Exhibit R-2, **RDT&E Budget Item Justification:** PB 2024 Defense Advanced Research Projects Agency	**Date:** March 2023
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 3: *Advanced Technology Development (ATD)*	**R-1 Program Element (Number/Name)** PE 0603739E / *ADVANCED ELECTRONICS TECHNOLOGIES*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	128.080	250.917	254.033	-	254.033	248.628	262.729	286.504	285.218	-	-
MT-15: *MIXED TECHNOLOGY INTEGRATION*	-	17.613	33.406	47.847	-	47.847	49.747	49.981	60.568	59.282	-	-
MT-16: *BEYOND SCALING ADVANCED TECHNOLOGIES*	-	110.467	217.511	206.186	-	206.186	198.881	212.748	225.936	225.936	-	-

A. Mission Description and Budget Item Justification

The efforts described in this Program Element (PE) address the Advanced Technology Development associated with the Advanced Electronics Technologies Program that seeks to design and demonstrate state-of-the-art manufacturing and processing technologies for the production of various electronics and microelectronic devices, sensor systems, integrated photonic-electronic components that have military applications and potential commercial utility. Introduction of advanced product design capability and flexible, scalable manufacturing techniques will enable the commercial sector to rapidly and cost-effectively satisfy military requirements.

The Mixed Technology Integration project funds the advanced development and demonstration of selected basic and applied electronics research programs. Examples of technologies with funded development and demonstration activities include, but are not limited to: reducing the size, weight, and power (SWaP) of components for laser weapon systems that will protect airborne platforms from emerging surface-to-air missiles; integrated photonic-electronic components for positioning, navigation and timing in GPS-denied environments; flexible, software-defined cameras that enable real-time image analysis of complex scenes to provide more actionable information; and optical communications systems that rely on no moving parts enabling their use on SWaP-restricted platforms. Funding under this project is intended to advance transitioning novel technologies to use, providing advanced components compatible with mid-term and other future warfighting requirements.

The Beyond Scaling Advanced Technologies Project supports activities to enable and accelerate the transition of disruptive microelectronics advancement, including those developed under the Beyond Scaling Sciences (ES-02) and Beyond Scaling Technology (ELT-02) projects. Funding under this project will include developing new technologies and capabilities in commercial settings, establishing access to these new processes and to commercial state-of-the-art foundries, enabling prototyping, developing manufacturable processes for three-dimensional heterogeneous integration (including integrated photonics), advancing new architectures and integration technologies for advanced field programmable gate arrays (FPGAs), and innovating back end of line technologies for wide bandgap semiconductors.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Advanced Research Projects Agency	**Date:** March 2023
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* I BA 3: *Advanced Technology Development (ATD)*	**R-1 Program Element (Number/Name)** PE 0603739E *I ADVANCED ELECTRONICS TECHNOLOGIES*

B. Program Change Summary ($ in Millions)	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**
Previous President's Budget	140.716	250.917	313.030	-	313.030
Current President's Budget	128.080	250.917	254.033	-	254.033
Total Adjustments	-12.636	0.000	-58.997	-	-58.997
• 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	-7.628	0.000			
• SBIR/STTR Transfer	-5.008	0.000			
• TotalOtherAdjustments	-	-	-58.997	-	-58.997

Congressional Add Details ($ in Millions, and Includes General Reductions)	**FY 2022**	**FY 2023**
Project: MT-16: *BEYOND SCALING ADVANCED TECHNOLOGIES*		
Congressional Add: *ERI 2.0 - Congressional Add*	24.000	-
Congressional Add Subtotals for Project: MT-16	24.000	-
Congressional Add Totals for all Projects	24.000	-

Change Summary Explanation

FY 2022: Decrease reflects SBIR/STTR transfer and reprogrammings.
FY 2023: N/A
FY 2024: Decrease reflects completion of the Technologies for Mixed-mode Ultra Scaled Integrated Circuits (T-MUSIC) and Photonics in the Package for Extreme Scalability (PIPES) programs in FY 2023 and other program rephasings.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Advanced Research Projects Agency			**Date:** March 2023
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 0603739E / *ADVANCED ELECTRONI CS TECHNOLOGIES*	**Project (Number/Name)** MT-15 / *MIXED TECHNOLOGY INTEGRATION*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
MT-15: *MIXED TECHNOLOGY INTEGRATION*	-	17.613	33.406	47.847	-	47.847	49.747	49.981	60.568	59.282	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Mixed Technology Integration project funds the advanced development and demonstration of selected basic and applied electronics research programs. Examples of technologies with funded development and demonstration activities include, but are not limited to: reducing the size, weight, and power (SWaP) of components for laser weapon systems that will protect airborne platforms from emerging surface-to-air missiles; integrated photonic-electronic components for positioning, navigation and timing in GPS-denied environments; flexible, software-defined cameras that enable real-time image analysis of complex scenes to provide more actionable information; and optical communications systems that rely on no moving parts enabling their use on SWaP-restricted platforms. Funding under this project is intended to advance transitioning novel technologies to use, providing advanced components compatible with mid-term and other future warfighting requirements.

B. Accomplishments/Planned Programs ($ in Millions)	**FY 2022**	**FY 2023**	**FY 2024**
Title: Wideband Secured and Protected Emitter and Receiver (WiSPER)	13.613	21.000	25.000
Description: The Wideband Secured and Protected Emitter and Receiver (WiSPER) program aims to develop an ultra-broadband technology platform to demonstrate a robust, secure, and protected communication link. WiSPER technology provides high signal coding gain to deliver a secured and protected link with significantly enhanced capacity for next generation DoD communications. Current terrestrial tactical radios operate with limited bandwidth at prescribed low frequency bands, which are unable to support high capacity with multiple users and are vulnerable to interference and jamming. WiSPER technology addresses military needs for assured communications, throughput, security, and size, weight, and power limitations of future command, control, communications, computers, intelligence, surveillance and reconnaissance missions. The program will develop an ultra-broadband compact antenna, radio frequency front-end electronics, mixed-signal circuits, and waveform technologies. The WiSPER program will culminate with the integration and demonstration of a secured communication link. Technologies developed under the WiSPER program are planned for transition to the Services. ***FY 2023 Plans:*** - Test bench-top prototype secured radio transceiver in a laboratory environment, demonstrating spatial coding and first-generation featureless packet generation, transmission, and reception, with additional over the air validation. - Design second-generation functional test prototype of the secured radio transceiver. - Begin implementation of second-generation functional test prototype secured radio transceiver doubling accessible bandwidth with increased dynamic range and diversity. - Optimize the second-generation secured radio transceiver design using modeling and simulation.			

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Integrate second-generation functional test prototype of the secured radio transceiver into a transportable unit. ***FY 2024 Plans:*** - Demonstrate transportable prototype secured radio transceiver operating in clear weather environment, demonstrating spatial coding and second-generation featureless packet generation, transmission, and reception. - Begin development of adaptive algorithms and modifications for third-generation prototype to adjust radio transceiver operation for operation in harsh conditions and environments. - Design third-generation functional test prototype of the secured radio transceiver. - Begin implementation of third-generation functional test prototype secured radio transceiver reducing size, weight, and power to tactical levels and adapting for operation in harsh conditions and environments. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The FY 2024 increase reflects the program moving from testing of the first-generation prototype to the demonstration of the more advanced second-generation prototype.			
Title: Modular Efficient Laser Technology (MELT) ***Description:*** The Modular Efficient Laser Technology (MELT) program will demonstrate the first compact, high-power laser tile as the key building block to enable the next generation of scalable high energy laser (HEL) sources for laser weapon systems (LWS). Today's LWS use fiber laser array HEL sources, complex optical benches, and beam directors. These systems are large and heavy, contain large numbers of individual components, and require skilled labor to fabricate and integrate. This makes current LWS difficult and costly to manufacture, limiting their deployment and application. MELT will leverage recent advances in coherent beam combining and photonic integrated circuits (PICs) fabrication techniques to develop tiled arrays integrated with semiconductor-based optical systems, low-loss waveguides, optical interconnects, and application-specific integrated circuit (ASIC) into a compact laser tile that can be integrated with a supporting backplane to provide scalable HEL sources. This will provide the LWS developer a scalable HEL architecture that maintains excellent beam quality and allows LWS deployment on size, weight, and power (SWaP)-constrained platforms. MELT will leverage a mature industrial base for semiconductor manufacturing, as well as recent advances in photonic integrated circuits, coherent beam combining algorithms, semiconductor cooling techniques, and optical lithography to achieve its program goals. Technologies from this program are intended for transition to Army, Air Force, and Navy. ***FY 2023 Plans:*** - Design semiconductor amplifiers in planar arrays with good electrical-to-optical efficiency. - Hold planar array design review and deliver design review package to include details of semiconductor amplifier planar array design, modeling, and simulation. ***FY 2024 Plans:***	-	12.406	22.847

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Advanced Research Projects Agency		Date: March 2023
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 0603739E / *ADVANCED ELECTRONI CS TECHNOLOGIES*	**Project (Number/Name)** MT-15 / *MIXED TECHNOLOGY INTEGRATION*

B. Accomplishments/Planned Programs ($ in Millions)	**FY 2022**	**FY 2023**	**FY 2024**
- Perform design of thermal management system for semiconductor amplifier planar array. - Simulate performance of thermal management system for expected range of electrical-to-optical efficiency. - Hold laser tile design review and deliver design review package to include details of laser tile design, modeling, and simulation. - Demonstrate a planar array of emitters in a laboratory, to include demonstrating coherent beam combination and non-mechanical beam steering, for traceability to a fully-integrated laser tile. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The FY 2024 increase reflects a shift from initial design activities to finalizing designs and initiating fabrication and assembly.			
Title: Reconfigurable Imaging (ReImagine) ***Description:*** The Reconfigurable Imaging (ReImagine) program aimed to create multi-functional readout integrated circuits (ROICs) that fundamentally change the way camera systems collect, process, and relay image information. This was accomplished by adding multifunctional flexibility in the ROIC. Depending on the need, a ReImagine imager can selectively collect and simultaneously process data from a specific ROI, for example, at a higher resolution, at a higher frame rate, or with 3-D depth information. The system can interface with virtually any sensor and therefore can be used in any spectral band. By demonstrating more efficient data collection and computation across ROIs, ReImagine ROICs enable real-time analysis of much more complex scenes and provide more actionable information than has ever been possible. Technologies from this program are intended for transition to the Air Force, Navy, and Army.	4.000	-	-
Accomplishments/Planned Programs Subtotals	17.613	33.406	47.847

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Advanced Research Projects Agency		**Date:** March 2023
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 0603739E / *ADVANCED ELECTRONI CS TECHNOLOGIES*	**Project (Number/Name)** MT-16 / *BEYOND SCALING ADVANCED TECHNOLOGIES*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
MT-16: *BEYOND SCALING ADVANCED TECHNOLOGIES*	-	110.467	217.511	206.186	-	206.186	198.881	212.748	225.936	225.936	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Beyond Scaling Advanced Technologies Project supports activities to enable and accelerate the transition of disruptive microelectronics advancement, including those developed under the Beyond Scaling Sciences (ES-02) and Beyond Scaling Technology (ELT-02) projects. Funding under this project will include developing new technologies and capabilities in commercial settings, establishing access to these new processes and to commercial state-of-the-art foundries, enabling prototyping, developing manufacturable processes for three-dimensional heterogeneous integration (including integrated photonics), advancing new architectures and integration technologies for advanced field programmable gate arrays (FPGAs), and innovating back end of line technologies for wide bandgap semiconductors.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Programmable Logic for Applications In Defense (PLAID)	36.967	30.000	31.186

Description: The Programmable Logic for Applications In Defense (PLAID) program is developing a heterogeneous compute platform that can support processing of large data arrays. Current computing architectures are subject to scaling, bandwidth, and memory limitations, and the large size of today's chips limits the movement of data resulting in a fundamental trade-off between circuit size and data throughput. The PLAID program will break this paradigm with new architecture development and will achieve more than a 10X increase in on-chip bandwidth. In addition to the development of this new device, the PLAID program will expedite deployment into DoD systems by engaging the defense industrial base to map DoD-relevant radio frequency (RF) processing problems onto the new architecture. These RF problems may include element-level digital beamforming, multi-target tracking radar applications, and synthetic aperture radar processing. Once applications are mapped onto the new processor, the implementation will be programmed and tested with the intent that the use of the new device developed by commercial industry will directly transition into an asymmetric advantage for the DoD and will be used by the defense industrial base in emerging applications.

FY 2023 Plans:
- Complete device verification and characterization for production quality.
- Demonstrate early functional tests in a commercial design environment.
- Complete security design to include crypto, key management, and secure boot.
- Complete alpha programming software preview.
- Expand engagement with transition partners to include planning for memoranda of understanding and agreement.

FY 2024 Plans:

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Release completed designs of base and fabric layers for fabrication. - Complete validation and characterization plan for engineering silicon. - Demonstrate first operational silicon prototype. - Complete DoD application trade-offs between problem size and device resources. - Initiate design of approaches to make computations verifiable on advanced computational hardware. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The FY 2024 increase represents a shift from initial designs and demonstrations to design completion, fabrication, and initial verification.			
Title: Next Generation Microelectronics Manufacturing (NGMM)* ***Description:*** (*Formerly Next Generation Microelectronics Prototyping - Public-Private Partnerships) The Next Generation Microelectronics Manufacturing program is manufacturing next-generation microsystems using three-dimensional heterogeneous integration (3DHI), including design, fabrication, packaging, assembly, and testing. This capability, a National Network for Next Generation Microelectronics Manufacturing, will emphasize design innovations to sustain U.S. leadership in semiconductors and enhance the use of manufacturing automation in the design, assembly, and testing of 3DHI prototypes. The baseline capability will allow users from across the country to quickly and efficiently develop working prototypes based on early-stage research and development. This will enable a wide range of organizations and stakeholders to accelerate a domestic 3DHI ecosystem, in the same way foundry access enabled fabless design companies and their associated ecosystems to proliferate. This research service will feature a baseline fabrication capability for research prototypes via a stable 3DHI assembly design kit. Users of the research service will have the ability to join multi-project demonstration runs or dedicated taxi runs. This national accelerator will remove a major impediment to the domestic development of next-generation three-dimensional microsystems and will extend research capabilities beyond those currently being developed worldwide. The research services will incorporate the ability to fabricate unique microsystem prototypes using a wide range of devices and materials, integrating the most advanced manufacturing and assembly technologies across silicon, compound semiconductors, photonics, MEMS, and other advanced microelectronics technologies. Applied research related to this effort is funded within PE 0602716E, Project ELT-02. ***FY 2023 Plans:*** - Determine the capabilities needed to support 3DHI prototyping, including electronic design automation, security, metrology, and advanced packaging toolsets. - Identify facilities with base capabilities suited to expanding to new 3DHI manufacturing techniques. - Create a development plan for automated assembly and advanced packaging toolsets.	-	175.000	175.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Advanced Research Projects Agency		Date: March 2023
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 0603739E / *ADVANCED ELECTRONICS TECHNOLOGIES*	**Project (Number/Name)** MT-16 / *BEYOND SCALING ADVANCED TECHNOLOGIES*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Prepare a maturation plan for electronic design automation for custom assembly and advanced packaging. - Establish a National Network for Next Generation Microelectronics Manufacturing for developing pre-competitive technologies that enables the next generation of manufacturing and accelerates the transfer of innovation from research to prototyping, by enhancing the ability of users to access design, metrology, assembly, and advanced packaging resources. - Coordinate with interagency forums to implement the national strategy for microelectronics research and development including planning for the National Network for Next Generation Microelectronics Manufacturing goals. t ***FY 2024 Plans:*** - Initiate establishing base capabilities for 3DHI prototyping including defined process modules for interconnect vias, bumping, and bonding. - Release first version of assembly design kit for baseline process modules including interconnect vias, bumping, and bonding. - Conduct first round of research collaboration to increase interconnect density and increase bonding material diversity. - Conduct assessment to reduce cycle-time for die handling in the packaging and assembly processes. - Establish process module validation procedures to include user-based assessments, and conduct interim validation assessments. - Create advisory board and convene biannually to ensure strategic alignment of technical objectives with emerging capabilities.			
Title: Technologies for Mixed-mode Ultra Scaled Integrated Circuits (T-MUSIC) ***Description:*** The Technologies for Mixed-mode Ultra Scaled Integrated Circuits (T-MUSIC) program is developing an on-shore semiconductor foundry platform for very wide band radio frequency (RF) mixed-mode integrated circuit analog-to-digital converters for commercial and military systems. Mixed-mode circuits take analog and RF signals and transform them to digital data for processing in computing systems. As defense and commercial wireless applications move to higher frequencies in order to carry more data traffic, integrating the broadband mixed-mode circuitry with high-speed digital processing logic onto one chip becomes imperative to avoid data transfer bottlenecks. T-MUSIC seeks to integrate high-speed, high-performance analog and digital electronics together in highly-scaled silicon complementary metal-oxide semiconductor (CMOS) foundries on-shore. Such processes will enable the high levels of integration and performance needed for DoD-relevant and commercial 5G/6G applications. A goal of the T-MUSIC program is to enable very wide bandwidth wireless operations beyond 100 gigahertz (GHz) with low noise and high dynamic range. In addition, T-MUSIC aims to develop next-generation terahertz (THz) mixed-mode devices based on the advanced digital CMOS fabrication platform. The T-MUSIC program will establish advanced on-shore foundry capabilities to establish a long-term domestic world-class RF mixed-mode system-on-chip technology for intended transition to DoD and commercial applications. ***FY 2023 Plans:*** - Demonstrate foundational mixed-mode analog and digital circuit building blocks at 600 GHz fabricated in domestic foundries.	20.500	7.511	-

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Continue to optimize and demonstrate advanced materials, scaled THz device structures, and integration process based on program-developed domestic CMOS process platform. - Work towards transition of T-MUSIC technologies for application in commercial and defense sectors. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The FY 2024 decrease reflects program completion.			
Title: Photonics in the Package for Extreme Scalability (PIPES) ***Description:*** The Photonics in the Package for Extreme Scalability (PIPES) program aims to develop optical signaling technologies for digital microelectronics. Distributed and parallel computing architectures are now pervasive across all size scales, from personal-scale multicore processing units to enterprise-scale high performance computing systems, and span application domains from consumer electronics to DoD systems. Increasingly, however, the benefits of parallelism are constrained not by the limits of computation at individual nodes but by the movement of data between nodes. PIPES will advance microelectronics capabilities by intimately integrating photonics with advanced integrated electronics to yield system connectivity with an unprecedented combination of high aggregate bandwidth, power efficiency, channel density, and link reach. Specifically, PIPES will develop photonic input/output (I/O) capability for application-specific integrated circuits and Field-Programmable Gate Arrays (FPGAs) that are widely used in advanced DoD sensors and radio frequency systems. The goal of the program is improving I/O bandwidth density, efficiency, and reach by more than 100X to enable disruptive DoD system parallelism and performance scaling. As PIPES technologies mature, they are anticipated to proliferate into central processing units, graphical processing units, and emerging tensor-flow processing units that will impact a wide range of dual-use applications including artificial intelligence, machine learning, large scale emulation, and high-performance computing. Technologies from this program are intended for transition to larger scale commercial performers and the Services. ***FY 2023 Plans:*** - Deliver prototype units of leading FPGAs with integrated photonic interconnect for Government evaluation. - Continue to develop domestic photonic interconnect capabilities with emphasis on an accessible ecosystem for integration, assembly and packaging. - Mature next-generation photonic link capabilities with ten times better efficiency through novel low-loss optical designs and closer electronic-photonic integration. - Continue to develop transition opportunities within the DoD. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The FY 2024 decrease reflects program completion.	13.000	5.000	-
Title: Millimeter Wave Digital Arrays (MIDAS)	10.000	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Advanced Research Projects Agency		**Date:** March 2023
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 0603739E / *ADVANCED ELECTRONICS TECHNOLOGIES*	**Project (Number/Name)** MT-16 / *BEYOND SCALING ADVANCED TECHNOLOGIES*

B. Accomplishments/Planned Programs ($ in Millions)	**FY 2022**	**FY 2023**	**FY 2024**
Description: The Millimeter Wave Digital Arrays (MIDAS) program developed a common millimeter wave phased array tile that is scalable to large arrays to provide wideband frequency agility from 18 gigahertz (GHz) to 50 GHz with element-level digital beamforming. MIDAS developed a common digital phased array tile that can be used to build large arrays from this common block. MIDAS used advanced complementary metal oxide semiconductor (CMOS) technology to develop the core transceiver elements at a size and power consumption compatible with current millimeter wave systems, and employed a combination of advanced packaging and high-performance compound semiconductors to build the power amplifiers and wideband apertures necessary to make a complete system.			
Title: Beyond Scaling - Access ***Description:*** The Beyond Scaling - Access program demonstrated design and fabrication of advanced electronics, to include collaborations with leading industry players. The Beyond Scaling - Access program forged forward-looking collaborations among the commercial electronics community, defense industrial base, university researchers, and the DoD to address domestic and DoD-available microelectronics capabilities. Activities included: establishing design capabilities for advanced digital logic in state-of-the-art foundries; enabling domestic production of millimeter wave circuits for 5G applications, military communication systems, and DoD radar sensors; initializing prototyping facilities and other activities to enhance the likelihood for domestic production and implementation of leading edge technologies; and exploring microelectronics development and manufacturing capabilities aligned to DoD-specific environments.	6.000	-	-
Accomplishments/Planned Programs Subtotals	86.467	217.511	206.186

	FY 2022	**FY 2023**
Congressional Add: ERI 2.0 - Congressional Add ***FY 2022 Accomplishments:*** - Performed survey of potential user base, including defense, commercial and academic organizations, to assess three-dimensional heterogeneous integration (3DHI) capabilities that a public-private partnership should service. - Analyzed projected commercial 3DHI packaging capabilities available in five years. - Determined baseline facility requirements needed to offer prototyping service of new 3DHI manufacturing techniques. - Defined objectives for development plan for automated assembly and advanced packaging toolsets.	24.000	-
Congressional Adds Subtotals	24.000	-

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Advanced Research Projects Agency		**Date:** March 2023
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 0603739E / *ADVANCED ELECTRONICS TECHNOLOGIES*	**Project (Number/Name)** MT-16 / *BEYOND SCALING ADVANCED TECHNOLOGIES*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

N/A