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SMAC NEWS

Building the Workforce of the Future

- National Careers in Trades Week
- Untraditional Paths Into HVAC & Sheet Metal
- Finding & Retaining Talent
- Building an Internship Program That Works

SMACNA®

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Powering the Trades

The second-annual National Careers in Trades Week has been a rousing success, and on behalf of SMACNA, I want to thank all our partners for their work and commitment to raising awareness of the value of working in our industry. However, we cannot simply rely on one week of advocacy to grow the trades. We must all make a year-round pledge to drive home the need to build a talented, highly skilled workforce and get the word out about the amazing opportunities working in our space can provide.

Everyone knows that a long career in the trades provides a sense of long- and short-term financial security that no other field can rival, all without the crippling college debt weighing down so many young professionals in the current economy. There are also some other benefits that making this investment in yourself can present.

One of the big things that I've taken away from interacting with tradespeople is their fundamental ability to understand and explain how things work. While traditional education has renewed its focus on STEM careers, going through an apprenticeship and starting your career gives you the unique ability to get your hands on complex systems and understand their impact. This is a skill that will not merely serve you well in the shop or on a job site, but it is critical in almost every other part of life. In that same spirit, you will never stop learning either. With all the incredible technological innovation happening before our very eyes, you need to remain a student to remain competitive. This training, which is available through so many avenues, whether it be through SMACNA or our labor partners, gives our workers the opportunity to remain on the cutting edge. Beyond the pay, a career in the trades provides so many other additional dividends that no other sector can really supply.

Wellness, both during and after your career, is a top priority. Knowing that you can retire securely and prosperously after making the commitment to the trades grants incredible peace of mind. Knowing that your employer has your back with top-notch health benefits for you and your family is something that cannot be understated. On the theme of "having your back," the sense of brotherhood/sisterhood that exists within the trades simply cannot be rivaled. You are not merely coworkers; you build a bond that rivals family with teammates who will be there for you through thick and thin.

The trades also present unrivaled prospects for growth and achievement. While many careers promise unbounded potential, our industry delivers on that promise. Whether you want to assemble hospital ductwork, create iconic structures, improve school safety or advance from apprentice to business owner, these goals are truly attainable in the trades.

Many skilled professionals in our trade are approaching retirement. The best way to honor their legacy is by developing the next generation of workers. Programs like the Heavy Metal Summer Experience introduce young people to the rewarding possibilities of a career in the trades. This is an exciting time for our industry. We have a chance to not just survive, but thrive. I am looking forward to what the future holds! ▼

Frank Wall
SMACNA CEO

FROM THE PRESIDENT
Todd Hill

How a Father's Advice Built a Career

Let me take you back to when I was 19 years old and attending community college. I had just finished high school and was planning on being a CAD operator/engineer in the automotive industry. Around that time, my dad (a journeyman sheet metal worker) made a suggestion that changed my life. He told me to go take the sheet metal apprentice test. When he mentioned it, I joked, "I don't want to be a dumb sheet metal worker." He looked at me and said something that changed everything: "Don't be a dumb one, be a smart one."

I'm really glad I listened to my dad. More than 35 years later, I've worked my way up from being an apprentice to owning my own business. I am fortunate that my career has always felt more like my hobby than a job. I can't think of another job that offers so many opportunities. Where else can you make a good living working with your hands? This career is about much more than just installing ductwork. There are so many ways to use new technology that's changing our industry. We've moved past paper plans on job sites and can now work with project models from anywhere. We're even starting to use AI to help our companies become smarter and more flexible. Can you name another field where this is possible, and you don't have to worry about huge college debt? I can't. Where else can someone start at the bottom and work their way up to owning a business and leading in the industry? I feel lucky to have had this chance, all because of a talk I had with my dad.

But not everyone thinking about this field has someone like my dad to guide them. That's why we need to do more to show high school students and young adults that there's a real alternative to college. As I travel around the country during my Presidency, this seems to be a common theme. This path offers great benefits, financial security and the chance to build a rewarding career. That's why SMACNA programs like National Careers in Trades Week are so important. We are and continue to work with SMART to raise awareness about these opportunities. Many of our coworkers are getting ready to retire, and it's up to us to find the next generation of "smart" sheet metal workers. They're out there, ready to start their future. Let's help give them the same push I got back in 1990. Thank you and take care. ▼

I can't think of another job that offers so many opportunities. Where else can someone start at the bottom and work their way up to owning a business and leading in the industry? — *Todd Hill*

Where Metal Meets the Landscape

California Sheet Metal's award-winning work at Bioterra proves that architectural precision and environmental harmony are not mutually exclusive.

The Bioterra project earned California Sheet Metal the 2025 Tom Guilfoy Memorial Craftsmanship Award in the Architectural category.

In the Sorrento Mesa neighborhood of San Diego, where the Torrey Pine clings to coastal bluffs and the biotech industry has built one of its most productive clusters in the world, a new building is doing something unusual by trying to look like it belongs.

Bioterra, a 323,000-square-foot, five-story life science facility developed by Longfellow Real Estate Partners, was designed by HOK with a clear mandate. The building's facade, terraces, colors and textures were all meant to echo the arroyos, pines and coastline of its immediate surroundings rather than announce themselves against it. The building's two pairs of slender parallel wings slip past one another on a northeast axis on a tight, triangular 4.14-acre site, a massing strategy that creates self-shading across projecting terraces designed to shade the floors below. Floor-to-ceiling glass runs throughout. The first floor carries 18-foot ceilings. Integrating structural and mechanical systems maximized the 15-foot typical floor-to-floor height. This meant every trade, including sheet metal, had to work in sync with very little margin for error.

Turning that architectural intention into fabricated metal was the job of California Sheet Metal, a San Diego-based, employee-owned union contractor and charter member of San Diego SMACNA. The result earned the company the 2025 Tom Guilfoy Memorial Craftsmanship Award in the Architectural category from CAL SMACNA — the firm's sixth Guilfoy win since 2014. It took 21,577 work-hours to get there.

THE CHALLENGE: GEOMETRY MEETS ECOLOGY

The central fabrication challenge at Bioterra was a facade panel system whose geometry was anything but forgiving. The panels' unique angular profiles required precise notching and CNC-located bend lines before any forming could begin, a sequencing that demanded exacting dimensional control at every stage. Flange dimensions had to meet tight tolerances to ensure that tabs and slots aligned properly and that panel faces sat flush across the building's exterior. Any deviation in the shop would compound in the field.

To manage that risk, California Sheet Metal built a quality control rhythm directly into the production workflow. A three-person forming team worked through the panels systematically, producing up to 70 fully formed panels per day and stopping every 10 parts to assemble a control panel and verify consistency before moving forward. It was a disciplined, iterative approach that kept quality from becoming a field problem.

The angular aluminum trellis that crowns sections of the facade presented its own coordination challenge: it had to mirror the same angular profile as the panels below it, maintaining visual continuity across different structural elements. Getting that alignment right required not just precision fabrication but close collaboration with the project team throughout design and installation.

The scope extended beyond the exterior skin. California Sheet Metal also installed a high-performance aluminum soffit finished in a warm, weathered Parisian Rust tone that carries from the exterior into the building's entryway, where it defines the reception desk, interior millwork and elevator surrounds — a material continuity that required the same dimensional precision indoors as well as out.

MAKING METAL LOOK LIKE A TREE

The ecological dimension of the project pushed beyond geometry into something less common in sheet metal work: biomimicry. The design called for panels finished to replicate the natural colors and textures of the Torrey Pine, the rare, gnarled conifer native to this exact stretch of San Diego coastline. To achieve that, California Sheet Metal's team had to develop a working knowledge of the local flora, then translate it into color matching and texturing processes precise enough to hold up against the real thing at close range.

The result blends so seamlessly with the surrounding landscape that the building reads less as an intrusion on the mesa than as an extension of it.

California Sheet Metal's fabrication and installation work on this project took 21,577 work-hours.

A COMPANY BUILT FOR COMPLEX WORK

California Sheet Metal has been fabricating and installing architectural metal in Southern California for more than 100 years and has been a fixture on the region's most demanding projects for decades — from the San Diego Central Library to Horton Plaza's perforated stainless steel luminaries to the multifaceted aluminum facade at The Grand LA, which earned a Guilfoy in 2023. The Bioterra win marks the company's sixth time taking the architectural category since the award was established in 1996.

What makes that run possible is consistency. The average tenure across California Sheet Metal's employee-owner workforce is 13 years, a depth of institutional knowledge that shows up directly in the shop's ability to execute complex, tolerance-sensitive work reliably and at scale.

For Bioterra, that meant delivering 21,577 work-hours of fabrication and installation in service of a building designed for LEED Gold and Fitwel certification, equipped with San Diego's first all-electric life science HVAC system, and built to serve the next generation of research on one of the city's most ecologically distinctive sites. The building doesn't just breathe clean air. Its skin looks like it grew there. ▼

75 Years and Still Ahead of the Curve

Geauga Mechanical's three-generation bet on innovation pays off in an historic Cleveland renovation.

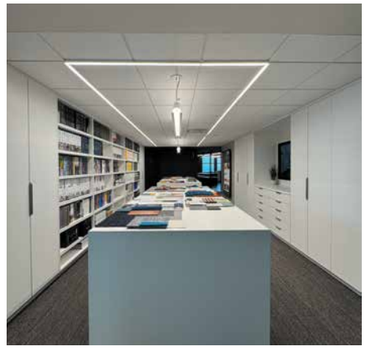
Geauga Mechanical had a team of three fabricate 2,000 feet of galvanized steel, which added up to about 400 shop hours. Then, a four-person onsite crew spent 1,200 more work-hours on installation.

In 1950s Cleveland, Ohio, Ted J. Berman founded a family sheet metal business that specialized in residential heating, roofing and gutters. Seventy-five years later, Ted's children and grandchildren have built his company into a major mechanical contractor. The secret to the firm's longevity? Giving each generation the flexibility to change.

"We've always had a culture of innovation and being willing to try things," says Craig Berman, president and CEO of Geauga Mechanical. "When my grandpa started the business, he gave that second generation a lot of leeway to figure things out, to do things differently and to grow the business. When I got involved, it was the same mentality. Even though I was young, and they had been doing this a long time, if I had ideas to try out, they were open to that. The older generation lets us drive where the business goes next."

The Bermans use this flexibility to embrace new technology. Geauga was one of the first Cleveland contractors to use electronic work tickets for the service department and one of the first to do 3D modeling. "In our market, we're typically on the forefront of utilizing new technology," Berman says. "Now it's the way we're doing 3D scanning, the way we do modeling, the way we do data analytics. We are far ahead of most of our peers." The Bermans accept imperfect technologies when they see a potential payoff. "If we're waiting for technology to be fully vetted, we'd never do anything, because it's never perfect. We've never let things not being fully ready stop us from trying something new, especially if it's going to make us better."

Adopting new technology early gave Geauga an advantage when DLR Group, a prominent engineering and architectural firm, decided to take over and update an entire 17,000-square-foot floor of the historic 16-floor, 272,000-square-foot Hanna Building in Cleveland, Ohio. Completed in 1922, the Hanna Building presented formidable design challenges. "Since it was an old building, floors weren't level, walls weren't exactly where they were supposed to be, and there were existing pipes, conduits, etc. that were to remain in place," Berman says. "Anytime you work in a building that's 100 years old, there's always unforeseen issues."



Geauga Mechanical updated the floor of DLR Group, an engineering and architectural firm. The renovation had to be creative to fit the company's aesthetic and also take into consideration the challenges of a 100-year-old building.

Besides the challenges of updating a historic building, DLR Group wanted their new offices to showcase their premier engineering and architectural work. "They do high-end projects, like museums, performing arts centers and large government buildings all over the globe, so they didn't want a standard system," Berman says. "They wanted to do something creative and new. They needed somebody who had experience in historic renovations and in design-assist projects."

Geauga started by collecting the best possible data. "We used a Trimble X9 3D scanner to get a full 3D model of the space, which allowed us to design around existing conditions." The scanner sits on a tripod and self-levels, and the team controls the scanner with a tablet. Each scan takes 5 to 8 minutes, then the user carries it to the next location and repeats the process until the point cloud of the entire space is populated. Once the scans are complete, colorized and stitched together into a single model by Trimble software, the model is ready for export. "We use Autodesk ReCap to analyze, mesh, categorize and publish our point cloud to our cloud-based document management platform, Autodesk Construction Cloud. We then link the point cloud into other software we use to design our systems: Autodesk Revit and Autodesk Navisworks. We find great value in sharing our data with other trade partners involved in the project so that we all are given the best chance to translate a clash-free, optimized model into the field."

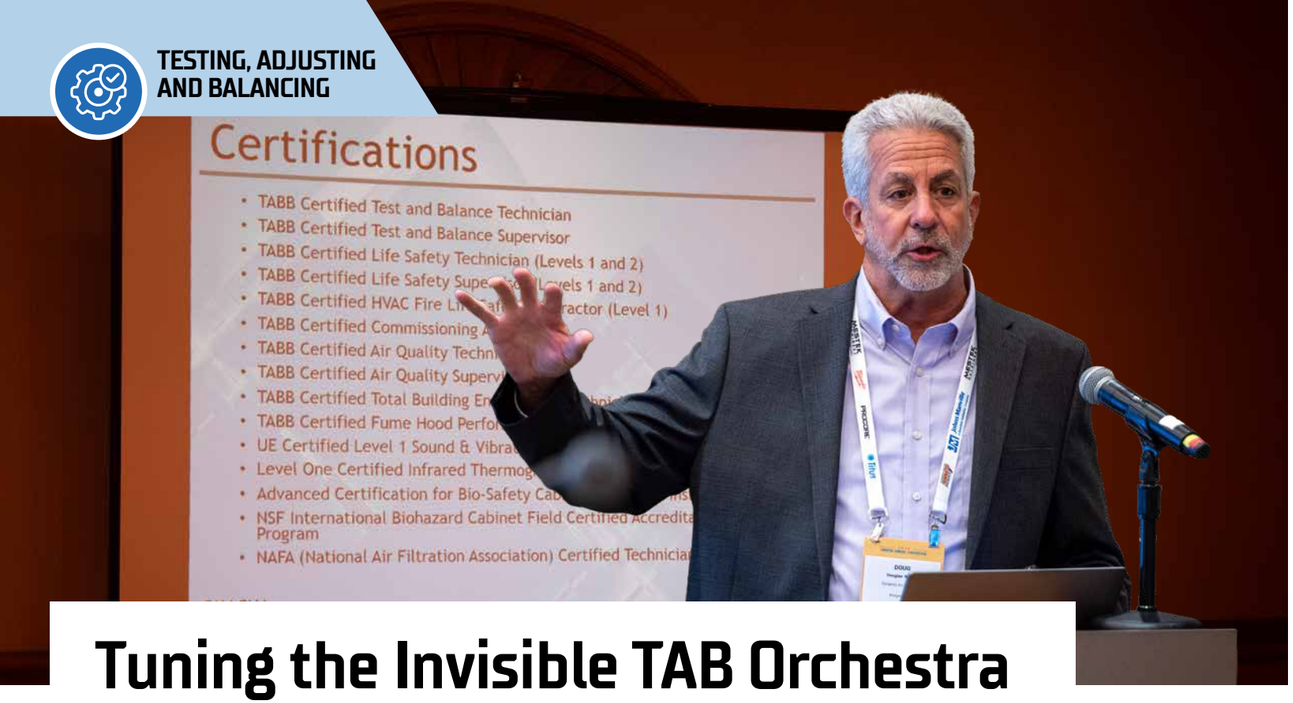
DLR Group kept the Hanna Building's historic ceilings, which means that some mechanical features are exposed to view. "They did unique things to show off their design shops, so we spent time thinking through how ductwork was going to look, as opposed to how it was going to function," Berman says.

One of Berman's favorite tricks was hiding ductwork in plain sight. "Ductwork had to cross an open corridor to another area, and they didn't want to see any duct seams." Geauga fabricated the solution in-house. "The corridor was wider than a normal joint of ductwork, so we made very long pieces of ductwork." The seams are hidden on top of the duct. "When it was done and painted, everybody thought it was a beam, because it looked like the beams that were crossing the space. We've done walkthroughs with people, and they ask how we get the air to the other side because the duct blends in with the building."

Even the mechanical room is a showcase. "They want to show customers this mechanical room and the unique system they came up with," Berman says. "Finding ways to make everything function but also look good in a tight mechanical space was a fun challenge. Everything had to look very clean. We laid it out in such a way that they could bring somebody in and show them around."

Construction started in early 2025 and finished in July 2025. A team of three craftspersons fabricated 2,000 feet of galvanized steel weighing 12,000 pounds, which brought about 400 shop hours. The four-person onsite crew earned 1,200 more work-hours.

"We've worked with DLR Group on a lot of jobs," Berman says. "They had confidence in Geauga Mechanical to put this together."



Tuning the Invisible TAB Orchestra

HVAC systems hum silently when balanced right, delivering comfort, safety and efficiency. But when done wrong, the noise of wasted energy and failed inspections can drown out everything. This is where TAB pros can be every building's unsung heroes.

Doug Ratley, President, Dynamic Air Solutions, St. Louis, Missouri.

The first thing Doug Ratley wants his audience to understand about testing, adjusting and balancing (TAB) is that it's like music.

When an HVAC system is tuned and coordinated, a building feels almost invisible to the people inside it: temperatures are steady, critical rooms hold pressure, noise fades into the background and air quietly does its job. But "what happens when one or more of the instruments are not tuned properly?" asks Ratley, President, Dynamic Air Solutions, St. Louis, Missouri. The answer: noise.

A BUILDING'S ORCHESTRA

In Ratley's analogy, every major component of a modern HVAC system is an instrument. Air-handling units and rooftop units move conditioned air through floors. Exhaust fans and recovery units pull stale or contaminated air out. Variable air-volume boxes and Venturi valves fine-tune the flow into individual rooms. Pumps, chillers and boilers push heating and cooling water across a campus, while cooling towers reject unwanted heat outside.

Individually, each piece can be installed correctly and still fail to produce the "song" the designer intends. That is where testing, adjusting and balancing (TAB) comes in. The American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) defines TAB as "the process of checking and adjusting all environmental systems in a building to produce the design objectives." Technicians measure airflow, water flow, pressure, temperature and humidity. Then they make systematic adjustments until the real world system matches the engineer's drawings as closely as conditions allow.

SMACNA describes TAB contractors as specialists whose measurements and reports "assure the HVAC systems are operating at the highest standards of energy efficiency, ventilation effectiveness, indoor air quality and comfort in a healthy indoor environment." The work often exposes pre-existing problems.

TAB: FRIEND OR FOE?

TAB contractors tend to arrive late in the project schedule after years of design and months of installation. They are also, as Ratley notes, usually subcontractors "with no authority to push anyone to make any corrections whatsoever." When they publish a deficiency list documenting missing components, miswired fans, leaky ducts or rooms that will not hold pressure, it can feel like an attack on everyone who came before.

Ratley pushes back on that perception. TAB, he argues, is an owner's ally and a quality control backstop. When done properly, it lowers utility costs by trimming wasted air and water flow, increases occupant comfort and safety, and reduces wear on equipment and extends operational life.

SMACNA makes a similar case in its public materials, emphasizing that balanced systems are essential to both energy performance and indoor air quality, and that formal TAB reports create an actionable roadmap for corrective work.

WHO MAKES TAB WORK?

Ratley poses a simple question: "Who are the critical players for TAB?" Then he answers it by walking through the project chain, role by role.

The owner, he says, must "communicate the requirements to the design team so they can develop a well-defined scope" and then hold everyone accountable. Without clear expectations for air changes, pressures and comfort, there is nothing solid to balance to.

The architect must provide adequate space around equipment and ducts, separate noisy mechanical rooms from sensitive areas and design tight room envelopes where pressure relationships matter.

The mechanical engineer develops written specifications and detailed drawings with control strategies and sequences of operation. "There is no substitute for a well-written specification and set of drawings," he says.

The general contractor or construction manager controls time. Ratley says they must carve out a real window for TAB "before the equipment/furniture is installed."

Mechanical, sheet metal, plumbing and electrical contractors have straightforward but critical assignments: install equipment so it is accessible, start and prove it out, purge air from hydronic systems, open and verify dampers, and check fan and pump rotation. Some fans, Ratley says, will appear to be moving air even when they are wired backwards, but only at half the expected volume.

The controls contractor must deliver a functioning building automation system, then "provide TAB with access to controls and make changes to the system as needed."

TAB technicians stand at the end of that line. They review drawings and specifications, flag missing balancing valves or dampers, and then, once systems run, measure and adjust until the flows in the field align with the engineer's numbers.

INSIDE THE TAB PROCESS

For existing buildings or phased renovations, Ratley says, the process should begin early with a survey of current performance. "As equipment ages, intentional and unintentional changes occur that affect system performance," he explains. Renovations, partial remodels and control tweaks can slowly push a system far from its original design. A survey gives designers a realistic baseline before they commit to new airflow and pressure targets. Once work begins, the TAB sequence looks methodical on paper:

- Review design drawings and specifications.
- Identify overlooked balancing components.
- Create project specific TAB documentation.
- After startup, perform an onsite evaluation.
- Measure and balance air and water flows to the engineer's specifications and monitor system response.

Technicians rely on instruments such as flow hoods, digital meters and pressure sensors to collect data at diffusers, grilles, coils and pumps. SMACNA has recently updated its own TAB Procedural Guide, an 118-page standard that outlines detailed methods for air and water systems and provides sample report forms.

But the neatness of the procedure often collides with job site realities. Projects have fixed completion windows. Components arrive late. Hydronic systems trap air. Fire alarm testing shuts down air handlers. Floors get sealed before diffusers can be accessed. Each of these, Ratley warns, restricts what TAB can accomplish within the allotted time.

WHEN BUILDINGS WON'T BEHAVE

Some TAB projects Ratley showcased were healthcare facilities, where air changes and pressure relationships can be matters of life and safety. Agencies, including the Centers for Medicare and Medicaid Services, the National Fire Protection Association, the Facility Guidelines Institute and The Joint Commission, exert pressure on hospitals to meet stringent HVAC standards.

In sterile processing departments, for example, guidelines spell out minimum air changes per hour, temperature and humidity ranges, and whether decontamination rooms must be positively or negatively pressurized relative to adjacent spaces.

When those requirements are not met, TAB teams are often the first to see why. Ratley documents holes above ceilings in supposedly tight rooms, security grilles punched into "pressure sensitive" spaces, clogged measurement devices, years of dirt compacted into coils, blocked duct sensors, and flex duct connections that have worked loose. In one image, a damper actuator spins freely on a loose mount instead of turning the blade it is supposed to control. In another, biological growth creeps across drain pans and duct liners, undermining both cleanliness and humidity control.

BEYOND BALANCING

While the core assignment is to bring air and water flows into harmony with design, Ratley argues TAB is also a diagnostic and verification tool. The same skills and instruments used to balance a new system can be applied to:

- Life safety verification, including fire and smoke damper testing and smoke zone conformance.
- Stairwell pressurization tests.
- Duct and air handler leakage testing.
- Envelope "blower door" testing.
- Pharmacy and laboratory performance validation, including work to USP 797 and 800 standards and fume hood testing.
- HEPA filter integrity checks, particle counts and sound and vibration analysis.

When owners, designers and contractors treat TAB as an integral part of the project — rather than a last minute hurdle — it is a friend. It becomes a system where every instrument plays in tune, and the people inside never hear the noise that might have been. ▼

Metal and Microclimates

How HVAC is powering America's next industrial boom.

Airflow and humidity control are key aspects of building cannabis facilities and lithium battery plants.

In the race to build the factories of the future, from cannabis grow operations to lithium battery plants, success often depends not on software or robotics, but on something far more elemental: air.

Behind every sealed grow room or dust-free battery line lies a world of engineered airflow, humidity control and HVAC precision.

At the 2025 SMACNA Annual Convention, mechanical engineers James E. Megerson, Vice President of Design Mechanical, and Andy Phelps, Vice President of Barnes and Dodge Sheetmetal, unpacked what it takes to design these specialized systems. Their session, "Sheet Metal for Specialty Hi-Tech Facilities," explored how airflow, pressure and temperature management have become critical tools in two surging industries shaping American manufacturing.

"These environments push HVAC and sheet metal design to their limits," Megerson says. "Every degree and every cubic foot of air directly affects performance and product quality."

CULTIVATING CLIMATE CONTROL

For most people, the term "grow room" conjures images of plants under bright lights. But for Megerson and Phelps, these rooms are engineered ecosystems that rely on meticulous airflow, humidity and temperature control to produce consistent yields.

"Every stage of a plant's life has its own microclimate," Phelps says. "In the cloning stage, for example, you're looking at roughly 82 degrees Fahrenheit and 70% humidity with long light cycles — nearly all day. But by the time you reach flowering, humidity drops, lights dim earlier and moisture from transpiration can completely change your load balance."

That variability is where HVAC design becomes both art and science. Megerson describes what he calls "the load conundrum," which is a challenge unique to indoor agriculture. "When plants are small, heat rules the day. As they grow, latent loads rise because of moisture release. Your system must flex with that evolution."

Typical commercial buildings base their cooling load calculations on human occupancy, including body heat, computers and sunlight from windows. But in a 24-hour agricultural grow cycle, humans are replaced by photosynthetic workers: plants. Lighting intensity surges up to 50 watts per square foot, water content constantly shifts and fresh air is minimized to maintain internal stability and CO_2 enrichment.

"You don't just design for steady-state conditions," Phelps says. "You design for a living, breathing supply chain inside your building."

THE AERODYNAMICS OF GROWTH

Air movement in these environments is tied to the biology of the crop itself. As Megerson explains, transpiration, which is the release of vapor through plant stomata, is how nutrients move through the plant. Temperature and humidity "don't just make a plant comfortable," he says, "they drive its entire nutrient delivery mechanism."

Andy Phelps, Vice President of Barnes and Dodge Sheetmetal (left) and James E. Megerson, Vice President of Design Mechanical (right).

Maintaining this balance requires incredibly tight control. Grow rooms often achieve air change rates of 30 to 50 times per hour, with supply air temperatures finely tuned just above dew point to prevent condensation or mold. Even the direction of airflow — whether air is pushed or drawn through the canopy — can determine whether a crop thrives or fails.

"You can't just blow cold air at plants; it'll bounce right off," Megerson says. "You want to pull air through the canopy, where it can move moisture away and maintain a uniform temperature. Velocity at the plant level should sit around 100 to 200 feet per minute — any higher and you risk damaging the plant."

Every variable connects to another: air pressure, duct insulation and even the materials used inside these sealed rooms. "We see a lot of misconceptions about materials," Phelps notes. "People think you need exotic metals, but galvanized sheet, properly installed and insulated, performs just fine in most areas. The key is keeping ductwork out of the grow space and minimizing leakage."

To achieve that, grow rooms undergo meticulous pressurization tests to ensure air leaks stay below 0.2 air changes per hour. "These rooms have to be more airtight than a spacecraft," Megerson says.

FROM PLANTS TO POWER: INSIDE THE LITHIUM BATTERY BOOM

If precision defines cannabis facilities, scale defines lithium battery plants. As the U.S. rushes to expand electric vehicle production, hundreds of new gigafactories and specialty manufacturing facilities are emerging across the country.

"Battery plants are the industrial equivalent of orchestras," Phelps points out. "They have thousands of instruments, including duct systems, cleanrooms and slurry coating lines, all playing together in sequence."

Megerson cites "Project Kansas," a facility producing more than one million battery cells annually, with a capacity exceeding 32 gigawatt-hours a year. Within these vast facilities, every ounce of air is managed. "Just one dry room may span tens of thousands of square feet," he says. "You're talking about massive, continuous filtration and dehumidification to protect raw materials."

Unlike general manufacturing, lithium battery production demands both temperature stability and humidity often below 1% relative. "These are environments where the wrong air leak can ruin an entire batch of cells," Phelps says.

Duct systems for these spaces mix galvanized and stainless steel, often welded in dry rooms or clean areas. Specialty exhausts handle everything from particulates to electrolyte vapors. "Air movement is literally part of the manufacturing process," Megerson says. "Every cubic inch of this air has to be controlled, filtered and verified."

COMPLEXITY THAT TAKES A VILLAGE

Designing and building such facilities is a logistical challenge.

"Battery plants are massive," Phelps says. "You might have 10 or more mechanical contractors, national and local, sharing the same site. Add travelers, safety protocols and nonstop scheduling pressure, and every day becomes a coordination puzzle."

Despite the difficulties, both engineers see immense opportunities with these types of projects. "Mechanical scope can stretch into hundreds of millions," Megerson says. "These projects take time, care and patience. But they also showcase the best of what our field can deliver."

He laughs when asked what defines success on jobs this complex. "It takes more than a village," he says. "It takes an entire industry moving in sync."

Breathing Life Into Burnaby's New Skyline

At Gilmore Place, Evergreen Sheet Metal navigated one of the most complex HVAC installations in British Columbia's history.

Heating and cooling for the luxury amenities of the three residential towers at Gilmore Place included 15,000 CFM make-up air unit and heat pump systems.

When Onni Group broke ground on Gilmore Place in Burnaby, British Columbia, it was constructing a new gateway to a city in transformation. This was, after all, a master-planned community anchored by one of Canada's tallest residential towers that has direct integration with the Gilmore SkyTrain station, luxury retail, premium offices and high-end amenities spread across three mixed-use towers. For the HVAC systems required to serve that ambition, Onni turned to Evergreen Sheet Metal, a family-owned mechanical contractor based in Maple Ridge, British Columbia with 28 years of experience in complex high-rise residential and commercial work.

The contract, secured by Evergreen in late 2020, put the firm at the center of one of the most technically demanding sheet metal installations the region had seen. Justin Nguyen, Project Manager at Evergreen, says the scope left no room for anything less than complete precision.

"The complexity of Gilmore Place's HVAC system set it apart," Nguyen says. "The buildings' design required a deep understanding of HVAC systems and building codes to ensure seamless execution and functionality. Every component had to be meticulously planned to integrate with the structure, ensuring efficient operation for years to come."

FROM PARKADE TO PENTHOUSE

Evergreen's scope covered every level of the development's Phase One, including all three towers, from the underground parkade to the residential units at the top. That meant supply and installation of all air distribution equipment and ductwork throughout, including exhaust fans, the parkade exhaust system, smoke exhaust venting and the ductwork associated with the residential heat pump systems. The integration of three towers with an active SkyTrain station added layers of regulatory compliance and safety protocols that compounded the already formidable technical challenge.

At the heart of the project were the luxury amenities on levels four and five of each tower — the spaces Onni intended as the development's centerpiece. Heating and cooling for those areas are delivered through a 15,000 CFM make-up air unit and heat pump systems, while the pool area is served by its own dedicated air handling unit. Both units are housed in a mechanical room with severely limited space.

"The AHU is located in a restricted crawlspace, posing significant challenges for installation and logistics," Nguyen says. "Early-stage coordination between our field and BIM teams was key. By resolving potential conflicts and finalizing layouts well in advance, we ensured the installation could proceed smoothly despite the tight mechanical room constraints."

The solution was to prefabricate the ductwork offsite entirely and deliver it to the project before the surrounding walls were formed. Nguyen estimates that roughly 60% of under-slab ductwork and approximately 90% of in-slab ductwork was prefabricated directly from BIM models, a strategy that allowed the team to move efficiently through one of the tightest mechanical rooms on the project without having to maneuver large duct sections through confined spaces after the fact.

BIM AS THE FIRST LINE OF DEFENSE

With a project of this density and scale, coordination with other trades was the defining operational challenge. Ceiling space in the amenity areas was extremely limited. In-slab duct routing required millimeter-level precision. A conflict discovered in the field, rather than the model, could cost days and significant rework dollars.

"The biggest hurdle was aligning our work with other trades to preventing clashes during installation," Nguyen says. "This is a massive project with a complex mechanical system, and a significant amount of planning took place during the design phase. With so many moving parts, even a minor misalignment could lead to costly rework."

Evergreen used Revit and Revizto to build highly detailed 3D models of the mechanical systems before a single piece of ductwork was installed. The payoff showed up early. During BIM coordination for the Level 4 make-up air distribution system, the team identified that the original duct routing would create conflicts with structural elements and other building services. The system was redesigned in the model before construction reached that level.

"Resolving the issue in the BIM model allowed the team to avoid significant field modifications, saving both installation time and potential rework costs once construction was underway," Nguyen says.

GETTING AHEAD OF COVID

Evergreen entered full on-site operations in mid-2021, but the project's procurement strategy had already been shaped by decisions made a year earlier. In early 2020, as the scope of COVID-19's supply chain disruption was becoming clear, the team held internal discussions and moved decisively.

"Preloading materials and equipment helped us stay on track, particularly with rising costs across various materials," Nguyen says. "By planning ahead, we minimized delays and prevented budget overruns."

The majority of critical equipment was purchased and delivered to the site before the worst of the global shortages hit. It was a lesson in risk management that Nguyen says applies to any large-scale project going forward: identify the exposure early and act before the window closes.

SUSTAINABILITY UNDER A TIGHTENING CODE

Gilmore Place was designed to meet ASHRAE 90.1 2010 standards, but as construction progressed, the City of Burnaby adopted the BC Energy Step Code, a stricter framework that required the project's mechanical systems to be re-evaluated for compliance.

"We needed to source 'green' equipment with low energy consumption to align with LEED requirements while maintaining system performance," Nguyen says.

The answer was an ambient loop system powered by air-source heat pumps. A central make-up air unit working in conjunction with the heat pump system delivers heating and cooling to approximately 60,000 square feet of amenity space. All air-moving equipment was specified with energy efficiency as a primary criterion. This meant securing direct-drive fans with ECM motors and belt-driven fans specified below the designed motor horsepower to reduce overall energy consumption while meeting airflow requirements. Acoustic performance was held to a maximum Noise Criteria rating of NC-15 in sensitive spaces, including the lobby and amenities, with all ductwork sized in accordance with SMACNA standards to maintain controlled velocity and minimize turbulence.

BUILDING THE NEXT GENERATION

Gilmore Place is also, Nguyen says, exactly the kind of project that develops a workforce. Apprentices worked alongside senior staff through advanced BIM coordination, detailed field installation and the particular demands of working adjacent to an active transit station. SMACNA standards served throughout as the technical backbone for fabrication and installation practices.

"Like the evergreens in our name, we believe in continuously learning and strengthening our trade," Nguyen says. "Projects like Gilmore Place push us to evolve, from coordinating across multiple trades to optimizing designs for efficiency. It takes commitment and dependability from our team to ensure that every piece of ductwork and ventilation system meets the highest standard."

For a 28-year-old family-owned firm out of Maple Ridge, Gilmore Place is more than a completed contract. It is a demonstration of what the sheet metal trade looks like when precision engineering, digital coordination and proactive planning converge on a project worthy of the effort.

Burnaby's skyline is changing. Evergreen helped make sure it breathes right. ▼

WORKFORCE STRATEGIES

Building the Workforce of the Future

National Careers in Trades Week returns with new partners, new research and a new generation ready to work.

Photos: Sheet Metal Werks, Heavy Metal Summer Experience, Ernest D. Menold Inc.

When the first National Careers in Trades Week launched in April 2025, it was a coordinated measure by SMACNA, SMART and the International Training Institute to see if the nation was ready to have a different conversation about work.

One year later, the returns are in. The Wall Street Journal covered it. So did CNN and Fox News. Local outlets coast to coast ran features and interviews. And the initiative walked away with a Gold W3 Award in the Educational & Instructional section of the Social Campaigns category, one of the most recognized honors in digital outreach.

National Careers in Trades Week was back April 6 - 10 this year, and it was bigger, better funded and more urgently needed than ever. This year, the Mechanical Contractors Association of America (MCAA), the National Electrical Contractors Association (NECA), the National Energy Management Institute (NEMI), the Sheet Metal Occupational Health Institute Trust (SMOHIT) and the Heavy Metal Summer Experience joined the founding coalition, and new research commissioned by SMACNA from Wakefield Research tells a story that no amount of marketing could have manufactured. The American public — Gen Z, in particular — is already coming around to the trades on its own.

The industry just needs to meet them there.

A LABOR MARKET AT A CROSSROADS

The 2026 edition of National Careers in Trades Week arrived at a peculiar moment in the American economy. The broader job market has stagnated — fewer postings, harder-to-land positions and a white-collar hiring freeze in sectors that once felt bulletproof. But skilled trades tell a different story. According to the Bureau of Labor Statistics, professions in the skilled trades are projected to experience faster-than-average job growth from 2024 through 2034. The BLS Occupational Outlook predicts more than 600,000 construction job openings annually, and the median annual wage in the trades has risen to $58,000 — up from $55,000 just a year earlier — surpassing the median for all occupations, depending on your local collective bargaining agreement.

For union members, the picture is even stronger. Nationwide, full-time union construction workers earn a median that is more than $23,500 per year higher than their nonunion counterparts, according to BLS median weekly earnings data. And the Construction Labor Research Council reports that wages across the industry are rising above 4% annually as employers compete for workers in an increasingly tight labor market.

In the sheet metal and HVAC space specifically, the stakes are especially clear. Approximately 35,000 sheet metal workers are expected to retire in the coming years. Over half of the current workforce is already over 45. For every five workers who leave the trade, only two are entering it. The deficit is structural, and it is deepening.

"There is a lot that has changed about our country over the years: technology, artificial intelligence, you name it," says Michael Coleman, general president of SMART. "But one thing that won't ever change is this simple fact: We need skilled trades workers to build our country."

SMART members are building hospitals, managing air quality in schools and ensuring that apartment and office buildings operate efficiently. But the union — and the industry — cannot sustain that work without a new generation of workers ready to carry it forward.

THE TEENS ARE ALREADY LISTENING

The headline finding from this year's Wakefield Research study, commissioned by SMACNA, is striking in its directness: 75% of teens aged 13 to 18 say they would consider a trade job over going to college. Not "might consider," but "would consider" as a viable and appealing alternative, if they knew the pay was higher than average.

The survey asked what would tip a teenager toward the trades, and the results reveal a generation that is thinking practically and economically. Thirty percent cited higher pay, good benefits and paid apprenticeships as the most compelling factors. Twenty-four percent said the opportunity for promotion would sway them. Twenty-one percent said knowing that their work was vital to the economy would matter. And 19% pointed to the sheer growth in available positions.

These are the calculations of a generation that has watched student loan debt cripple its predecessors and has drawn conclusions. College enrollment rates have been declining since 2010, according to data from the National Center for Education Statistics with enrollment rebounding slightly since 2022.

The Wall Street Journal captured this shift in a widely circulated piece that dubbed Gen Z the "toolbelt generation," a label that has since stuck across the national conversation about workforce development. The numbers behind it are concrete: enrollment in vocational-focused community colleges rose 16% to its highest level since the National Student Clearinghouse began tracking such data in 2018. Enrollment in construction trade programs rose 23%. HVAC and vehicle maintenance programs rose 7%.

An earlier Thumbtack survey of Gen Z graduates found that about nine in 10 said learning a skilled trade offered a more reliable path to economic security than college. And a Jobber survey found that 75% of high school and college-age respondents said they would be interested in vocational schools offering paid, on-the-job training — the very model that apprenticeship programs in the sheet metal industry have perfected over decades.

The gender data is also notable. Interest among Gen Z women and men in the trades is now nearly equal — 52% versus 57%, respectively. That near-parity represents a structural shift from previous generations and an opportunity that the industry should be actively cultivating.

"Skilled professions offer rewarding career opportunities for all people, including young adults, women, veterans and anyone who is looking for a career change," says Frank Wall, CEO of SMACNA. "The wages and job security that trade careers offer provide a faster means to home ownership, upward mobility and saving for retirement that other pathways don't always ensure."

PARENTS ARE ON BOARD, AND THAT CHANGES EVERYTHING

One of the most underappreciated findings in the SMACNA research is about the parents of these teenagers. In the 2025 Wakefield Research survey of 500 parents with children currently enrolled in high school or college, 89% said it was smart for young adults to consider pursuing a trade career, given the job market, the economy and the

weight of college debt. And 86% said they would be open to or would actively encourage their child to pursue that path.

Forty-seven percent said their child had already mentioned wanting to go into a trade. That parental shift matters enormously. For decades, the cultural current ran in the opposite direction — the four-year degree was the expected destination, and anything else carried an implicit stigma. That stigma is eroding, and it is eroding at the family dinner table. When a parent hears that a sheet metal apprentice can earn up to $87,500 in their first year and can reach $120,000 to $200,000 in wages and benefits within four to five years of completing an apprenticeship, depending on your local collective bargaining agreement — with no college debt — the math becomes difficult to argue with.

The industry's task is not to persuade a resistant public. It is to amplify a conversation that is already happening and give it the language, the data and the pathways it needs to turn interest into enrollment.

A COALITION THAT HAS GROWN

The 2025 inaugural National Careers in Trades Week was anchored by SMACNA, SMART and the ITI — the organizations with the most direct stake in recruiting the next generation of sheet metal and HVAC workers. The 2026 edition has expanded that coalition significantly, and the additions signal something important: this is no longer a single-industry recruitment campaign. It is a cross-trades movement.

In 2026, new partners included the Mechanical Contractors Association of America (MCAA), the National Electrical Contractors Association (NECA), the National Energy Management Institute (NEMI), the Sheet Metal Occupational Health Institute Trust (SMOHIT) and the Heavy Metal Summer Experience. Each brings its own member base, its own regional networks and its own workforce development infrastructure to a shared platform.

NECA CEO David Long framed his organization's participation in terms that resonate far beyond the electrical industry. "A career in the electrical industry offers more than a paycheck; it offers purpose, stability and opportunity," he says. "Electrical construction professionals are building the systems that power our economy, keep our communities safe and bring us light at the flick of a switch. This industry provides high-quality training, competitive wages, strong benefits and clear pathways for advancement, allowing individuals to successfully transform their lives and families while contributing to a more connected and sustainable future."

The expansion of the coalition also positions National Careers in Trades Week alongside a parallel federal push. The U.S. Department of Labor announced that National Apprenticeship Week 2026 — set for April 26 through May 2, under the theme "America at Work: Making America Skilled Again Through Registered Apprenticeship" — will run just weeks after National Careers in Trades Week. The event is tied directly to the Trump administration's goal of reaching one million active apprentices and to presidential executive orders on skilled trades, AI education and national industrial reinvestment.

Since the start of the current administration, more than 363,000 new individuals have started apprenticeships — a figure that the Department of Labor is actively building on. The timing of both weeks created a month-long national drumbeat around workforce development in the trades, with National Careers in Trades Week generating the public awareness and National Apprenticeship Week translating that attention into specific pathways.

THE ECONOMIC CASE, BY THE NUMBERS

For contractors, workforce developers and educators looking to make the case for a career in sheet metal and HVAC, the 2026 data package is the strongest it has ever been. Here is the picture as it stands, depending on your local collective bargaining agreement:

- **$58,000** — Median annual wage in skilled trades (2025), up from $55,000 the prior year, exceeding the median for all U.S. occupations.
- **$23,556-plus** — Annual wage premium for full-time union construction workers over their non-union counterparts, based on BLS median weekly earnings data.
- **600,000-plus** — Construction job openings projected annually through 2034, with faster-than-average growth across the trades.
- **$87,500** — What a SMART sheet metal apprentice can earn in their first year, including wages and benefits, depending on your local collective bargaining agreement.
- **$120,000–$200,000** — Wages and benefits achievable within four to five years of completing a union sheet metal apprenticeship, depending on your local collective bargaining agreement.
- **$0** — Student debt incurred through an earn-while-you-learn apprenticeship, compared to an average of $34,000 for a four-year bachelor's degree.
- **5 to 2** — The ratio of trade workers retiring to new workers entering the field.

WHAT THE TRADES ACTUALLY OFFER

One of the recurring themes in the National Careers in Trades Week campaign — and in the broader public conversation that the Wall Street Journal, CNN and Fox News helped amplify — is that the trades have shed the image of being low-tech, low-status work. That image was never accurate for sheet metal and HVAC, and it is now actively counterproductive.

HVAC systems account for 30% to 40% of building energy use. The workers who design, install and maintain them are on the front lines of the green building revolution, reducing carbon emissions, increasing energy efficiency and enabling the kind of high-performance infrastructure that chip plants, data centers and healthcare facilities require. Modern laser welding, drone-assisted inspection, BIM coordination and AI-enabled project management are reshaping what it means to work in the trade. The workers entering the field today will spend their careers at that intersection of physical mastery and digital fluency.

The entrepreneurial pathway is also underappreciated. Many of the most successful contractors in the SMACNA network started as apprentices. With experience, those workers can open fabrication shops, manage service operations, move into project management and estimating, or eventually own their own businesses. It is one of the fastest routes to business ownership available in the American economy without requiring a degree.

And unlike industries that have seen jobs migrate offshore or dissolve into automation, sheet metal and mechanical work must be done on site by skilled hands in the buildings where Americans live and work. These jobs cannot be outsourced. In a labor market that has grown increasingly uncertain, that is not a small thing.

"Union apprenticeships aren't just a career path," Coleman says, "they're a gateway to a stable, rewarding future. By investing in the next generation of trade workers, we're building a skilled workforce that will power our industries and communities for decades to come."

APRIL 6 – 10: YEAR TWO RESULTS

National Careers in Trades Week 2026 ran April 6 through April 10 with cross-industry visibility efforts designed to reach job seekers, students, parents and the broader public. Throughout the week, participating organizations, including SMACNA, SMART, ITI, MCAA, NECA, NEMI, SMOHIT and HMSE, coordinated outreach across digital platforms, media and local markets.

For SMACNA members, National Careers in Trades Week represented both an opportunity and a responsibility. The research is there. The public appetite is there. The partnership infrastructure is there. What translates all of it into actual workers walking through the door of a local JATC is local engagement — contractors and industry partners showing up in their communities, talking to high school students, hosting tours, partnering with career and technical education programs, and making the invisible visible.

SMACNA members participated by visiting nationalcareersintradesweek.com for resources, toolkits and event information. The Heavy Metal Summer Experience, which gives young people a hands-on introduction to sheet metal work, continues to serve as one of the most effective on-ramps the industry has developed, and its reach is growing.

While the first National Careers in Trades Week landed on the front pages of the Wall Street Journal, CNN and Fox News, the second had the wind at its back with a stagnant broader job market, a generation actively looking for alternatives to college debt, parents who are ready to have the conversation and a coalition of trade organizations larger and better-resourced than the one that launched this effort just one year ago.

EDITOR'S NOTE: For more information on National Careers in Trades Week, visit nationalcareersintradesweek.com. For resources on the SMART apprenticeship program and the International Training Institute, visit iti-sti.org.

WORKFORCE STRATEGIES

A Trade Without Walls

How three professionals from academia, marketing and tech left their careers behind and found their futures in sheet metal and HVAC.

From left to right: Devon Madon, Ernie Menold and Garrett Montrone.

The story of the American trades has long been told as a story of inheritance — fathers handing off tools to sons, knowledge passed down through bloodlines and bench time. And while that lineage still runs deep through the sheet metal and HVAC industry, something new is happening. Across the country, a growing cohort of professionals is choosing the trades not because they were born into them, but because they sought something the corporate world couldn't give them: tangible work, real community and the kind of legacy that outlasts a quarterly earnings report.

The numbers tell part of the story. Ninety percent of SMACNA contractors report facing a labor shortage. The pipeline is not keeping pace with demand, and that gap represents both a challenge and an opportunity for career changers willing to make the leap.

The Bureau of Labor Statistics projects steady demand for HVAC and sheet metal workers for years to come, driven by infrastructure investment, green energy retrofits and the complexity of modern construction. These are cloud-connected, data-driven and precision-engineered industries hungry for the exact kinds of minds that Wall Street, academia and Silicon Valley have been cultivating.

Meet three of those minds: Garrett Montrone of Western Sheet Metal in Salt Lake City, a former Goldman Sachs technology analyst now three generations deep in a family legacy that started in a chicken coop; Ernie Menold, newly installed president of Ernest D. Menold Inc., a Philadelphia-area firm with seven decades of history; and Devon Madon, co-owner of Madon Sheet Metal, who holds a Ph.D. in Shakespeare and helped build a specialty welding shop from the ground up.

Their paths could not be more different, but what they found on the other side is remarkably the same.

FROM WALL STREET TO THE SHOP FLOOR: GARRETT MONTRONE, WESTERN SHEET METAL

The phone call came at the worst possible moment … or maybe the best. Garrett Montrone was in the middle of his annual performance review at Goldman Sachs, the kind of meeting where compensation gets set and futures get decided, when a separate conversation with college friends was pulling at him. They were launching a tech startup and wanted him in. He was weighing two versions of his future when his father threw a third one on the table.

"He said, 'I think you would be a great fit at Western,'" Montrone recalls. "I think you have the composure, the mental toughness and the capacity to do this, and it's something that's like a legacy.'"

At first, Montrone didn't even register it as a real option. He had grown up around Western Sheet Metal, the Salt Lake City HVAC and mechanical contracting firm his grandfather founded in 1968, starting from scratch in a chicken coop on his alfalfa farm while his grandmother kept the books in the farmhouse living room. But the trade had never figured into his plans. He had gone to Utah State University for a degree in management information systems, worked at a cloud computing firm called the K2 Group, and landed at Goldman as a technology analyst. He was moving up. He was immersed in a world of live data, global finance and enterprise software that most people never see.

Then he thought about what the work actually required.

"I naturally do things that I like to do — I'm a problem solver. A firefighter, whatever you want to call it," Montrone says. "I can come into any hectic environment with problems all over the place. And once I realized that's what sheet metal contracting is all the time — it's just being a problem solver — I could see that I would thrive there."

He took the pay cut and came home.

The culture shock was immediate. "It was just a total night and day difference," he says. "It was almost like a different century." At Goldman, everything ran on live data, integrated systems and was synchronized across offices around the world. At Western, information lived in filing cabinets. Processes were localized on individual machines. When something broke, there was a dusty troubleshooting binder in a cabinet — one that hadn't been opened in decades, with a support phone number for a company that had been out of business for years.

The first major win was cloud migration. At Goldman, cloud infrastructure was the baseline assumption — everything was accessible, always and from anywhere. At Western, nothing was. Montrone made it his mission to change that. "The first order of business was basically just let's get our stuff into some sort of cloud situation," he says. "Now we're at a place where you could technically work from home and have everything you possibly could need."

That transformation required trust. Coming in as the owner's son — the third-generation heir in a company full of veterans who had watched other owner's kids come and go — Montrone was working against assumptions he hadn't made. "You have to work harder to earn trust, get to know everybody and be accepted," he says. "They automatically assume you're just the owner's kid who has no business being there."

Eight or nine years later, that trust has been earned. "Now we're a solid team," he says. "Everybody relies on me. They talk to me about personal things. We go out and do things outside of work."

His message to the industry is urgent: technology adoption is not optional, and the window for proactive change is closing.

"The future is here," he says. "Technology is not just looking at a phone or a tablet. It's going to be a massive part of your business if you haven't already taken advantage of it. In the next five years, it might be too late."

"The future is here. Technology is going to be a massive part of your business if you haven't already taken advantage of it. In the next five years, it might be too late." — *Garrett Montrone*

For Montrone, the legacy is everything. His grandfather, an Italian farmer's son who couldn't fully understand his own parents because they spoke Italian and he didn't, built something from nothing. "He's the perfect example of the American dream," Montrone says. "And that's something I value greatly. So, it's not about money. It's about the legacy."

THE DATA MAN COMES HOME: ERNIE MENOLD, ERNEST D. MENOLD INC.

Before Ernie Menold became president of one of the Philadelphia region's established sheet metal contracting firms, he was teaching English in Bangkok, managing SEO campaigns in Boston and watching a fintech startup grow from 150 employees to 400. He came to his family's business not despite those detours, but because of them.

Menold grew up in the orbit of Ernest D. Menold Inc., a company now more than 70 years old that specializes in HVAC, dry-side sheet metal, pharmaceutical work and custom stainless architectural metals. He started painting fences and doing general maintenance at 14, worked the shop floor in college, got field experience hanging ductwork and shadowed project managers as a summer assistant. The exposure was deep, but the expectation was never automatic.

"The way our family operates as a family business is there isn't a pressure mandate to come and work," he says. "That decision needs to be an independent one — one that comes from a place of want-

“Our work is tangible. Sheet metal is the one trade turning flat metal and metal stock into actual fabricated items that go and live somewhere for years to come. To actually be able to go and touch and see your installed work is easily the most gratifying part of it all.” — *Ernie Menold*

ing to work there, not from a mandate.”

So, Menold left. He taught abroad for a year, came back, left again for Boston and built a career in digital marketing at a time when the discipline was still forming. He ran SEO and paid search campaigns for multiple clients at a marketing agency. He eventually landed as search engine marketing manager at Flywire, a financial technology platform, where he watched a mid-sized company build and scale a digital infrastructure from the inside.

“I got to see how a company scales digitally, building and implementing a tech stack very methodically,” he says. “That set a great foundation.”

When his father approached him in 2018, the company was growing, taking on bigger work and experiencing an expanding preconstruction workload. So, Menold came back as business development manager. The title suggested marketing and sales. The reality was process mapping and digital transformation. “It was a lot of operations — going through our processes, seeing how paper flows throughout a 70-year-old company and figuring out digital solutions to really get information into foremen’s and project managers’ hands quicker,” he says.

The skill that carried over most directly, Menold says, was data fluency. Years of turning raw analytics into client-ready stories had trained him to wrestle meaning from messy spreadsheets, find patterns in dirty CSV files and make data tell a story rather than simply report it. In construction, that same ability became the foundation for operational decision-making.

“I view it as: find those three dots and hit export on a messy CSV and play with that data,” he says. “That gave me the tools to find insights and actually make decisions for the company based on actual data rather than gut feelings.”

The challenge he encountered upon returning was experiential. Walking into scope meetings for large duct jobs, Menold was sometimes the least qualified person in the room to nail down the nitty-gritty of a bid. That knowledge — knowing where your risk sits, recognizing the position an owner or general contractor is trying to put you in and protecting profitability — takes time to build and can’t be imported from another industry.

“That is something you learn over time,” he says plainly.

What he could import was a fresh set of eyes. The company’s shop foreman was receiving work orders through a chaotic mix of text messages, emails and hand sketches. There was no standardized process and no centralized visibility into where jobs stood. Menold started there.

By 2020, he had built a workflow management layer on top of existing company software. In recent years, the firm has migrated to the Microsoft Power Platform, building custom solutions across its multiple lines of work after discovering that off-the-shelf construction management tools couldn’t accommodate their particular mix of pharmaceutical, architectural and HVAC work.

Now, foremen can pull up iPads and see where a job stands in the shop in real time without chasing down a phone call.

Menold sees his generation — the 40-somethings entering family businesses with digital backgrounds — as a pivot point for the industry. He sits on SMACNA’s construction technology committee and regularly encounters peers navigating the same transition.

For those considering the leap into the trades, Menold offers a distinctly tactile rationale. Coming from a software company, where success was measured in clicks, impressions and customer feedback loops, the physical reality of construction work hit differently.

“Our work is tangible,” he says. “Sheet metal specifically is the one trade turning flat metal and metal stock into actual fabricated items that go and live somewhere for years to come. To actually be able to go and touch and see your installed work is easily the most gratifying part of it all.”

THE SHAKESPEARE SCHOLAR WHO LEARNED TO WELD: DEVON MADON, MADON SHEET METAL

Devon Madon’s academic dissertation was on Shakespeare. She spent 15 years in classrooms, college lecture halls and at a prestigious math and science academy in Illinois, teaching literature, theory and close reading. Her husband, John, was an apprentice sheet metal worker becoming a journeyman, coming home with stories about what he built with his hands.

“I got my PhD in literature while he got his PhD in sheet metal,” she says with a laugh.

They were, by any conventional logic, on divergent tracks. Devon had deliberately fled family business after watching her father’s graphic design company — Wallace Church, a firm her grandfather had founded in the 1950s that did brand design for major clients including the Pillsbury Doughboy — sell rather than pass to the next generation. She had gone as far from entrepreneurship as she could get, all the way to a doctoral program, precisely because the experience of watching her father face that transition had been painful to witness. Even when his story turned out fine — he became happy, less stressed and wildly successful in other pursuits — the lesson Devon absorbed was about the weight of legacy.

So, when she and John decided in late 2019 to open Madon Sheet Metal, a specialty welding shop, she went in clear-eyed about the risks. They had two young boys, they were combining marriage and business, and they were opening their doors just before COVID hit.

“We had a really hard time for the first two years getting over that initial hump,” she says. “All kinds of bumps and turns and changed directions. But this is now our sixth year in business. We’re still here. And now we’re finally running a profitable shop and have found our niche.”

John brought the generational knowledge — his grandfather had come back from World War II with nothing, gone to Chicago and got a union sheet metal job. Both his father and uncle are sheet metal workers. His father’s guidance helped Devon and John understand the relationship between the shop, the office and the field in ways that no book could teach.

Devon brought everything else: the ability to plan, connect with people and 15 years of community-building experience.

“My job was being a teacher, and I think there are a lot of transferable skills,” she says. “My ability to connect with people and understand where their real pain points were is very similar to the kind of work I had to do as a teacher. Community building is basically what good teaching is, and that is a really transferable skill when it comes to small business ownership, especially in an industry that’s so much about relationships.”

The complementarity of their skill sets, Devon says, is the heart of what makes the partnership work. John can visualize a three-dimensional object in his head, understand the air pressure that has to flow through it, design it, weld it and put it together. Devon communicates through language with clients, contractors and the broader business ecosystem around the shop.

Working with her husband has required the same discipline she found in all the literature she’d read about family business, and she read a lot of it. She is, after all, a scholar. When things got hard, she went to the library. She talked to other people who had done it. She got financial, spiritual and mental health support, and she isn’t shy about saying so.

“I think that it’s really good to normalize getting some help,” she says. “It’s not like you’re done once. You have to keep renegotiating how to get back to that place where everybody can communicate and work together from a place of strength.”

She rejects the narrative that family business is a particular kind of trap or dream. It is, she says, whatever you make it, and it is sustained by the same things that sustain any relationship: respect, transparency, empathy and honesty about when you need help.

Her advice to anyone sitting on the fence about entering the sheet metal and HVAC world is know what specific problem you can solve.

“One of the huge misconceptions about this industry is that it’s only people who have one particular mindset or one skill set who can go into this,” she says. “This industry needs all kinds of minds and all kinds of different skill sets. But what is yours, and how can your particular skill set contribute?”

THE TRADE THAT NEEDS ALL KINDS

Montrone left Goldman Sachs and found himself running a plasma table. Menold left a fintech firm and found himself untangling 70 years of paper-based workflows. Madon left a university lectern and found herself co-running a specialty welding shop.

What they share is a disposition. They are people who recognized something in the sheet metal and HVAC industry that the industries they came from couldn’t offer: permanence and real work. The kind of legacy you can drive past and point to.

The labor shortage, data management challenge and technology gap is real. But so is the community. That inclusive culture, combined with the urgent need for new talent, new skills and new perspectives, makes the sheet metal and HVAC industry rare.

“This industry is wide-open,” Montrone says. “Get involved and get as much knowledge as you can.” ▼

“One of the huge misconceptions about this industry is that it’s only people who have one particular mindset or one skill set who can go into this. This industry needs all kinds of minds and all kinds of different skill sets.” — *Devon Madon*

Finding and Retaining Talent in a Shifting Workforce

How to recruit with authenticity, retain through empathy and develop through opportunity.

Marie Kumabe, Principal, Kumabe HR

When Marie Kumabe takes the stage, she doesn't begin with statistics or corporate buzzwords. She starts with a question: "How did you get into your field?" It's a simple prompt that reveals something profound about the state of today's workforce: most of us didn't plan our paths.

"More than half of people at the SMACNA Annual Convention, and nearly 40% nationally, say they never had a plan," Kumabe says. "That tells us something about how little exposure young people have to different industries, and how much work we have to do to change that."

As Principal of Kumabe HR, Hawaii's leading executive recruitment firm for the past seven years, Kumabe has made a career of helping employers find and keep the right people. With 35 years in human resources and as Faculty Director of the Executive Master's of Human Resources program at the University of Hawai'i at Mānoa's Shidler College of Business, she's witnessed waves of economic and demographic change. But she says the current moment, marked by record-low unemployment, high turnover and a shrinking pool of new entrants into the workforce, is particularly challenging.

"The U.S. fertility rate hit its lowest level ever recorded," Kumabe says. "That means fewer people will be around to fill jobs in the next generation. It's not just a temporary labor shortage; it's a structural one."

THE STATE OF TALENT

Recruiters and managers across the country are feeling the squeeze. The 2024 SHRM Talent Trends Report found that nearly 70% of organizations struggled to fill open roles. In Hawaii, the unemployment rate hovers around just 2.7% — tighter than the national average of 4.3% — while the average annual turnover rate across sectors exceeds 40%.

"In a market like that, you can't just post a job listing and hope for the best," Kumabe says. "You have to compete not only on pay and benefits, but on meaning, mission and flexibility."

She emphasizes that recruiting is no longer the sole domain of HR. "It's everyone's job," she says. "Your brand, managers and employees — everyone contributes to how your organization is perceived as a place to work."

RECRUITMENT IS MORE THAN PAYCHECKS

Recruitment, as Kumabe frames it, begins long before a job offer is extended. "It starts with telling your story," she says. "If your job description starts and ends with duties and requirements, you're missing the heart of what it could be."

A compelling job listing, in her view, highlights the company's mission, values and community impact before diving into the logistics. "People want to know how they'll make a difference," she explains. "Include photos, stories and the things you're proud of as an organization."

Kumabe says that employers also need to "monetize benefits" by clearly distinguishing what sets them apart, whether it's an Employee Stock Ownership Plan (ESOP), flexible hours or wellness initiatives. These tangible and intangible perks, when properly communicated, can influence a candidate's decision as much as base pay.

For younger generations, she adds, the definition of "total rewards" has shifted. "Generations Y and Z are looking for fair pay and personal meaning," Kumabe says. "They care about inclusive benefits that go beyond parenthood, equity at all levels and flexibility that supports their well-being."

She cites a telling observation from Business Insider: younger employees are unapologetically setting boundaries by taking mental health days, delegating work when necessary and defining success by balance rather than burnout. "That's not laziness," she says. "That's evolution. They see work as part of life, not life itself."

THE ART OF RETENTION

Recruiting talent is hard enough but keeping it can be even harder.

Kumabe believes retention strategies must adapt to reflect the same human-centered thinking that drives modern recruitment. "You retain people by creating conditions where they can grow, connect and belong," she says.

That means addressing the fundamentals — competitive pay, flexible scheduling and job security — but also nurturing a sense of purpose. "Offer paid volunteer days, support community engagement and make sure employees see how their work ties to something bigger," she suggests.

Kumabe says companies should treat retention like a living system, not a one-time initiative. "It's about personalized, evolving rewards," she explains. "That could mean offering hybrid work for parents, professional development for mid-career workers or leadership pathways for rising stars."

She encourages employers to listen actively through employee surveys and feedback loops. "Job security today doesn't just mean keeping your position," she says. "It means knowing your employer is invested in you, including your skills, your well-being and your future."

DEVELOPING TALENT

One of Kumabe's recurring themes is the idea of strategic workforce development, which

"Cultivating internal talent is a strategic imperative. By upskilling and reskilling your workforce, you unlock their hidden potential and ensure they thrive into the future."

is the long-term process of cultivating talent from within.

She points to both formal and informal learning opportunities. Formal options include industry certifications, such as the Sheet Metal Career Certification, and professional learning through platforms like LinkedIn Learning or SMACNA's development webinars. Informally, she recommends mentorship programs, shadowing opportunities and inviting emerging employees to sit in on meetings where they can observe leadership in action. "These experiences build confidence and a sense of belonging," she says. "And they tell your employees, 'We see a future for you here.'"

PRACTICAL APPLICATION

To make all of this real, Kumabe urges leaders to reimagine how they present their organizations, starting with job descriptions. "At the top of every posting, tell them who you are and what you believe in," she says. "Describe why your people love what they do before you list qualifications or duties."

She suggests attending job fairs and industry events to tell your story and show pride in your field. "Ironically, very few people outside certain professions know what realistic career paths look like," Kumabe says. "We have to bridge that gap early, especially with high school and college students."

That visibility, she argues, can inspire new generations to discover fields they might never have considered. "If we want to find them, get them and keep them," she says, "we have to show them why our industries matter and that they can belong here."

THE FUTURE OF WORK

Kumabe says building a strong workforce is about cultivating community. "Talent doesn't grow in isolation," she says. "It grows in environments where people feel valued, challenged and connected."

For her, that's the essence of the future of work: recruiting with authenticity, retaining through empathy and developing through opportunity.

"Everyone in your organization plays a role in that," Kumabe says. "We all share the responsibility to build workplaces that people want to be part of — not just for a paycheck, but for purpose."

"Everyone in your organization plays a role. We all share the responsibility to build workplaces that people want to be part of — not just for a paycheck, but for purpose."

WORKFORCE STRATEGIES

How to Build an Internship Program That Works

Sheet metal and HVAC leaders reveal proven strategies that turn college talent into industry lifelines, even for small firms.

Bryce Barler, Operations Manager at Southland Industries; Chris Gourley, Special Projects Director at Hermanson Co.; and Guy Gast, Former President of The Waldinger Corp., discuss how they created HVAC and sheet metal internships at their businesses.

In the world of construction, where skilled talent shortages threaten project timelines and innovation, internship programs stand as vital pipelines for fresh expertise.

At the 2025 SMACNA Annual Convention, sheet metal and HVAC leaders shared proven strategies for building internships, offering blueprints any firm can adapt to build robust programs that attract, develop and retain top talent.

PROGRAM FOUNDATIONS

Panelists emphasized starting small but intentional when creating an internship program. Bryce Barler, Operations Manager at Southland Industries in Southern California, highlights their scale. "This past year, we had 126 interns nationwide. I had 13 locally," shares Barler, who is heavily invested in the company's internship program. "I think we all know how hard it is to find good talent. So, we have a pretty good, robust internship program to help with that."

Guy Gast, Former President of The Waldinger Corp., notes the evolution of his internship program experience. "We stumbled into internship, and what I've noticed over the years is our program has become more and more intentional and formal," he explains. "Over the last two years, we've averaged 40 interns."

Chris Gourley, Special Projects Director at Hermanson Co., Kent, Washington, also reported strong results. "We have usually about four interns each year in the fall. And we have hired 15 or 16 over the last 15 years. So, we get about 62% retention on our interns."

The pipeline of interns can build the future of the company, points out Angie Simon, co-founder of the Heavy Metal Summer Experience and former SMACNA president. She retired as president of Western Allied Mechanical, Union City, California, and the president who took over after she retired was a previous intern. "It's nice to see the next generation from those interns run the company," she says.

RECRUITMENT TACTICS

What's the best way to draw students into an internship program? The panelists say building university ties and targeting passion over pedigree are important tactics.

Gast stresses relationships. "A successful program is built on a successful relationship with the university," he says.

Panelists share their internship experiences at their companies (left). Angie Simon, Co-founder of the Heavy Metal Summer Experience and former SMACNA President, moderates the discussion (right).

"You want to get to that point where you're top of mind when a university department head says, 'I've got this kid and I think he belongs with you guys.'"

Barler sends employees back to their alumni schools to help recruit interns or future employees. "I send [project managers] to the universities where they graduated from and rely on their sense of judgment to see whether or not these students that show passion for what we do and are excited about what we do," he says, adding that the company has 12 or 13 people in the company who help with the internship program.

Gourley focuses locally to recruit talent. "We focus on construction management and civil mechanical engineering safety, so we make sure we're looking for that kind of talent," he says. "A lot of our interns who are working with us now help us build those relationships with local schools and advise us on the program because they know what the experience is like."

All of the panel members prioritize paid positions, housing aid and diverse recruiters to reflect their workforces and encourage internship participation.

While finding diverse talent is improving, it can still be a struggle. "I would like to see our company reflect more of our community. That is the benchmark," Gast says. "Unfortunately, when you look at the engineering community, only 4% of the engineers at Iowa State are black. It's pretty hard to have your company look like your community when the population you're recruiting is low. We will hire qualified people, and I'm pleased to see more women entering the engineering field."

Gourley also has seen more women enter the company's internship program for engineering positions, operations and safety.

HANDS-ON STRUCTURE

Embracing rotations through departments, providing mentors and ensuring interns perform real tasks define internship program success.

"We do a rotation program where they get to basically touch every aspect, including engineering, IT, detailing, major product service, etc.," Gourley says. "They get a broad experience to understand what they really want to do because you don't really know what path you want to take until you live it."

Getting them into the field is also important. "Put them on a job with a project manager and keep them involved with projects," Barler says, adding that weekly feedback and social events build bonds, while presentations reinforce learning. "You want them to get into the environment they're working in."

And "you've got to have a mentor," Gast emphasizes. The first week is orientation and then we do safety training, but we provide a mentor for each intern to ensure a successful experience through the whole process."

RETENTION STRATEGIES

Once you have a relationship built with interns and future workers, panelists recommend acting fast on stars and staying connected.

Don't be afraid to make offers to interns who excel. "If you've got a superstar, we give them an offer before they leave the building," Barler says.

"You have to be intentional," Gast agrees. "They're going to have a job offer before they go to school. If you're not ready for that, continue monthly check-ins. Be intentional about persistent communication. Encourage them to stop by any of your offices."

Offering interns swag and inviting them to events can also keep a business top-of-mind as they pursue job opportunities after graduation.

As Gast says, quoting a Walt Disney mantra, "Make it so good that they want to come back and bring their friends." ▼

CHAPTER SPOTLIGHT: SMACNA DETROIT

America's Comeback City

Mark Saba, SMACNA Detroit's Executive Director.

The Motor City's SMACNA chapter works to capture new opportunities in this resurgent community.

In the last 20 years, Detroit has earned the moniker "America's Comeback City." After decades of losing population and businesses, the Motor City has turned a corner, drawing new residents, new investment and a newfound confidence in its future.

Projects such as the $1.5 billion, 49-story Hudson's Detroit mixed-use complex represent the city's future, while historic restorations of the 113-year-old Michigan Central Station acknowledge its storied past.

Having a major role in many of these landmark projects are the members of SMACNA Detroit. Representing about 75 union companies, the association's sheet metal contractors have been involved in some of the largest and most complicated commercial and industrial HVAC projects in southeastern Michigan, along with high-profile architectural work. From advanced manufacturing to critical air quality in health care facilities, SMACNA Detroit members regularly tackle high-performance projects.

Mark Saba, SMACNA Detroit's Executive Director, says the 63-year-old chapter's members have a long history of delivering for demanding clients. As the home of the U.S. auto industry, metro Detroit has numerous car plants and research facilities. And SMACNA Detroit members have worked on many of them. That work often encompasses installing large-scale duct systems and HVAC equipment that can handle strict ventilation requirements.

"We were involved in a lot of industrial work for General Motors and Chrysler (Stellantis), which I'm very proud of," he says. "Plus, hospital expansion work, especially at the University of Michigan. These hospitals are getting more involved, more technical, and I'm glad we're part of building these hospitals from the ground up."

When he talks about SMACNA Detroit, Saba often mentions SMART Local 80, which represents the sheet metal workers SMACNA Detroit members employ. Saba knows a lot about both. A former journeyman sheet metal worker, business agent and manager, in 2017 Saba retired from Local 80 and applied to become SMACNA Detroit's executive director.

"I get to see both sides," he says. "And what I pushed in Local 80 as business manager was 'together we do it better.' We have to work together. I never swayed from that. And when I came over to management, I had that same attitude. I think that's the insight I have — to help both sides to understand where each is coming from."

When asked to pick a word that describes SMACNA Detroit, Saba doesn't hesitate. "Dedication," he says. "One example is working with SMACNA National to bring in expert speakers like Technical Director Eli Howard — not only for our apprentices but also for our journeymen and owners. I think that goes a long way to show that we care about this industry, and we're going to do whatever it takes to keep this industry strong in the future."

CRAFTSMANSHIP TOURS

Saba suggests other chapter representatives visit the city to see some of SMACNA Detroit's members' work. "If you ever get a chance to tour downtown Detroit, all the architectural details you see on some of these buildings — the steeples, the towers — that's done by one of our architectural contractors, Glenn Parvin, who sits on the SMACNA board and works for CASS Sheet Metal," he says.

Like Parvin, the members of SMACNA Detroit and Local 80 are very giving, Saba adds. "It's amazing how some of the Local 80 contractors and retirees will step up and go to work," he says.

As the Motor City continues down its comeback path, Saba says that generous spirit will continue to propel the city and SMACNA Detroit forward. ▼

CAPITOL HILL UPDATE

Clean Air, Efficient Buildings: SMACNA Pushes Three Bills That Could Transform the Industry

The construction slowdown that began in early 2025 only worsened in 2026 due to increased metal and equipment tariffs,spiking energy costs and stubborn interest rates. This new economic reality for construction has a significant policy dimension, and SMACNA is working on Capitol Hill to address it by offering legislative solutions with bipartisan appeal and cosponsors motivated for results.

Residential and commercial retrofit and equipment markets are experiencing a slump following federal tax and spending reversals impacting existing projects. A significant impact was the elimination of key energy-efficiency tax incentives from the budget reconciliation package signed into law on July 4, 2025. SMACNA is actively advocating for three pieces of legislation. These would restore those incentives, improve indoor air quality in schools and drive IAQ assessments leading to HVAC upgrades in commercial buildings nationwide.

RESTORING H.R. 5862

The centerpiece of SMACNA's legislative push is the American Energy Independence and Affordability Act (H.R. 5862), introduced in direct response to the gutting of energy efficiency provisions in the final version of H.R. 1. Those provisions — many carrying vocal bipartisan support — were stripped in the final days of negotiations before the deadline. Their loss was felt immediately in residential and commercial construction and equipment sales markets that have now seen more than eight months of declining activity.

H.R. 5862 would restore and extend the tax incentive framework that was making energy efficient retrofits financially viable for homeowners, building owners and businesses. The bill extends incentives for efficient homes and commercial buildings; restores clean electricity production and investment tax credits for wind, solar and other zero-emission sources; reinstates clean-vehicle tax credits for businesses; supports domestic manufacturing of clean energy components; and extends the clean hydrogen production credit.

The practical effect of reinstating these incentives would be significant and fast-moving, injecting immediate stimulus into residential, industrial and transportation construction sectors with a growing number of contractors now sitting on the sidelines. The policy change would help in generating skilled construction jobs; supporting small businesses and equipment suppliers; and reducing pressure on the overburdened and strained electric grid by accelerating efficient retrofits across the country. With data center electricity demands now a front-page policy issue, this increased grid efficiency measure should be a simple choice for Congress to make before the election season ends Capitol Hill activity.

PROTECTING SCHOOL AIR: H.R. 5123

The Indoor Air Quality and Healthy Schools Act (H.R. 5123), co-sponsored by Representatives Paul Tonko (D-NY) and Brian Fitzpatrick (R-PA) is pending in the Energy and Commerce Committee. The bill takes direct aim at one of the nation's top public health challenges: poor indoor air quality in schools and public buildings.

SMACNA contractors are on the front lines advocating for addressing this issue every day. SMACNA's leading firms are deeply engaged in designing and installing the mechanical systems that determine whether a school's air is protecting its occupants or quietly harming them. The bill would strengthen the EPA's Indoor Environments Division, require the agency to establish and regularly update a list of significant indoor contaminants along with voluntary health-based guidelines, create voluntary building certifications for properties designed to minimize IAQ risks, and establish a national assessment of air quality conditions in schools and childcare facilities.

THE AIRBORNE ACT (H.R. 7460)

Sponsored by Representative Don Beyer (D-VA) and pending in the Ways and Means Committee, the AIRBORNE Act would add incentives to the tax code to move commercial property owners to respond, assess and address problems with their building indoor air quality. The bill offers a $1-per-square-foot tax credit for IAQ assessments, a $5-per-square-foot credit for air filter upgrades meeting ASHRAE Standard 62.1-2022 and MERV-13 or better, and a $50-per-square-foot credit for full HVAC system upgrades — each capped at 50% of total project cost. A voluntary DOE/EPA certification program would allow property owners to demonstrate compliance with the standards outlined in the bill.

SMACNA has enthusiastically endorsed the AIRBORNE Act and is actively working with SMART and industry allies and House members to build cosponsors and broaden support. ▼

DUCT & DATA

Hugh Seaton

AI Is Your New Apprentice: Why Contractors Need Training, Guardrails and an AI Game Plan in 2026

EDITOR'S NOTE: For March/April and May/June, I am honored to cede my article space to SMACNA's AI Leadership consultant, Hugh Seaton. Hugh has been providing valuable insights, webinars and thought leadership to our members over the last two years. Visit SMACNA's Construction Technology & AI site (www.smacna.org/business-resources/business-management/construction-technology-ai) to learn more about the topic. This is part one of two.

Unlike some technologies, AI is not just something firms adopt; it has a strong individual-level adoption, which presents a problem familiar to leaders who dealt with the introduction of smartphones 15 years ago.

AI TECHNOLOGY

At its heart, artificial intelligence differs from traditional software because it uses probability, not instructions, to get work done. This gives it enormous power to handle real world inputs, without requiring expensive reformatting and collection. But it also means that outputs are not automatically reliable.

We address this by engineering AI systems that surround the core AI models with guardrails. Think of AI like a smart but inexperienced worker. It can read fast, write fast and find things fast, but it needs supervision and clear direction, just like a green apprentice.

AI RISKS

Leaders should consider six main risks as they assess AI strategy and implementation:

1. **Security**: AI systems are not inherently prone to cybersecurity risk than other cloud software. An AI model will not remember what it has worked on, contrary to popular misconception. However, AI has unique risks, because we are exposing our software to more of the real world than traditional software. The biggest concern amongst cybersecurity specialists is "prompt injection," which means the AI is exposed to malicious instructions because of a document, website or other source that tells it to do unwanted things.
    a. Mitigation: Ensure the IT department is trained and aware of AI-specific risks and recommends and enforces policies to avoid them. This should not be a heavy lift but needs to be ongoing as new risks evolve.
2. **Agentic control:** The power of AI agents is that they develop their own plans and execute them. But, just like a human, they can go off track. This can become problematic because it wastes time and resources. Also, whenever you give an agent access to tools and resources, it can do things you'd prefer it not, like delete or alter files.
    a. Mitigation: Ensure extensive testing, strict permissioning and periodic testing.
3. **Easy Button:** Workers trust AI because it sounds confident and looks polished, but it can lead to over-reliance on a tool that still makes mistakes..
    a. Mitigation: Treat AI training the same way you'd treat safety training. Essential, non-negotiable and ongoing. Basic training on how to use AI well is not expensive and does not need to be extensive. Part of this training should be in-person groups, where coworkers learn from each other.
4. **Overwhelm:** In an industry with long hours and stressful days, AI presents another challenge: burying people in information faster than they can process it.
    a. Mitigation: Train workers how to think about integrating AI into their work and how to effectively instruct AI. Long, overdone answers are not inevitable, and brief training can make them both aware of the problem and how to get the right number of inputs.
5. **Overautomation:** More than one AI vendor is promising automation of key workflows. This sounds attractive, but there is a reason experienced workers do certain things. Good AI solutions maximize context and opportunity for workers to apply judgment and creativity where needed, while automating the supporting functions that make judgment possible. ▼

FINANCIAL STEWARDSHIP

Ronald J. Eagar

What Contractors Should Know About "No Tax on Overtime"

To keep projects moving and crews in the field, overtime has long been a reality in the construction industry. For contractors, accurately managing and reporting these hours is an operational necessity that requires balancing project demands, compliance and workforce well-being.

The One Big Beautiful Bill Act (OBBBA) introduces a first-of-its-kind federal income tax deduction for employees tied directly to qualified overtime pay. While the benefit flows to the employee, contractors will bear the responsibility for accurately tracking overtime — a process that may require meaningful payroll and system reporting process changes.

WHAT QUALIFIES AS OVERTIME UNDER FLSA?

For tax years 2025-2028, only non-exempt employees eligible for overtime under the Fair Labor Standards Act ("FLSA") rules qualify and may deduct the premium portion of overtime pay reported on a Form W-2, Form 1099, or other specified statement. Under the FLSA, this refers to the "half" portion of the mandated "time-and-a-half" rate for hours beyond the 40-hour workweek. For example, if an employee earns $30 per hour, they are paid $45 in overtime. The extra $15 is the premium portion.

Overtime reported solely under state law, local rules, company policy or Collective Bargaining Agreement (CBA) provisions does not meet the definition of qualifying overtime unless it overlaps with the FLSA requirements.

MAXIMUM DEDUCTION AND PHASE-OUTS

The maximum annual deduction for overtime pay is $12,500 for single filers and $25,000 for joint filers. It also phases out for taxpayers with modified adjusted gross income (MAGI) over $150,000 for single filers and $300,000 for joint filers.

THE CBA COMPLICATION

Overtime paid in excess of FLSA requirements does not currently qualify for the deduction. This includes overtime triggered by union contracts, company policy, or state or local law. Notably, many Collective Bargaining Agreements (CBAs) go beyond those standards, paying higher rates for weekends, holidays or double time.

Because many CBAs include premiums such as time-and-a-half after the eight hours per day or double time on Sundays, contractors may need to break down overtime pay into FLSA-qualifying and non-qualifying components. Until IRS guidance is issued, contractors should assume only the FLSA-mandated premium qualifies.

2025 IS A "TRANSITION YEAR"

For 2025, employers are not required to report qualified overtime compensation on Forms W-2, 1099-NEC and 1099-MISC. However, starting in tax year 2026, employers must separately itemize qualified overtime premiums on Forms W-2 and 1099. This represents a major change to historical payroll reporting, and payroll systems will need dedicated fields to capture only the premium portion.

Contractors should prepare in advance by:

- **Reviewing overtime eligibility:** Confirm which employees are eligible for overtime under FLSA.
- **Separating qualifying and non-qualifying overtime in payroll system:** Work with payroll providers to flag and track FLSA-qualifying overtime separately from other premium pay, such as double time, weekend or holiday rates.
- **Strengthening record keeping and documentation:** Maintain clear records of hours worked, overtime rates paid and the basis for overtime.
- **Using 2025 as a preparation year for employee communication and reporting:** Contractors should begin preparing internal teams and employees for how qualifying overtime will be tracked and reported.

PLANNING FOR OVERTIME COMPLIANCE

As the construction industry continues to balance labor shortages, scheduling pressures and compliance obligations, the new overtime deduction introduces another layer of complexity and opportunity. Unmanaged overtime can increase compliance risk, administrative burden and financial exposure. Contractors who understand what qualifies, strengthen payroll tracking and prepare for 2026 reporting requirements will be better positioned to support their workforce with a meaningful new tax benefit. ▼

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SMACNA CALENDAR

2026

MAY

May 6–8
2026 SMACNA
Washington, D.C.
Leadersihp Conference
Washington, D.C.

May 14
AI Introduction
Webinar

May 28
BE4ALL Town Hall
Washington, D.C.

May 31 – June 2
Council of Chapter
Representatives Meeting
Quebec City

JUNE

June 7-10
Project Managers Institute
Boston, Massachusetts

SEPTEMBER

September 27-30
Project Managers Institute
Denver, Colorado

OCTOBER

October 5-7
Financial Boot Camp:
Interpret, Navigate, Analyze!
Phoenix, Arizona

October 25-28
2026 SMACNA
Annual Convention
Orlando, Florida

DECEMBER

December 5-7
Council of Chapter
Representatives Meeting
Boca Raton, Florida

Welcome New SMACNA Members

DeBra-Kuempel Inc.	Evansville, Indiana
H&C HVAC LLC	Gibsonia, Pennsylvania
Midtown Sweeps Inc.	Boulder, Colorado
Murray Co.	Las Vegas, Nevada
RSAnalysis LLC	Las Vegas, Nevada
Vancouver Stainless Steel	Port Coquitlam, British Columbia

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