Julie Thompson
Vice President for Economic and Workforce Development/ Continuing Education
Align4NCWorks
Workforce Learning Summit

Changing the Misconceptions of Careers in Manufacturing
"Perception is Reality"
Pete Szelwach

Plant Manager, Clement · Pappas & Co. Inc.
Chair, Existing Industry, Henderson County Partnership for Economic Development
A Common Theme In Today’s Economy... The Case For Change!

Despite high unemployment, organizations are having difficulty attracting, retaining and training **QUALIFIED** workers. The skills gap is getting larger given an aging workforce.

But there’s 1M open jobs in manufacturing so where’s the disconnect?
Why Made in Henderson County?

- Made in Henderson County is a coordinated effort by the Henderson County Partnership for Economic Development’s Existing Industry Committee.

- Connect manufacturers and Henderson County Public Schools while telling the story of manufacturing, the products that are made here and the people who make them.

- Reach out to the “workforce of tomorrow” and promote community awareness to generate interest.
Why Made in Henderson County?

- Henderson County has 135 manufacturers
- We employ over 5,250 people (15% of our workforce)
- Pay is really good! (Average wages in excess of $48,000/year)
- We have jobs that require everything from a high school diploma to a 4 year college degree
- We need action!

Consider a career in Manufacturing!
We Needed a Dual Strategy With Industry and Education Partnering Together

Workforce of *Today*
18-59+ year olds

Retain
Attract
Recruit
Train/Develop

Workforce of *Tomorrow*
11-18 year olds

Attract – WOW!
Recruit · Train · Retain
Made in Henderson County Results
<table>
<thead>
<tr>
<th>Category</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total # of Planned Interactions with K-12</td>
<td>22</td>
</tr>
<tr>
<td>Total # of Industry Luncheons w/ teachers &amp; guidance counselors</td>
<td>8</td>
</tr>
<tr>
<td>Total # of Student Tour Opportunities</td>
<td>14</td>
</tr>
<tr>
<td>Total # of Students Reached During Tours</td>
<td>590</td>
</tr>
<tr>
<td>Total # of Schools Impacted</td>
<td>10 (100% of Middle, High Schools, also includes Balfour &amp; Early College)</td>
</tr>
<tr>
<td>Total # of Mfg. Employers Involved</td>
<td>14</td>
</tr>
<tr>
<td>Made in Henderson County Video Views</td>
<td>559 (Since April 8, 2014)</td>
</tr>
<tr>
<td>Total # of K-12 Staff Involved</td>
<td>75 (100% of CTE Teachers &amp; Guidance Counselors)</td>
</tr>
<tr>
<td>Participating Companies</td>
<td>Schools Represented</td>
</tr>
<tr>
<td>-----------------------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Clement Pappas</td>
<td>North High, West High, East High, Hendersonville High, Balfour</td>
</tr>
<tr>
<td>GE Lighting Solutions</td>
<td>East Henderson High, Flat Rock Middle</td>
</tr>
<tr>
<td>Diamond Brand Manufacturing</td>
<td>Hendersonville High, Hendersonville Middle, Balfour</td>
</tr>
<tr>
<td>Blue Ridge Metals Corporation</td>
<td>North Henderson High, Apple Valley Middle</td>
</tr>
<tr>
<td>HCPED</td>
<td>East Henderson High, Hendersonville High, Hendersonville Middle, Flat Rock Middle</td>
</tr>
<tr>
<td>Continental Automotive Systems</td>
<td>West Henderson High, Rugby Middle, Balfour</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
</tr>
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</table>
# Made in Henderson County

HCPS Staff Professional Development

<table>
<thead>
<tr>
<th>Participating Companies</th>
<th>Schools Represented</th>
<th># of Est. Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>SELEE Corporation</td>
<td>Multiple Middle &amp; High Schools</td>
<td>34</td>
</tr>
<tr>
<td>BorgWarner</td>
<td>Multiple Middle &amp; High Schools</td>
<td>32</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>66</td>
</tr>
</tbody>
</table>
# Fall ‘13 Mfg Day Event

<table>
<thead>
<tr>
<th>Participating Companies</th>
<th># of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meritor</td>
<td>60</td>
</tr>
<tr>
<td>Wisonart Intl</td>
<td>40</td>
</tr>
<tr>
<td>SELEE Corporation</td>
<td>40</td>
</tr>
<tr>
<td>Elkamet</td>
<td>40</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>180</strong></td>
</tr>
</tbody>
</table>
## Spring ‘14 Event

<table>
<thead>
<tr>
<th>Participating Companies</th>
<th># of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isonart Intl</td>
<td>40</td>
</tr>
<tr>
<td>LEE Corporation</td>
<td>45</td>
</tr>
<tr>
<td>Laminet</td>
<td>40</td>
</tr>
<tr>
<td>Nantahala Creek Cycling Components</td>
<td>40</td>
</tr>
<tr>
<td>Pappas</td>
<td>40</td>
</tr>
<tr>
<td>Paddle Sport</td>
<td>40</td>
</tr>
<tr>
<td>Ginger Clark</td>
<td>40</td>
</tr>
<tr>
<td>ARTRAC Lighting Solutions</td>
<td>45</td>
</tr>
<tr>
<td>Lighting Solutions</td>
<td>40</td>
</tr>
<tr>
<td>Warner Paddlesport</td>
<td>40</td>
</tr>
</tbody>
</table>

**Total**: 410
Dr. Helen M. Owen

Director, CTE/Counseling
Partner with community college to enhance and expand course offerings

Career and College Promise (CCP)

- College courses offered on high school campus
- Courses offered on college campus
- Tuition free college credits while in high school
  - Earn certificate or diploma from community college
  - Earn industry recognized credentials
  - Some courses are transferable to four-year college/university
- Opens new courses of study
  - related to student interest
Partner with community college to enhance and expand course offerings

- Advanced Manufacturing
  - Mechatronics Academy
  - Also in Transylvania County
  - Automotive Academy
  - Also in Transylvania County
  - Transportation Technology
  - Welding

<table>
<thead>
<tr>
<th>High School Courses</th>
<th>supports</th>
<th>College Courses</th>
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<tbody>
<tr>
<td>Drafting I and II</td>
<td></td>
<td>DFT 170 (Engineering Graphics)</td>
</tr>
<tr>
<td>Technological Design</td>
<td></td>
<td>EGR 150 (Intro Engineering)</td>
</tr>
<tr>
<td>Technology Engineering &amp; Design</td>
<td></td>
<td>ELC 128 (Intro PLCs)</td>
</tr>
</tbody>
</table>
Partner with community college to enhance and expand course offerings

- Students Recruiting Students
  - Mechatronics and Automotive Academies at Balfour Education Center (BEC)
    - Academy student recruits traditional student
  - BRCC arranges:
    - Tour of BRCC facilities related to academy
      - Focus on programs available at BEC and BRCC
    - Tour of local manufacturer
      - Focus on career opportunities and skills needed
        - Entry level to management
Partner with community college to enhance and expand course offerings

- Impact of HCPS and BRCC partnership
  - More courses offered as electives
  - Reduced class size for other high school classes
- Improved secondary placement to match student interest
- College credits earned in high school at no cost
- Earn BRCC certificate or diploma with high school diploma
- Change in instructional delivery
  - Visit Balfour Education Center
Partner with community college to enhance and expand course offerings

- Funding for CCP
  - HCPS provides morning, midday and after school transportation for BEC to/from all high schools
  - Students provide their own transportation to BRCC
- BRCC provides
  - tuition free college credit
  - prorated salary for high school teachers who teach college courses
  - Golden Leaf grant and state CTE dollars funded equipment for Mechatronics
Partner with community college to enhance and expand course offerings

- Students Recruiting Students funded through BRCC Education Foundation and CTE Field Trip funds
- Summer Camps funded by
  - BRCC Ed Foundation
  - HCPS Ed Foundation
  - CTE Capacity Building Grant (Henderson and Transylvania counties)
  - Pathways to Prosperity
Shanda R. Bedoian
Director of Corporate and Customized Training
Summer Camp at BRCC
Premise - “Facilitate students’ and educators’ learning, designing and creating, while understanding the variety of job opportunities available in advanced manufacturing. Henderson County has a higher than average percentage of employees in the manufacturing sector. Campers experience the connection between the educational resources available early on so they can get on the fast track to a good career in the field.”
Summer STEM Camps at BRCC

Activities include:
- Manufacturing and Lean Exercises
- BRCC Machining, CAD, Electronics and Mechanical Engineering and Mechatronic Labs
- BRCC CAVE - Virtual Reality and 3D Printing
- Tour of local manufacturers:
- Trip to Western Carolina University
Chris English

Dean for Applied Technology
Connecting Education
HCPS & TCPS = BRCC = WCU
Second year in progress
Funds for start up

- Golden LEAF Grants = $700,000
- Duke Energy Grant = $200,000
- BRCC Education Foundation
- State funds
- Donations from Industry
BRCC to WCU

Mechanical Engineering articulation in progress

Accreditation Board for Engineering and Technology (ABET)

WCU Biltmore Park campus
Robotics Clubs

Middle school First Lego League (FLL)

High school Robotics Club on BRCC Campus

BRCC Robotics Club

WCU Robotics Club
Middle school FLL introduced to automation

High school robotics club

HCPS and TCPS have Advance Manufacturing courses for certificate and diploma level

BRCC Robotics

BRCC programs in Engineering, Mechatronics, Computer-Integrated Machining and Welding

WCU Robotics club,

WCU Kimmel School of Engineering
"Perception is Reality"
77

Camp TECHhead students served
Camp TECHhead educators served
335
Welding students served
113 Welding students earned diplomas
77
Welding students earned certificates
197

Computer-Integrated Machining students served
62

Computer-Integrated Machining students earned Associates Degrees
38

Computer-Integrated Machining students earned diplomas
5

Computer-Integrated Machining students earned certificates
257 Mechatronics students served
Mechatronics students earned Associates Degrees
12 Mechatronics students earned diplomas
Mechatronics students earned certificates
students served in Young Engineers Experience Camp
789 Total students served from 2009-2014