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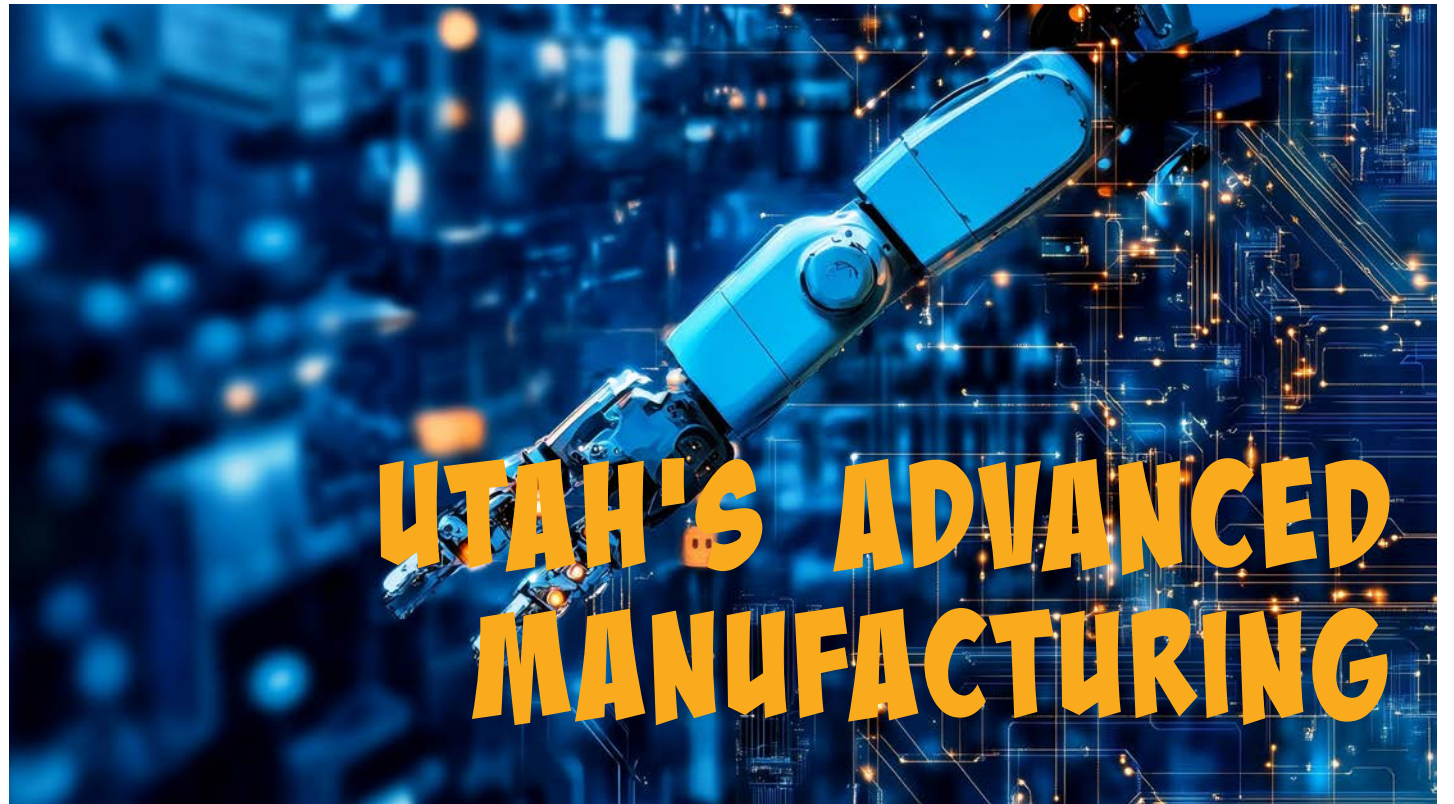
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Utah Manufacturing Extension Partnership wants half of the state's 4,300 manufacturers to be classified as 'advanced' by 2035

More than 40 percent of Utah's manufacturers are involved in advanced manufacturing. A group of industry leaders wants to boost that number and has a plan to reach its goal.

Members of the Utah Manufacturing Extension Partnership (Utah-MEP), a team of experts commissioned to help Utah's 4,300 manufacturers improve, made their pitch to the Unified Economic Opportunity Commission during a discussion about the state's strategic plans for several targeted industries. Final plans for each of the six industries are expected by November.

The term "advanced manufacturing," or AM, refers to manufacturing using new technologies such as automation, robotics, digital twinning (creating a virtual replica of a physical object, system or process), 3D printing and new materials. Among the more than 40 percent of Utah manufacturers using AM technology, most of them are outside the medical, aerospace and semiconductor industries.



In addition to developing resilient supply chains for manufacturers and keeping Utah in the top 10 among states for a technology and science workforce, supporters said they want more than 50 percent of Utah's manufacturers to be classified as advanced manufacturers by the year 2035.

Many Utah manufacturers are gathering data "by the bucketload," but they — especially small companies — lack the money to develop data-backed automation that could improve their processes, according to Todd Bingham, president and CEO of the Utah Manufacturers Association.

"We're excited about where AI is going and where it goes for smaller companies," he told the commission.

Utah already is in the top five among states for AM concentration, but the proliferation of AM companies in Utah varies widely, from a high of 40 percent of manufacturers in Salt Lake County, to 20 percent in

both Logan and between Salt Lake County and Nephi, to 12 percent in St. George and about 8 percent throughout the rest of the state.

Utah-MEP is asking for \$2 million from the state Legislature to equip 24 manufacturers over the next five years with IoT and small sensors that would be applied to applications or machines, with their improved results serving as an example of how advanced manufacturing can improve companies' operations. Those 24 companies — including ones in the aerospace and life science industries, and manufacturers across both urban and rural Utah — would be required to provide tours to build local AM confidence.

"That would allow them to serve as a local place where we can bring other manufacturers to in their local area and they can testify, if you will, and say, 'This is what this has done for me. This is how it's helped me,'" Steve Black, director of Utah-MEP,

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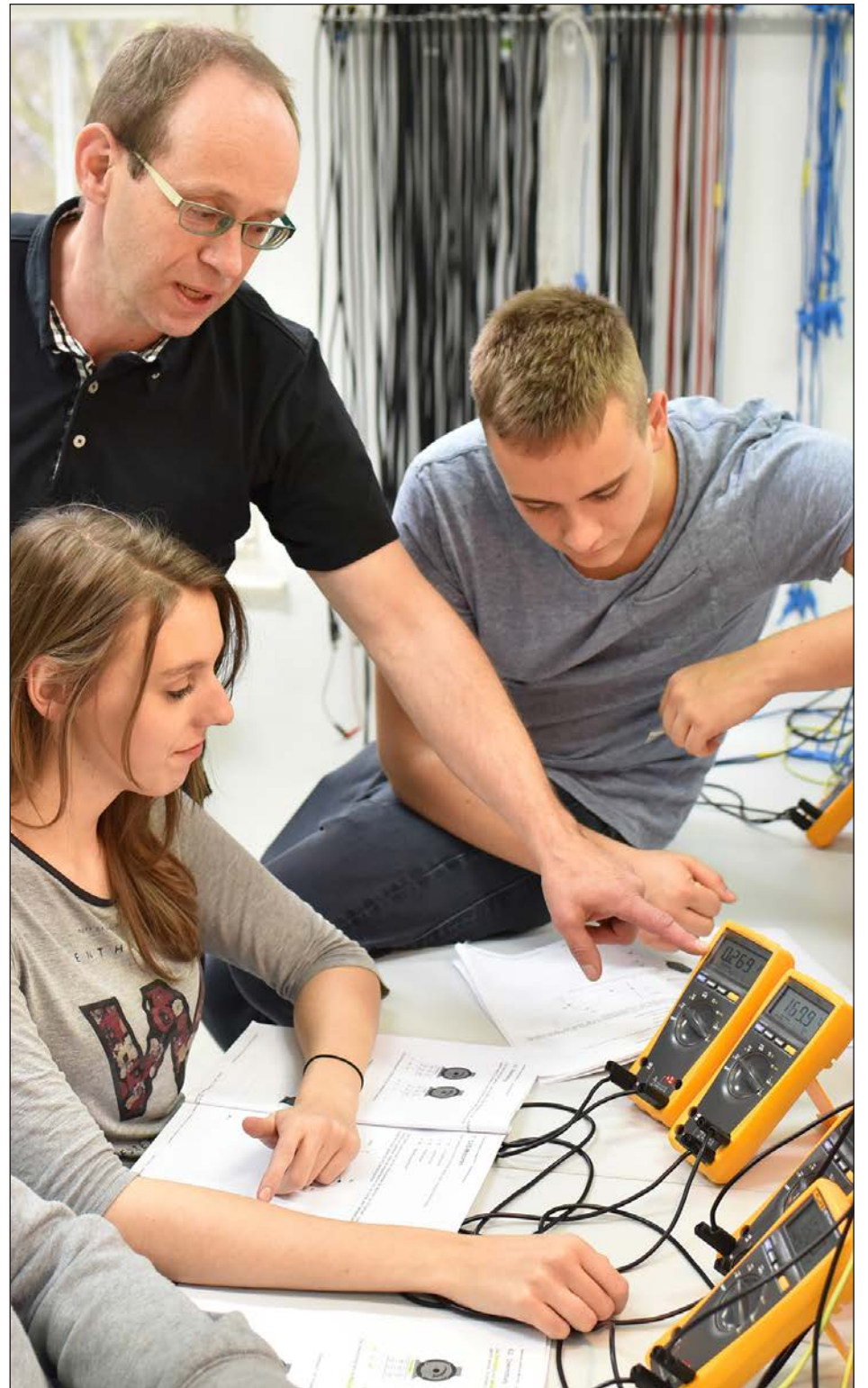
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PEOPLE ARE AS IMPORTANT AS MACHINES

Advancing technology does not diminish the critical need to invest in employee training



“You should treat your people at least as well as you treat your machines.”

Craig Gygi, chief operating officer of The Synergy Co., shares this sentiment on repeat, but in a tech-focused world, this mindset isn’t standard. When machines break, leaders jump to spend whatever resources are necessary to get the equipment back up and running. In contrast, when an employee is underperforming, leaders are quick to terminate them rather than diagnose the root cause of the behavior.



CATHERINE
BENNETT

According to Eric Burton, a transformation partner and continuous improvement expert at iMPact Utah, the root cause of underperforming employees is often poor-to-non-existent training. After training employees at more than 100 manufacturing companies, he has learned a few things about how great training impacts organizations overall.

While it may seem obvious to some, technology investments do not eliminate the reality that people are at the center of every manufactur-

ing company’s success, Burton said. Added tech accelerates the need to get people up to speed on new skills, processes and possibilities. While training is very much essential to a healthy workplace, it continues to look different every year. There have never been this many opportunities to enhance training efforts, from increased remote learning to augmented-reality software to asynchronous training.

“A company’s view of training is a ‘window to its soul,’” Burton said. “It’s a reflection of the organization’s commitment to its most valuable asset: its people. Manufacturing is a substantial industry and there are tens of thousands of employees in the industry we need to take care of.”

In 2023, Utah manufacturing contributed \$23.4 billion to Utah’s GDP. In the same year, manufacturing companies paid \$11 billion to more than 150,000 employees, according to the Utah Department of Workforce Services. Additionally, manufacturing employment numbers have steadily increased the past few

years.

“If every manufacturing company truly invested in their people, the numbers would reflect that, including profitability and the state’s GDP,” Burton said. “The companies who have invested in their people and seen the benefits understand just how critical this investment is to long-term success.”

For an inexperienced production floor worker, training might be an introduction course to Lean manufacturing. For an experienced production floor worker advancing into a leadership position, this might look like taking a leadership course, Burton said. With technology developing at an increasingly rapid pace, all employees will need to participate in continued equipment and software training.

Burton argues investing in employee training is not merely a nice-to-have luxury but a necessity for long-term success. While many companies acknowledge the importance of their workforce, actions often speak louder than words. When budgets tighten, training is frequently the first expense to be cut, despite its far-reaching benefits.

By investing in training, companies demonstrate their respect for their employees as human beings, fostering a culture of continuous improvement and growth.

Great training is about much more than developing immediate skills, Burton said. Its multitude of advantages include enhancing productivity, boosting morale and retention, ensuring safety and compliance and fostering innovation and competitiveness.

Gygi said that since heavily prioritizing training on The Synergy Co.’s teams, they’ve transformed their company culture and improved their local reputation. This has led to more individuals in Moab’s small workforce pool applying for jobs at the plant and staying. Why? Job satisfaction.

“What we’ve implemented at The Synergy Co. is inspired by the research of Frederick Herzberg on job satisfaction and motivation,” Gygi said. “We have certainly reviewed our compensation and made

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MANUFACTURING REGIONS

Ranked by Number of Manufacturing Establishments



County	Manufacturing Establishments	Private Non-Manufacturing Establishments	Manufacturing Employment	Private Non-Manufacturing Employment	Avg. Monthly Manufacturing Wage	Avg. Private Non-Manufacturing Monthly Wage	Top Manufacturing Establishments
1 Salt Lake	2,829	62,081	60,135	739,695	\$7,098	\$6,633	L3 Technologies Inc.; Merit Medical Systems Inc.; Varex Imaging Corp.; Becton, Dickinson and Co.; Edwards LifeSciences LLC; Ultradent Products Inc.; Daily's Premium Meats LLC; USANA Inc.; AMSCO Windows; Northrop Grumman; Hexcel Corp.; Albany International Corp.; Intermountain; ICU Medical Inc.; Stryker Employment Co. LLC
2 Utah	854	21,191	23,319	286,280	\$5,983	\$5,073	Nestle Prepared Foods Co., Texas Instruments Inc., Smokey's Smokehouse, Tyson Fresh Meats Inc., US Synthetic Corp.
3 Davis	381	9,983	13,928	128,765	\$7,073	\$4,981	Lifetime Products Inc., Northrop Grumman Corp., Utility Trailer Manufacturing Co.
4 Weber	355	6,971	19,511	103,400	\$7,211	\$4,793	Autoliv, Northrop Grumman Corp., Fresenius USA Manufacturing Inc., Ralcorp Frozen Bakery Products Inc., Capstone Nutrition, Petersen Inc., Williams International Co. LLC
5 Washington	288	7,834	4,136	80,949	\$4,482	\$3,861	Litehouse Inc., Meadow Gold Ice Cream, Deseret Laboratories Inc., Ram Manufacturing Co. Inc., Wilson Electronics LLC, Reid-Ashman Manufacturing Inc., RS Utility Structures Inc.
5 Cache	255	4,231	12,009	55,322	\$5,280	\$3,965	E.A. Miller, Invitrogen Corp., Icon Health & Fitness Inc., Gossner Foods Inc., Schreiber Foods Inc., Hyclone Laboratories LLC, TTM Technologies North America LLC
6 Iron	107	2,074	2,491	23,553	\$5,073	\$3,622	Smead Manufacturing Co., Ampac, Genpak LLC, Byway Corp., Mueller Copper Tube West Co., Metalcraft Technologies LLC
7 Box Elder	98	1,533	7,448	16,001	\$7,908	\$5,145	Thiokol Corp.-Propulsion, West Liberty Foods LLC, Autoliv, Procter & Gamble Paper Products
8 Summit	87	3,438	1,122	33,390	\$8,121	\$5,355	Graco Inc., Skullcandy Inc., Triumph Gear Systems Inc.
9 Wasatch	59	1,569	623	11,107	\$5,310	\$4,849	Redmond Minerals Inc.
10 Tooele	50	1,447	2,189	17,950	\$6,260	\$4,407	U.S. Magnesium LLC, Purple Innovation LLC
11 Sanpete	39	701	1,369	8,557	\$3,726	\$3,322	Pitman Farms Inc., Christensen Arms, ACT Aerospace
11 Uintah	39	1,324	362	14,569	\$4,639	\$4,599	Superior Drilling Products
13 Duchesne	31	814	186	8,658	\$4,672	\$4,866	Tri-County Concrete, Uintah Machine & Manufacturing Co., Country Cabinet
14 Sevier	26	778	477	9,355	\$4,372	\$3,781	Hales Sand & Gravel, Dogberry Collections Inc., U.S. Gypsum Co.
15 Carbon	25	619	552	8,288	\$5,636	\$4,086	Intermountain Electronics Inc.
16 Juab	22	4,455	825	3,652	\$5,175	\$3,752	Barrette Outdoor Living Inc., Ash Grove Cement, Barnes Bullets-Mona LLC, Quality Craft Wood Works Inc.
17 Morgan	19	433	202	2,905	\$8,092	\$4,541	Holcim (US) Inc.
18 Millard	13	456	229	5,264	\$5,149	\$4,346	Liqua-Dry Inc., Graymont Western US Inc.
19 Grand	10	677	101	5,988	\$5,622	\$3,813	The Synergy Company of Utah LLC
20 Kane	9	419	117	3,567	\$3,035	\$3,537	Stampin' Up Inc.
21 Beaver	8	253	189	2,593	\$3,415	\$3,607	Dairy Farmers of America Inc., Atkore Plastic Pipe Corp.
21 San Juan	8	374	76	4,364	\$2,704	\$4,106	Blue Mountain Meats Inc.
23 Wayne	7	150	13	1,111	\$925	\$3,317	Oyler Family Farms LLC
24 Garfield	5	289	30	2,005	\$2,978	\$3,497	K&D Forest Products Inc., Bryce Valley Builders & Supply Inc.
25 Emery	4	274	18	3,679	\$4,361	\$4,572	EAO Services Inc., Guymons Machining & Fabrication Inc.
25 Rich	4	157	17	1,010	\$3,279	\$3,826	Little Spring Water LLC, Cedar Mesa Pottery, Young's Machine Co.
STATEWIDE	5,732	146,024	151,587	1,539,448	\$5,726	\$4,959	



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told the commission. “It takes this initiative down to a very local level and one that I believe will help accelerate the adoption of advanced manufacturing throughout the state.”

“AI (artificial intelligence) is something you’ve heard an awful lot about, but in your world, you probably tend to think of it much more from a software type of a perspective,” Bingham said. “When you’re thinking about that in manufacturing, we often think that it is tied to a couple of the more prominent industries, but if we think about it and dive down, advanced manufacturing and AI is in almost every manufacturing company out there.”

For example, the technology can be in the form of tracking a piece of a product, like in the food industry where food production, sales and distribution information can be used during recalls.

Smaller companies, Bingham said, tend to use the technology to determine where waste exists in their production processes. In

searching for a solution that would eliminate that waste, engineers will analyze data “and in many cases, they’ve kind of thrown Jell-O against the wall” — essentially incorrectly guessing.

“It’s all driven by data,” Bingham said. “Today, through AI, we are gathering data in manufacturing facilities by the bucketload, and now the biggest challenge is taking all that data, breaking it down, giving it to the engineering teams and having them determine what is the highest area of focus to tweak, to change. So, rather than throwing that Jell-O at the wall now, we’re looking at it and saying, ‘If we change this or tweak that, we’ll be able to output 25 percent more product than we do right now.’”

Win Jeanfreau, executive director of iMPact Utah, said the steps toward advanced manufacturing can be use of a mobile lab to measure what automation could look like at a particular company; partial automation, or “cobotics,” that uses robots to help workers increase productivity; partial automation of a production line; full-stream automation; and full-factory automation.

Jeanfreau stressed that making

that transition will require training of the workforce. Bingham said job losses are always a concern when improving processes, but “that doesn’t happen in manufacturing.”

Bingham cited an example of a cake maker having a worker slide a bag into a box. Automation can do that operation many times faster, allowing for more cakes to be produced and boxed. That affected employee then can be reassigned to a different area in the facility where he or she can run equipment, along the way making a higher wage and having a more advanced skill set.

“In manufacturing, we upscale and we increase the wage and the skill set where we’re going from doing a manual piece to now running a piece of automation, a piece of robotics, a piece of 3D printing — that type of thing,” he said.

Ben Hart, a commission member and executive director of the Utah Inland Port Authority, noted how Utah needs advanced manufacturing in order to keep up with other states’ efforts.

“Here’s the reality in the global manufacturing world ... It’s no longer about us being status quo. It’s not about us just doing ‘good

enough’ in manufacturing. This isn’t our peers; this is our competition. And I want to make sure that the commission understands that,” he said.

“We are in a global battle right now for the best and brightest manufacturers and making sure that the most sophisticated, automated procedures and platforms are being implemented into Utah businesses. This is not the 1990s manufacturing. The world has changed significantly, and if we don’t put a lot of effort into trying to capitalize, help build our businesses ... then we’re going to lose ground.”

Some states are “hugely aggressive” about advanced manufacturing, and Utah could lose out to them “if we don’t stay focused on helping to build these production and manufacturing companies in our own back yard,” he said.

“If we lose this fight, it will be another generation before we get a chance to compete again,” Hart said. “So, in this global supply chain re-correction ... I think we have to make sure that we win.”

Brice Wallace is the associate editor and a senior writer for the *Business Journal*.

TRAINING

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sure we’re competitive, but we’ve discovered the thing employees find equally motivating is the opportunity to do meaningful work.”

Herzberg’s theory of job satisfaction, also known as the motivation-hygiene theory, posits that job satisfaction and dissatisfaction are influenced by two different sets of factors. These factors are hygiene factors and motivation factors.

Hygiene factors include salary, supervision, working conditions, company policy and job security. They prevent job dissatisfaction but don’t necessarily increase job satisfaction.

Motivation factors include achievement, recognition, the work itself, responsibility and advancement. They increase job satisfaction and can make employees more productive, creative and committed.

A big part of creating motivation factors is empowering employees to work with team leads to make small improvements daily, which is known

widely in industry as Kaizen. Leaders at The Synergy Co. want their employees to share any improvements that come to mind, even if they are out of the individual’s scope of work.

“They do speak up,” Gygi said. “It’s because they have skin in the game. When they really dig in and make improvements, we reward them with more meaningful assignments. Of course, we do recognition and gift cards for efforts, but nothing seems to mean more than showing that trust in their ability to make a difference to the company.”

Despite the undeniable benefits of employee training, implementing effective programs is no cakewalk. Cost, time commitments and concerns about disruptions to daily operations are common obstacles. However, Burton emphasizes that the long-term costs of neglecting training can be far greater, including lost productivity, poor quality and high turnover.

“Training never seems urgent until it becomes urgent,” Burton said. “Starting small and gradually expanding training initiatives, I’ve seen companies minimize disruptions while reaping the rewards.”

Technological advancements, including cutting-edge machinery and AI, spur even more reason to invest in training. Bringing a new 3D printer or CNC machine in? Employees need training. Implementing a new AI software? Training. When it comes to new tech, the learning curve in today’s workforce is incredibly steep, Burton said.

Numerous companies in the region have experienced significant benefits from investing in employee training. O.C. Tanner, for example, supports and grows employees from all over the globe who speak dozens of different first languages. JD Ma-

chine has addressed the skilled labor shortage by focusing on training and development.

Gygi said, “As a result of all of our top-down initiatives and grassroots improvements, our employees are more engaged than ever before.”

State and federally funded organizations like iMPact Utah exist to help manufacturers profit more, which is impacted significantly by team productivity and turnover. Training is one way iMPact is positioned to fortify manufacturing employee retention and performance while strengthening culture and brand.

“Our employees are our greatest asset’ is on everyone’s wall,” Burton said. “The good companies prove it through action. They talk about training differently. They promote people who are great teachers and trainers and talk about it as a constant need.”

Companies who treat training this way aren’t “looking for employees under rocks,” Burton said. They have a full bench at all times of individuals ready to pour their energy and talents into a company that believes in their ability and potential.

In an era where technology and machinery are constantly evolving, investing in employee training is more important than ever, Gygi said. By empowering employees with the skills and knowledge they need to succeed, companies can drive innovation, improve productivity and foster a positive work culture. The long-term benefits of employee training continue to far outweigh the short-term costs.

Catherine Bennett is the managing director of marketing at iMPact Utah, a business transformation and training partner for Utah manufacturers. She is also the host of the “Making Utah” podcast.

