
From Apprenticeship to Career Pathway:

**Building a Sustainable Talent
Pipeline for Maryland
Manufacturing**

Presented by:

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The Recruitment Battle Vs The Retention War



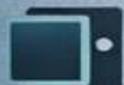
- As of late 2025, manufacturing turnover averages 24%-32% annually, with production roles experiencing higher rates (30%-38%).

Reference: The Resource Nov, 2025

From Transactional to Transformational

Building Sustainable Talent Pipelines

Old Model

-  Hire
-  Train
-  Work
-  Stagnate
-  Leave

New Model

-  Recruit
-  Upskill
-  Promote
-  Mentor
-  Retain

The Maryland "Earn-and-Learn" Highway

Visualizing the Career Pathway



Youth Apprenticeship (High School)



Registered Apprenticeship (Community College)



Associate Degree (Technical Studies)



Advanced Roles (Technician/Specialist)



Engineer/Management (Bachelors +)





The Foundation: Youth Apprenticeships

- Who: Current high school juniors/seniors (CTE students)
- What: 450+ hour paid work experience.
- Role of Schools: Career exploration, soft skills training, coordinating release time.
- Role of Manufacturers: Providing Safe, entry-level positions.

Why Maryland Community Colleges and Trade Schools are the Secret Weapon

Powering Maryland's Talent Pipeline



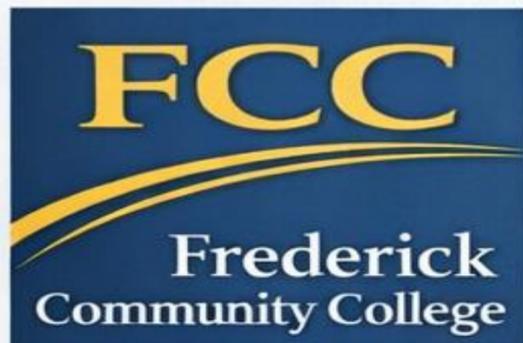
95% Job Placement



HARFORD
COMMUNITY COLLEGE



High-Tech
Facilities



CECIL COLLEGE
Own Your Future



Industry-Aligned
Lineman School

The Core: Registered Apprenticeships

[Industry
Recognized
Credentials for
MD](#)

Stackable Credentials: The Building Blocks



[MD Programs of
Study](#)

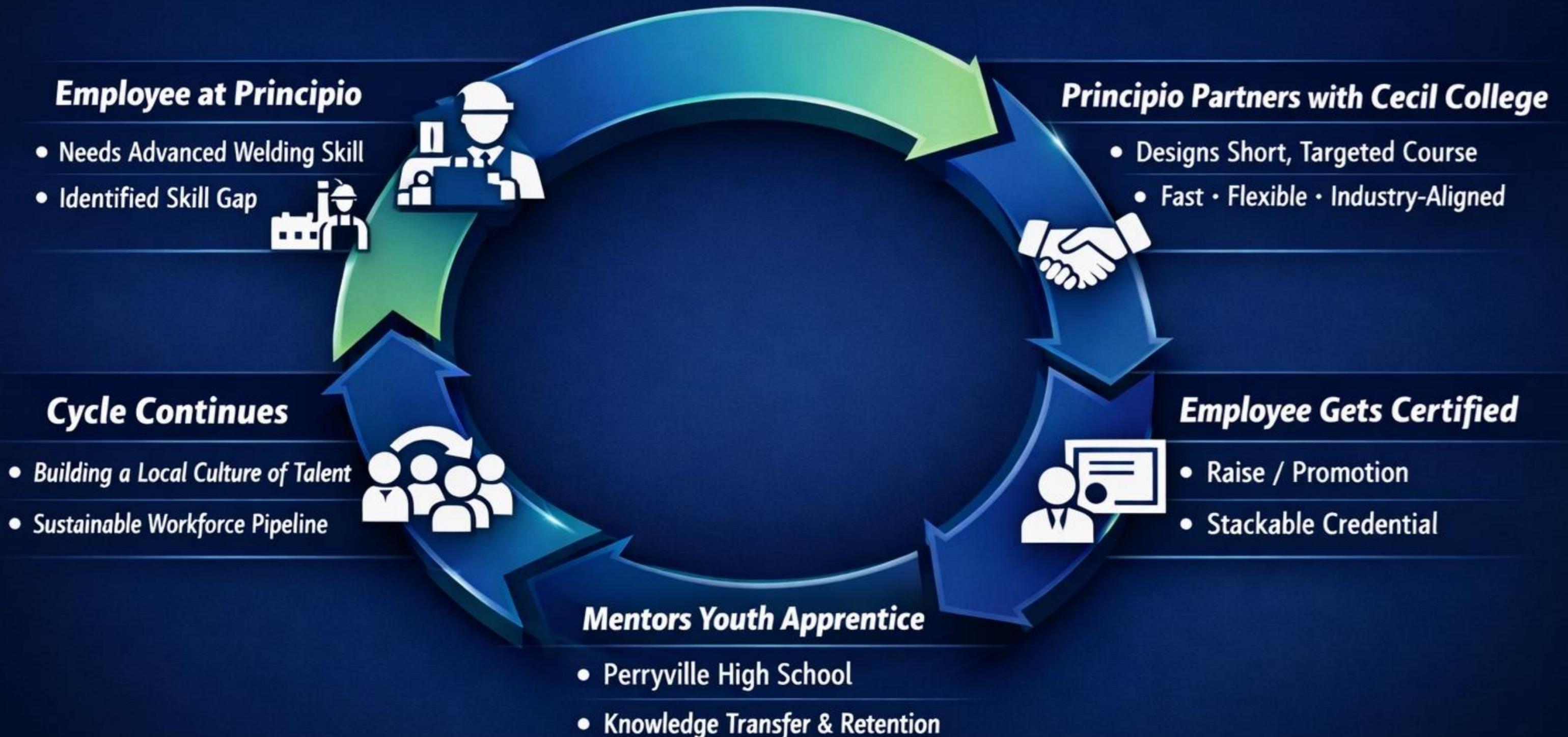
The Destination: Advanced Roles

- Role 1: Automation Technician
- Role 2: Quality Engineer
- Role 3: Mechatronics Specialist
- Role 4: Production Supervisor



The Local Talent Loop

Employee → Upskill → Promote → Mentor → Repeat



Educational Role

1. **Flexible Scheduling:** offering “3rd shift labs” and hybrid theory classes.
2. **Prior Learning Assessment (PLA):** Giving credit for on-the-job experience so adults don’t have to start from zero.
3. **Curriculum Velocity:** Updating Industry 4.0 curriculum (AI, Robotics, Data) to match current machinery.
4. **Dual Enrollment:** Seamlessly moving the Youth Apprentice into the RA program without reapplying.

The Role of the Manufacturer

1. Tuition Reimbursement 2.0: Not just for MBAs. Fund the technical certificates and 2-year degrees.



1. Wage Progression: Create a public pay scale tied to credential attainment. (e.g., “Get you Mechatronics Cert = \$2/hr raise”).

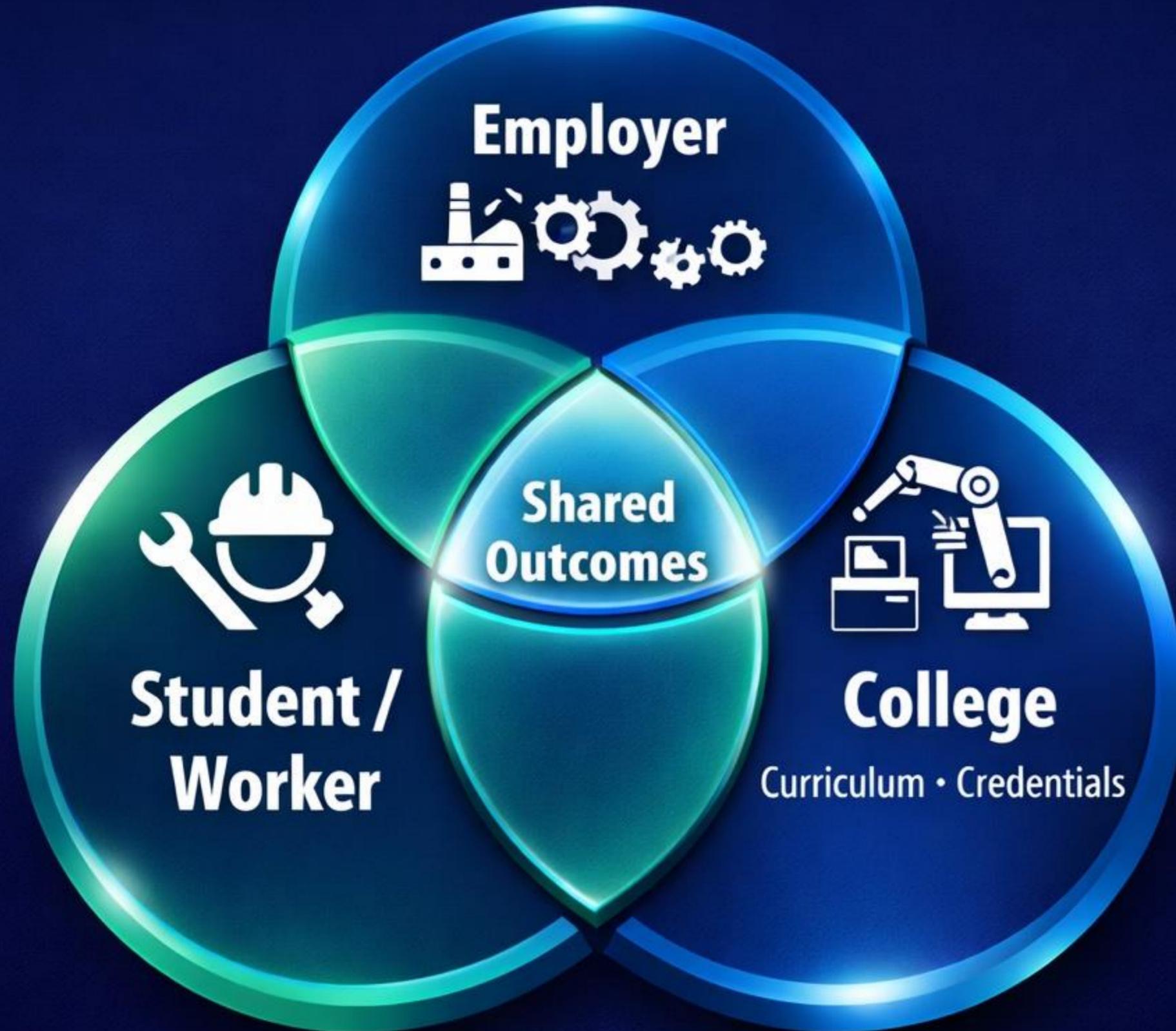
1. Release Time: Allow employees to adjust shifts for class/lab time.

1. Mentorship Stipends: Pay your senior techs to train the juniors.

The Role of Education Partners

1. **Apprenticeship Maryland:** Expanding tax credits for continuing apprentices, not just new ones.
2. **EARN Maryland:** Funding for incumbent worker training (upskilling).
3. **Articulation Agreements:** Mandating that credits between industry and education.

Workforce Partnership Model



Addressing the Engineer Gap

1. Employer partners with a college.
2. Employee works 32 hrs/week, goes to school 8 hrs/week
3. Employer pays tuition.
4. Employee graduates as a Engineer with 5 years of institutional knowledge.

The ROI of Retention

- Cost of Turnover: 150-200% of annual salary (recruiting, temp downtime, quality errors.)
- Cost of Upskilling: 10-20% of annual salary (tuition, release time).
- Result: Net Savings + Institutional knowledge retained.

Call to Action

1. Map It: Every manufacturer should have a visible “Career lattice” posted on the shop floor.
2. Fund It: Budget for Year 3 and Year 4 training, not just Year 1.
3. Connect It: Manufacturers, pick up the phone and call your College liaison this week.

Building The Pipeline Together

[The Educator's Guide to Youth Apprenticeships](#)
[Blueprinting Tomorrow's Workforce in Today's High Schools](#)



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