



## Case Study

# CareerWise Colorado's Apprenticeship Program Bridges Education and Industry

**Finding qualified early-career talent is increasingly expensive, competitive, and time-consuming. CareerWise Colorado provides a talent solution for manufacturers of all sizes.**

Throughout the U.S., manufacturers are struggling to find employees with the appropriate competencies to effectively fill skilled positions. CareerWise Colorado has created a nationally recognized and credentialed apprenticeship program to address this by connecting high school students to opportunities and employers to talent.

### THE GOLD STANDARD

"We needed to address both the skilled-worker shortage and the unrealistic expectation that our nation's schools must prepare high school students for today's in-demand jobs without the involvement of industry," CareerWise Founder and CEO Noel Ginsburg said.

Modern youth apprenticeship addresses the problem by helping businesses have a hand in shaping their young talent and providing the education system with an applied-learning environment for its students.

Borrowing from the Swiss apprenticeship system, CareerWise youth apprenticeship is a form of work-based learning that applies the academic lessons students learn at school to meaningful work with modern employers.

Students spend part of the week at their high school, and part of the week with their employer, learning alongside professionals. Students receive high school credit for their apprenticeship, so they graduate on time with their peers. They also earn a good wage.

The CareerWise program is America's first statewide youth apprenticeship and job training program and is the gold standard of education that starts in high school and ends with college or career success. Communities nationwide can use the CareerWise model as a road map to help build their own strong workforce pipelines. Already, CareerWise has expanded successfully to New York City, Washington, D.C., Indiana, Buffalo, N.Y., and Michigan.

## CAREERWISE: CREATING A TALENT PIPELINE

As Founder and CEO of Intertech Plastics, a custom plastics manufacturing business in Denver, Ginsburg attended a 2016 delegation of Colorado's leaders in business, education, government and non-profits to study the Swiss Vocational Education and Training System ([watch a video about the Swiss system and trip](#)). He pioneered the CareerWise youth apprenticeship training model that same year, bringing together public and private funding and the resources of educators and industry alike.

"Youth apprenticeship isn't about corporate philanthropy—it's about developing a talent pipeline. I founded CareerWise Colorado to match high schoolers with job training in modern industries, giving them college credit, a paycheck, and real-world skills," he said.

In 2021, Ginsburg was appointed to the U.S. Department of Labor's Advisory Committee on Apprenticeship (ACA).



## LEARNING FROM THE SWISS

"We have an employment opportunity of 5.8 million jobs that are currently going unfilled, ranging from software developers to welders," said CareerWise Board Member and former U.S. Ambassador to Switzerland Suzie Levine during the initial trip. "Apprenticeship and the Swiss Model provides us with the answer to filling those jobs. It's an opportunity for Colorado to be at the forefront not just of education but of employment."

In the Swiss apprenticeship model, there are more than 230 approved apprenticeship occupations, and 40 percent of all companies participate in the program. CareerWise Colorado is working to match the success of the Swiss where 70 percent of Swiss students choose apprenticeships and 30 percent of them stay with their training company or return after college.

## BUILDING THE ROAD MAP

The CareerWise goal in Colorado is to provide 20,000 high school students with an apprenticeship by 2026. The program currently includes 16 Colorado school districts, 120 Colorado businesses and 650 apprentices in the pilot program.

“We are going to make this happen,” said Stephanie Veck, Director of the Colorado Workforce Development Council. “Every Colorado business will have access to a skilled workforce and every Coloradan will have access to meaningful employment. We have the road map to do it.”



**20,000**  
students  
by 2026



**16**  
Colorado  
school districts



**120**  
Colorado  
businesses



**9**  
career  
pathways



**34+**  
occupations

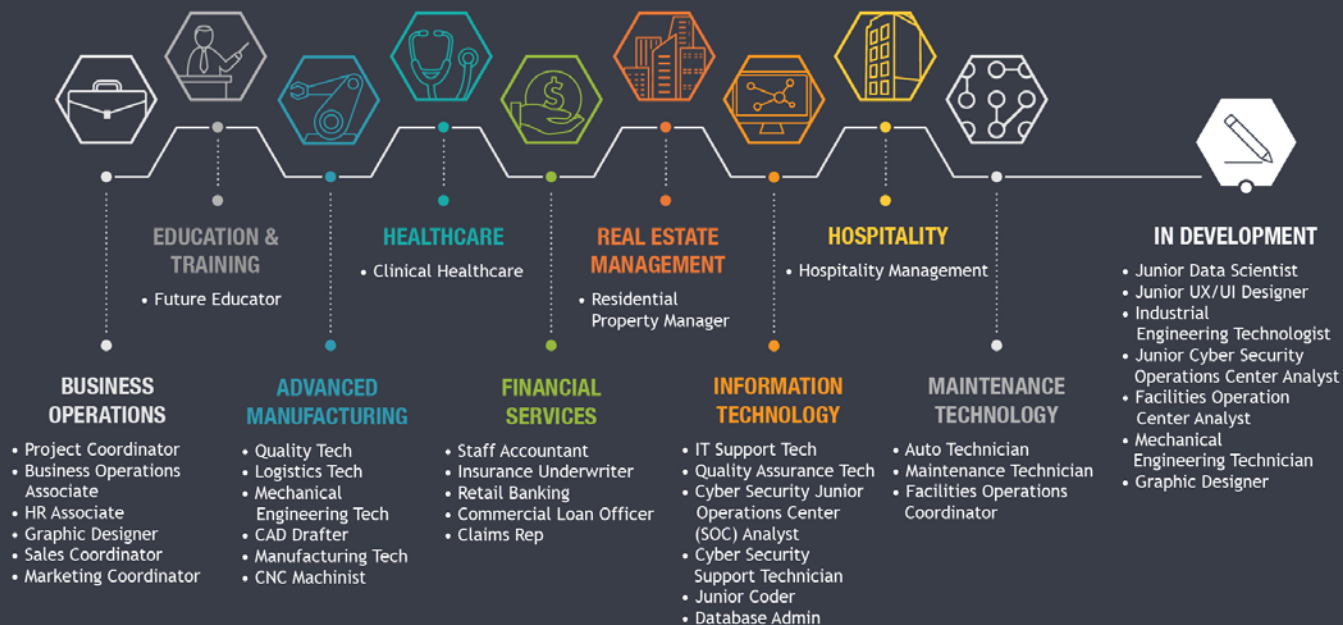


**650**  
apprentices in  
pilot program



**1,400**  
apprentices  
nationwide

## PATHWAYS & OCCUPATIONS





## SCALABLE MODEL

“The Swiss model was the answer for CareerWise because it is scalable – the Colorado pilot program required a sizable investment but other communities in the country can now benefit from that,” Ginsburg said.

Ginsburg acknowledges it took a robust staff, significant financial investment, and a number of years to launch the first CareerWise system in Colorado. “But based on CareerWise’s tools, technologies and procedures established in the pilot program, new communities can launch a program for a fraction of the cost in a matter of months,” he said.

## FUNDING

As a non-profit, CareerWise partners with private and public funders like the State of Colorado, the Colorado Workforce Development Council, and The Walton Family Foundation. In July 2020, The U.S. Department of Labor awarded CareerWise a \$5 million grant to increase participation of women and students of color in registered apprenticeship programs in Colorado, Indiana, New York City and Washington, D.C.



**From the beginning, CareerWise Colorado built strong relationships with both private and public funders. Examples include:**

BILL & MELINDA  
GATES foundation

Bloomberg  
Philanthropies

  
The Colorado Health Foundation

  
COLORADO

  
Colorado Workforce  
Development Council

 DANIELS FUND

JPMORGAN CHASE & CO.

ROSE COMMUNITY  
FOUNDATION

WALTON FAMILY  
FOUNDATION



United  
Way 

## DIVERSITY CHALLENGES

CareerWise’s Equity First apprenticeship program is designed to help move employers from the status quo to meaningful change through a diverse and inclusive workforce, DEI training, and creating opportunity where there wasn’t before. It is also a talent strategy employers can implement to address diversity challenges.

“This is a mutually beneficial talent strategy that helps employers and students alike, and it can be implemented to address diversity challenges amongst other issues, helping employers contribute to an equitable future,” Ginsburg said.

**“...based on CareerWise’s tools, technologies and procedures established in the pilot program, new communities can launch a program for a fraction of the cost in a matter of months.”**




## A MUTUALLY BENEFICIAL SYSTEM

A CareerWise youth apprenticeship is a form of work-based learning that applies the academic lessons students learn at high school to meaningful work with modern employers. CareerWise connects students with employers in industries including manufacturing, IT, banking, insurance, and hospitality.

- Students spend part of the week at their high school, and part of the week with their employer, learning alongside professionals.
- Students receive credit for their apprenticeship, so they graduate on time with their peers.
- Employers can offer two- or three-year apprenticeships. Following the apprenticeship, some students will work full-time in their field, some will become full-time college students, and some will do both.
- Students apply with the hiring companies in the spring semester for positions that begin the summer before their junior year.
- Businesses select the apprentices that are the best fit for their organizations and open positions.
- Apprentices are trained to be ready to step into a full-time, early-career position by the end of the program—the same kinds of positions sought after by recent college grads.

## TOOLINGU | | How it Works

Apprentices split time between school and work, operating on a schedule that works for both students and businesses.

	YEAR 1: SENIOR YEAR	YEAR 2: GAP YEAR	
 <b>AT HIGH SCHOOL</b> Core academic courses at school, some community college coursework	~2 days a week	N/A	
 <b>ON-THE-JOB</b> On-the-job training, in the form of occupation, rotation or projects	20-24 hours a week	32-40/FTE hours a week	
 <b>EXTERNAL TRAINING</b> Industry certifications and college coursework	<b>ON-THE-JOB UPSKILLING &amp; CERTIFICATION</b> Apprentice upskills for specific occupation and earns an industry-relevant certification.		Community college coursework approved by business and apprentice.

## ROBUST CURRICULUM

The CareerWise curriculum aligns with business needs so that students graduate high school with the skills needed to earn a good wage. In the manufacturing area, through their LevelUp! Program, CareerWise creates a customized syllabus comprised of online courses from Toolingu U-SME focused on earning a certification or industry specific training most essential for the apprentice's role. CareerWise provides the structure, support and supervision apprentices need to progress successfully through the online learning programs.



## BENEFIT TO THE COMMUNITY

CareerWise designed its modern youth apprenticeship system based on the needs of its communities. For instance, in addition to providing the opportunity for debt-free college credit and paths to higher education, CareerWise only includes occupations that:

**Pay a living wage or higher at the entry-level**

**Are in high demand and part of a robust career pathway**

**Do not require a bachelor's degree for an entry level role**



## FOR EDUCATORS: A SEAMLESS SOLUTION

CareerWise works with 16 Colorado K-12 school districts to ensure the curriculum in grades 9-10 prepares students for apprenticeships, including helping students develop cross-sector professional competencies, and providing students with adequate career exploration opportunities. It also brokers agreements with higher education institutions so students can earn college credit during and after apprenticeships, enabling graduates to start college upon successful completion.

“CareerWise apprenticeships benefit my students by providing them real, applicable, work-based learning that develops skills that I could never recreate in the classroom,” said Neil Shupe, Director of the Career Development Center in the St. Vrain Valley School District in Longmont, Colo. “Apprenticeship puts an awesome student in an awesome career opportunity that could have been difficult for them to obtain on their own.”

CareerWise works with its school districts to:

- Create the framework for an applied-learning environment that meets district standards
- Recruit high school students
- Ensure apprentice work and high school schedules are optimized
- Act as an intermediary to ensure a streamlined experience



## FOR STUDENTS: AN OPTIONS MULTIPLIER

For students, youth apprenticeship is an options multiplier. It can be a powerful enhancement to their education and higher learning or a fast-track to a middle-class career, or both. CareerWise works with industry to create career competencies so apprentices can be certain that the skills they're developing are in-demand and set them up for future success.

Through the CareerWise program, Kira Hanvey, a manufacturing tech apprentice with Excelitas Technologies Corp., in Boulder, Colo., is taking advanced manufacturing courses through the St. Vrain School District's Career Development Center where she is one of only a few females in her class. "I am determined to pave the way for more females in engineering," she said. "I am so grateful for my managers at Excelitas, who stay super positive even when things aren't going exactly right and my teacher, who gives his students 110 percent, makes us laugh, and is always there for us."

CareerWise modern youth apprentices split their time between the traditional high school classroom and the workplace. They earn a wage while receiving hands-on work experience where they can apply their classroom learning. By the conclusion of the program, students will have:

- Meaningful work experience with an hourly wage
- A nationally recognized industry certification
- A professional network
- The opportunity to earn debt-free college credit



## FOR EMPLOYERS: A COMPETITIVE ADVANTAGE

Early supporter, Intertech Plastics, Inc., has hired multiple youth apprentices from nearby high schools through CareerWise Colorado. Apprentices train alongside seasoned professionals, learning the skills and competencies they'll need to step into a full-time role with the company.

Intertech's apprentices have built automations to detect defects on the line, developing intelligent process controls and robotics to do what previously was an expensive and labor-intensive process. "Our youth apprentices created a system that saved us \$2.4 million in the last two years," said Intertech President Jim Kepler. "Apprentices come in with a different mindset—a new take that isn't burdened by historic views. Our apprenticeship program is a competitive advantage."

Benefits include:

- Reduce turnover costs and increase employee retention rate
- Recruit and develop a highly trained workforce for hard-to-fill positions
- Create industry-driven and flexible training solutions to meet business needs
- Positive ROI based on the value of apprentices' productivity

**"Our youth apprentices created a system that saved us \$2.4 million in the last two years."**



CareerWise  
Colorado

# Employers

**Manufacturers involved with CareerWise apprenticeships include:**

Arrow

Associated Thermoforming Inc.

CoorsTek

DT Swiss

Excelitas Technologies

Intertech Plastics, Inc.

Lockheed Martin

Metalcraft Industries

Mikron

Nordson Medical

Omni-X

Pilatus

Reata Engineering

SAS Flight Factory

Steelhead Composites

Woodward



## CareerWise helps employers with:

- ▶ **Program design guidance**, to ensure compliance with local youth labor laws, high school graduation requirements, and data privacy laws.
- ▶ **Landscape analysis**, to identify potential strategic partnerships for operational efficiencies.
- ▶ **Recruitment of a robust applicant pool**, working in partnership with local high schools.
- ▶ **Anti-bias training**, to support hiring managers in preparing to interview candidates.
- ▶ **Apprenticeship Hub access**, CareerWise's custom-built applicant tracking system, designed to streamline the hiring process and facilitate training and evaluation.
- ▶ **Interview preparation for students**, to support identification of top candidates.
- ▶ **Registration support**, accessing apprenticeship credentials issued by the United States Department of Labor (USDOL).
- ▶ **Workplace readiness training**, to prepare apprentices for their first day on the job.
- ▶ **Supervisor and mentor training and resources**, through structured virtual training sessions to prepare managers to onboard apprentices and accelerate upskilling and productivity.
- ▶ **Case management and communications**, to support apprentice retention and resolve challenges in partnership with apprentices and supervisors.
- ▶ **Collaboration with industry associations and affiliated business partners to define competencies**, assessment, and training center learning plans for each occupational pathway.
- ▶ **Identifying competencies to be taught in the workplace**. Provide mentors and supervisors with training suggestions and progress monitoring tools.
- ▶ **Training Plan Development**. CareerWise uses Tooling U-SME online classes for related training instruction (RTI) and also aligns with relevant industry recognized certifications to ensure apprentices receive nationally recognized credentials such as **SME's Certified Manufacturing Associate (CMfgA)** certification.



## CareerWise best practices include:

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- ▶ **Gather strong partners.** Understand cohort leaders head and heart. Ensure you have partners who share the desire to invest in human capital.
  - ▶ **Employ a common language.** This was a priority to develop tools and framework that could be replicable.
  - ▶ **Collaborate with schools.** Work with school districts to create the framework for an applied-learning environment that meets district standards, recruits students, and ensures apprentice work and school schedules are optimized.
  - ▶ **Pursue competency-based learning.** Work with industry to create career competencies so apprentices can be certain that the skills they're developing are in-demand and set them up for future success.
  - ▶ **Train the trainers.** It's essential to train supervisors and mentors, providing valuable apprentice management tips through structured, virtual training sessions.
  - ▶ **Educate parents, teachers and counselors.** These influencers impact a student's decision to start an apprenticeship. Help them understand opportunities related to manufacturing and other professions so that they can educate and recruit students.
  - ▶ **Look for federal, national and local grants.** In addition to private funding, tap into statewide and local financial incentives for workforce development and apprenticeships.
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## SUCCESSFUL APPRENTICESHIP PROGRAM

The CareerWise Colorado model can be adapted to work in any community nationwide wanting to offer:

- ▶ Productive employees; apprentices are true team members doing meaningful work.
- ▶ A talent pipeline of skilled, diverse workers that innovate the workforce.
- ▶ A valuable connection to the community.
- ▶ More leadership and growth opportunities for existing staff.
- ▶ Reduced turnover costs and increase in employee retention rate.
- ▶ Recruitment and development of a highly trained workforce for hard-to-fill positions.
- ▶ Industry-driven and flexible training solutions.
- ▶ Positive ROI based on the value of the apprentice's productivity.

For more information on how to start an apprenticeship in your local community, please visit:  
[www.careerwisecolorado.org/en/](http://www.careerwisecolorado.org/en/)

For more information on Tooling U-SME apprenticeship programs and RTI please visit:  
[www.toolingu.com](http://www.toolingu.com)



Tooling U-SME delivers versatile, competency-based learning and development solutions to the manufacturing community, working with more than half of all Fortune 500® manufacturing companies, as well as 600 educational institutions across the country. Tooling U-SME partners with customers to build high performers who help their companies drive quality, profitability, productivity, innovation and employee satisfaction. Working directly with hundreds of high schools, community colleges and universities, Tooling U-SME is able to help prepare the next-generation workforce by providing industry-driven curriculum. A division of SME, a nonprofit that connects all those who are passionate about making things that improve our world, Tooling U-SME can be found at [toolingu.com](http://toolingu.com) or on Facebook and Twitter.



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