

Life Sciences in Maine

State of the Industry

2022

About Us

The Bioscience Association of Maine (BioME) is a trade organization which promotes the industry's steady growth, interprets its benefits to the public, and influences pertinent public policy.

BioME's mission is to advance economic growth and opportunities within the life sciences community in Maine by allocating equal involvement in life sciences advocacy, education, economic development, workforce development, and attracting out-of-state business.

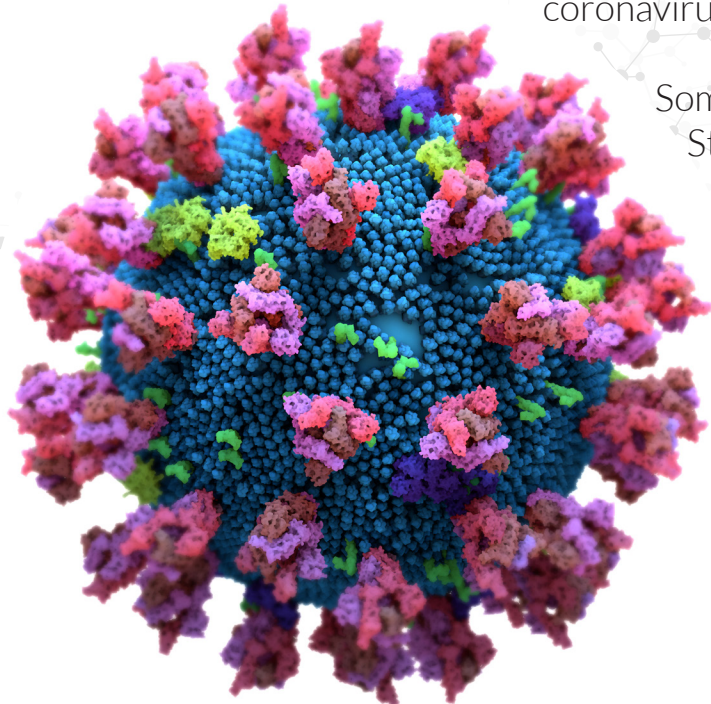
biomaine.org

A Note on the Coronavirus Pandemic

The ongoing coronavirus pandemic (COVID-19) has had major impacts not only on public health but from an economic perspective as well. Employment levels for the broader economy remain unstable compared to pre-pandemic levels, while supply chain disruptions, high inflation, and other macroeconomic headwinds persist.

Yet, Maine's life science sector organizations were key responders to the public health crisis, and, as a result, employment has jumped dramatically since the early days of COVID-19. It remains to be seen whether recent employment levels persist and this will likely depend on the ongoing prevalence of coronavirus variants and public health response measures.

Some caution is warranted in interpreting the key findings in this State of the Industry report due to the uncertain nature of the ongoing pandemic. However, the strong response of the life sciences industry at the onset of the pandemic has established competitive advantages that bode well for the industry moving forward, particularly as the disease continues to evolve and pose public health risks to society, which Maine's life science sector plays an important role in addressing.



Economic Impact

9,540
Jobs

\$108K
Average Annual
Income

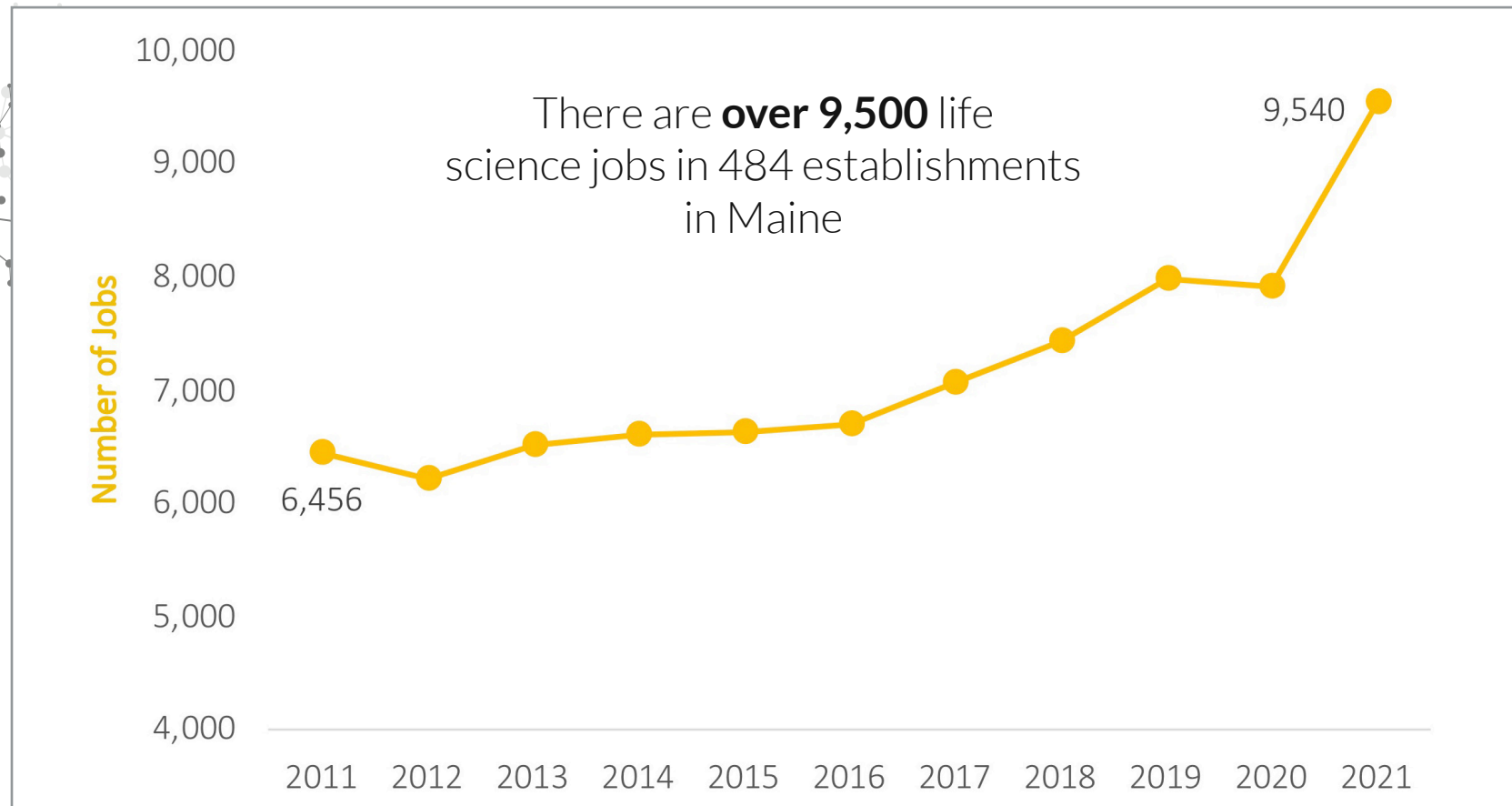
\$2.2
Billion
of Maine's
Total GRP

4.2%
of Maine's
Total Exports

Industry Overview

Jobs
Employers
Job Growth
Jobs Multiplier
Earnings
Sectors
Subindustries
Occupations

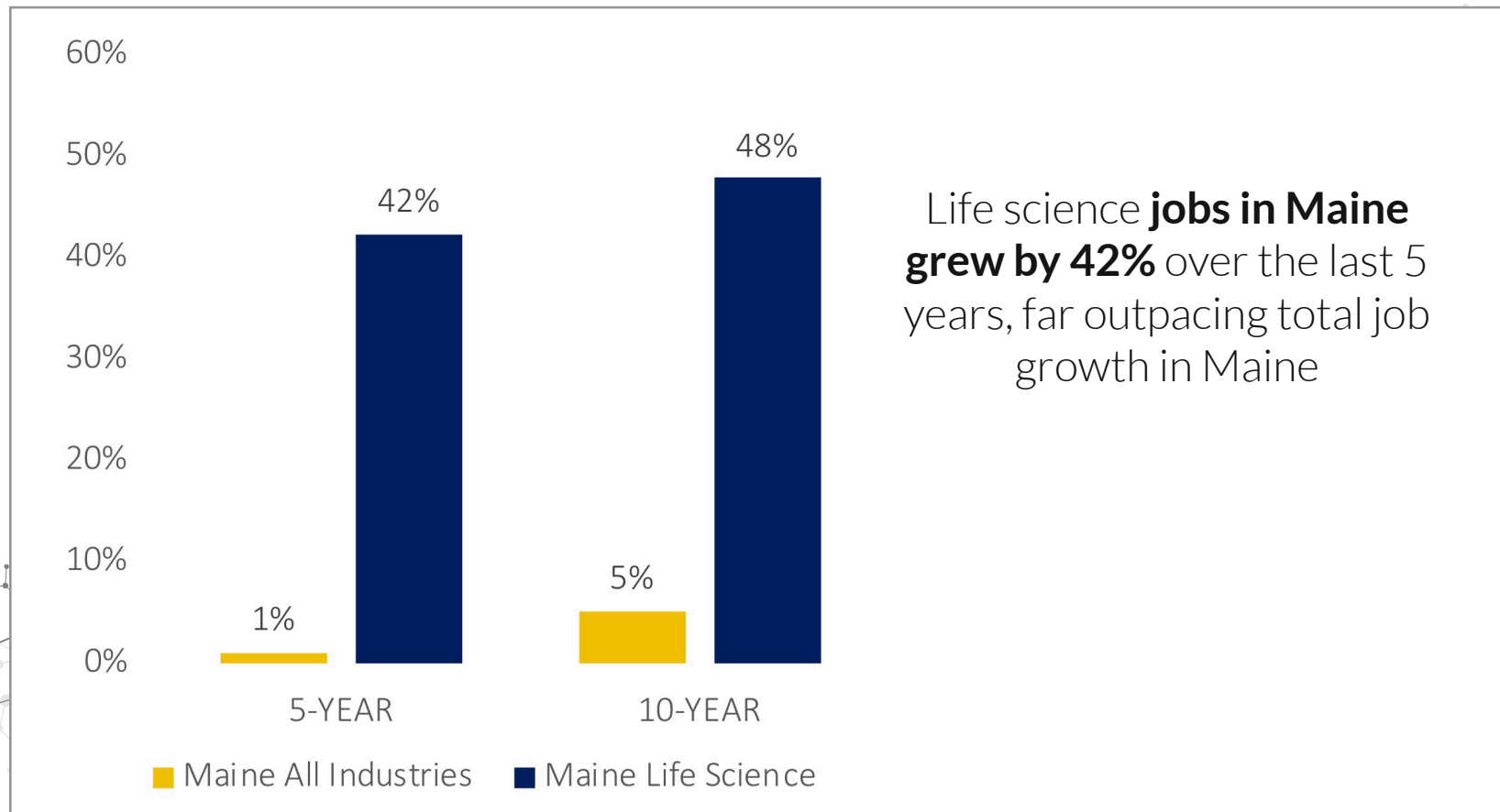
Jobs



Source: Economic Modeling Specialists Inc. (EMSI); US Bureau of Labor Statistics (BLS) Quarterly Census of Employment & Wages (QCEW). *Note: Data does not capture life science related employment at Maine's higher education institutions.

See the Higher Education section for additional information on the impact of these institutions to Maine's life science industry. Additional information on the industries included in this analysis can be found in the attachments.

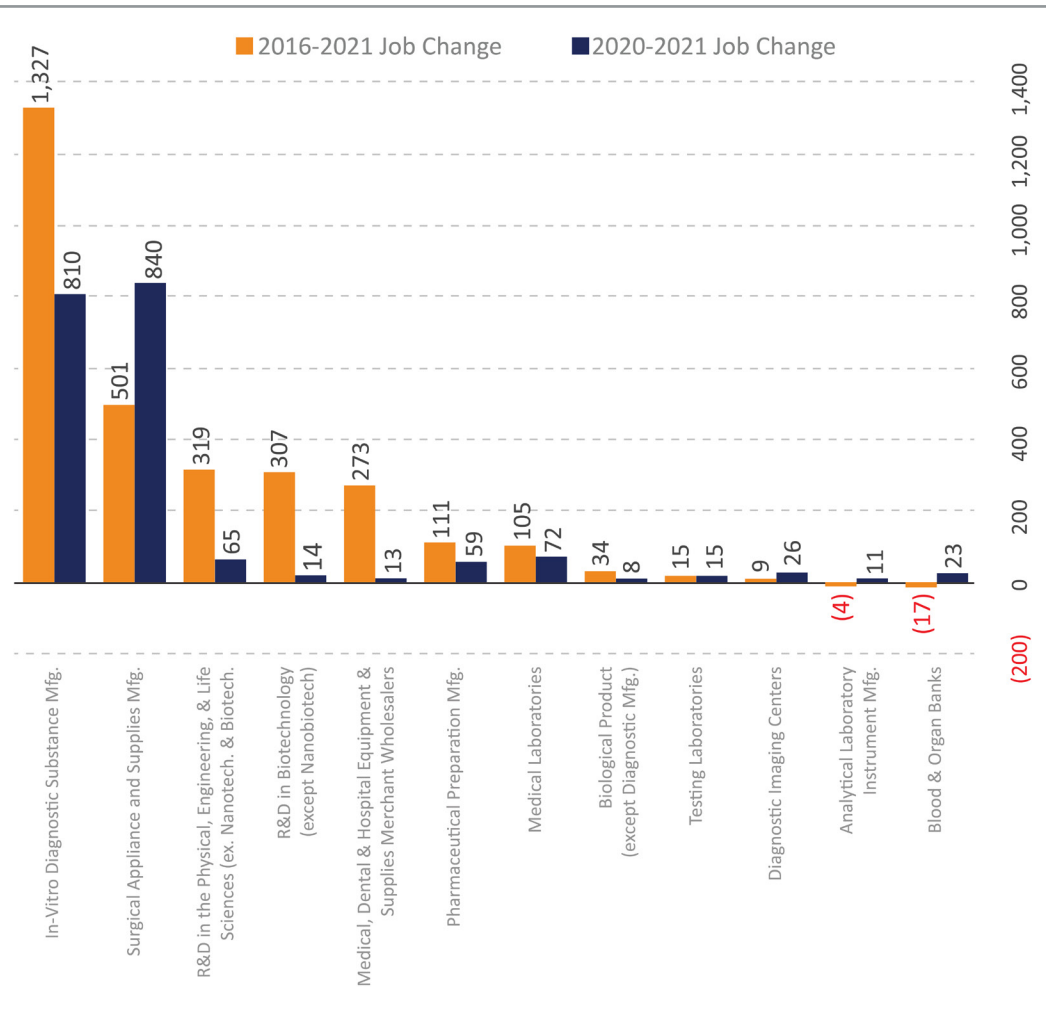
Job Growth



Source: EMSI; BLS QCEW

Job Growth

Job growth was driven by **In-Vitro Diagnostic Substance Manufacturing and Surgical Appliance and Supplies Manufacturing**, both adding significant jobs before and during the pandemic. **Research and Development** industries were also key contributors over the last 5 years



Source: BKS, QCEW; EMSI.

Job Growth

Life science jobs in Maine grew **at the fastest pace** of all New England States during the last 5 years

| LIFE SCIENCE JOBS | | | | | | | | |
|-----------------------|--------|-------|---------|--------|-------|-------|-------------|-----------|
| Year | CT | ME | MA | NH | RI | VT | New England | U.S. |
| 2011 | 30,131 | 6,456 | 98,251 | 8,633 | 6,545 | 2,522 | 152,538 | 2,009,478 |
| 2012 | 28,623 | 6,219 | 96,789 | 8,558 | 6,624 | 2,822 | 149,635 | 2,021,195 |
| 2013 | 27,900 | 6,522 | 97,893 | 8,787 | 6,518 | 2,863 | 150,483 | 2,025,775 |
| 2014 | 27,832 | 6,605 | 100,553 | 8,791 | 6,594 | 2,782 | 153,157 | 2,043,716 |
| 2015 | 27,418 | 6,641 | 103,730 | 8,832 | 6,566 | 2,789 | 155,976 | 2,082,329 |
| 2016 | 26,552 | 6,703 | 109,292 | 9,001 | 6,431 | 2,791 | 160,770 | 2,124,954 |
| 2017 | 25,779 | 7,066 | 114,117 | 9,266 | 6,465 | 2,575 | 165,268 | 2,124,639 |
| 2018 | 26,749 | 7,433 | 123,538 | 9,848 | 6,386 | 2,637 | 176,591 | 2,231,087 |
| 2019 | 27,976 | 7,994 | 132,324 | 10,541 | 6,924 | 2,810 | 188,570 | 2,324,193 |
| 2020 | 27,922 | 7,918 | 136,116 | 10,822 | 7,348 | 3,050 | 193,178 | 2,361,320 |
| 2021 | 27,583 | 9,540 | 140,358 | 10,774 | 7,664 | 2,995 | 198,914 | 2,258,064 |
| 2016-2021 % Change | 4% | 42% | 28% | 20% | 19% | 7% | 24% | 6% |
| 2011-2021 % Change | -8% | 48% | 43% | 25% | 17% | 19% | 30% | 12% |

Source: EMSI; BLS QCEW

Employers

Some of Maine's largest life science employers include:

- IDEXX (4,200+)
- Jackson Laboratory (1,600+)
- Puritan Medical Products (750+)
- Abbott (500+)
- Corning Inc. (400+)*
- Covetrus (300+)
- University of Maine (300+)*
- Maine Health Institute for Research (250+)
- The Baker Company (150+)
- Elanco (120+)
- EnviroLogix (120+)

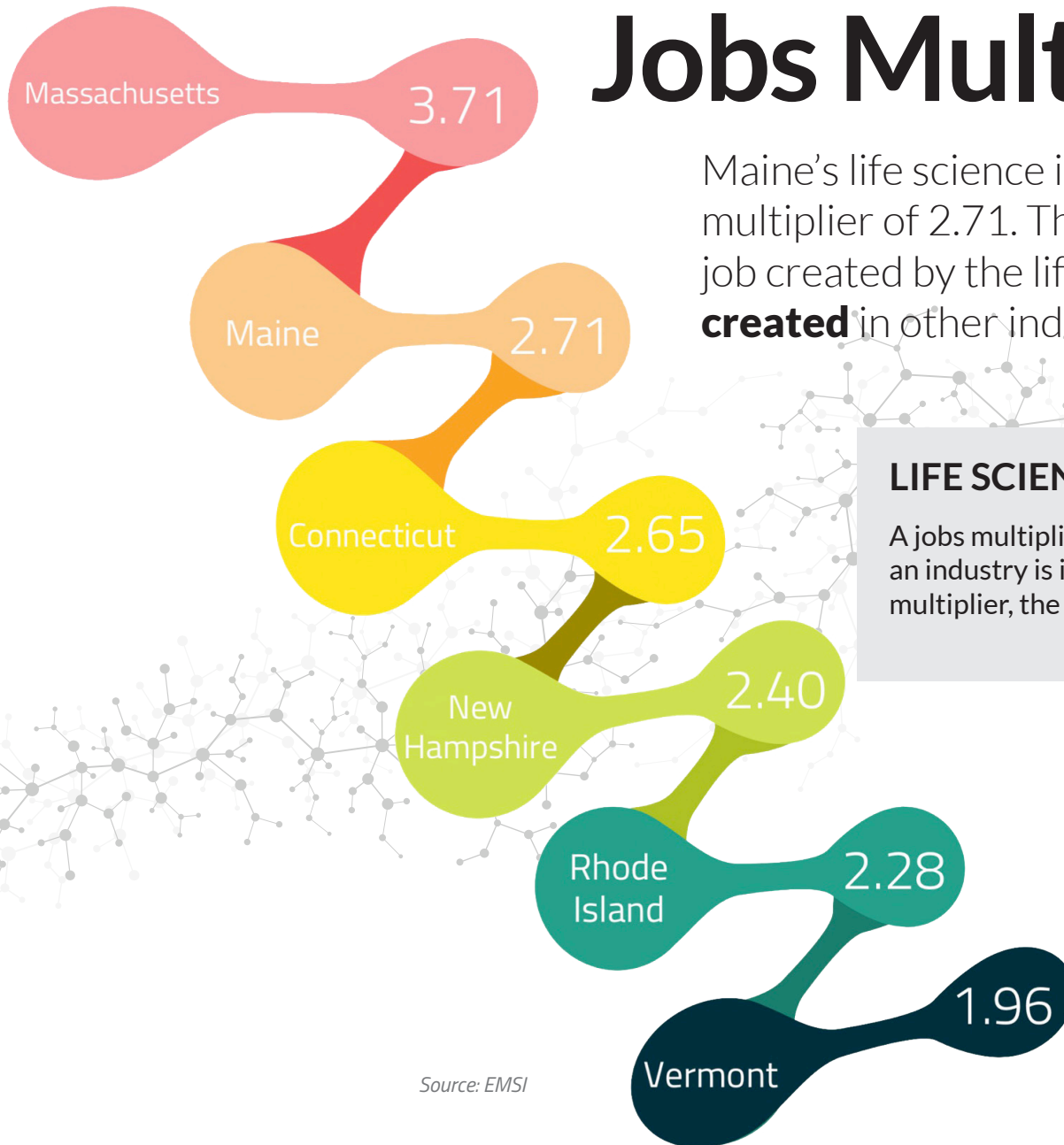
*Source: BioME Survey, 2019 & 2022*Corning Incorporated and University of Maine's employees are not included in the overall number of Maine life science jobs.*

Jobs Multiplier

Maine's life science industry has a job multiplier of 2.71. This means that for every job created by the life sciences, **1.71 jobs are created** in other industries in Maine.

LIFE SCIENCE JOBS MULTIPLIER

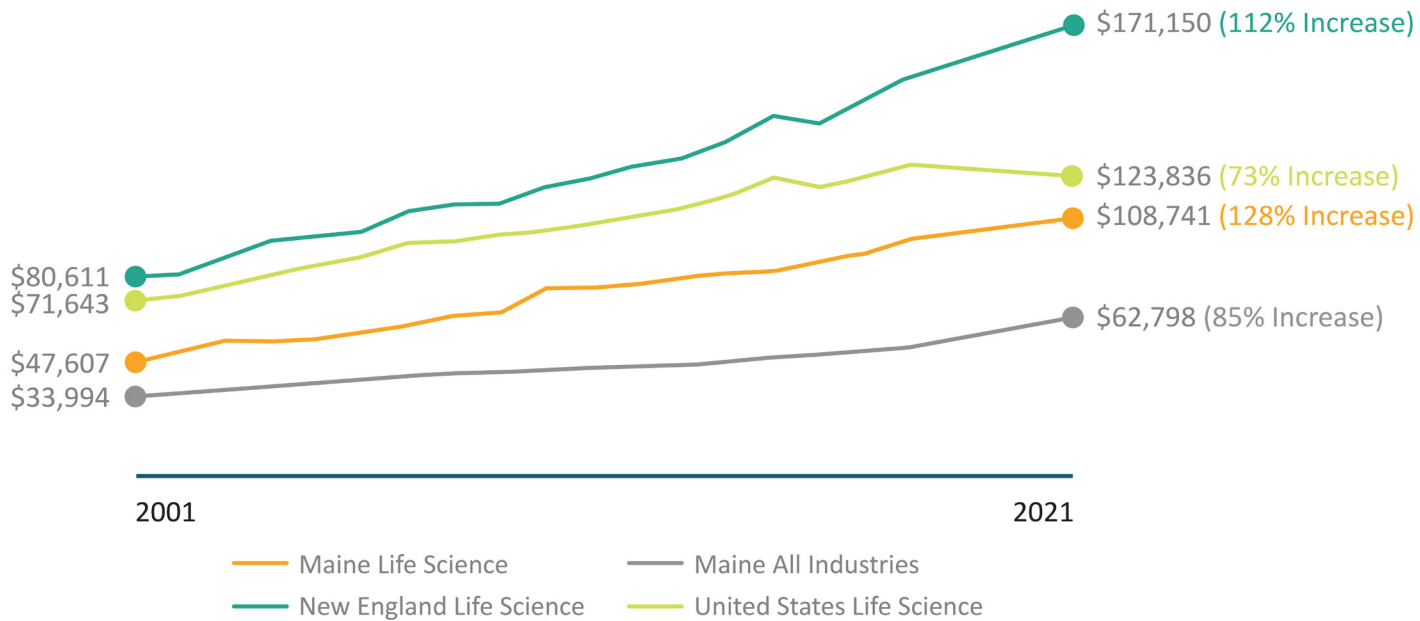
A jobs multiplier is used to indicate how important an industry is in regional job creation. The higher the multiplier, the bigger the impact on the economy.



Source: EMSI

Earnings

Between 2001 and 2021, average earnings of Maine's Life Science **jobs increased by 128% to \$108,741**, far outpacing earnings growth across all of Maine's industries and the New England region

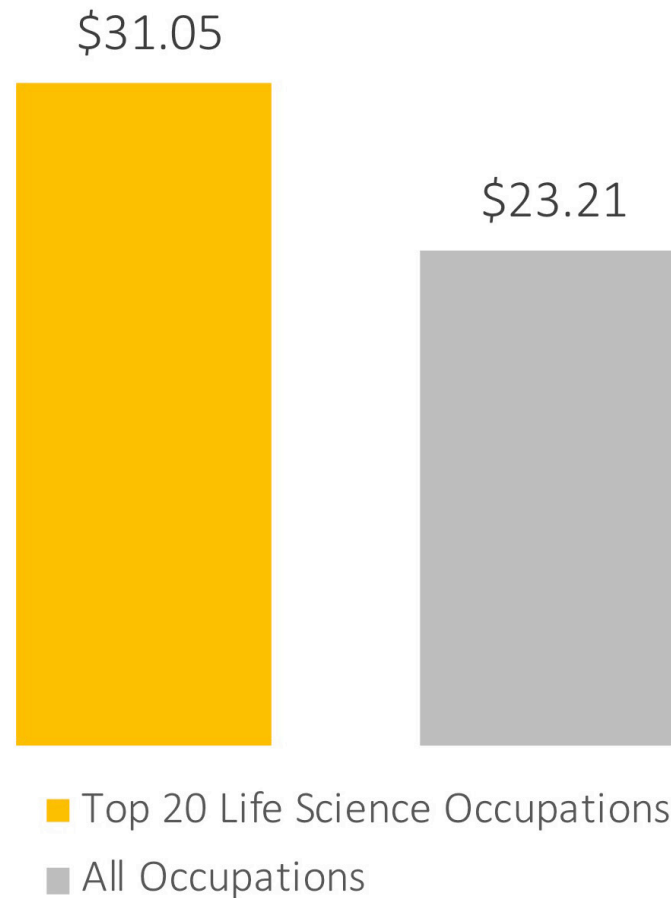


Percent Change in Average Annual Earnings, 2001-2021

Source: EMSI; BLS QCEW

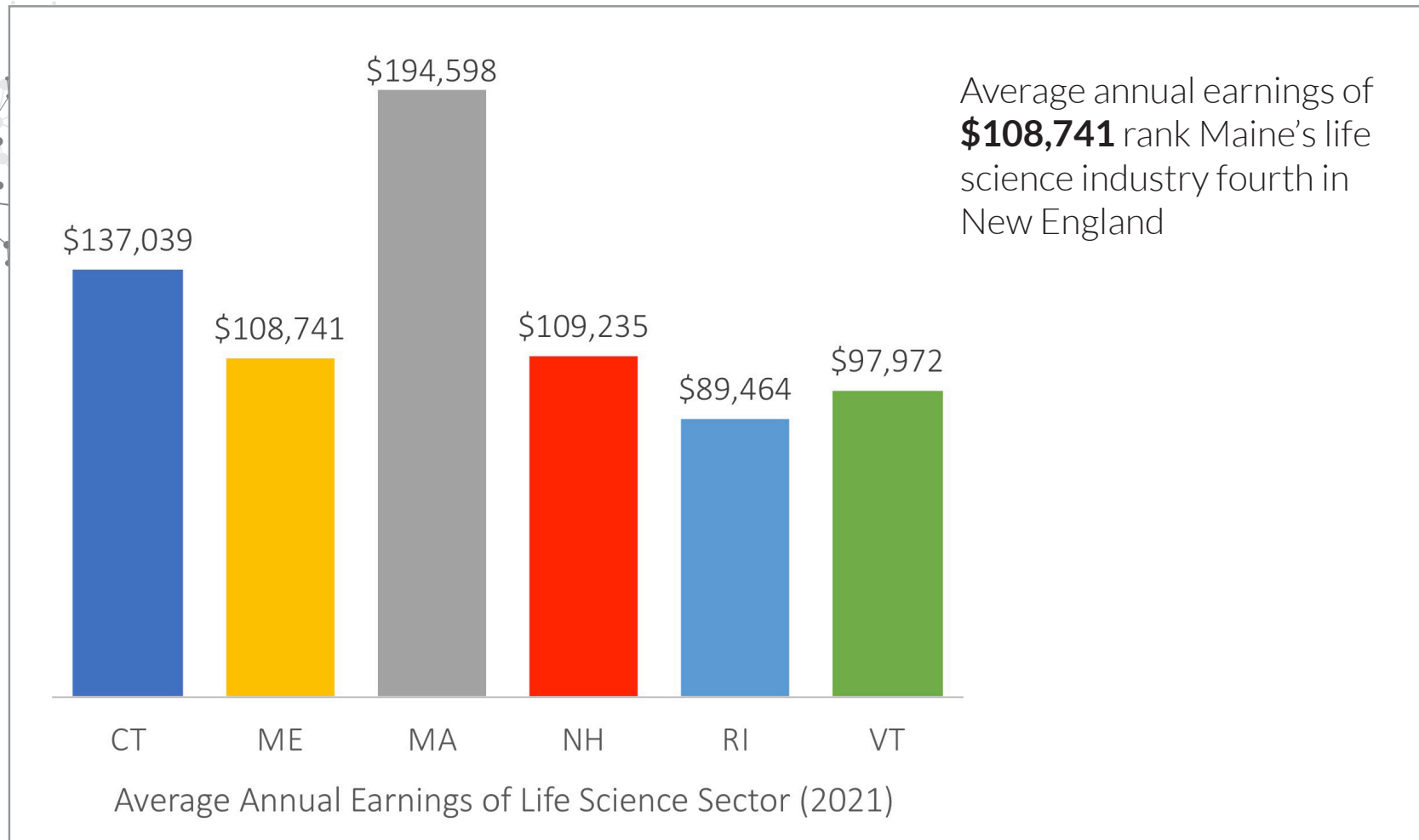
Earnings

Median hourly **earnings are higher** for Maine's life science occupations than for all occupations



Source: EMSI

Earnings



Source: EMSI; BLS QCEW

Top Occupations

Maine's life science occupations offer **competitive career pathways**, with 15 of the top 20 occupations offering **higher wages** than the state median

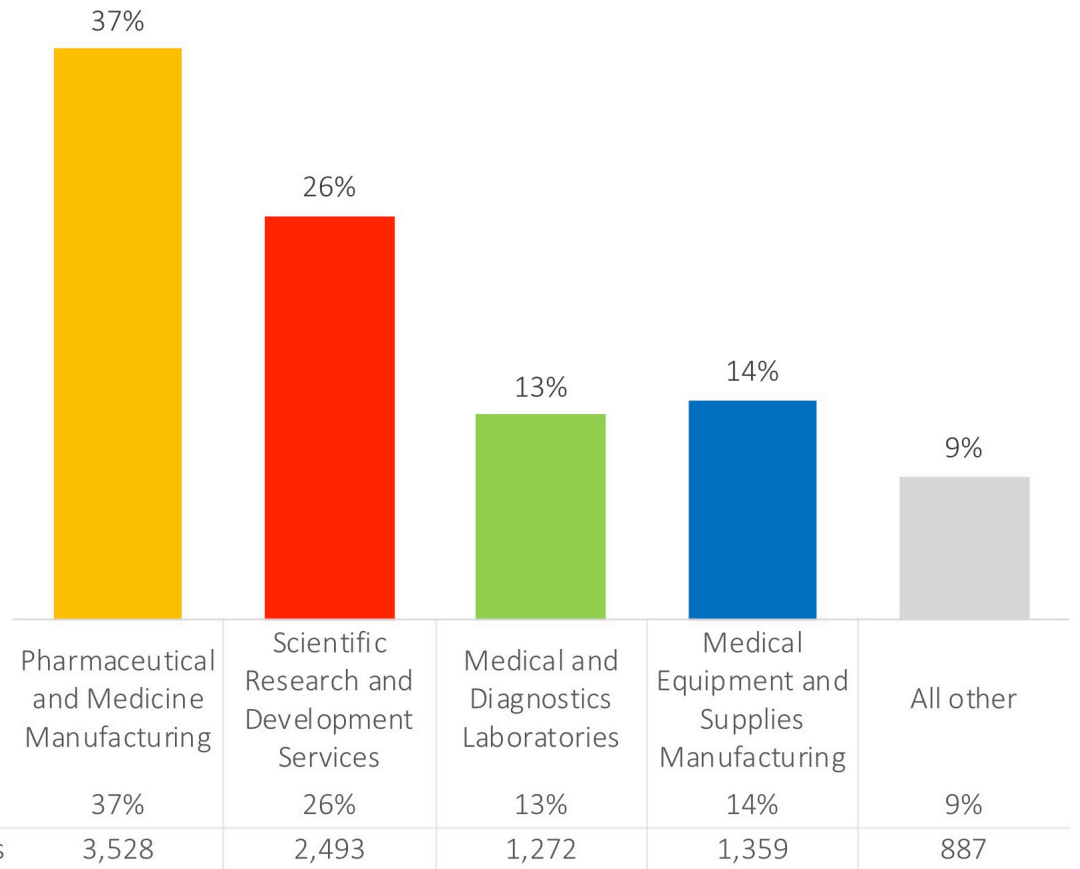
LIFE SCIENCE OCCUPATIONS

| Occupation | Employed 2016 | Employed 2021 | Median Hourly Earnings | Typical Entry Level Education |
|---|---------------|---------------|------------------------|-----------------------------------|
| Packaging and Filling Machine Operators and Tenders | 213 | 387 | \$19.77 | High school diploma or equivalent |
| Clinical Laboratory Technologists and Technicians | 278 | 351 | \$27.12 | Bachelor's degree |
| General and Operations Managers | 167 | 235 | \$42.91 | Bachelor's degree |
| First-Line Supervisors of Production and Operating Workers | 129 | 233 | \$32.21 | High school diploma or equivalent |
| Biological Technicians | 171 | 215 | \$26.19 | Bachelor's degree |
| Inspectors, Testers, Sorters, Samplers, and Weighers | 105 | 214 | \$21.63 | High school diploma or equivalent |
| Chemists | 117 | 208 | \$32.55 | Bachelor's degree |
| Miscellaneous Assemblers and Fabricators | 131 | 205 | \$17.38 | High school diploma or equivalent |
| Natural Sciences Managers | 94 | 203 | \$55.36 | Bachelor's degree |
| Biochemists and Biophysicists | 158 | 203 | \$35.09 | Doctoral or professional degree |
| Customer Service Representatives | 125 | 187 | \$16.86 | High school diploma or equivalent |
| Project Management and Business Operations Specialists, All Other | 85 | 177 | \$32.17 | Bachelor's degree |
| Phlebotomists | 217 | 172 | \$15.26 | Postsecondary nondegree award |
| Industrial Engineers | 94 | 163 | \$41.20 | Bachelor's degree |
| Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products | 44 | 162 | \$37.24 | Bachelor's degree |
| Software Developers and Software Quality Assurance Analysts and Testers | 107 | 136 | \$43.69 | Bachelor's degree |
| Office Clerks, General | 97 | 127 | \$17.07 | High school diploma or equivalent |
| Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products | 45 | 116 | \$28.83 | Bachelor's degree |
| Industrial Production Managers | 60 | 109 | \$46.56 | High school diploma or equivalent |
| Personal Service Managers, All Other; Entertainment and Recreation Managers, Except Gambling; and Managers, All Other | 71 | 107 | \$31.96 | High school diploma or equivalent |

Source: EMSI

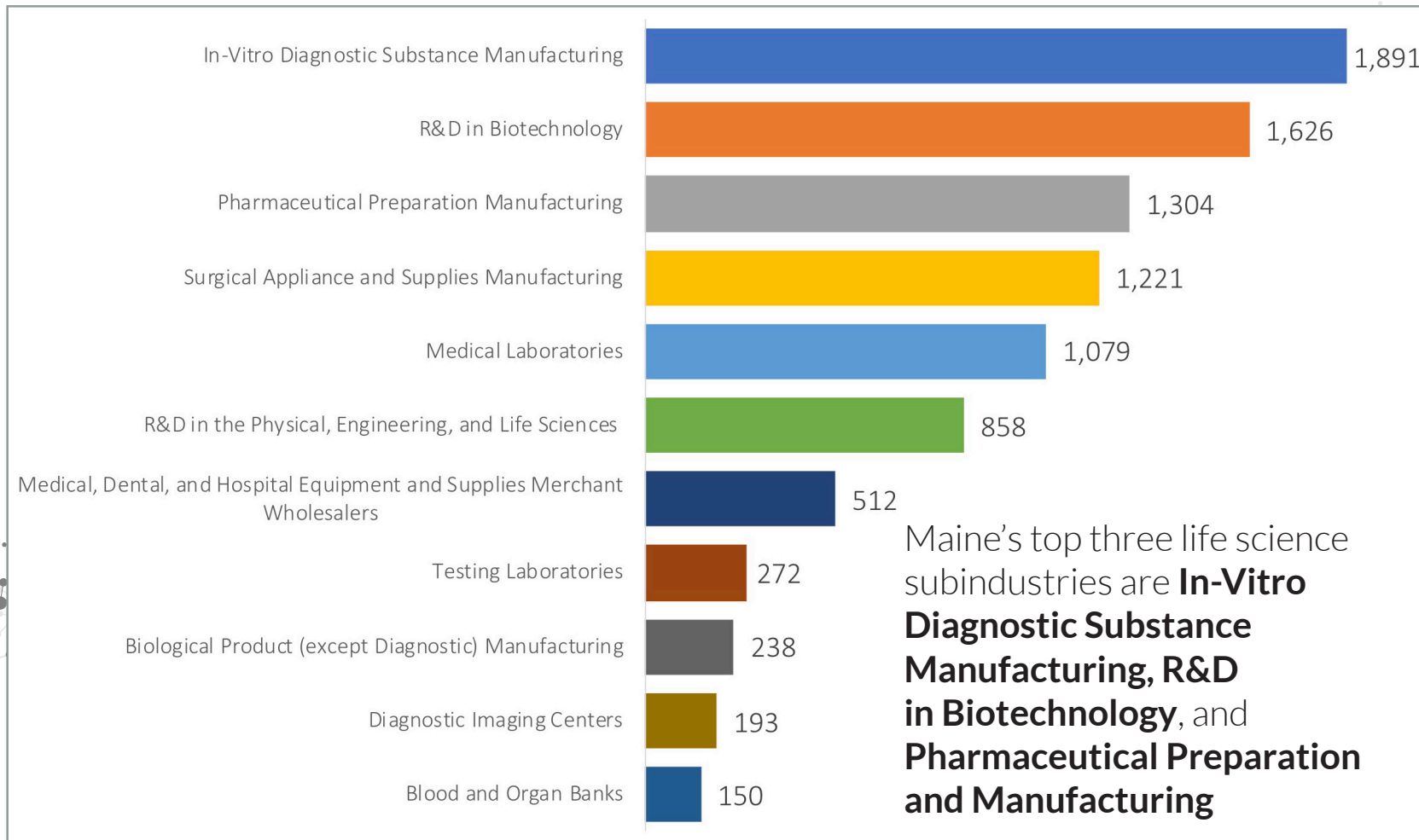
Top Sectors

Almost two-thirds of Maine's life science jobs are in the **Pharmaceutical and Medicine Manufacturing and Scientific Research and Development Services** sectors



Source: EMSI; BLS QCEW

Top Subindustries



Source: EMSI; BLS QCEW

Industry Comparison

LIFE SCIENCE INDUSTRY COMPARISON 2021

| | Establishments | Jobs | Total jobs | % Total Jobs | 2016-2021 % Job Change | Average Earnings per Job |
|---------------|----------------|-----------|-------------|--------------|------------------------|--------------------------|
| Connecticut | 1,714 | 27,583 | 1,590,866 | 2% | 4% | \$137,039 |
| Maine | 501 | 9,540 | 609,907 | 2% | 42% | \$108,741 |
| Massachusetts | 4,878 | 140,358 | 3,457,484 | 4% | 28% | \$194,598 |
| New Hampshire | 800 | 10,774 | 649,112 | 2% | 20% | \$109,235 |
| Rhode Island | 681 | 7,664 | 463,763 | 2% | 19% | \$89,464 |
| Vermont | 324 | 2,995 | 291,485 | 1% | 7% | \$97,972 |
| New England | 8,898 | 198,914 | 7,062,617 | 3% | 24% | \$171,150 |
| United States | 120,349 | 2,258,064 | 122,692,752 | 2% | 6% | \$123,836 |

Source: EMSI

Industry Investment

National Science Foundation

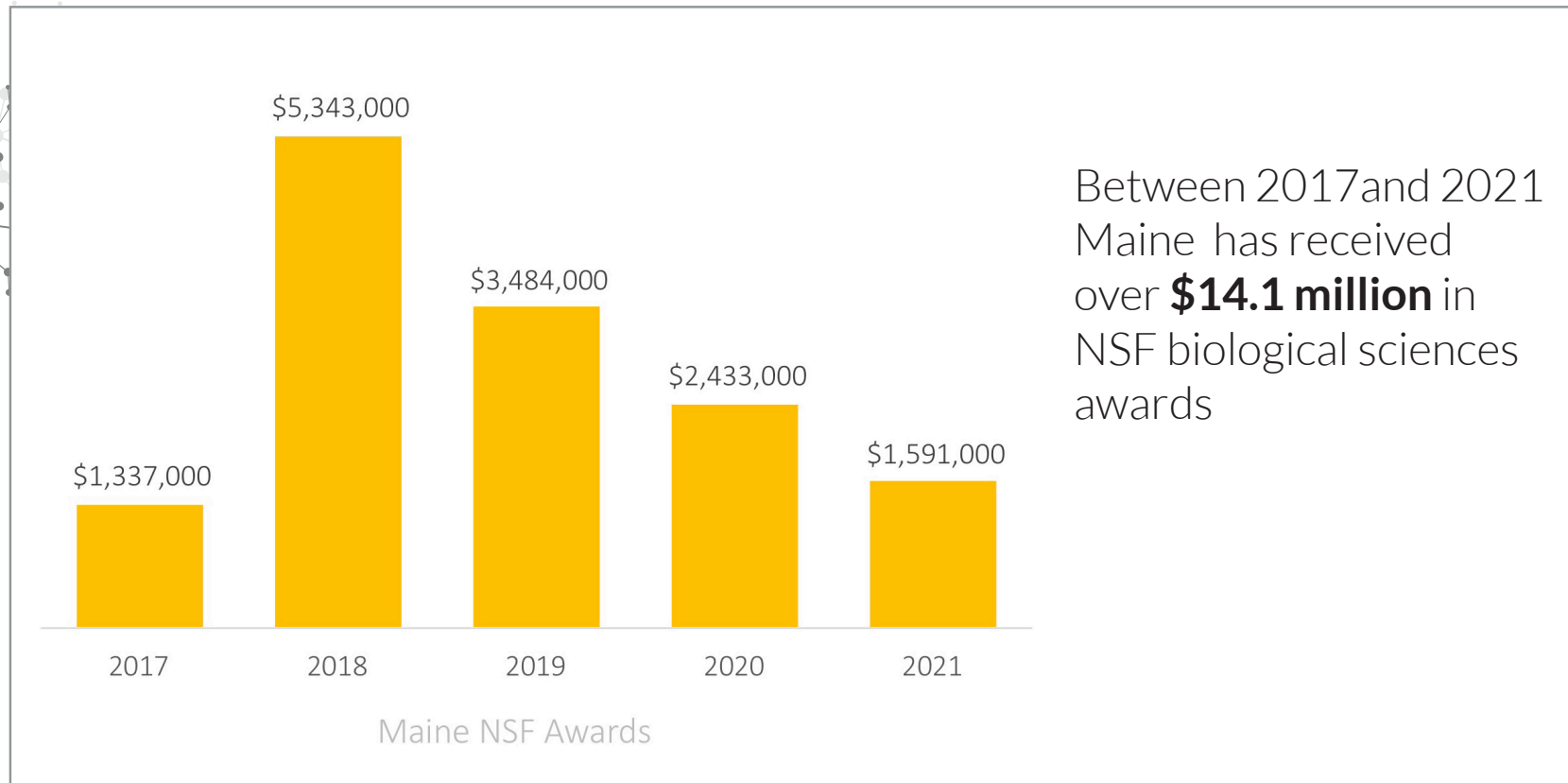
National Institute of Health

SBIR/STTR

Maine Technology Institute

Venture Capital

NSF Awards



Source: Source: NSF (National Science Foundation) Budget Internet Information System, Award Summary by State/Institution; <https://dellweb.bfa.nsf.gov/starth.asp>
Note: Data includes NSF Biological Sciences Awards

NSF Awards

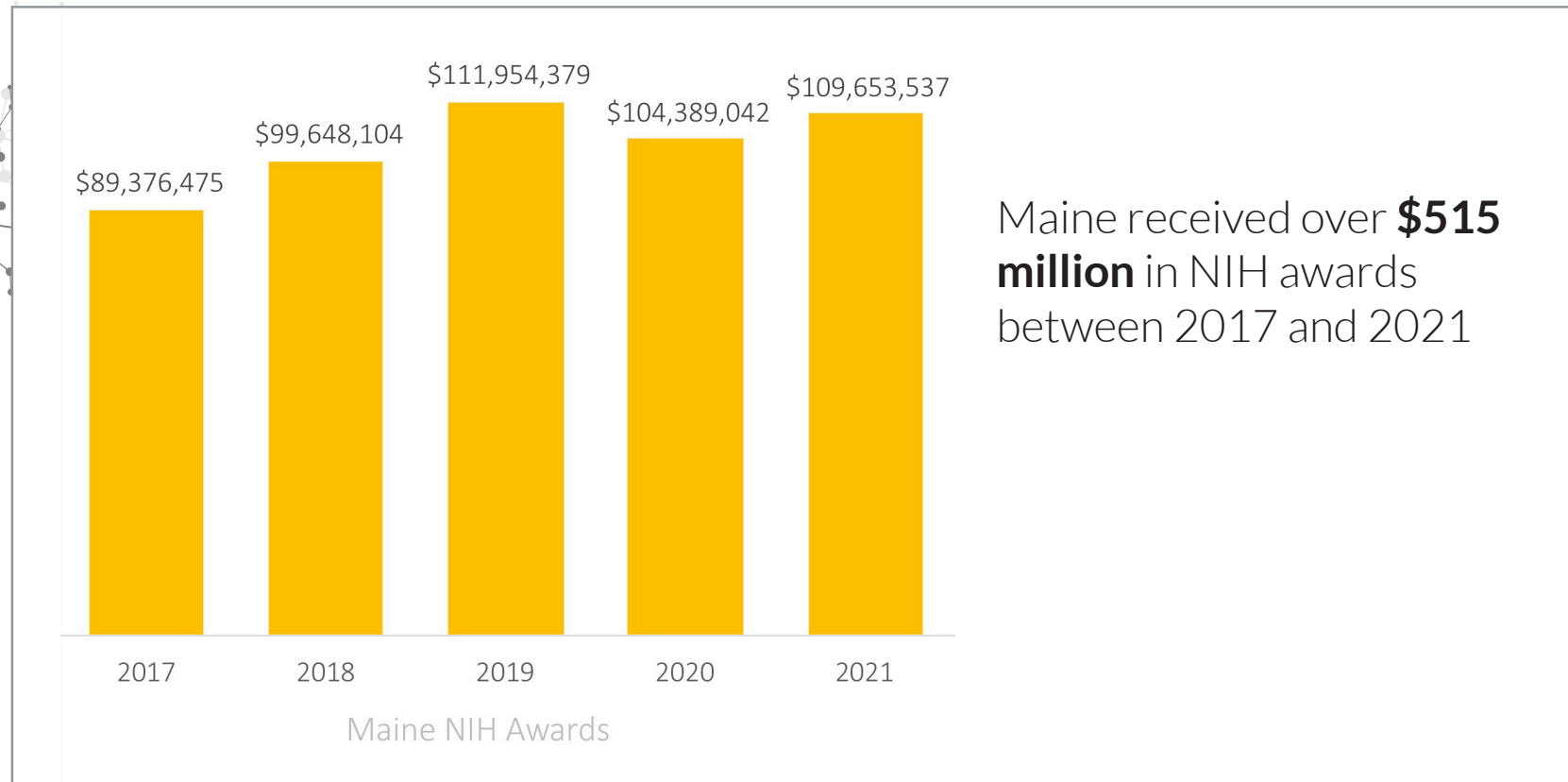
NSF awards support higher education and nonprofit research institutions

NSF BIOLOGICAL SCIENCES AWARDS, 2017-2021

| Institution | Award Amount (\$) | % of Total | Number of Awards | % of Total |
|---------------------------------------|---------------------|-------------|------------------|-------------|
| University of Maine | \$4,894,000 | 35% | 14 | 29% |
| Bowdoin College | \$3,123,000 | 23% | 12 | 25% |
| Bigelow Laboratory for Ocean Sciences | \$1,787,000 | 13% | 3 | 6% |
| Jackson Laboratory | \$1,276,000 | 9% | 3 | 6% |
| Colby College | \$1,214,000 | 9% | 5 | 10% |
| University of New England | \$653,000 | 5% | 3 | 6% |
| Bates College | \$605,000 | 4% | 5 | 10% |
| Individual Award(s) | \$138,000 | 1% | 1 | 2% |
| Gulf of Maine Research Institute | \$96,000 | 0.7% | 1 | 2% |
| Hurricane Island Foundation | \$25,000 | 0.2% | 1 | 2% |
| Total | \$13,811,000 | 100% | 48 | 100% |

Source: Source: NSF (National Science Foundation) Budget Internet Information System, Award Summary by State/Institution; <https://dellweb.bfa.nsf.gov/starth.asp> *Includes NSF Biological Sciences Awards

NIH Awards



Source: NIH (National Institute of Health) Research Portfolio Online Reporting Tools, <https://report.nih.gov/award/index.cfm>

NIH Awards

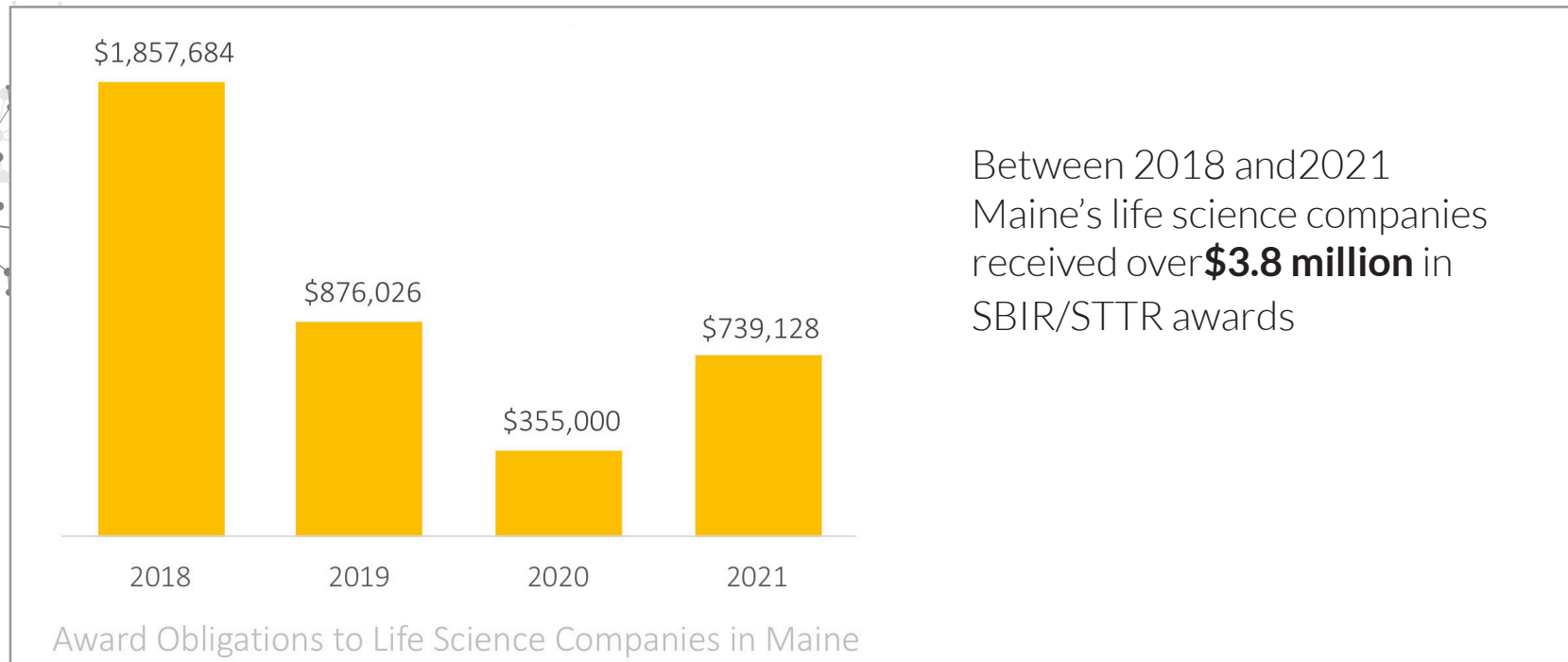
Top award recipients include: **The Jackson Laboratory, MaineHealth, and Mount Desert Island Biological Laboratory**

TOP NIH FUNDING RECIPIENTS, 2017-2021

| Institution | Award Amount (\$) | % of Total | Number of Awards | % of Total |
|--|-------------------|------------|------------------|------------|
| JACKSON LABORATORY | \$360,844,144 | 70% | 531 | 67% |
| MAINEHEALTH | \$69,239,029 | 13% | 104 | 13% |
| MOUNT DESERT ISLAND BIOLOGICAL LAB | \$38,614,803 | 7% | 55 | 7% |
| UNIVERSITY OF NEW ENGLAND | \$16,415,545 | 3% | 23 | 3% |
| NATIONAL PARTNERSHIP/ENVIRONMNTL/TECH/ED | \$10,221,888 | 2% | 16 | 2% |
| UNIVERSITY OF MAINE ORONO | \$8,762,676 | 2% | 28 | 4% |
| Total NIH Awards | \$515,021,537 | 98% | 757 | 96% |

Source: NIH (National Institute of Health) Research Portfolio Online Reporting Tools, <https://report.nih.gov/award/index.cfm>

SBIR/STTR Awards



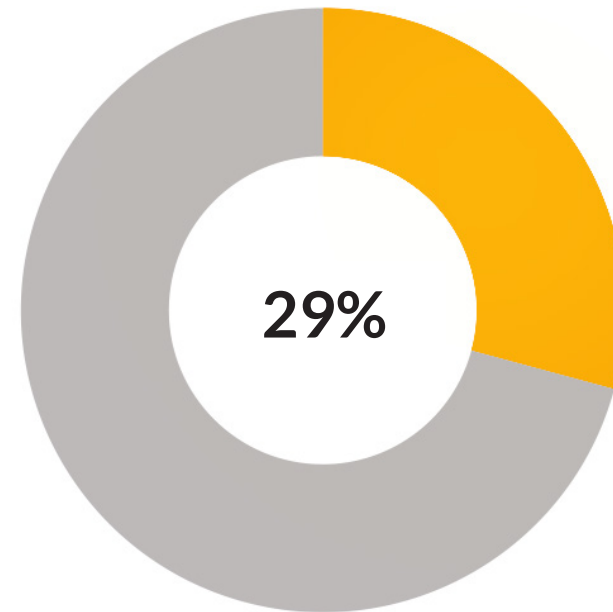
SBIR/STTR

The Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs are competitive programs that expand R&D funding opportunities for small businesses. These are intended to promote entrepreneurial R&D and the commercialization of resulting innovations. Life science related awards are those from the following agencies: National Institute of Health, Department of Health and Human Services, Office for Chemical and Biological Defense, and Defense Health Program.

Source: SBIR/STTR Awards Database, <https://www.sbir.gov/analytics-dashboard?> and Maine Technology Institute, 2019

SBIR/STTR Awards

Life science SBIR/STTR award obligations represent **nearly one-third** of all of Maine's SBIR/STTR award obligations (2018-2021)



Life Science Obligations, 2018 - 2021

Source: SBIR/STTR Awards Database, <https://www.sbir.gov/analytics-dashboard?>*Life science awards are those from the following agencies: National Institute of Health, Department of Health and Human Services, Office for Chemical and Biological Defense, and Defense Health Program

MTI Awards

The Jackson Laboratory received 70% of the total amount awarded and **The University of Maine Orono** received the largest number of awards

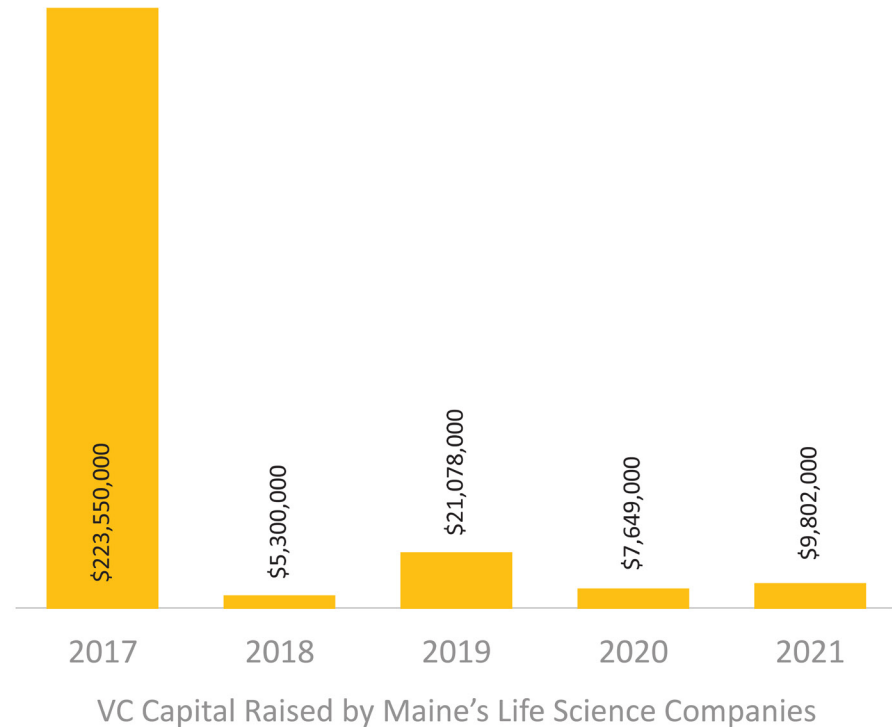
Top Award Recipients, 2017-2021

| Institution | Award Amount (\$) | % of Total | Institution | Number of Awards | % of Total |
|--------------------------------|-------------------|------------|---|------------------|------------|
| The Jackson Laboratory | \$12,500,000 | 65% | University of Maine | 12 | 9% |
| ImmuCell Corporation | \$900,000 | 5% | Bioscience Association of Maine | 5 | 4% |
| Northeastern University | \$750,000 | 4% | KinoTek Inc | 4 | 3% |
| University of Maine | \$475,215 | 2% | MedRhythms, Inc. | 4 | 3% |
| Standard Biocarbon Corporation | \$400,000 | 2% | Activas Diagnostics, LLC | 3 | 2% |
| Amplify, Inc. | \$310,000 | 2% | The Mount Desert Island Biological Laboratory | 3 | 2% |
| Total Top 6 | \$15,335,215 | 79% | Total Top 6 | 31 | 24% |
| Total All | \$19,340,891 | 100% | Total All | 127 | 100% |

Source: MTI

Venture Capital

Maine's life science companies have shown a capacity to attract VC for the life sciences, raising nearly **\$267 million** between 2017 and 2021



Source: Crunchbase.com

Venture Capital

Top VC recipients include Covetrus, Rarebreed Veterinary Partners, RxAnte, and Rockstep Solutions.

TOP VC RECIPIENTS, 2014-2018

| Institution | Capital Raised | % of Total | # of Deals | % of Total |
|-------------------------------|----------------|------------|------------|------------|
| Covetrus | \$223,000,000 | 73% | 3 | 13% |
| Rarebreed Veterinary Partners | \$40,000,000 | 13% | 3 | 13% |
| RxAnte | \$25,600,000 | 8% | 3 | 13% |
| RockStep Solutions | \$6,584,295 | 2% | 6 | 25% |
| Total Top 4 | \$295,184,295 | 96% | 15 | 63% |
| Total | \$306,661,795 | 100% | 24 | 100% |

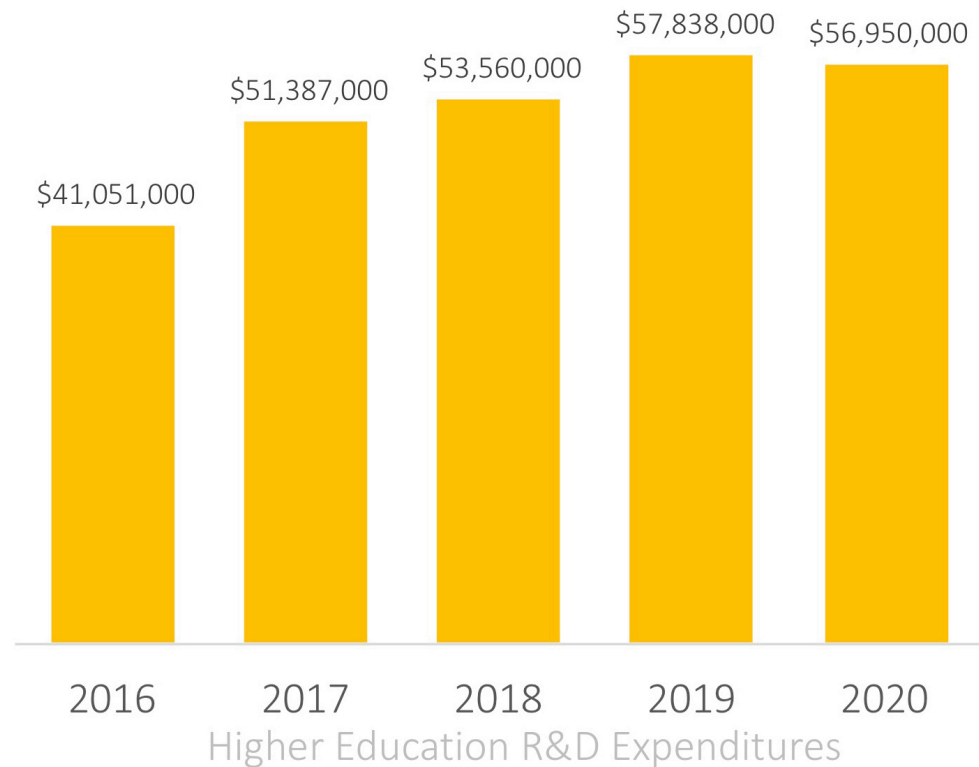
Source: Crunchbase.com

Higher Education

Research & Development
Degrees Issued

Research & Development

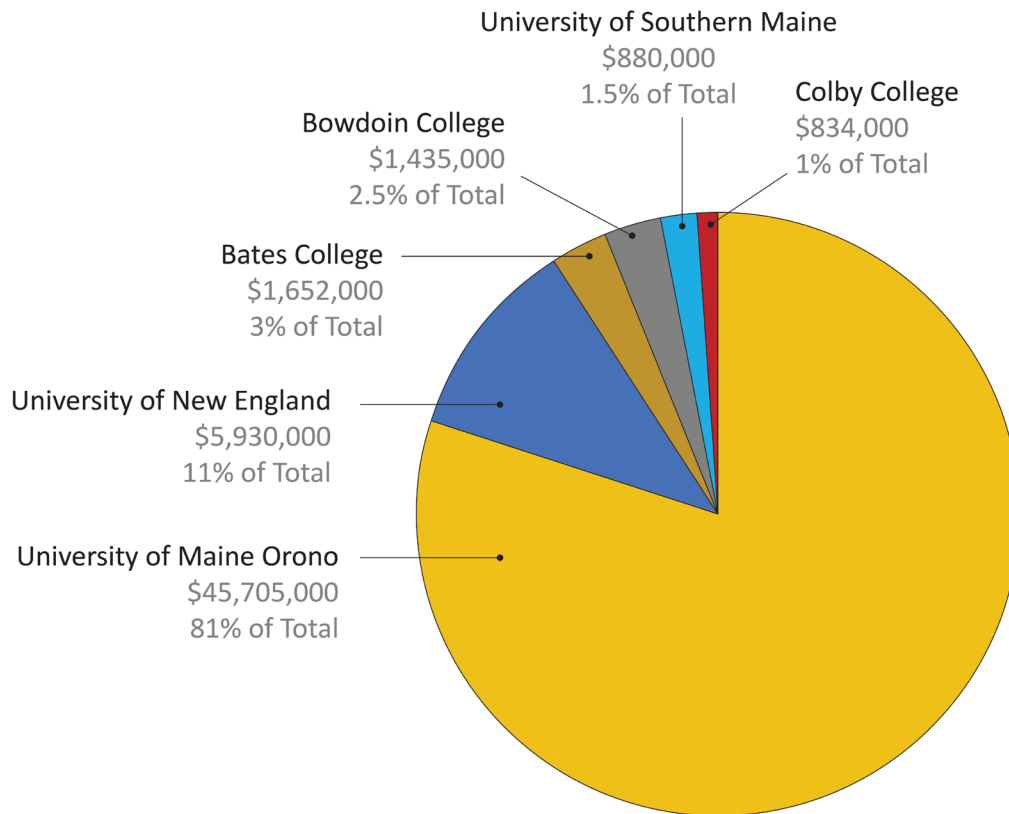
Higher education institutions utilized over **\$260 million** for life and physical science related R&D between 2016 and 2020



Source: NSF, National Center for Science and Engineering Statistics, Higher Education Research and Development Survey, <https://www.nsf.gov/statistics/srvyherd/>. 2020 is the most recent year of data availability.

Research & Development

R&D is being led by the **University of Maine Orono**, which accounts for 81% of 2020 expenditures



Source: NSF, National Center for Science and Engineering Statistics, Higher Education Research and Development Survey, <https://www.nsf.gov/statistics/srvyherd/>. 2020 is the most recent year of data availability.

Research & Development

Maine's higher education R&D expenditures are **less than one fourth** that of the other New England states*

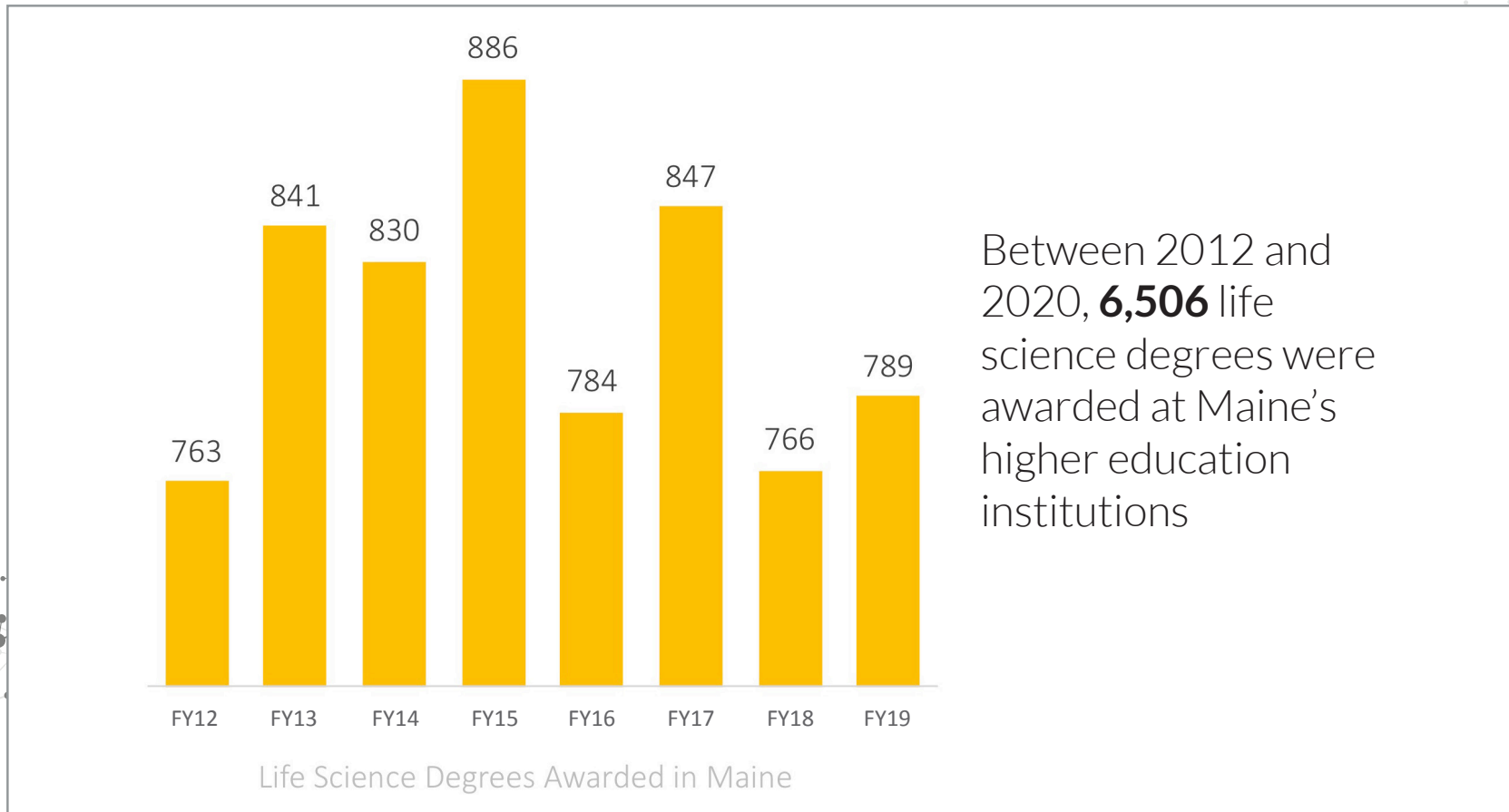
R&D Expenditures per \$10 Billion in GDP

| Year | CT | ME | MA | NH | RI | VT |
|-------|-----------|----------|-----------|-----------|-----------|-----------|
| 2017 | \$38,504 | \$8,266 | \$37,672 | \$30,668 | \$26,133 | \$31,257 |
| 2018 | \$38,495 | \$8,178 | \$35,112 | \$30,106 | \$29,453 | \$34,129 |
| 2019 | \$40,563 | \$8,449 | \$36,010 | \$30,730 | \$29,416 | \$34,280 |
| 2020 | \$42,925 | \$8,221 | \$37,303 | \$28,571 | \$30,943 | \$44,635 |
| TOTAL | \$160,486 | \$33,115 | \$146,096 | \$120,076 | \$115,944 | \$144,301 |

Source: NSF, National Center for Science and Engineering Statistics, Higher Education Research and Development Survey, <https://www.nsf.gov/statistics/srvyherd/>.
2020 is the most year of data availability.

*Note: The abnormally low levels for Maine can be explained in part by Maine's unique industry mix in which tourism plays a significant role. Tourism is a low R&D intensive sector but a significant contributor to state GDP. Though Maine is still well below other states in this metric.

Degrees



Source: National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS).

Degrees

Life science degrees were awarded at **18 institutions**, led by the University of Maine Orono, the University of New England, and Bowdoin College

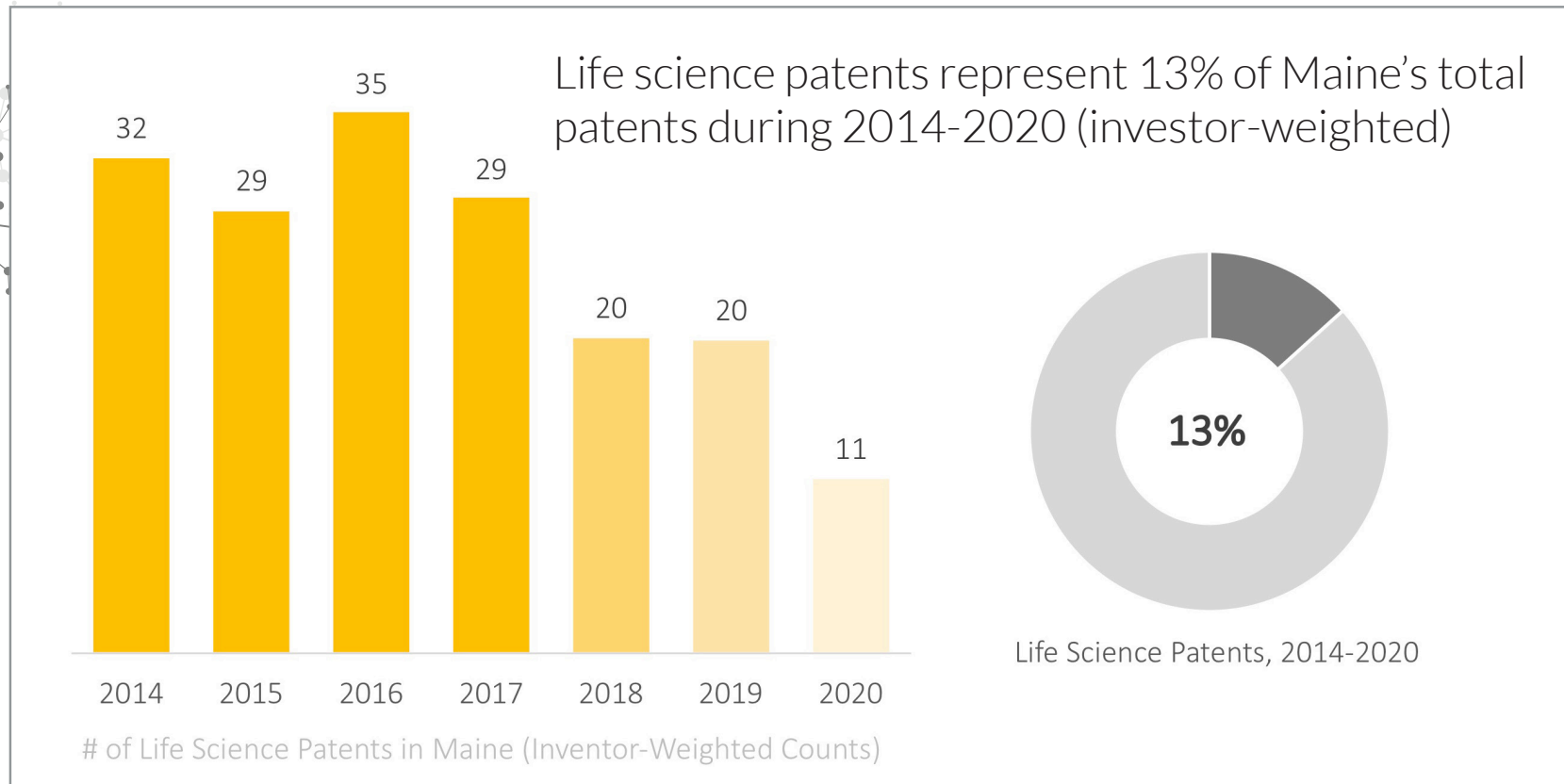
LIFE SCIENCE DEGREES/CERTIFICATES AWARDED, 2020

| Institution | Degrees |
|-------------------------------------|------------|
| University of Maine Orono | 180 |
| University of New England | 144 |
| Bowdoin College | 106 |
| Colby College | 85 |
| Bates College | 78 |
| University of Southern Maine | 57 |
| Saint Joseph's College of Maine | 29 |
| Unity College | 27 |
| University of Maine at Farmington | 15 |
| Central Maine Community College | 11 |
| Husson University | 11 |
| Kennebec Valley Community College | 10 |
| Southern Maine Community College | 10 |
| University of Maine at Augusta | 6 |
| University of Maine at Fort Kent | 6 |
| Maine Maritime Academy | 5 |
| University of Maine at Machias | 5 |
| University of Maine at Presque Isle | 4 |
| Total | 789 |

Source: National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS).

Patents

Patents



Source: U.S. Patent and Trademark Office, Patenting by Geographic Region (State and County), Breakout by Technology Class; https://www.uspto.gov/web/offices/ac/ido/oeip/taf/stctec/mestcl_gd.htm Patent counts are weighted by number of Maine inventors per patent. Patents typically take up to 5 years from application to assignment, hence a lag in recent years for patent assignments.

Patents

LIFE SCIENCE PATENTS

| Year | CT | ME | MA | NH | RI | VT |
|-------|-------|-----|--------|-------|-----|-----|
| 2014 | 635 | 32 | 2,302 | 188 | 102 | 26 |
| 2015 | 578 | 29 | 2,296 | 187 | 71 | 36 |
| 2016 | 625 | 35 | 2,374 | 173 | 95 | 37 |
| 2017 | 592 | 29 | 2,397 | 178 | 79 | 31 |
| 2018 | 536 | 20 | 2,066 | 140 | 82 | 25 |
| 2019 | 412 | 20 | 1,393 | 96 | 69 | 23 |
| 2020 | 155 | 11 | 632 | 51 | 15 | 4 |
| Total | 3,534 | 177 | 13,460 | 1,012 | 512 | 181 |

Maine ranks last in New England for life science patents, receiving 177 from 2014 to 2020

Source: U.S. Patent and Trademark Office, Patenting by Geographic Region (State and County), Breakout by Technology Class; https://www.uspto.gov/web/offices/ac/ido/oeip/taf/stctec/mestcl_gd.htm Patent counts are weighted by number of Maine inventors per patent. Patents typically take up to 5 years from application to assignment, hence a lag in recent years for patent assignments.

Patents

Maine ranks low among US states by number of patents, but **among the top 20% of states** for out-of-state inventor collaboration, suggesting strong networks to leverage with other regions

Average Patent Rankings per 100K Workers and Out-of-State Collaborator Networks, 2016-2020

| | Life Science Patents per 100K | 50 State Ranking | % Out-of-State Collaborators | 50 State Ranking |
|----|-------------------------------|------------------|------------------------------|------------------|
| RI | 12.0 | 21 | 63.2 | 4 |
| NH | 16.7 | 7 | 60.2 | 5 |
| ME | 3.3 | 44 | 51.6 | 9 |
| VT | 6.8 | 12 | 51.2 | 10 |
| CT | 24.2 | 7 | 44.5 | 14 |
| MA | 47.5 | 3 | 44.4 | 16 |

Source: U.S. Patent and Trademark Office, *Patenting by Geographic Region (State and County), Breakout by Technology Class*; https://www.uspto.gov/web/offices/ac/ido/oeip/taf/stctec/mestcl_gd.htm Patent counts are weighted by number of Maine inventors per patent. Patents typically take up to 5 years from application to assignment, hence a lag in recent years for patent assignments.

Patents

| Maine Life Science Patents: Top 10 Patent Assignees, 2001-2021 | % of Total |
|--|------------|
| IDEXX LABORATORIES INC, Westbrook, ME | 6.8 |
| JACKSON LABORATORY, Bar Harbor, ME | 3.5 |
| MAINEHEALTH INSTITUTE FOR RESEARCH, Scarborough, ME | 2.2 |
| PHOENIX BIOTECHNOLOGY INC, San Antonio, TX | 2.2 |
| BANNER LIFE SCIENCES LLC, High Point, NC | 2.0 |
| MARICAL INC, Portland, ME | 2.0 |
| MEDTRONIC ADVANCED ENERGY LLC, Portsmouth, NH | 1.9 |
| CORNING LIFE SCIENCES INC, Kennebunk, ME | 1.6 |
| FMC CORPORATION, Philadelphia, PA | 1.6 |
| MERIDIAN MEDICAL SYSTEMS LLC, Woolwich, ME | 1.5 |

Primary assignee organizations of life science patents with Maine inventors are led by **IDEXX, Jackson Laboratory, and MaineHealth Institute for Research**

Source: U.S. Patent and Trademark Office, *Patenting by Geographic Region (State and County), Breakout by Technology Class*; https://www.uspto.gov/web/offices/ac/ido/oeip/taf/stctec/mestcl_gd.htm Patent counts are weighted by number of Maine inventors per patent. Patents typically take up to 5 years from application to assignment, hence a lag in recent years for patent assignments.

Exports

Exports

Maine Life Science Exports 2021

Maine's exports are diverse and span a variety of life science related fields.

Maine Life Science Exports 2021

| Export Type | Annual 2021 \$ | % Life Science Exports |
|---|----------------------|------------------------|
| Composite Diagnostic/Lab Reagents, excluding Pharmaceutical | \$56,313,332 | 43.7% |
| Instruments etc. Using Optical Radiations | \$18,933,988 | 14.7% |
| Immunological Products, In Measured Dose/Retail Sale | \$15,578,226 | 12.1% |
| Parts of Instruments for Physical or Chemical Analysis | \$9,952,352 | 7.7% |
| Vaccines for Veterinary Medicine | \$8,656,366 | 6.7% |
| Physical and Chemical Instruments or Apparatus to measure Viscosity and Heat | \$4,315,689 | 3.3% |
| X-Ray and Hi Tension Apparatus and Parts | \$3,749,673 | 2.9% |
| Industrial and Appliances for Medical, Surgical, Dental and Veterinary Sciences | \$2,974,537 | 2.3% |
| Measurement and Checking Instruments, Appliances and Machinery | \$2,640,922 | 2.0% |
| Sanitary Towels and Tampons, Diapers for Babies etc. | \$2,592,101 | 2.0% |
| Total Top 10 | \$125,707,186 | 97.5% |
| Total Life Science | \$128,875,819 | 100% |

Source: Maine International Trade Center, WISER database

Attachments

A. Selected Life Science Industries: 6-digit NAICS industries used to define the Life Science sector

B. Selected Life Science Patent Classes: Patent classes included in this report

C. Selected Life Science Export Commodities: Commodities used to define Life Science exports

A. Selected Life Science Industries

| NAICS Industries | |
|--|--|
| Pharmaceutical and Medicine Manufacturing (NAICS 32541) | Medical Equipment and Supplies Manufacturing (NAICS 33911) |
| Medicinal and Botanical Manufacturing (NAICS 325411) | Surgical and Medical Instrument Manufacturing (NAICS 339112) |
| Pharmaceutical Preparation Manufacturing (NAICS 325412) | Surgical Appliance and Supplies Manufacturing (NAICS 339113) |
| In-Vitro Diagnostic Substance Manufacturing (NAICS 325413) | Dental Equipment and Supplies Manufacturing (NAICS 339114) |
| Biological Product (except Diagnostic) manufacturing (NAICS 325414) | Ophthalmic Goods Manufacturing (NAICS 339115) |
| Other Pressed and Blown Glass and Glassware Manufacturing (NAICS 327212) | Dental Laboratories (NAICS 339116) |
| Optical Instrument and Lens Manufacturing (NAICS 333314) | Medical, Dental, and Hospital Equipment and Supplies Merchant Wholesalers (NAICS 42345) |
| Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (NAICS 33451) | Ophthalmic Goods Merchant Wholesalers (NAICS 42346) |
| Electromedical and Electrotherapeutic Apparatus Manufacturing (NAICS 334510) | Testing Laboratories (NAICS 54138) |
| Analytical Laboratory Instrument Manufacturing (NAICS 334516) | Research and Development in the Physical, Engineering, and Life Sciences (NAICS 54171) |
| Irradiation Apparatus Manufacturing (NAICS 334517) | Research and Development in Nanotechnology (NAICS 541713) |
| Medical and Diagnostic Laboratories (NAICS 62151) | Research and Development in Biotechnology (except Nanobiotechnology) (NAICS 541714) |
| Medical Laboratories (NAICS 621511) | Research and Development in Biotechnology (except Nanobiotechnology) (NAICS 541714) |
| Diagnostic Imaging Centers (NAICS 621512) | Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology) |
| Blood and Organ Banks (NAICS 621991) | |

B. Selected Life Science Patent Classes

| Patent Classes | |
|--|--|
| Drug, Bio-Affecting and Body Treating Compositions | Optics: Measuring and Testing |
| Chemistry: Molecular Biology and Microbiology | Measuring and Testing |
| Multicellular Living Organisms and Unmodified Parts Thereof | Chemistry: Analytical and Immunological Testing |
| Surgery | Fluid Handling |
| Surgery (instruments) | Organic Compounds |
| Surgery: Light, Thermal, and Electrical Application | Optics: Eye Examining, Vision Testing and Correcting |
| Surgery: Splint, Brace, or Bandage | Image Analysis |
| Surgery (Medicators and Receptors) | Liquid Purification or Separation |
| Prosthesis (i.e. Artificial Body Members), Parts Thereof, or Aids and Accessories Therefor | Chemistry: Natural Resins or Derivatives; Peptides or Proteins; Lignins or Reaction Products Thereof |
| Chemical Apparatus and Process Disinfecting, Deodorizing, Preserving, or Sterilizing | Radiation Imagery Chemistry: Process, Composition, or Product Thereof |
| Sugar, Starch, and Carbohydrates | Optical: Systems and Elements |

C. Selected Life Science Export Commodities

| Export Commodities | | |
|--|---|---|
| Composite Diagnostic/Lab Reagents, Exc Pharmaceut | Med Needles. Nesoi, Catheters Etc And Parts Etc | Invalid Carriages, Not Mechanically Propelled |
| Instruments Etc Using Optical Radiations Nesoi | Artificial Joints & Parts & Accessories Therof, Nes | Extracts Of Glands Or Other Orgs Or Secretions |
| Vaccines For Veterinary Medicine | Antibiotics, Nesoi | Antisera And Blood Fractions, Immun Products |
| Immunological Products, In Measured Doses/Rtl Sale | Oth Artifical Pts Of The Body & Pts & Accessories | Tetracyclines And Their Derivatives; Salts Thereof |
| X-Ray/Hi Tnsn Genr Cntr Pnl & Dsk Exm/Trtmnt Tb Pt | Dentists, Barbers Or Similar Chairs And Parts | Vitamins, Natural Or Synthetic, Dosage Etc Form |
| Wadding, Gauze, and Similar Articles Etc Nesoi | Elec Mach and App, Having Indiv Functions, Nesoi | Gloves, Except Surgical Etc. Vulcan Rubber, Nesoi |
| Instr & Applu F Medical Surgical Dental Vet, Nesoi | Parts For Machinery Plant Or Lab Equipment Etc | Electrocardiographs, And Parts And Accessories |
| Mech-Thrpy Appl; Mssg Appr; Psych Apt-Test; Appr; Pts | Tubular Metal Needles & Needls For Sutures & Parts | Thermometers/Pyro Nt Combin W Oth Instrum, Nesoi |
| Prepared Culture Media for Devel of Microorganisms | Malaria Diagnostic Test Kits | Ozone, Oxygen, Etc Therapy, Respiration Apparatus, Pt |
| Human Blood; Animal Blood Prep, Toxins, Cultrs Etc | Dental Fittings And Parts And Accessories | Invalid Carriages, mechanically Propelled |
| Apparatus Base on X-Ray For Oth Use, Ex Medical, Etc | Adhesive Dressings And Other Artcl Having Adh Lay | Blood Fractions, Nesoi, Obtained by Biotech |
| Syringes, With Or Without Needles; Pts & Access | Vitamins And Their Derivatives, Unmixed, Nesoi | Medical, Surgical or Laboratory Sterilizers |
| Orthopedic Or Fractre Appliances, Parts & Accessor | Other Ophthalmic Instruments & Appliances & Parts | Heparin And Its Salts; Other Human Or Animal Subst |
| Medicaments Nesoi, Measured Doses, Retail Pk Nesoi | Immunological Products, Unmixed, Not in Msre Doses | Amino-Alcohol-Phenols, Amino-Acid-Phenols, Etc. |
| Inst & Appln For dental Science, & Pts & Acc, Nesoi | Dental Cements And Other Dental Fillings Etc | Antisera And Other Blood Fractions |
| Made-Up Textile Articles, Nesoi | Life Jackets And Life Belts, Of Textile Material | Antibiotics Nesoi, In Dosage Form |
| Appts Base On Alpha, Beta, Etc Radiation, Medical, Etc | Breathing Appliances & Gas Masks Nesoi; Parts Etc | Electro-Diagnostic Apparatus Nesoi, And Parts Etc. |



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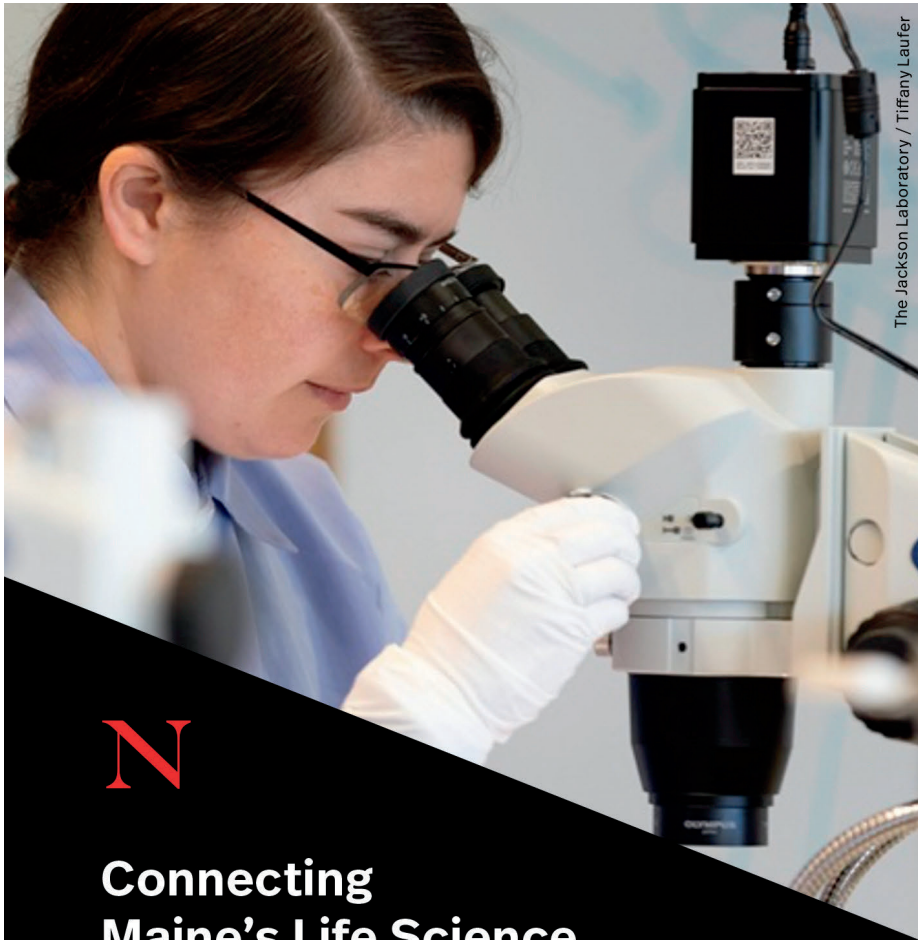
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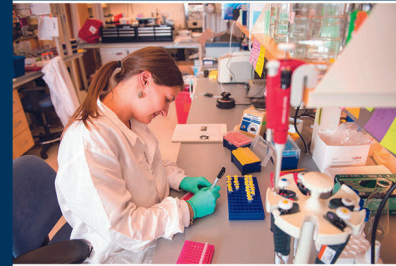
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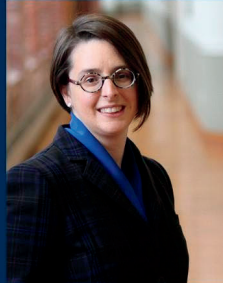
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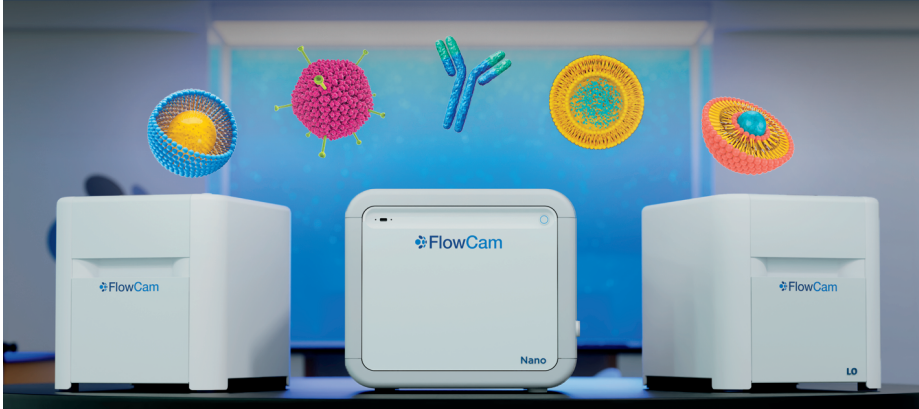
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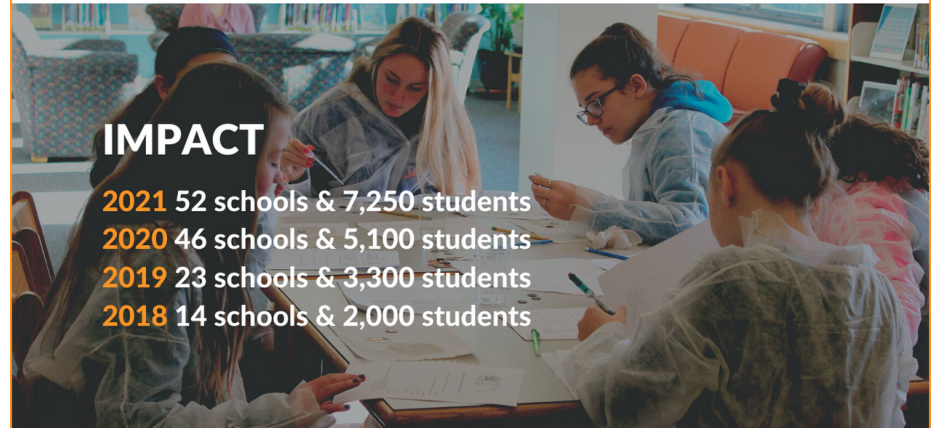


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Learn how to get involved at www.biomaine.org/me-bioscience-day/



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- 2020** 46 schools & 5,100 students
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