

April 9, 1:00 PM – 2:00 PM

# Building Sustainable Community Partnerships for Youth Apprenticeships: Lessons From the Carolinas



**Greg Jones, moderator**

Strategic Programs and Partnership Director

**SME**



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Apprenticeship Program Leader

**SCHUNK**



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Training & Development Specialist

**Cummins**



sme  
fusion

SCHUNK



# Hand in hand for tomorrow





## SCHUNK Germany youth apprenticeship

Training facility

Houses 158 apprentices

Mechanical  
Mechatronics



# North Carolina Apprenticeship Program

Partner Companies  
Established 2014





Hand in hand for tomorrow

## Educational Partnership

### NCTAP & WTCC

Wednesday Classes

### NCTAP & WTCC

Actively has 67 apprentices

### Degrees

Mechanical Engineering Technology  
Mechatronics Engineering Technology  
Automotive Systems Technology  
Commercial AHR Technology





## Partner Company Community outreach

### Partners

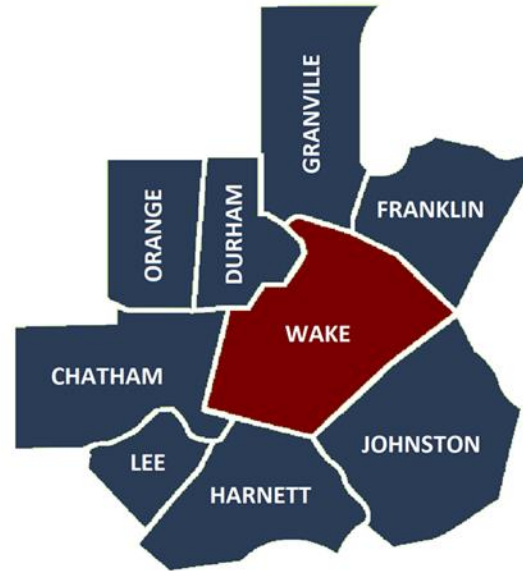
Nine Counties

### High Schools

76 active

### Education

Education Students on benefits of an apprenticeship program



## Facility Tours

Educate  
SCHUNK apprenticeship program



## Orientation

### Students

Get to explore apprenticeship programs





## Pre-Apprenticeship

Six week paid

Summer training and educational program

Wake Tech Community College

Wednesday CCP classes



## Educational Partnership

### NCTAP & WTCC

33 apprentices have completed their degree



### Apprenticeship NC

Journeyman Certificate USDOL



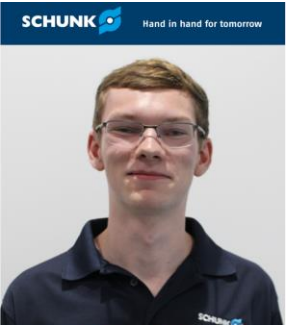



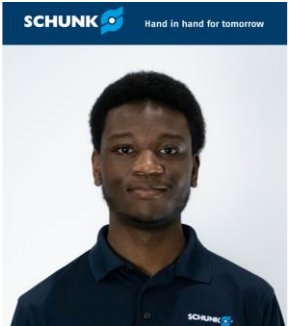





### NCTAP & WTCC

2024 signed on 33 new apprentices



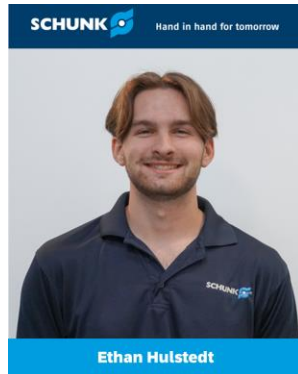
# SCHUNK Graduated Apprentices

 <p><b>Dylan Beckwith</b> Head Mentor</p>	 <p><b>Conner Bennett</b> Field Service Technician</p>	 <p><b>Brennan Burns</b> Application Engineer Colab</p>	 <p><b>Braden Douglass</b> Application Engineer Automation</p>	 <p><b>Israel Medrano</b> Manufacturing Technician Engineer</p>
 <p><b>Evan Mastilone</b> Manufacturing Technician Engineer</p>	 <p><b>Quentin Rogers-Hooks</b> Quality Engineer</p>	 <p><b>Gavin Royce</b> Work Preparation Engineer</p>	 <p><b>Justin Buys</b> Application Engineer Stationary</p>	 <p><b>Ben Tooke</b> Further Education</p>





# SCHUNK Current Apprentices



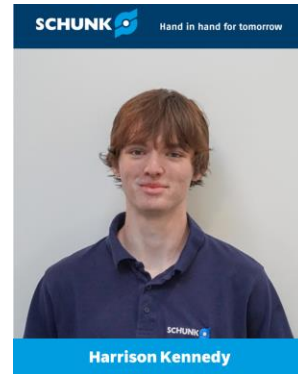
SCHUNK Hand in hand for tomorrow

Ethan Hulstedt



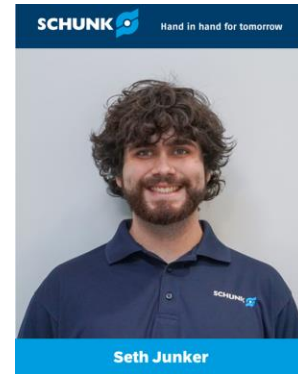
SCHUNK Hand in hand for tomorrow

Corban Sommers



SCHUNK Hand in hand for tomorrow

Harrison Kennedy



SCHUNK Hand in hand for tomorrow

Seth Junker



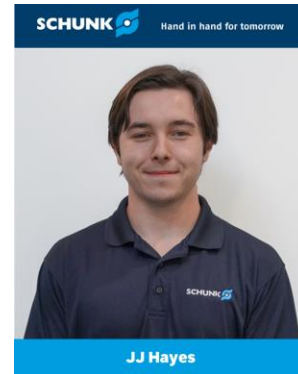
SCHUNK Hand in hand for tomorrow

Cole Ryan



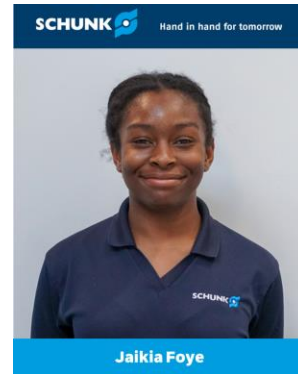
SCHUNK Hand in hand for tomorrow

Alex Holt



SCHUNK Hand in hand for tomorrow

JJ Hayes



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Jaikia Foye



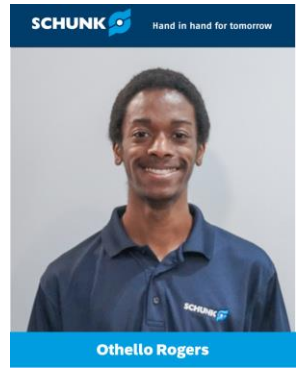
SCHUNK Hand in hand for tomorrow

Owen O'laughlin



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Kyle Anderson



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Othello Rogers



## SCHUNK Family Day Event

Event every 6 months

Apprentices present to family member on topics of training.





**DETROIT, MI**

April 8-10, 2025





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April 8-10, 2025



**Building Sustainable Community Partnerships  
for Youth Apprenticeships:**

**Lessons From the Carolinas**

**Daniel Theriault  
Training & Development Specialist**



# Turbocharger technologies

Sold under the name:



**70+** Years of turbo experience

**7,500** Distributors worldwide, selling genuine parts to the customer

## CORE TECHNOLOGIES

Turbochargers

Power Turbines

Two-Stage Systems

Exhaust Throttle Valve



Holset VGT™ | Fixed Geometry  
Wastegate Technologies

## FOOTPRINT



## PARTNERS





# Clearing the Hurdles: Building a Pipeline for the Future



- Cummins-Charleston Employment Hiring Challenges
- Cummins-Charleston Educational Skillset Challenges
- Cummins-Charleston Career Awareness Challenges
  
- ✓ Establish (rebirth) targeted pipeline of future talent
- ✓ Partner with local Manufacturers to influence Apprenticeship program offerings at TTC
- ✓ Utilize Cummins TEC Corporate Program to educate and bring awareness



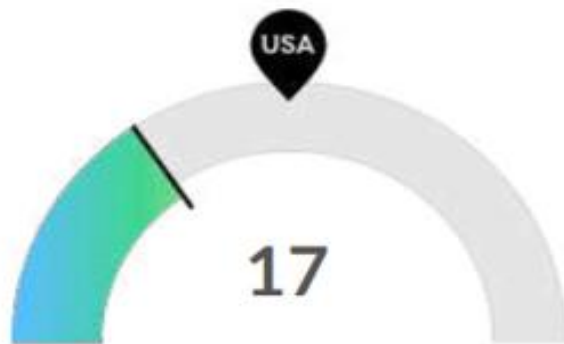




# Cummins-Charleston Employment Hiring Challenges

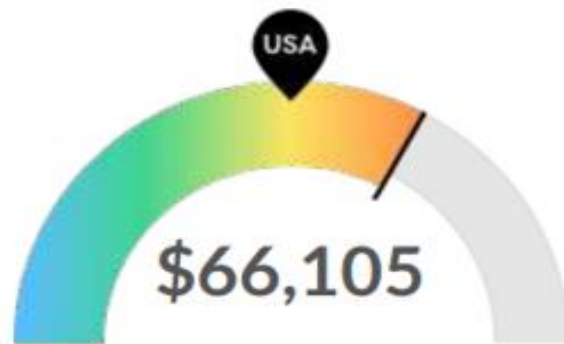
## Skilled Technician Shortages

### Aggressive Hiring Competition Over a Thin Supply of Regional Talent



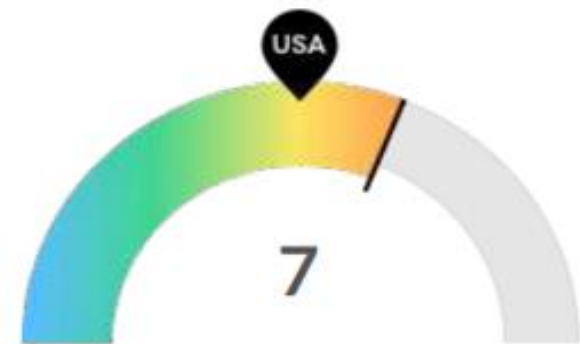
Supply (Jobs)

Charleston-North Charleston, SC is not a hotspot for this kind of talent. The national average for an area this size is 32\* employees, while there are 17 here.



Compensation

The cost for talent is high in Charleston-North Charleston, SC. The national median salary for Electromechanical Technicians is \$59,800, while you'll pay \$66,105 here.



Demand (Job Postings)

Competition from online job postings is high in Charleston-North Charleston, SC. The national average for an area this size is 5\* job postings/mo, while there are 7 here.



Cummins-Charleston Educational Skillset Challenges

# **Outdated DOL Apprenticeship Program: Industrial Mechanics**

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## **Outdated DOL Apprenticeship Program: Industrial Mechanics**

### **Challenges with the Traditional Industrial Mechanics Program**

- Curriculum focused on older mechanical systems; little exposure to automation.
- Lacked PLC and HMI integration, along with hands-on exposure to control systems.
- Graduates needed extensive retraining to work on modern equipment.
- Program not aligned with the needs of advanced manufacturing.



Cummins-Charleston Career Awareness Challenges



# Lack of awareness within School System and Community on potential Career Paths

## Awareness Gaps in Schools and the Community

- Most students — and families — are **unaware of the CRCAS 9 Career Pathway programs**
- Trident Tech's **DOL-registered Youth Apprenticeship** programs are **underutilized** despite being fully funded
- Many high school juniors/seniors have **never heard of Mechatronics** or its earning potential
- **College-bound narrative dominates**, even for students who would thrive in skilled trades
- **Parents and counselors lack exposure** to local manufacturing career options
- **Missed opportunity:** students could be earning industry credentials and college credits *while still in high school*



# Technical Education for Communities





## WHAT IS TEC?



TEC IS WORKING TO

# CLOSE THE SKILLS GAP

IN GLOBAL COMMUNITIES

TEC is a global initiative that targets the technical skills gap through local vocational education programs. TEC delivers a standardized education platform to help education partners develop market-relevant curriculum, teacher training, career guidance and the practical experience needed by students.

TEC seeks to partner with business, government and community organizations to increase access to good jobs and develop a stronger and growing employment base in communities across the globe.



Technical Education for Communities

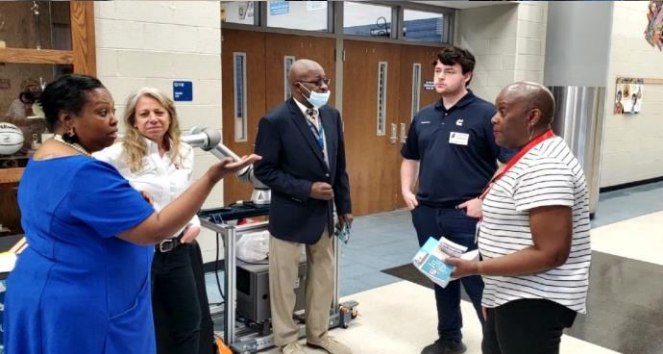




# High School TEC Partnership Cooper River Center for Advanced Studies

## 4 Feeder Schools - 9 programs of Studies

- Cummins TEC Team recruiting for CRCAS at a local high school
- Low enrollment in Mechatronics program at CRCAS
- Increased student interest rate to 50 students at one Stall High School recruitment session





# Local Industry Manufacturing partners utilizing Trident Technical College for DOL Youth Apprenticeship Programs



## Apprenticeships:

- Industrial Mechanics
- “New” Mechatronics



# SKILLS MATRIX

H	→	Holiday / Shutdown
	→	LAB Time - open for training and coaching
EL-1	→	Electrical - Schematics
SAM1	→	SAMs-Host-PLC Overview
PLC-1	→	PLC - Core (Overview, Navigation, Monitoring, Force I/O)
VIS1	→	Vision Systems Introduction (Hardware/Software/Applicat
VIS1	→	Vision Software - Applications & Inspection Tool Sets
PLC-2	→	PLC - Intermediate (Logic analysis, Bit manipulation)
PLC-3	→	PLC - Advanced (Editing, Adding Logic & I/O, Coaching



TOPICS

CORE

T

R

A

C

K  
CERTIFIED

FAIL

PASS

FAIL

Month	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun									
February	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th
March	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th
April	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th

CALENDAR

## SKILL LEVEL TRACK PATHWAYS



T = TOPICS: Training & Timing  
 R = Requirements / Pre-requisites  
 A = ACTION: / Deliverables  
 C = Competency Check & Completion  
 K = Knowledge Achieved/Certified

# Our **Initial A.I. Launch** in our Apprenticeship Program:



## ✂ 1. AI as a Content Development Assistant (Instructor Use)

**ChatGPT and Microsoft Copilot help create:**

- Troubleshooting flowcharts, assessments and technical checklists
- Enables quick extraction of information from large technical PDF manuals
- Speeds up development time while ensuring materials are specific to our equipment and processes

## 🧠 2. AI as a “Just-in-Time” Microlearning Agent

- Provides apprentices with instant support on the production floor
- Helps recall how to adjust specific OEM digital sensor models
- Assists in diagnosing and troubleshooting complex Automation I/O components
- Explains the theory of operation behind equipment and automation systems



## 🌐 3. AI-Powered Language Translation for Inclusion

- ChatGPT enables real-time translation of questions and instructions
- The Vision feature supports object recognition and multilingual prompts
- Greatly improves confidence and onboarding for non-native speakers



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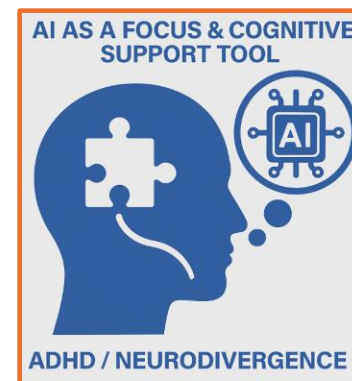
## AI Future State and potential usages:

### Secure Knowledge Access with Microsoft Copilot and SharePoint

- Embedded in our Microsoft 365 environment for data security
- Retrieve troubleshooting database solutions, SOPs, and maintenance records instantly
- Develop mobile Troubleshooting Agent based on Microsoft Power Apps

### AI as a Companion for Neurodivergent Learners

- Especially effective for apprentices with ADHD or cognitive challenges
- Breaks down tasks into manageable steps
- Act as a “body double” to stay focused – timed check-ins, voice mode
- Acts like a judgment-free learning coach available 24/7



### Core Message

*“AI doesn’t replace mentors & SMEs — it extends them.  
It gives every apprentice a safe, supportive way to learn  
& develop at their own pace — in their own way.”*