



CONVERGENT TECHNOLOGY ALLIANCE CENTER "CTAC"

**Concept, Project Scope,
& Preliminary Design**

*A joint-venture in
Industrial-Manufacturing
Technology Training*



January 2023



The Economic Importance of Growing Missouri's Skilled Manufacturing Workforce

Industry and manufacturing are key to Missouri's economy and fuel prosperity at the regional, state, county, and local levels. Thriving manufacturing and construction sectors are only possible when a sufficiently large, sufficiently skilled workforce is available. In turn, those good paying jobs contribute to vibrant, successful communities and enable individual citizens to escape cycles of poverty and become self-sufficient.

40% of all jobs in Missouri require middle-skill level training

Middle-skill level training is essential for about:

97% of industrial maintenance jobs
70% of manufacturing jobs

25% of Saint Joseph residents are employed in skilled positions in creation or manufacturing

Three major industries are prevalent in Buchanan County and the surrounding area – **industrial products and manufacturing, agricultural/food processing, and construction and support services.** There is a substantial convergence in the technologies these sectors rely upon, such as controls, electronics, pneumatics, and hydraulics.

Recent studies suggest that strong job growth will take place in industrial technology, mechanical technology, and construction technology. Yet before we can capitalize on that opportunity, we must first overcome the huge gap in today's skilled manufacturing workforce. Nearly two-thirds of Northwest Missouri manufacturers already report grappling with scarcity of skilled workers and with serious deficiencies in the level of skills possessed by the labor available.

The Convergent Technology Alliance is the Solution

Missouri Western State University (MWSU), in partnership with North Central Missouri College (NCMC), will grow the region's skilled manufacturing and construction workforce by establishing the Convergent Technology Alliance Center (CTAC). The CTAC will be home to a collaborative educational program delivering practical, applied learning in skilled manufacturing and construction professions as well as innovative service technologies such as cybersecurity and novel applications of sensor technology and information technology that drive those sectors.

The Center will house applied-learning labs that mirror the equipment and facilities that are used in today's – and tomorrow's – industrial maintenance, manufacturing technology, and construction technology employers' factory floors. The Center will also be home to innovative IT resources, including GIS, robotics, cybersecurity, and more.

The CTAC will:

- Be nearly 100% lab space for direct, applied learning; there are no offices.
- Incorporate essential aspects of training considered industry best practices.
- Be highly flexible and equipped with an eye toward the future needs of the next generation of manufacturing technology.

Delivering Flexible, Customized Training to Meet Industry Demand

Whether training incumbent manufacturing workers in higher-level workforce skills or preparing future workers through programs ranging from short-term, specialized certificates and microcredentials to two- or four-year technical degrees, the CTAC will offer a seamless package of custom training to meet industry needs. The CTAC will also feature flexible strategies to provide this training through a blend of daytime or evening instruction, co-op, and internship opportunities. Faculty from MWSU and NCMC will be supplemented by “Professors of Practice” – experienced industry experts with a knack for teaching.

CTAC training will take place on multiple levels. Depending on a given business’s goals, its employees may receive best practice training in the optimal use of key technologies, improved understanding of system maintenance, greater knowledge of safety protocols, or even mastery of a novel application of an existing technology that will benefit the bottom line.

A highly flexible building design will enable easy reconfiguration of equipment throughout the building. High bays will enable easy access to larger equipment and an external supply depot will provide secure storage of raw materials, from steel to various types of soil and aggregate.

A Dynamic Home and a Showcase for the Region’s Manufacturers

Once operational, the CTAC will be a bustling hub of manufacturing and construction training. Visitors will include employees and leaders of regional industries, college and university students, professors of practice, university faculty, chamber of commerce leadership, government leaders and economic development professionals, prospective new industries considering relocation, equipment vendors, maintenance professionals, and more.

At the CTAC, industrial partners and investors will enjoy the following benefits:

- Train and “upskill” current employees
- Deliver customized training to future hires
- Increase the regional skilled labor pool and reduce employee retention costs and effort
- Explore new equipment and novel applications without impacting working production lines
- Improve maintenance and safety training
- Engage upstream suppliers in CTAC and make them cheaper, more reliable suppliers
- Promote our partners’ brands in a dynamic business environment
- Showcase manufacturing equipment in an environment rich with potential customers
- Identify new partnerships with regional businesses
- Attract new vendors, customers, and partners to the region

Making this Vision a Reality

Constructing and equipping the CTAC is estimated to cost approximately \$11 million. Additional funds will be sought to support key personnel, initial program launch, and ongoing operations.

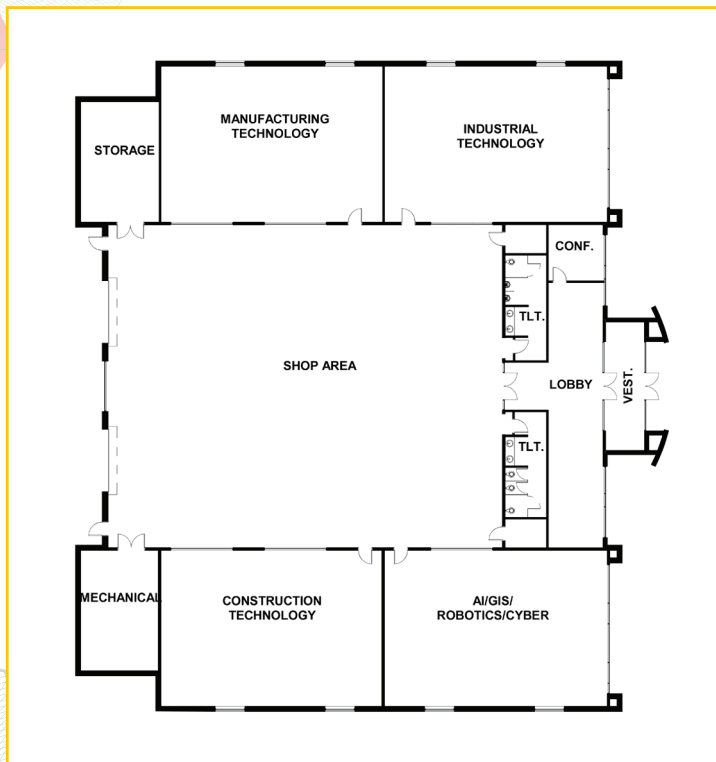
- Continued government support will be key to maximizing the Center’s use and impact on economic development.
- Individual donors can establish operating endowments or make one-time or multi-year contributions to solidify a spectacular legacy of commitment to community prosperity and helping bring good jobs to the region.

Industry partners are invited to:

- **Contribute funds to the Center or sponsor its activities. Branding opportunities for signage throughout the facility are available.**
- **Consign or donate equipment that reflects your current operations. All equipment must be in safe, effective working condition.**



CONCEPTUAL FLOOR PLAN



Contacts

Dr. Elizabeth Kennedy, President
Missouri Western State University
 4525 Downs Dr.
 St. Joseph, MO 64507

ekennedy@missouriwestern.edu
 Office: 816-271-4440
 Cell: 330-612-6710



Dr. Lenny Klaver, President
North Central Missouri College
 1301 Main
 Trenton, MO 64683

lklaver@mail.ncmissouri.edu
 Office: 660-657-6299
 Cell: 660-635-1717



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