

### ABOUT THIS REPORT

The annual Arizona Board of Regents' Research and Technology Transfer Activity Report examines research and technology transfer activities at Arizona's public universities.

Research expenditures are reported in total by funding source and research discipline. Research expenditures data includes comparative national market share and rankings information. Reported technology transfer activities span the technology transfer process from discovery to commercialization.

Data in this report utilizes the definitions and standards established by related national surveys. Research expenditures and research personnel are reported consistent with the annual National Science Foundation Higher Education Research and Development Survey. Research facilities data reflect the biannual National Science Foundation Survey of Science and Engineering Research Facilities. Technology transfer activities are reported under the annual Association of University Technology Managers Licensing Activity Survey standards.

Technology transfer portions of this report are required by ABOR Policy 6-909.10.

#### ABOUT THE ARIZONA BOARD OF REGENTS

The Arizona Board of Regents is committed to ensuring access for qualified residents of Arizona to undergraduate and graduate institutions; promoting the discovery, application and dissemination of new knowledge; extending the benefits of university activities to Arizona's citizens outside the university; and maximizing the benefits derived from the state's investment in education.

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November 5, 2025

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### **EXECUTIVE SUMMARY**

Research and knowledge created at Arizona's public universities are essential to our state's economic future. University research also develops leading-edge skill sets that are transferred to the economy via student graduation and employment. In addition, new technologies are created and discoveries made, innovative products are developed as well as new startup companies and jobs generated, all enhancing the lives of Arizonans. During fiscal year 2024, the universities' research activities attracted funding to provide wages and tuition support for 22,449 research personnel including faculty, staff and students.

#### **ENTERPRISE**

Arizona's public universities' research activity continues to grow, exceeding targets set by the board. In fiscal year 2023, Arizona public universities' research activity – as measured by research expenditures – grew robustly year-over-year by \$172 million or 8.9 percent to exceed \$2.1 billion. Other (non-research) sponsored projects totaled over \$317 million in fiscal year 2023, which combined with research totals over \$2.4 billion dollars in all sponsored project expenditures at the enterprise level.

#### ARIZONA STATE UNIVERSITY

ASU's funded research activity – as measured by research expenditures – totaled just over \$1 billion in fiscal year 2024, exceeding fiscal year 2023's expenditures by nearly \$100 million or 11.0 percent. ASU exceeded the 2024 projected metric target set by the board and has cumulatively exceeded its goals by \$394 million in the last 3 years.

ASU's total research expenditures ranking has risen, ascending from No. 43 in 2020 to No. 37 in 2023 among all U.S. universities and from No. 26 in 2020 to No. 21 in 2023 among public universities. ASU remained at No. 5 for its national ranking in total research expenditures at universities without a medical school. In 2023 ASU ranked No. 9 in NASA funded expenditures and No. 15 in National Science Foundation funded expenditures.

ASU ranks among the top 10 universities in research expenditures in three broad discipline categories: non-science/engineering fields (No. 1), social sciences (No. 4), and transdisciplinary/multidisciplinary sciences (No. 6). ASU also ranks among the top 50 universities in research expenditures in four categories: engineering (No. 13), computer/information sciences (No. 16), geosciences/atmospheric/ocean sciences (No. 17), psychology (No. 21), and physical sciences (No. 33).

ASU's top detailed discipline for research expenditures in 2024 was biological and biomedical sciences (almost \$114 million), followed by other engineering, education, electrical engineering, and the geological/Earth sciences.

In technology transfer, ASU entered into 81 license and option agreements, earned just over \$0.9 million in license and option income, and had 86 cumulative active startup companies in fiscal year 2024.

#### NORTHERN ARIZONA UNIVERSITY

NAU's research activity – as measured by research expenditures – totaled \$93.7 million in fiscal year 2024, continuing an upward trend and exceeding its fiscal year 2023 expenditures by \$16.2 million or 20.9 percent. This increase puts NAU well ahead of its metric target by \$23.7 million in 2024.

NAU's total research expenditure ranking has been fairly consistent, from No. 184 in 2020 to No. 192 in 2022 among all U.S. universities, and from No. 134 in 2020 to No. 137 in 2023 among U.S. public universities. At institutions without a medical school, NAU slipped three positions from 2020 to 2023 to rank No. 84.

NAU ranks No. 62 in NASA funded research and No. 65 in Department of Agriculture funded research. In broad discipline categories NAU has top 150 research expenditure rankings nationally in transdisciplinary/multidisciplinary sciences, geosciences/atmospheric/ocean sciences, computer/information sciences, physical sciences, and life sciences.

NAU's top detailed discipline for research expenditures was biological/biomedical sciences (almost \$32 million), followed by natural resources/conservation, computer/information sciences, health sciences, as well as astronomy/astrophysics.

In technology transfer for 2024, NAU researchers disclosed 47 new inventions, entered into 5 license and option agreements, and had 6 cumulative active startup companies.

#### **UNIVERSITY OF ARIZONA**

U of A's research activity – as measured by research expenditures – totaled over \$1 billion in 2024, surpassing its fiscal year 2023 expenditures by \$57 million or 6.0 percent. UArizona surpassed this year's projected metric target set by the board and has cumulatively exceeded its goals by over \$344 million in the last 3 years.

UArizona's total research expenditure ranking decreased from No. 35 in 2020 to No. 36 in 2023 among all U.S. universities and stayed at No. 20 in 2023 among U.S. public universities where it has been for several years. UArizona moved up slightly in its national ranking in medical school research expenditures to No. 45. The university ranks No. 6 in NASA, No. 33 in Department of Agriculture, and No. 37 in National Science Foundation funded research.

Among broad discipline categories UArizona continues to maintain its top 10 national ranking in physical sciences, moving from No. 5 in 2020 to No. 7 in 2023. It maintains top 50 rankings for research expenditures in six additional categories: geosciences/atmospheric/ocean sciences (No. 22), transdisciplinary/multidisciplinary sciences (No. 26), social sciences (No. 32), life sciences (No. 37), and engineering (No. 47).

UArizona's top detailed discipline for research expenditures in 2024 was biological/biomedical sciences (almost \$260 million), followed by health sciences, astronomy/astrophysics, agricultural sciences, and electrical engineering.

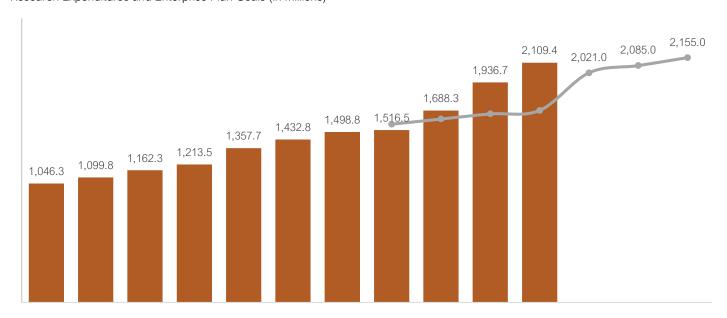
In technology transfer UArizona executed 75 license and option agreements in 2024 and earned \$10.3 million in license and option income – part of an almost tenfold growth in the last decade. In fiscal year 2024 UArizona had 136 cumulative active startup companies. astronomy and astrophysics, agricultural sciences, and electrical/electronic and communications engineering.

In technology transfer, the U of A executed 100 license and option agreements in 2023 and earned \$10.5 million in license and option income – representing an almost tenfold growth in the last decade. In fiscal year 2023, the U of A generated 136 cumulative active startup companies.

### Enterprise

Exhibit E.R.1: Research Expenditures and Enterprise Goals

Research Expenditures and Enterprise Plan Goals (in Millions)



Actual to Enterprise Goal Differences (in Millions)

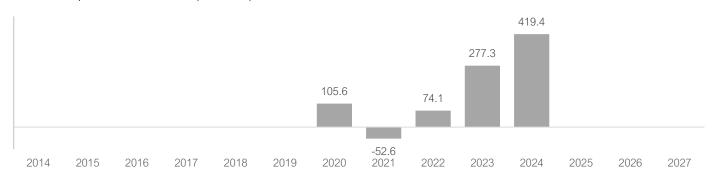
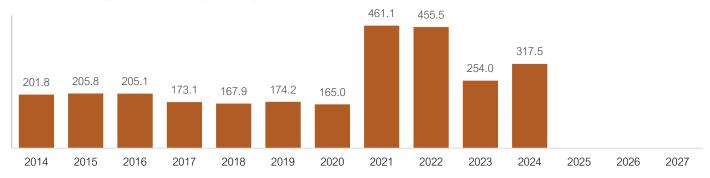


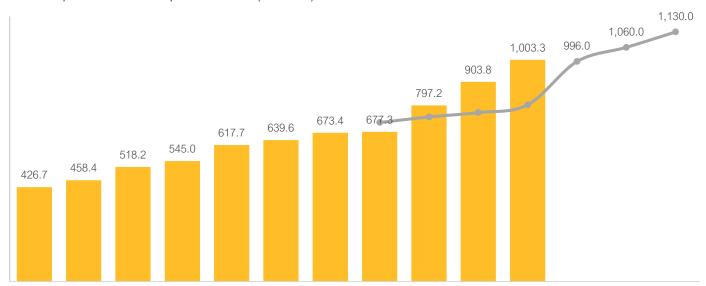
Exhibit E.R.2: Other Sponsored Project Expenditures

Other Sponsored Project Expenditures (in Millions)

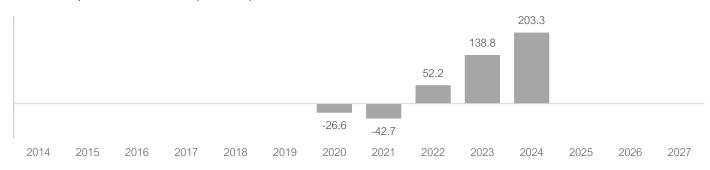


#### Exhibit ASU.R.1: Research Expenditures and Enterprise Goals

Research Expenditures and Enterprise Plan Goals (in Millions)

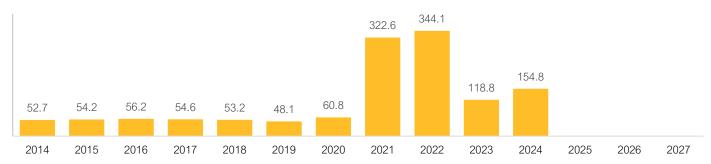


#### Actual to Enterprise Goal Differences (in Millions)

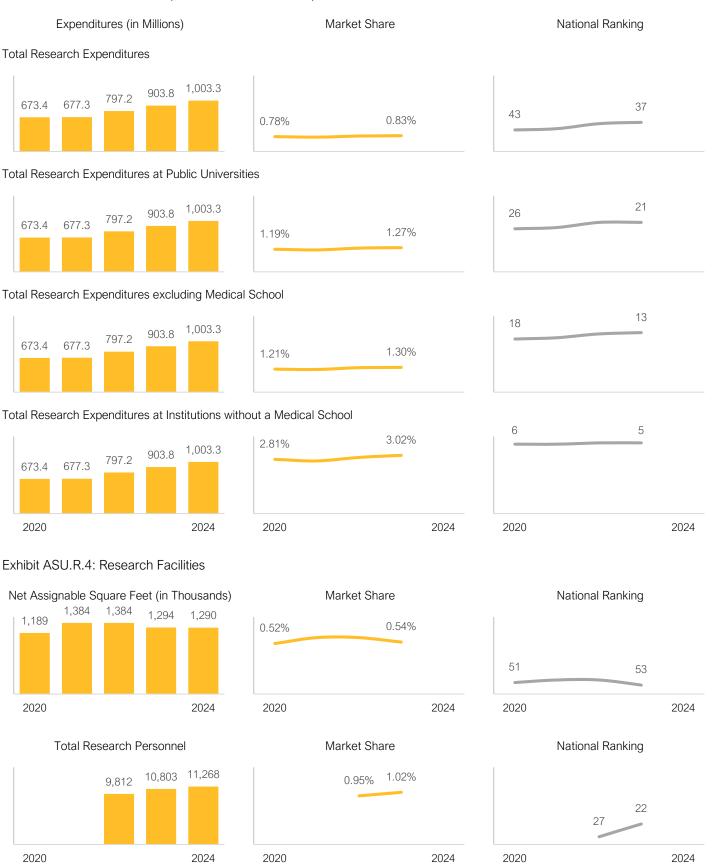


#### Exhibit ASU.R.2: Other Sponsored Project Expenditures

Other Sponsored Project Expenditures (in Millions)



#### Exhibit ASU.R.3: Research Expenditures National Comparisons



## Exhibit ASU.R.5: Research Expenditures by Sponsor Group



# Exhibit ASU.R.6: Federal Research Expenditures by Federal Agency

Expenditures (		-	arket Share	Nati	onal Ranking
Department of Agricultur	е				
2.0 2.1 3.2	3.6 3.8	0.16%	0.21%	84	78
Department of Defense					
45.4 38.8 43.9	46.3 52.2	0.64%	0.51%	30	38
Department of Energy					
16.4 20.5 22.1	23.2 27.2	0.81%	0.87%	37	34
Department of Health an	d Human Services (in	cluding NIH)			
59.9 62.9 79.1	88.8 85.6	0.24%	0.27%	93	87
National Aeronautics and	d Space Administration	n			
58.2 52.7 49.4	43.1 47.1	3.31%	1.88%	6	9
National Science Founda	ation				
69.1 69.1 77.8	87.4 100.1	1.28%	1.30%	17	15
Other Federal					
27.0 28.4 33.6	80.4	0.844%	1.185%	2020	2024

## Exhibit ASU.R.7: Total Research Expenditures by Broad Discipline

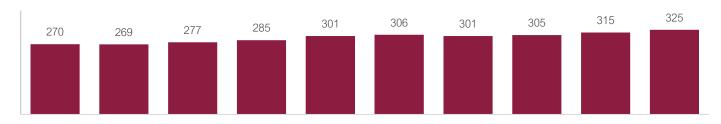
	Expenditures (in Millions)			Ma	arket Share		National Ranking		
Compute	er and Info	ormation	Science	S			31	16	
22.2	22.5	21.4	33.3	47.7	0.76%	0.92%		10	
Engineer	ing								
155.0	145.6	192.7	265.0	277.3	1.13%	1.52%	18	13	
Geoscier	nces, Atm	nospheric	c, and O	cean Scie	ences		0	4.7	
73.5	68.1	67.1	59.8	85.1	2.24%	1.48%	8	17	
Life Scie	nces								
103.6	111.8	141.3	179.4	193.0	0.21%	0.29%	106	89	
Mathema	atics and	Statistics	3						
5.9	4.1	3.4	2.8	2.8	0.74%	0.26%	33	86	
Physical	Sciences								
25.6	26.7	27.8	59.2	50.4	0.45%	0.85%	58	33	
Psycholo	gy								
17.6	14.6	15.7	17.4	18.2	1.29%	1.06%	18	21	
Social So	ciences								
84.0	73.2	80.3	93.1	104.5	2.83%	2.56%	3	4	
Transdis	ciplinary,	Multidisc	ciplinary	and Othe	r Sciences				
107.4	129.0	119.1	30.6	28.8	11.22%	2.55%	1_	6	
Non-Scie	ence and	Engineer	ing						
78.4	81.7	128.4	163.2	195.6	1.55%	2.35%	8	1	
2020				2024	2020	2	2024 2020		2024

## Exhibit ASU.R.8: Total Research Expenditures by Detailed Discipline

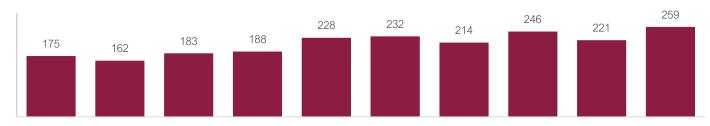
Research Discipline	2024 Expenditures	% of Discipline	% of Total
Computer and Information Sciences	47,710,000	100.0%	4.8%
Computer and Information Sciences	47,710,000	100.0%	4.8%
Engineering	277,309,000	100%	27.6%
Aerospace, Aeronautical and Astronautical Engineering	6,000	0.0%	0.0%
Bioengineering and Biomedical Engineering	19,930,000	7.2%	2.0%
Chemical Engineering	5,750,000	2.1%	0.6%
Civil Engineering	47,300,000	17.1%	4.7%
Electrical, Electronic and Communications Engineering	62,598,000	22.6%	6.2%
Industrial and Manufacturing Engineering	30,137,000	10.9%	3.0%
Mechanical Engineering	10,872,000	3.9%	1.1%
Metallurgical and Materials Engineering	6,138,000	2.2%	0.6%
Other Engineering	94,578,000	34.1%	9.4%
Geosciences, Atmospheric and Ocean Sciences	85,051,000	100.0%	8.5%
Atmospheric Science and Meteorology	540,000	0.6%	0.1%
Geological and Earth Sciences	64,878,000	76.3%	6.5%
Ocean Sciences and Marine Sciences	19,633,000	23.1%	2.0%
Other Geosciences, Atmospheric and Ocean Sciences	0	0.0%	0.0%
Life Sciences	192,959,000	100.0%	19.2%
Agricultural Sciences	951,000	0.5%	0.1%
Biological and Biomedical Sciences	113,971,000	59.1%	11.4%
Health Sciences	54,769,000	28.4%	5.5%
Natural Resources and Conservation	6,161,000	3.2%	0.6%
Other Life Sciences	17,107,000	3.2 <i>%</i> 8.9%	1.7%
Mathematics and Statistics  Mathematics and Statistics	2,819,000 2,819,000	100.0% 100.0%	0.3%
Physical Sciences	50,374,000	100.0%	5.0%
Astronomy and Astrophysics	0	0.0%	0.0%
Chemistry	17,516,000	34.8%	1.7%
Materials Science	0	0.0%	0.0%
Physics	14,192,000	28.2%	1.4%
Other Physical Sciences	18,666,000	37.1%	1.9%
Psychology	18,175,000	100.0%	1.8%
Psychology	18,175,000	100.0%	1.8%
Social Sciences	104,488,000	100.0%	10.4%
Anthropology	14,248,000	13.6%	1.4%
Economics	7,414,000	7.1%	0.7%
Political Science and Government	22,335,000	21.4%	2.2%
Sociology, Demography and Population Studies	10,942,000	10.5%	1.1%
Other Social Sciences	49,549,000	47.4%	4.9%
	, ,		
Other Sciences Transdisciplinary, Multidisciplinary and Other Sciences	28,826,000 28,826,000	100.0% 100.0%	2.9%
Non-Science and Engineering	195,560,000	100.0%	19.5%
Business Management and Business Administration	52,797,000	27.0%	5.3%
Communication and Communications Technologies	8,623,000	4.4%	0.9%
Education	89,657,000	45.8%	8.9%
Humanities	10,776,000	5.5%	1.1%
Law	4,803,000	2.5%	0.5%
Social Work	15,966,000	8.2%	1.6%
Visual and Performing Arts	12,938,000	6.6%	1.3%
Other Non-Science and Engineering	0	0.0%	0.0%

## Exhibit ASU.R.9: Technology Transfer Inputs

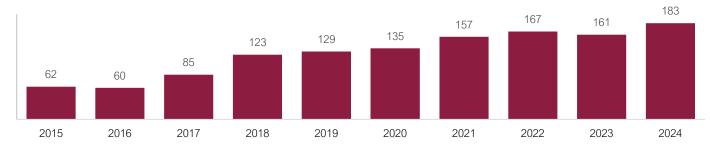
#### Invention Disclosures Received



#### **New Patent Applications**

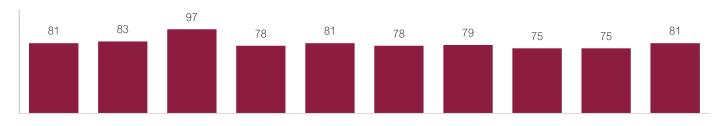


#### **US** Patents Issued

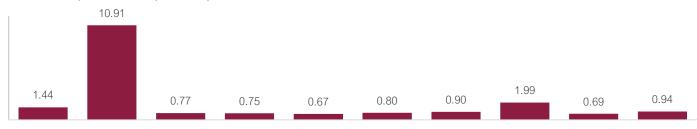


## Exhibit ASU.R.10: Technology Transfer Outputs

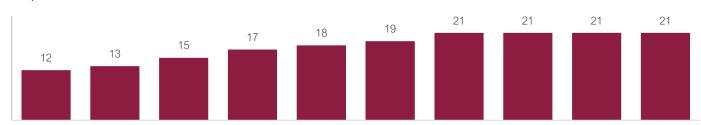
### Licenses and Options Executed



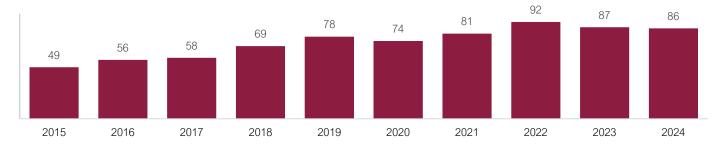
#### Licences and Options Income (in Millions)



#### Startups



#### Cumulative Active Startups

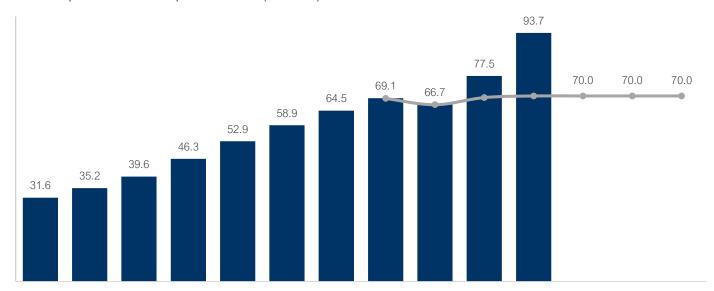


#### Income and Distributions

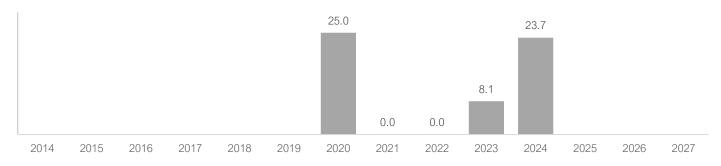
Intellectual Property Income	2020	2021	2022	2023	2024
License and Options Income	801,741	903,221	1,989,382	694,248	944,671
Legal Fees Reimbursed	1,595,385	1,569,821	1,705,337	1,069,453	1,124,585
Other Revenue	297,664	136,048	85,728	50,330	321,090
Total	2,694,790	2,609,090	3,780,447	1,814,031	2,390,346
Royalty Distributions	2020	2021	2022	2023	2024
Inventors	-133,068	-236,650	-653,435	-182,209	-313,687
Laboratories and Units	-58,690	-95,173	-238,903	-87,029	-134,923
University	-92,426	-153,765	-441,094	-132,737	-220,171
Undistributed	44.050	40 705	77 440	1.40,050	07.254
Undistributed	11,050	49,725	77,118	146,856	97,354

#### Exhibit NAU.R.1: Research Expenditures and Enterprise Goals

Research Expenditures and Enterprise Plan Goals (in Millions)

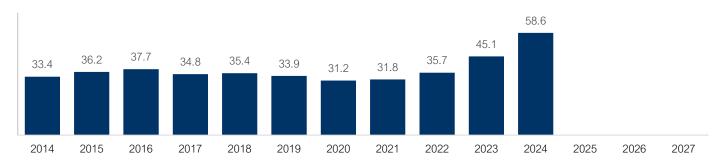


#### Actual to Enterprise Goal Differences (in Millions)

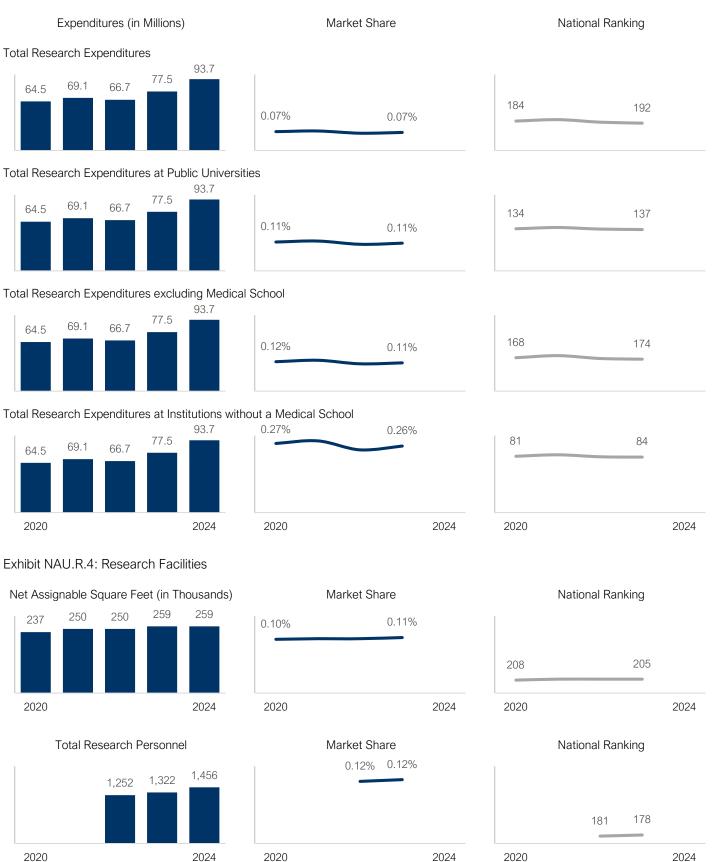


### Exhibit NAU.R.2: Other Sponsored Project Expenditures

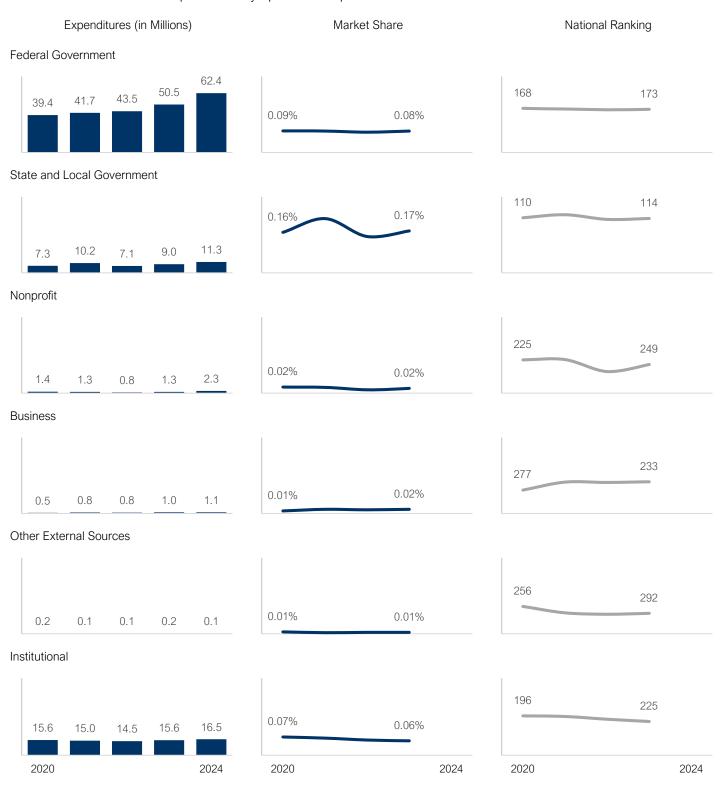
Other Sponsored Project Expenditures (in Millions)



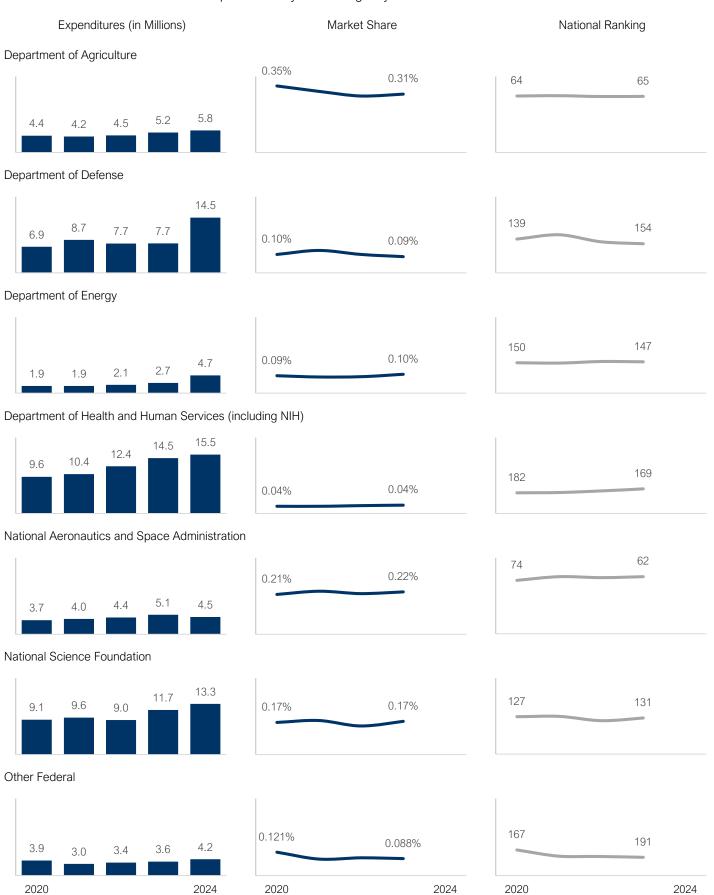
### Exhibit NAU.R.3: Research Expenditures National Comparisons



## Exhibit NAU.R.5: Research Expenditures by Sponsor Group



### Exhibit NAU.R.6: Federal Research Expenditures by Federal Agency



## Exhibit NAU.R.7: Total Research Expenditures by Broad Discipline

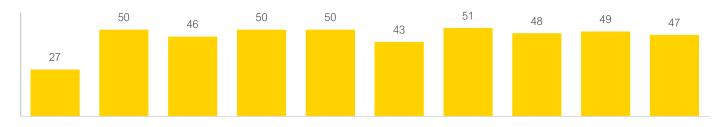
Expenditures (in Millions)		M	Market Share		National Ranking			
Computer	and Info	rmation	Science	S			444	400
2.7	4.0	2.5	4.8	10.8	0.09%	0.13%	144	136
ngineerin	ng							
5.0	6.5	4.2	5.9	9.9	0.04%	0.03%	205	210
Seoscienc	ces, Atm	ospheric	, and O	cean Scien	ces			
7.4	6.8	5.4	5.5	5.9	0.23%	0.14%	85	117
fe Scienc	ces							
38.9	41.1	43.1	48.1	54.5	0.08%	0.08%	149	150
1athemat	ics and §	Statistics	3					
0.0	0.0	0.0	0.0	0.1	0.00%	0.00%	552	435
hysical S	ciences							
7.1	8.1	7.4	8.0	7.3	0.12%	0.11%	141	146
sycholog	У							
0.7	0.4	0.2	0.2	0.3	0.05%	0.01%	194	317
ocial Scie	ences							
0.4	0.2	0.3	0.5	0.7	0.01%	0.01%	285	292
ransdisci	plinary, I	Multidisc	iplinary	and Other	Sciences			
0.4	0.5	1.1	1.5	1.5	0.04%	0.12%	139	109
on-Scien	nce and E	Engineer	ing					
					0.049/	0.04%	256	254
1.9	1.6	2.4	3.1	2.9	0.04%	0.0470		

## Exhibit NAU.R.8: Total Research Expenditures by Detailed Discipline

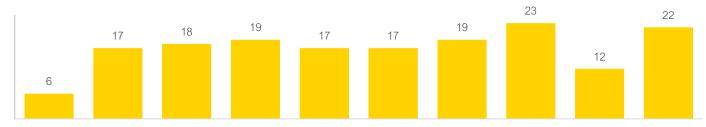
Research Discipline	2024 Expenditures	% of Discipline	% of Total
Computer and Information Sciences	10,811,000	100.0%	11.5%
Computer and Information Sciences	10,811,000	100.0%	11.5%
Engineering	9,875,000	100%	10.5%
Aerospace, Aeronautical and Astronautical Engineering	124,000	1.3%	0.1%
Bioengineering and Biomedical Engineering	1,203,000 ■	12.2%	1.3%
Chemical Engineering	14,000	0.1%	0.0%
Civil Engineering	942,000 ■	9.5%	1.0%
Electrical, Electronic and Communications Engineering	3,138,000	31.8%	3.3%
Industrial and Manufacturing Engineering	162,000	1.6%	0.2%
Mechanical Engineering	2,774,000	28.1%	3.0%
Metallurgical and Materials Engineering	17,000	0.2%	0.0%
	· · · · · · · · · · · · · · · · · · ·		
Other Engineering	1,501,000 ■	15.2%	1.6%
Geosciences, Atmospheric and Ocean Sciences	5,900,000	100.0%	6.3%
Atmospheric Science and Meteorology	637,000 ▮	10.8%	0.7%
Geological and Earth Sciences	4,123,000	69.9%	4.4%
Ocean Sciences and Marine Sciences	0	0.0%	0.0%
Other Geosciences, Atmospheric and Ocean Sciences	1,140,000 ■	19.3%	1.2%
Life Sciences	54,477,000	100.0%	58.1%
Agricultural Sciences	2,313,000	4.2%	2.5%
Biological and Biomedical Sciences	31,908,000	58.6%	34.0%
Health Sciences	7,542,000	13.8%	8.0%
Natural Resources and Conservation	12,398,000	22.8%	13.2%
Other Life Sciences	316,000 <b>I</b>	0.6%	0.3%
Mathematics and Statistics	56,000	100.0%	0.1%
Mathematics and Statistics	56,000	100.0%	0.1%
Physical Sciences	7,263,000	100.0%	7.7%
Astronomy and Astrophysics	4,751,000	65.4%	5.1%
Chemistry	543,000	7.5%	0.6%
Materials Science	336,000 <b>I</b>	4.6%	0.4%
Physics	707,000 <b>I</b>	9.7%	0.4%
Other Physical Sciences	926,000 ■	12.7%	1.0%
Other Physical Sciences		12.170	1.070
Psychology	335,000	100.0%	0.4%
Psychology	335,000 <b>l</b>	100.0%	0.4%
Social Sciences	655,000	100.0%	0.7%
Anthropology	157,000	24.0%	0.2%
Economics	294,000 <b>l</b>	44.9%	0.3%
Political Science and Government	11,000	1.7%	0.0%
Sociology, Demography and Population Studies	20,000	3.1%	0.0%
Other Social Sciences	173,000	26.4%	0.2%
Other Sciences	1,467,000	100.0%	1.6%
Transdisciplinary, Multidisciplinary and Other Sciences	1,467,000 ■	100.0%	1.6%
Non-Science and Engineering	2,909,000	100.0%	3.1%
Business Management and Business Administration	888,000	30.5%	0.9%
· · · · · · · · · · · · · · · · · · ·	35,000	1.2%	0.9%
Communication and Communications Technologies			
Education	1,819,000	62.5%	1.9%
Humanities	52,000	1.8%	0.1%
Law	21,000	0.7%	0.0%
Social Work	6,000	0.2%	0.0%
Visual and Performing Arts	65,000	2.2%	0.1%
Other Non-Science and Engineering	23,000	0.8%	0.0%

## Exhibit NAU.R.9: Technology Transfer Inputs

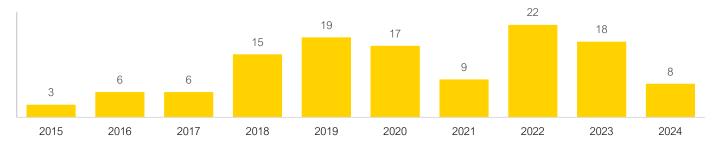
### Invention Disclosures Received



#### **New Patent Applications**

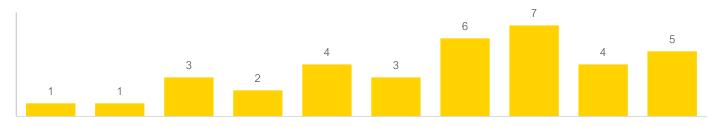


#### **US** Patents Issued

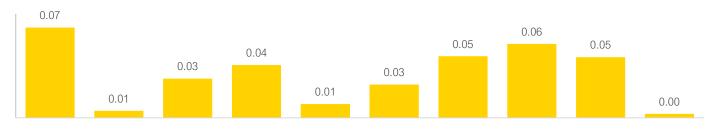


## Exhibit NAU.R.10: Technology Transfer Outputs

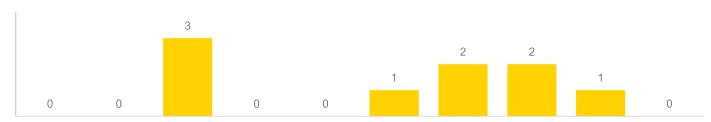
### Licenses and Options Executed



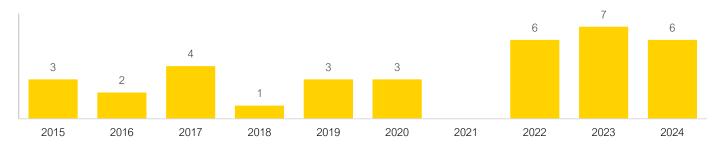
### Licences and Options Income (in Millions)



### Startups



#### Cumulative Active Startups

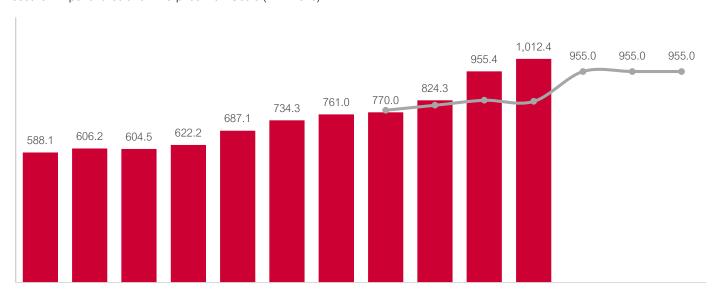


#### Income and Distributions

Intellectual Property Income	2020	2021	2022	2023	2024
License and Options Income	25,562	47,315	56,830	46,569	3,000
Legal Fees Reimbursed	5,542	7,511	33,966	62,805	34,121
Other Revenue	20,000	0	0	0	0
Total	51,104	54,826	90,796	109,374	37,121
Royalty Distributions	2020	2021	2022	2023	2024
Inventors	0	-12,818	-5,002	-2,285	-1,500
Laboratories and Units	0	0	0	0	0
University	0	-3,442	-5,002	-2,285	-1,500
Undistributed	0	0	0	0	0
Total	0	-16,260	-10,004	-4,570	-3,000

Exhibit UA.R.1: Research Expenditures and Enterprise Goals

Research Expenditures and Enterprise Plan Goals (in Millions)



#### Actual to Enterprise Goal Differences (in Millions)

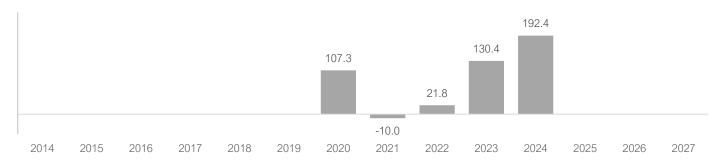
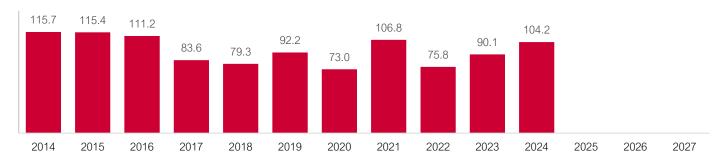


Exhibit UA.R.2: Other Sponsored Project Expenditures

Other Sponsored Project Expenditures (in Millions)



#### Exhibit UA.R.3: Research Expenditures National Comparisons



# Exhibit UA.R.5: Research Expenditures by Sponsor Group

Expenditures (in Millions)	Market Share	National Ranking
Federal Government		
328.8 353.1 374.9 434.7	0.71% 0.73%	43 42
State and Local Government		
33.2 28.6 31.0 37.2	48.9 0.72% 0.68%	37 41
Nonprofit		
34.7 31.0 28.8 31.2	30.9 0.60% 0.47%	52 59
Business		
23.0 24.6 27.9 25.3	25.3 0.44% 0.41%	61 67
Other External Sources		6 5
110.0 98.2 106.8 122.4	134.2	6 5
Institutional		
231.2 234.5 254.9	301.7	21 18
2020	2024 2020	2024 2020 2024

### Exhibit UA.R.6: Federal Research Expenditures by Federal Agency



## Exhibit UA.R.7: Total Research Expenditures by Broad Discipline

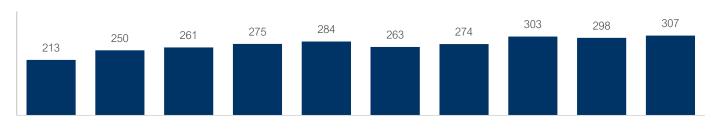
Expenditures (in Millions)			M	arket Share	Natio	nal Ranking		
Computer	and Info	rmation	Science	S			45	54
15.1	16.5	18.3	18.3	15.8	0.51%	0.51%	45	54
Engineerir	ng							
79.5	72.2	84.7	103.8	122.0	0.58%	0.59%	47	47
Geoscieno	ces, Atm	ospheric	;, and O	cean Scier	nces			
31.1	32.1	33.9	44.2	42.8	0.95%	1.09%	29	22
Life Science	ces							
437.1	447.6	471.0	522.9	541.3	0.88%	0.84%	39	37
Mathemat	ics and	Statistics	 S					
3.1	3.3	4.1	7.5	8.5	0.39%	0.71%	66	31
Physical S	sciences							
149.1	140.7	142.5	173.3	175.2	2.62%	2.49%	5	7
Psycholog	ly							
2.9	4.3	6.6	10.2	11.6	0.21%	0.62%	116	54
Social Sci	ences						40	00
17.7	18.6	22.5	27.5	40.1	0.60%	0.76%	46	32
Transdisci	plinary,	Multidisc	iplinary	and Other	Sciences		24	
7.6	6.2	10.7	13.2	14.9	0.79%	1.10%	31	26
Non-Scier	nce and	Engineer	ing					
17.7	28.7	30.1	34.5	40.1	0.35%	0.50%	89	66
2020				2024	2020	202	24 2020	2024

Exhibit UA.R.8: Total Research Expenditures by Detailed Discipline

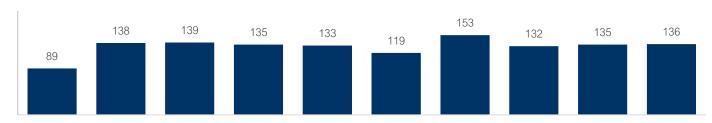
Research Discipline	2024 Expenditures	% of Discipline	% of Total
Computer and Information Sciences	15,770,000	100.0%	1.6%
Computer and Information Sciences	15,770,000	100.0%	1.6%
Engineering	121,989,000	100%	12.0%
Aerospace, Aeronautical and Astronautical Engineering	3,372,000	2.8%	0.3%
Bioengineering and Biomedical Engineering	11,675,000	9.6%	1.2%
Chemical Engineering	8,134,000	6.7%	0.8%
Civil Engineering	6,864,000	5.6%	0.7%
Electrical, Electronic and Communications Engineering	58,925,000	48.3%	5.8%
Industrial and Manufacturing Engineering	8,064,000	6.6%	0.8%
Mechanical Engineering	4,050,000	3.3%	0.4%
Metallurgical and Materials Engineering	11,956,000	9.8%	1.2%
	8,949,000	7.3%	0.9%
Other Engineering	8,949,000	1.3%	0.9%
Geosciences, Atmospheric and Ocean Sciences	42,795,000	100.0%	4.2%
Atmospheric Science and Meteorology	9,322,000	21.8%	0.9%
Geological and Earth Sciences	29,651,000	69.3%	2.9%
Ocean Sciences and Marine Sciences	2,504,000	5.9%	0.2%
Other Geosciences, Atmospheric and Ocean Sciences	1,318,000 l	3.1%	0.1%
Life Sciences	541,325,000	100.0%	53.5%
Agricultural Sciences	81,708,000	15.1%	8.1%
Biological and Biomedical Sciences	259,704,000	48.0%	25.7%
Health Sciences	184,791,000	34.1%	18.3%
Natural Resources and Conservation	15,111,000	2.8%	1.5%
Other Life Sciences	11,000	0.0%	0.0%
Mathematics and Statistics	8,518,000	100.0%	0.8%
Mathematics and Statistics	8,518,000	100.0%	0.8%
Physical Sciences	175,219,000	100.0%	17.3%
Astronomy and Astrophysics	149,959,000	85.6%	14.8%
Chemistry	12,891,000	7.4%	1.3%
Materials Science	5,150,000	2.9%	0.5%
Physics	7,219,000	4.1%	0.7%
Other Physical Sciences	0	0.0%	0.0%
Psychology	11,604,000	100.0%	1.1%
Psychology	11,604,000	100.0%	1.1%
Psychology	11,604,000	100.0%	1.1%
Social Sciences	40,113,000	100.0%	4.0%
Anthropology	6,469,000	16.1%	0.6%
Economics	5,676,000	14.2%	0.6%
Political Science and Government	2,380,000	5.9%	0.2%
Sociology, Demography and Population Studies	6,988,000	17.4%	0.7%
Other Social Sciences	18,600,000	46.4%	1.8%
Other Sciences	14,944,000	100.0%	1.5%
Transdisciplinary, Multidisciplinary and Other Sciences	14,944,000	100.0%	1.5%
Non-Science and Engineering	40,127,000	100.0%	4.0%
Business Management and Business Administration	12,390,000	30.9%	1.2%
Communication and Communications Technologies	1,251,000	3.1%	0.1%
Education	6,461,000	16.1%	0.1%
Humanities	9,425,000	23.5%	0.9%
Law	3,698,000	9.2%	0.4%
Social Work	0	0.0%	0.0%
Visual and Performing Arts	4,487,000	11.2%	0.4%
Other Non-Science and Engineering	2,415,000 l	6.0%	0.2%

## Exhibit UA.R.9: Technology Transfer Inputs

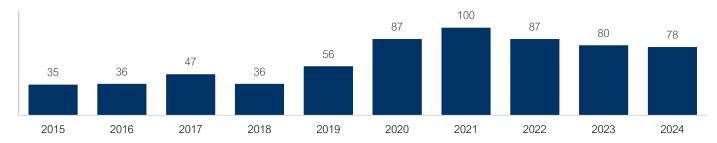
#### Invention Disclosures Received



#### **New Patent Applications**

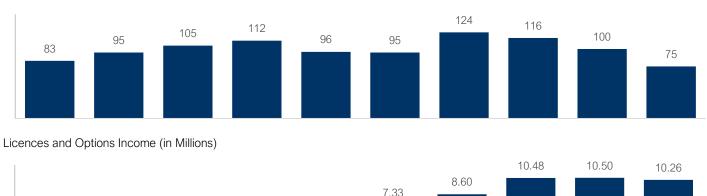


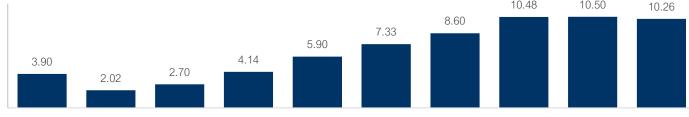
#### **US** Patents Issued

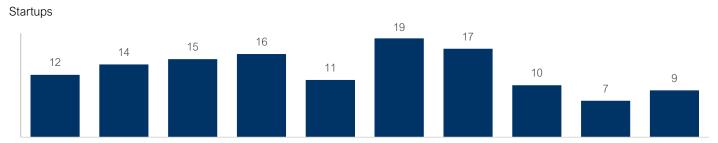


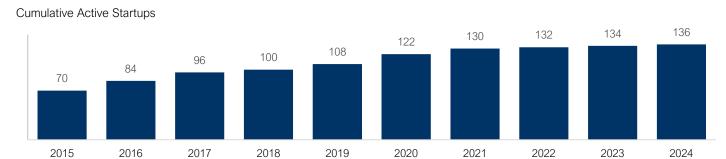
## Exhibit UA.R.10: Technology Transfer Outputs

### Licenses and Options Executed









#### Income and Distributions

Intellectual Property Income	2020	2021	2022	2023	2024
License and Options Income	7,333,122	8,603,693	10,478,208	10,498,219	10,257,520
Legal Fees Reimbursed	993,655	1,021,416	971,579	1,250,678	850,597
Other Revenue	0	0	0	0	0
Total	8,326,777	9,625,109	11,449,787	11,748,897	11,108,117
Royalty Distributions	2020	2021	2022	2023	2024
Inventors	-2,435,343	-2,867,783	-3,518,608	-3,374,230	-3,415,132
Laboratories and Units	-2,157,018	-2,569,805	-2,992,094	-3,042,381	-3,024,831
University	-2,365,761	-2,866,105	-3,492,506	-3,531,597	-3,317,557
Undistributed	375,000	300,000	475,000	550,000	500,000
Total	-6,583,122	-8,003,693	-9,528,208	-9,398,208	-9,257,520

