs. MAE will also continue development of additional emulation capabilities including TTL-Compatible CMOS. MAE will also initiate several new implementations including development of a 1 million gate Application-			

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Defense Logistics Agency	Date: February 2016
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Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603680S / <i>Manufacturing Technology Program (ManTech)</i>	Project (Number/Name) 8 / <i>Maintaining Viable Supply Sources (formerly High Quality Sources)</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2015	FY 2016	FY 2017
Specific Integrated Circuit (ASIC) and 512K Read-Only and Random-Access Memory Emulation Capabilities. It will complete prototyping 350 nanometer emulation circuitry, bringing emulation capability that re-establishes sources for additional NSNs.			
Strategic Materials: A request for white paper proposals was recently added to DLA's Emerging R&D Requirements BAA for critical initial manufacturing technology requirements in domestic high strength carbon fibers. Additional targeted requirements will be determined with DLA Strategic Materials. Targeted requests for proposals will be conducted to address specific needs and opportunities to ensure that critical strategic materials are available from domestic sources and that process innovations are in place to efficiently produce strategic materials. Manufacturing technologies and capabilities are expected to transition to Title III or specific Weapon System Program funds for industrial base qualification.			
Accomplishments/Planned Programs Subtotals	-	-	16.923

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

N/A

Remarks

D. Acquisition Strategy

MAE efforts are incremental funding on a competitive awarded 5 year contract.

Strategic Materials efforts will be competitively evaluated and awarded using Broad Agency Announcement (BAA) procedures.

E. Performance Metrics

Transition of one technology implementation (base array) to low-rate initial production or full-scale production. Each technology implementation increases the breadth of microcircuit part types which can be returned to a procurable status; improving readiness and avoiding the need to redesign at the next-higher level. Potential benefit to hundreds of weapon systems.

Strategic Materials: Develop roadmap and transition targeted manufacturing technologies.

At least 30% of the completed projects will transition.

OSD-C financial metrics (obligation and disbursement) will be achieved.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Defense Logistics Agency													Date: February 2016			
Appropriation/Budget Activity 0400 / 3				R-1 Program Element (Number/Name) PE 0603680S / <i>Manufacturing Technology Program (ManTech)</i>					Project (Number/Name) 8 / <i>Maintaining Viable Supply Sources (formerly High Quality Sources)</i>							
Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total		Cost To Complete	Total Cost	Target Value of Contract
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			
Digital Electronic Device Manufacturing Technology Process Development	C/CPFF	SRI International : CA	0.000	-		-		16.523		-		16.523	0.000	16.523	-	
Digital Electronic Device Manufacturing Technology Process Development SETA	MIPR	SPAWAR : CA	0.000	-		-		0.400		-		0.400	0.000	0.400	-	
Subtotal			0.000	-		-		16.923		-		16.923	0.000	16.923	-	
			Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			0.000	-		0.000		16.923		-		16.923	0.000	16.923	-	
Remarks																

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Defense Logistics Agency		Date: February 2016
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603680S / <i>Manufacturing Technology Program (ManTech)</i>	Project (Number/Name) 8 / <i>Maintaining Viable Supply Sources (formerly High Quality Sources)</i>

	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	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
Advanced Schottky TTL																												
TTL Compatible CMOS																												
0.35 CMOS Process Development II																												
Op Amp Process Development II																												
Process Capability Enhancement I																												
SPAWAR COTR																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Defense Logistics Agency		Date: February 2016
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603680S / <i>Manufacturing Technology Program (ManTech)</i>	Project (Number/Name) 8 / <i>Maintaining Viable Supply Sources (formerly High Quality Sources)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Advanced Schottky TTL	1	2017	4	2017
TTL Compatible CMOS	1	2017	4	2017
0.35 CMOS Process Development II	1	2017	4	2017
Op Amp Process Development II	1	2017	1	2017
Process Capability Enhancement I	1	2017	1	2017
SPAWAR COTR	1	2017	1	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Defense Logistics Agency **Date:** February 2016

Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603680S / <i>Manufacturing Technology Program (ManTech)</i>	Project (Number/Name) 9 / <i>Improving Technical and Logistics Information (formerly Industry and Customer Collaboration)</i>
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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
<i>9: Improving Technical and Logistics Information (formerly Industry and Customer Collaboration)</i>	-	0.000	0.000	3.412	-	3.412	4.462	4.434	4.462	4.499	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Improving Technical and Logistics Information Strategic Focus Area (SFA) projects improve and facilitate the communication of technical and logistics information among industry, DLA's military customers and DLA. This SFA includes Military Unique Sustainment Technology (MUST) and the Defense Logistics Information Research (DLIR) (P.E. 0603712S) within its scope. The movement of the DLIR related work from P.E. 0603712S to the DOD ManTech Program aligns the funding to the critical interface between DLA and industry and away from internal DLA operations.

The MUST focus addresses GAO Report 12-707 recommendations that DOD to establish a "knowledge-based approach" to collaborate on define and communicate of military unique requirements. DLA has the responsibility to communicate and manage the technical requirements among the Services and the Defense Industrial Base. Currently there is no common environment for collaborating on new requirements among the stakeholders. The strategic objective of the DLA MUST program is to identify, develop and adopt technologies that can significantly reduce the lead-time between Individual Item and Equipment (IIE) development and sustainment from years to months. The Program focuses on technologies that will transform the military IIE supply chain from an "electronic paper" (i.e. PDF/MS Word) based, manual environment into a knowledge based automated environment. The resulting approach will be a neutral platform that will seamlessly communicate military unique technical requirements throughout the end to end supply chain.

The DLIR Model Based Enterprise effort will develop capabilities to systematically accept engineering and design data from the Military Services, validate and store item technical data in 3D models. There are two classes of data that must be addressed: newly designed parts for systems still in development and legacy parts for systems that are in sustainment. The problem with newly designed parts is capturing the complete and accurate designs. The legacy parts do not have digital engineering models which recreating the design in contemporary engineering systems.

The Technical and Logistical Data Interoperability will pioneer methods to capture data from military Services, Original Equipment Manufacturers (OEMs), and suppliers to form a seamless thread of interoperable and linked data models.

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

	FY 2015	FY 2016	FY 2017
Title: Improving Technical and Logistics Information (formerly Industry and Customer Collaboration)	-	-	3.412
FY 2017 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Defense Logistics Agency		Date: February 2016
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603680S / <i>Manufacturing Technology Program (ManTech)</i>	Project (Number/Name) 9 / <i>Improving Technical and Logistics Information (formerly Industry and Customer Collaboration)</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2015	FY 2016	FY 2017
Continue the distributed pilots and begin transition of the technology into the supply chain. Expand the number of companies participating in the pilots and validating the benefits of the knowledge based approach to IIE development.			
Accomplishments/Planned Programs Subtotals	-	-	3.412

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

N/A

Remarks

D. Acquisition Strategy

Delivery/Task Orders are awarded against a competitively awarded IDIQ contracts.

E. Performance Metrics

The metrics for ICC are error elimination in engineering and technical data, including omissions and uncertainties in specifications, streamlining vendor level of effort associated with completing procurements, and improved collaboration among the Services, DLA and the industrial base. The result will lead to reduced lead-time, inventory and to avoid the costs of defective material.

At least 30% of the completed projects will transition.

OSD-C financial metrics (obligation and disbursement) will be achieved.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Defense Logistics Agency											Date: February 2016				
Appropriation/Budget Activity 0400 / 3				R-1 Program Element (Number/Name) PE 0603680S / <i>Manufacturing Technology Program (ManTech)</i>				Project (Number/Name) 9 / <i>Improving Technical and Logistics Information (formerly Industry and Customer Collaboration)</i>							

Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Manufacturing Technology – Knowledge Based Individual Items and Equipment Development	C/CPFF	AdvanTech STP : MD	0.000	-		-		0.615	May 2017	-		0.615	0.000	0.615	-
Manufacturing Technology – Knowledge Based Individual Items and Equipment Development	C/CPFF	Logistics Management Institute : VA	0.000	-		-		0.641	Jan 2017	-		0.641	0.000	0.641	-
Manufacturing Technology – Knowledge Based Individual Items and Equipment Development	C/CPFF	XSB Inc. : NY	0.000	-		-		0.615	May 2017	-		0.615	0.000	0.615	-
Manufacturing Technology – Knowledge Based Individual Items and Equipment Development	C/CPFF	Clemson Partner : SC	0.000	-		-		0.015	Jun 2017	-		0.015	0.000	0.015	-
Automatic Extraction of Product Lifecycle Management Data	C/CPFF	XSB Inc. : NY	-	-		-		1.526		-		1.526	0.000	1.526	-
Subtotal			0.000	-		-		3.412		-		3.412	0.000	3.412	-
Project Cost Totals			0.000	-		0.000		3.412		-		3.412	0.000	3.412	-

Remarks

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Defense Logistics Agency		Date: February 2016
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603680S / <i>Manufacturing Technology Program (ManTech)</i>	Project (Number/Name) 9 / <i>Improving Technical and Logistics Information (formerly Industry and Customer Collaboration)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MUST Thrust 1 Collaboration Technical Requirements Management	1	2015	4	2019
MUST Thrust 2 Semantic Based Military Uniform Technical Data	1	2015	4	2019