Massachusetts Life Sciences Employment Outlook: Key Trends and Metrics

Prepared for the Massachusetts Biotechnology Education Foundation
by TEConomy Partners, LLC.

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MassBioEd
MASSACHUSETTS BIOTECHNOLOGY EDUCATION FOUNDATION

Key Findings: 2025 Strategic Stabilization

The Massachusetts life sciences ecosystem remains a global leader, shifting from a decade of rapid expansion toward a period of strategic stabilization and continued specialized workforce demand.

Stability

143,224 jobs recorded in 2025. Employment remains anchored by a robust Biopharma core despite flattening growth.

Skill Density

80% of roles are high-skill. The workforce remains very STEM intensive compared to the rest of the United States.

Future Path

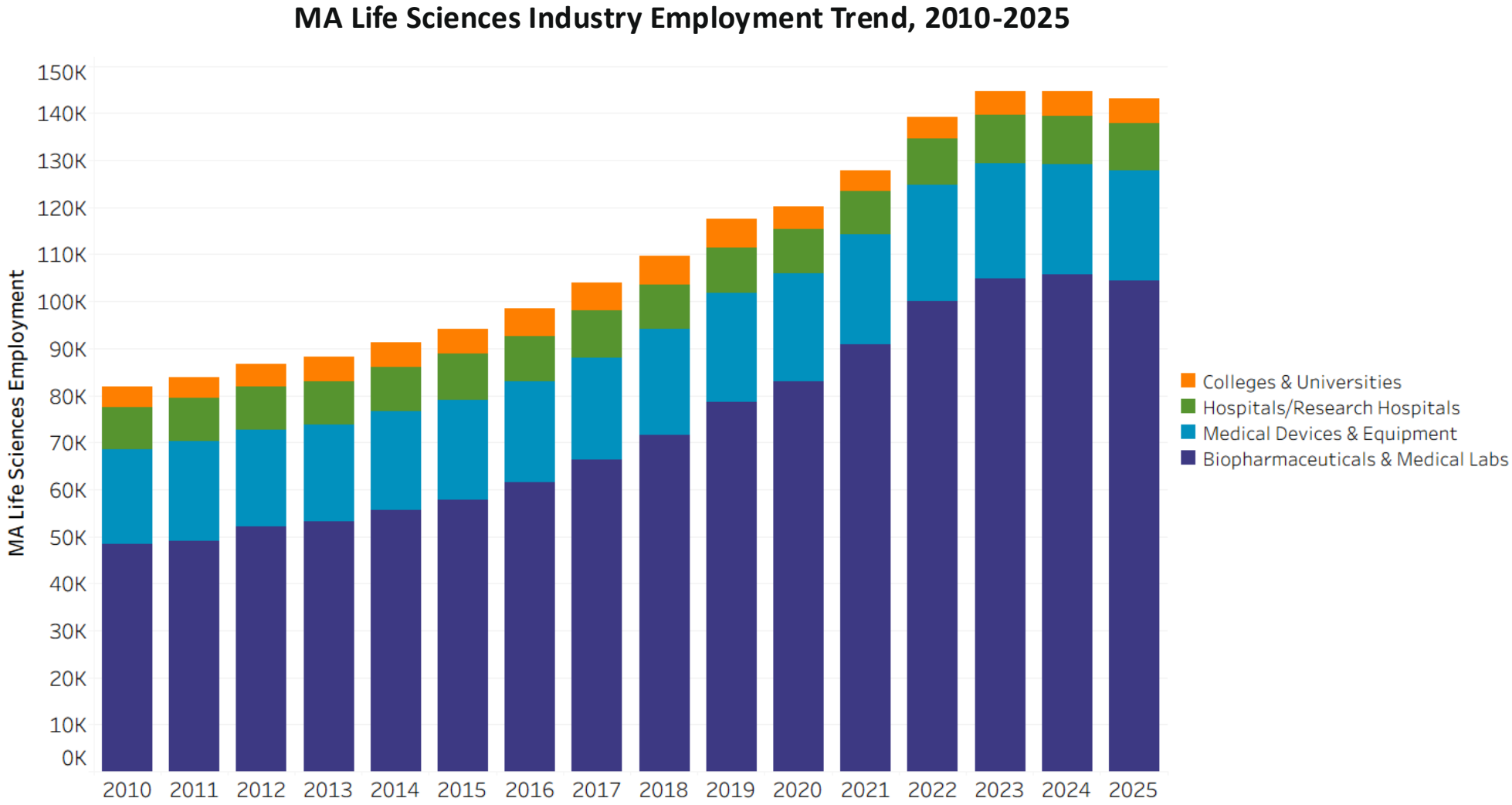
Growth is projected at **9.7% through 2030**, continuing to outpace the broader state private sector.

Evolution

High demand for **digital literacy**; in addition to projected openings, significant reskilling and upskilling will be required.

Massachusetts Life Sciences Employment Remained Relatively Flat Between 2024 and 2025

- In 2025, there were 143,224 life sciences jobs in the state
- 2025 represents job levels that are relatively unchanged from 2024, reflective of broader industry trends nationally
- 73% of life sciences jobs in 2025 were in biopharmaceuticals and medical labs

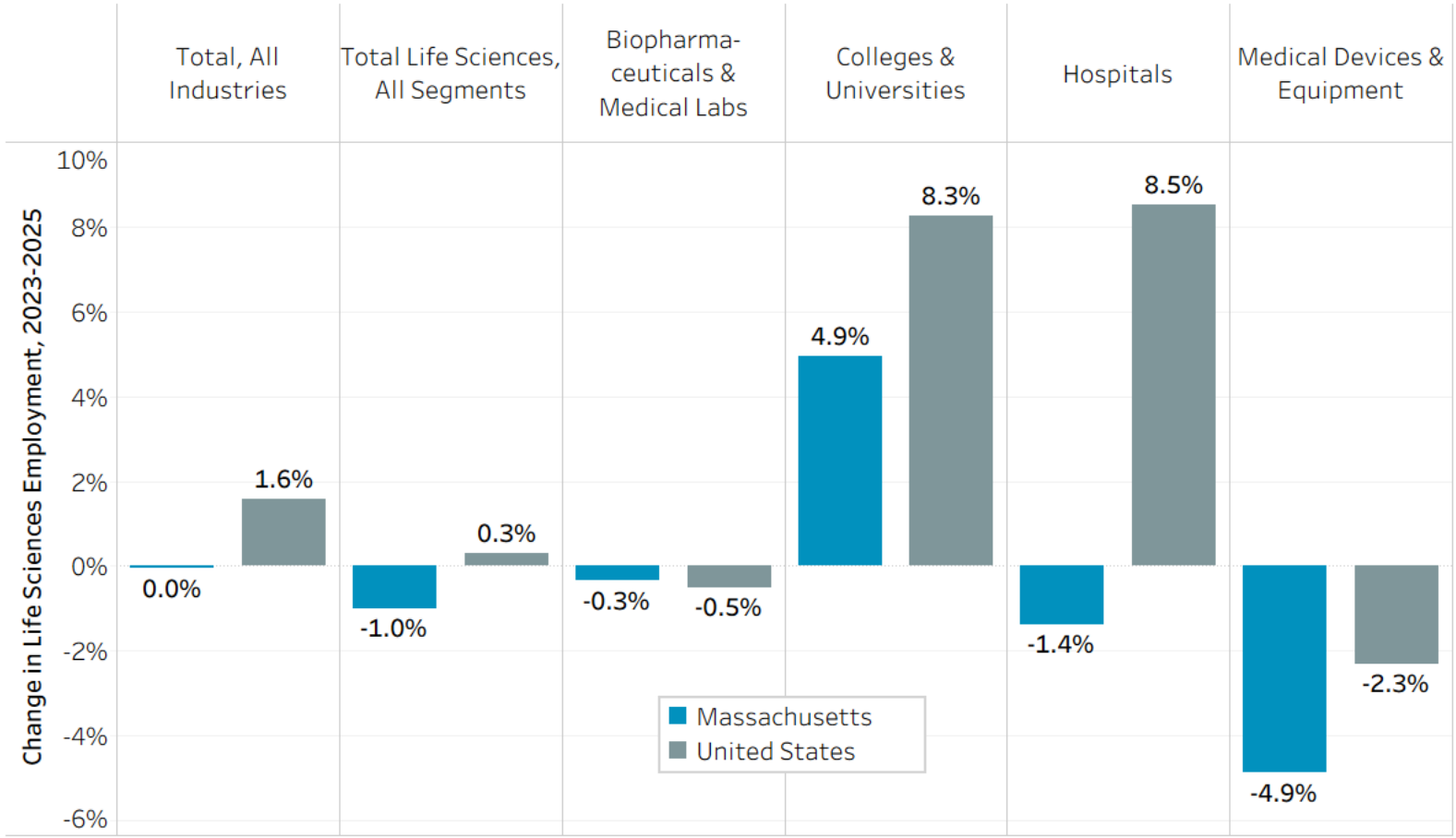


Note: Employment data for the Colleges & Universities and the Hospitals subsectors represent an estimate of the share of life sciences and clinical research-related jobs and lab functions, rather than the total subsector employment
Note: Industry employment totals for 2025 are based on preliminary estimates of annual totals by Lightcast through Q3.
Source: TEConomy Partners' analysis of Lightcast QCEW Data, 2026.2

MA Life Sciences Industry Has Seen Mixed Performance Amongst its Subsectors Since 2023, Several Subsectors Flat or Declining Relative to National Trends

- Life Sciences employment in MA has declined by 1.0% since 2023, relatively aligned with overall private sector trend.
- College and University life sciences employment has increased by 4.9%, but MA lags behind the national rate of 8.3% growth.
- Employment gains were offset by declines in Biopharmaceuticals and Medical Labs, Medical Devices & Equipment subsectors.

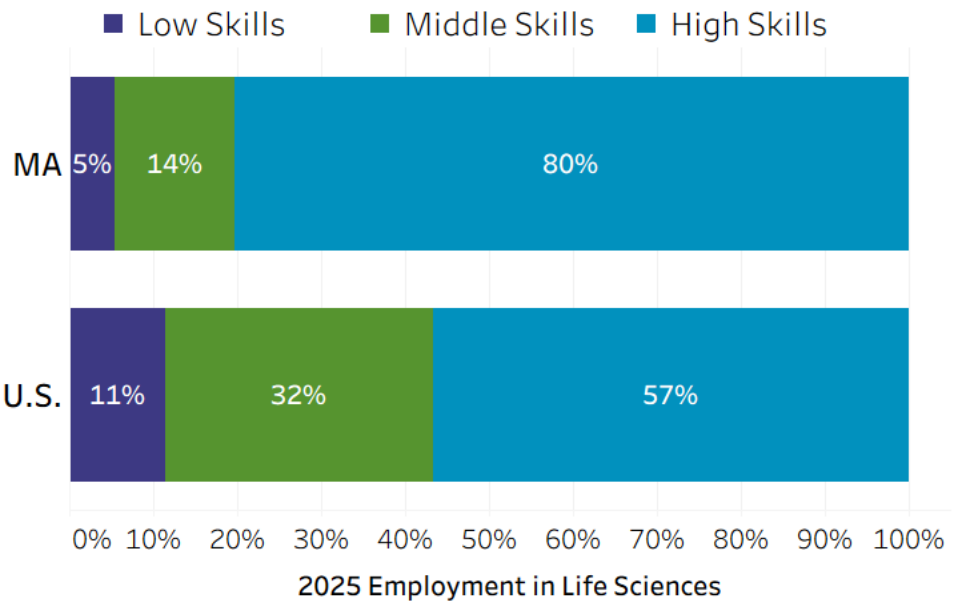
MA and U.S. Life Science Industry Employment Trends, by Major Subsector, 2023-2025

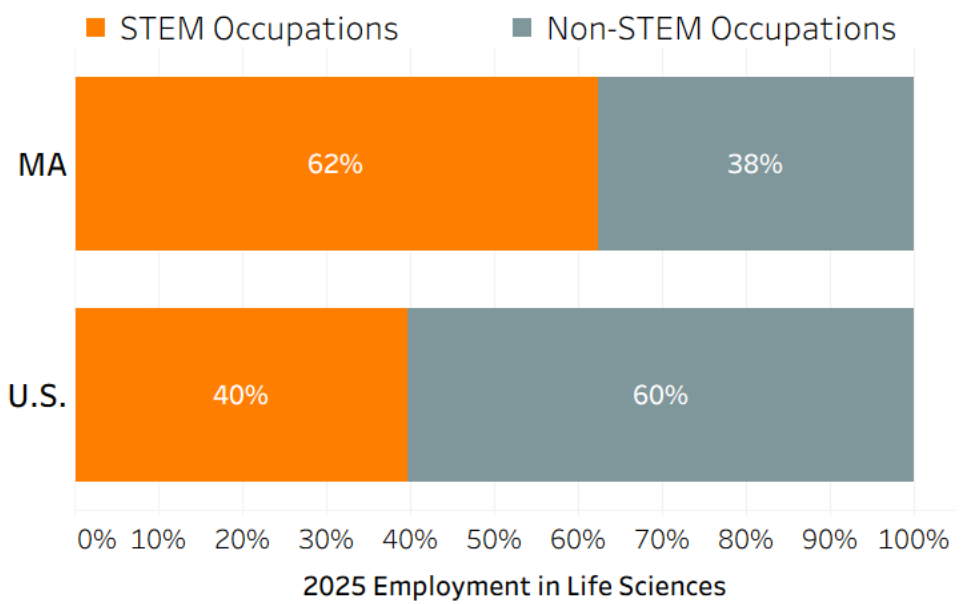


Note: Industry employment totals for 2025 are based on preliminary estimates of annual totals by Lightcast through Q3.
Source: TEConomy Partners' analysis of Lightcast QCEW Data, 2026.2

Massachusetts Remains a Hub for a Highly Skilled, STEM-Intensive Life Sciences Workforce

Occupational Employment by Skills Levels & STEM Job Classifications Within MA Biopharmaceuticals & Medical Labs Industries, 2025



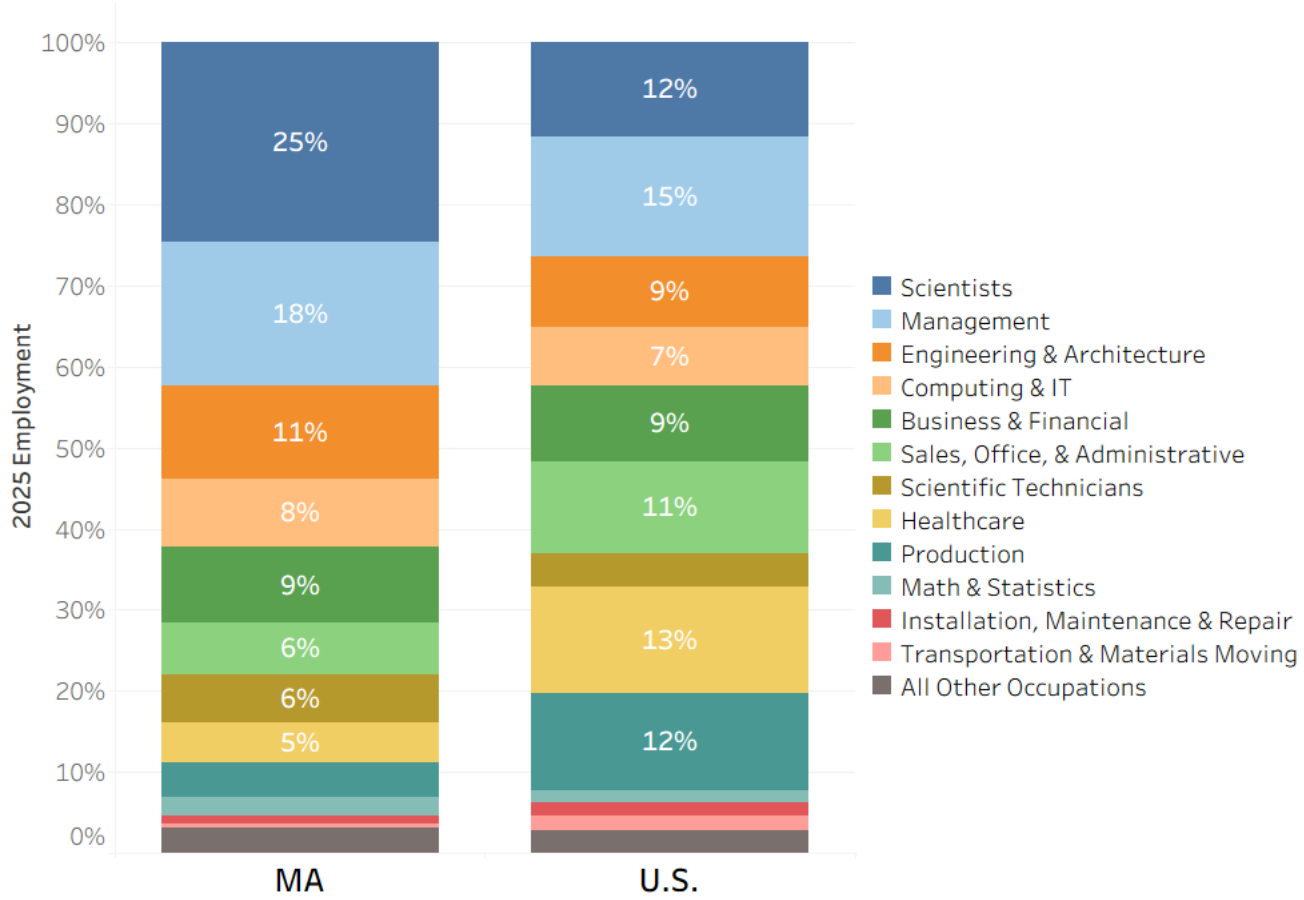


Note: Skills level determined from typical federal classifications of required education, training, and experience. "High skills" occupations typically require a bachelor's degree or higher, "middle skills" jobs typically require more education and/or experience than a high school education but less than a bachelor's degree, and "low skills" jobs typically require a high school education or less.
Source: TEConomy Partners' analysis of Lightcast QCEW Data, 2026.2

Despite Broader Market Volatility, MA Life Sciences Industry Remains Anchored by its Specialized Scientific Workforce

Massachusetts has a significant concentration of scientist employment relative to the U.S. workforce, 13 percentage points higher as a share of the total industry.

Distribution of Current MA Occupational Employment Mix Relative to U.S. Life Sciences Industries, 2025



Source: TEConomy Partners' analysis of Lightcast QCEW Data, 2026.2

Life Sciences Occupational Mix Remains Similar Despite Flattening Employment Growth

Job change in key occupational segments since 2023:

Life Scientists

- 0.3% decline

Management

- 8.1% decline

Engineering

- 4.6% growth

Production Workers

- 7.2% growth

Computing & IT

- 0.2% growth

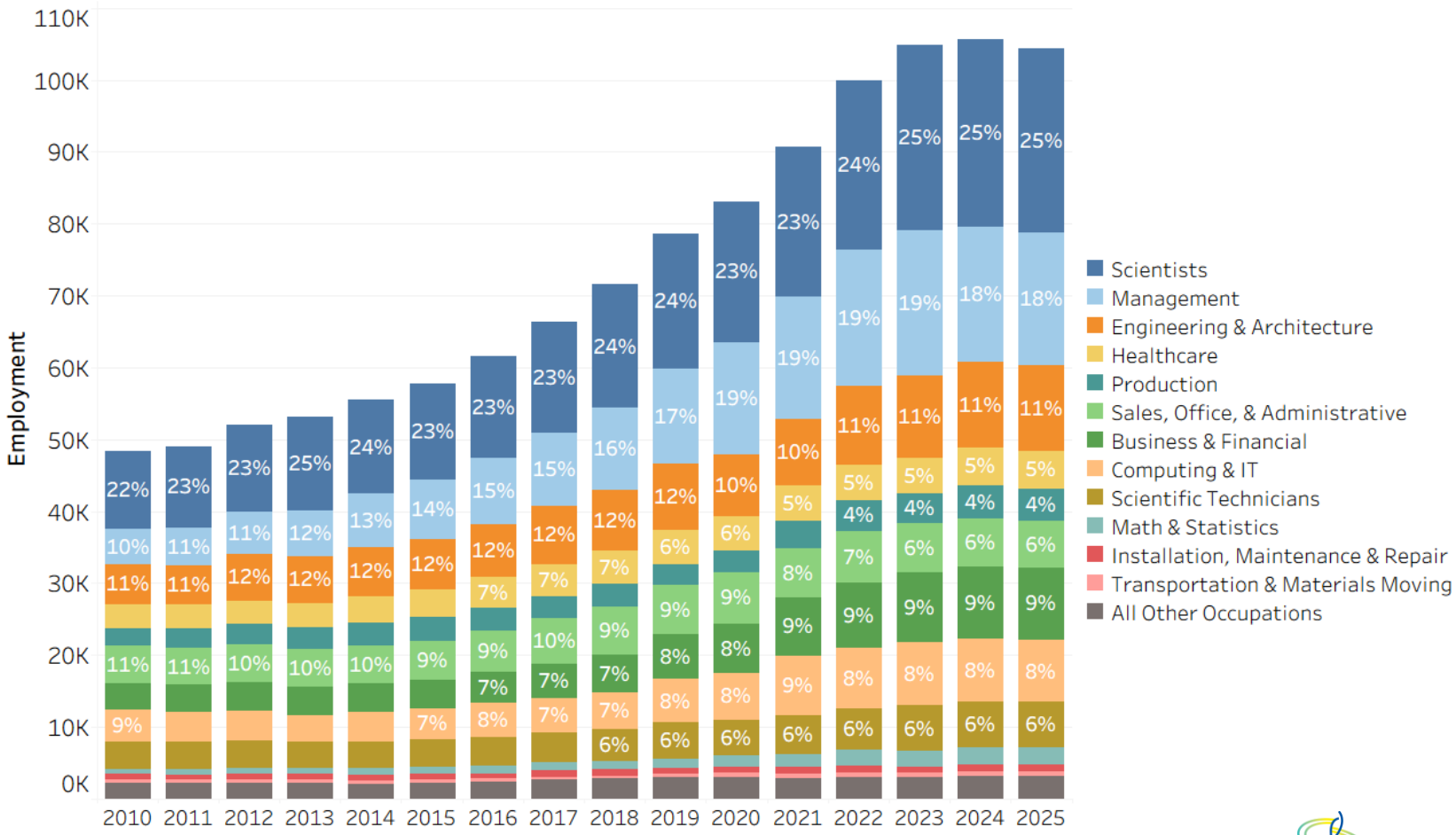
Business & Financial Professionals

- 2.1% growth

Scientific Technicians

- 2.6% decline

Occupational Employment Trend Within MA Biopharmaceuticals & Medical Labs Industries, 2010-2025



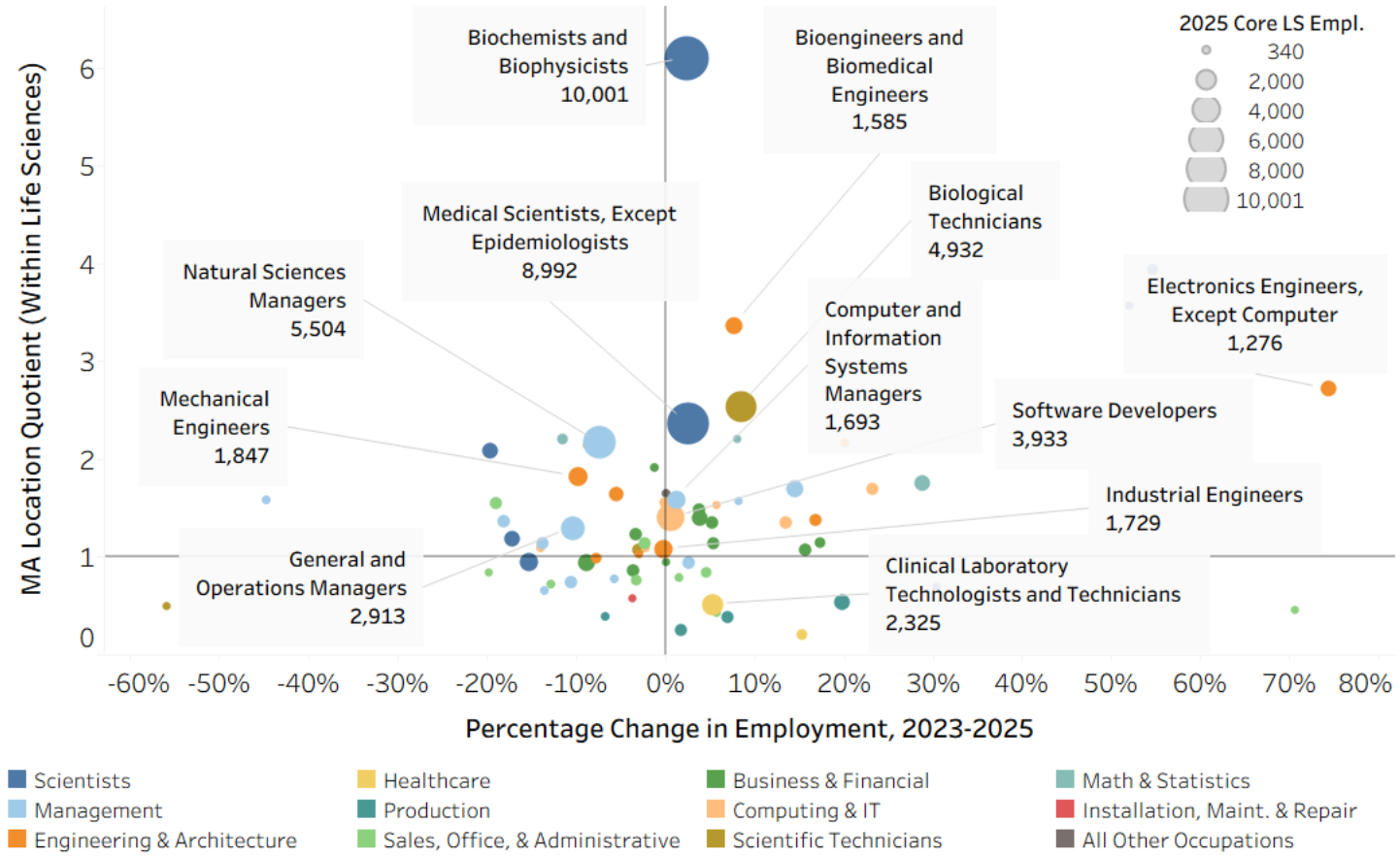
Note: The term "Core Life Sciences Industries" refers to the Biopharmaceuticals & Medical Labs subsector portion of total MAlife sciences industry employment shown in prior slides

Source: TEConomy Partners' analysis of Lightcast QCEW Data, 2026.2

Performance and Position of Detailed Occupations Within Life Sciences: Ongoing Specializations in Life Scientists, Modest Growth in Scientists, IT, and Some Engineering Occupations

- Many key occupations are growing despite overall declines in employment levels
- Biochemists and Medical Scientists, both specialized occupations, grew despite smaller scientist occupations generally contracting
- Some engineering occupations, like Electronics Engineers, have experienced strong growth, but Mechanical Engineers and several other occupations have lost jobs
- Production roles continue to grow, though they generally show lower concentrations within Massachusetts

Occupational Employment Trend Within MA Life Sciences Industry: Size, Relative Concentration, and Growth 2023-2025



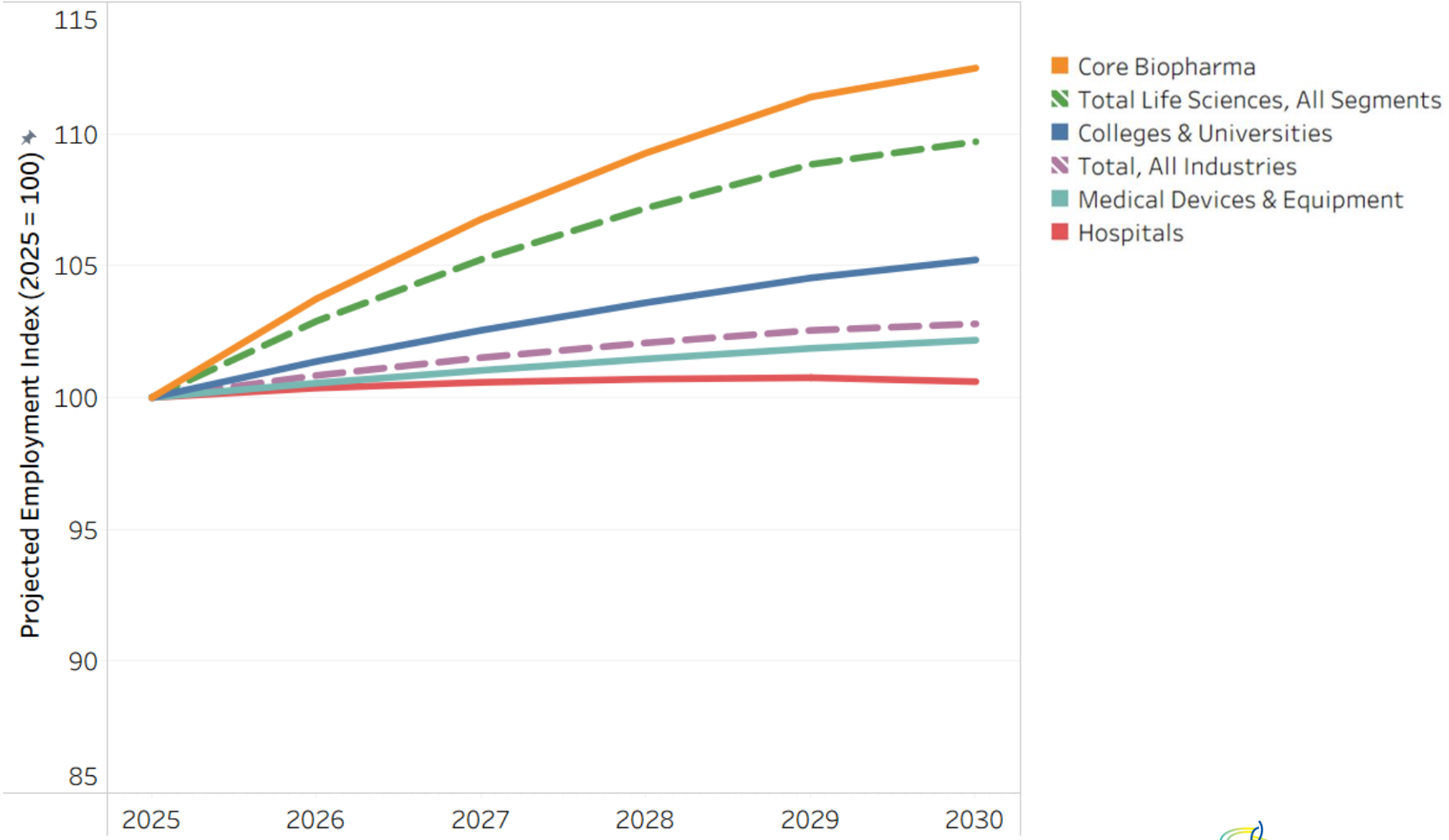
Note: The term "Core Life Sciences Industries" refers to the Biopharmaceuticals & Medical Labs subsector portion of total MA life sciences industry employment shown in prior slides

Source: TEConomy Partners' analysis of Lightcast QCEW Data, 2026.2

Latest Industry Employment Projections Expect Massachusetts' Life Sciences Industry to Continue to Outpace the State's Private Sector

- While the overall MA economy is projected to grow in employment by about 2.8% by 2030, the life sciences industry is projected to grow by 9.7%, adding a projected 13,895 net new jobs.

Life Sciences Employment Projections, Indexed to 2025 Employment



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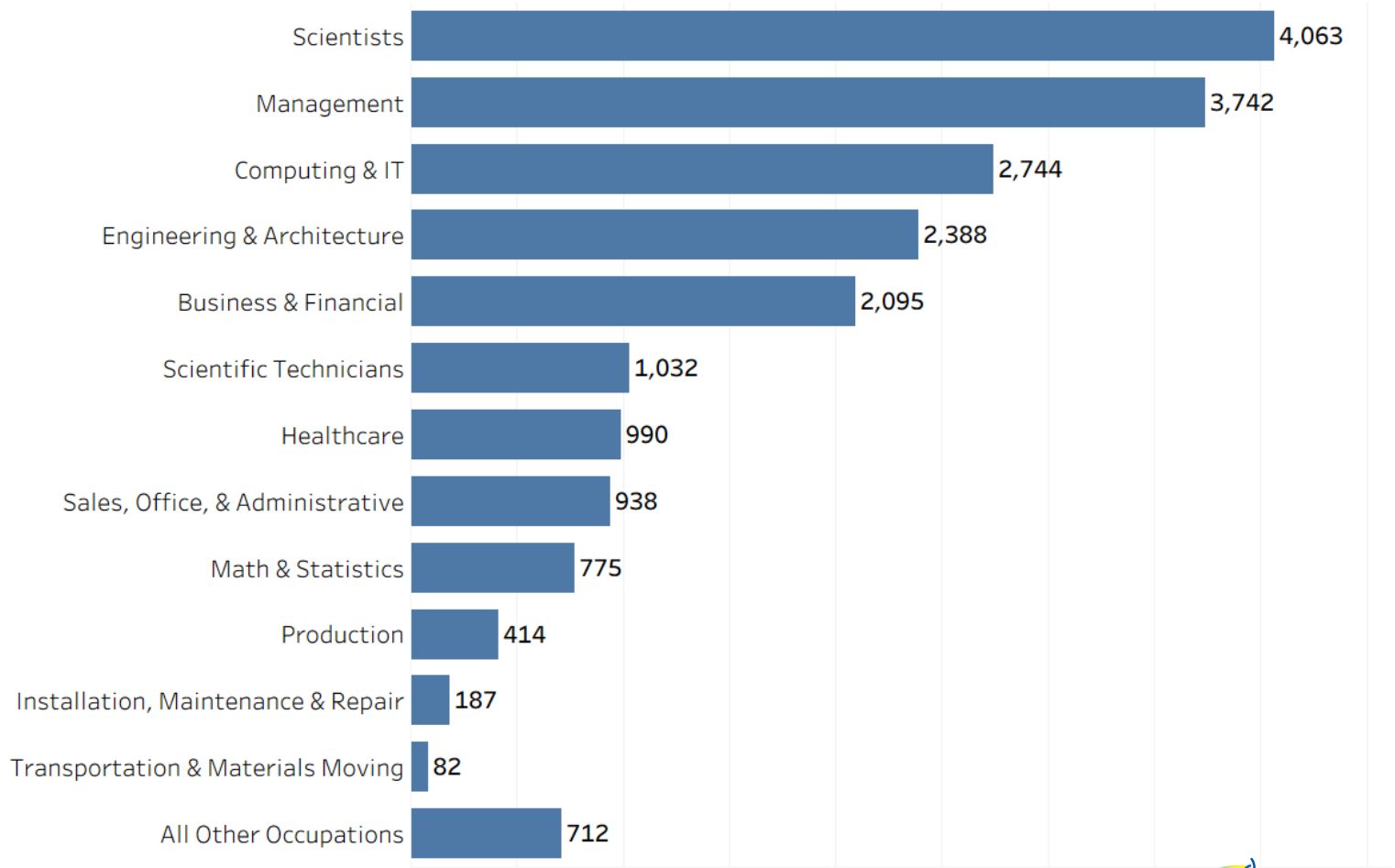
Source: TEConomy Partners' analysis of Lightcast QCEW Data, 2026.2

Projected Growth Trends from 2025-2035 Underscore Sustained Demand for High Skills STEM Workers in Key Occupational Segments

Projected job growth in leading life sciences occupational segments over the next decade:

Scientists	16% growth
Management	20% growth
Computing & IT	31% growth
Engineering & Architecture	20% growth
Business & Financial	21% growth
Scientific Technicians	16% growth
Healthcare	19% growth

Projected Occupational Growth Trends Within Biopharmaceuticals and Medical Labs, 2025-2035



Segments listed with at least 1k projected new jobs and >15% job growth from 2025-2035

Source: TEConomy Partners' analysis of Lightcast QCEW Data, 2026.2

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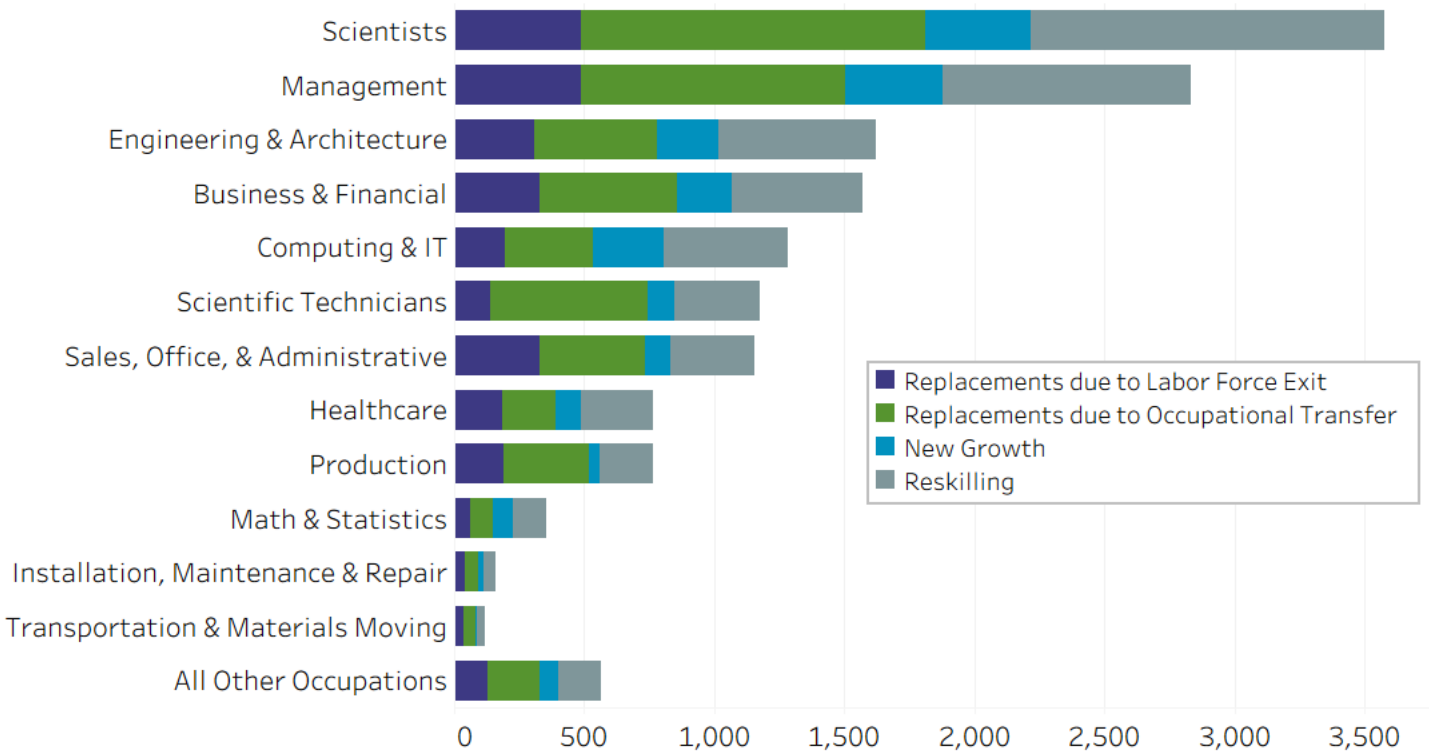
Scientists and Management Occupational Segments are Projected to be the Largest Labor Demand Drivers in the State's Life Sciences Industry Over the Next Decade

- Occupational segments expected to lead the industry in new job growth include:
  - Scientists
  - Management
  - Computing & IT
  - Engineering & Architecture
- Scientists, Management, and Engineering occupational segments are projected to have the highest demand for reskilling

Biopharmaceuticals & Medical Labs Subsector Average Annual Employment Demand, 2025-2035 (by Occupational Segment)

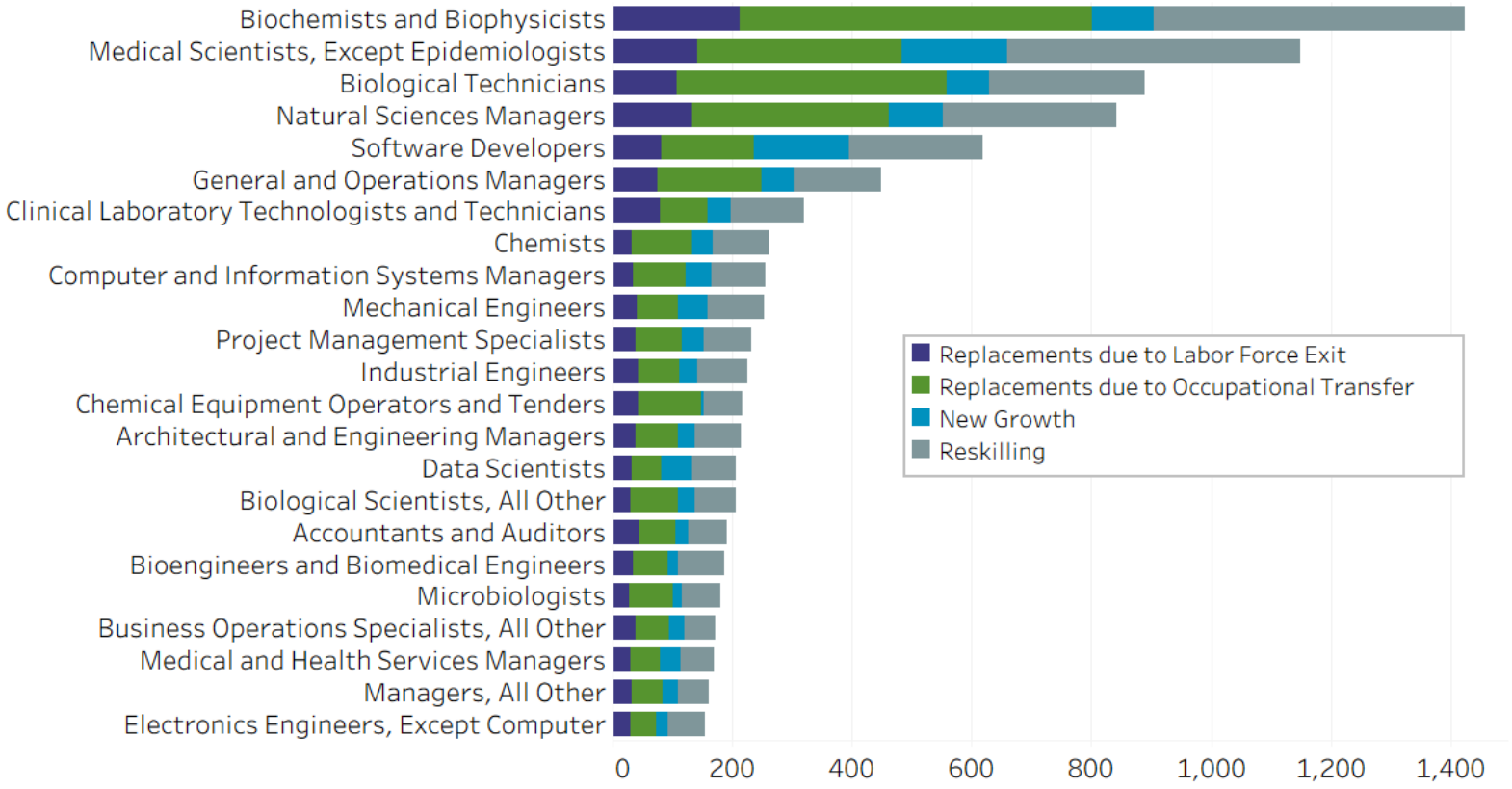


Note: New growth demand derived from Lightcast 10-year job openings projections; reskilling/upskilling demand derived from World Economic Forum skills stability estimates detailed in the 2023 Future of Jobs Report and TEConomy calculations; replacement openings derived from BLS Employment Projections. Final estimates of reskilling demand assume an even distribution of reskilling across the 10-year projection period.
Source: TEConomy Partners' analysis of Lightcast QCEW Data, 2026.2

Mix of Scientists, Technicians, and Business Support Positions are Projected to Lead Demand for Detailed Occupational Roles in the State's Life Sciences Industry

- Occupations expected to lead the industry in new job growth include:
  - Medical Scientists
  - Biochemists and Biophysicists
  - Natural Sciences Managers
  - Software Developers
- Reskilling makes up a significant portion of projected employment needs in the industry, especially amongst the scientific occupations

Biopharmaceuticals & Medical Labs Subsector Average Annual Employment Demand, 2025-2035 (by Occupation)



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Source: TEConomy Partners' analysis of Lightcast QCEW Data, 2026.2

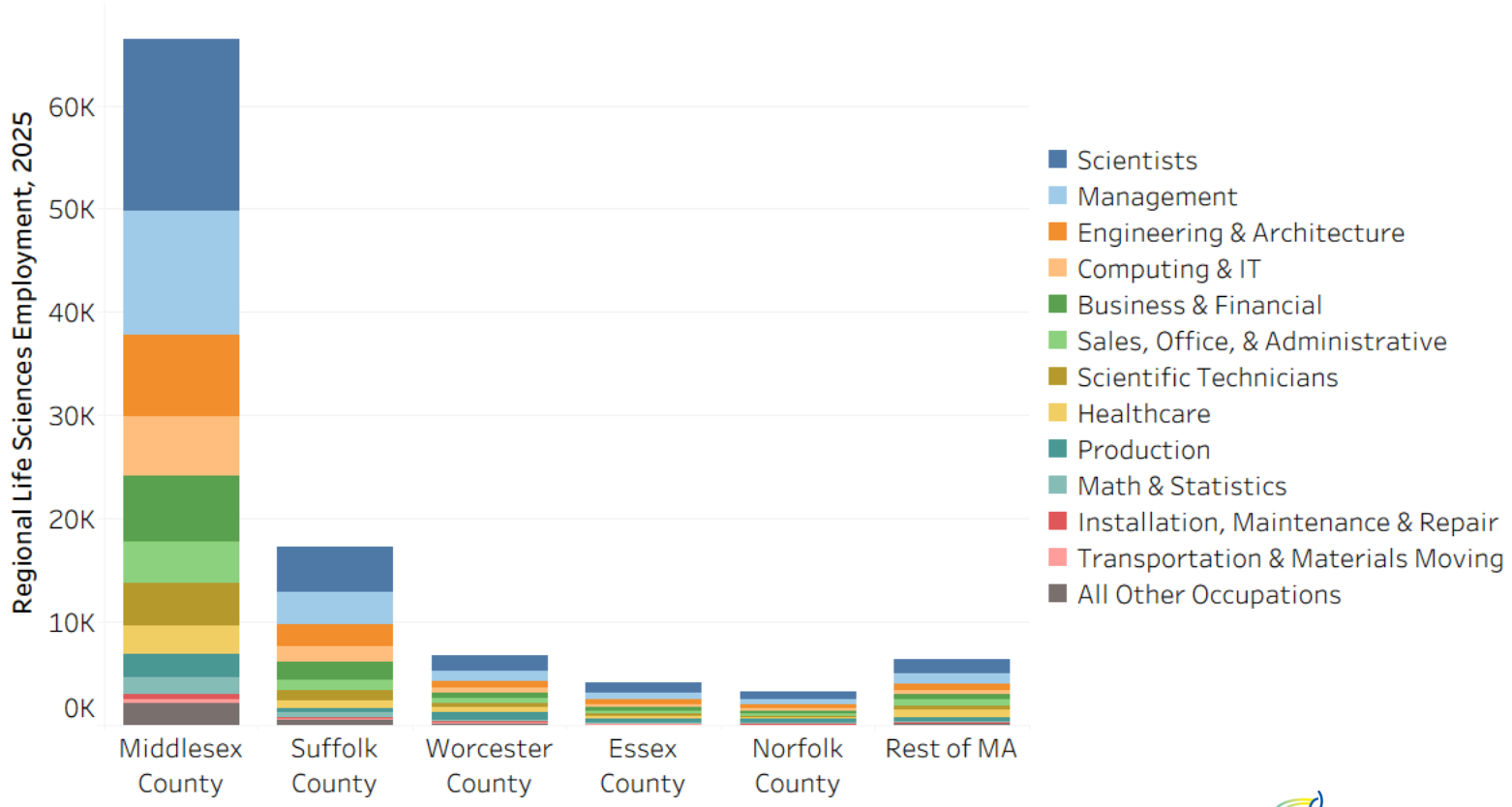
Geographic Footprint of the Life Sciences Industry Within Massachusetts

Of the nearly 105k biopharma and medical lab workers in MA, more than 66k (encompassing 64% of the state's workforce) are located in Middlesex County. The industry has a significant employment footprint in other key regions of the state, as well.

Change in life sciences job levels from 2023 to 2025

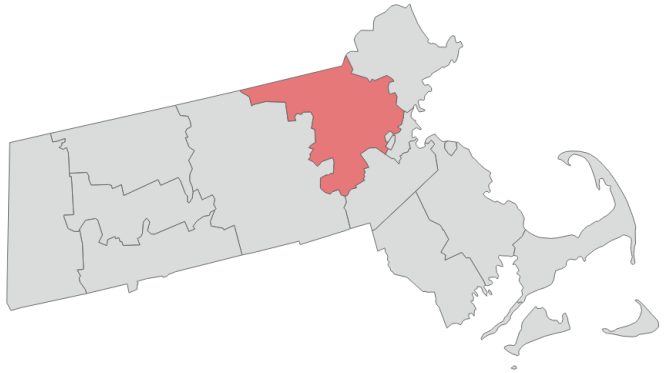
- Middlesex County: 4% decline
- Suffolk County: 9% increase
- Worcester County: 4% increase
- Essex County: 2% increase
- Norfolk County: 4% decline

Geographic Distribution of Occupational Employment Within MA Biopharmaceuticals & Medical Labs Industries, 2025



Source: TEConomy Partners' analysis of Lightcast QCEW Data, 2026.2

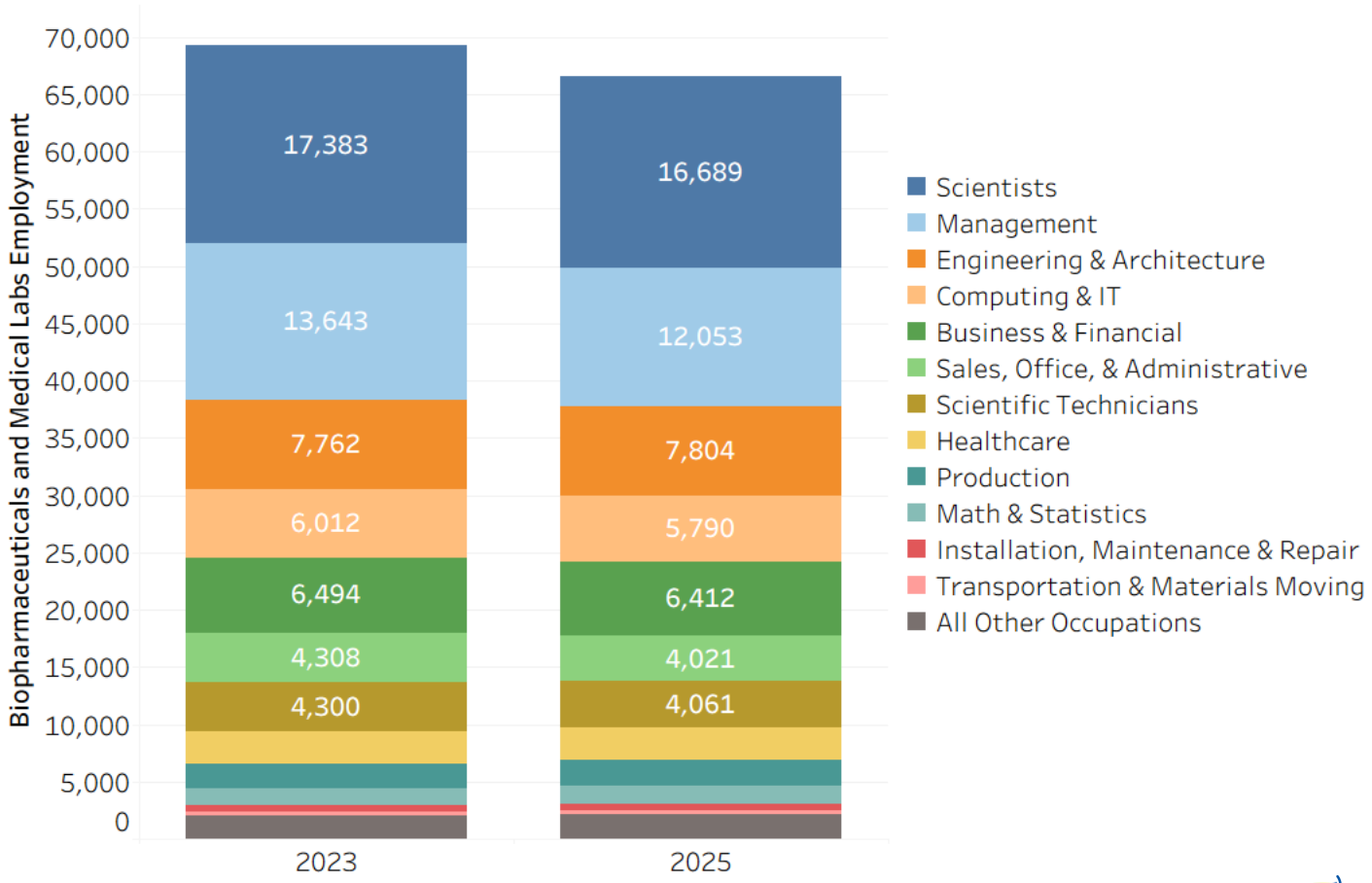
Geographic Profile: Middlesex County



Middlesex County's life sciences workforce contracted by nearly 2,800 jobs over 2023-2025, a 4% decline in employment

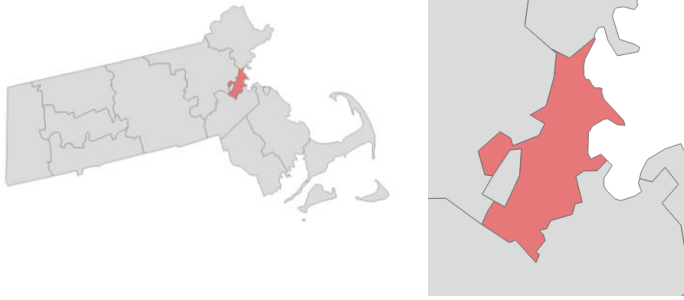
Key Life Sciences Employers

- Takeda Pharmaceuticals
- Sanofi
- AstraZeneca
- Biogen
- Novartis
- Novo Nordisk



Source: TEConomy Partners' analysis of Lightcast QCEW Data, 2026.2

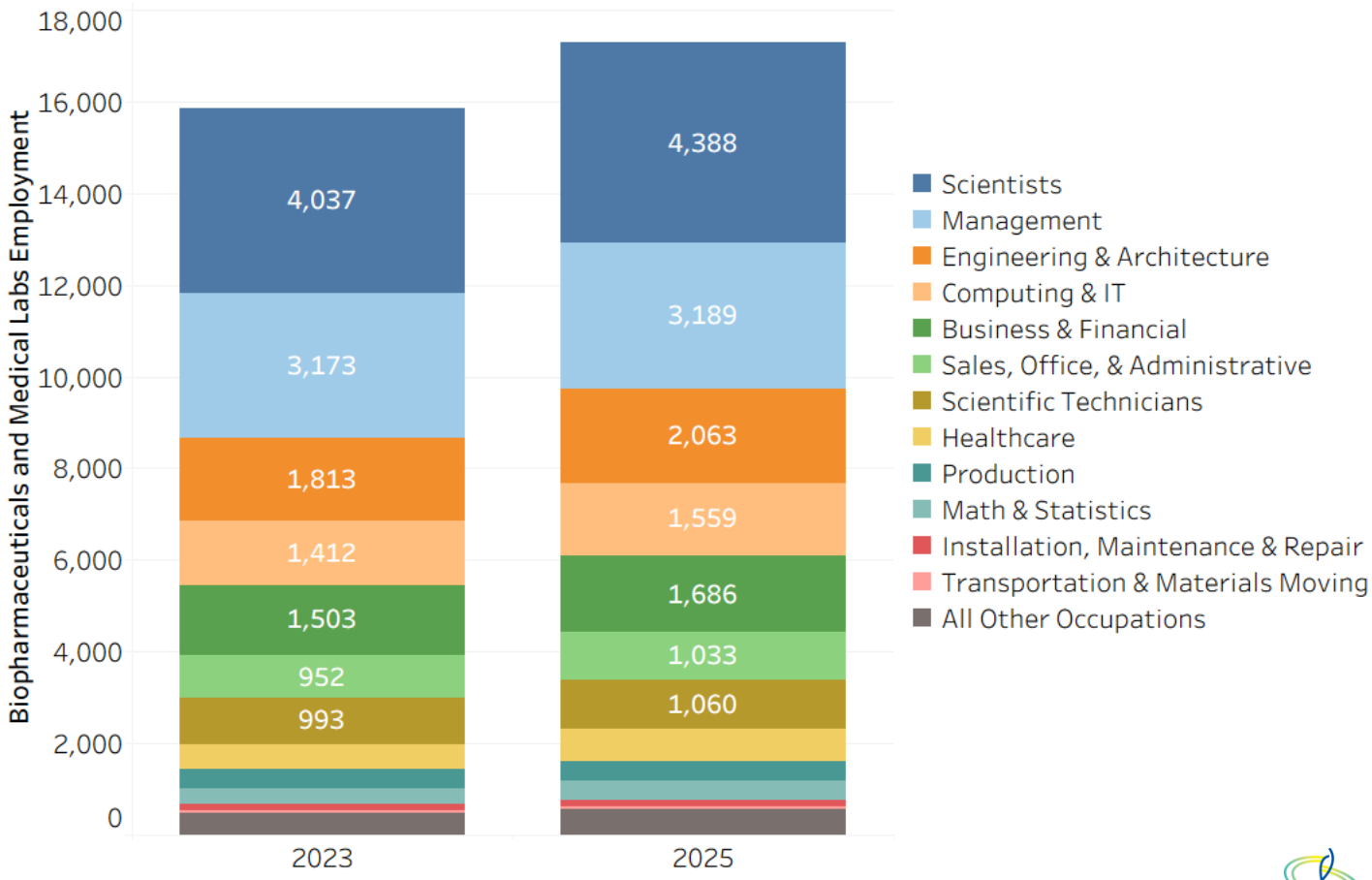
Geographic Profile: Suffolk County



Suffolk County's life sciences workforce expanded by more than 1,400 jobs over 2023-2025, a 9% increase in employment

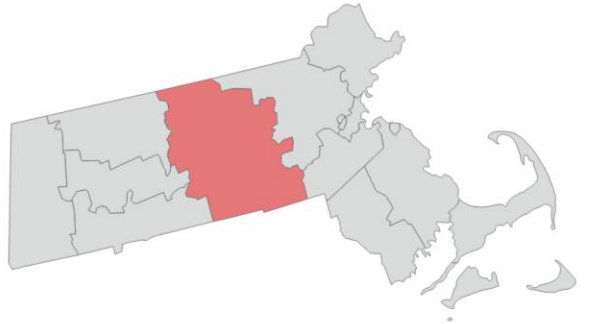
Key Life Sciences Employers

- Vertex Pharmaceuticals
- Merck & Co.
- Alexion
- Eli Lilly and Company
- EMD Serono



Source: TEConomy Partners' analysis of Lightcast QCEW Data, 2026.2

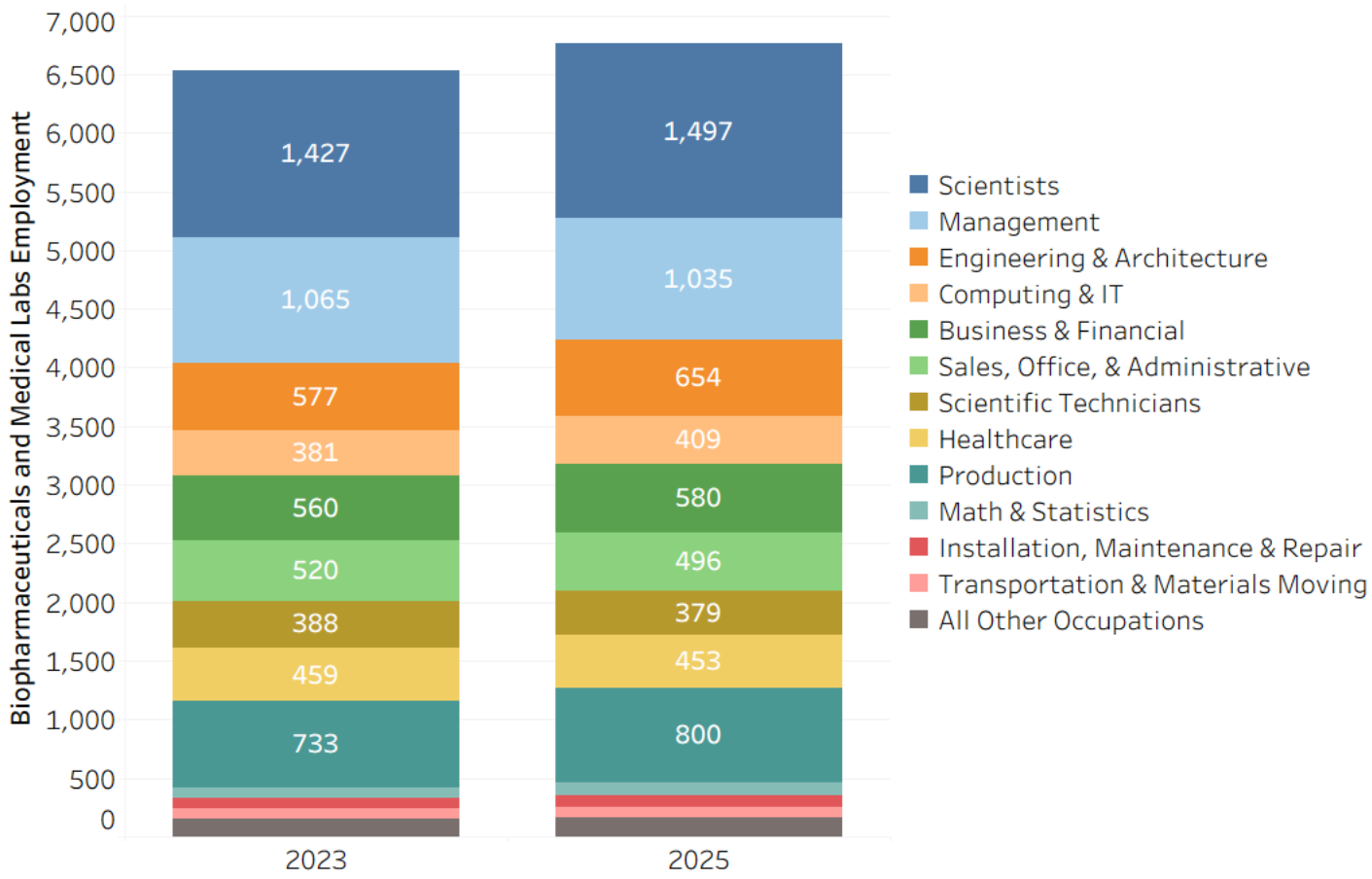
Geographic Profile: Worcester County



Worcester County's life sciences workforce expanded by more than 200 jobs over 2023-2025, a 4% increase in employment

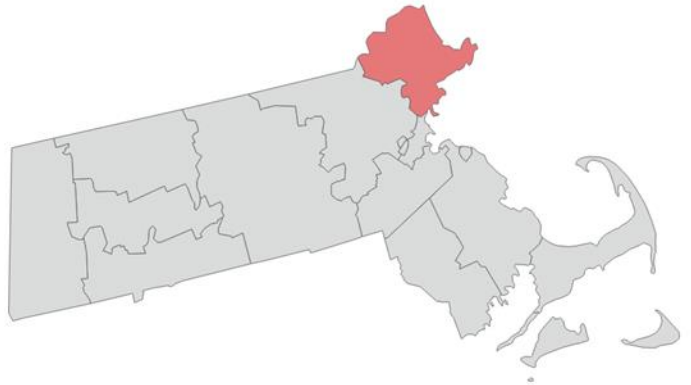
Key Life Sciences Employers

- AbbVie
- Bristol Myers Squibb
- uBriGene
- WuXi Biologics



Source: TEConomy Partners' analysis of Lightcast QCEW Data, 2026.2

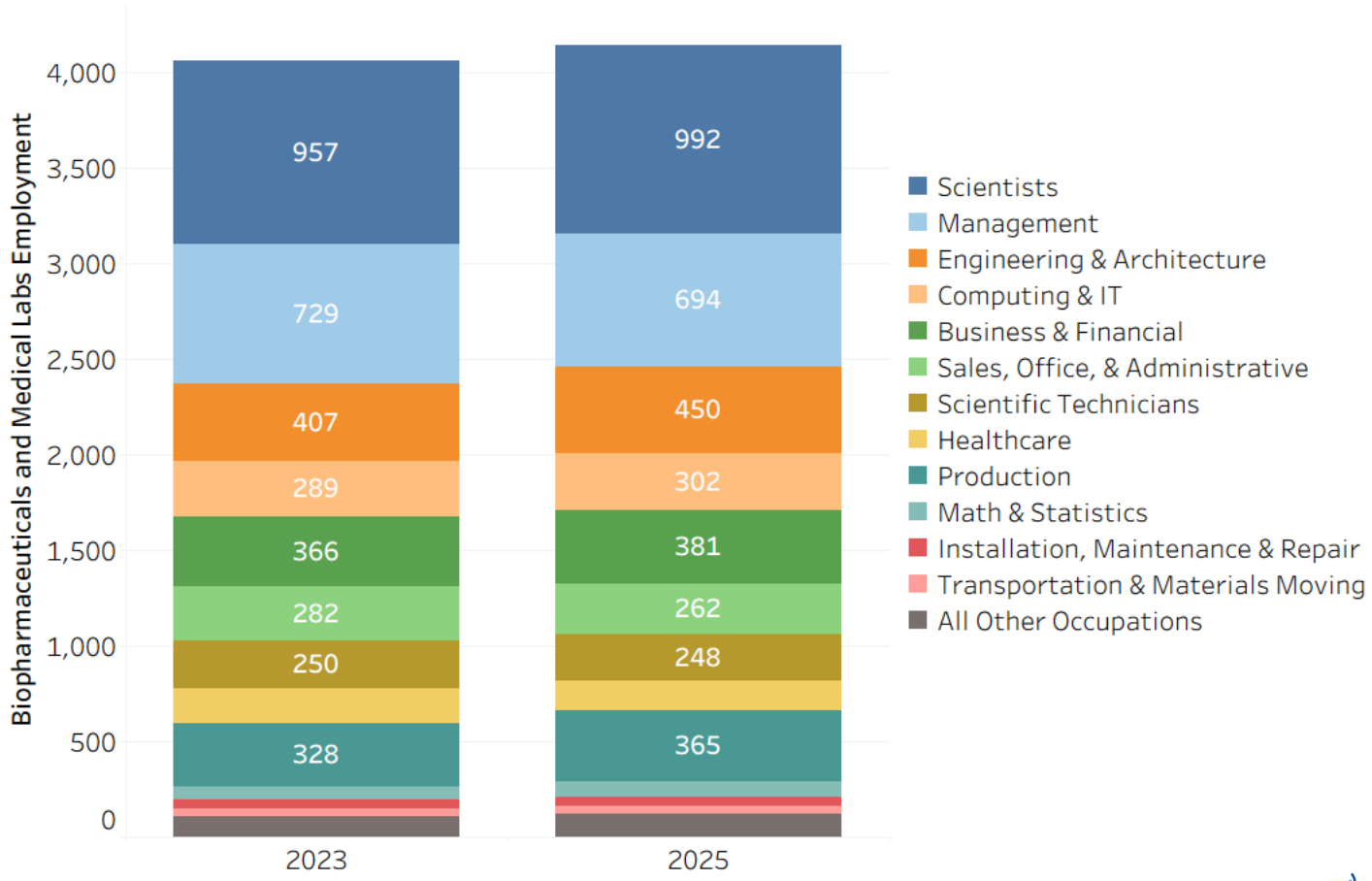
Geographic Profile: Essex County



Essex County's life sciences workforce expanded by nearly 100 jobs over 2023-2025, a 2% increase in employment

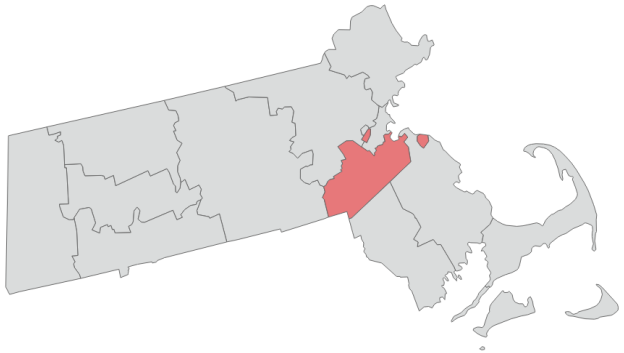
Key Life Sciences Employers

- Pfizer
- Millipore Sigma
- New England Biolabs



Source: TEConomy Partners' analysis of Lightcast QCEW Data, 2026.2

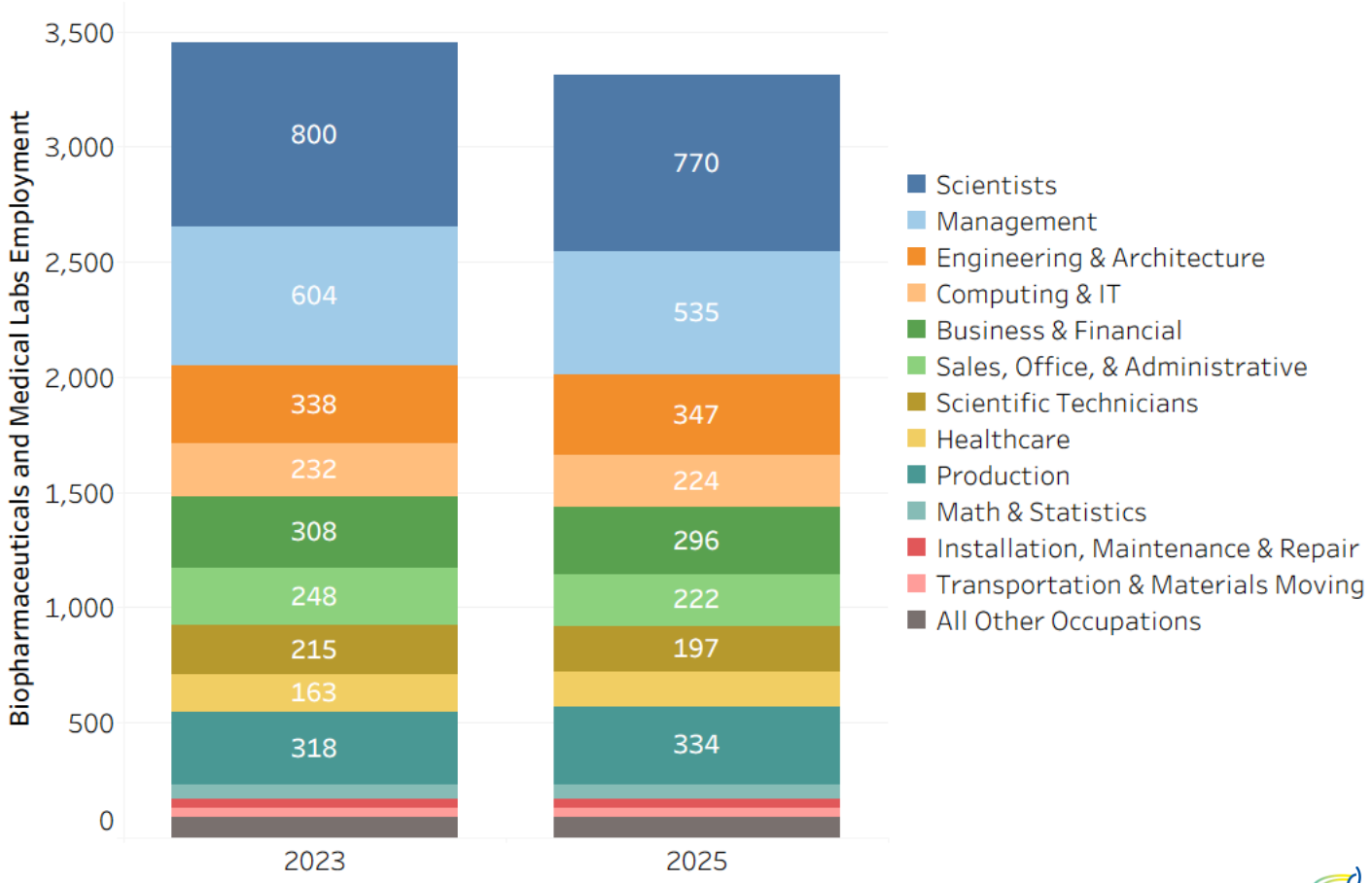
Geographic Profile: Norfolk County



Norfolk County's life sciences workforce contracted by more than 100 jobs over 2023-2025, a 4% decline in employment

Key Life Sciences Employers

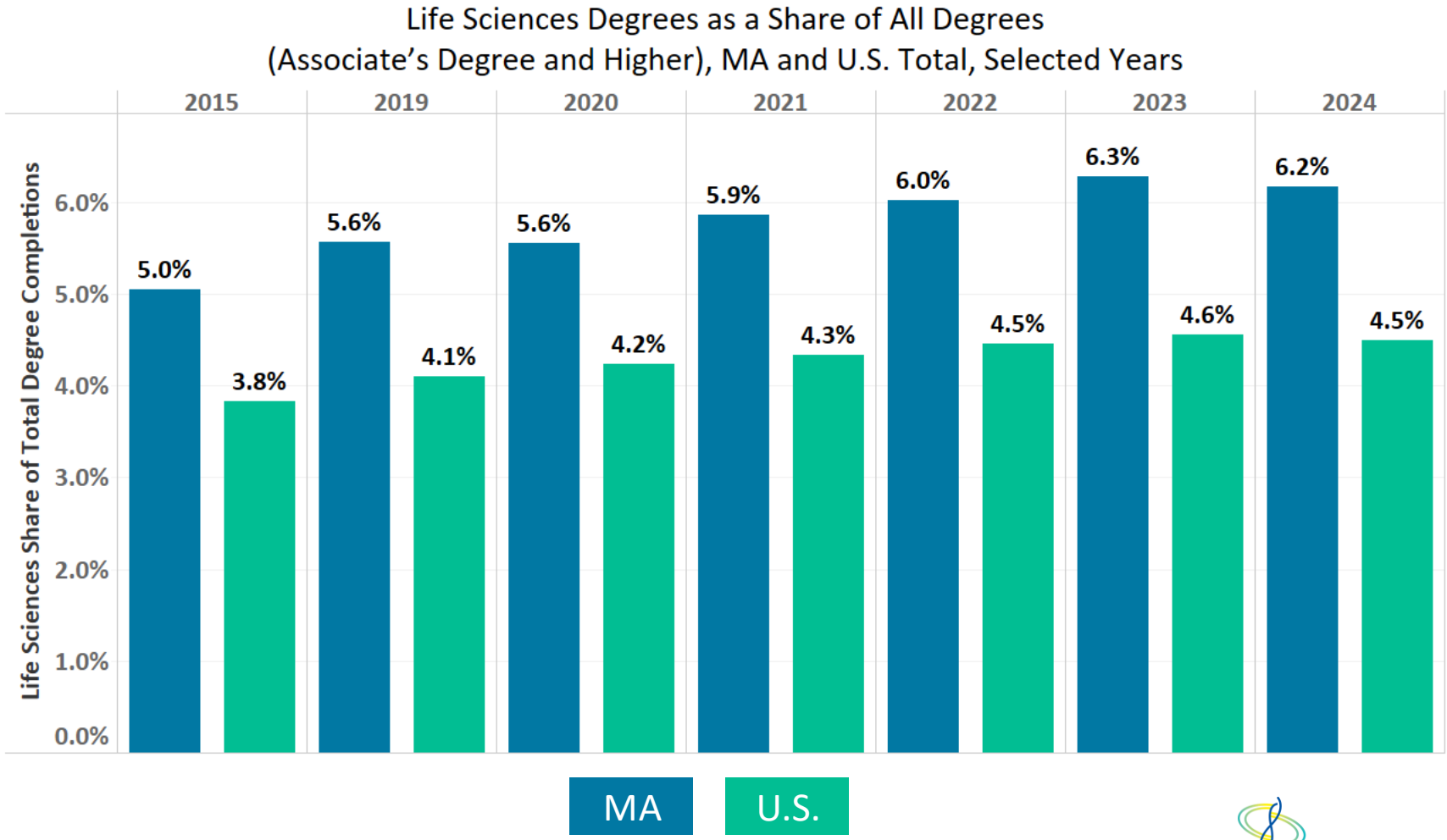
- Moderna
- Alnylam Pharmaceuticals
- Thermo Fisher Scientific



Source: TEConomy Partners' analysis of Lightcast QCEW Data, 2026.2

MA Institutions Continue to Specialize in Life Sciences Talent Generation Relative to the U.S.

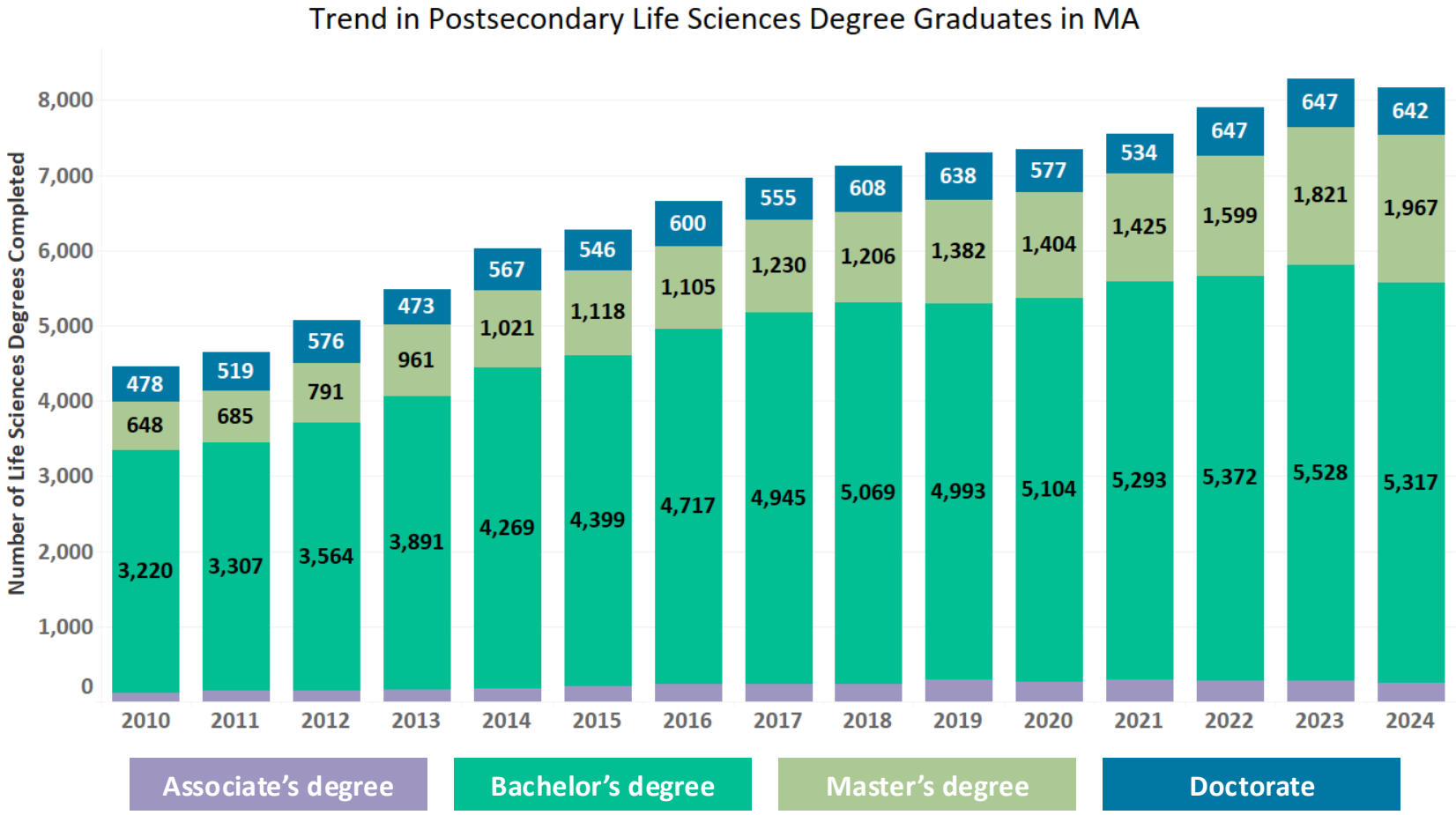
- Massachusetts is 38% more concentrated in life sciences degree production than the U.S. at large as of 2024, compared to 32% more concentrated in 2015
- MA institutions generated an average of 8.1k life sciences degree graduates annually during 2021-2023



Source: TEConomy analysis of NCES IPEDS data.

Slight Decline in Life Sciences Degree Completions in 2024 Follows Period of Steady Growth

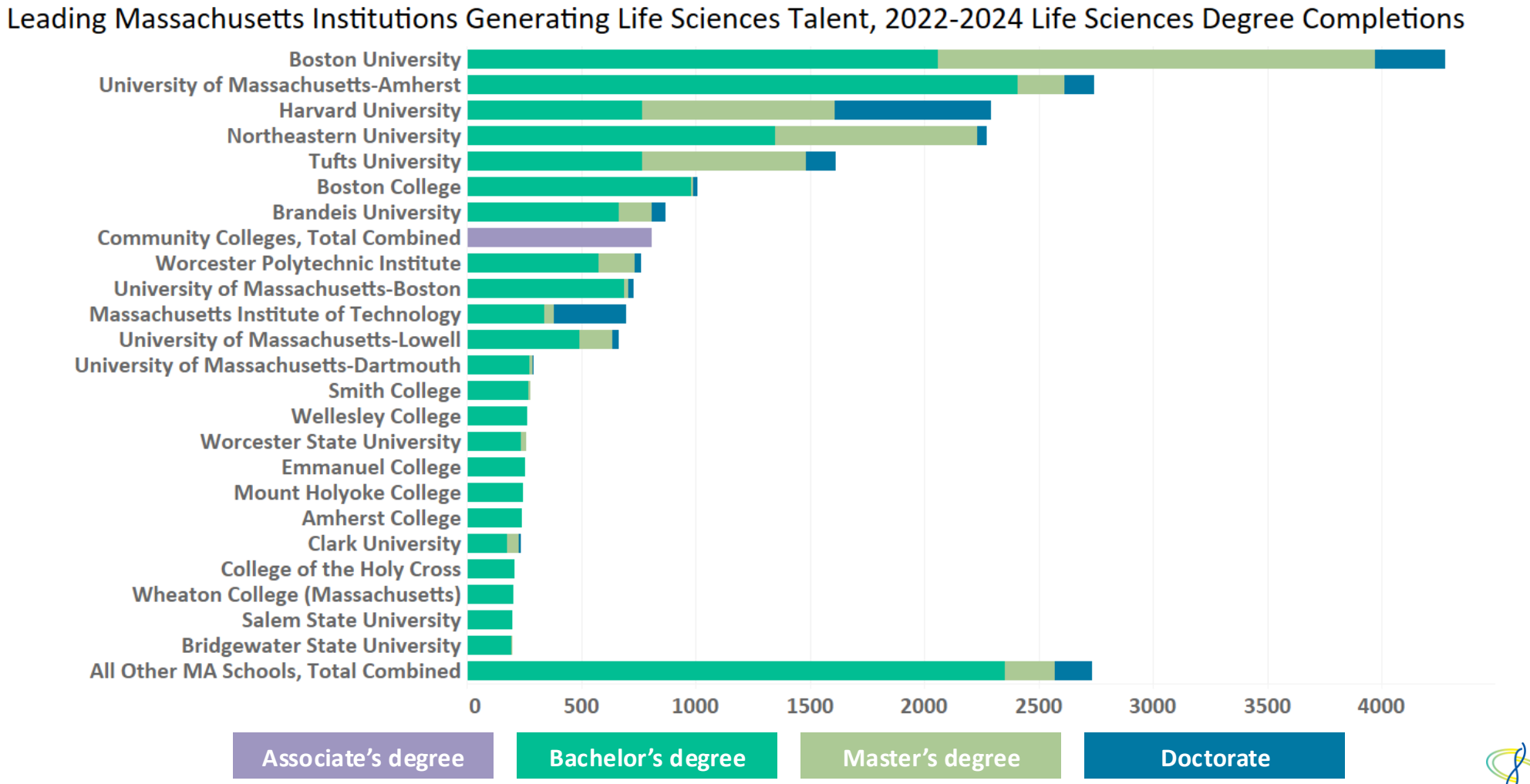
- After 5% increases in life sciences degree completions between 2021-22 and 2022-23, the 2023-24 period saw a 1% decline in completions
- Note that these totals do not capture growing demand for occupations in secondary degree fields such as:
  - Computer sciences
  - Engineering & industrial production
  - Business & finance
  - Regulatory affairs and compliance



Note: The primary life sciences degree analysis includes all degrees in the biological and biomedical sciences (all NCES CIP Codes in the 26 series) and is inclusive of bioinformatics/biostatistics; selected bio-specific degree fields within engineering; and biology technician and biotechnology lab tech degree fields. The analysis does not include professional degrees in health and clinical sciences per the focus of MassBioEd on the industrial and research ecosystem.

Source: TEConomy analysis of NCES IPEDS data.

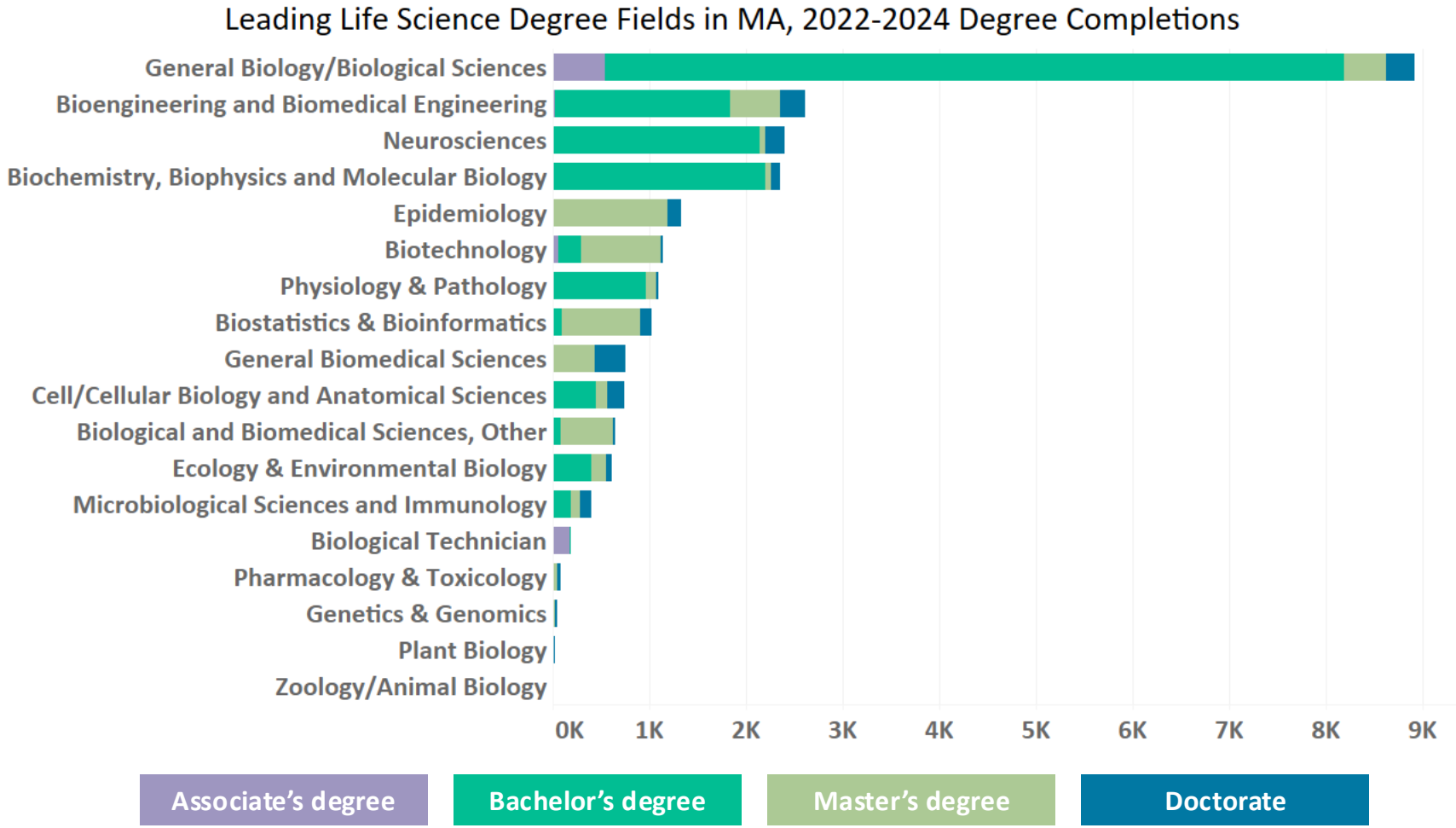
MA has Numerous Nationally-Recognized Public and Private Life Sciences Educational Programs Generating Significant Volumes of Graduates



Source: TEConomy analysis of NCES IPEDS data.

MA Continues to Produce High Levels of Biological Sciences Grads, Significant National Shares in Specialized Graduate Level Fields

Ongoing specialization:
MA produces more than 13% of the nation's supply to epidemiology program graduates, over 12% of the nation's biological technician program graduates, and over 10% of the nation's biostatistics and bioinformatics program graduates



Source: TEConomy analysis of NCES IPEDS data.

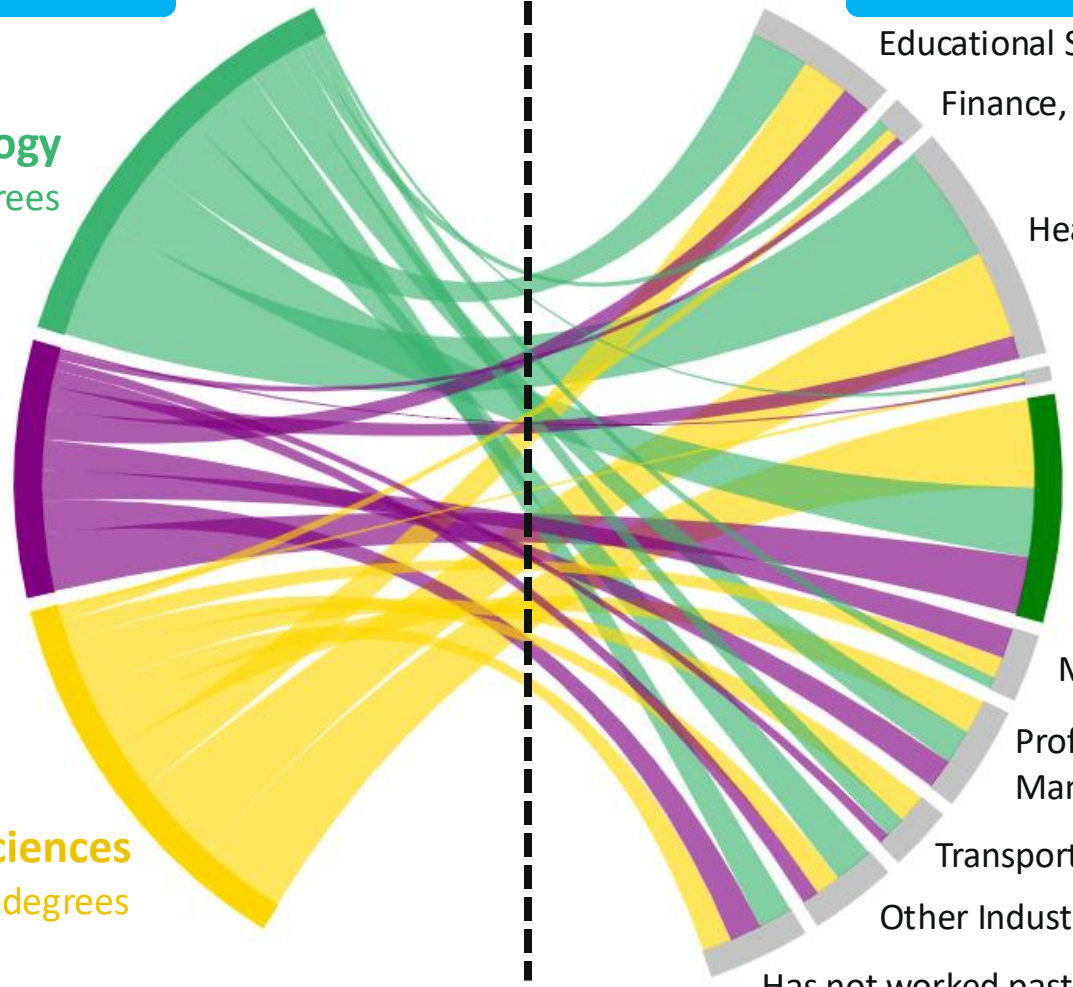
Biopharmaceuticals & Medical Labs Industry Continues to Employ 1 in 5 Life Sciences & Chemistry Degree Holders Over Long Term in Massachusetts

MA Life Science-related Degree Graduates

Biology
Estimated 93.4k MA degrees

Chemistry and Chemical Engineering
Estimated 56.0k MA degrees

Other Biosciences
Estimated 86.7k MA degrees



MA Industry Employment for LS Graduates

Educational Services - 13% of total

Finance, Insurance, Real Estate, and Rentals - 3% of total

Healthcare - 22% of total

Information - 1% of total

Biopharmaceuticals & Medical Labs - 21% of Total
(up from 19% in 2022)

Manufacturing (non-Biopharma) - 6% of total

Professional, Technical, and Managerial Services - 10% of total

Transportation, Distribution, and Wholesale - 6% of total

Other Industries - 8% of total

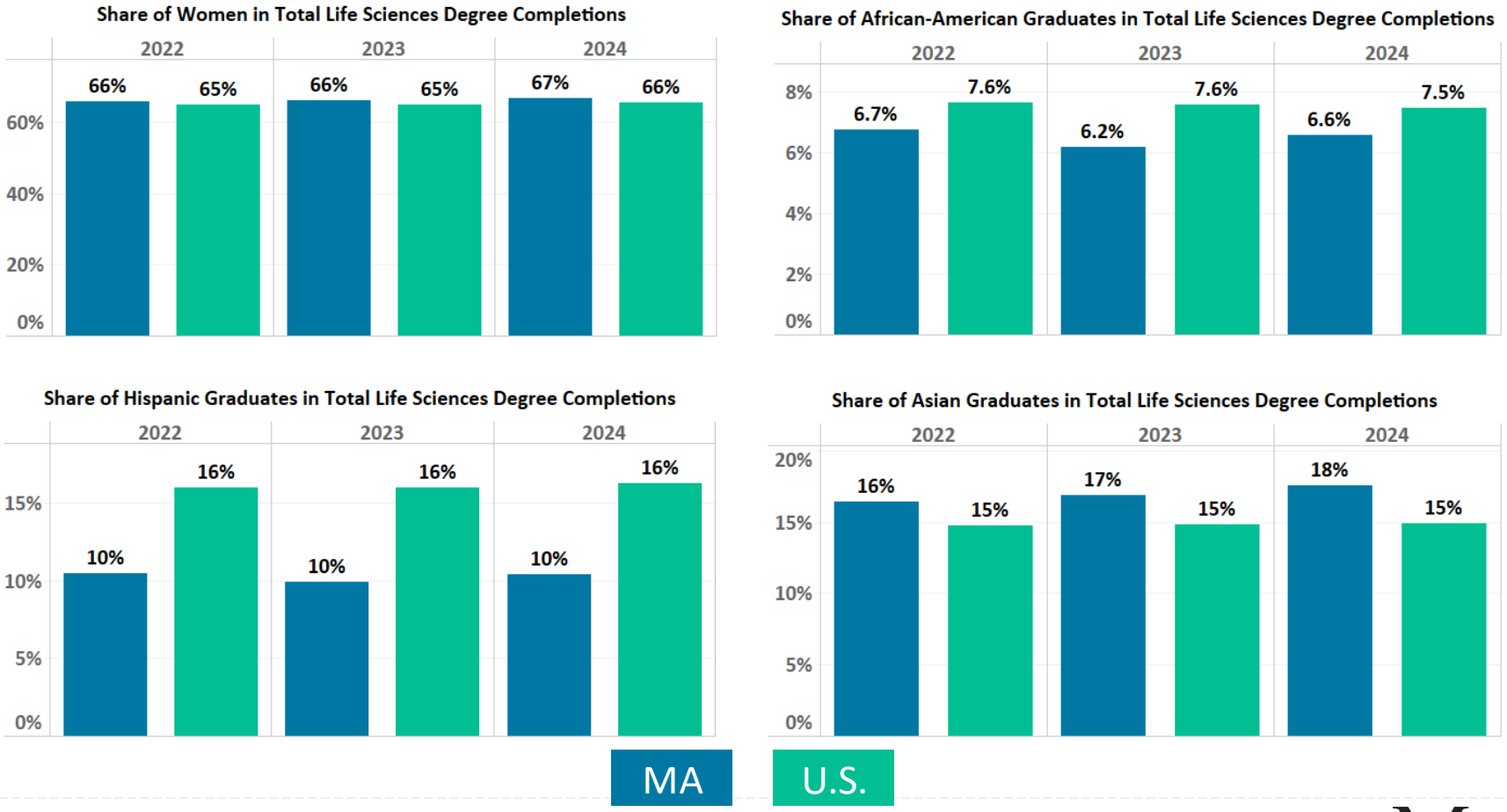
Has not worked past 5 years - 9% of total

The Life Sciences Degree to Industry Pipeline
Across the over 236k life sciences-related degree holders in MA (and including chemistry-related degrees), this graphic examines the intra-state "flows" of life sciences talent with respect to which industries they ultimately work in.

Source: TEConomy analysis of American Community Survey Public Use Microdata, 2024 5-year data.

Women and Diverse Population Shares of Life Sciences Degree Graduate Have Remained Relatively Flat Over the Last Several Years in MA, Suggesting an Ongoing Need to Prioritize Diverse Talent

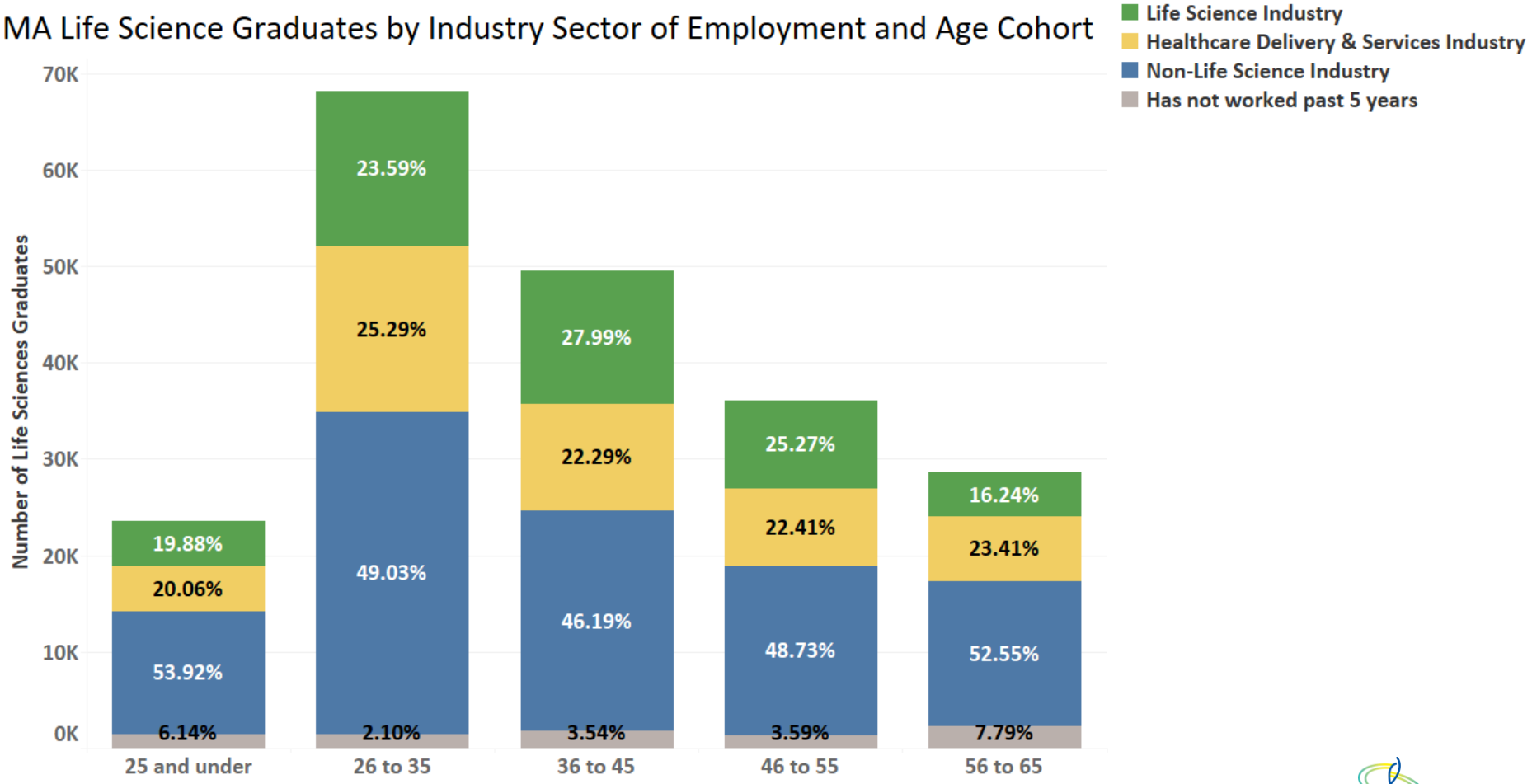
Demographic Trends in MA Life Sciences Degree Completions



Source: TEConomy analysis of NCES IPEDS data.

Share of MA Life Sciences Degree Holders Working in Biopharma and Medical Labs Sectors Peaks in 36 to 45 Year-Olds, With Significant but Slowing Attrition As Workers Age

Share of life sciences degree holders working in the industry at ages 56-65 is 42% lower than the share in ages 36-45, compared to a 50% dropoff in 2022

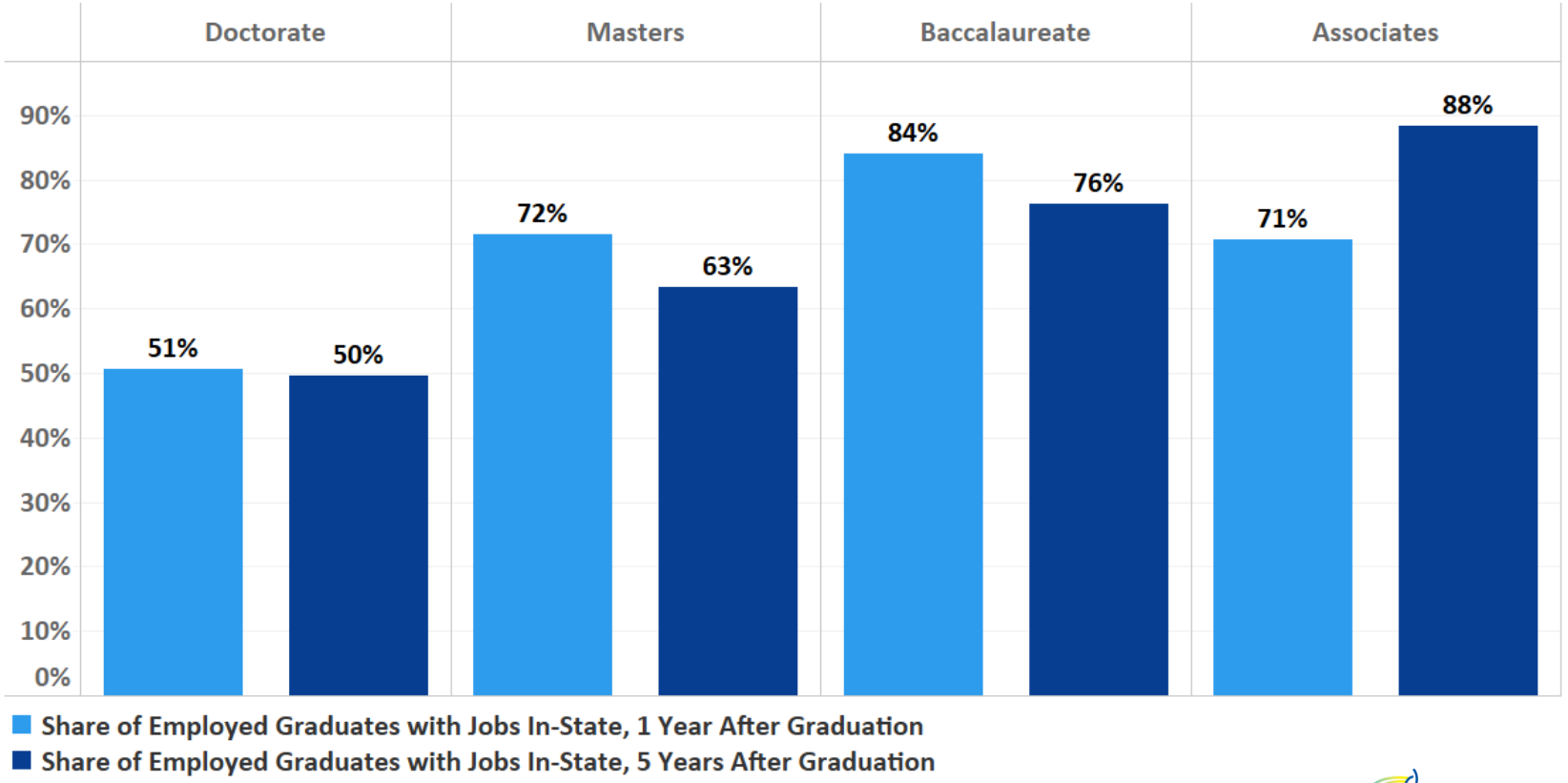


Source: TEConomy analysis of American Community Survey Public Use Microdata, 2024 5-year data.

MA Retains Relatively High Shares of its Life Sciences Graduates Over Time

- MA public institutions continue to report high in-state employment retention rates for Bachelor's and Associate's level bioscience and biomedical degrees
- Retention of Master's and Doctorate level graduates has increased since 2022
- 81% aggregate in-state retention of employed life sciences graduates one year after graduation across all degree levels

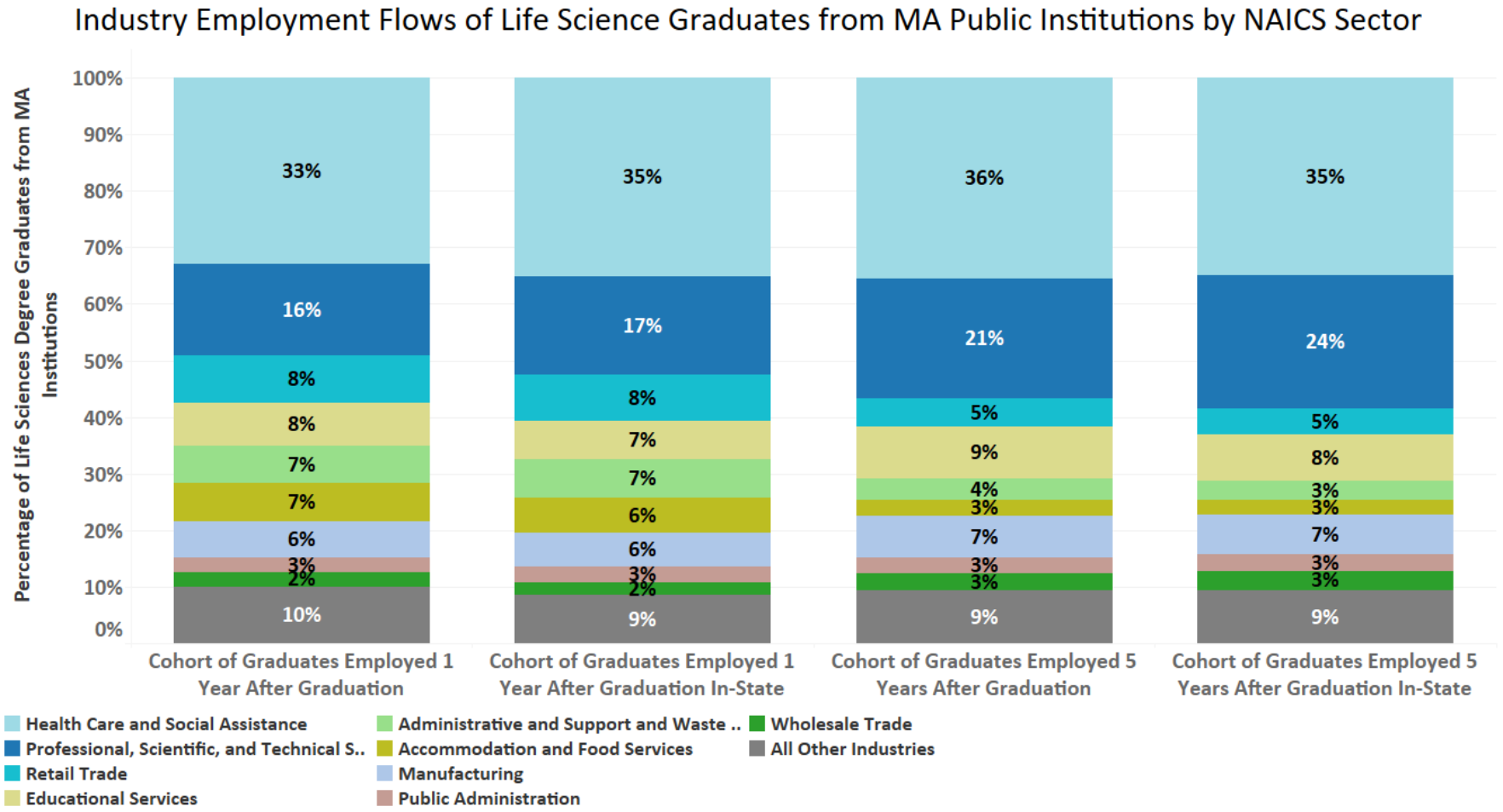
Share of Life Sciences Degrees from MA Public Institutions Working In-State at 1 and 5 Years After Graduation



Note: PSEO data limited to MA partner institutions, includes only public institutions and an estimated 32% coverage across all state graduates.
Source: TEConomy analysis of Census PSEO data.

MA Life Sciences Graduates are Widely Distributed Across Various Industries Beyond Life Sciences Sectors Once They Enter the Workforce

- The majority of life sciences graduates in MA are employed in sectors outside of industrial life sciences at 1 and 5 years after graduation
- The top industry sector for new life sciences graduates was in healthcare, with 35% of grads employed in-state in healthcare both 1 and 5 years post graduation



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Source: TEConomy analysis of Census PSEO data.

Implications: Demand Drivers & Reskilling Mandate

Leading Occupational Segments: Demand is shifting toward the intersection of biology and digital infrastructure.

- **Digital Transformation:** Computing & IT leads all segments with **31% projected growth**.
- **Core Science:** Scientists remain the largest demand driver, with **4,000+ new growth positions** projected.
- **Targeted Reskilling Needs**
  - **AI & Machine Learning:** Integrating advanced data analytics into R&D.
  - **Hybrid Skills:** Blending core biology with computational science.
  - **Technical Operations:** Upgrading to automated manufacturing platforms.
  - **Compliance:** Adapting to complex digital regulatory affairs.
  - **Cross-Functional Skills:** Project management and vendor relations.
- **Replacement Needs:** Labor force exits due to retirements or occupation/role changes remain a consistent and significant source of demand that requires talent pipeline investment and attention.

STRATEGIC IMPLICATION

Workforce Continuity & Evolution
While replacement needs consistently drive the majority of workforce openings across industries, the evolving landscape requires a dual focus. Organizations must maintain stable pipelines for standard turnover while aggressively investing in reskilling to build future digital fluency.

Implications: Talent Pipeline

Geographic & Pipeline Trends

Massachusetts continues to generate a high volume of specialized talent with strong local labor market ties.

- **Regional Anchors:** Middlesex holds **64%** of the workforce, though Suffolk and Worcester are expanding rapidly.
- **Graduate Volume:** MA produces **38% more** bioscience degrees than the US average annually.
- **In-State Retention: 81%** of life sciences graduates from public institutions remain in-state one year post-graduation.
- **Advanced Retention:** Retention rates for Master's and Doctorate level graduates have increased since 2022.

COMPETITIVE ADVANTAGE

High local retention of **advanced degree holders** ensures the state captures its investment in public education, maintaining its status as a premier global talent hub.

The Massachusetts Biotechnology Education Foundation (MassBioEd) is committed to understanding and supporting the needs of the state's life sciences workforce. The annual Massachusetts Life Sciences Employment Outlook analyzes employment data, hiring demand, and skills requirements and forecasts job trends and their impact on the state's education and training institutions in supplying critical talent.

MassBioEd builds and strengthens the life sciences workforce by inspiring and educating students of all ages and backgrounds, empowering teachers, connecting individuals to rewarding careers, and fostering meaningful partnerships among industry, education, and government.

Educate. Connect. Inspire. Powering the future of the life sciences.

Prepared by

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