SITE PLAN

BEFORE

AFTER

Credit: Lou Graf

Credit: Haley Drake

Sustainability Beyond Aesthetics

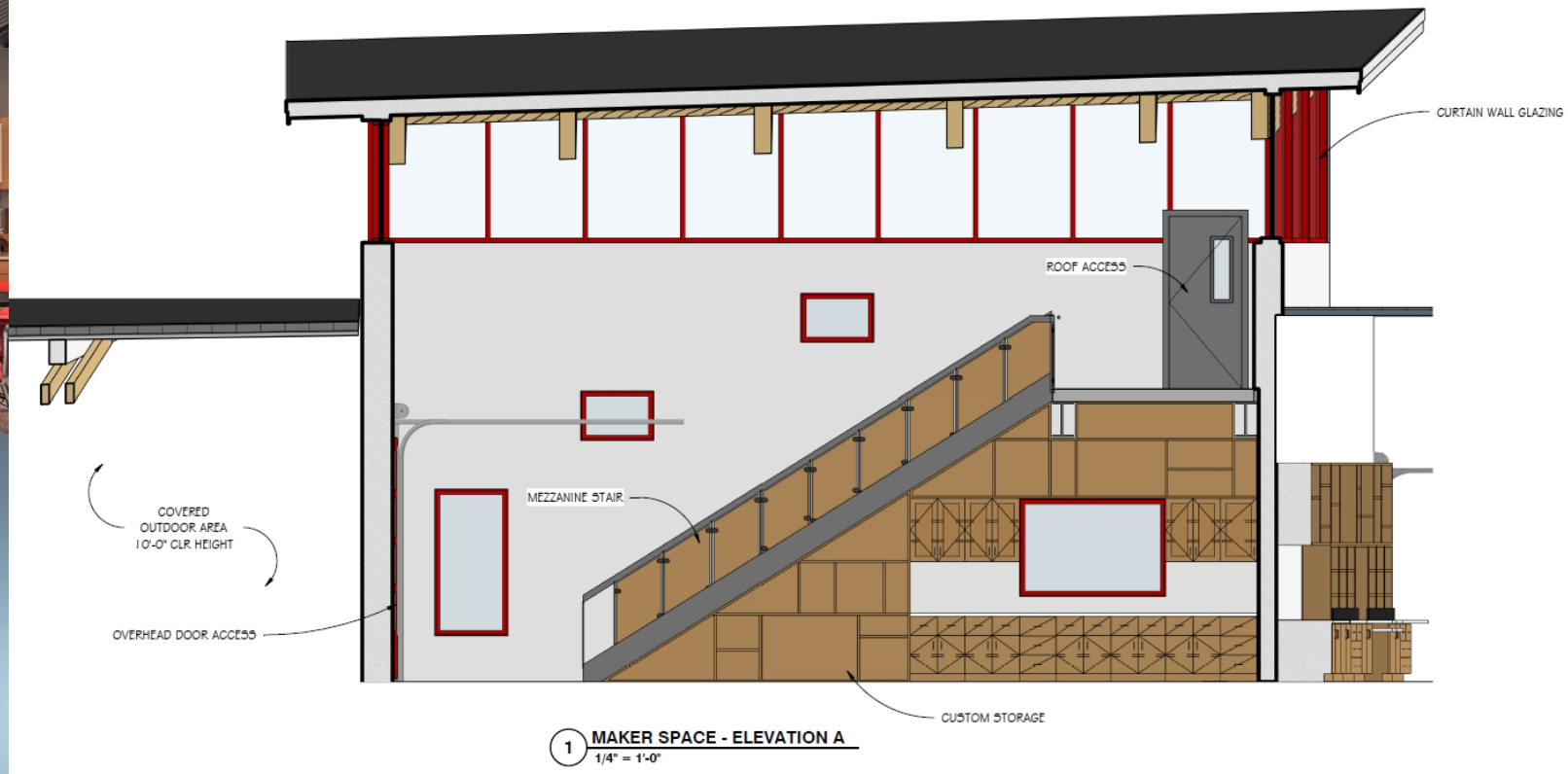
Engaging with maintenance staff led to a critical design shift—opting for concrete panels over metal ensured the makerspace could withstand the region's extreme winter conditions, creating a more sustainable, cost-effective, and community-responsive solution.

Credit: Haley Drake

Credit: Lou Graf

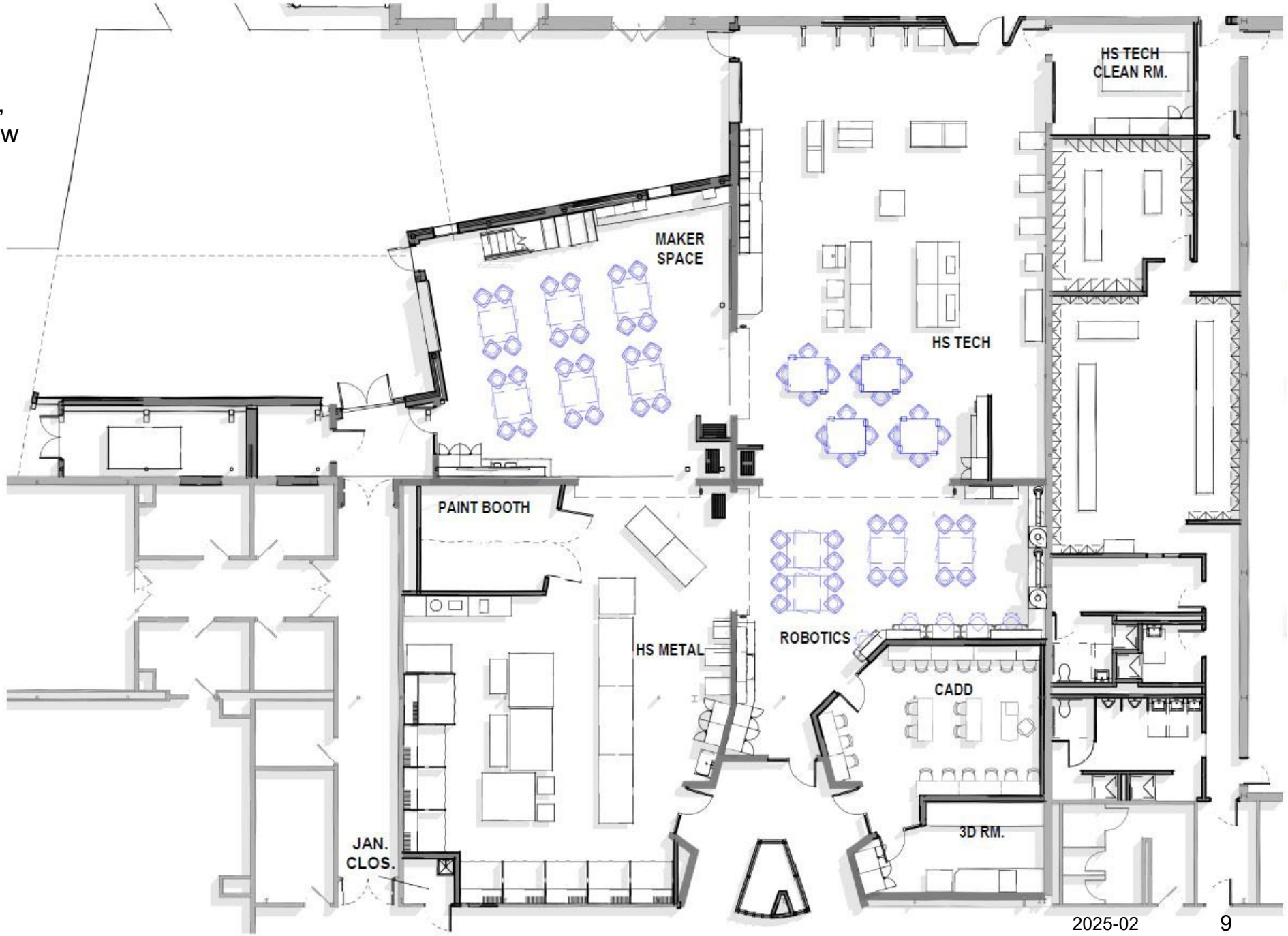
Blending Indoor and Outdoor Learning

With direct access to an exterior roof platform, the mezzanine extends the possibilities of learning beyond the walls of the building, creating a seamless transition between controlled indoor environments and real-world outdoor applications.

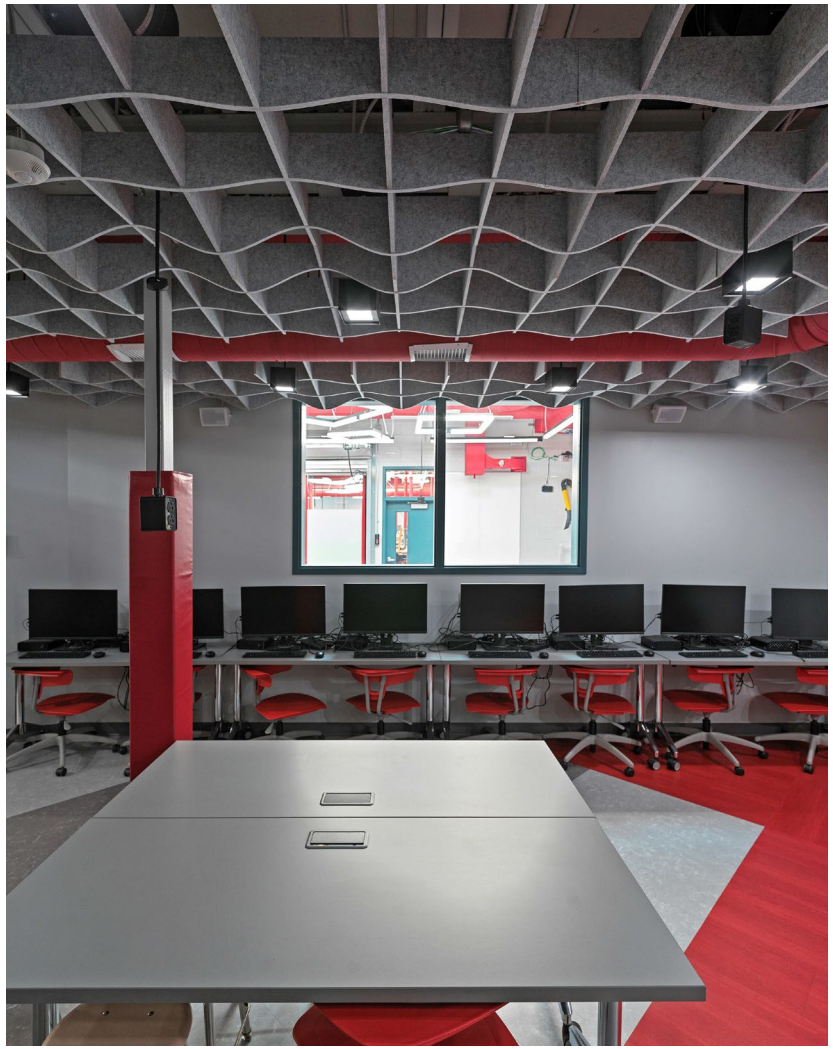


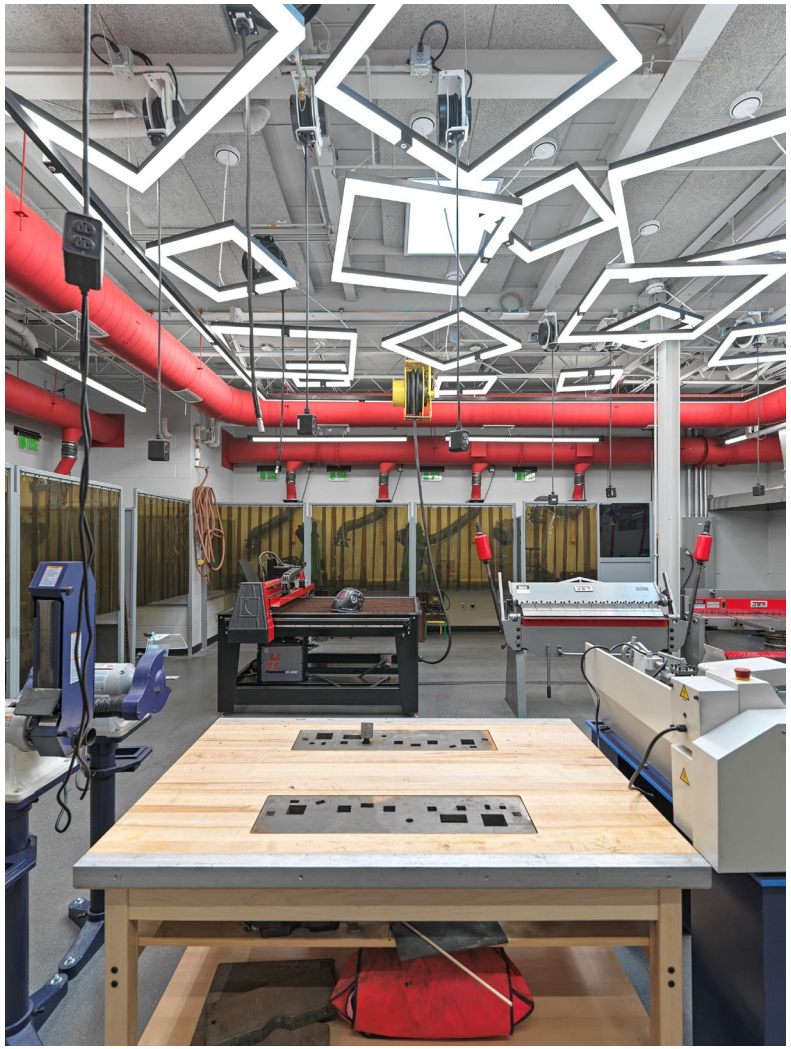
A Seamless Learning Ecosystem

This space was designed as an interconnected learning environment, where spaces are not isolated but flow together to support a hands-on, real-world educational experience. The ability to expand or contract learning areas through flexible partitions ensures adaptability for various teaching styles and group sizes.



Credit: Lou Graf





Credit: Lou Graf

Aesthetic and Functional Integration

By intentionally exposing the building's mechanical, electrical, and dust collection systems, we transformed the space into a living laboratory—where the infrastructure itself becomes an educational tool, reinforcing real-world applications of engineering and design.

Credit: Lou Graf

A Visible Celebration of Innovation

The Innovation Center display is more than just signage—it's a statement. Strategically placed glass panels and digital displays transform the corridor into an interactive showcase of student work, ensuring that innovation is not hidden behind closed doors but celebrated at the forefront of the learning environment.

Credit: Lou Graf

Project Description/Narrative

This project redefines hands-on learning by creating a multi-functional, technology-integrated environment where students engage in real-world problem-solving. Designed as an adaptable educational hub, the facility supports programs ranging from robotics and woodworking to agriculture and metal fabrication. The space fosters creativity, innovation, and collaboration by seamlessly connecting learning areas, allowing students to move fluidly between design, production, and testing phases—mirroring professional industry workflows.

A key design goal was to maximize flexibility, ensuring that the facility could evolve to meet future educational and workforce demands. Mobile partitions, modular workstations, and multi-use surfaces allow teachers and students to shape their environment dynamically. The inclusion of double-height maker spaces and mezzanines enables vertical experimentation, such as drone testing and structural prototyping, expanding the possibilities for immersive learning experiences.

The site's integration was equally critical. The facility was strategically positioned near the school's main entrance and gym, strengthening its connection to the broader campus. Outdoor spaces, including covered work areas and a pavilion, encourage hands-on activities in agriculture and engineering while serving as a community asset for public events and outreach programs.

Sustainability and resilience were embedded in the design. Exposed building systems turn infrastructure into an educational tool, while natural materials and optimized daylighting enhance comfort and reduce environmental impact. Large overhangs regulate solar heat gain, ensuring energy efficiency throughout the year. The facility also strengthens social equity by elevating career and technical education, dismantling outdated perceptions of trade skills and positioning them as vital, high-value career paths.

Ultimately, this project is more than a learning space—it is a launchpad for students' futures, bridging the gap between education and industry while serving as a model for community-driven, future-focused design.

AIA's Framework for Design Excellence

Design for Integration

What is the big idea behind this project and how did sustainability inform the design concept?

The core vision of this project was to create a dynamic, hands-on learning environment where every inch of space serves a purpose, ensuring that students gain practical, real-world experience. Designed as a seamless integration of technology, engineering, and agriculture, the space mirrors real-world workflows, reinforcing a factory mindset where students move from design to fabrication to testing, all within a single, interconnected environment. The flexible design ensures that spaces can be adapted for future programs, allowing the district to evolve alongside industry and workforce needs.

Sustainability was a fundamental driver of design choices. The district experiences heavy snowfall and uses significant amounts of salt, which can degrade materials. To address this, the makerspace was constructed using durable concrete panels that resist wear and aging. Additionally, an integrated snow management system, including heated slabs and strategic drainage, minimizes salt exposure, prolonging the building's lifespan and reducing environmental impact. Passive solar strategies were also employed, with large overhangs that allow natural light while preventing excessive heat gain in summer and optimizing warmth in winter. The material palette prioritizes natural elements, such as exposed wood, reinforcing a connection to place while ensuring resilience and longevity.

Design for Equitable Communities

How does this project contribute to creating a walkable, human-scaled community inside and outside the property lines?

This project was shaped through deep engagement with the local community. Designers immersed themselves in the district, attending classes and listening to educators, students, and local stakeholders to create a space that truly serves its users. Located near the main gym and entrance, the facility is highly accessible to students, staff, and the broader community. The outdoor pavilion and canopied spaces further integrate the building into the campus, creating public gathering spaces for events, education, and recreation.

Inside, the human-scale design fosters a welcoming and engaging atmosphere. Thoughtful spatial planning ensures fluid movement between program areas, mirroring real-world environments where collaboration and process integration are key. Mobile partitions provide flexibility, allowing spaces to be opened for large group interactions or divided for specialized instruction. The space is also designed to extend its impact beyond the school walls, with community partnerships allowing for agricultural programs, local workforce engagement, and student-led design-build projects that serve the broader population.

Design for Wellness

How does the design promote the health of the occupants?

The building prioritizes occupant wellness through natural light, material choices, and air quality. Large windows and skylights provide abundant daylighting, reducing reliance on artificial lighting and improving mood and productivity. The use of exposed mechanical and ventilation systems not only supports educational programming but also ensures optimal indoor air quality, especially in areas with industrial processes such as welding and woodworking.

Flexible seating, ergonomic workstations, and adaptable learning spaces create an environment that supports a variety of physical and cognitive needs. The integration of agriculture—such as the greenhouse, animal care areas, and maple syrup production—fosters a connection to nature and hands-on learning. This biophilic approach enhances student engagement while reinforcing sustainable practices. By balancing function, beauty, and adaptability, this project creates an innovative and enduring space that nurtures creativity, well-being, and real-world readiness.

AIA Rochester Community Impact Award

Community Impact Award summary (500 words or less):

This project was envisioned as more than just a building—it is a catalyst for community growth, workforce development, and educational transformation. Designed with deep input from educators, students, and local stakeholders, the facility responds directly to the needs of its rural community by providing an environment where hands-on learning, technology, and real-world problem-solving intersect.

The space creates lasting impact by expanding access to STEAM (Science, Technology, Engineering, Agriculture, and Math) education in a way that is engaging, practical, and career-focused. By integrating flexible workspaces, industry-grade equipment, and real-world workflows, students graduate with tangible skills that prepare them for both college and the workforce. The facility fosters a sense of pride and ownership, offering students the opportunity to create, innovate, and contribute meaningfully to their school and broader community.

The project also plays a critical role in redefining the perception of trade and technical education. Historically, vocational training has been viewed as a secondary option to traditional academia. This facility challenges that stigma by placing hands-on learning at the center of the educational experience, illustrating that skills in welding, fabrication, robotics, and agriculture are not just valuable but essential to the modern workforce. Students who may not have otherwise been engaged in school now find themselves drawn to these spaces, motivated by the opportunity to work with their hands and see their ideas come to life.

Beyond the student experience, the project is a community asset. The location, adjacent to the school’s main entrance and gymnasium, ensures accessibility for both students and the public. The outdoor pavilion and covered workspaces provide gathering areas for events, exhibitions, and agricultural activities, reinforcing the school's role as a hub for the community. Local businesses and industry partners are actively engaged, offering mentorship opportunities and using the space to identify and develop future employees. The facility’s impact extends far beyond the walls of the school—it strengthens the local economy by preparing students for high-demand careers and fostering connections between education and industry.

Ultimately, this project is a testament to the power of community-driven design. It is a space built with purpose, shaped by those who use it, and positioned to evolve alongside the community it serves. By providing opportunities for hands-on learning, fostering economic growth, and strengthening local identity, this facility stands as an enduring investment in the future of its students and the region as a whole.