From Conception to Realization

NCACCIA/SDAA Joint Conference
March 20, 2018

Disclaimer

- We are not the experts!
- However, we will gladly share our experiences and what we have learned along the way.

Identifying the Need

- Advanced Manufacturing was the first iteration of our Pathways to Prosperity initiative
  - Collaborative effort of local educational entities, secondary & post-secondary, along with industries and intermediaries
  - Building systems of career pathways linking high school, work, and community college, to increase the number of youth who complete high school and attain a postsecondary credential with labor market value (http://www.jff.org/initiatives/pathways-prosperity-network)
  - Levers: Employer Engagement, Career Information & Advising, Career Pathways, and Intermediaries
  - Final report published January 2015
- Action steps included increased exposure activities and opportunities for students
  - Added a manufacturing class to our city school offerings
  - Expanded programming throughout the county schools
  - Developed a youth apprenticeship program

PATHWAYS TO PROSPERITY

A Jobs for the Future and Harvard Graduate School of Education Initiative

Seeking to Close the Interest Gap

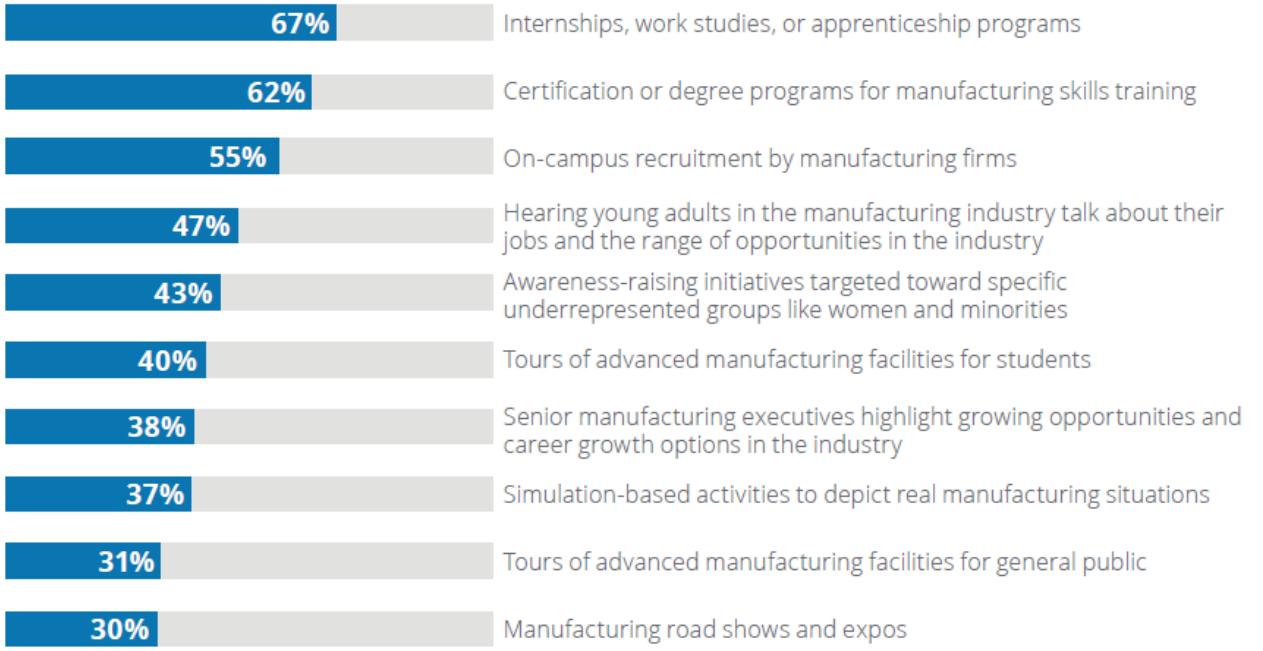
"There's this negative stigma to manufacturing. Frankly, it's hard to get the younger people interested."

Chris Harrington
Elastic Therapy, Inc.
Director of Operations

"I think the apprenticeship will help those students see an immediate purpose and a connection to what they enjoy — the hands-on, the making of something, the production piece, the creativity that comes with that — and tap into a method to get the education that is needed while earning a wage."

Nancy Cross
Director of Career and Technical Education for RCSS

Figure 11. Programs that increase interest in manufacturing careers
Percentage of respondents who said each of the following programs would help to increase interest in manufacturing as a career choice to a "great extent" or "high extent"

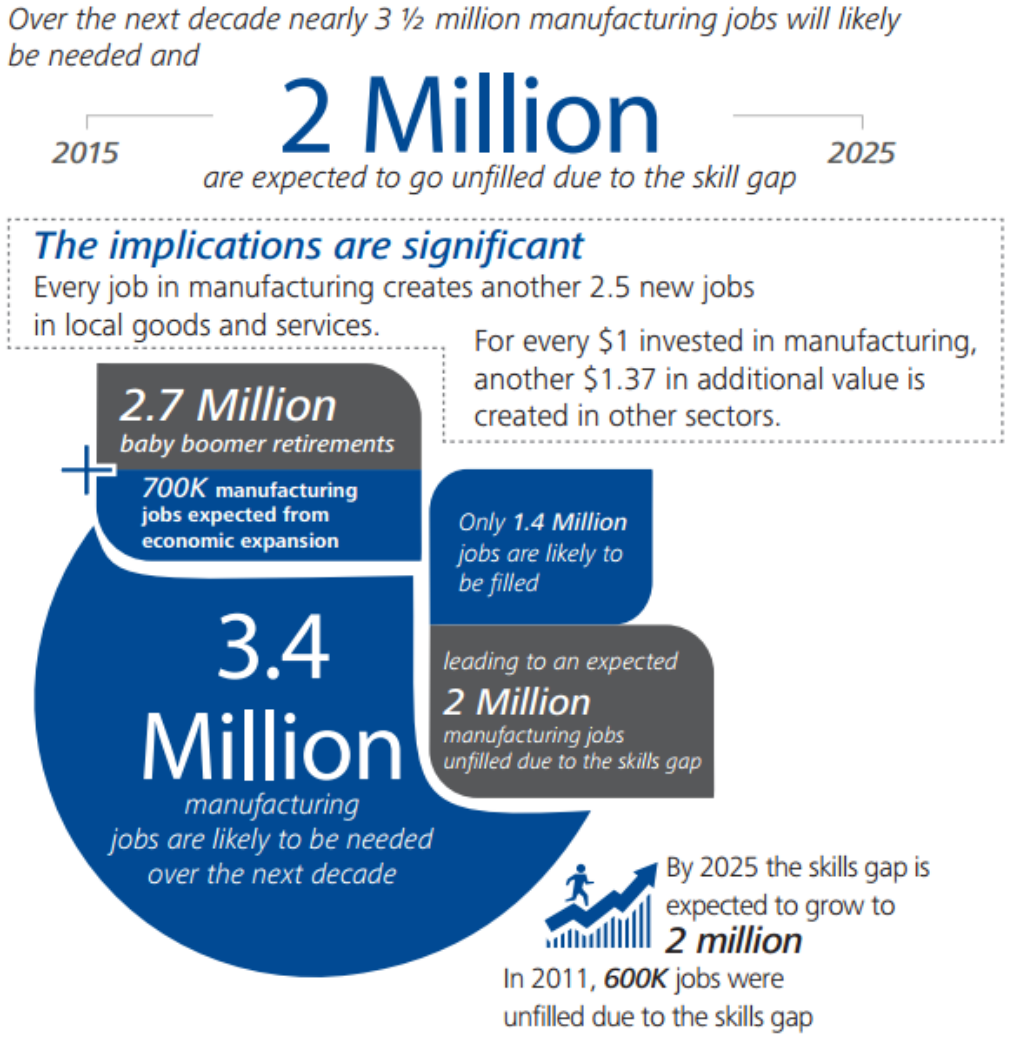


Taken from:
A look ahead | How modern manufacturers can create positive perceptions with the US public
A study by Deloitte and the Manufacturing Institute
https://www2.deloitte.com/us/en/pages/manufacturing/articles/public-perception-of-the-manufacturing-industry.html

Seeking to Close the Skills Gap

"You cannot go out and hire the talent that you need. The skills that… [employers] need, we can't find it. So, we've got to develop it ourselves."

Chris Harrington
Elastic Therapy, Inc.
Director of Operations



Conception – Making Connections

April 2016

RANDOLPH County School System

Asheboro CITY SCHOOLS
A learning community of excellence!

CTE Directors

RANDOLPH COMMUNITY COLLEGE

Customized Training

- Discuss multiple WBL opportunities
- Trajectory from guest speakers (low stakes) to Apprenticeships (high stakes)
- Discuss how industry could plug in to the continuum

Conception – Generating Interest

June 2016

- Informational meeting for all interested industries
- Representatives from GAP, Guilford County Schools, and GTCC to help facilitate discussion and give their perspectives of apprenticeships.
- *Curriculum was not a part of this meeting*
  - *Initial thought was it would fall under Continuing Education*

October 2016

- Dr. Pam Howze, Program Director for National Fund for Workforce Solutions, attended an industry interest meeting to further explain apprenticeships

What is APPRENTICESHIP RANDOLPH ?

- Dual Training
  - 6,400+ hours on-the-job training
  - 1,600 hours of college coursework
- Journeyman Certificate
  - *NC Community College System / US Department of Labor*
- A.A.S. degree in Manufacturing Technology
  - *Randolph Community College*
- Employable credentials
- Earn while you learn!

What's in it for ME? Apprentice Perspective

- Earn a paycheck while learning in-demand skills
- Incur no cost for college, books, or fees
  - *Tuition waived – see numbered memo CC16-040 for specifics*
  - *Industry pays for books and supplies, our BOT waived fees*
- Earn college degree
- Earn Journeyman certificate
- Gain future employment opportunities with above average earnings.
- Graduate with no college debt

What's in it for ME? Business Perspective

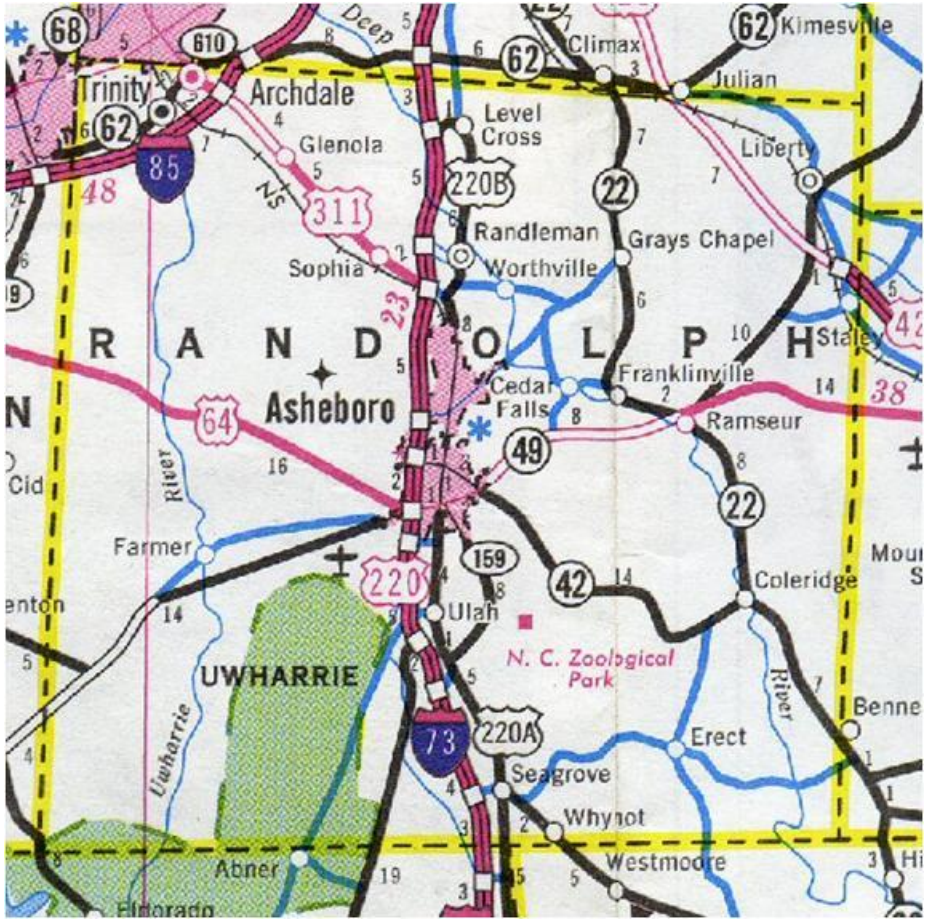
- Developing future workforce and an employable community
  - Growing overall workforce
- Training of candidate to your unique business needs
- Building a talent funnel that will help fuel your growth.

Founding Partners

New Partners

What's in it for ME?
Community Perspective

- Preparing youth for jobs that are open in our community.
- Skills growth is a driver to company location decisions.
- Skills growth is an economic lever
  - Individuals and families
  - Businesses
  - City, County, and State tax base



Identifying Key Partner Responsibilities

- High Schools
  - Generate interest and identify prospective apprentices
  - Provide flexibility in course scheduling for apprentices
- Community College
  - Deliver RTI – related technical instruction
- Industry
  - Develop program guidelines
    - Wage scale, applicant screening requirements
  - Develop work processes
    - Apprenticeable occupations
  - File and maintain all required paperwork

Community College Responsibilities

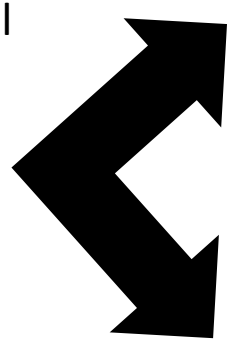
- Help connect industry partners to youth apprenticeship programs
- Work with local consortia and individual industries as a collaborative partner
- Help develop related education for apprenticeship programs; embed stackable credentials
- Utilize Career and College Promise to support dual credit for high school youth apprentices

Taken from draft copy of NC Youth Apprenticeship Guide

Program to Serve All…*Most*

Core Coursework:

- ❑ Basic Welding
- ❑ Industrial Safety
- ❑ Machining Tech I
- ❑ Manufacturing Quality Control
- ❑ Manufacturing Materials I
- ❑ Mechanical Manufacturing Systems
- ❑ Lean Manufacturing
- ❑ Intro to Automation
- ❑ Basic CAD
- ❑ College Student Success
- ❑ Writing & Inquiry
- ❑ Professional Research
- ❑ Algebra/Trigonometry I
- ❑ Two Electives



Mechatronics Concentration:

- ❑ Intro to Electricity
- ❑ Diagrams and Schematics
- ❑ Hydraulics/Pneumatics I
- ❑ Circuit Analysis I
- ❑ Industrial Controls
- ❑ Mechanisms
- ❑ Prog Logic Controllers (PLC)
- ❑ Troubleshooting
- ❑ Advanced PLCs

Machining Concentration:

- ❑ Blueprint Reading/Machining I
- ❑ Machining Calculations
- ❑ Machining Technology II
- ❑ Advanced Machining Calculations
- ❑ CNC Turning
- ❑ CNC Milling
- ❑ Machining Applications III
- ❑ Intro CAD/CAM
- ❑ Computer Aided Manufacturing I

First Year Underway

- December 2016 – Information sessions at the high schools
- February/March 2017 – Industry Open Houses
  - *Submitted program application to SO on Feb. 23*
- March – Application open
- April 17 – 20 – Orientation Week
  - *21 attended*
  - *Received SBCC approval for program on April 21*
- May 1 – Draft Day
- May 22 – Pre-apprenticeship begins
  - *18 pre-apprentices*
- August 10 – Signing Event
- August 14 – Apprenticeship begins
  - *16 apprentices*

Second Year Gearing Up

- January/February 2018 – Information sessions at the high schools
- February/March – Industry Open Houses
- February 2018 – Application open
- March 19 – 22 – Orientation Week
  - *40 attending*
- April 16 – Draft Day
- May 21 – Pre-apprenticeship begins
- August 9 – Signing Event
- August 15 – Apprenticeship begins

Promotional Video

https://youtu.be/zdtUxTg4mAU

Future Considerations

- Creation of a “Expectations” agreement for students and parents to sign
- Outline a procedure for when it becomes evident there isn’t a good match
  - Employer-initiated vs. Student-initiated
- Develop a mechanism for students to evaluate their experiences
  - *WBL courses aren’t until the 2nd year*
- Identify a means to ensure all apprentices are paid the same wage and that industry adhere to the pay scale agreed upon
- Industry mentor training
- Incorporate professionalism/soft skills
- Expand into other sectors
- Branch outside of youth apprenticeships

Lessons Learned

- Industry needs to be the one to take the lead
- Need buy-in on a common degree program
  - *Emphasize to the industries that the RTI is generic in nature and the skills specific to their particular industry should be taught in their OJT*
- Curriculum is the best fit
- Make any limitations – maximum cohort size, scheduling issues, etc., known upfront
- Some industries may have age and/or corporate restrictions

Questions?