

PROMOTING CAREERS IN  
**MANUFACTURING**  
& THE TRADES

# 2023 PROGRAM REPORT



Results from the  
2023 Production & Manufacturing Institute



# GROWING THE NEXT WORKFORCE

The Manufacturing Institute was created in 2019 to introduce High School students to careers in Manufacturing and the Trades. Starting with one group of 20 students, the Institute has grown to more locations each year.

We provide a hands-on, immersive experience to learn what it's like to work within a real production environment. Participants are part of a team that designs, makes, and sells products to real customers. They learn how a manufacturing company operates, what it takes to be successful in their careers, the value of teamwork and leadership, and much more!



## CONTINUOUS LEARNING

Each year we take lessons learned from the previous Institute and make improvements.

In 2022, we expanded the institute to a second site at Newport High School. We learned how to create simultaneous remote locations - just as a company has remote worksites.

Our successful partnership allowed us to expand in 2023 to four locations. The program integrated and coordinated multiple sites, projects, and student interests.

This has prepared us for what is to come in 2024 as we expand to 8 or more sites and adopt a franchise model to serve more students.

## KEY OUTCOMES FROM 2023

- Expanded to four locations including Spokane Valley, Newport, Cheney, and Riverside.
- 65 students enrolled in the program
- 13 teams managed individual product lines responsible for designing, manufacturing, and selling to customers.
- Over 250 products manufactured.
- Onsite visits to several manufacturers in Washington and Idaho.
- Stipends and high school credit (.5 CTE) earned by graduates.
- Approx. 75% students were new to the manufacturing environment (no prior shop class or training with tools).





# OPPORTUNITY FOR STUDENTS

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## Experiences from 2023



### New Approach to Teaching

We adjusted the learning model during Week 1 as we introduce new concepts, skills, and processes. A successful model inspired by a process used at Google takes products from idea to market in 5-days. An adaptation was used and had remarkable outcomes with faster learning and skills improvement.



### SCC Machining Day

Last year, Spokane Community College accepted the challenge to find a way to introduce CNC Machining to students in a hands-on format. This resulted in students working on CNC machines, making products, and experiencing a snapshot of what machining is all about. This year, SCC brought in all the students over two days to give them the full experience again.



### Welding Day

One of the most popular days among students is Welding Day. Students are introduced to welding by gearing up and practicing welds. They receive a “crash course” introduction that allows them to experience welding first hand. We offer this event at each site so all students have the opportunity to try it out.



### Field Trips to Manufacturers

Some of the best feedback comes as students are exposed to area manufacturers. They get to see first-hand how things are done within different manufacturing environments. Coordinating multiple field trips across 4 groups was a learning experience, but one that we are building on for 2024.



# OUR FACULTY & SUPPORTERS

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Our program relies on the expertise and dedication of CTE teachers, working professionals, and volunteers. Their dedication and success working directly with students ensures the best outcomes.



## CTE Instructors

For our program to be eligible to offer .5 CTE credits, we need CTE certified instructors at each location for the program. Each location provided an instructor to oversee the program, offer support, and ensure the overall student success.



## Industry Professionals

In most locations, working professionals lent their support in varying capacities. Some served as the second instructor for most of the Institute and others came to assist for events such as Welding Day. We rely on the technical assistance from engineers, production professionals, and others to make the program a success.



## Volunteers

We also rely upon volunteers to assist in the shop. Many stepped in during 2023 to provide additional expertise, mentoring, and assistance with products.



## School Support Staff

Many others provide important help that are often unrecognized. CTE Directors, Principals, and Superintendents for each school give the program the needed support. Custodial and maintenance support at each location is essential to ensure the program runs effectively. We also rely on the food services provided for free lunch programs at each location. Several “behind the scenes” individuals are essential to our success.



# SPONSORS

The Institute is funded by many sponsors. Together, they provide a big investment into our future workforce. We appreciate the trust our sponsors place in the program and we work diligently to create an ROI for the future.

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## Diamond Sponsors



WAGSTAFF, INC.



## Gold Sponsors



## Silver Sponsors

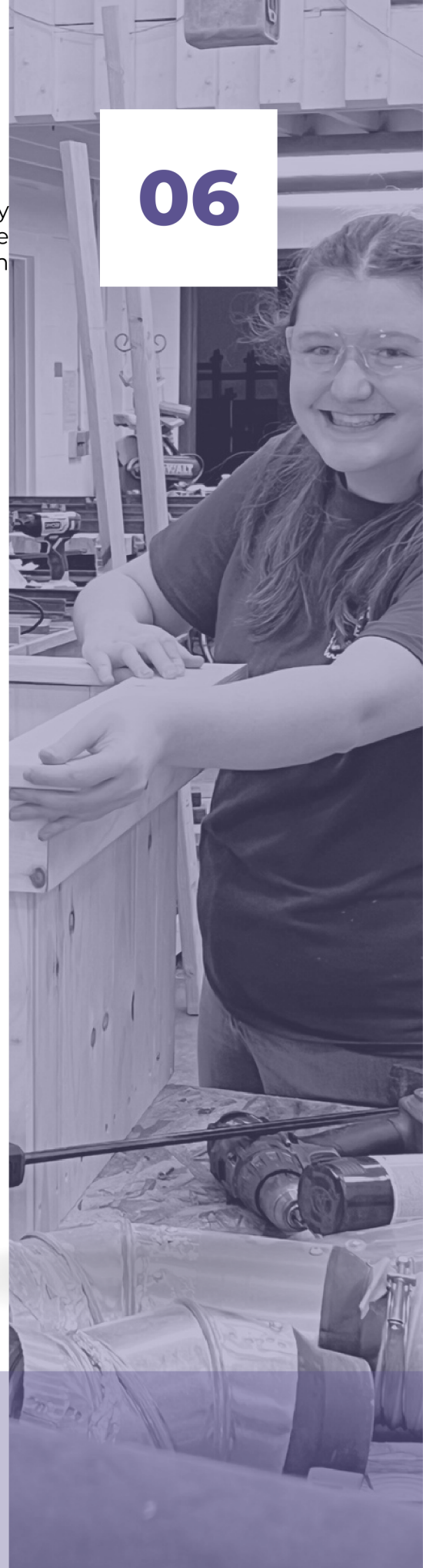


## Silver Sponsors

Associated Builders & Contractors  
James A. Sewell & Associates  
ControlFreek, Inc.  
Merkle Standard  
Altek

## 2024 SPONSORS NEEDED

With new programs and locations, it will offer many more students the opportunity to experience the Institute. Additional stipends and costs increase the need for sponsorship. If you can sponsor this coming year, please let us know!





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# “IT TAKES A COMMUNITY..”

The Institute represents a partnership to help develop our future workforce. We recognize the value that comes from this partnership to accelerate results for students, families, and the community.

## **BUSINESS**

The Institute is business driven and led. We partner with others to create the full experience. Businesses guide the development of skills and competencies that are needed for the workplace.

## **SCHOOLS**

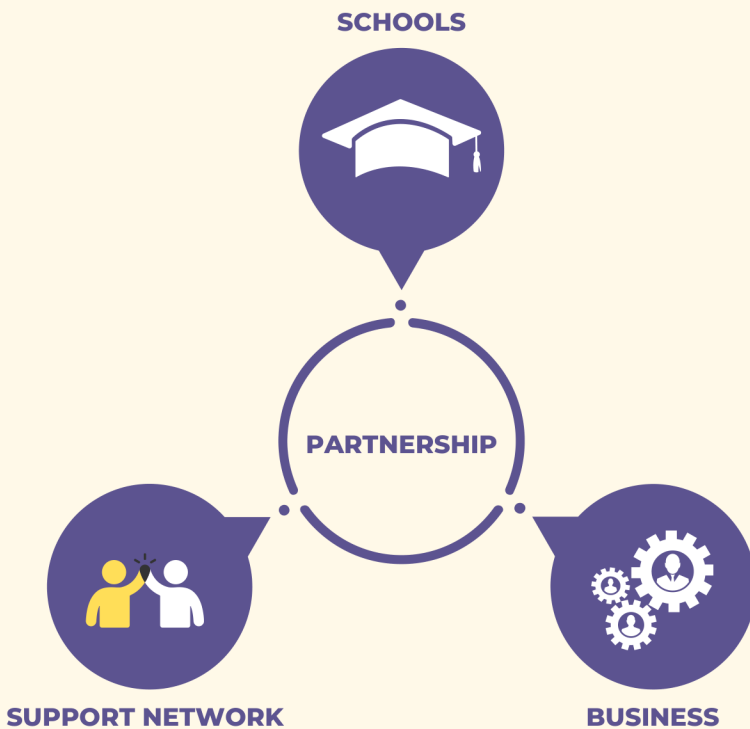
Schools play a major role in the program as they provide facilities, resources, instructors, and more. They invest heavily in the future and this program is a clear demonstration of that commitment.

## **SUPPORT NETWORK**

The Institute relies on support from foundations, agencies, and other associations to support our operation. Partnerships across multiple networks ensure we can reach the greatest number with our impact.

## **PARTNERSHIP**

This partnership over the past 5 years has encouraged collaboration and engagement among multiple employers. Manufacturers recognize this problem isn't about them. It's about all of us.



### **Want to Join the Community?**

We are always seeking additional partnerships that can help facilitate the program. If you, your company, or association are interested in joining our partnership, please reach out to us by email or phone.

### **CONTACT US**

See more information online at:  
[www.ManufacturingInstitute.net](http://www.ManufacturingInstitute.net)

Email us at: [Support@manufacturinginstitute.net](mailto:Support@manufacturinginstitute.net)





## COMPETENCIES

# COMMON SKILLS

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The Institute experience is different for everyone. We cover a broad range of skills and knowledge common to advanced manufacturing and aerospace. Typical competencies touched upon include:

### TECHNICAL SKILLS

- Intro to design & drafting
- Measurements
- Materials
- Small hand tools
- Shop equipment (saws, drill press, etc.)
- Production planning
- Intro to welding
- Intro to machining
- Intro to product assembly
- Intro to product finishing
- Intro to quality management
- Intro to print reading
- Intro to production planning

### BUSINESS SKILLS

- Intro to business plans
- Intro to market research
- Intro to product design
- Intro to competitive analysis
- Intro to customer analysis
- Intro to marketing
- Business analysis
- Product sales and promotion
- Customer service
- Product pricing
- Supply and demand
- Organizational communications
- Inter-departmental collaboration
- Intro to operations management

### SOFT SKILLS

- Interpersonal communications
- Teamwork
- Planning
- Goal setting
- Leadership
- Time management
- Problem-solving
- Creative-thinking
- Crisis management solutions
- Group-based learning
- Interpersonal collaboration
- Team-based work dynamics
- Solution-oriented approach
- Respect-driven work environment
- Professional growth
- Personal development

### CAREER READINESS

- Preparing for a job
- Arriving to work on time
- Building a strong work ethic
- Pride in quality work
- How to find a career path
- Career interest search
- Post high-school preparations
- Preparing for a job or career
- Post-high school training or education
- Resume writing & cover letters
- Interviewing skills
- LinkedIn and other social media skills
- Exclusive connections with Spokane Community College & apprenticeships
- Career path readiness exercises

***Our goal is to EMPOWER each Institute graduate to be successful in their careers as they gain the knowledge, skills, and abilities to achieve their personal and professional goals.***

# WHAT THEY MADE

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## PRODUCTS

Students design, manufacture, and sell products as they work in “Product Teams.” Each team is assigned a product and a quota. Along the way, just like manufacturing, things change such as orders, supply chain challenges, and other challenges common to production. Here are a few of the products manufactured by the 2023 Institute.

### FIRE PITS

The 2023 Institute was the first year we brought metal into the mix. Three teams were assigned metal projects. We tried 3 variations. Each product was unique and met a specific customer need.



**Custom Design Firepit**



**Collapsible Firepit**



**General Firepit for Work**

### CRIBBAGE BOARD

A foldable “travel-friendly” cribbage board included using a CNC router for the design.



### CHESS BOARD

This Institute “classic” product was made from oak and walnut.



### BIRDHOUSE

Each year, the Institute makes a birdhouse. The design is left largely to the students.



### PLANTER BOX

Classic mid-size planter boxes were manufactured and sold.



### CUTTING BLOCK

A thicker version of the cutting board was manufactured for those needing a “block” for the kitchen.



### CUTTING BOARD

A classic product of the Institute, the cutting board is made of maple and highlighted with a strip of walnut.



### GAME BOX

This intricately designed and built box is suited for gaming or collectables.



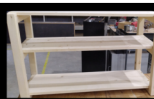
### STEP STOOL

Perhaps one of the “handiest” items in the house, the step stool was manufactured to last a long time.



### WOOD SHELF

A wood shelf was manufactured for general use as a shoe rack, to hold plants, or other practical jobs.



### WOODEN BENCH

The sturdy 2x4 wooden bench became a favorite to build and to sell. It came stained or unstained.



# WHAT THEY LEARNED

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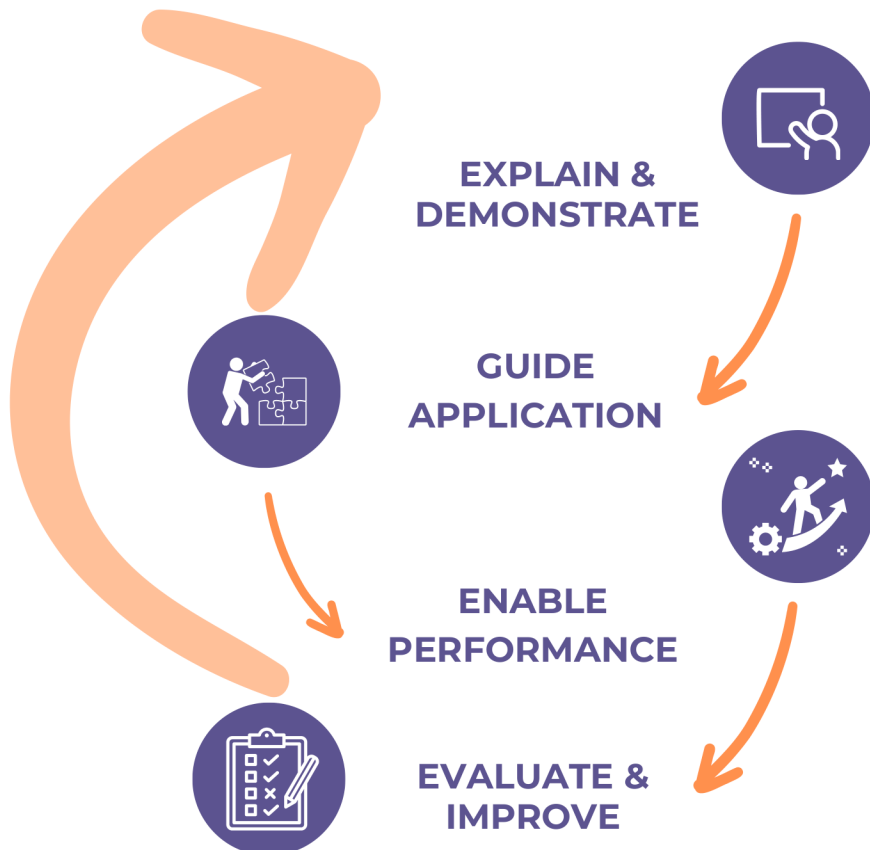
## Workplace Skills

The Institute is a 3-week intensive exposure to manufacturing. Students will not master tools or production skills in that time. However, everyone learns new content and approaches. They are exposed to hand tools, power tools, and assembly procedures. Some are exposed to specialties like welding more than others, but all become skilled in manufacturing the product they are assigned.

## Interpersonal Skills

The nature of the Institute requires students to roll up their sleeves and step in. They learn teamwork, problem-solving, critical thinking, managing conflict, communication skills, and more. As they work together, they are pushed to “ask better questions” to create solutions themselves (vs. asking the instructor). As participants work through the challenges, opportunities, and success of the program, they build confidence to grow.

## Our Teaching Model



## Technical Skills

We introduce and uphold standards common to most manufacturers. Quality is essential as the products are sold to customers. Lean and agile methods are introduced with the intent to learn “manufacturability” and efficiencies that come with it. Students practice measurements, assembly, and several other production skills.

## Leadership Skills

Students take turns serving as team leader throughout the program. They have the opportunity to experience how to manage production, assignments, and the accountability that comes with it.

## Life Skills

No matter the students’ career of choice, all participants gain important life skills that serve them well.



# LOOKING FORWARD

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## 2024 PLANS

### MORE LOCATIONS

Last year, we doubled the number of sites to four locations. This year, due to the program's success and resulting demand, we plan to be in 8-10 locations. Some of these locations include:

- East Valley High School (Spokane Valley)
- Newport High School
- Riverside High School
- Cheney High School
- West Valley High School
- Ferris High School
- NewTech Skills Center
- Shadle Park High School
- KTEC (Rathdrum, ID)
- Cusick High School

Much of our expansion depends on the donations necessary to fund the additional stipends and materials.

### FRANCHISE MODEL

We always planned to continue to grow the Institute. This year, we partnered with Career Connect Washington to develop a franchise model for the Institute. When finished, it should provide the blueprints and support network to run the Institute in more places.

### PRODUCTS

Last year we introduced metal products in addition to our traditional wood products. This year we are exploring the ability to bring in new concepts, 3D printing, additive manufacturing, and more. Our goal is to have each team manufacture a unique product line to sell.

### STIPENDS

In the past, we paid graduates \$1,500. We plan to launch with a lower stipend to evaluate impact on enrollment (we think it will not be impactful). If sufficient funding is available, we can increase stipends as appropriate.

### SKILL SPECIFIC INSTITUTES

This year we plan to have a special Institute program focused on ENGINEERING. This will be run from West Valley High School. Students will take the lead role in designing, modeling, prototyping, and improving products for the program.

We will also have specific students designated for MARKETING AND BUSINESS. We will count on these students to market, advertise, and coordinate product sales. This will require full integration to understand the products.

More information to come on these.

### NEW STATE

We plan to launch our first Institute at KTEC (Kootenai Technical Education Center) in Rathdrum, ID. Located next door to North Idaho College's CTE center, KTEC will work well to introduce the Institute and meet the needs of our Idaho partners in support of the workforce.

### MORE SPONSOR ENGAGEMENT

We look forward to involving our sponsors more in the program (for those interested in additional engagement). Programs have benefitted from outside support from Team Sponsors, project mentors, and volunteers to step in. We also welcome sponsors to stop in and see what we do.



## **We appreciate all the support we receive each year.**

A movement has started among regional manufacturers, and the Institute has played a part in making that happen. We look forward to reporting back on student success, where they are now, and how we are impacting the future.

## **PLEASE SUPPORT THE INSTITUTE**

☎ 509-219-9997 (via Optimal Talent Dynamics)

✉ [support@manufacturinginstitute.net](mailto:support@manufacturinginstitute.net)

🌐 [www.manufacturinginstitute.net](http://www.manufacturinginstitute.net)

**Direct Donation Link:** <https://spokaneworkforce.org/donate-now>

### **Non-Profit Donation**

The Institute is an event sponsored by multiple businesses, schools, donors, and agencies. While the Institute is not a non-profit, all funds are donated through the Spokane Workforce Council. Aligned with the same mission of developing tomorrow's workforce, the Workforce Council ensures that funds are properly managed.

### **Direct Assistance**

If you have questions about the Institute and sponsoring the program, please reach out. You can also connect directly with the Program Director (Wade Larson) at [wade@wadelarson.com](mailto:wade@wadelarson.com) or by cell at (707) 290-9121.