

# **Kentucky Community & Technical College System**

## **Mechatronics Programs**

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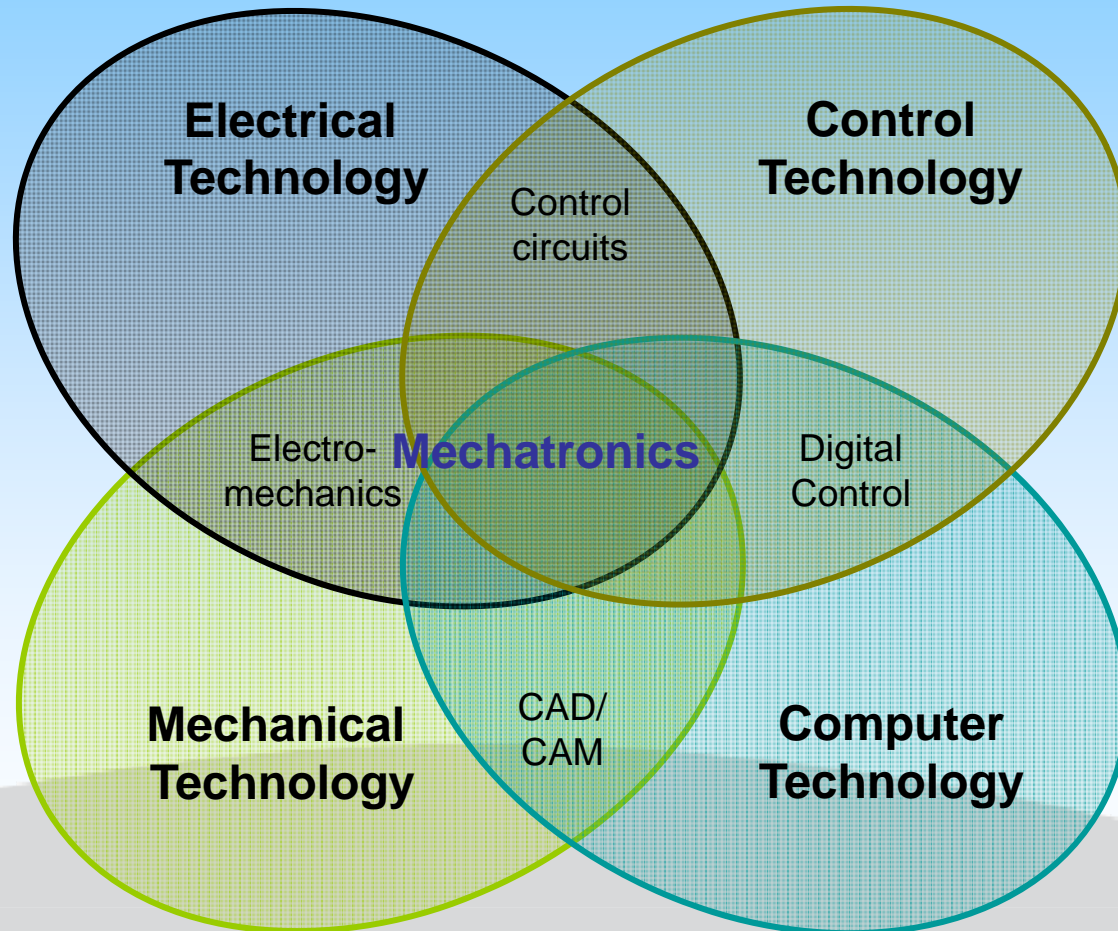
# Foundational Assumptions for the Partnership with the Siemens Mechatronics Certification Program— Siemens Perspective

- Significant Changes in Personnel Profile
  - 1998: 460,000 employees worldwide, 50% in Germany
  - 2008: 450,000 employees worldwide, only 1/3 in Germany
- Importance of Worldwide Standards for Manufacturing and Planning
- Too expensive to have employees doing only one task!
  - Training and recruiting of multi-skilled workers more important
  - Adaptability to new situations: *Handlungskompetenz*
- Future challenge for Siemens to retain and expand international focus
- Private companies in Germany are expected to invest heavily in education—by need and by tradition

# Foundational Assumptions for the Partnership with the Siemens Mechatronics Certification Program—KCTCS Perspective

- Growing Need for Multi-Skilled Technicians (Skills Gap)
- Rapid Changes in Technology
- Reduce Cycle Time of Learning
- Increasing Emphasis on Soft Skills
- From Problem Solving and Critical Thinking to:
  - Adaptive Expertise and Hyper-Human Skills
  - *Handlungskompetenz*
- Need for Industry – Recognized Credentials
- Intra- and International Collaboration/Partnership/Standards

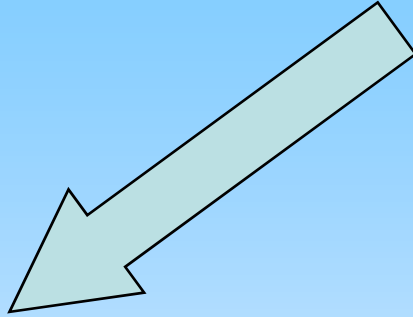
# Mechatronics/Multi-skilled Technicians



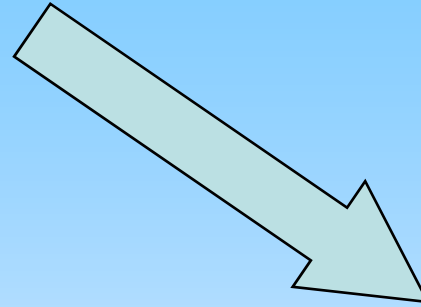
# Opportunity for KCTCS

- Be a strong provider for the Kentucky industries
- Increase mechatronics skill sets for Kentucky industries
- Partner amongst colleges to increase efficiency while reducing cost.

# Two Pronged Delivery Approach



Existing employee development thru training targeted to meet the specific needs of each company.



Providing a pipeline of trained skilled workers for hire.

The focus of this training combines technical skills with soft skills.

# Current Condition

- KCTCS - SMSCP Certification Program
  - Mechatronics (20 SMSCP Certified Faculty)
    - 3 Train-the-Trainers
  - Certified Instructors Trainers & Colleges
    - BGTC, JCTC, OCTC, WKCTC
  - Additional Colleges – December 2008
    - BCTC, BSCTC, ECTC, GCTC, MCC, MCTC, SCC
    - 2 Additional Train-the-Trainers
- KCTCS – SMSCP Train-the-Trainer
  - SMSCP Course Content Section – Required for Certified Instructors
    - Spring and Summer Session Annually
      - Spring Date TBD

# The Current Condition

- **Creation of the KCTCS Mechatronics Partnership**
  - 10 KCTCS Colleges
    - KCTCS Mechatronics/Multi-skilled Programs
    - Siemens Mechatronic Systems Certifications Program (SMSCP)
    - Siemens Cooperates with Education (SCE)

# The Future Condition

- Modularized Blended Learning
  - Partnered with Workforce & Credit Based Credentials
- Siemens, KCTCS, University of Kentucky College Partners
  - Research & Development Partnership for Sustainable Manufacturing
  - Automation Technology, Process and Visualization
  - Sustainable Organizational and Work Structures
  - Train the Trainer and Professional Development