



NJBIA
New Jersey Business
& Industry Association
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FOCUS NJ
Center for Economic Research
& Workforce Solutions

The Future of Work in NJ: INDUSTRY SERIES STUDY

TRADE, TRANSPORTATION & UTILITIES

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***THE FUTURE OF WORK IN NJ:
Study Introduction & Background***

Challenges in the Garden State

There are many programs and partnerships forming around New Jersey that are working to address the changing dynamics of human employment. However, they are currently operating in silos with **little inter-connectivity** among regional stakeholders to expand these initiatives throughout the state.

Often, stakeholders (including businesses, government, and academia) see each other as **competitors instead of partners**.

The **opportunity for collaboration is immense** and the outcome of sincere statewide partnerships will aid New Jersey in configuring a leading innovation economy with a strong workforce pipeline.

As the changing dynamics of the workforce unfold, it is imperative that the business community, academia, and government work together to ensure the skills needed for the jobs of tomorrow are embedded within K-16 education throughout the state today.

Challenges in the Garden State Cont.

According to NJBIA's 2020 Business Outlook Survey, **6-in-10 businesses have difficulty locating** technical/middle skilled (63%) and professional/highly skilled (62%) **talent to fill their job openings**. Additionally, 81% of New Jersey companies are likely to recruit talent from community colleges, while 75% are likely to recruit from four-year institutions. Meanwhile, 75% of businesses only recruit talent from New Jersey's postsecondary institutions.

Disappointingly, only **26%** of New Jersey's businesses **are engaged with their local community college or four-year institution**. When asked why they are not engaged, nearly **50%** of New Jersey businesses said they **either don't know who to contact, how to best participate, or they are unaware of available opportunities** to engage with postsecondary institutions. This is a major obstacle for New Jersey's future workforce pipeline.

Given that New Jersey businesses are looking to the state's postsecondary institutions to fill their workforce needs, it is imperative that postsecondary institutions understand the skills desired by employers to ensure a properly educated workforce pipeline that will provide employees with valuable, employable skills and supply employers with relevant talent.

Connecting the Dots: Bridging the Gap between Business & Academia

Workforce development and excellence in workforce skills are issues that are embedded into NJBIA's and Focus NJ's **vision for New Jersey**.

In 2018, NJBIA released a study titled **“The Education Equation: Strategies for Retaining and Attracting New Jersey’s Future Workforce.”** The study, which was a deliverable from NJBIA’s Postsecondary Education Task Force, **was a “Phase 1 deep dive” into** researching and analyzing **factors that affect New Jersey’s workforce pipeline.**

The task force, which included 100 prominent members from academia, state education and labor departments, businesses, and young adults, worked to build a framework that **sought to better prepare, preserve, and place New Jersey’s future workforce.** The group made 13 recommendations to ensure New Jersey’s workforce and the state’s education programs are aligned with the needs of the private sector.

Our Study

NJBIA and Focus NJ have made it a priority to identify and understand how New Jersey's industries and the jobs they provide are advancing into the future. As such, the duo has embarked on a **"Phase 2 deep dive"** into a statewide, seven-industry study to gather insights from New Jersey business and industry **to identify the changing dynamics, opportunities, challenges, and emerging skill sets.**

Our goal is to work collaboratively with academia to ensure the skills needed for the jobs of tomorrow are embedded within programs at the state's postsecondary institutions.

NJBIA & Focus NJ conducted targeted industry outreach in the following formats: focus groups, an online survey, and personal communication via in-person, phone and/or email. Businesses located within New Jersey that employ 10 or more individuals were targeted in our outreach efforts. Business and industry leaders such as Presidents, CEOs, COOs, CFOs, and HR/Workforce executives were invited to participate in the study. In total, 250 New Jersey businesses participated in the NJBIA/Focus NJ Industry Series-Future of Work study.

The information provided in this slide deck is a synopsis of key findings/overarching themes and **are direct responses from leading industry experts** that were provided via our industry-specific research approach.

***THE FUTURE OF WORK IN NJ:
Trade, Transportation & Utilities
Findings***

Changing Industry Dynamics & Emerging Trends

The adoption of technology, artificial intelligence and automation defines the future of the trade, transportation & utilities industry.

- Technological advancements continue to bring dramatic change to the industry's operations, business models, and profit making.
- The *Internet of Things* is aiding in revolutionizing the industry's daily business strategies as investments are being made to provide better services, products, and technologies that aid in efficiency and sustainability.
- Technological advancements are causing global shifts in value chains, including an increased reliance on regional chains as opposed to global chains.

Changing Industry Dynamics & Emerging Trends Cont.



As greenhouse gas emissions continue to drive climate change, **the industry is making a concerted effort to decrease its carbon footprint.** Companies are implementing strategic plans to reduce emissions in their operations and supply chains. These goals are intended to be met through the **adoption of alternative fuel** and **power solutions** as well as **investing in environmental programs** to promote clean energy.

Industry Opportunities

- Given NJ's ideally centralized location (proximity to the Port of NY/NJ and Newark Liberty Airport), **supply is consistently high.**
- **The integration of technology and artificial intelligence**, such as robotics, automation IOT software, and IOT hardware is allowing for increased productivity.
- In addition, the increased use of **data analytics** in everyday business **allows for increased accuracy and efficiency.**
- An increased focus on **decarbonization** to aid in the fight against climate change.



Industry Challenges

- There is an **aging workforce with a lack of young, skilled labor**.
- Maintaining the **security and privacy of confidential and/or sensitive information**.
- **The costly nature of New Jersey's business climate**, especially planned minimum wage increases (which are artificially inflating other wages).
- **Industry regulation and tariffs** are burdensome.
- **Constantly changing software and new technologies** make modernization difficult to manage, especially as clients migrate to other platforms.
- The increasing **cost of energy** due to decarbonization.

Preparing the Workforce Pipeline for the Jobs of the Future

Individuals working in the trade, transportation & utilities industry are likely already well accustomed to working with the latest technologies and artificial intelligence. **The future of this industry will rely heavily on the digital economy.** As a result, jobs in this industry will be high-skill, high-paying jobs.



Preparing the Workforce Pipeline for the Jobs of the Future

To prepare the trade, transportation & utilities workforce pipeline for the jobs of the future, students must gain knowledge and master skill sets in the following areas:

Hard Skills

1. Cybersecurity & Information Technology
2. Semiautonomous & Autonomous Vehicles
3. IoT Software & IoT Hardware
4. Big Data & Analytics
5. Robotics & Automation
6. Machinists & Drivers (w/ CDL Licenses)
7. Managerial Workers

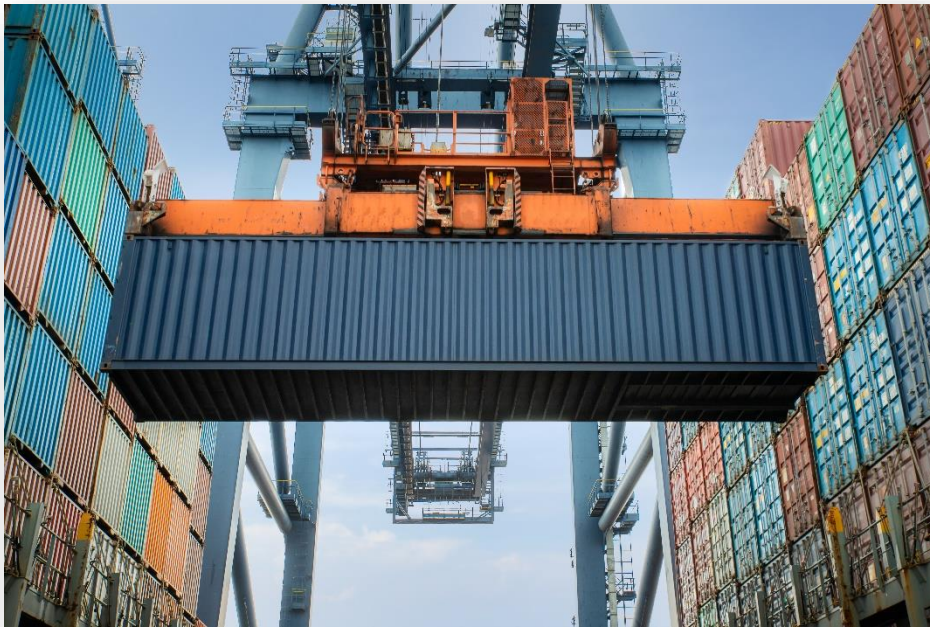
Essential Career Attributes

(previously referred to as Soft Skills)

1. Creativity/ Ability to Think Outside the Box
2. Communication Skills (Verbal & Visual)
3. Decision Making Skills
4. Adaptability
5. Critical Thinking Skills
6. Motivation
7. Self-Awareness

In-Focus: Adding Context to a New Skill Set

Robotics & Automation



Instead of replacing humans in the workforce, **robotics & automation will be used to complete tasks that are seemingly impossible or unsafe for humans to perform.** They also are able to perform tasks that are repetitive or mundane. Instead of performing these tasks ourselves, **people can now program, manage, and engineer robots to complete the job for us often in a more efficient, accurate manner.**

Tying it all Together: Ideas to Guide the Future of Work in NJ

- **Incorporate certificates and credentialing into degree programs** so students can gain industry-desired, hard skill sets and have the documentation to prove it.
- **Promote the key role that certificates and credentials play in preparing workers** for careers in the trade, transportation & utilities industry.
- **Educate** trade, transportation & utilities **workers on ways to minimize/eliminate emissions and pollution** and find new ways to avoid environmental impacts.
- **Create apprenticeships** for lower-skilled jobs and promote them as viable ways to earn and learn.

Contributors



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In Partnership with

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Sourcing for the data presented in the introduction slides can be found by [clicking here](#).