



**Washburn Tech's mission is to deliver innovative educational and training opportunities for individuals to strengthen the communities we serve.**

**21<sup>st</sup> Century Career & Technical Education  
Kansas CTE Conference – February 5, 2013**



**Dean Clark Coco  
Keven Ward, Public Sector Consultant**





# Agenda



- Washburn Tech's Vision 2014°
- New CTE program opportunities aligned with Senate Bill 155, KSDE, Kansas Board of Regents, K-ACTE priorities
- Articulate with Washburn Tech's new Midwest Training Center for Climate & Energy Control Technologies Program
- Collaborate with the National Coalition of Certification Centers (NC3) corporate partners



*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*

- Create a safe and healthy learning environment
- Create a quality educational experience for all learners
- Demonstrate fiscal responsibility
- Create positive relations and advocacies with the communities we serve
- Create an environment of accountability for quality continuous improvement
- Identify, seek and recruit “The Right Student, for the Right Program, for the Right Reason”



# 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. *Translation: Not all young people pursue 4-year college degrees, in fact the majority do not.*

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



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



**TRANE®**

- **“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.



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



**TRANE**®



**Snap-on**®



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





National Coalition of  
Certification Centers

# Certifications Across Industries



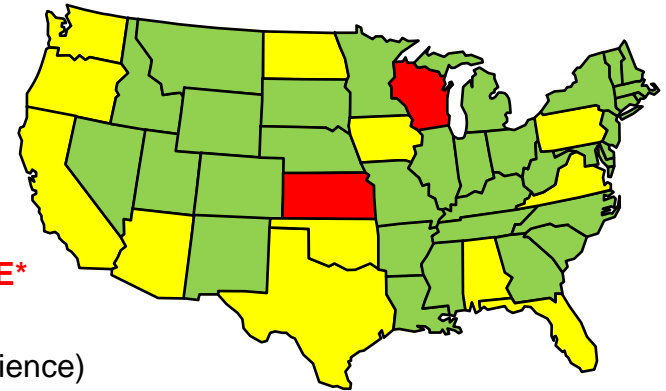
**Collaborate in the classroom.  
Compete in the marketplace.**



# NC3 Member Institutions



- ALABAMA – Birmingham, AL (Lawson State Community College)
- ALABAMA - Huntsville, AL (J.F. Drake State Technical College)
- ARIZONA – Phoenix, AZ (West-MEC)
- CALIFORNIA - San Diego, CA (San Diego Miramar College)
- FLORIDA - Orlando, FL (Mech Tech Institute)
- IOWA – Estherville, IA (Iowa Lakes Community College)
- **KANSAS – Topeka, KS (Washburn Institute of Technology) – COE\***
- KANSAS - Wichita, KS (Wichita Area Technical College)
- NORTH DAKOTA - Wahpeton, ND (North Dakota State College of Science)
- OKLAHOMA - Okmulgee (OSU Institute of Technology)
- OKLAHOMA - Oklahoma City, OK (Francis Tuttle Technology Center)
- OKLAHOMA – Oklahoma City, OK (Metro Technology Centers)
- OREGON - Linn County, OR (Linn-Benton Community College)
- PENNSYLVANIA – Pittsburgh, PA (Rosedale Technical Institute)
- TEXAS - Cleburne, TX (Hill College)
- VIRGINIA - South Hampton Roads region, VA (Tidewater Community College)
- WASHINGTON - Shoreline, WA (Shoreline Community College)
- WASHINGTON - Seattle, WA (South Seattle Community College)
- WISCONSIN - Cleveland, WI (Lakeshore Technical College)
- **WISCONSIN - Kenosha, WI (Gateway Technical College) – COE\***



\*Center of Excellence



# Trane Commercial Systems

*"A focus on the future and the opportunities that exist"*

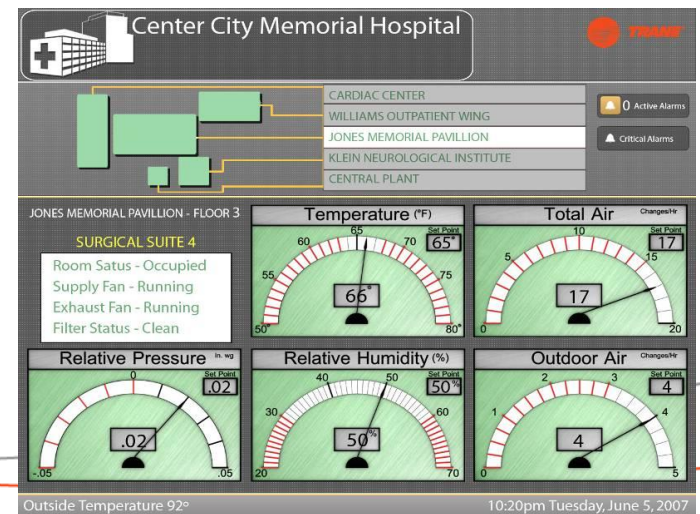
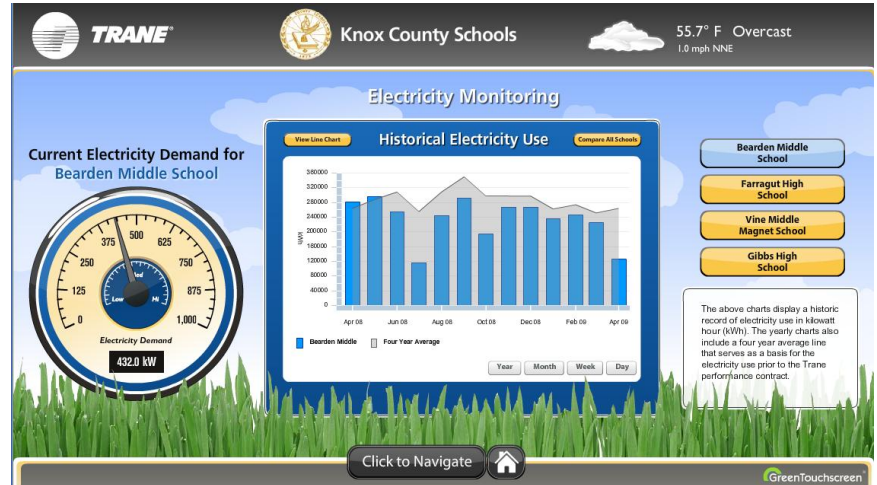


- Trane has relationships with industry leaders all over the globe, and that network includes local industry that can benefit from partnerships with colleges in their area. When possible, Trane can assist with cultivating these partnerships.
- A relationship with Trane goes well beyond heating and air conditioning. Trane has a vested interest in the success of each of its partners, and has shown this by supporting partners in a number of ways.



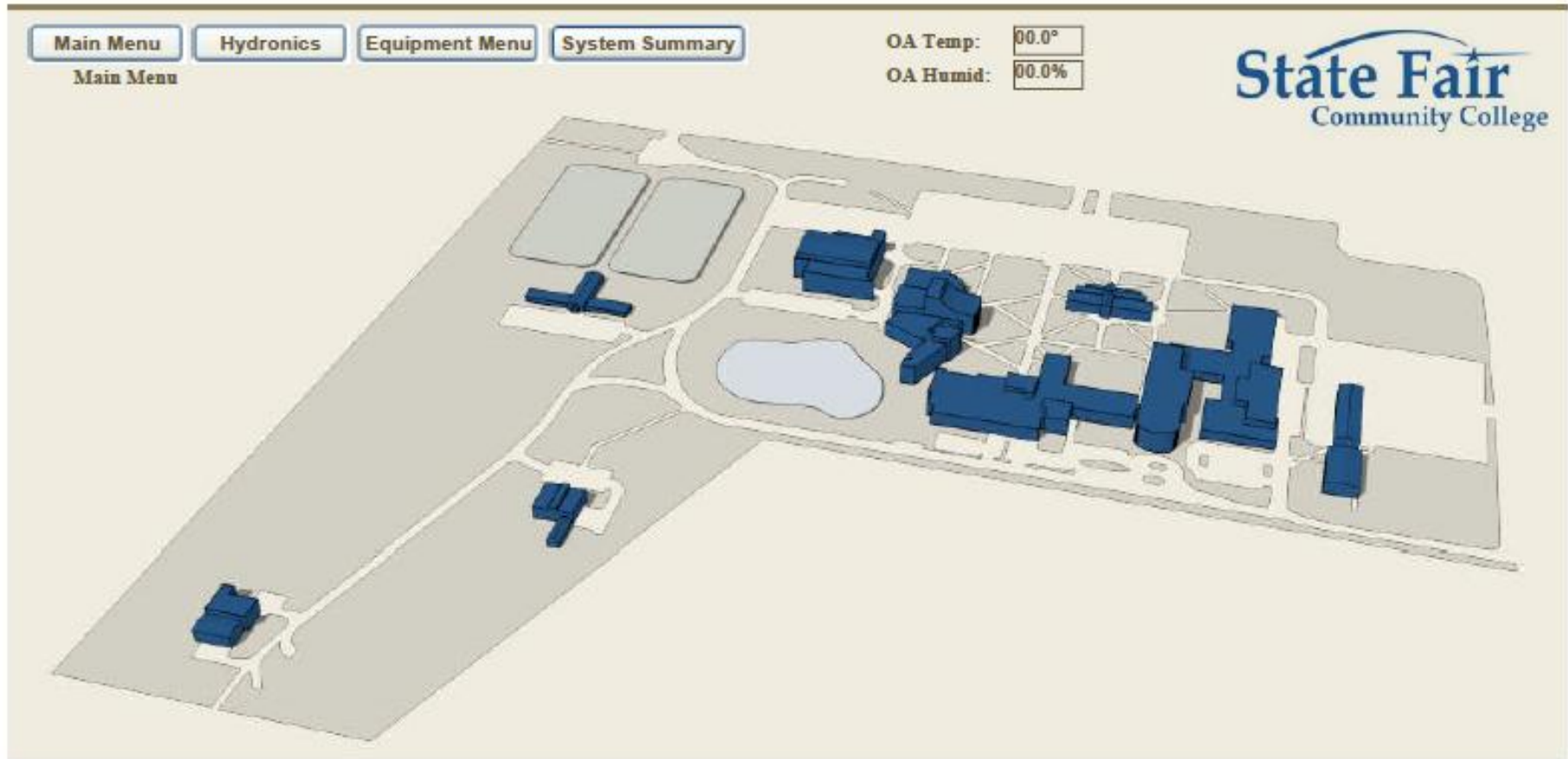
# Using Data to Improve Service Maintenance and Sustainability

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





# Digital Building Controls Campus-wide View





# Digital Building Controls Building Level View



You are logged in as Tracer ES User Administrator (TESAdmin)

Find Buildings

[Home](#)

[Search Tips](#)

Navigation Tree

Main Menu

Equipment Menu

OA Temp: 92

State Fair  
Community College

Building

Summary

Alarms

Spaces

Equipment

Subsystems

Schedules

Data Logs

Advanced

Auto Tech

Daum Lower

Daum Upper

Fielding Main

Fielding Mezz

Heckart Lower

Heckart Upper

Hopkins Lower

Melita Day Care

Multipurpose Lower

Multipurpose Upper

Potter Ewing

Stauffacher

Yeater



Hopkins Upper Level

Space Temperature  
Space Temperature Setpoint

Tracer Summit - File Connect Status View Go Tree Setup Tools Window Help

Main Menu Chilled Water  
System Summary Hot Water

Outside Temp: 39 °F  
Outside Humidity: 68 %RH

Exhaust Fan Start/Stop: On  
Exhaust Fan Status: On  
Exhaust Fan Speed: 71 %

Exhaust Iso Damper Command: 100 %  
Exhaust Damper Position: Open  
Exhaust Fan Flow: 32456 CFM  
Return Filter Status: Normal

Unit Auto Mode: On  
Dehumidification Mode: Off  
Unit General Alarm: Normal  
Air Condition: RAT>OAT<SAT

Return Air Temperature: 73.8 °F  
Return Air Humidity: 19.8 %  
Return Air CO2: 437 CFM

Exhaust Temperature: 87 °F

Runaround Pump Start/Stop: Off  
Status: Off

Runaround Valve Command: 100%  
(% Open to both coils)

Return Damper Position: Closed  
Command: 0 %

Mixed Air Filter Status: Normal

Min OA Damper Position: Open  
Command: 100 %

Max OA Damper Position: Open  
Command: 100 %

Supply Fan Start/Stop: On  
Supply Fan Status: On  
Supply Fan Speed: 79 %  
Duct Static Pressure Setpoint: 2.0 in wg  
Duct Static Pressure: 2.0 in wg  
Supply Fan Flow: 33516CFM

Mixed Air Temperature: 37 °F  
Mixed Air Humidity: 72 %

Pre-Heat Valve Command: 40 %  
Pre-Heat Discharge Temp: 59 °F

Chilled Water Valve Command: 0 %  
Cooling Coil Discharge Temp: 58 °F

Re-Heat Valve Command: 0 %

Discharge Air Temp Setpoint: 60.0 °F  
Discharge Temperature: 59.8 °F  
Discharge Humidity: 31.0 %

Data and Alarms  
VAV Summary

For Help, press F1

3/1/2012 7:36 AM BCU

7:36 AM  
3/1/2012





# Accessible Online, Anywhere, Anytime



# 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

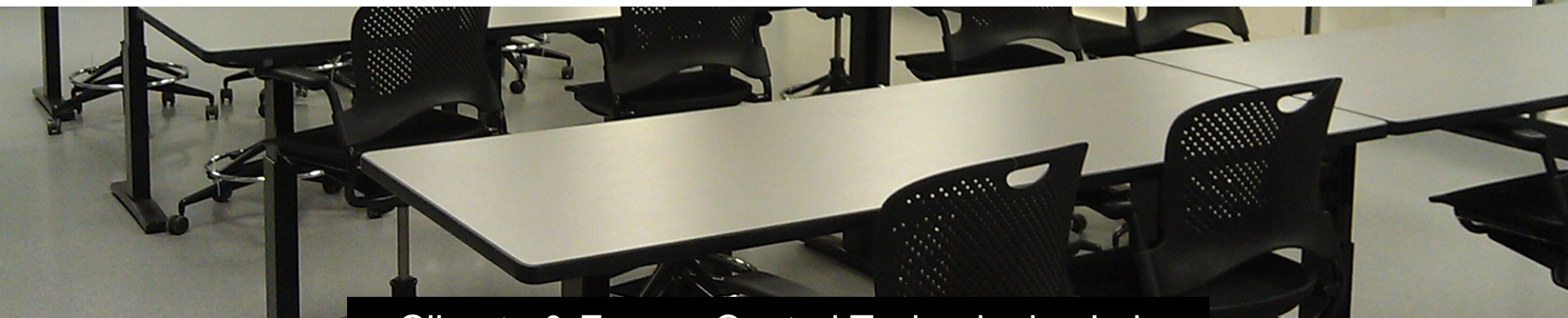


WASHBURN TECH

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



**Opening March 2013. Schedule your tour soon.**



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





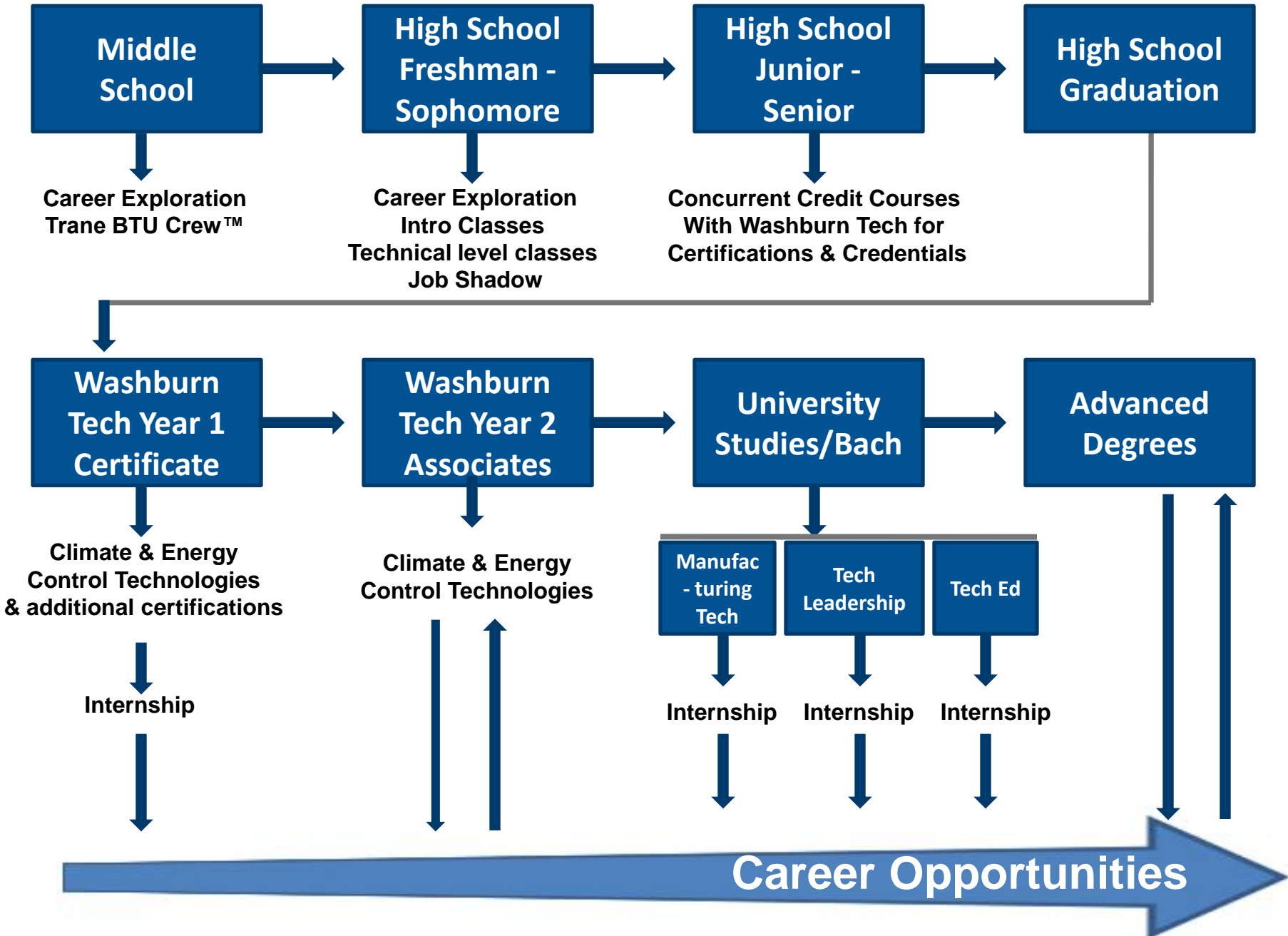
# *Vision* 2014 and beyond.

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*



# Student Engagement Model





## **Top Technical Occupations in Kansas**

- Welders, Cutter, Solderers and Brazers**
- Automotive Service Technicians/Mechanics**
- **HVAC Mechanics and Installers**
- Aircraft Mechanics and Service Technicians**
- Computer Support Specialists**
- Registered Nurses**
- Licensed Practical and Vocational Nurses**
- Nursing aides**
- Dental Hygienists**
- Medical Records and Health Information Technicians**
- Physical Therapy Assistants**
- Radiology Technicians**
- Bus/Truck Mechanics and Diesel Engine Specialists**
- Industrial Maintenance Technicians**

## Upgrading Aging Public Sector Building Stock

**Public Sector  
Deferred  
Maintenance  
Backlog**

- **Post-secondary OK \$350MM, KS \$905MM, MO \$511MM**
- **Represents decades of projects not subject to off-shoring**

**Aging Schools -  
1,000s over 50  
years old in OK,  
KS, MO, & AR**

- **High performance learning environment improvement projects**
- **Student involvement garners public support**

## Career Opportunities

**High Growth  
Technical Careers**

- **Climate & Energy Control Technology Technicians**
- **HVAC Technicians & Installers**

**Energy & Facility  
Managers with  
Technical Skills**

- **Climate & Energy Control Technology Skills**
- **Sustainability priorities focused on energy efficiency**

## Economic Development

**Sustainable Jobs  
for the Region &  
Communities**

- **Demographic retention / renewal, high wage jobs**
- **Property valuation, tax revenue, etc.**

**B&I, Education &  
Government  
Stakeholders**

- **KBOR, KSDE, K-ACTE, USA/KS, KASB, et al**
- **Governor, Legislature, Commerce Dept, Communities, et al**

# KSA 75-37,125 enables projects to be financed and funded

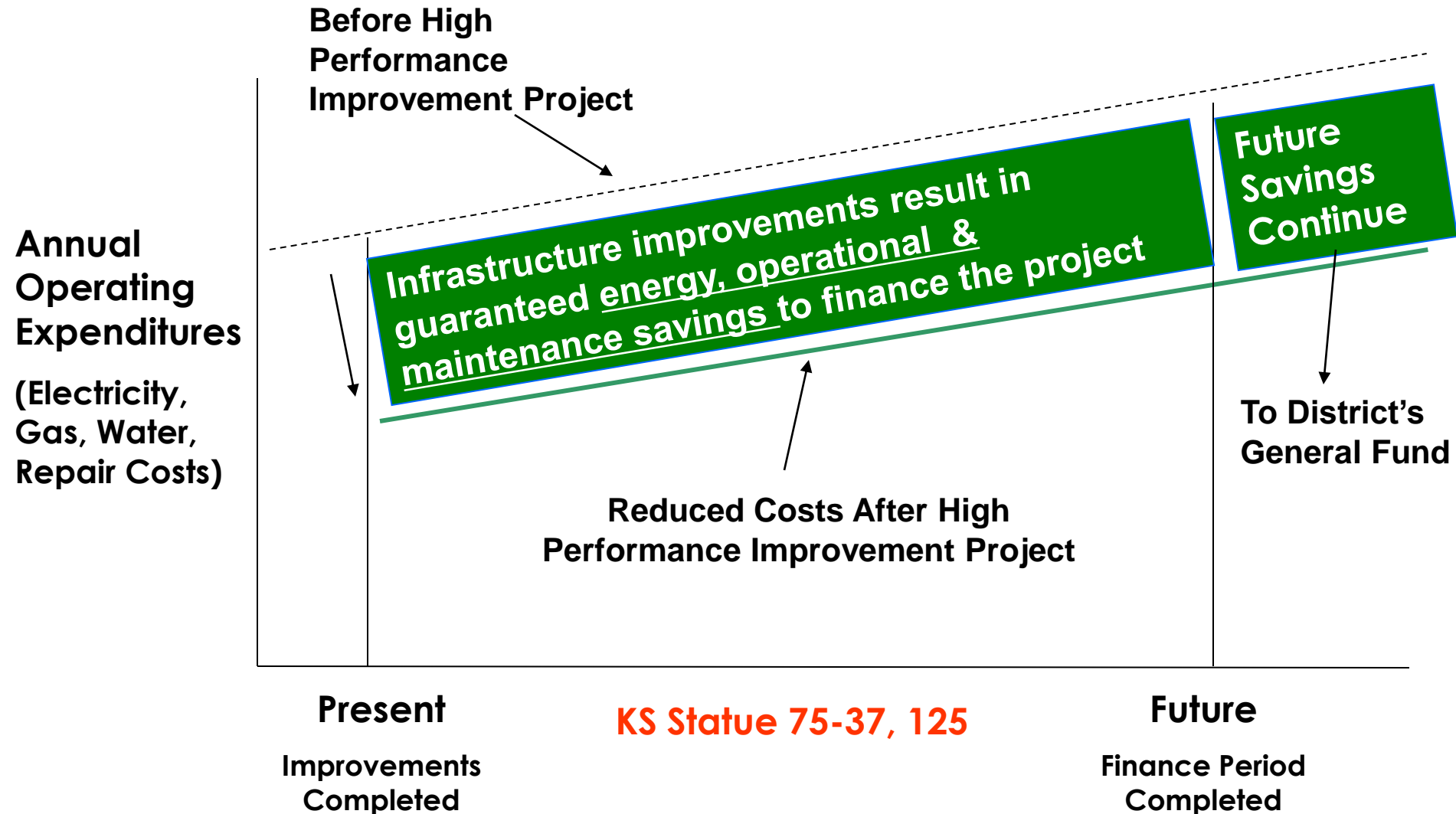


- Energy Performance Contracting (EPC) is an established means of leveraging deferred maintenance funds with energy conservation projects
- Kansas , 40 states and the federal government have EPC statutes
- Statutes enable public institutions to use energy savings to finance energy-saving campus improvement projects
- Kansas Energy Office has master EPC contract with Trane and other Energy Service Companies (ESCOs)
- Trane has extensive EPC experience – area education-sector clients include:
  - Tonganoxie USD 464
  - Turner USD 202
  - Plainville USD 270
  - Lee’s Summit Schools R-VII
  - Rock Creek USD 323
  - Marysville USD 364
  - Valley Heights USD 498
  - University of Central Missouri
  - State Fair Community College
  - Palco USD 269
  - Halstead USD 440
  - SE of Saline USD 306
  - Nemaha Valley USD 442
  - Washburn University





# Reduced Operational Costs Fund and Finance Project





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## **Q&A**

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