Identifying and Tracking Emerging Occupations in New Jersey's Key Sectors

Using real-time online job posting data to monitor developing job opportunities that are not currently captured by traditional labor market information

DOL

THE NEW JERSEY DEPARTMENT OF LABOR & WORKFORCE DEVELOPMENT

Office of Research and Information

Table of Contents

Project Goals

- Identify labor market-driven changes since the last SOC revision in 2019

- Use forward-looking job postings to identify occupations likely to be in demand over the coming years

- Refine methods for using job posting data to assess future labor market trends, while acknowledging its limitations

- Align job-posting language used by job seekers and employers with the updated SOC taxonomy to inform recommendations for new or revised SOC codes

SOC-O*NET Taxonomy Structure

Based on the
2018 SOC System ⤢

23 Major Groups

98 Minor Groups

459 Broad Occupations

867

Detailed SOC Occupations

1,016

O*NET-SOC 2019 Occupations
(including 867 SOCs)

Data-Level

722 | SOC Level **without** detailed O*NET-SOCs

52 | SOC Level **with** detailed O*NET-SOCs

149 | Detailed O*NET-SOCs

923 **Titles and Data**
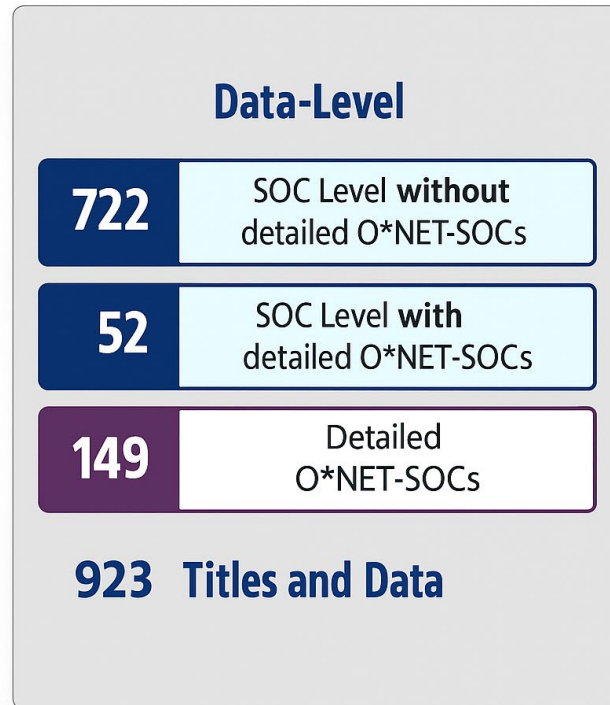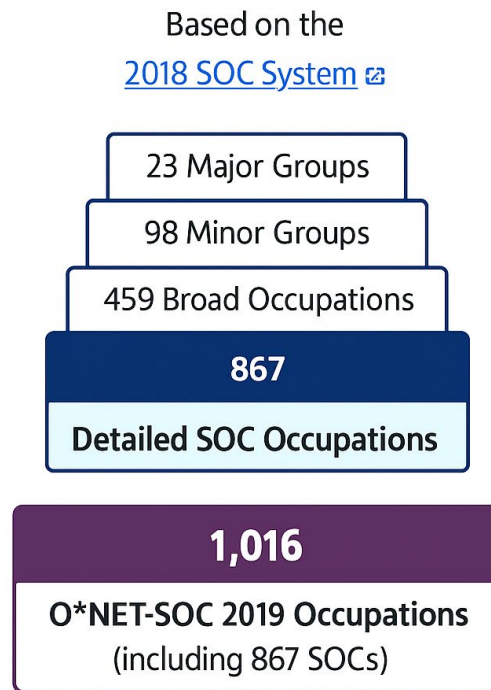
SOC – Standard Occupational Classification
O*NET – Occupational Network

4

Methodology

Started with 149 detailed O*NET occupations	Descriptive indicators available, but no employment/wage data
Supplemented with analysis of ESCO	Examples included AI Engineers and User Experience Analysts
Online job postings analysis using Lightcast/Nlx	Tracked over the past five years
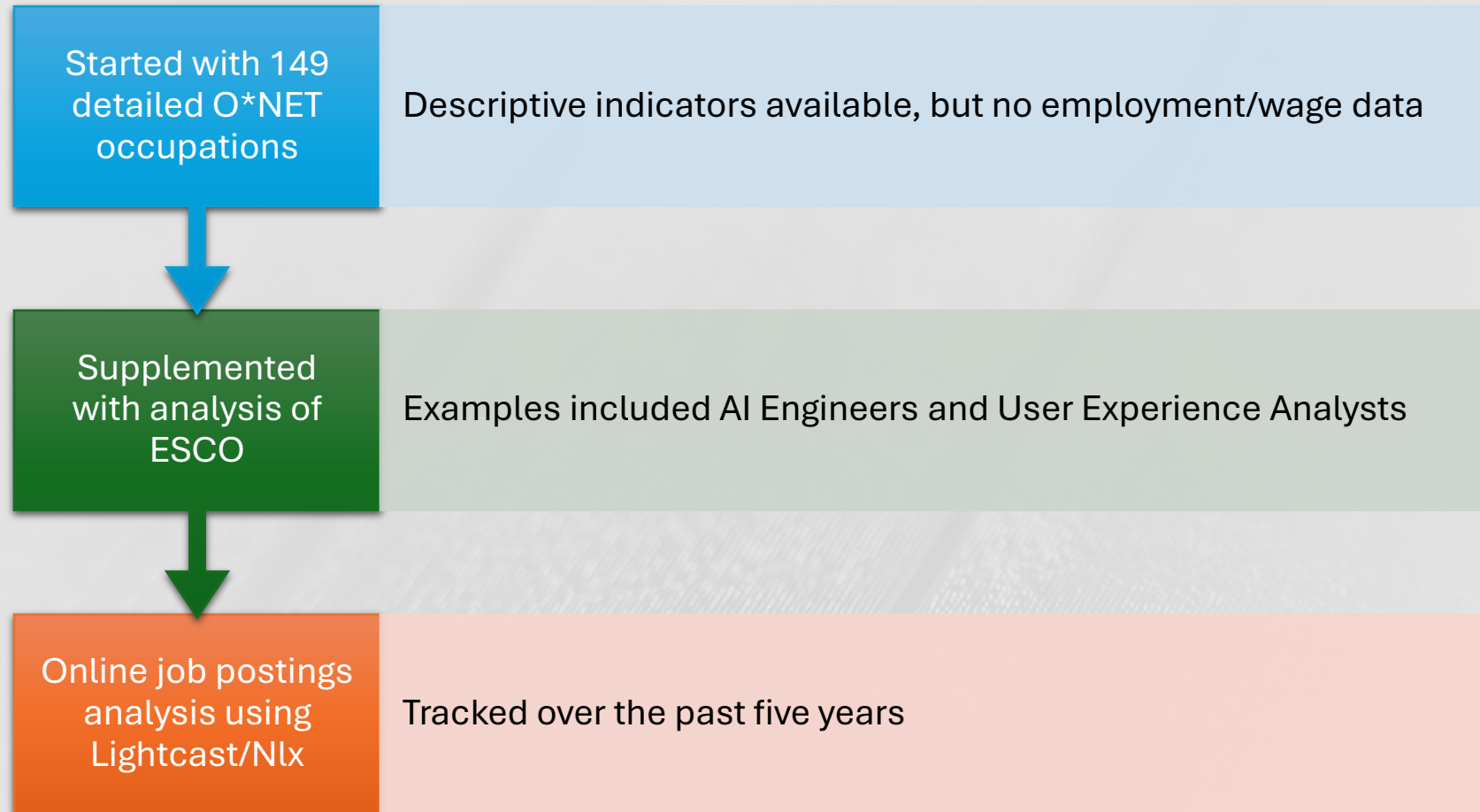
ESCO – European Skills, Competencies, Qualifications, and Occupations
Nlx – National Labor Exchange

Manufacturing

This sector includes nearly 10,000 employers employing approximately 250,000 workers.

These employers are located within a day's drive of 35 percent of the U.S. population.

- **Supply chain management** roles show consistent job posting activity over the past five years

- Postings for **robotics engineers and technicians** have experienced a steady decline

- Emerging skill signals appear in a small but growing share of postings, including **photonics, mechatronics, and nano-/microsystems**

Office of Research and Information
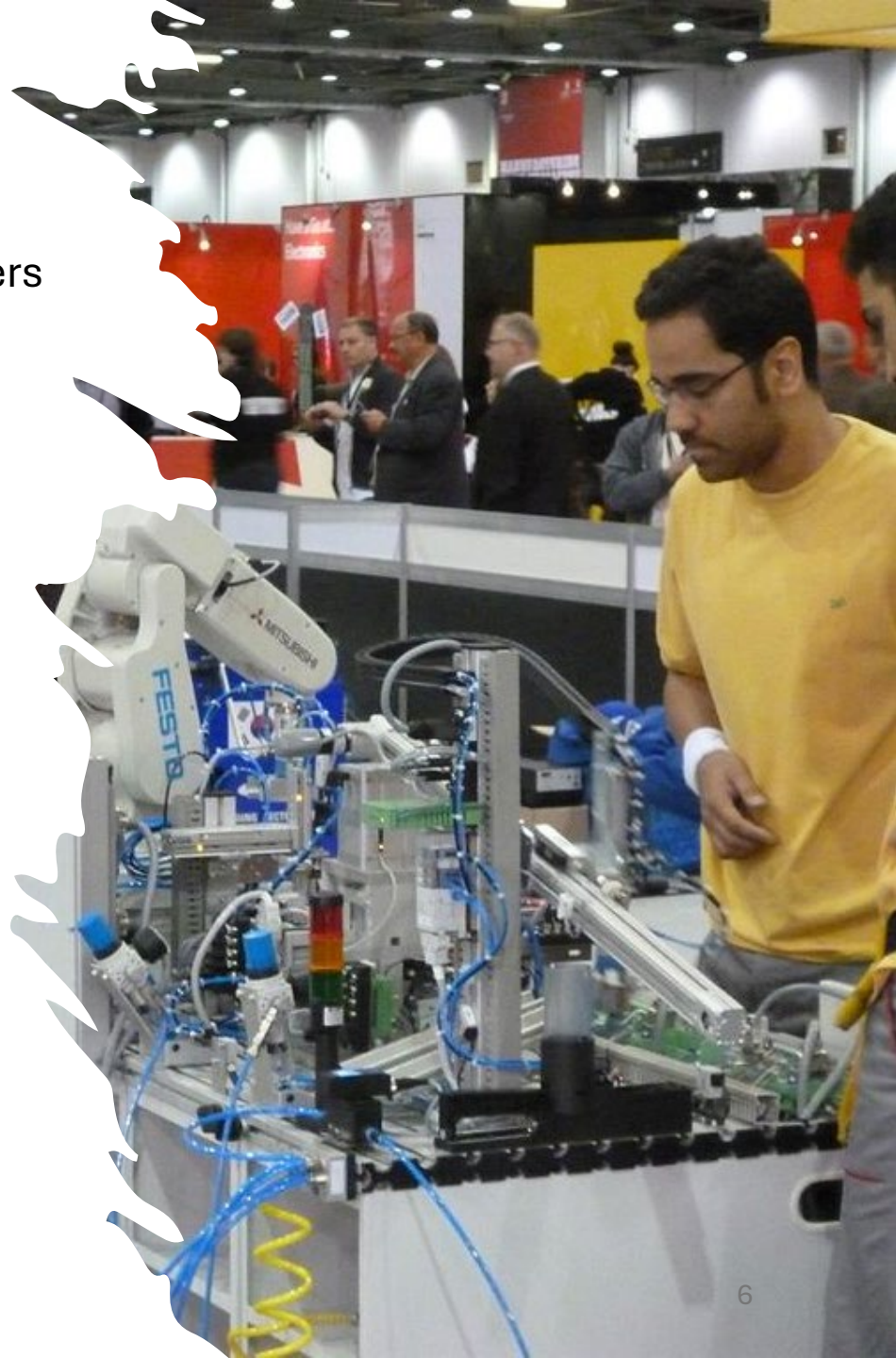
Healthcare

Largest industry in NJ with over 650,000 workers.

- Several healthcare occupations show strong demand growth, including **cytogenetic technologists** (+125%), **sports medicine physicians** (+52%), and **patient representatives**

- In contrast, demand has declined for **health information specialists** (-36%) and **hospitalists** (-46%)

Information Technology

Rapid technological change continues to expand and reshape the demand for emerging IT skills.

- **Many jobs never existed even a decade ago**
  - Blockchain engineers
  - AI engineers

- **Others have enhanced how the work is done**
  - Penetration testers
  - User experience (UX) analysts
  - Business intelligence analysts

Office of Research
and Information

Clean Energy & Infrastructure

Employment levels are relatively small, yet these roles play a critical part in mitigating climate change and food instability.

- Strong demand growth is evident for **sustainability specialists** (+277%), **energy auditors** (+80%), and **water/wastewater engineers** (+64%)

- Emerging roles include **precision agricultural technicians** and **industrial ecologists**

Office of Research and Information

Port Activities

The Port Authority of New York/New Jersey (PANYNJ) is the largest container port on the East Coast and third largest in the US.

- **Information security engineers** show consistent demand, with approximately 2,000 job postings annually

- **Supply chain managers** appear to be increasingly referenced in place of logistics analysts in industry terminology

- The impact of AI on port-related occupations remains uncertain

Office of Research and Information

Biopharmaceuticals & Life Sciences

New Jersey has the second-highest employment nationally in 2024, trailing only California.

- **Bioinformatics scientists and biostatisticians** show consistent job posting activity and play a critical role in new drug development

- **Clinical data managers** demonstrate emerging demand and may warrant consideration for inclusion in the SOC

Office of Research and Information

Finance

Finance contributed $40 billion to NJ GDP.

- Several finance-related roles may warrant consideration for inclusion in the SOC, including **quantitative analysts**, **blockchain engineers**, and **customs brokers**

- Among all roles, **sustainability specialists** show the most notable increase in job postings (+277%)

Office of Research and Information

Future Emerging Industries in New Jersey

- Online gaming

- TV & film (Netflix)

- Data centers

- Warehouses

Office of Research and Information

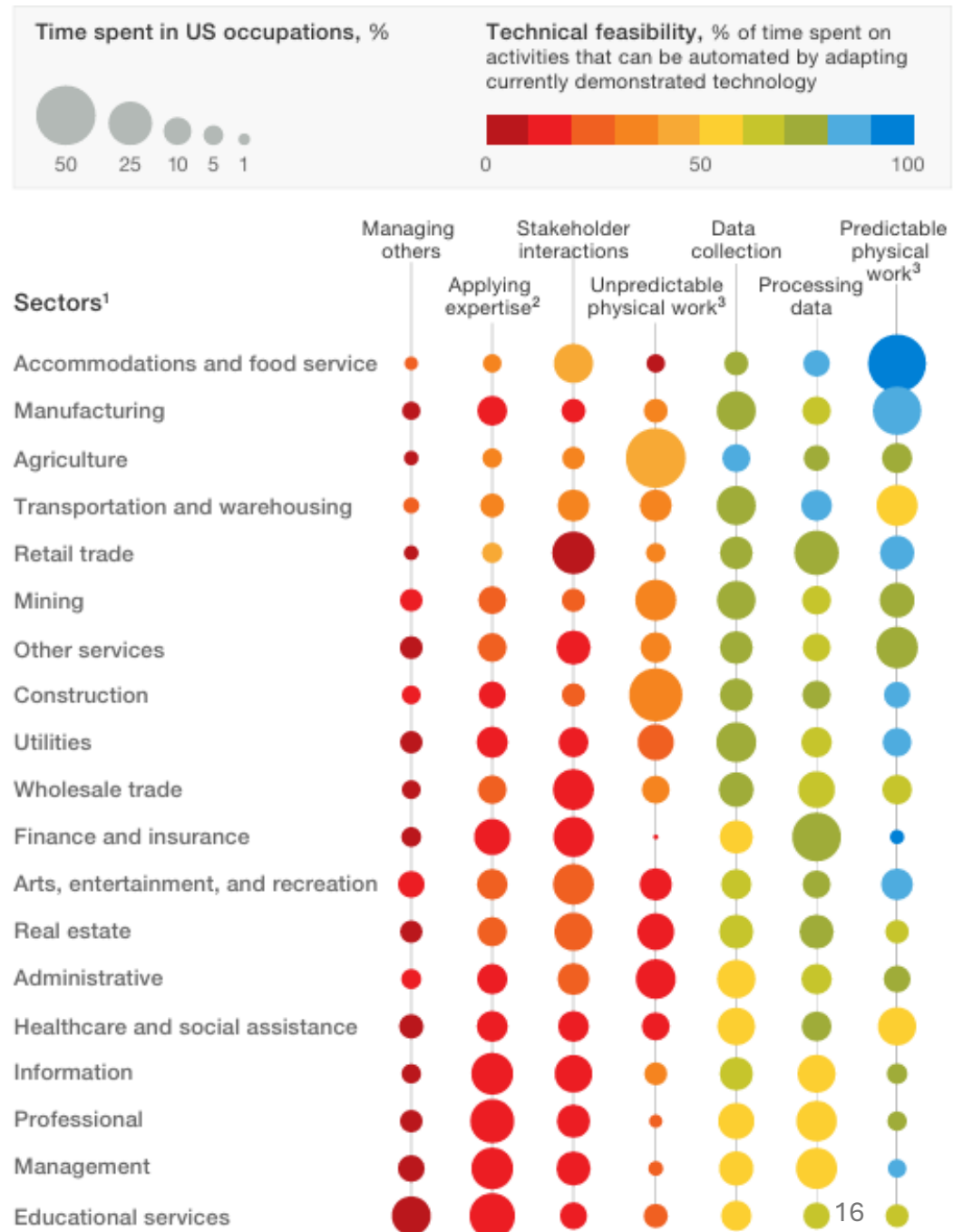# Industrial Revolutions – We've Been Here Before

- First (late 1700s-early 1800s)
  - Mechanization and steam power

- Second (late 1800s-early 1900s)
  - Mass production, electricity, internal combustion engine

- Third (mid 1900s-early 2000s)
  - Automation, digital technologies

- Fourth (present day)
  - Cyber-physical systems, Internet of Things, AI/machine learning

- Commonalities include technological innovations, economic growth, social change, global impacts

Sectors Likely to See Early AI Adoption

- Manufacturing
  - Robotics, repetitive tasks, little downtime
- Finance
  - Faster trading, data analysis, fraud detection
- Health Care
  - Improved diagnostics, personalized medicine
- Retail
  - Inventory management, personalized customer experience
- Transportation and Logistics
  - Supply chain optimization, fleet management
- Information Technology
  - Software development, cybersecurity

Automation's Effect on Jobs (by Industry)

Time spent in US occupations, %

50 25 10 5 1

Technical feasibility, % of time spent on activities that can be automated by adapting currently demonstrated technology

0 — 50 — 100

Sectors[1]	Managing others	Applying expertise[2]	Stakeholder interactions	Unpredictable physical work[3]	Data collection	Processing data	Predictable physical work[3]
Accommodations and food service							
Manufacturing							
Agriculture							
Transportation and warehousing							
Retail trade							
Mining							
Other services							
Construction							
Utilities							
Wholesale trade							
Finance and insurance							
Arts, entertainment, and recreation							
Real estate							
Administrative							
Healthcare and social assistance							
Information							
Professional							
Management							
Educational services							

Source: McKinsey Quarterly, July 2016

16

Defining AI's Impact Within the Workplace

Automation vs. Augmentation

Source: Price Waterhouse Cooper, *Sizing the Prize,* June 2017
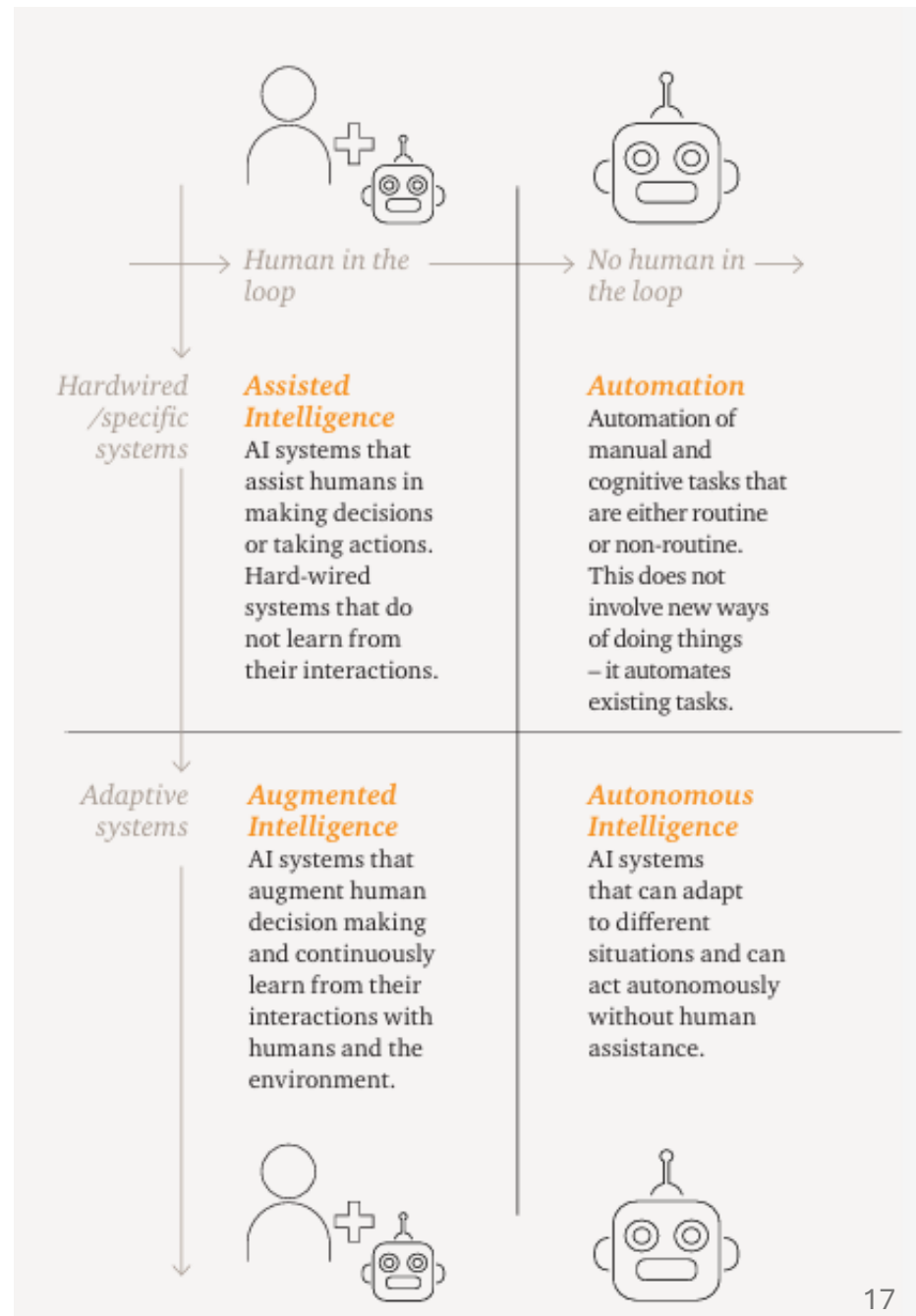
2025-2026 NJDOL PUBLICATIONS

- Identifying and Tracking Emerging Occupations in New Jersey's Key Sectors (January 2026)
- New Jersey's Manufacturing Sector (Winter 2025)
- County Brief: Labor Market Facts (December 2025)
- Labor Market Spotlight - Celebrating New Jersey's Veterans (Issue No. 28, Volume 3: November 2025)
- Labor Market Spotlight - New Jersey's Waterways Help Keep the Economy Flowing (Issue No. 27, Volume 3: October 2025)
- New Jersey Employment Situation (September 2025)
- Job Openings and Labor Turnover Survey (JOLTS) (August 2025)
- New Jersey Building Permits (August 2025)
- New Jersey's Life Sciences Sector (Fall 2025)
- Labor Market Spotlight - The Industries Powering New Jersey's Special Moments (Issue No. 26, Volume 3: August 2025)
- Real-Time Insights: Analysis of Job Posting Data in New Jersey 2nd Quarter 2025 (August 2025)
- New Jersey's Health Care Sector (June 2025)
- New Jersey Business Employment Dynamics (May 2025)
- Survey of Occupational Injuries and Illnesses (SOII) (April 2025)
- Labor Market Spotlight - Fortune 500 Companies (Issue No. 25, Volume 3: March 2025)
- Labor Market Spotlight - Young Adult Workforce (Issue No. 24, Volume 3: January 2025)

Join Our Mailing List!

- Link: nj.gov/labor/subscribetoori
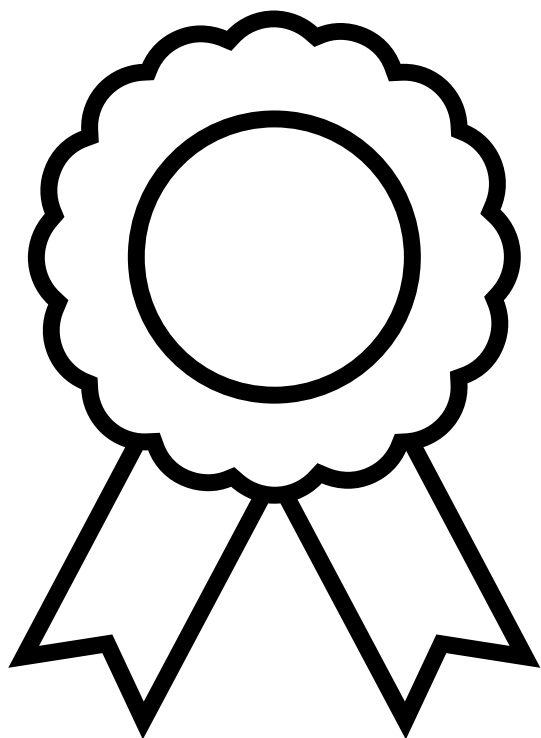
Office of Research
and Information

Data Disclaimer and Lightcast Limitations

- Data is subject to revision or change.

- Lightcast Limitations:
    - A job posting does not necessarily equal a job.
    - Some occupations and industries may be underrepresented.
    - While Lightcast uses algorithms to remove duplicate listings, some redundancies may still remain.

2025 Report

This report was prepared by the Office of Research and Information, Division of Economic & Demographic Research. This division collects and disseminates vital data on employers, employees, and population demographics.