

JERSEY WATERWORKS CONFERENCE 2022

DECEMBER 2, 2022 | THE WAR MEMORIAL, TRENTON

Ramping up Capacity and Strengthening NJ's Water Workforce



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#NJWATER22

Jersey Water Works Conference

Nicole E. Brown
Client Development Manager

December 2, 2022



How I Got Connected to Water



“You must SEE it to BE it”



Wildwood circa 1985



Teaching Kids About Water Through
Vacation Bible School

Staying Connected to Water



My Family Protecting our Community



An Afternoon on the Reservoir

Increasing DE&I Connections within Water **SISTEM**

A Focused Group of Women of
Color (SIS) in the STEM
Field of Water



Black Water Professionals at WEFTEC 2022



Emerging Water Leaders of Color Circle

Pilot initiative for rising BIPOC water professionals to develop:

- Career advancement action plans
- Professional growth strategies
- Critical soft skills
- Community and industry connections
- Sustainable knowledge exchange platform
- Talent pool of emerging BIPOC leaders in NJ



Apprenticeship Program



Jersey Water Works
8th Annual Conference
Trenton, NJ
December 2, 2022

About Us



NJWA is a
state-wide, non-profit
professional corporation
established in
1990

Members include water
and wastewater
service providers

**A State-certified training
provider**
for licensed water/wastewater
operators, certified public
works managers, and
professional engineers

NJWA provides
technical services
to water
and
wastewater systems



Programs/Services Include:

- Regulatory Compliance Assistance
- Leak Detection/Line Location
- Water Audits
- Loan & Grant Assistance
- Energy Assessments
- Source Water Protection Planning
- UAV Aerial Survey and Inspections
- Apprenticeship Program for the water industry



Scope

Water & Wastewater System Operations
(T, W, S, C)

Job Classification

Operations Specialist (licensed operator)

Approved by and registered with
the US Department of Labor

Partners include

US Dept of Labor, NJ Dept. of Labor, and
our National Water Association

Apprenticeship Program



NJWA is the Program sponsor and provides administrative oversight, technical training, and on-going support to the employer and apprentice

NJWA is not a direct employer of apprentices

NJWA serves to connect participating employers with apprenticeship candidates to fill operator trainee positions

A fully implemented program with Registered Apprentices and **Participating Employers**

Apprenticeship Program

njwater.org

Participating Employers



Trenton Water Works - 6/2020 / Middlesex W. Co. - 7/2020

Agra Environmental - 7/2020 / East Windsor MUA - 10/2020

Water Resource Mgt. - 12/2020 / Pine Beach Borough - 3/2021

Hammonton W. Dept - 3/2021 / Gloucester City W. Dept - 8/2021

Beach Haven W. Dept.- 11/2021 / O&M Solutions - 12/2021

Mounty Holly MUA - 4/2022 / Borough of Spring Lake Hts. - 4/2022

Borough of Woodbine - 5/2022 / Woodard & Curran - 5/2022

Brick Township MUA - 6/2022 / Fayson Lakes W. Co. - 7/2022

Kearny MUA - 7/2022 / Parsippany -Troy Hills W. Dept 11/2022

Program Overview



- **Provides a pathway** for apprentices to develop the knowledge and skills in the operation and management of water and/or wastewater utilities
- **Two-year program** consisting of 4000 hours of on-the-job training and 288 hours of related technical instruction
- **Methods of Establishing Apprentices**
 - Direct Entry** - Incumbent employee
 - New Hire** - AP Candidate List

Primary Goals:

- **Increase the pool** of a highly skilled, licensed workforce that is demanded by the water/ wastewater profession
- **Provide greater employment opportunities** to historically under-represented groups (women, minorities, veterans, persons with disabilities)

Apprenticeship Programs



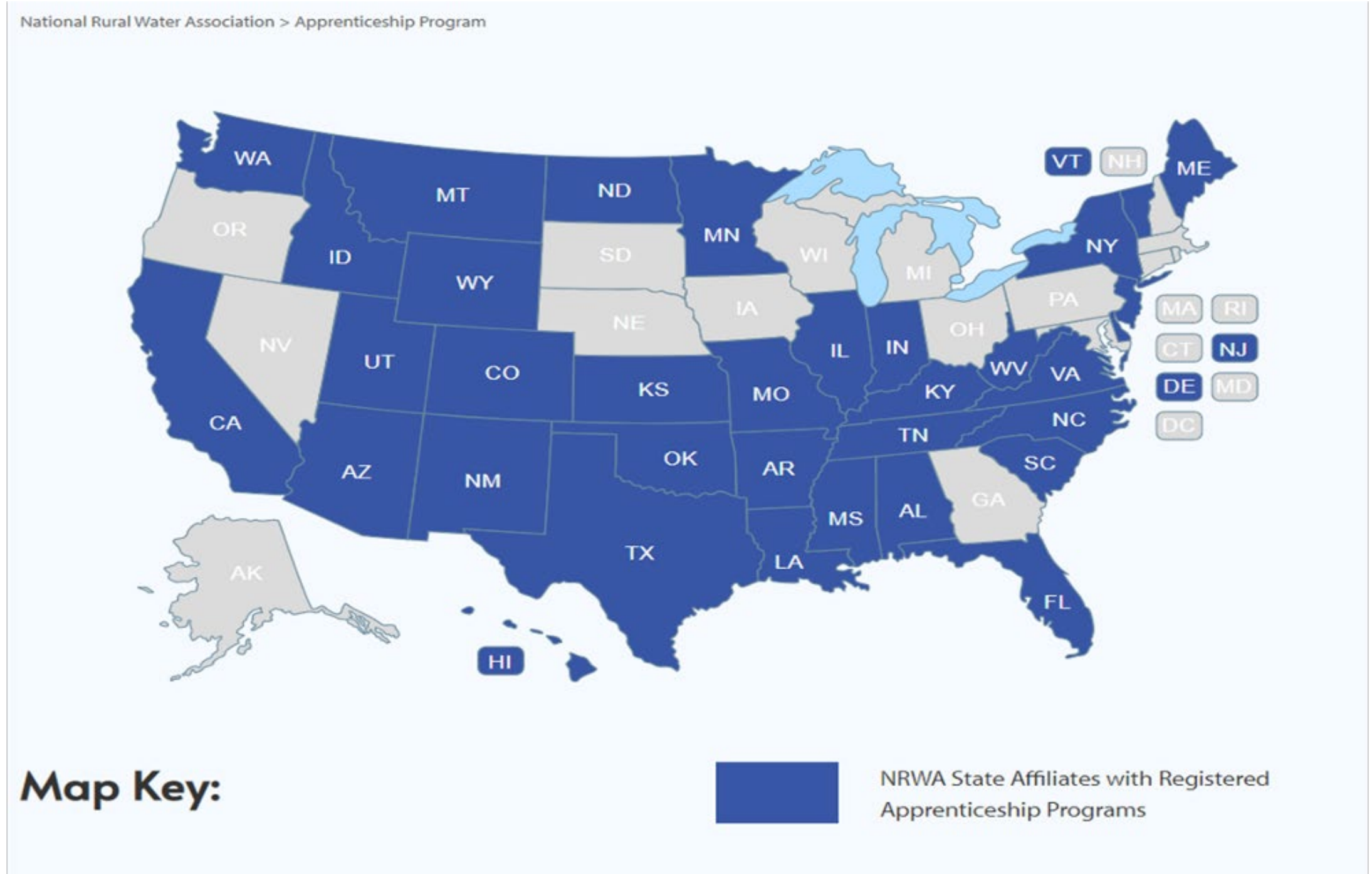
The U.S. Dept of Labor indicates that partnering with a registered apprenticeship program is a recommended model for workforce development because it:

- ✓ Reduces Employee Turnover
- ✓ **Reduces the Costs** associated with recruiting/onboarding new employees
- ✓ Increases Productivity
- ✓ **Minimizes the Skills Gap**
- ✓ Creates a more Diverse Workforce
- ✓ **Provides an Entry Point** for long-term career pathways

National Effort



Water Industry
Apprenticeship programs
established nationwide
serve to develop a robust,
diverse, highly skilled,
and sustainable
workforce



Today's Discussions



- Options to increase the awareness of careers involving the water industry
- Considerations to expand collaborations to promote pre-apprenticeship opportunities - nexus to apprenticeship programs
- Advocating/Promoting/Supporting the importance of water/wastewater utility succession planning activities

General Issues & Observations



Other factors thin the workforce :

- Water and wastewater utilities **face challenges** in recruiting, training, and retaining operators
 - **A national assessment** (January 2018) involving the USEPA, Water Environmental Foundation, American Water Works Association projected that **upwards of 50%** of the licensed operator workforce may retire this decade
- **Increasing Professional Demands**
 - Advancements in treatment technologies & Ever-increasing regulatory requirements
 - **Lack of Exposure** to Employment Opportunities
 - **Competition** with other Trades

Succession Planning Issues & Observations



- **AWWA's State of the Water Industry Reports** (2014 & 2019) indicate that fewer than 1% of utilities are prepared for/planning to cope with their retiring workforce
- **Related Observations** - Factors that hinder succession planning efforts:
 - ✓ **Lack of Preparations** - no budget, title, job description to support new hires
 - ✓ **Reservations** - Many approaching retirement adopt the mind-set that it's not my problem
 - ✓ **Employment Concerns** - I'm not going to bring someone onboard that will take my job
 - ✓ **Changing Dynamics** - due to economics the retirement age is expanding creating a buffer to the projection of 50% retirements
 - ✓ **Competing Priorities** - Succession planning is not a top priority for managers/operators, as they are consumed with day-to-day operational & maintenance issues, regulatory compliance, and infrastructure projects

Succession Planning The Importance



Long-Term Sustainability and Resiliency of water and wastewater

operations involves many critical activities:

- Providing Resilient & Redundant Infrastructure
- Preparing Emergency Response and Asset Management Plans
- Developing Long-term Sustainable Rate Strategies and Structures
- Establishing Energy Efficient Operations
- Ensuring Resiliency to Climate Change
- Ensuring **SUCCESSION PLANNING & KNOWLEDGE TRANSFER**

Succession Planning The Importance



Succession Planning - the process of:

- Anticipating future staffing needs
- Taking timely action to recruit and train employees to ensure necessary skills & abilities
- **Fill Critical Positions**

Summary



- ✓ **Succession Planning is a critical course of action** necessary to ensure the success of business operations & objectives
- ✓ NJWA's Apprenticeship Program **provides a reasonable, structured, and comprehensive pathway** for educating and training new hires/incumbent employees in water/wastewater operations
- ✓ NJWA's Apprenticeship Program can be used as a tool **to support implementation of succession plans/workforce development initiatives**
- ✓ **Education and Outreach** is needed to ensure utilities get ahead of succession planning activities and establish the positions and the budget to support new hires in water and wastewater operations

***Let's Collaborate, and Bridge the Gap to the industry's
need for the next generation of skilled operators***

For more information



Visit:

njwater.org

Contact:

Matthew J. Maffei, Apprenticeship Coordinator

matt@njwater.org

Office: 609-242-7111

MOVING FROM PEER TO SUPERVISOR

- Rethinking relationships
- Delegation
- Strategic Thinking & Acting
- Cohort-based

MANAGING VERSUS LEADING

“Managing”

- *Trains Run on Time*
- Keeps things Running
- Day-to-Day Operations

“Leading”

- Establish Direction
- Deploy Resources
- Motivate & Inspire

“TODAY”

“FUTURE”

SUCCESSFUL DELEGATION

- *Responsibility*
- *Authority*
- *Instruction*
- *Accountability*

STRATEGIC THINKING

- VISION
- MISSION
- VALUES
- GOALS
- TACTICS
- MEASURES

NJ Pathways to Career Opportunities

ALIGNING EDUCATION TO BUILD AN
INNOVATIVE WORKFORCE



NJ PATHWAYS
TO CAREER OPPORTUNITIES

Aligning Education to Build an Innovative Workforce



NJ Pathways to Career Opportunities

ALIGNING EDUCATION TO BUILD AN INNOVATIVE WORKFORCE

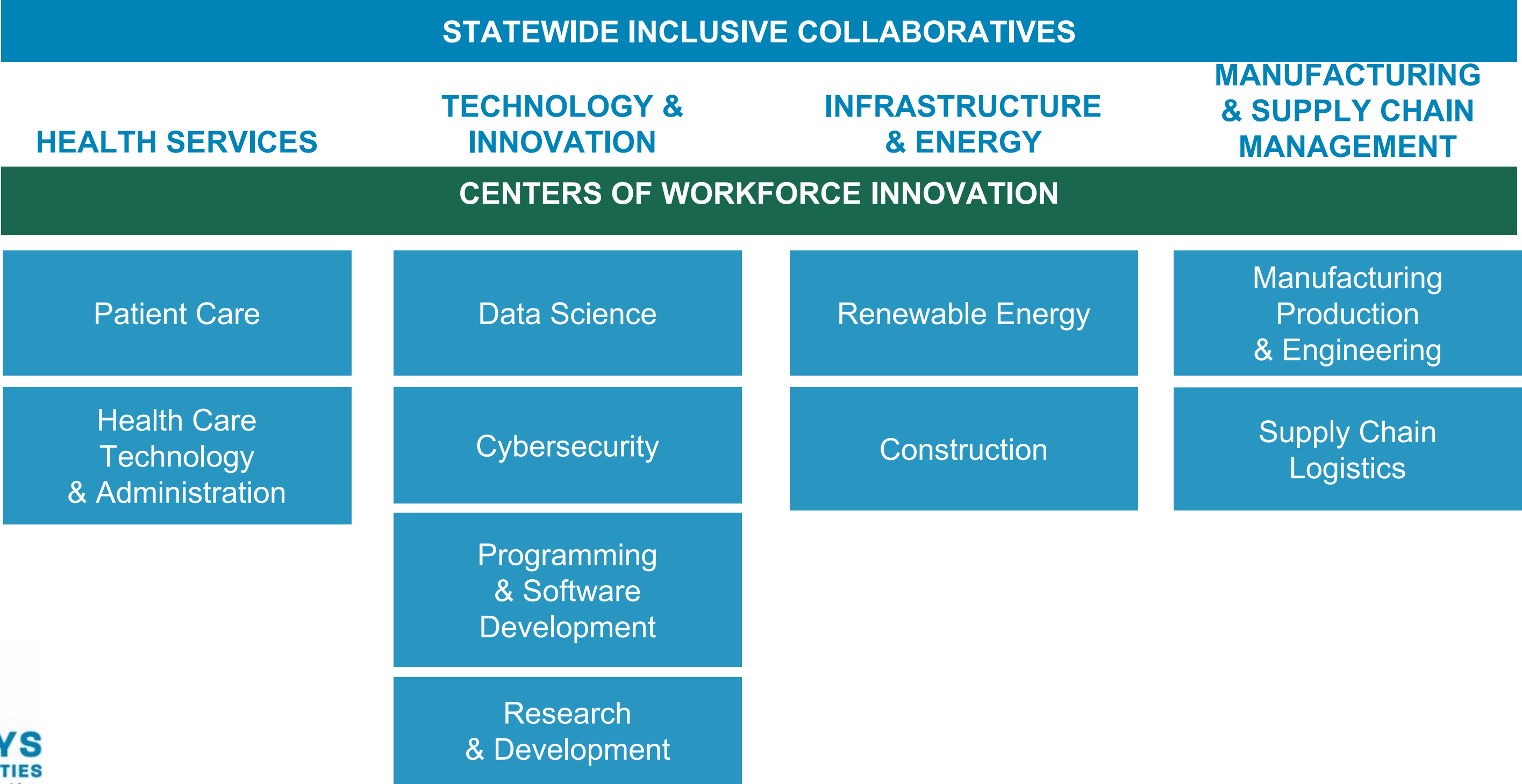
- ✓ **COLLABORATIVES**
Build a talent ecosystem based on collaboration and information to expand economic mobility opportunity and drive economic growth.

4 Industries

- ✓ **CENTERS OF WORKFORCE INNOVATION**
Build pathways with aligned curriculum shared across educational partners to serve the learning lifespan of students and workers.

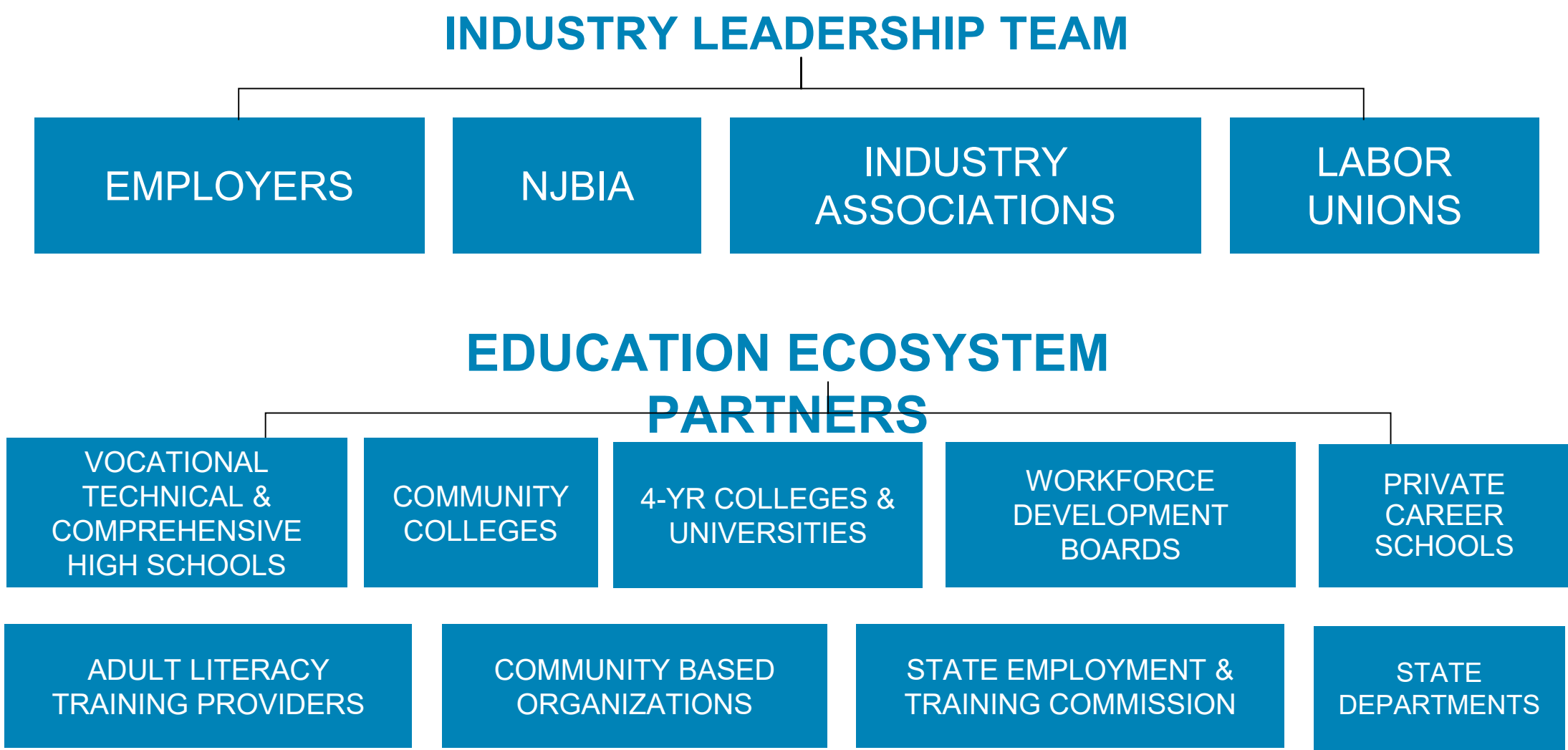
10 Centers

Structure of Pathways to Career Opportunities



Collaboratives

Statewide Inclusive Groups

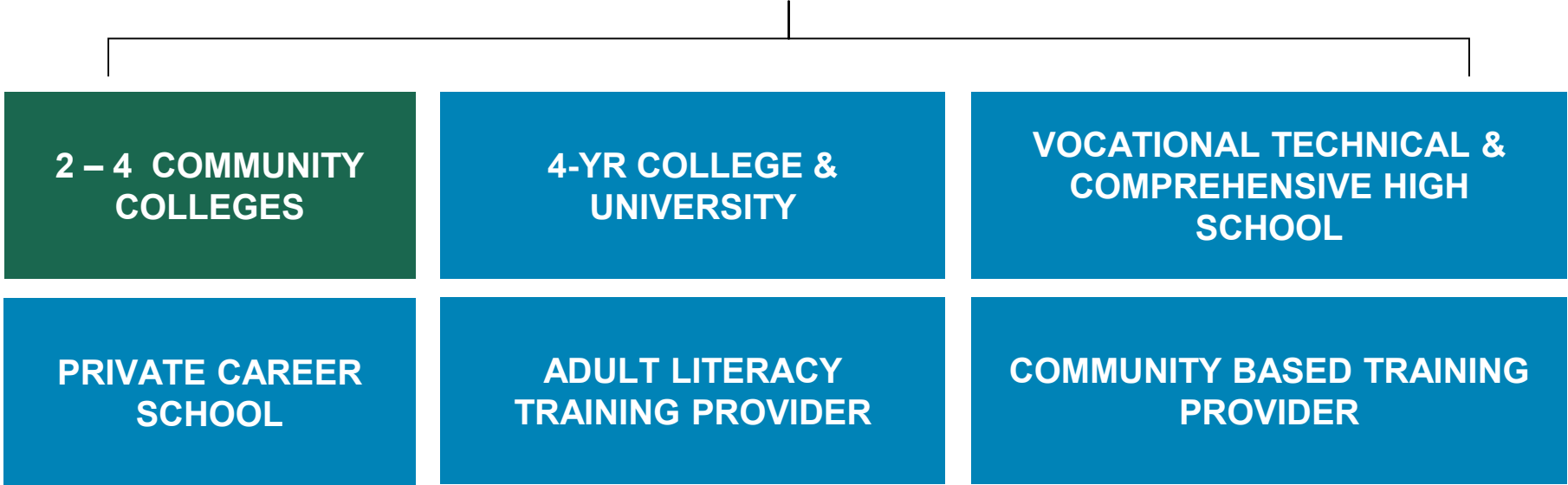


2021-2022 DELIVERABLES

1. Develop Strategic Education and Workforce Plans for each industry
2. Create Statewide Asset Inventories Statewide of Education and Training Programs and Facilities
3. Identify Labor Market Demand / Challenges and Industry-Valued Credentials
4. Develop and Disseminate Detailed Career Pathway Maps

Centers of Workforce Innovation

EDUCATION AND TRAINING PARTNERS



INDUSTRY ACTION TEAMS



2021-2022 DELIVERABLES

1. Develop New Aligned and Improve Existing Curriculum / Pathways from High Schools to Community Colleges to 4-Yr Colleges / Universities
2. Ensure Pathways include Industry-Valued Credentials for Non-Credit and Credit Programs
3. Develop Model Transfer Agreements for all Pathways (dual enrollment between HS & CC, 1+1 among CCs, and 2+2 and 3+1 between CCs and 4-year institutions)
4. Develop Prior Learning Assessments Solutions and Pilot them in Pathways
5. Pilot Training / Education Pathways Consisting of Non-Credit Programs Connected to Credit Pathways, Dual Enrollment Program Pathways, and Incumbent Worker Training Pathways
6. Share Curriculum / Pathways and Provide Professional Development for Faculty / Teachers / Instructors Statewide
7. Prepare Year-End Performance Reports

PATHWAY:

Utilities (Constructions, Maintenance, and Operations)

Connection to Community College (Credit)

Develop Construction and Utilities Trades Certificates for credit that are stackable into the Technical Studies AAS. Update two academic certificate programs from existing RCSJ curriculum that are stackable into the Technical Studies AAS.



NJ PATHWAYS
TO CAREER OPPORTUNITIES
Aligning Education to Build an Innovative Workforce



PATHWAY:

Utilities (Constructions, Maintenance, and Operations)

Prior Learning Assessment for Apprenticeship Related Technical Instruction

Evaluate Union Apprenticeship curriculum (Carpenters, Bricklayers, Ironworkers 399, Operating Engineers 825, Electricians 102 & 269) to ensure they are stackable into the Technical Studies AAS.



NJ PATHWAYS
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PATHWAY:

Utilities (Constructions, Maintenance, and Operations)

Prior Learning Assessment

Evaluate and update the trade incumbent worker PLA model for credit stackable into the Technical Studies AAS for each of 5 Unions (Carpenters, Bricklayers, Ironworkers 399, Operating Engineers 825, Electricians 102 & 269).



NJ PATHWAYS
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PATHWAY:

Utilities (Constructions, Maintenance, and Operations)

Connection to 4-Year University

Modify existing 2+2 agreement with Rowan University for the Technical Studies AAS to articulate to the Construction Management BA.

PATHWAY:

Utilities (Constructions, Maintenance, and Operations)

Adult Learners

Evaluate and align existing non credit Cumberland County Technical Education Center courses and certificates for credit stackable into the Technical Studies AAS. Align Gloucester County Institute of Technology's pre-apprenticeship programs for credit stackable into Certifications and Technical Studies AAS.



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PATHWAY:

**Utilities (Constructions, Maintenance,
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Adult Learners

Develop contextualized learning for adult English language learners and high school equivalency programs at Gloucester County Institute of Technology and Cumberland County Technical Education Center.



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PATHWAY:

Utilities (Constructions, Maintenance, and Operations)

Adult Literacy

Develop non credit Utilities (Clean Energy and Water/Waste- water) Principles course for adult literacy learners to prepare for entry or re-entry into the workforce.



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PATHWAY:

Utilities (Constructions, Maintenance, and Operations)

Professional Development

Develop a train- the-trainer program for experienced technical/trade professionals to prepare them to teach non-credit Career and Technical Education programs. Also, prepare professional development resources and workshops.



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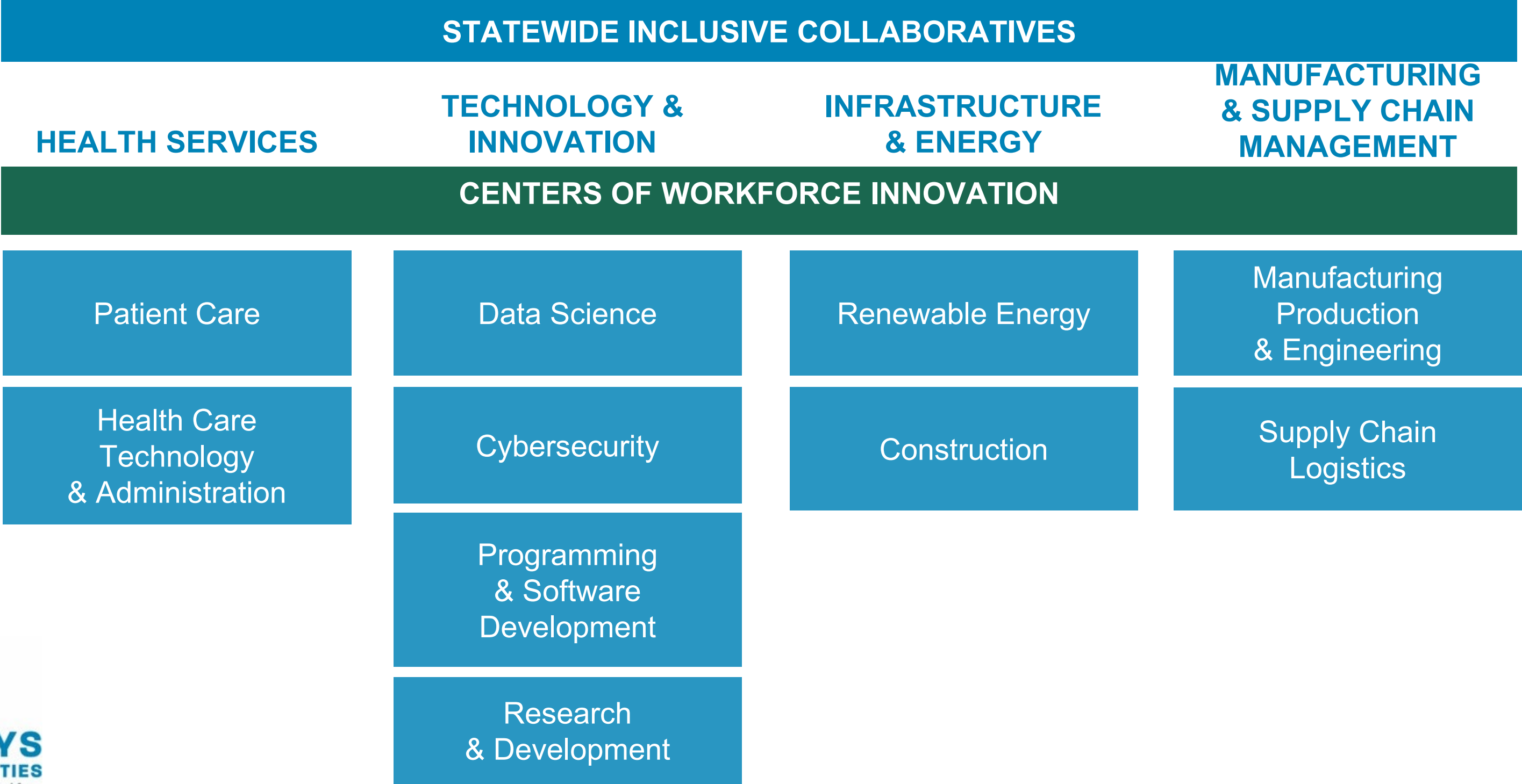


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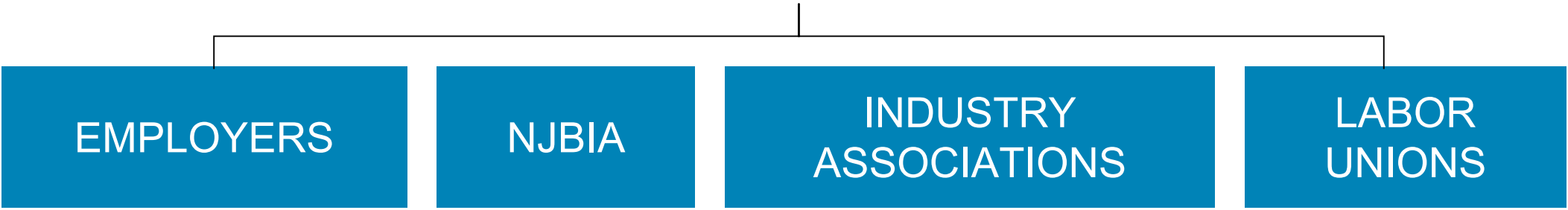
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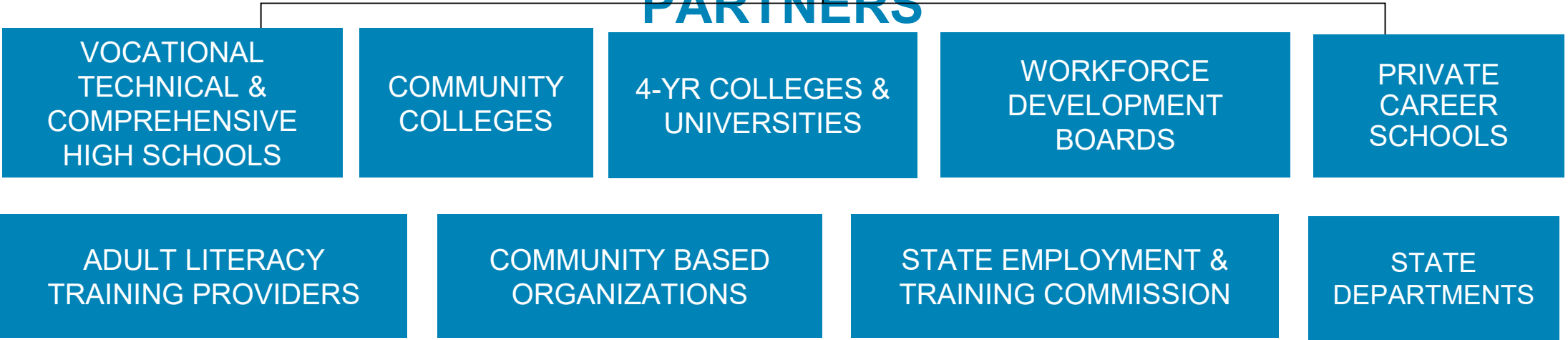
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EDUCATION ECOSYSTEM PARTNERS

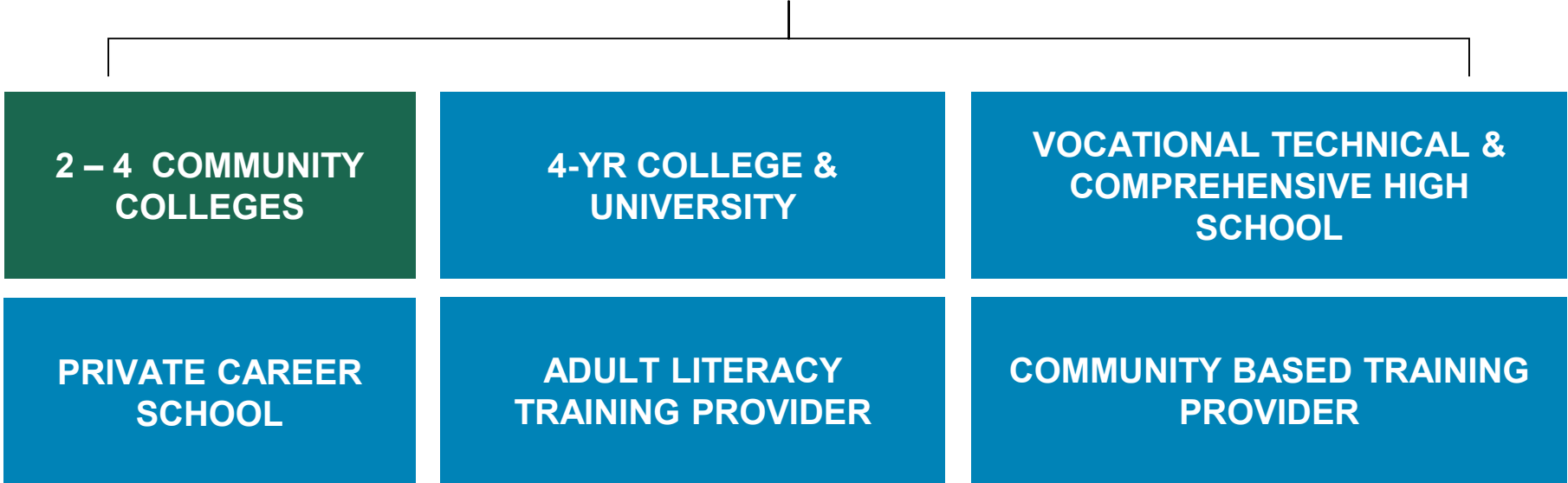


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