
Michigan Technological University

Federal Awards Supplemental Information
June 30, 2024

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Report on Schedule of Expenditures of Federal Awards Required by the Uniform Guidance

Independent Auditor's Report

To the Board of Trustees
Michigan Technological University

We have audited the financial statements of Michigan Technological University (the "University"), a component unit of the State of Michigan, as of and for the year ended June 30, 2024 and the related notes to the financial statements, which collectively comprise the University's basic financial statements. We issued our report thereon dated October 10, 2024, which contained an unmodified opinion on the financial statements. Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the basic financial statements. We have not performed any procedures with respect to the audited financial statements subsequent to October 10, 2024.

The accompanying schedule of expenditures of federal awards is presented for the purpose of additional analysis, as required by the Uniform Guidance, and is not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the information is fairly stated in all material respects in relation to the financial statements as a whole.

Plante & Moran, PLLC

March 7, 2025

Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards*

Independent Auditor's Report

To Management and the Board of Trustees
Michigan Technological University

We have audited, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of Michigan Technological University (the "University") as of and for the year ended June 30, 2024 and the related notes to the financial statements, which collectively comprise the University's basic financial statements, and have issued our report thereon dated October 10, 2024. The financial statements of Michigan Tech Fund, a blended component unit, were not audited in accordance with *Government Auditing Standards*.

Report on Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the University's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the University's internal control. Accordingly, we do not express an opinion on the effectiveness of the University's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A material weakness is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the University's financial statements will not be prevented, or detected and corrected, on a timely basis. A significant deficiency is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses or significant deficiencies may exist that were not identified.

Report on Compliance and Other Matters

As part of obtaining reasonable assurance about whether the University's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the financial statements. However, providing an opinion on compliance with those provisions was not an objective of our audit, and, accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

To Management and the Board of Trustees
Michigan Technological University

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the University's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the University's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Plante & Moran, PLLC

October 10, 2024

Report on Compliance for Each Major Federal Program and Report on Internal Control Over Compliance Required
by the Uniform Guidance

Independent Auditor's Report

To the Board of Trustees
Michigan Technological University

Report on Compliance for Each Major Federal Program

Opinion on Each Major Federal Program

We have audited Michigan Technological University's (the "University") compliance with the types of compliance requirements identified as subject to audit in the OMB *Compliance Supplement* that could have a direct and material effect on the University's major federal program for the year ended June 30, 2024. The University's major federal program is identified in the summary of auditor's results section of the accompanying schedule of findings and questioned costs.

In our opinion, the University complied, in all material respects, with the compliance requirements referred to above that could have a direct and material effect on the major federal program for the year ended June 30, 2024.

Basis for Opinion on Each Major Federal Program

We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America (GAAS); the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and the audit requirements of Title 2 U.S. *Code of Federal Regulations* Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (the "Uniform Guidance"). Our responsibilities under those standards and the Uniform Guidance are further described in the *Auditor's Responsibilities for the Audit of Compliance* section of our report.

We are required to be independent of the University and to meet our other ethical responsibilities in accordance with relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion on compliance for each major federal program. Our audit does not provide a legal determination of the University's compliance with the compliance requirements referred to above.

Responsibilities of Management for Compliance

Management is responsible for compliance with the requirements referred to above and for the design, implementation, and maintenance of effective internal control over compliance with the requirements of laws, statutes, regulations, rules, and provisions of contracts or grant agreements applicable to the University's federal program.

Auditor's Responsibilities for the Audit of Compliance

Our objectives are to obtain reasonable assurance about whether material noncompliance with the compliance requirements referred to above occurred, whether due to fraud or error, and express an opinion on the University's compliance based on our audit. Reasonable assurance is a high level of assurance but is not absolute assurance and, therefore, is not a guarantee that an audit conducted in accordance with GAAS, *Government Auditing Standards*, and the Uniform Guidance will always detect material noncompliance when it exists. The risk of not detecting material noncompliance resulting from fraud is higher than for that resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Noncompliance with the compliance requirements referred to above is considered material if there is a substantial likelihood that, individually or in the aggregate, it would influence the judgment made by a reasonable user of the report on compliance about the University's compliance with the requirements of each major federal program as a whole.

In performing an audit in accordance with GAAS, *Government Auditing Standards*, and the Uniform Guidance, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material noncompliance, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the University's compliance with the compliance requirements referred to above and performing such other procedures as we considered necessary in the circumstances.
- Obtain an understanding of the University's internal control over compliance relevant to the audit in order to design audit procedures that are appropriate in the circumstances and to test and report on internal control over compliance in accordance with the Uniform Guidance, but not for the purpose of expressing an opinion on the effectiveness of the University's internal control over compliance. Accordingly, no such opinion is expressed.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and any significant deficiencies and material weaknesses in internal control over compliance that we identified during the audit.

Report on Internal Control Over Compliance

A deficiency in internal control over compliance exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. A material weakness in internal control over compliance is a deficiency, or a combination of deficiencies, in internal control over compliance such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis. A significant deficiency in internal control over compliance is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of a federal program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over compliance was for the limited purpose described in the *Auditor's Responsibilities for the Audit of Compliance* section above and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies in internal control over compliance. Given these limitations, during our audit we did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses, as defined above. However, material weaknesses or significant deficiencies in internal control over compliance may exist that were not identified.

Our audit was not designed for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, no such opinion is expressed.

To the Board of Trustees
Michigan Technological University

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of the Uniform Guidance. Accordingly, this report is not suitable for any other purpose.

Plante & Moran, PLLC

March 7, 2025

Schedule of Expenditures of Federal Awards

Year Ended June 30, 2024

Federal Agency/Pass-through Agency/Program Title	Direct/Pass-through	Assistance Listing Number	Grant ID / Pass-through Entity Identifying Number	Total Amount Provided to Subrecipients	Federal Expenditures
Student Financial Assistance Cluster					
Department of Education					
Federal Supplemental Educational Opportunity Grant	Direct	84.007	P007A232046	\$ -	\$ 223,323
Federal Work-Study Program	Direct	84.033	P033A232046	-	331,391
Federal Pell Grant Program	Direct	84.063	P063P230234	-	6,071,193
Federal Perkins Loan Program	Direct	84.038	N/A	-	2,860,383
Federal Direct Student Loans	Direct	84.268	P268K240234	-	26,174,936
Total Student Financial Assistance Cluster				-	35,661,226
Research and Development Cluster					
U.S. Department of Agriculture					
Demonstrate the Durability of Enhanced Domestic Hardwoods for U.S. Army Tactical Trailer Decking	Direct	10.RD	19-JV-11111133-064	-	11,608
Cooperative Forestry Research	Direct	10.202	NI23MSCFRXXXG004	-	169,632
Cooperative Forestry Research	Direct	10.202	NI24MSCFRXXXG017	-	152,568
Agriculture and Food Research Initiative (AFRI)	Direct	10.310	2020-67023-31638	-	92,604
Agriculture and Food Research Initiative (AFRI)	Direct	10.310	2022-67014-37035	-	215,260
Agriculture and Food Research Initiative (AFRI)	Direct	10.310	2023-67022-39754	-	40,094
Passed through University of Nebraska - Lincoln Sustainable Agriculture Research and Education	Pass-through	10.215	2023-38640-39573/26-6222-1246-	-	7,338
Passed through the Keweenaw Bay Ojibwa Community College 1994 Institutions Research Program	Pass-through	10.227	2020-01-MTU	-	1,749
Passed through the Worcester Polytechnic Institute International Agricultural Education Fellowship Program	Pass-through	10.619	11161-GR	-	108,287
Subtotal U.S. Department of Agriculture				-	799,140
U.S. Department of Agriculture - Forest Service					
Using UAS Based LiDAR to Map Archaeology Features	Direct	10.RD	19-PA-11091000-012	-	5,658
Applied Carbon Research and Management	Direct	10.RD	20-CR11242306-109	-	39,481
Estimating Upland Watersheds Risk to Increased Sediment, Ash and Nutrients Due to Wildfires in the Continental US	Direct	10.RD	20-JV-11221634-214	-	33,327
Analysis support and expert knowledge for scaling aggregated, object-based estimations of fuels, energy flux, and emissions	Direct	10.RD	21-CR-11221633-152	-	109,130
Forest management strategies in a changing world	Direct	10.RD	22-JV-11242307-069	-	3,185
Response of forest and peatland ecosystems to environmental change: new continuation	Direct	10.RD	22-JV-11242306-037	-	35,165
Continuing KISMA priority invasive species control and outreach with partners and community	Direct	10.RD	22-PA-11090700-003	-	30,497
Geospatial Monitoring for Effective Peatland Management in Central Africa	Direct	10.RD	23-JV-11132762-079	-	43,232
WFEIS-FuelRX Collaboration	Direct	10.RD	23-CR-11261925-033	-	59,127
Foundational Science for Sustainable Peatland Management in Central Africa	Direct	10.RD	23-JV-11242306-061	-	35,947
AIS Prevention for KISMA with boat wash outreach and AIS education	Direct	10.RD	23-PA-11090700-011	-	20,956
Decision Support for Forest Soil Carbon Management	Direct	10.RD	23-CR-11242306-022	-	31,665
Passed through The Nature Conservancy Mapping and Field Verification of Vernal Pools and Streams in Hiawatha	Pass-through	10.RD	#041223-1 / 23-PA-11091000-013	-	23,298
Passed through the Nevada System of Higher Education FASMEE Science and Coordination	Pass-through	10.RD	GR16556	-	9,941
Cooperative Forestry Assistance	Direct	10.664	20-DG-11094200-008	-	12,481
Cooperative Forestry Assistance	Direct	10.664	23-DG-11094200-237	-	79,052
Cooperative Forestry Assistance	Direct	10.664	23-PA-11090700-014	-	19,904
Wood Utilization Assistance	Direct	10.674	23-DG-11094200-251	-	151,158
Forest Health Protection	Direct	10.680	20-DG-11094200-241	-	48,209
Forest Health Protection	Direct	10.680	21-DG-11094200-063	-	17,410
International Forestry Programs	Direct	10.684	22-DG-11132762-346	-	292,536
Partnership Agreements	Direct	10.699	18-CR-11242306-072	-	(10)
Partnership Agreements	Direct	10.699	19-CR-11242306-025	-	195,641
Partnership Agreements	Direct	10.699	20-CS-11242306-096	-	26,583
Partnership Agreements	Direct	10.699	20-CS-11242306-119	-	89,026
Partnership Agreements	Direct	10.699	22-CS-11242308-035	-	40,941
Partnership Agreements	Direct	10.699	23-CS-11242306-074	-	5,599
Research Joint Venture and Cost Reimbursable Agreements	Direct	10.707	21-JV11242307-050	-	54,728
Research Joint Venture and Cost Reimbursable Agreements	Direct	10.707	23-JV-11242306-033	-	13,406
Research Joint Venture and Cost Reimbursable Agreements	Direct	10.707	23-JV11330180-048	-	25,000
Research Joint Venture and Cost Reimbursable Agreements	Direct	10.707	24-JV-11242307-032	-	53,655
Infrastructure Investment and Job Act Joint Fire Science Program (Research & Development)	Direct	10.714	22-JV-11242313-089	-	58,808
Infrastructure Investment and Job Act Joint Fire Science Program (Research & Development)	Direct	10.714	24-JV-11242306-034	-	4,170
Infrastructure Investment and Job Act Joint Fire Science Program (Research & Development)	Direct	10.714	24-JV-11242306-040	-	15,542
Subtotal U.S. Department of Agriculture - Forest Service				-	1,684,448
Total U.S. Department of Agriculture				-	2,483,588

Schedule of Expenditures of Federal Awards

Year Ended June 30, 2024

Federal Agency/Pass-through Agency/Program Title	Direct/Pass-through	Assistance Listing Number	Grant ID / Pass-through Entity Identifying Number	Total Amount Provided to Subrecipients	Federal Expenditures
Research and Development Cluster (Continued)					
U.S. Department of Commerce - National Institute for Standards and Technology					
Measurement and Engineering Research and Standards	Direct	11.609	70NANB22H113	\$ -	\$ 79,954
Science, Technology, Business and/or Education Outreach	Direct	11.620	70NANB23H020	-	180,809
Subtotal U.S. Department of Commerce - National Institute for Standards and Technology				-	260,763
U.S. Department of Commerce - National Oceanic and Atmospheric Administration					
Coastal Zone Management Estuarine Research Reserves	Direct	11.420	NA22NOS4200058	-	43,154
Climate and Atmospheric Research	Direct	11.431	NA22OAR4310213	-	11,057
Passed through Mid-Atlantic Fishery Management Council					
2023 Fishery-independent bottom longline survey of the mid-Atlantic golden tilefish stock	Pass-through	11.RD	Agreement signed 10/31/2022	-	31,009
Passed through Great Lakes Observing System					
Integrated Ocean Observing System (IOOS)	Pass-through	11.012	IOOS001/YR1-NBN-02	-	76,780
Integrated Ocean Observing System (IOOS)	Pass-through	11.012	IOOS098/YR3-HFR-03	-	49,088
Integrated Ocean Observing System (IOOS)	Pass-through	11.012	IOOS098/YR3-NCCOS-01	-	68,378
Integrated Ocean Observing System (IOOS)	Pass-through	11.012	IOOS098/yr3-WOB-01	-	20,053
Integrated Ocean Observing System (IOOS)	Pass-through	11.012	Project No. IOOS098/YR3-NBN-21	-	109,221
Integrated Ocean Observing System (IOOS)	Pass-through	11.012	IOOS001/YR2-WOB-02	-	15,857
Integrated Ocean Observing System (IOOS)	Pass-through	11.012	NA21NOS0120098/IOOS098/YR4-GLR	-	191,819
Passed through Regents of the University of Michigan					
Ocean Exploration	Pass-through	11.011	SUBK00014120	-	13,949
Adadromous Fish Conservation Act Program	Pass-through	11.405	SUBK00020060	-	27,127
Sea Grant Support	Pass-through	11.417	SUBK00020868	-	4,336
Sea Grant Support	Pass-through	11.417	SUBK00020867	-	485
Sea Grant Support	Pass-through	11.417	SUBK00012244	-	25,648
Sea Grant Support	Pass-through	11.417	SUBK00016477	-	120,780
National Oceanic and Atmospheric Administration (NOAA) Cooperative Institutes	Pass-through	11.432	SUBAWARD NO. SUBK00015597	-	(24,029)
National Oceanic and Atmospheric Administration (NOAA) Cooperative Institutes	Pass-through	11.432	SUBK00017652	-	30,016
National Oceanic and Atmospheric Administration (NOAA) Cooperative Institutes	Pass-through	11.432	SUBK00017717	-	17,654
National Oceanic and Atmospheric Administration (NOAA) Cooperative Institutes	Pass-through	11.432	SUBK00019365	-	153,693
National Oceanic and Atmospheric Administration (NOAA) Cooperative Institutes	Pass-through	11.432	SUBK00019366	-	300,121
National Oceanic and Atmospheric Administration (NOAA) Cooperative Institutes	Pass-through	11.432	SUBK00020064	-	28,310
National Oceanic and Atmospheric Administration (NOAA) Cooperative Institutes	Pass-through	11.432	SUBK00017907	-	108,558
Passed through Michigan Department of Environment, Great Lakes, and Energy					
Coastal Zone Management Administration Awards	Pass-through	11.419	2023-309-MTU	-	49,003
Coastal Zone Management Administration Awards	Pass-through	11.419	PROJECT #: 2023-309-TECHNICAL	-	23,030
Coastal Zone Management Administration Awards	Pass-through	11.419	Project #: 2024-309-Toolkit MT	-	27,835
Passed through Board of Supervisors of Louisiana State University					
Gulf Coast Ecosystem Restoration Science					
Observation, Monitoring, and Technology	Pass-through	11.451	SUBAWARD NO. PO-0000038194	-	39,112
Subtotal U.S. Department of Commerce - National Oceanic and Atmospheric Administration				-	1,562,044
Total U.S. Department of Commerce				-	1,822,807
U.S. Department of Defense - U.S. Air Force					
Dynamic Feature Sudoku for Target Nominations (Sudoku)	Direct	12.RD	FA875024CB074	-	86,741
Multi-Scale Fusion & Allocation for Heterogeneous Sensing (MSFAHS)	Direct	12.RD	FA8750-21-C-1003	-	87,166
Air Force Defense Research Sciences Program	Direct	12.800	FA9550-20-1-0434	-	171,554
Air Force Defense Research Sciences Program	Direct	12.800	FA9550-23-1-0623	-	26,044
Passed through Utah State University Research Foundation					
Auris nanosatellite development Phase B	Pass-through	12.RD	CP0072013	-	92,258
Passed through Booz-Allen-Hamilton					
RAZOR	Pass-through	12.RD	IDIQ SubcontractA33024/P111850	-	4,744
Passed through Research Associates of Syracuse, Inc					
Complex Emitter Behavioral Analysis Using Machine Learning	Pass-through	12.RD	MTU Agreement #2206019	-	16,066
Passed through MTRI Inc.					
Sub-Wavelength All Motions Information (SWAMI)	Pass-through	12.RD	MTU Agreement #2206023	-	34,485
Passed through Great Lakes Sound & Vibration Inc					
Launchable Mini Glider for Variable Payloads	Pass-through	12.RD	MTU Agreement #2303009	-	41,500
Passed through ERG Aerospace Corporation					
STTR Special Topic AFX20D-TCS01-Phase II	Pass-through	12.RD	MTU Agreement#24-0171;ERGP0#24	-	164,649
Passed through Lincoln Labs MIT					
MITLL Ice Experiments Field Support	Pass-through	12.RD	PO #7000570552	-	6,806
MITLL ICEX '24 Shakedown Field Support	Pass-through	12.RD	Purchase Order 7000597624	-	14,146

Schedule of Expenditures of Federal Awards

Year Ended June 30, 2024

Federal Agency/Pass-through Agency/Program Title	Direct/Pass-through	Assistance Listing Number	Grant ID / Pass-through Entity Identifying Number	Total Amount Provided to Subrecipients	Federal Expenditures
Research and Development Cluster (Continued)					
Passed through Soar Technology, Inc. Rapid Data and Sensor Fusion for Collaborative Automated Target Acquisition	Pass-through	12.RD	PO-0000181,FA86512- ID 10535	\$ -	\$ 8,433
Passed through Karax LLC Degradation-induced Performance Loss in composites: Modeling damage accumulation through concurrent Environmental and Mechanical loads	Pass-through	12.RD	Research Agreement	-	(69)
Passed through Innovative Scientific Solutions, Inc. Aerospace Propulsion Outreach Program: Thrust Reversal	Pass-through	12.RD	SB20297	-	10,979
Passed through Applied Research Solutions, Inc Fusion of Observation, Interence and Learning (FOIL)	Pass-through	12.RD	SUB CON NO. S00016/PO S00016	-	67,089
Passed through Information Systems Laboratories Cognitive Fully-Adaptive Radar (CoFAR) Scheduler	Pass-through	12.RD	Subcontract 10063; PO 2200011	-	139,962
Passed through Pennsylvania State University Air Force Defense Research Sciences Program	Pass-through	12.800	SUBAWARD NO. S001884-AFOSR	-	93,858
Subtotal U.S. Department of Defense - U.S. Air Force				-	1,066,411
U.S. Department of Defense - U.S. Army					
MAPS Integration	Direct	12.RD	MASTER W56HZV-19-C-0053	-	368,279
Fire Control Systems (FCS)	Direct	12.RD	W56HZV-19-C-0053	268,020	323,960
PDM HTV Winter Tire Testing	Direct	12.RD	W56HZV-19-C-0053	-	442,213
CASSINO	Direct	12.RD	W56HZV-19-C-0053 WD 018	-	529,686
Sensors for Adaptive Armor	Direct	12.RD	W56HZV-19-C-0053 WD 023	240,980	256,238
ONR PAM	Direct	12.RD	W56HZV-19-C-0053 WD 028	16,657	13,408
Wear Plate & Center Guide Testing	Direct	12.RD	W56HZV-19-C-0053 WD 034	-	2,101
Sensors for Adaptive Armor	Direct	12.RD	W56HZV-19-C-0053 WD 035	91,481	90,347
EHP Roller Software	Direct	12.RD	W56HZV-19-C-0053 WD 037	-	106,650
Stryker APU	Direct	12.RD	W56HZV-19-C-0053 WD 039	-	39,704
PDM HTV SUPPORT	Direct	12.RD	W56HZV-19-C-0053 WD 040	-	610,735
EHP Roller PCB	Direct	12.RD	W56HZV-19-C-0053 WD 041	-	99,441
CRREL Winter Testing	Direct	12.RD	W56HZV-19-C-0053 WD 042	-	13,927
M172A2 25T STLB RAM TEST	Direct	12.RD	W56HZV-19-C-0053 WD 043	-	608,458
Camera Integration	Direct	12.RD	W56HZV-19-C-0053 WD 044	-	50,921
Multi-Threat Radar Installations & Characterization (MTRIC)	Direct	12.RD	W56HZV-19-C-0053 WD 045	-	326,824
BRAVO	Direct	12.RD	W56HZV-19-C-0053 WD 046	158,376	219,066
Hephaestus's Chariot	Direct	12.RD	W56HZV-19-C-0053 WD 048	-	581,775
Systima	Direct	12.RD	W56HZV-19-C-0053 WD 049	220,567	269,082
Wear Plates & Center Guide Testing Phase 2	Direct	12.RD	W56HZV-19-C-0053 WD 051	-	7,434
Anti-Idle Kit Integration	Direct	12.RD	W56HZV-19-C-0053 WD 052	-	113,013
GVSP and PdM VPS Stardust	Direct	12.RD	W56HZV-19-C-0053 WD 053	161,153	241,354
Development of a Diesel Electric Hybrid HMMWV Demonstration Platform with Power Sharing	Direct	12.RD	W50RAJ2290011	406,657	929,460
SAR Signature Management	Direct	12.RD	W912HZ23C0022	-	141,239
Robotic Platform Soil and Terrain Characterization for Close to Real Time GO/NOGO Maps	Direct	12.RD	W9132T21C0016	-	40,829
OPFOR Hierarchical AI for Field Exercises and Training Estimation, Interpolation and Mapping of Soil Strength by Leveraging Pre-Existing Remotely Sensed Information	Direct	12.RD	W912CG-21-C-0016	-	196,679
Basic Scientific Research	Direct	12.RD	W9132T23C0027	47,293	124,278
Basic Scientific Research	Direct	12.431	W911NF-22-2-0066	-	100,077
Passed through University of Southern California Basic Scientific Research	Pass-through	12.431	W911NF-23-1-0312 SCON-00006154	-	20,571
Passed through National Center for the Advancement of STEM Education Basic Scientific Research	Pass-through	12.431	Grant #W15QKN-14-1-0001	-	71
ENTERPRISE: Real Time Strategy Game for Military Commanders Phase 2 and Investigation of VR/AR/XR Technology Applied with Eye and Hand Interaction	Pass-through	12.RD	Agreement # P0001/Grant W15QKN	-	3,714
ENTERPRISE: Robot Leader Follower Phase 3	Pass-through	12.RD	Contract # P0001/W15QKN-20-1-1	-	52
Passed through Fibertek DO 91, Detection and Classification Algorithm for UAV Radar	Pass-through	12.RD	AGREEMENT NO 821739018	-	(269)
DO 91, Detection and Classification Algorithm for UAV Radar	Pass-through	12.RD	Agreement No. 8237390801	-	23,031
Passed through DornierWorks seROS	Pass-through	12.RD	24-0300/PO#000 0000665	-	1,724
Passed through University of Alabama-Birmingham Independent Engineer Evaluation Test (EET)	Pass-through	12.RD	Confirming Order #24-0666-P000	-	50,321
Passed through HII Mission Technologies Buffalo Wiring Harness TDP and Prototype	Pass-through	12.RD	PO# P000049638	-	36,474
Passed through Helios Remote Sensing Systems Soldier-borne Radar Detector - Phase II	Pass-through	12.RD	Subcontract No. 1335-S01-HRSSI	-	121,538
Passed through Thermoanalytics Inc Congressional Add-Electrification 23	Pass-through	12.RD	TAI-24-0220B	-	198
Vehicle Testing Task 1	Pass-through	12.RD	W56HZV-24-C-0027	-	18,022
Passed through Stevens Institute of Technology Green Remediation of Per - and Polyfluoroalkyl Substances (PFAS) in Soil and Water	Pass-through	12.RD	2103453-01	-	11,409

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Federal Agency/Pass-through Agency/Program Title	Direct/Pass-through	Assistance Listing Number	Grant ID / Pass-through Entity Identifying Number	Total Amount Provided to Subrecipients	Federal Expenditures
Research and Development Cluster (Continued)					
Passed through SOSSEC, Incorporated Modeling and Algorithm Development for Adaptive Adversarial AI for Complex Autonomy	Pass-through	12.RD	ERDC-MECI-PLA-003	\$ -	\$ 150,333
Passed through Regents of the University of Michigan Research and Technology Development	Pass-through	12.910	SUBK00017449	-	49,164
Subtotal U.S. Department of Defense - U.S. Army				1,611,184	7,333,531
U.S. Department of Defense - U.S. Navy					
CR-02: Robust Algorithms for Complex Autonomous Robot Systems	Direct	12.RD	N00174-23-1-0003	-	133,368
Basic and Applied Scientific Research	Direct	12.300	N00173-24-2-C001	-	4,052
Basic and Applied Scientific Research	Direct	12.300	N00014-23-1-2209	-	787,936
Passed through Loukus Technologies, Inc. Optimized Feedstock Alloy Production for Light Alloy Additive Manufacturing	Pass-through	12.RD	#24-0781 / N00014-23-2-2000	-	6,151
Passed through LIFT Technology Michigan Tech Capabilities to Support LIFT's Hypersonic Thermal Research and Material Acceleration-Metallics	Pass-through	12.RD	LIFT Subaward Agreement C1006	-	19,391
Michigan Tech Capabilities to Support LIFT's Hypersonic Thermal Research and Material Acceleration - Metallics	Pass-through	12.RD	LIFT Subaward C2007 Phase 2	-	25,445
Passed through Advanced Technology & Research Corporation Machine Learning for Condition Based Maintenance	Pass-through	12.RD	103023-23-002 / 47QFCA2220030	-	63,570
Ship Vibration Mitigation for Additive Manufacturing Equipment: Phase 2	Pass-through	12.RD	ATR-22-S-103019-01	-	107,661
Passed through Stevens Institute of Technology ENTERPRISE: Dry Combat Submersible Smart Tow Cable	Pass-through	12.RD	210339-03/HQ003419D0003	-	5,000
Passed through GEOST, LLC Optical Direct Imaging (ODIN) Program Phase II	Pass-through	12.RD	Authorization to Proceed dated 2/22/24	-	20,560
Passed through MTRI Inc. Low Cost Electronic Warfare Training Unmanned System (LoCEWTUS)	Pass-through	12.RD	MTU AGMT 2306027	-	7,822
Passed through Applied Research in Acoustics LLC (ARIA) Redesign and Implementation of USDA Proxy Language-Phase II	Pass-through	12.RD	MTU#2102054	-	204,230
Passed through Soar Technology, Inc. Resilient Autonomous Subsystems for Unmanned Air Systems (UAS)	Pass-through	12.RD	SC-21-04-10487	-	9,389
Passed through Great Lakes Sound & Vibration, Inc. GLSV Deep Water Testing	Pass-through	12.RD	SERVICE ORDER 24-0594	-	5,502
Subtotal U.S. Department of Defense - U.S. Navy				-	1,400,077
U.S. Department of Defense - Defense Advance Research Project					
Statistical Mapping and Geological Information Console	Direct	12.RD	HR0011-23-9-0129	-	584,664
Self-expanding Knowledge Graph Clusters for Organizing Nodes of Economic Sanctions data (SCONES)	Direct	12.RD	HR0011-24-3-0328	-	50,193
Alert for Intervention using Timeseries EMergency Physiological Observations (AI-TEMPO)	Direct	12.RD	HR001124C0339	-	330,385
Research and Technology Development	Direct	12.910	HR0011-20-2-0033	724,170	2,575,313
Research and Technology Development	Direct	12.910	HR0011-24-2-0338	79,454	383,694
Research and Technology Development	Direct	12.910	HR0011-24-2-0341	-	9,223
Passed through US Department of Interior Research and Technology Development	Pass-through	12.910	1023-009 D23AP00224	-	91,594
Passed through Signature Research Inc Fiddler - Rapid SAR Signature Generation (RSSG)	Pass-through	12.RD	MTU Agreement #2204063	-	285,625
Passed through Teledyne Scientific Company LLC DARPA POWER Program	Pass-through	12.RD	PO00178362;PRIME HR00112390065	-	115,588
Passed through BAE Systems Toadstool	Pass-through	12.RD	SUB#1179564 HR001123C0005	-	222,525
Passed through Leidos, Inc. Providence TA-2	Pass-through	12.RD	Subcontract No. P010244078	-	255,019
Passed through Northrup Grumman Systems Corporation Rapid Experimental Missionized Autonomy (REMA) Technical Area 2	Pass-through	12.RD	UCA PO 5300067483	-	454,313
Subtotal U.S. Department of Defense - Defense Advance Research Project				803,624	5,358,136
U.S. Department of Defense - Defense Threat Reduction					
Passed through MTRI Inc. TARgeting Distributed Sensors for Situational Surveillance (TARDIS3)	Pass-through	12.RD	MTU Agreement #2209070	-	53,062
Passed through Applied Research in Acoustics LLC (ARIA) Generative Modeling of Multispectral Satellite Imagery - STTR Phase 1	Pass-through	12.RD	MTU Agreement 2303030	-	60,006
Passed through Etegent Technologies Ltd Synthetic Aperture Radar (SAR) Image Generation Data Augmentation (SIGDA)	Pass-through	12.RD	Subcontract ETE. 120028.00	-	86,989
Subtotal U.S. Department of Defense - Defense Threat Reduction				-	200,057
U.S. Department of Defense					
Passed through Stevens Institute of Technology ENTERPRISE: Dry Combat Submersible Atmospheric Monitoring, Conditioning, and Purification	Pass-through	12.RD	2102140-02 Prime HQ003419D0003	-	1,403

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Federal Agency/Pass-through Agency/Program Title	Direct/Pass-through	Assistance Listing Number	Grant ID / Pass-through Entity Identifying Number	Total Amount Provided to Subrecipients	Federal Expenditures
Research and Development Cluster (Continued)					
Passed through Stevens Institute of Technology					
ENTERPRISE: Dry Combat Submersible Atmospheric Monitoring, Conditioning, and Purification Phase 2	Pass-through	12.RD	2103339-02/HQ003419D0003	\$ -	\$ 2,145
Body Mounted Sensors	Pass-through	12.RD	2103492-06	-	10,000
Student Design: USASOC 03 Drone Video to Cell Tower	Pass-through	12.RD	Subcontract # 2103339-21/Prime	-	37
ENTERPRISE: 2019 AFRL 01 Cooling Aid for Maintainers in Protective Gear	Pass-through	12.RD	Subcontract #2102964-01	-	718
Enterprise: NSWG 801 Electronic Operations Manual for Submersible Maritime Platform (Everything Tablet)	Pass-through	12.RD	Subcontract 210339-19/HQ003419	-	4,574
Enterprise: NSWG 802 Computer-Based Electrical Simulator for Submersible Maritime Platform	Pass-through	12.RD	Subcontract 210339-20/Prime HQ	-	7,340
Passed through Leidos, Inc.					
Ridgeback TO3	Pass-through	12.RD	Subcontract No. P010316615	-	64,698
IVY	Pass-through	12.RD	P010252458; PRIME 21-C-2001	-	381,630
Cardinal	Pass-through	12.RD	P010279506; Prime 22-C-8317	-	173,722
Ridgeback TO2	Pass-through	12.RD	PO10278283	-	141,669
Impaler	Pass-through	12.RD	PO10280109 MOD 009	-	492,524
Highgarden	Pass-through	12.RD	Leidos P010276396/Prime 22-C-8	-	140,930
SPARTA	Pass-through	12.RD	Subcontract No:P010276452	-	2,298,879
Passed through Manufacturing x Digital					
An OT Cybersecurity Web Portal for Small-to-Medium Manufacturers	Pass-through	12.RD	Award Agreement 22-12-01	47,982	252,617
Passed through LIFT Technology					
Machining Samples	Pass-through	12.RD	MTU SO 2211033;PO 2022-378;Pri	-	4,030
Processing and Analyses	Pass-through	12.RD	Task Order #24-0840	-	2,363
Passed through Signature Research Inc					
SRI Sept '23 Test Course Project	Pass-through	12.RD	MTU TCL & SRI PO 01-439-05M1	-	2,891
SRI 6/5/23 Test Course Project	Pass-through	12.RD	MTU Test Course License	-	93
Passed through Soar Technology, Inc.					
Localization through Optimized Coordination of Unmanned Sensor Teams for RAIDER (LOCUST-R)	Pass-through	12.RD	SC-21-009-10494	-	45,772
RL-ICE PHII Expansion	Pass-through	12.RD	SOARTECH #PO-0000211; ID#10543	-	193,393
Passed through Superior Sustainable Solutions					
Field testing of prototype engineered hardwood lumber of northern species for trailer decking applications (2402)	Pass-through	12.RD	Service Order #24-0783-P0001	-	25,334
Subtotal U.S. Department of Defense				47,982	4,246,762
U.S. Department of Defense - Missile Defense					
Passed through Applied Research in Acoustics LLC (ARIA)					
Phase II STTR: MDA20-T002 Non-Real-Time Hardware-Assisted Computer-System Simulation	Pass-through	12.RD	MTU Agreement #2112046	-	291,949
U.S. Department of Defense - National Reconnaissance Office					
Algorithms for De-aliasing Multi-aperture SAR (ADAMS)	Direct	12.RD	NRO000-24-C-0020	-	190,609
Total U.S. Department of Defense				2,462,790	20,087,532
U.S. Department of Housing and Urban Development					
Healthy Homes Technical Studies Grants	Direct	14.906	MILTS0023-21	146,267	221,005
U.S. Department of Interior					
Passed through Keweenaw Bay Indian Community					
Study on Stream Temperature Controls at Menge Creek, Falls River, and Silver River Catchments	Pass-through	15.RD	Tier II Services Agreement	-	12,309
Assessment of risk from cumulative toxicity of chemical contaminants in Lake Superior fish to Keweenaw Bay Indian Community	Pass-through	15.RD	SERVICES AGREEMENT#2102002	-	(696)
Passed through Navajo Technical University					
Science and Technology Projects Related to Coal Mining and Reclamation	Pass-through	15.255	NTU-32351-21	-	1,267
Subtotal U.S. Department of Interior				-	12,880
U.S. Department of Interior - Bureau of Indian Affairs					
Cooperative Mining and Reclamation	Direct	15.156	A19AC00030	-	5,838
Passed through Keweenaw Bay Indian Community					
Climate Resiliency Plan and amendment of the Integrated Resource Management Plan	Pass-through	15.RD	KBIC SERVICES AGRMNT #2101026	-	12,210
Extent of PFAS Contamination in the Lake Superior Tribal Fishery	Pass-through	15.RD	Services Agreement for 23-0115	-	34,951
Shallow Groundwater Quality Monitoring and Analysis in the Keweenaw Bay Indian Community, Baraga County, Michigan	Pass-through	15.RD	TIER I AGREEMENT	-	9,915
Subtotal U.S. Department of Interior - Bureau of Indian Affairs				-	62,914
U.S. Department of Interior - Fish & Wildlife Service					
National Wildlife Refuge System Enhancements	Direct	15.654	F24AC00395-00	-	6,654
Cooperative Landscape Conservation	Direct	15.669	F20AC11140-00	-	53,540
White-nose Syndrome National Response Implementation	Direct	15.684	F24AP00985	-	7,542
Passed through Michigan Department of Natural Resources					
Wildlife Restoration and Basic Hunter Education	Pass-through	15.611	MOA_MTU_CKMR	-	3,224

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Federal Agency/Pass-through Agency/Program Title	Direct/Pass-through	Assistance Listing Number	Grant ID / Pass-through Entity Identifying Number	Total Amount Provided to Subrecipients	Federal Expenditures
Research and Development Cluster (Continued)					
Passed through Great Lakes Commission					
Great Lakes Restoration	Pass-through	15.662	Project #4124-01	\$ -	\$ 21,149
Subtotal U.S. Department of Interior - Fish & Wildlife Service				-	92,109
U.S. Department of Interior - U.S. Geological Survey					
U.S. Geological Survey Research and Data Collection	Direct	15.808	G21AC10141-00	-	27,251
U.S. Geological Survey Research and Data Collection	Direct	15.808	G21AC10745-04	77,529	277,894
U.S. Geological Survey Research and Data Collection	Direct	15.808	G22AC00436-00	53,193	690,282
U.S. Geological Survey Research and Data Collection	Direct	15.808	G23AC00236-00	-	846
Passed through Western Michigan University					
Earth Mapping Resources Initiative	Pass-through	15.073	SUBAWARD NO. 11469 G23AC00096	-	57,250
National Cooperative Geologic Mapping	Pass-through	15.810	G23AC00285 / SUB 11576-MTU	-	5,867
Passed through AmericaView					
National Land Remote Sensing Education Outreach and Research	Pass-through	15.815	AV18-MI-01	-	7,168
National Land Remote Sensing Education Outreach and Research	Pass-through	15.815	AV23-MI-01	-	18,375
Subtotal U.S. Department of Interior - U.S. Geological Survey				130,722	1,084,933
U.S. Department of Interior - National Park Service					
Monitoring Genetic Health of Isle Royale Wolves	Direct	15.RD	MTU CO #1909093P3	-	12,413
Cooperative Research and Training Programs – Resources of the National Park System	Direct	15.945	P19AC00286	-	14,464
Cooperative Research and Training Programs – Resources of the National Park System	Direct	15.945	P20AC00377	-	11,567
Cooperative Research and Training Programs – Resources of the National Park System	Direct	15.945	P21AC11836-01	-	20,002
Cooperative Research and Training Programs – Resources of the National Park System	Direct	15.945	P22AC00193-01	-	57,174
Cooperative Research and Training Programs – Resources of the National Park System	Direct	15.945	P24AC00220-00	-	1,340
Passed through Grand Portage Band of Lake Superior Chippewa					
Long-term water quality conditions in sentinel streams at Isle Royale National Park and Grand Portage National Monument	Pass-through	15.RD	Confirming Order #2207015	-	72,989
Long-term water quality conditions in sentinel streams at Isle Royale National Park and Grand Portage National Monument	Pass-through	15.RD	Confirming Order #2207015P2	-	3,806
Subtotal U.S. Department of Interior - National Park Service				-	193,755
Total U.S. Department of Interior				130,722	1,446,591
U.S. Department of Transportation					
Passed through Genex Systems					
Real-Time Monitoring and Modeling of Scour - Phase II	Pass-through	20.RD	469-SBIRDOPH2-20FH3-1	-	18,448
U.S. Department of Transportation - Federal Aviation					
Passed through Iowa State University					
Comprehensive Analysis and Technical Standards on the Use of a Small Unmanned Aircraft System (sUAS) for Pavement Inspection	Pass-through	20.RD	24-C-GA-ISU / 028271B	-	1,286
Small Unmanned Aircraft System (sUAS) for Pavement Inspection	Pass-through	20.RD	Award # 023139B	-	4,774
Subtotal U.S. Department of Transportation - Federal Aviation				-	6,060
U.S. Department of Transportation - Federal Highway					
Autonomous Winter Road Maintenance Decision Making Enabled by Boosting Existing Transportation Data Infrastructure with Deep and Reinforcement Learning	Direct	20.RD	693JJ320C000022	-	18,476
Passed through Minnesota Dept of Transportation					
Highway Planning and Construction	Pass-through	20.205	Contract No 1036337	-	71,000
Highway Planning and Construction	Pass-through	20.205	Contract No 1036337, WO No. 5	-	881
Passed through Michigan Dept of Transportation					
Metropolitan Transportation Planning and State and Non-Metropolitan Planning and Research	Pass-through	20.505	2022-0432, Authorization Z2	-	70,700
Metropolitan Transportation Planning and State and Non-Metropolitan Planning and Research	Pass-through	20.505	Contract No. 2019-0311 Auth Z3	-	162,632
Subtotal U.S. Department of Transportation - Federal Highway				-	323,689
U.S. Department of Transportation - Federal Railroad					
An Integrated and Automated Decision Support System for Ground Hazard Risk Mitigation for Railway using Remote Sensing and Traditional Condition Monitoring Data	Direct	20.RD	693JJ631C000004	42,371	114,655
Wire Arc Additive Manufacturing (WAAM) for Weld Enhanced Cast Steel Coupler Knuckles	Direct	20.RD	Contract No. 693JJ622C000001	-	196,766
Expanding Summer Youth Programs in Rail through Virtual Learning and a National Campus Network	Direct	20.RD	693JJ621C000014	58,539	141,188
A Risk Informed Decision-making Framework for Coastal Railroad System Subjected to Storm Hazards and Sea Level Rise	Direct	20.RD	693JJ622C000006	29,669	118,545
Railroad Track Maintenance Life-Cycle Assessment (LCA) Development; Framework, Data, Tools, and Implications for Multi-Modal Transport Decisions	Direct	20.RD	693JJ622C000005	24,093	138,888
Passed through American Short Line and Regional Railroad Association					
Evaluation of Non-Traditional Methods of Reducing Emission in Short Line Railroad Operations	Pass-through	20.RD	MTU Agreement #2110003	-	50,338

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Research and Development Cluster (Continued)					
Passed through American ENSCO, Inc					
C-V2X Train Arrival and Departure Information Provision at Active and Passive Grade Crossings - Performance Assessment	Pass-through	20.RD	#G27494-4100 / 693JU621D000001	\$ -	\$ 170,879
Drone Based Grade Crossing Inspection	Pass-through	20.RD	Subcontract #G27465-4000	-	46,641
Passed through University of Texas at Austin					
Guidebook for Railway-themed K-12 STEM Distance Learning Activities	Pass-through	20.RD	SUB00001189 / 693JU623C000007	-	15,654
Passed through Virginia Polytechnic Institute and State University					
Multi-Site Simulation to Examine Driver Behavior Impact of Integrated Rail Crossing Violation Warning (RCVW) and In-Vehicle Auditory/Visual Alert (IVAA) System	Pass-through	20.RD	451790-19959	-	102,277
Subtotal U.S. Department of Transportation - Federal Railroad				154,672	1,095,831
U.S. Department of Transportation - National Highway Traffic Safety					
Passed through The American Center for Mobility					
Automatic Shut-Off Study on Vehicles Equipped with Keyless Start	Pass-through	20.RD	2022ACM000001	-	156,932
Passed through Regents of the University of Michigan					
Development of Test Methods for Vehicle Localization Systems	Pass-through	20.RD	SUBK00017584/PO#3007245525	-	43,808
Subtotal U.S. Department of Transportation - National Highway Traffic Safety				-	200,740
Total U.S. Department of Transportation				154,672	1,644,768
National Aeronautics and Space Administration					
Exploring CV19 Impacts on Great Lakes Water Quality	Direct	43.RD	80NSSC20P2097	-	9,594
Molecular Modeling of Shrinkage, Strength, and Permeability in Thermoplastic Composites	Direct	43.RD	80NSSC24PA420	-	17,089
Science	Direct	43.001	80NSSC20M022	28,687	76,576
Science	Direct	43.001	80NSSC17K0287	-	10,580
Science	Direct	43.001	80NSSC19K0771	-	36,886
Science	Direct	43.001	80NSSC20K0679	-	26,913
Science	Direct	43.001	80NSSC20K0983	-	96,122
Science	Direct	43.001	80NSSC20K1480	-	34,343
Science	Direct	43.001	80NSSC20K1773	124,022	129,735
Science	Direct	43.001	80NSSC21K0174	-	4,406
Science	Direct	43.001	80NSSC21K1162	-	1,297
Science	Direct	43.001	80NSSC22K0504	-	15,281
Science	Direct	43.001	80NSSC22K1234	7,149	182,163
Science	Direct	43.001	80NSSC22K1248	-	245,790
Science	Direct	43.001	80NSSC22K1665	-	68,047
Science	Direct	43.001	80NSSC22K1716	-	81,320
Science	Direct	43.001	80NSSC23K0720	-	95,468
Science	Direct	43.001	80NSSC23K1263	35,133	89,759
Science	Direct	43.001	80NSSC23K1540	-	48,651
Science	Direct	43.001	80NSSC24K0193	-	62,123
Science	Direct	43.001	80NSSC24K0299	29,967	145,626
Science	Direct	43.001	80NSSC24K0375	-	38,080
Science	Direct	43.001	80NSSC24K0833	-	4,529
Aeronautics	Direct	43.002	80NSSC24K0232	-	21,827
Space Technology	Direct	43.012	80NSSC21K0769	28,097	259,733
Space Technology	Direct	43.012	NNX17AJ32G	1,233,296	1,781,514
Passed through MTRI Inc.					
Tool for Autonomous Terrain Exploration of Remote Spaces	Pass-through	43.RD	Agreement #2203011	-	34,683
Tool for Autonomous Terrain Exploration of Remote Spaces (TATERS)	Pass-through	43.RD	MTU Agreement 23-1072	-	86,545
Passed through Cleveland State University					
CSU Science Vessel Support	Pass-through	43.RD	MTU Service Order #2207026	-	209
CSU Science Vessel Support	Pass-through	43.RD	MTUSO#2207026:CSUPO#1000179727	-	2,034
Passed through SpaceFactory Inc.					
Regolith Overburden Structures on the Moon: Design and ConOps for Emplaced Protection	Pass-through	43.RD	NASA Prime award 80NSSC23PB578	-	5,876
Passed through University of Maryland Baltimore County					
Cloud composition from the analysis of sun glints off horizontally oriented ice crystals	Pass-through	43.RD	NASA0123-01	-	8,507
Passed through Lunar Outpost					
Design and Implementation Tools for Lunar Surface Regolith Structure Construction	Pass-through	43.RD	SUB_MTU-LO_NASASTTRPHI	-	10,160
Design and Implementation Tools for Lunar Surface Regolith Structure Construction	Pass-through	43.RD	SUB_MTU-LO_NASASTTRPHI-1Mar24	-	23,778
Passed through Jet Propulsion Laboratory					
SMAPEX21 Planning and Vegetation Sampling Supplement	Pass-through	43.RD	Subcontract No. 1662109	-	49,702
Science	Pass-through	43.001	1696031	-	44,460
Passed through Purdue University					
Science	Pass-through	43.001	Subaward No. 12000414-017	-	40,281
Passed through Grand Valley State University					
Science	Pass-through	43.001	Subaward No. 214005-MTU-01	-	70,139
Passed through University of Miami					
Science	Pass-through	43.001	80NSSC23K0939 / OS00001395	-	50,519

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Research and Development Cluster (Continued)					
Passed through University of Massachusetts - Lowell					
Aeronautics	Pass-through	43.002	SUBAWARD #S5200000048362	\$ -	\$ 45,510
Passed through University of Central Florida					
Exploration	Pass-through	43.003	GR102569 80NSSC19M214	-	33,415
Passed through Texas State University					
Education	Pass-through	43.008	22008-83824-2	-	29,319
Passed through University of Michigan					
Education	Pass-through	43.008	SUBK00011994	-	9,789
Education	Pass-through	43.008	SUBK00017416	-	5,000
Passed through Colorado School of Mines					
Space Technology	Pass-through	43.012	402157-5802 80NSSC22K0739	-	176,128
Total National Aeronautics and Space Administration				1,486,351	4,309,506
National Endowment for the Humanities					
Passed through Wayne State University					
Promotion of the Humanities Division of Preservation and Access	Pass-through	45.149	Subaward No. WSU22120	-	6,359
National Science Foundation					
Intergovernmental Personnel Act Assignment for Jacqueline Huntoon					
- Year 1 of up to 4 Total Years	Direct	47.RD	2233713	-	263,139
Engineering Grants	Direct	47.041	1639342	56,806	116,950
Engineering Grants	Direct	47.041	1846795	-	71,779
Engineering Grants	Direct	47.041	1920013	-	27,501
Engineering Grants	Direct	47.041	2015919	-	136
Engineering Grants	Direct	47.041	2024970	-	19,309
Engineering Grants	Direct	47.041	2025449	-	39,888
Engineering Grants	Direct	47.041	2050739	-	70,285
Engineering Grants	Direct	47.041	2119019	-	213,418
Engineering Grants	Direct	47.041	2129093	-	1,942
Engineering Grants	Direct	47.041	2138522	-	55,197
Engineering Grants	Direct	47.041	2138523	-	141,973
Engineering Grants	Direct	47.041	2212324	-	147,617
Engineering Grants	Direct	47.041	2220856	-	(136)
Engineering Grants	Direct	47.041	2224418	-	21,582
Engineering Grants	Direct	47.041	2239080	-	31,463
Engineering Grants	Direct	47.041	2301580	-	144,344
Engineering Grants	Direct	47.041	2301589	-	27,133
Engineering Grants	Direct	47.041	2301649	-	28,716
Engineering Grants	Direct	47.041	2301776	-	42,682
Engineering Grants	Direct	47.041	2327965	-	85,379
Mathematical and Physical Sciences	Direct	47.049	1914549	-	33,105
Mathematical and Physical Sciences	Direct	47.049	1944211	-	69,742
Mathematical and Physical Sciences	Direct	47.049	1954041	-	121,238
Mathematical and Physical Sciences	Direct	47.049	2001076	-	27,464
Mathematical and Physical Sciences	Direct	47.049	2012944	230,576	323,914
Mathematical and Physical Sciences	Direct	47.049	2108316	-	35,547
Mathematical and Physical Sciences	Direct	47.049	2111359	-	68,057
Mathematical and Physical Sciences	Direct	47.049	2118693	-	129,597
Mathematical and Physical Sciences	Direct	47.049	2203630	-	163,200
Mathematical and Physical Sciences	Direct	47.049	2209533	-	130,541
Mathematical and Physical Sciences	Direct	47.049	2310013	32,491	85,410
Geosciences	Direct	47.050	1743370	-	16,105
Geosciences	Direct	47.050	1828866	-	39,226
Geosciences	Direct	47.050	1914526	-	48,138
Geosciences	Direct	47.050	2019649	-	55,622
Geosciences	Direct	47.050	2021768	-	68,833
Geosciences	Direct	47.050	2113060	-	372,404
Geosciences	Direct	47.050	2133229	783,150	1,143,409
Geosciences	Direct	47.050	2136139	-	136,878
Geosciences	Direct	47.050	2217182	-	151,473
Geosciences	Direct	47.050	2218518	-	159,845
Geosciences	Direct	47.050	2220556	-	1,706
Geosciences	Direct	47.050	2221730	-	113,347
Geosciences	Direct	47.050	2232216	-	14,355
Geosciences	Direct	47.050	2235515	-	154,665
Geosciences	Direct	47.050	2343844	-	34,671
Geosciences	Direct	47.050	2130739	-	78,655
Computer and Information Science and Engineering	Direct	47.070	1750193	-	103,993
Computer and Information Science and Engineering	Direct	47.070	1901005	-	84,873
Computer and Information Science and Engineering	Direct	47.070	1909089	-	66,555
Computer and Information Science and Engineering	Direct	47.070	1909248	-	58,869

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Federal Agency/Pass-through Agency/Program Title	Direct/Pass-through	Assistance Listing Number	Grant ID / Pass-through Entity Identifying Number	Total Amount Provided to Subrecipients	Federal Expenditures
Research and Development Cluster (Continued)					
Computer and Information Science and Engineering	Direct	47.070	1928349	\$ -	\$ 6,495
Computer and Information Science and Engineering	Direct	47.070	2106754	-	5,265
Computer and Information Science and Engineering	Direct	47.070	2133279	141,556	214,737
Computer and Information Science and Engineering	Direct	47.070	2151238	-	11,908
Computer and Information Science and Engineering	Direct	47.070	2153381	-	5,125
Computer and Information Science and Engineering	Direct	47.070	2153393	-	16,902
Computer and Information Science and Engineering	Direct	47.070	2203278	-	97,058
Computer and Information Science and Engineering	Direct	47.070	2210356	-	21,280
Computer and Information Science and Engineering	Direct	47.070	2211353	-	120,121
Computer and Information Science and Engineering	Direct	47.070	2221741	-	9,726
Computer and Information Science and Engineering	Direct	47.070	2225424	-	144,815
Computer and Information Science and Engineering	Direct	47.070	2245670	30,950	116,391
Computer and Information Science and Engineering	Direct	47.070	2245712	-	47,239
Computer and Information Science and Engineering	Direct	47.070	2330018	-	8,000
Biological Sciences	Direct	47.074	1754603	-	286
Biological Sciences	Direct	47.074	1939399	-	90,990
Biological Sciences	Direct	47.074	1941309	-	144,435
Biological Sciences	Direct	47.074	2011257	-	55,390
Biological Sciences	Direct	47.074	2031076	2,298	109,257
Biological Sciences	Direct	47.074	2141535	-	125,383
Biological Sciences	Direct	47.074	2238540	-	213,214
Biological Sciences	Direct	47.074	2306887	-	35,879
Biological Sciences	Direct	47.074	2307284	-	1,094
Biological Sciences	Direct	47.074	2311046	-	18,900
Social, Behavioral, and Economic Sciences	Direct	47.075	1921911	-	386
Social, Behavioral, and Economic Sciences	Direct	47.075	2009258	-	128,680
Social, Behavioral, and Economic Sciences	Direct	47.075	2121875	55,534	99,784
Social, Behavioral, and Economic Sciences	Direct	47.075	2122034	-	67,427
STEM Education (formerly Education and Human Resources)	Direct	47.076	1720566	-	1,944
STEM Education (formerly Education and Human Resources)	Direct	47.076	1760585	-	119,378
STEM Education (formerly Education and Human Resources)	Direct	47.076	1935932	-	13,194
STEM Education (formerly Education and Human Resources)	Direct	47.076	1954908	-	97,220
STEM Education (formerly Education and Human Resources)	Direct	47.076	2142309	-	208,335
STEM Education (formerly Education and Human Resources)	Direct	47.076	2244403	-	42,514
STEM Education (formerly Education and Human Resources)	Direct	47.076	2247492	-	39,304
STEM Education (formerly Education and Human Resources)	Direct	47.076	2322530	-	58,827
STEM Education (formerly Education and Human Resources)	Direct	47.076	1742286	-	165,438
STEM Education (formerly Education and Human Resources)	Direct	47.076	1758392	6,069	296,087
STEM Education (formerly Education and Human Resources)	Direct	47.076	2043022	-	942,771
STEM Education (formerly Education and Human Resources)	Direct	47.076	2034833	-	94,667
Office of International Science and Engineering	Direct	47.079	1855690	-	89,872
Office of International Science and Engineering	Direct	47.079	2103105	-	32,916
Office of International Science and Engineering	Direct	47.079	2311700	-	11,628
Integrative Activities	Direct	47.083	1934346	-	98,986
NSF Technology, Innovation, and Partnerships	Direct	47.084	2234450	46,797	327,016
NSF Technology, Innovation, and Partnerships	Direct	47.084	2322532	-	92,756
NSF Technology, Innovation, and Partnerships	Direct	47.084	2337267	-	31,630
NSF Technology, Innovation, and Partnerships	Direct	47.084	2329746	-	127,773
NSF Technology, Innovation, and Partnerships	Direct	47.084	2236064	-	5,186
Passed through Aren Incorporated					
Automating Element-Level Inspection of Civil Infrastructures through Computer Vision	Pass-through	47.RD	MTU Agreement #2211036	-	8,483
Passed through Stabilix Biosciences Inc.					
Engineering	Pass-through	47.041	MICHIGAN TECH AGMT #1702043	-	8,725
Passed through University of Michigan					
Engineering	Pass-through	47.041	SUBK00015030	-	9,951
Engineering	Pass-through	47.041	SUBK00012982	-	69,100
Passed through University of Washington					
Engineering	Pass-through	47.041	PO#0100034672 / UWSC14054 /	-	53,805
Passed through Consortium of Universities for the Advancement of Hydrologic Geosciences					
Geosciences	Pass-through	47.050	2023 PATHFINDER / EAR-1849458	-	2,549
Passed through Utah State University Sponsored Programs					
Geosciences	Pass-through	47.050	202743-811	-	92,116
Passed through University of Notre Dame					
Geosciences	Pass-through	47.050	204598MTU	-	28,170
Passed through Pennsylvania State University					
Geosciences	Pass-through	47.050	S000075-NSF	-	18,950
Passed through Clemson University					
Computer and Information Science and Engineering	Pass-through	47.070	2426318 / 2715-206-2016946	-	955
Passed through Kansas State University					
Biological Sciences	Pass-through	47.074	S19023	-	5,644

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Federal Agency/Pass-through Agency/Program Title	Direct/Pass-through	Assistance Listing Number	Grant ID / Pass-through Entity Identifying Number	Total Amount Provided to Subrecipients	Federal Expenditures
Research and Development Cluster (Continued)					
Passed through Baylor University					
Biological Sciences	Pass-through	47.074	#1001076-01	\$ -	\$ 104,946
Passed through Colorado State University					
Biological Sciences	Pass-through	47.074	G-45144-02	-	10,634
Passed through Florida International University					
STEM Education (formerly Education and Human Resources)	Pass-through	47.076	800010570-01UG	-	12,476
Passed through University of Virginia					
STEM Education (formerly Education and Human Resources)	Pass-through	47.076	GR012078.SUB00000225/1850296	-	55,694
Passed through San Diego State University Research Foundation					
STEM Education (formerly Education and Human Resources)	Pass-through	47.076	SA0000699	-	165,081
Passed through Northern Virginia Community College					
STEM Education (formerly Education and Human Resources)	Pass-through	47.076	SUBAWARD NO. 2122-SPL-002	-	29,286
Passed through University of Florida					
STEM Education (formerly Education and Human Resources)	Pass-through	47.076	SUB00003153	-	6,694
NSF Technology, Innovation, and Partnerships	Pass-through	47.084	SUB00003604	-	36,926
Total National Science Foundation				1,386,227	11,175,528
Environmental Protection Agency					
Passed through Michigan Department of Environment, Great Lakes, and Energy					
Geographic Programs - Great Lakes Program	Pass-through	66.469	2023-2502	-	31,669
Science To Achieve Results (STAR) Research Program	Direct	66.509	84056401	34,348	277,481
Innovative Water Technology Grant Program	Direct	66.521	84046901	-	218,807
Total Environmental Protection Agency				34,348	527,957
U.S. Department of Energy					
Office of Science Financial Assistance Program	Direct	81.049	DE-SC0020053	-	3,724
Office of Science Financial Assistance Program	Direct	81.049	DE-SC0021168	14,498	164,210
Office of Science Financial Assistance Program	Direct	81.049	DE-SC0022095	101,021	277,425
Office of Science Financial Assistance Program	Direct	81.049	DE-SC0022128	-	95,196
Office of Science Financial Assistance Program	Direct	81.049	DE-SC0024446	16,965	114,569
University Coal Research	Direct	81.057	DE-FE0032071	23,907	115,606
University Coal Research	Direct	81.057	DE-FE0032236	-	181,231
Conservation Research and Development	Direct	81.086	DE-EE0008800	-	750,637
Conservation Research and Development	Direct	81.086	DE-EE0009122	64,084	113,590
Conservation Research and Development	Direct	81.086	DE-EE0009209	112,184	107,273
Conservation Research and Development	Direct	81.086	DE-EE0010604	7,154	23,143
Conservation Research and Development	Direct	81.086	DE-EE0010398	144,867	779,880
Renewable Energy Research and Development	Direct	81.087	DE-EE0010294	-	102,241
Advanced Research Projects Agency - Energy	Direct	81.135	DE-AR0000788	41,950	696,250
Advanced Research Projects Agency - Energy	Direct	81.135	DE-AR0001336	-	97,685
Advanced Research Projects Agency - Energy	Direct	81.135	DE-AR0001702	196,582	763,460
Advanced Research Projects Agency - Energy	Direct	81.135	DE-AR0001781	-	130,730
Passed through Argonne National Laboratory					
COMPASS GLM	Pass-through	81.RD	1F-60486	-	76,140
Investigation to Separate Lithium-ion Battery Active Cathode Materials by Chemistry Using Froth Flotation	Pass-through	81.RD	Subcontract No. 9F-60080	-	113
Alternative Fuels Research with Argonne National Laboratory	Pass-through	81.RD	9F-60098	-	102,296
Pengfei Xue Joint Appointment Argonne National Labs	Pass-through	81.RD	Pengfei Xue Joint Appointment	-	105,211
Li-ion Battery Recycling	Pass-through	81.RD	Subcontract No. 3F-60135	-	121,000
Influences of Future Tropical and Extratropical Storms on Wind Energy over the Eastern US and Offshore	Pass-through	81.RD	3F-60070	-	156,943
Passed through National Renewable Energy Laboratory					
A Compression Ignition Mono-Fueled NG High-Efficiency, High-Output Engine for Medium and Heavy Duty Applications	Pass-through	81.RD	NHQ-9-82305-06	-	74,374
Harnessing perforated heave plates to improve the efficiency of two-body WECs	Pass-through	81.RD	SUB-2023-10513	-	42,520
Passed through Battelle Memorial Institute					
Reduced Cost and Complexity for Off-Highway Aftertreatment	Pass-through	81.RD	Contract No. 554645	-	221,655
Passed through Battelle Energy Alliance, LLC					
Solvent Targeted Recovery and Precipitation (STRAP) For Plastic Removal from Municipal Solid Waste (MSW)	Pass-through	81.RD	271754	-	83,463
Passed through Consolidated Nuclear Security, LLC					
Student Design: Can Sealer	Pass-through	81.RD	Subcontract 4300179095	-	21,972
Passed through Faraday Technology Inc.					
MTU Support for DOE SBIR Phase 2b Project "Electro-dewatering of Cellulosic Nanomaterials"	Pass-through	81.RD	SC-40-02091-401034-46	-	15,331
Passed through General Motors LLC					
Low Mass and High Efficiency Engine for Medium-Duty Truck Applications	Pass-through	81.RD	PO#4301052432	-	18,897
Passed through Honeywell Federal Manufacturing & Technologies, LLC:					
Simulation Methods for Optimal Fixture Design and Prediction	Pass-through	81.RD	Purchase Order N000469903	-	123,760
Simulation Methods for Optimal Fixture Design and Prediction	Pass-through	81.RD	Purchase order N000516128	-	54,988

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Research and Development Cluster (Continued)					
Passed through Lawrence Livermore National Security LLC Systematic Approaches to Construct Coarse-Grid Operators for Multigrid Reduction in Time	Pass-through	81.RD	B663005	\$ -	\$ 45,000
Theoretical Support for Gas-Gun Experiments: Towards Suppression of Shockwave Instabilities and Jetting	Pass-through	81.RD	Subcontract No. B656313	-	50,931
Passed through Consolidated Nuclear Security, LLC Enterprise: Information Technology Capstone Project	Pass-through	81.RD	Subcontract # C4002	-	16,387
Optimization of Metal Manufacturing	Pass-through	81.RD	Subcontract No. C3938	-	77,287
Development of High Strength High Toughness Materials for Impulsively Loaded Pressure Vessels	Pass-through	81.RD	Subcontract No. C4472	-	10,775
Passed through QuesTek Innovations LLC Melt Spinning	Pass-through	81.RD	MTU SO 2302070	-	380
Passed through RiKarbon, Inc. Decarbonized Bio-based 2-Methylfuran Manufacturing in America for Sustainable Domestic Bio-Economy	Pass-through	81.RD	MTU Agreement 2302046	-	34,909
Passed through UT-Battelle, LLC Control of Li Surfaces for Solid-State Batteries	Pass-through	81.RD	Subcontract No. CW34152	-	35
Passed through Toyon Research Corporation Scatterometry and Wind Speed Estimation (COSAS)-Phase 2	Pass-through	81.RD	Subcontract No. SC24F414-2-P10	-	31,599
Passed through Sandia National Laboratories Meta-Stability of Pulsed Loaded Microgrids	Pass-through	81.RD	PO #2169602	-	41,711
Enhancing the Efficiency and Resilience of PV Systems at Northern Latitudes	Pass-through	81.RD	PO#2324302	-	86,259
Advanced Modeling, Controls, and Power Electronics Testing for Large Penetration of Renewable Energy Grid Integration - PART 01	Pass-through	81.RD	Purchase Order No. 2563007	-	56,220
Advanced Modeling, Controls, and Power Electronics Testing for Large Penetration of Renewable Energy Grid Integration - PART 02	Pass-through	81.RD	PO #2563018	-	18,256
Technical Support and Maintenance of the Meteorological Instrument at the Michigan Regional Test Center for Solar Technologies	Pass-through	81.RD	PO 2348229	-	11,166
Advanced Modeling, Controls, Power Electronics, and Water Power Testing for Renewable Energies	Pass-through	81.RD	PO No. 2527926	-	77,000
Installation of Experimental Systems at the MI RTC	Pass-through	81.RD	Purchase Order No. 2324301	-	(1,736)
Power Electronics and Advanced Modeling and Control for Energy Systems	Pass-through	81.RD	Purchase Order No. 2460746	-	40,607
Nonlinear Hydrodynamic Modeling	Pass-through	81.RD	Purchase Order No. 2552938	-	58,890
Passed through University of Wisconsin-Madison Great Lakes Bioenergy Research Center	Pass-through	81.RD	000002956	-	73,633
Passed through Regents of the University of Minnesota Office of Science Financial Assistance Program	Pass-through	81.049	SUBAWARD NO. H007829703	-	12
Passed through University of Maryland College Park Office of Science Financial Assistance Program	Pass-through	81.049	117387-Z7159201	-	229,508
Passed through University of California, Los Angeles Office of Science Financial Assistance Program	Pass-through	81.049	0190 G LA568	-	132,914
Passed through Texas A&M University Conservation Research and Development	Pass-through	81.086	M2300703	-	56,098
Passed through Iowa State University Renewable Energy Research and Development	Pass-through	81.087	027933B / DE-EE0010742	-	52,587
Passed through Gas Technology Institute Renewable Energy Research and Development	Pass-through	81.087	Agreement No. SR109/Prime DE-EE	-	18,614
Renewable Energy Research and Development	Pass-through	81.087	GTI Agre #S948; Project #22530	-	88,848
Passed through REMADE Institute Renewable Energy Research and Development	Pass-through	81.087	SUBAWARD NO. 20-01-SA-4014	12,497	65,369
Passed through Michigan State University Energy Efficiency and Renewable Energy Information Dissemination, Outreach, Training and Technical Analysis/Assistance	Pass-through	81.117	SUBAWARD NO. RC112846 - MTU	-	10,467
Total U.S. Department of Energy				735,709	7,119,239
U.S. Department of Health and Human Services - Centers for Disease Control					
Mine Health and Safety Big Data Analysis and Text Mining by Machine Learning Algorithms	Direct	93.RD	75D30121C12375	16,568	47,862
Size-dependent Metric Analysis of Respirable Coal Mine Dust (RCMD)	Direct	93.RD	75D30122C14732	47,347	102,299
Pilot Testing of Ergonomic Devices in Patient Handling Tasks	Direct	93.RD	75D30124P18886	-	2,917
Passed through Michigan Department of Health and Human Services Epidemiology and Laboratory Capacity for Infectious Diseases (ELC)	Pass-through	93.323	AGREEMENT #: E20224555-00	-	2,025,233
Subtotal U.S. Department of Health and Human Services - Centers for Disease Control				63,915	2,178,311
U.S. Department of Health and Human Services - National Institutes of Health					
Food and Drug Administration Research	Direct	93.103	1R01FD007461-01	218,137	463,633
Discovery and Applied Research for Technological Innovations to Improve Human Health	Direct	93.286	1R15EB026197-01	-	8,676
Discovery and Applied Research for Technological Innovations to Improve Human Health	Direct	93.286	R01EB029570-01A0	68,785	306,616
Cancer Cause and Prevention Research	Direct	93.393	7R03CA259652-03	-	13,271
Cancer Detection and Diagnosis Research	Direct	93.394	2R15CA242401-02A1	-	120,766
Cancer Treatment Research	Direct	93.395	1R15CA246336-01	-	102,277
Cardiovascular Diseases Research	Direct	93.837	1R01HL144739-01A1	-	126,854
Cardiovascular Diseases Research	Direct	93.837	1R15HL145655-01	-	(4,581)
Cardiovascular Diseases Research	Direct	93.837	1R15HL150703-01A1	-	49,387

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Research and Development Cluster (Continued)					
Cardiovascular Diseases Research	Direct	93.837	1R15HL159602-01A1	\$ -	\$ 144,895
Cardiovascular Diseases Research	Direct	93.837	1R15HL167221-01	-	48,863
Cardiovascular Diseases Research	Direct	93.837	1R15HL172198-01	-	25,185
Cardiovascular Diseases Research	Direct	93.837	1R50HL163552-01A1	-	346,014
Cardiovascular Diseases Research	Direct	93.837	5R01HL163159-03	-	447,386
Diabetes, Digestive, and Kidney Diseases Extramural Research	Direct	93.847	1R15DK134992-01	-	110,722
Diabetes, Digestive, and Kidney Diseases Extramural Research	Direct	93.847	1R15DK137195-01	-	78,397
Diabetes, Digestive, and Kidney Diseases Extramural Research	Direct	93.847	R15DK136103	-	407,598
Extramural Research Programs in the Neurosciences and Neurological Disorders	Direct	93.853	1R15NS115032-01A1	-	30,638
Extramural Research Programs in the Neurosciences and Neurological Disorders	Direct	93.853	1R15NS133859-01	-	64,503
Allergy and Infectious Diseases Research	Direct	93.855	5R21AI175913-02	89,049	206,503
Biomedical Research and Research Training	Direct	93.859	1R15GM132873-01A1	7,471	11,463
Biomedical Research and Research Training	Direct	93.859	1R15GM135875-01	-	51,243
Biomedical Research and Research Training	Direct	93.859	1R15GM137145-01	-	111,429
Biomedical Research and Research Training	Direct	93.859	1R15GM137298	35,695	41,141
Biomedical Research and Research Training	Direct	93.859	1R15GM139118-01A1	11,579	100,724
Biomedical Research and Research Training	Direct	93.859	1R15GM146206-01	-	206,969
Biomedical Research and Research Training	Direct	93.859	1R15GM148964-01	-	160,257
Biomedical Research and Research Training	Direct	93.859	1R15GM151700-01	-	68,216
Biomedical Research and Research Training	Direct	93.859	1R15GM152969-01	-	107,349
Biomedical Research and Research Training	Direct	93.859	2R15GM109288-03	-	160,700
Biomedical Research and Research Training	Direct	93.859	2R15GM132873-02	3,467	126,153
Biomedical Research and Research Training	Direct	93.859	2R15GM135806-02	-	80,947
Aging Research	Direct	93.866	1 R15 AG059095-01	200	305
Vision Research	Direct	93.867	1R01EY035305-01	35,966	81,074
Passed through Oregon Health & Science University					
Research Related to Deafness and Communication Disorders	Pass-through	93.173	5R01 DC009834-14/1017309_MTU	-	14,787
Cardiovascular Diseases Research	Pass-through	93.837	1022559_MTU	-	258,262
Passed through Regents of the University of Michigan					
Research and Training in Complementary and Integrative Health	Pass-through	93.213	SUBK00013369	-	6,708
Lung Diseases Research	Pass-through	93.838	SUBK00010701	-	2,084
Passed through Marquette University					
Cardiovascular Diseases Research	Pass-through	93.837	7R15HL167221-02	-	6,769
Passed through University of Wisconsin-Madison					
Child Health and Human Development Extramural Research	Pass-through	93.865	Subaward No. 0000000663	-	174
Passed through Wichita State University					
Aging Research	Pass-through	93.866	R53245-23-00729	-	2,414
Passed through Tulane University					
Aging Research	Pass-through	93.866	Sub Awrd #TUL-HSC-560960-22/23	-	4,283
Trans-Omics Integration of Multi-Omics Studies for Male Osteoporosis	Pass-through	93.RD	TUL-HSC-561570-23/24	-	31,611
Passed through Hemex Medical					
Portable, affordable, quantitative microchip electrophoresis for hemoglobin A1C testing	Pass-through	93.RD	MTU Agreement #2112050	-	126,871
Subtotal U.S. Department of Health and Human Services - National Institutes of Health				470,349	4,859,536
Total U.S. Department of Health and Human Services				534,264	7,037,847
U.S. Department of Homeland Security - U.S. Coast Guard					
Uncrewed Detection of Submerged Oil using UV Fluorometry	Direct	97.RD	70Z02324CMER0001 IRC 31000DOL	-	138,307
Total Research and Development Cluster				7,071,350	58,021,034
TRIO					
U.S. Department of Education					
TRIO Talent Search	Direct	84.044	P044A221045	-	319,168
TRIO Upward Bound	Direct	84.047	P047A231614	-	238,559
TRIO McNair Post-Baccalaureate Achievement	Direct	84.217	P217A220192	-	283,265
Total TRIO Cluster				-	840,992
Total Clusters				7,071,350	94,523,252
Other Federal Awards					
U.S. Department of Agriculture					
Passed through Partridge Creek Farm					
ReGENERATE Curriculum: Development of 6th Grade Curriculum Materials	Pass-through	10.U01	MTU Service Agreement 24-0420	-	5,830
Passed through Michigan Department of Education					
Child and Adult Care Food Program	Pass-through	10.558		-	11,847
Subtotal U.S. Department of Agriculture				-	17,677
U.S. Department of Agriculture - Forest Service					
Supporting Science-Management Partnerships for Climate Adaptation	Direct	10.U02	20-CR-11242306-068	-	9,195
Forest Service Research Web Modernization - Content Delivery	Direct	10.U03	20-CR-11242306-094	-	271,343
Belowground Ecosystem Ecologist	Direct	10.U04	21-JV-11242306-039	-	30,904

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Other Federal Awards (Continued)					
Increasing Forest Service Capacity for Climate-Informed Project Development	Direct	10.U05	22-CS-11242306-049	\$ -	\$ 16,521
USDA Northern Forest Climate Hub Coordination	Direct	10.U06	22-CR-11242306-036	-	52,640
Archaeological Collection Cooperative Management Ottawa National Forest	Direct	10.U07	23-CS-11090700-006	-	2,946
Partnership Agreements	Direct	10.699	22-CS-11242306-076	-	48,541
Research Joint Venture and Cost Reimbursable Agreements	Direct	10.707	19-CR-11242306-094	-	20,208
Research Joint Venture and Cost Reimbursable Agreements	Direct	10.707	21-CR-11242306-080	-	12,223
Research Joint Venture and Cost Reimbursable Agreements	Direct	10.707	23-CR-11242306-057	-	2,587
Research Joint Venture and Cost Reimbursable Agreements	Direct	10.707	23-CR-11242306-058	-	3,104
Inflation Reduction Act-National Forest System	Direct	10.729	23-CS-11242306-071	-	50,529
Subtotal U.S. Department of Agriculture - Forest Service				-	520,741
Total U.S. Department of Agriculture				-	538,418
U.S. Department of Commerce - National Oceanic and Atmospheric Administration					
Marine Sanctuary Program	Direct	11.429	NA22NOS4290002	-	41,808
Marine Sanctuary Program	Direct	11.429	NA23NOS4290223	-	39,278
Subtotal U.S. Department of Commerce - National Oceanic and Atmospheric Administration				-	81,086
U.S. Department of Commerce - U.S. Economic Development Administration					
Cluster Grants	Direct	11.020	ED23OIE0G0138	-	29,928
Total U.S. Department of Commerce				-	111,014
U.S. Department of Defense - National Security Agency					
GenCyber Grants Program	Direct	12.903	H98230-22-1-0192	-	97,403
U.S. Department of Defense - U.S. Army					
Delivery of a Professional Development Course in Hydraulics System	Direct	12.U01	W911RQ23P0023	-	42,434
Total U.S. Department of Defense				-	139,837
U.S. Department of Interior - National Park Service					
Passed through Keweenaw NHP Advisory Commission					
Calumet and Hecla Employee Card Digitization Cleanup	Pass-through	15.U01	C2023-012	-	4,902
Passed through Osceola Township					
Quincy Dredge No. 2 Digital Documentation	Pass-through	15.U02	Confirming Order #23-7605	-	40
ALS outreach and portable boat wash support for KISMA	Direct	15.U03	Confirming Order #2205003	-	192
Cooperative Research and Training Programs – Resources of the National Park System	Direct	15.945	P20AC00379	-	10,040
Total U.S. Department of Interior				-	15,174
U.S. Department of Labor					
Mine Health and Safety Grants	Direct	17.600	MS-38903-22-55-R-26	-	592
Mine Health and Safety Grants	Direct	17.600	23R55MS000041-01-00	-	302,610
Total U.S. Department of Labor				-	303,202
U.S. Department of Transportation - Federal Highway Administration					
Passed through Michigan Department of Transportation					
Roadsoft Support for MDOT Safety Services	Pass-through	20.U01	CONTRACT # 2019-0449	-	433
Highway Planning and Construction	Pass-through	20.205	2021-0058, AUTH Z16	-	29,105
Highway Planning and Construction	Pass-through	20.205	2023-0036, AUTH Z1	-	448,471
Highway Planning and Construction	Pass-through	20.205	Contract No. 2023-0381	-	39,447
Highway Planning and Construction	Pass-through	20.205	2023-0036, AUTH Z2	-	359,334
Highway Planning and Construction	Pass-through	20.205	2023-0036, AUTH Z3	-	20,693
Highway Planning and Construction	Pass-through	20.205	2024-0590	-	2,058
Highway Training and Education	Pass-through	20.215	2022-0997, AUTHORIATIONS Z1-4	-	229,608
Highway Training and Education	Pass-through	20.215	2022-0997, AUTH Z6-9	-	517,120
Subtotal U.S. Department of Transportation - Federal Highway Administration				-	1,646,269
U.S. Department of Transportation - Federal Railroad Administration					
Railroad Crossing Vehicle Warning (RCVW) Application Demonstrations with Connected Vehicles	Direct	20.U01	963JJ621C000023	47,488	102,617
Total U.S. Department of Transportation				47,488	1,748,886
U.S. Department of Treasury					
COVID-19 - Passed through Lake Superior Community Partnership					
Coronavirus State and Local Fiscal Recovery Funds	Pass-through	21.027	SUB-GRANT AGREEMENT	-	22,883
National Aeronautics and Space Administration					
Science	Direct	43.001	80NSSC17M0076	-	203,559
Passed through University of Michigan					
Education	Pass-through	43.008	SUBK00017416	-	3,912
Education	Pass-through	43.008	SUBK00011994	-	31,420
Education	Pass-through	43.008	SUBK00021913	-	7,683
Total National Aeronautics and Space Administration				-	246,574

Schedule of Expenditures of Federal Awards

Year Ended June 30, 2024

Federal Agency/Pass-through Agency/Program Title	Direct/Pass-through	Assistance Listing Number	Grant ID / Pass-through Entity Identifying Number	Total Amount Provided to Subrecipients	Federal Expenditures
Other Federal Awards (Continued)					
National Endowment for the Arts					
Promotion of the Arts Grants to Organizations and Individuals	Direct	45.024	1913553-36-23	\$ -	\$ 25,000
National Endowment for the Humanities					
Promotion of the Humanities Office of Digital Humanities	Direct	45.169	HAA-271717-20	-	40,185
Small Business Administration					
Passed through Grand Valley State University					
Small Business Development Centers	Pass-through	59.037	MISBDC 2023-1	-	420,719
Small Business Development Centers	Pass-through	59.037	MI-SBDC 2024 (R1)	-	91,898
Total Small Business Administration				-	512,617
U.S. Environmental Protection Agency					
Environmental Finance Center Grants	Direct	66.203	00E01979	-	55,714
Environmental Finance Center Grants	Direct	66.203	00E03340	-	79,030
Passed through University of New Mexico					
Surveys, Studies, Investigations, Demonstrations, and Training Grants and Cooperative Agreements - Section 104(b)(3) of the Clean Water Act	Pass-through	66.436	Subaward No. 281132-8737	-	(539)
Technical Assistance for Treatment Works (Clean Water Act [CWA] Section 104(b)(8))	Pass-through	66.446	Subaward No. 281177-8737	-	38,390
Technical Assistance for Treatment Works (Clean Water Act [CWA] Section 104(b)(8))	Pass-through	66.446	281176-8737	-	58,813
Total Environmental Protection Agency				-	231,408
U.S. Department of Energy					
Passed through Sandia National Laboratories					
Creation of a Northern-Climata Photovoltaic Test Site	Pass-through	81.U01	PO 2203470	-	7,960
U.S. Department of Education					
Passed through BHK Child Development Board					
BHK Great Explorations After School STEM Clubs	Pass-through	84.U01	MTU SO 2208033	-	1,908
Passed through UPWARD Talent Council					
Upper Peninsula Michigan Works Contractual Training for MILEAP Project	Pass-through	84.U02	MTU MILEAP Contract Document	-	67,928
Passed through Michigan Department of Education					
Michigan GEAR UP	Pass-through	84.U03	Grant No. 23-00-07, Year 3	-	5,051
Total U.S. Department of Education				-	74,887
U.S. Department of Homeland Security - Federal Emergency Management Agency					
Passed through Michigan State Police					
COVID-19 - Disaster Grants - Public Assistance (Presidentially Declared Disasters)	Pass-through	97.036	FEMA-4381-DR-MI	-	239,808
Hazard Mitigation Grant	Pass-through	97.039	Project No. HMGP 4494.06	-	16,520
Hazard Mitigation Grant	Pass-through	97.039	Project No. HMGP 4494.14	-	86,490
Total U.S. Department of Homeland Security				-	342,818
Total Other Federal Awards				47,488	4,360,863
Total Federal Awards				\$ 7,118,838	\$ 98,884,115

Notes to Schedule of Expenditures of Federal Awards

Year Ended June 30, 2024

Note 1 - Basis of Presentation

The accompanying schedule of expenditures of federal awards (the "Schedule") includes the federal grant activity of Michigan Technological University (the "University") under programs of the federal government for the year ended June 30, 2024. The information in the Schedule is presented in accordance with the requirements of Title 2 U.S. *Code of Federal Regulations* Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (the "Uniform Guidance"). Because the Schedule presents only a selected portion of the operations of the University, it is not intended to and does not present the financial position, changes in net position, or cash flows of the University.

Note 2 - Summary of Significant Accounting Policies

Expenditures reported in the Schedule are reported on the accrual basis of accounting. Such expenditures are recognized following the cost principles contained in Title 2 U.S. *Code of Federal Regulations* Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards*, wherein certain types of expenditures are not allowable or are limited as to reimbursement. Negative amounts shown on the Schedule represent adjustments or credits made in the normal course of business to amounts reported as expenditures in prior years. The pass-through entity identifying numbers are presented where available.

The University has elected not to use the 10 percent *de minimis* indirect cost rate to recover indirect costs, as allowed under the Uniform Guidance, since the University has an approved indirect cost rate through its cognizant agency.

Note 3 - Adjustments and Transfers

As allowable and in accordance with federal regulations issued by the U.S. Department of Education, during the year ended June 30, 2024, the University carried back \$35,184 of Federal Work-Study Program (ALN 84.033) from 2024-2025 that was spent in 2023-2024.

Note 4 - Loans Balances

Loans outstanding at the beginning of the year and loans made during the year are included in the federal expenditures presented in the schedule of expenditures of federal awards. The balances of loans outstanding consist solely of the Perkins Loan program, which had an outstanding loan balance of \$2,017,135 at June 30, 2024.

Schedule of Findings and Questioned Costs

Schedule of Findings and Questioned Costs

Year Ended June 30, 2024

Section I - Summary of Auditor's Results

Financial Statements

Type of auditor's report issued: Unmodified

Internal control over financial reporting:

- Material weakness(es) identified? _____ Yes X No
- Significant deficiency(ies) identified that are not considered to be material weaknesses? _____ Yes X None reported
- Noncompliance material to financial statements noted? _____ Yes X None reported

Federal Awards

Internal control over major programs:

- Material weakness(es) identified? _____ Yes X No
- Significant deficiency(ies) identified that are not considered to be material weaknesses? _____ Yes X None reported
- Any audit findings disclosed that are required to be reported in accordance with Section 2 CFR 200.516(a)? _____ Yes X No

Identification of major programs:

Assistance Listing Number	Name of Federal Program or Cluster	Opinion
84.007, 84.033, 84.063, 84.038, 84.268	Student Financial Aid Cluster	Unmodified

Dollar threshold used to distinguish between type A and type B programs: \$2,966,523

Auditee qualified as low-risk auditee? X Yes _____ No

Section II - Financial Statement Audit Findings

Reference Number	Finding
Current Year	None

Section III - Federal Program Audit Findings

Reference Number	Finding
Current Year	None