Community College and Industry Partnerships: Real Jobs in the Clean Economy, PART II

Webinar: 9/27/12
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Submitting Questions: Open Chat

- To submit a question, type the question in the **text field** and press your **Enter/Return** key.
  - Please enter the name to whom the question is directed.
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- Change **Text Size** and **Chat Color**...
In the **Chat Room**, please type the name of your organization, your location, and how many people are attending with you today.
Introduction

• Community college and industry partnerships have always been critical to the success of workforce programs

• In the greening economy these partnerships take on a whole new meaning
Webinar Part I: The “What”

- Georgia Piedmont Technical College & Kele Corporation (& a host of Fortune 500, small suppliers in the building automation & controls industry)

- Model
  - Defining skill needs
  - Continuous employer engagement
  - College as *convener*
  - Outcomes for students, employers, and college
  - Adaptable to green and traditional sectors
Webinar Part II: The “How”

• Brian Lovell, Director, Green Technology Academy, Georgia Piedmont Technical College

• Dave Weigel, Kele Corporation and Managing Member – The Watt Doctors, LLC
Georgia Piedmont Technical College

- Founded 1961
- 12,000 students / 4,000 Diploma or Degree–Seeking Students
- Technical College System of GA (TCSG)
- Serves 4 Metro Atlanta Counties
- President: Dr. Jabari Simama
Building Productive Industry Advisory Boards (Outline)

- Industry Background
- (3 programs created – focus on Building Automation)
- Timeline of Program Development at GPTC
- Building and Maintaining Active Industry
- Advisory Boards
- Outcomes
Industry Background – Building Automation

- Dave Weigel, P.E.
  - Consultant
  - Managing Member – The Watt Doctors, LLC
- Building Automation Peripherals Supplier
- Hub of Building Automation Industry
Industry Background – Building Automation

Image: Architecture Power Saving Research Center of Tsinghua University

- HVAC Systems
- Lighting Systems
- Security Systems
- Access Control Systems
- Fire Alarm / Life Safety Systems
- Energy Monitoring Systems
- Renewable Energy Systems
Industry Background – Building Automation
Industry Background – Building Automation

- Industry Outlook – Green Jobs? Yes!
- Internal Estimates
  - U.S. Market - $5 Billion 2012
  - World Market - $15 Billion 2012
- Recession Resistant
  - 2002 Recession – Plus 1% vs. Construction Down 15%
  - 2008 Recession – Down 5% vs. Construction Down 23%
  - Forward – Double-Digit Annual Growth, Starting Now
Industry Background – Building Automation

Drivers

• Energy Costs

• Environmental Awareness
  – LEED / Energy Star / Others

• Building Codes
  – International Energy Code
  – ASHRAE 90.1-2010 / ASHRAE 189.1-2011
Industry Background – Building Automation

Employment

- Demand Matches Industry
- Specialized Construction
- No Labor Economies of Scale
- No Trained People to Hire...
Building an Industry Advisory Board

- Brian Lovell
  - Director – Green Technologies Academy Building Automation Systems Program
  - Managing Member, The Watt Doctors, LLC
- Career Spent in BAS Industry
  - Founder – Synergy Automation, Inc. (1998)
  - Dearth of Trained BAS Technicians
- Joined GPTC Summer, 2007
Timeline of Program Development

June, 2007
New hire at GPTC as Air Conditioning Instructor with mission of creating new, innovative programs, starting with Commercial Refrigeration
Timeline of Program Development

August, 2007

“Vision for the Future” meeting with President, VPs, Deans, and Division Chair

June, 2007
Timeline of Program Development

Fall, 2007

Commercial Refrigeration program development & subsequent approval by the TCSG system
Timeline of Program Development

Late Fall, 2007
Commercial Refrigeration Advisory Board established

JUN 2007
AUG 2007
Fall 2007
GPTC’s Commercial Refrigeration Advisory Board
Timeline of Program Development

Summer, 2008
Building Automation Systems program development & subsequent approval by the TCSG system

JUN 2007
AUG 2007
Fall 2007
Late Fall 2007
Timeline of Program Development

- JUN 2007
- AUG 2007
- Fall 2007
- Late Fall 2007
- Summer 2008
- Fall, 2008

Renovations of laboratory spaces begins
GPTC’s Building Automation Systems Advisory Board
Timeline of Program Development

Spring, 2009
Green Technologies Academy development & subsequent approval by the TCSG system
Timeline of Program Development

- June, 2007: JUN 2007
- AUG 2007
- Fall 2007
- Late Fall 2007
- Summer 2008
- Fall 2008
- JAN 2009
- Spring 2009
- June, 2009: Green Technologies Academy Advisory Board established
GPTC’s Green Technologies Academy Advisory Board
INDUSTRY PARTNERS

Albion Controls
Aker Group
Atlanta Refrigeration Service
Automated Logic Controls
Bally Controls
Blake Compressors
Bluebird Hydraulics
Broco
Carlyle Compressors
Commercial Councils of Georgia
Cushionite
Dublin Service
Echone
Ella Controls
ERH Mechanical & Electrical
Esco Controls
Excursion Electric
Fetron
Ferris State University
Ferrous Refrigeration
George Fischer MIB Piping
Georgia Institute of Technology
Georgia Power
Georgia State University
Georgia Tech
Hart & Courcy
HEATCRAFT
Hill Phoenix
International Comfort Products
Johnson Controls
Kulik
Laboratory & Biosafety Systems, Inc.
Larkins
Mealer Industries
Packard & Scrube
Rosedale Electrical & Disruption Supplies
Schenk
Shaw
Southern Controls
Tristan Cady
Triumph, Ltd.
Unico Systems
United Refrigeration
Vacuum Phasing Systems
Vaccon
Wippstein Systems
Wolfeboro Joining Technologies
Wright Brothers
Timeline of Program Development

- JUN 2007
- Aug 2007
- Late Fall 2007
- Fall 2007
- Summer 2008
- Fall 2008
- JAN 2009
- Spring 2009
- JUN 2009

September, 2009
Grand Opening Celebration
Timeline of Program Development

- **JUN 2007**
- **AUG 2007**
- **Fall 2007**
- **Late Fall 2007**
- **Summer 2008**
- **Fall 2008**
- **JAN 2009**
- **Spring 2009**
- **JUN 2009**
- **SEPT 2009**

**Summer 2010**

Awarded 3 Federal Stimulus Grants for Energy Conservation Measures & Renovations
Timeline of Program Development

- JUN 2007
- AUG 2007
- Fall 2007
- Late Fall 2007
- Summer 2008
- Fall 2008
- JAN 2009
- Spring 2009
- JUN 2009
- SEPT 2009
- Summer 2010

September, 2012
co-Primary Investigator @ GPTC for NSF ATE BEST Center to disseminate BAS program
3 Models of Development

• Commercial Refrigeration
  – Externally-driven

• Building Automation
  – Internally-driven

• Green Technologies Academy
  – Jointly-driven
Commercial Refrigeration

- Industry-developed advisory board largely due to efforts of well-connected individual (Refrigeration Manager of large supply chain)
- Leadership came primarily from the advisory board – No one at GPTC with significant industry experience
- Tremendous support for vision (In-kind donations primarily)
- Coordination, management, and implementation primarily from within GPTC
Commercial Refrigeration

- Approximately 20 industry partners
- Hundreds of thousands of dollars in in-kind donations and some cash donations
- Review of curriculum
- Design of laboratory facilities
- Guest lecturers
- Internship agreements
Building and Maintaining Active Industry Advisory Boards

Building Automation

• GPTC-developed advisory board

• Leadership came primarily from within the college – Industry experience was present at GPTC

• Tremendous support for vision (In-kind donations primarily)

• Coordination, management, and implementation primarily from within GPTC
Building and Maintaining Active Industry Advisory Boards

Building Automation

• Approximately 20 industry partners
• Hundreds of thousands of dollars in in-kind donations and some cash donations
• Review of curriculum
• Design of laboratory facilities
• Guest lecturers
• Internship agreements
Green Technologies Academy

- GPTC-developed advisory board
- Leadership was equally evident from industry and GPTC
- Tremendous support for vision (Evidenced by participation and donations of time and energy)
- Coordination, management, and implementation primarily from within GPTC
Building and Maintaining Active Industry Advisory Boards

Green Technologies Academy

- Approximately 15 industry partners
- Review of curriculum
- Design of laboratory facilities
- Guest lecturers
- Internship agreements
- In-kind donations (Not nearly as much)
Building and Maintaining Active Industry Advisory Boards

Common Threads Linking the Advisory Boards

- Early establishment of a vision
- Strong leadership (Internally / Externally)
- Benefits and motivating factors discussed early & often
- Careful attention to selection of members & close monitoring of board dynamics
Building and Maintaining Active Industry Advisory Boards

**Maintaining Productivity**

- Continually ask “What is it that will keep each company engaged?” Answering this question and providing opportunities for your board members goes a long way towards maintaining productivity.
  - Commitment to industry
  - Source of new employees
  - Professional development
  - Opportunity for publicity
  - Opportunity for sales to the college
  - Keeping an eye on competition
  - Training for current employees

- Have a detailed, updated program of work and have regular meetings (At least one per quarter)
Building and Maintaining Active Industry Advisory Boards

Questions to Answer if You Want an Active Board

• Where will the leadership and energy come from on the board?
• What are my goals for the board and do I have a reasoned approach to attain them?
• Will my college be able to keep the board engaged and productive and provide the benefits the board members are looking for?
• Who at my institution will be responsible for managing the board?
• What type of advisory board should we strive for?
  (Internally led / Externally led / Jointly led)
• Is there a clearly defined programmatic or collegiate vision the board can buy into?
Outcomes

- 1st Associate’s of Applied Science Degree
- Program for BAS in U.S.
- True Industry / Education Partnership
- Multi-Million Dollar Laboratory (Majority of Equipment Donated by Industry)
- Use of Facilities as Living Laboratories
- Collaborations with Other Colleges
  - Articulation with 4-year College
- New Revenue Stream for College
Outcomes

- Student Placement
  - 75% in-field
  - Average over $50,000.00 starting pay
- 400% Growth in Student Count in Program Areas in first 2 ½ years ***
- New, Innovative Collaborations Beneficial to Students
- Continued High Level of Industry Involvement

*** - Program count temporarily down
Outcomes

• National Science Foundation ATE Center (2012)
  – Laney College, San Francisco (Lead institution)
  – UC Berkeley National Labs
  – Milwaukee Area Technical College
  – Georgia Piedmont Technical College

• Retrofit of 30,000 sq. ft. Facility Level 3 Energy Audit/ECMs / Implementation by Students
New Report! Green Genome

How to integrate green WFD and sustainability into the college’s DNA

Including free self-assessment!

Release: October 1 at

www.theseedcenter.org
Questions?