The Data Center Workforce of the Future

Creating the Jobs of the Future

Innovative technologies create local manufacturing jobs and onsite technical skills advancement for skilled tradespeople. Delivering on this opportunity requires public/private partnership frameworks that promote skilled trade groups, high schools, technical schools, community colleges and four-year universities to produce the next generation of engineers, pipefitters, electricians, system technicians and operators for the digital infrastructure of the future.

In the United States alone, the demand for AI infrastructure will require **140,000+** new skilled trades positions (electricians, plumbers, HVAC technicians, manufacturers, etc.) by 2030.

The skilled craft segment of every economy is going to see a boom, doubling and doubling and doubling every single year.

Jensen Huang, Nvidia CEO

The Workforce of the Future requires hybrid mechanical and digital infrastructure skills combining traditional trades such as plumbing, electrical and HVAC with advanced data center cooling technologies

McKinstry and Gonzaga Partner to Build New Pathways for Future Engineers

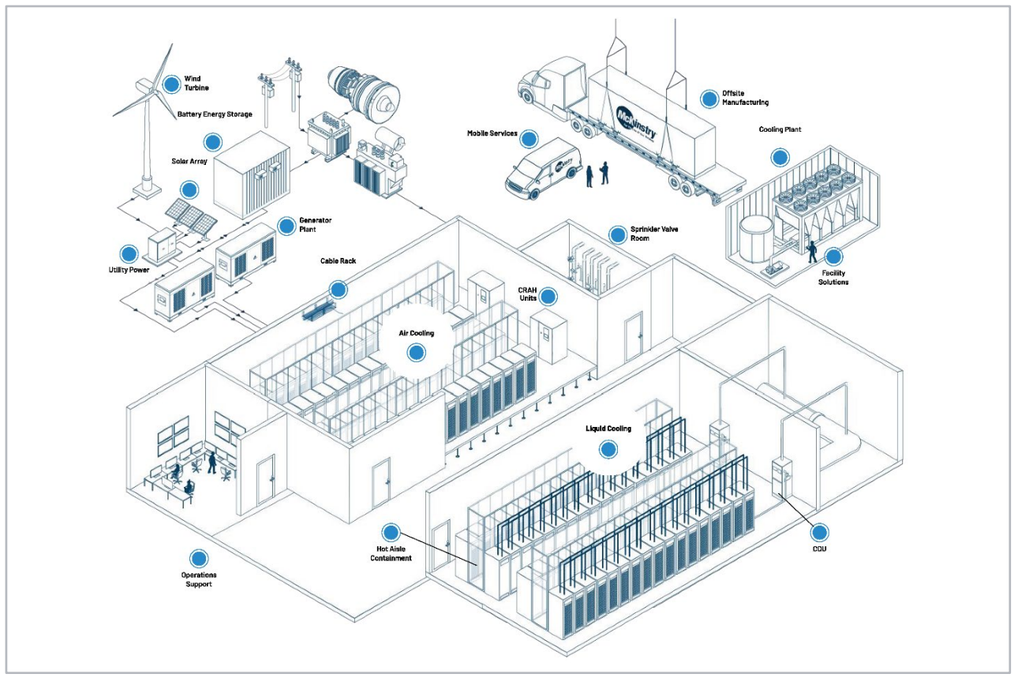
Career-Connected Learning Opportunities

Industry leaders are working alongside educational institutions and unions to accelerate a new generation of skilled tradespeople to power the AI boom. McKinstry is heavily engaged in preparing high school students to pursue technical career paths through ongoing education and academic degrees.

2025 McKinstry Heavy Metal Summer Experience

McKinstry's Heavy Metal Summer program introduces high school students to union career opportunities in the skilled construction and manufacturing trades, including sheet metal, plumbing, piping, electrical and service. The six-week program provides valuable insights to introduce aspiring students to union apprenticeship and university construction management programs.

Next-Generation Data Center



McKinstry For The Life Of Your Building

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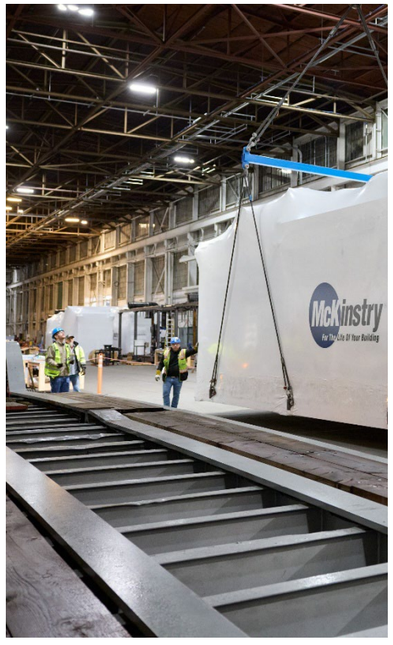
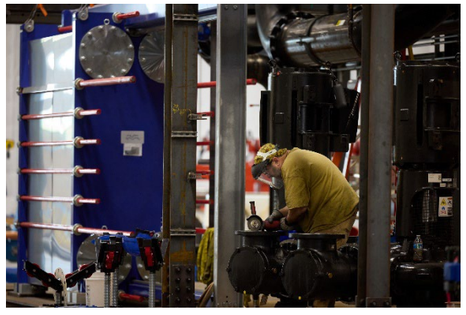
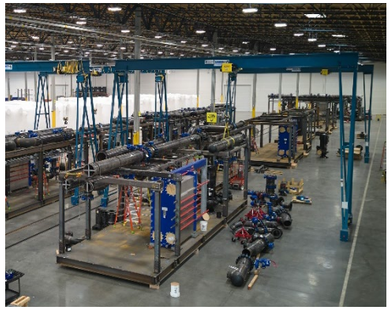
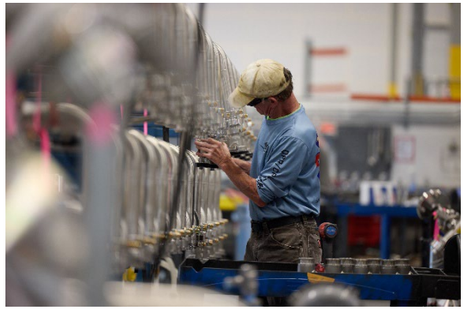
Offsite Manufacturing

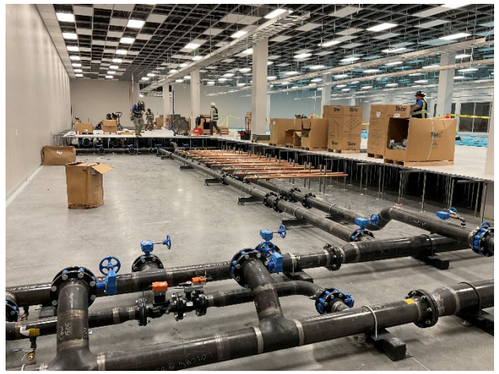


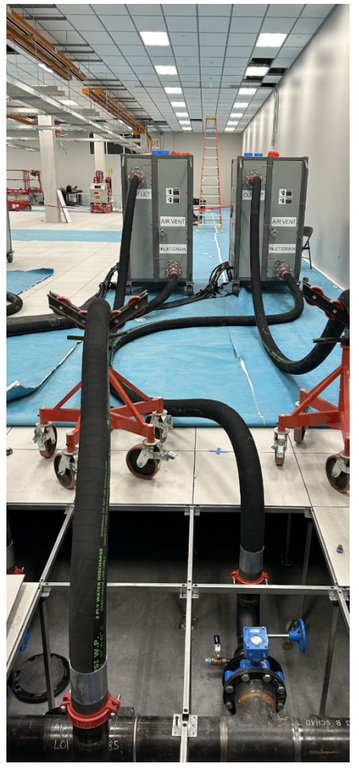


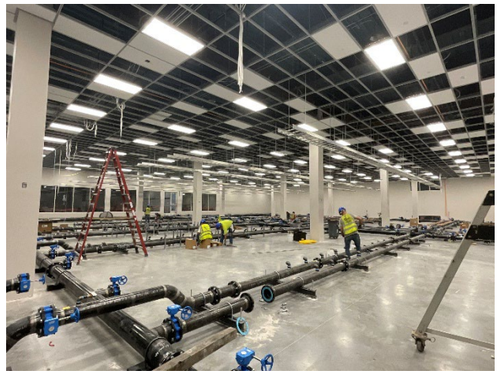


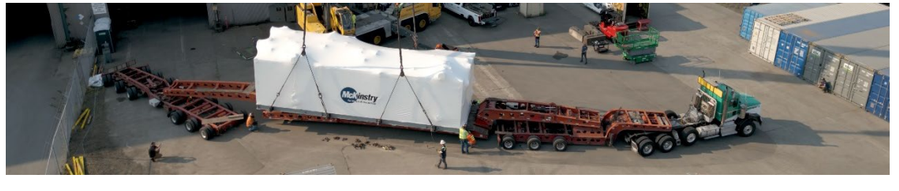


Onsite Installation

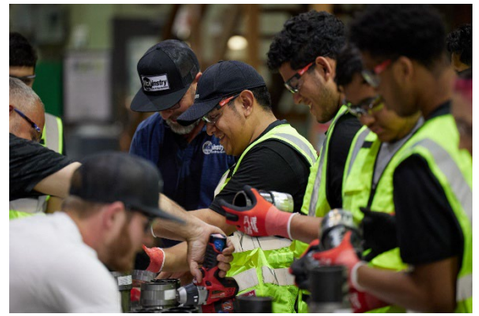








Education & Training



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The Data Center Workforce of the Future

The Workforce of the Future

The workforce of the future is no longer a simple recruiting phrase. It's a much-needed pathway critical to delivering on our AI infrastructure need. As technologies move from boutique to baseline, the industry must pivot from **reactive hiring** to **proactive workforce development**.

The transition to these new technologies requires more than just a new curriculum. It requires a complete reimagining of the construction delivery model. To build at the speed of AI, we must move from **project-based construction** (where everything is built onsite) to **industrialized manufacturing** (where components are manufactured offsite and assembled onsite). Put simply, we must productize the construction process.

Partnership Framework Strategic Talking Points

1. From "Community Nuisance" to "Economic Engine"

Developers often face local pushback. Shift the narrative: Data centers are a high-tech vocational campus.

The Point: We aren't just bringing servers to your town. We're bringing a 30-year career ladder that starts in the local high school hallway and ends in the most advanced mechanical rooms in the world.

2. The Convergence of IT and "Dirty" Trades

Innovative Technologies require a hybrid professional that understands hydronics (plumbing/HVAC) and digital infrastructure.

The Point: The workforce of the future isn't just a coder or a plumber; it's a digital pipefitter. By partnering with technical colleges, we merge 100 years of trade wisdom with 21st-century thermal management.

3. De-Risking through "Talent Localization"

Reliance on traveling crews increases costs and delays.

The Point: Supply chain resiliency isn't just about chips and pumps; it's about a local, resident workforce that can maintain New technologies systems 24/7 without waiting for a flight from a major hub.

4. The Data Center as a "Product"

A data center is a 24-month construction project. In the future, it will be a manufactured product.

The Point: We aren't just teaching students how to build a building; we are teaching them advanced manufacturing. By partnering with technical colleges, we create the production managers and assembly technicians who will build modular skids in a factory environment before they ever hit the jobsite.

5. Offsite Precision for Onsite Speed

New Technology precision (welding, water chemistry and sensor integration) is difficult to achieve on the jobsite.

The Point: Modular construction allows us to achieve ISO-level quality in a controlled factory setting. This means our trade partners aren't just plumbers; they are precision hydronic technicians working in a high-tech manufacturing facility, ensuring that when a modular cooling block arrives onsite, it is 100% leak-proof and plug-and-play ready.

6. De-Risking the Labor Shortage through "Centralized Talent"

Instead of finding 500 specialized welders in a rural area, we can centralize that talent in a regional manufacturing hub.

The Point: Industrialized construction solves the geographic labor gap. We can build the complex heart of the data center in a tech-heavy hub using a stable, local workforce, and then ship that intelligence to wherever the power is. This provides career stability for the workforce – no more traveling from site to site.

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Executive-Ready Pitch Statements

- **AI ambitions will fall flat without a physical foundation.** If we can't build and maintain the cooling systems required for high-density computing, the software evolution stops at the door.
- **The high school diploma is the new entry-level ticket to the six-figure AI economy.** Through apprenticeship partnerships, a 19-year-old can earn more than the national average while powering the global internet.
- **Data centers are the new cathedrals of the digital age.** They require technical mastery that high schools and trade unions are uniquely positioned to provide.
- **If you're still welding onsite, you've already lost the race to AI.** The future belongs to those who can manufacture data center capacity at scale.
- **We are moving from Sticks and Bricks to Skids and Modules.** Our workforce needs to be as comfortable with a CNC and BIM model as they are with a wrench.
- **The Jobsite is becoming the Assembly Plant.** We are turning construction into an assembly line, reducing labor by 40% while doubling the speed of deployment.
- **Next-generation data centers are too complex for traditional methods.** New technologies involves high-pressure loops and delicate electronics; you don't build that in a field. You manufacture it in a cleanroom.

Partnership Playbook by Institution

Partner Type	Action Item	The Win
High Schools	Shadow the Professional and VR Tours	Spark interest in STEM/Trades before students commit to four-year debt.
Skilled Trades	Specialized New Technologies Certs	Pivot traditional HVAC/Plumbing curricula toward high-density hydronics and leak detection.
Technical Colleges	Lab Equipment Donations	Give students hands-on access to the specific liquid-cooled racks they will see on day one.

Workforce 2.0 Training Pillars

Sector	New Sill Requirement	Industrialized Focus
Mechanical Trades	Orbital Welding and Cleanroom Protocol	Moving from manual pipefitting to automated, factory-grade welding for coolant loops.
Electrical Trades	Integrated Modular Power (IMP)	Learning to install and test power skids that integrate UPS, switchgear and cooling controls.
Digital Design	DfMA (Design for Manufacturing and Assembly)	Teaching students how to design systems optimized for factory production, not just field installation.