

## Elevate Student Success Using CTE Roadmap To Industry Certifications

### Bridging the Skills Gap – Industry & Education Partnership

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## Current State

### *Pathways to Prosperity\*:*

- In 1973, 32% of the jobs created in the United States did not require a high school degree; by 2007, that percentage was 11%.
- From 2000 to 2010, the employment to population ratio for 18- to 19-year-olds dropped from 51.4% to 28.5%. For Americans aged 20 to 24, the drop was from 74.2% to 62.2% - *Translation: If you're a young person and don't possess the right skills, it is very difficult to find gainful employment!*
- Among young adults, about 31% have completed 4-year college degrees.



\* Source: Harvard Graduate School of Education (2011)





## Here's what we're facing...

- **“About 10 million manufacturing jobs cannot be filled worldwide** because of a shortage of skilled workers, according to a report released by the World Economic Forum and Deloitte Touche Tohmatsu Ltd.” (1)
- **“...today, and for every day for the next 19 years, 10,000 baby boomers will reach age 65.** The aging of this huge cohort of Americans (26% of the total U.S. population are Baby Boomers) will dramatically change the composition of the country”. (Pew Research Center)
- **“By 2018, with no change in current labor force participation rates** or immigration rates and an expected return to healthy economic growth, **we will have more jobs than people to fill them...** If the full employment gap is not filled, using Congressional Budget Office data, we estimate **the loss in total output could be as high as \$3 trillion** across a five-year period beginning in 2018.” (study by Northeastern University)





## A Model for Success

“Effective, high-quality Career & Technical Education (CTE) programs are aligned not only with college- and career-readiness standards, but also with the needs of employers, industry, and labor. They provide students with a curriculum based on integrated academic and technical content and strong employability skills.”

“The students participating in effective CTE programs graduate with industry certifications or licenses and postsecondary certificates or degrees that employers use to make hiring and promotion decisions. These students are positioned to become the country’s next leaders and entrepreneurs.”

U.S. Department of Education, Office of Vocational and Adult Education, *Investing in America’s Future: A Blueprint for Transforming Career and Technical Education*, Washington, D.C., 2012.





## State Level Response

# SB 155 Career Technical Education Initiative

- \$8.75M for college tuition
- \$1.5M to high schools for students earning an industry credential
- \$50,000 in marketing to increase student participation
- \$500,000 for transportation





## State Level Response

# Tuition Supported College Credit

- Encourages collaborative programs between secondary and postsecondary
- Allows students to accelerate their learning path in an area for which they have a passion
- Earning college credit while in HS = more likely to earn post-secondary degree





# State Level Response

## Marketing

### Career Opportunities – the JOBS

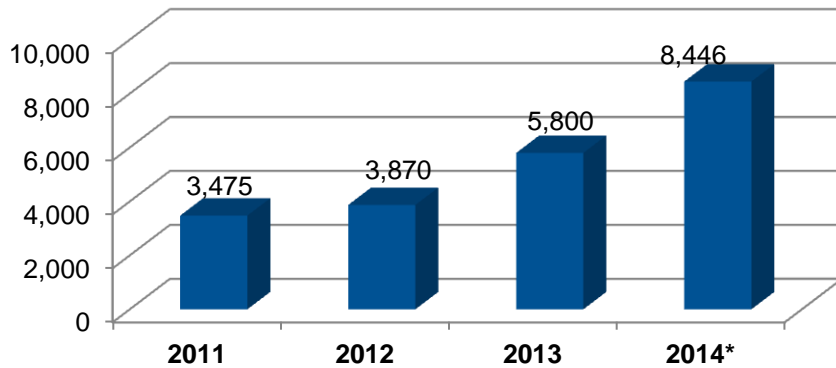
- Begin with a career in mind –
- Select a pathway and the technical education to prepare for a career



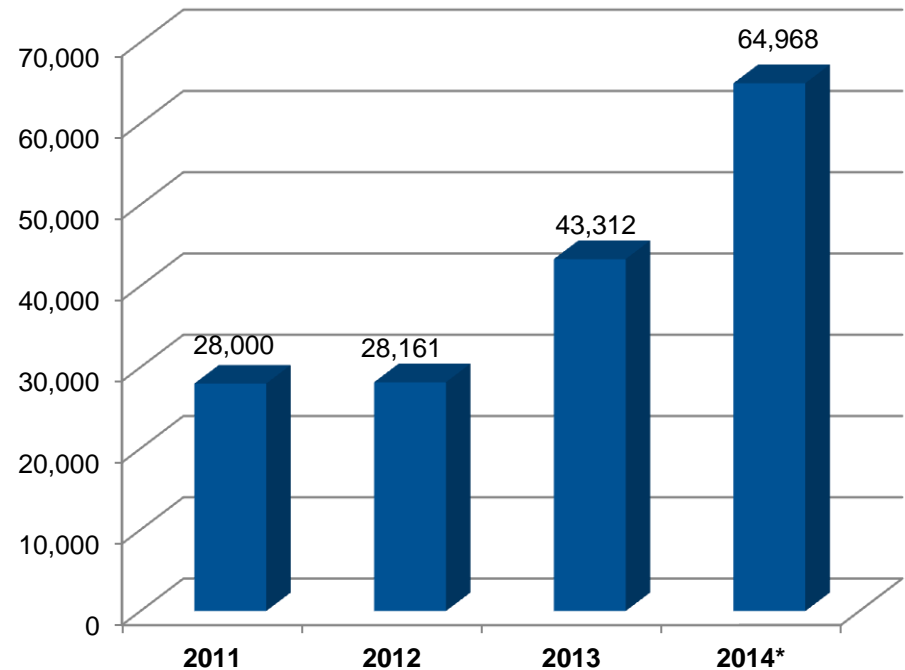
# SB 155 Excel in Career Technical Education Early Returns



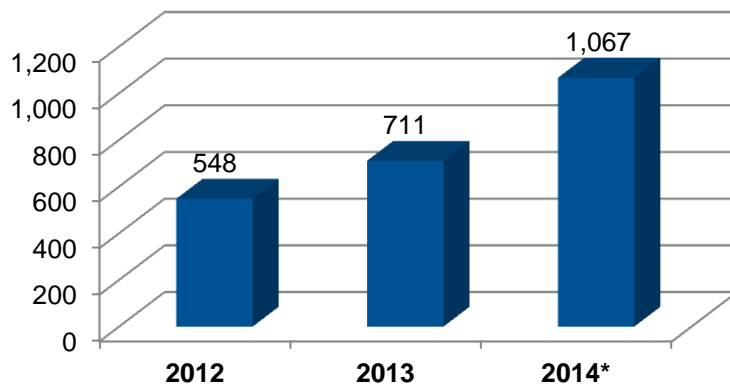
## Headcount



## College Credit Hours



## Certifications



*\*Estimates*





Collaborate in the classroom.  
Compete in the marketplace.

**NC3 is a network of education providers and corporations that supports, advances and validates new and emerging technology skills in the transportation, aviation and energy industry sectors.**





## Industry & Education Partnership



- Bridging the Skills Gap
- Industry driven certifications
- World class curricula
- Nationally standardized certifications





National Coalition of  
Certification Centers

# Certifications Across Industries



**Collaborate in the classroom.  
Compete in the marketplace.**



# Ingersoll Rand / Trane

A global diversified industrial company

- \$16 billion diversified industrial company
- 64,000 employees worldwide
- More than 100 manufacturing facilities worldwide
- Operate in every major geographic region
- Strategic brands are #1 or #2 in their markets



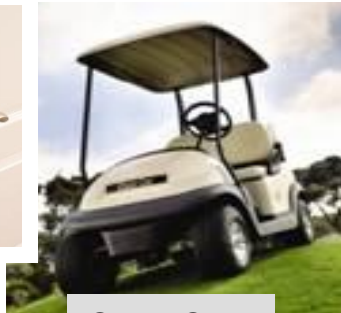
Thermo King



Trane



Schlage



Club Car



Ingersoll Rand



Trane

# Our Business Is Comfort



## We Are a Global Leader in Building Comfort Solutions



# Understanding Needs



## Every building has a purpose...

### Health Care

- Infection control, IAQ
- Compliance issues



### Commercial Offices

- Net asset value appreciation
- Optimized operating expenses



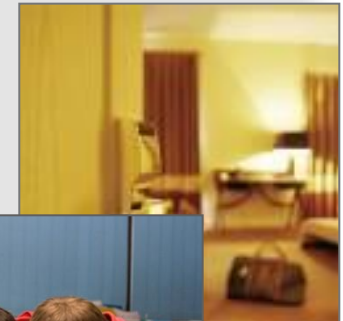
### Industry

- Maximize production up-time
- Preserve product integrity



### Lodging

- Guest comfort
- Energy efficiency and comfort



### Retail

- Customer retention
- Operational flexibility



### Life Sciences

- Speed to market
- Compliance issues



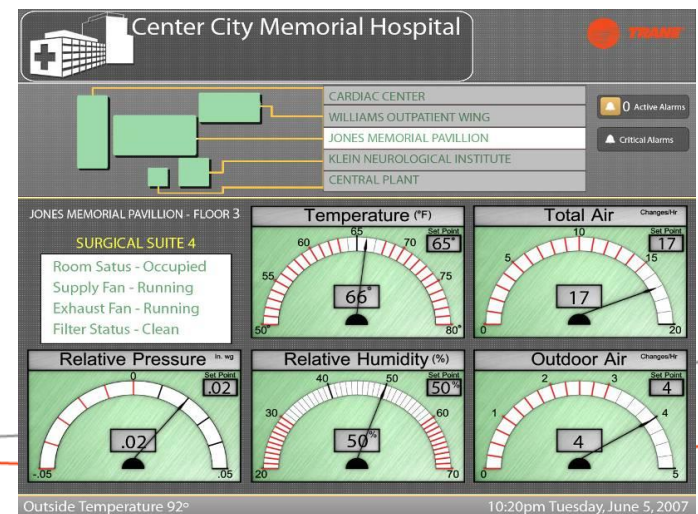
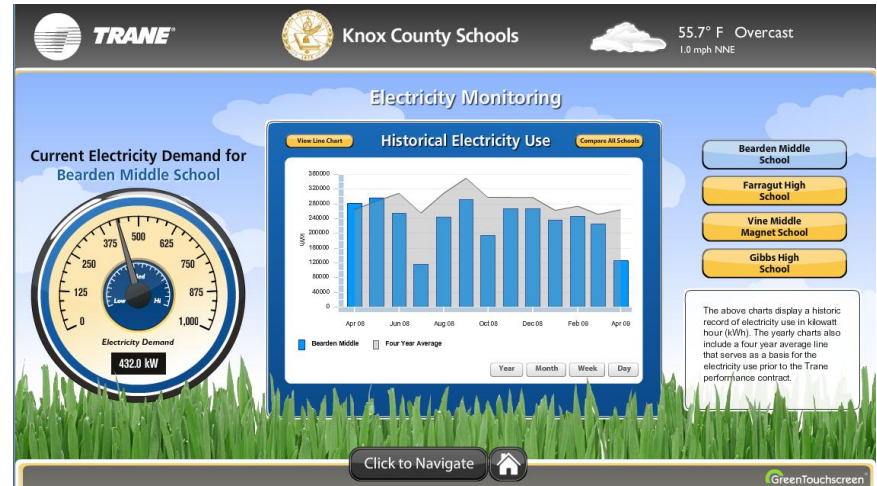
### Education

- Energy efficiency
- Optimal learning environments

# Using Data to Improve Performance, Maintenance and Sustainability



- “Dashboards” in Tracer
- Logging of key data points
- Alarm limits
- Analytics
  - Recognize and predict issues
- Energy efficiency
- Thermal comfort
- Goal: Better productivity
  - Serve more customers with same staff
  - Compliance with reporting standards



# Accessible Online, Anywhere, Anytime





# National & State Job Trend Data\*

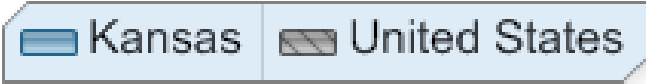


## Heating, Air Conditioning, and Refrigeration Mechanics & Installers

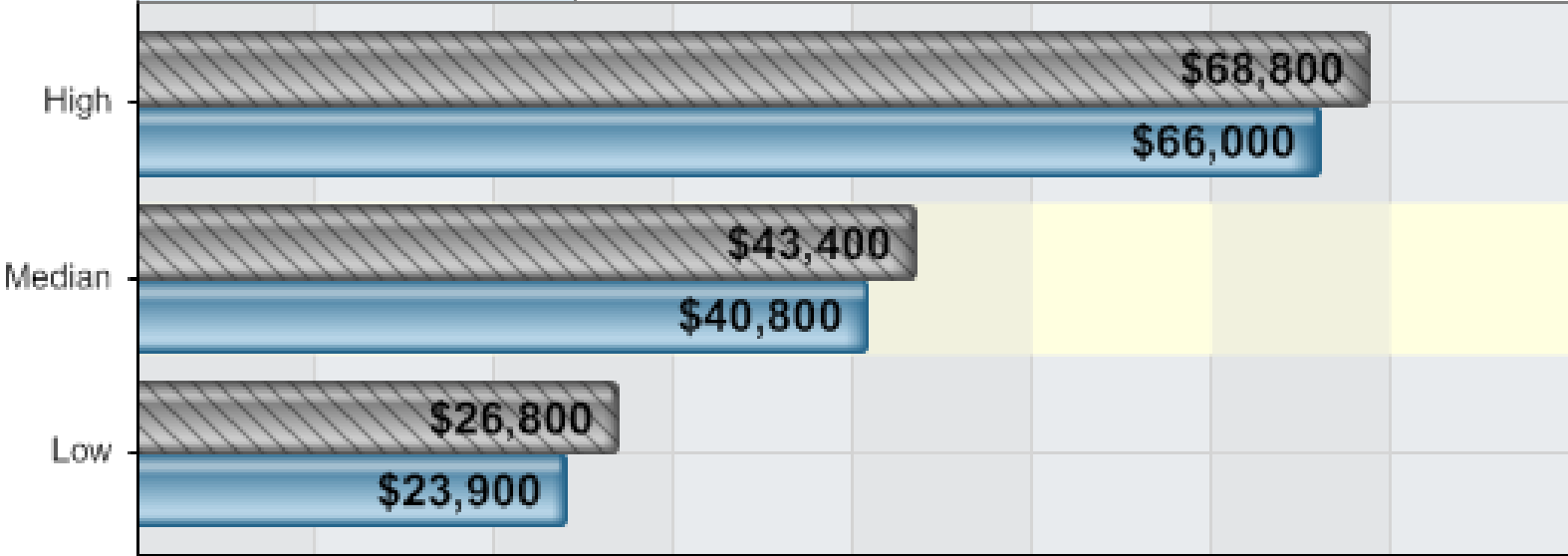
	2010	2020	% Change	Annual Job Openings
U.S.	267,800	358,100	+ 34%	13,760
Oklahoma	3,570	4,970	+ 39%	200
Texas	25,040	32,790	+ 31%	1,180
Kansas	2,670	3,370	+ 26%	110
Nebraska	2,230	3,070	+ 38%	120
Missouri	4,860	5,390	+ 11%	130

\* Source: The Occupational Information Network (O\*NET) is developed under the sponsorship of the US Department of Labor/Employment and Training Administration.

# National & State Job Trend Data\*



Yearly Wage Chart



- High is the wage at which 90% of workers earn less and 10% earn more.
- Middle is the wage at which 50% of workers earn less and 50% earn more.
- Low is the wage at which 10% of workers earn less and 90% earn more

\* Source: The Occupational Information Network (O\*NET) is developed under the sponsorship of the US Department of Labor/Employment and Training Administration.

# Career Path Opportunities...



**Territory Service Solutions Mgr.  
Operations Manager**



**Service Solutions Mgr.  
Area Manager**



**HVAC Team Leader  
Senior HVAC Technician**



**HVAC Technician  
HVAC Field Technician Apprentice**

# Technical Education Response



- Shared goals – Passion for serving students, employers and the Kansas economy
- Successful business partnerships where education listens and students benefit
- Multiple pathways to success – technical education route offers certain advantages to students
- Transformation of technical education – higher skills, advanced technology and equipment, higher expectations
- Professional technical education leads to excellent careers with advancement opportunities and higher –level degrees



- Climate & Energy Control Technologies Lab
  - Industry driven
  - Raising standards
  - High Tech





*Vision*  
**2014**  
and beyond.

Through high quality education and state of the art training Washburn Institute of Technology will strengthen the regional economy by serving over 2500 full-time equivalent students by the year 2014.

*Achieving the critical degree of success*



**Schedule your tour soon.**

Visit online at: <http://tranemidamerica.com/mtc/>

# What Might This Mean for Your Students & Faculty?

- Paid tuition – Senate Bill 155
- A high-growth technology career
- Excellent pay and benefits
- Ongoing training & advancement opportunities.
- “Train the Trainer Program” for your instructors

FOR CLIMATE & ENERGY CONTROL TECHNOLOGIES

# Midwest

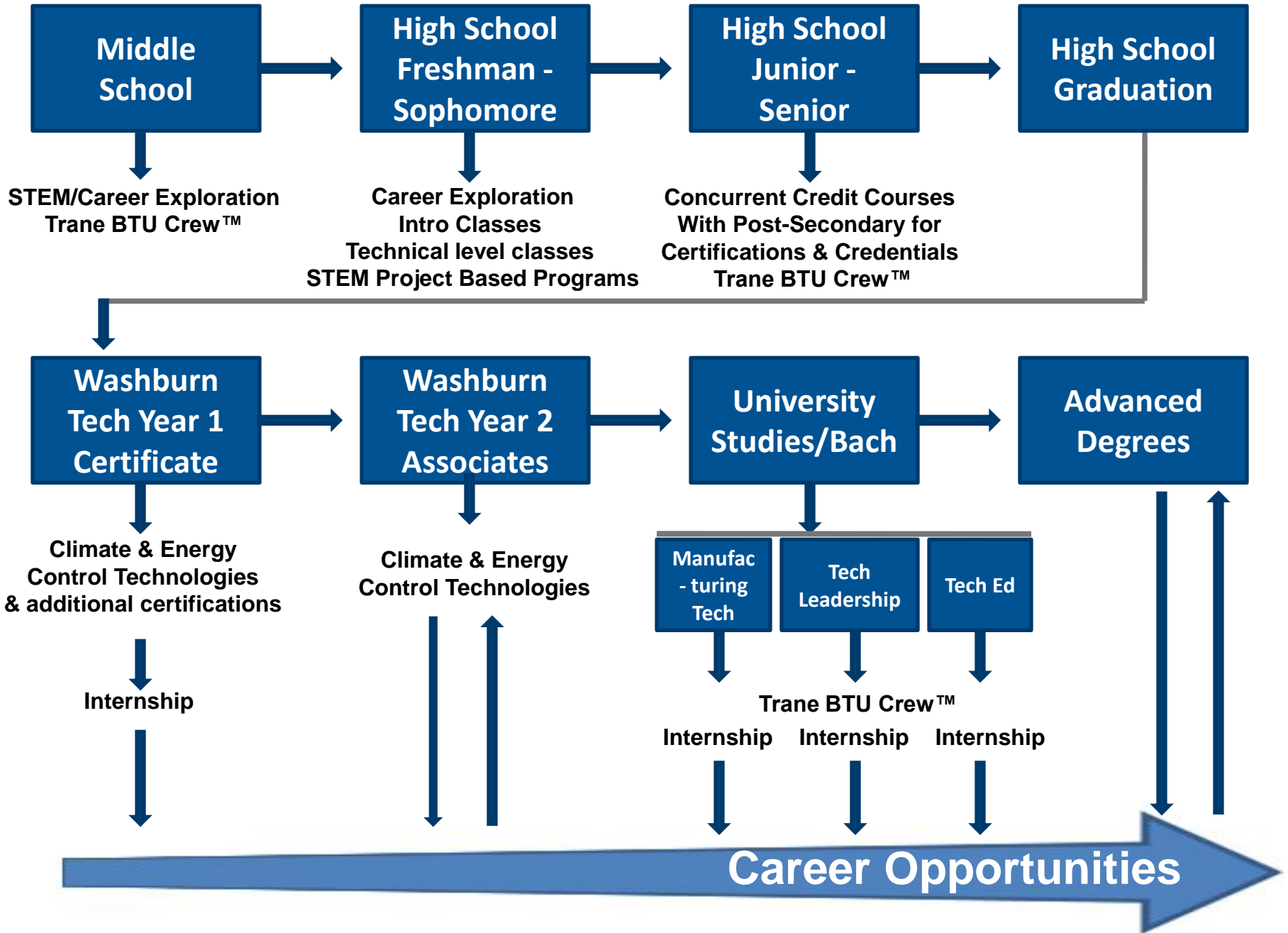
## TRAINING CENTER



WASHBURN TECH

SUPPORTED AND ENDORSED BY TRANE, SNAP-ON, AND NC3  
AS AN APPROVED CENTER FOR TRAINING WORKERS FOR HIGH-SKILL DEMAND JOBS

# Student Engagement Model

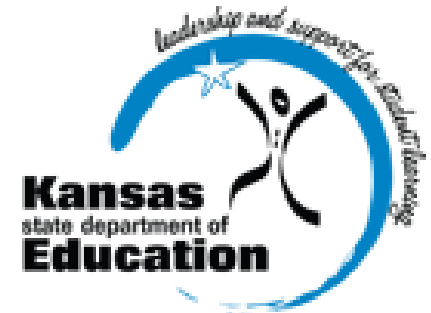






# NC3 Boot Camp for Kansas Educators

- Hosted by Washburn Tech – June 17, 2013
- Sponsored by KSDE, KBOR, NC3, Trane, Snap-ON
- Nearly 60 participants
  - Math & Science Teachers
  - High School Counselors
  - CTE Instructors
  - College of Education Faculty (teaching tomorrow's teachers)
  - Business/Industry and Community Stakeholders





# Boot Camp Overview

- **Purpose:** Elevate technical education and technical occupations; provide understanding of high tech, high skills required in technical occupations; provide examples of contextual applications in science and math using high tech tools.
- **Outcome:** Educators reviewed contextual math and science curriculum related to high demand technical occupations and offered advice for improvement and implementation.





## Boot Camp Content

- Contextual curriculum embedded in tech careers
- Trane shared BTU Crew™ STEM / Energy Curriculum / Career Exploration Program
- Snap-On presented metering and torque tools programs





# Key Takeaways



- Teachers and counselors were impressed with high tech careers and tech tools
- Career Technology has changed!
- High skills are required for success
- Additional boot camps being planned state-wide





“The people who engage in this training will have world-class credentials and have better opportunities to compete in the workforce, and business will have increased opportunities to grow, as well.”

**Jane Oates**

*U.S. Department of Labor Assistant Secretary,  
Employment and Training Administration*

“The time is now for technical education in America.”

**Nick Pinchuk**

*Chairman & CEO Snap-on Incorporated  
NC3 Industry Partner/Advocate*





## Q&A

