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2025 Commercial HVAC Market Forecast

ALSO IN THIS ISSUE:

- Why Integrate HVAC Duct Renovation and Duct Cleaning Services
- Help Customers Choose the Right HVAC System
- Partner Spotlight: Conduit Technology



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Top 10 Commercial HVAC Challenges for 2025



Mike Weil is editor-in-chief and director of communications and publications at National Comfort Institute, Inc. Contact him at ncilink.com/ContactMe.

As we look ahead to 2025, it's clear that the HVAC industry is poised for significant changes. Staying ahead of these changes is crucial for commercial HVAC contractors who want to remain competitive and meet the evolving needs of their clients.

Here are the top 10 trends that commercial HVAC contractors should be on the lookout and prepared for in the coming year.

1. Sustainable and green technologies are no longer just a trend; they are becoming a necessity. The demand for eco-friendly HVAC solutions is increasing as more businesses prioritize sustainability. [Forbes](#) magazine did an excellent article on this topic in 2022.

Innovations in geothermal systems, solar-powered HVAC, and the integration of renewable energy sources are at the forefront of this movement. Embracing these technologies not only helps the environment but also appeals to eco-conscious commercial building clients and can provide significant energy savings.

For more information on this, read "[Sustainable HVAC Systems in Commercial Construction: Balancing Comfort and Energy Efficiency](#)."

2. Energy efficiency regulations continue to be an area to watch closely. Governments worldwide are tightening standards to reduce energy consumption and carbon emissions. Staying compliant with these regulations is crucial.

Commercial contractors should be proactive in understanding upcoming changes and ensuring that their systems are as efficient as possible.

Rheem Manufacturing has a [U.S. Regulatory Guide](#) which can help both commercial and residential contractors.

3. The rise of smart HVAC systems and the integration of the Internet of Things (IoT)

is transforming the commercial HVAC industry. [Smart systems](#) offer improved control, monitoring, and maintenance capabilities. The ability to predict maintenance needs and optimize performance can lead to significant cost savings and increased system reliability.

4. Indoor air quality (IAQ) continues gaining unprecedented attention. [Ensuring that indoor environments are healthy and safe is now a top priority for building owners](#) whose tenants demand it. Contractors should focus on the latest IAQ technologies and best practices, from advanced filtration systems to real-time air quality monitoring.

5. Labor Shortage. One of the biggest challenges facing the HVAC industry is the [shortage of skilled labor](#). To attract and retain talent, contractors need to invest in training programs, apprenticeships, and partnerships with educational institutions. Developing a pipeline of skilled workers is essential for long-term success.

6. Advanced HVAC software solutions, especially those coupled with [artificial intelligence engines](#), are revolutionizing how buildings are managed and how contractors operate. These tools can streamline everything from load calculations and system design to building management and customer relationship management. Embracing these technologies can lead to greater efficiency and improved service delivery.

7. The market for retrofitting and upgrading existing systems is growing. Many buildings have outdated HVAC systems that are inefficient and costly to operate. Retrofitting offers a cost-effective way to improve performance and energy efficiency. [NCI](#)

This article continues online at ncilink.com/0225TW

Written for HVAC Professionals by HVAC Professionals

HOT-WIRE ANEMOMETER HELPED CHANGE DIAGNOSTICS

When it comes to commercial service, especially on the airside of the HVAC system, I found the [Fieldpiece STA2 in-duct hot wire anemometer](#) not only helped me with diagnosing issues, it also allowed me to measure airflow instead of guessing.

Whether I measure in a return duct or supply duct, the open area of an economizer screen, or the intake of an exhaust fan, I get accurate results in minutes.

I started using this tool in 2015, mostly on residential and light commercial systems and mostly for returns where balancing hoods didn't fit. Then, in 2020 I started using the STA2 on economizers to set them up and verify performance.

This instrument is easy to set up and

goes beyond displaying average velocity. If you input the dimensions of the



opening, the STA2 calculates and displays airflow in CFM (cubic feet/minute) with the touch of a button. It has a range of 40 to 3,690 feet per minute

(FPM), resolution of 1 FPM, and a temperature range from -4°F to 140°F.

The STA2 has another great feature which is the 38-in. telescoping probe with etched ruler and flat edges to help you always know the position of the thermistor.

This instrument minimizes turbulence effect, offers hands-free testing with its magnetic hanger, and has a fast response time.

It comes in a rigid plastic case, and the anemometer itself is very durable due to the rubber casing around it.

The only downside that I've found with the STA2 is it's not rechargeable. Despite that, if you are looking for a great tool check it out at ncilink.com/STA2.

— Andrew Smith, Instructor,
National Comfort Institute, Inc.

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I've always been a huge science fiction fan and as I get older it is really a treat to see the stuff of stories become reality, not only in my personal life, but in business and industry too.

For example, long ago an author and scientist by the name of [Arthur C. Clarke](#) imagined a world where orbiting communications satellites were held stationary in specific positions

Conduit, co-founded by Marisa Reddy and Shelby Breger in 2022, is a technology company driven by a passion for energy efficiency and high-performance system design.

What started as a mutual curiosity and a collaborative learning initiative evolved into a cutting-edge software solution reshaping how HVAC contractors approach system design and customer engagement.

Building envelope improvements, right-sizing HVAC systems, and installing high efficiency equipment can all help reduce this number. Doing these things enables contracting professionals and homeowners to benefit from such energy savings.

According to Shelby Breger, the Conduit platform helps contractors design efficient HVAC system installations and then share those benefits with homeowners.



Conduit co-founders Marisa Reddy (left) and Shelby Breger (right).

(geostationary orbit) and was a front-runner who worked with early radar technology during World War Two.

From that we saw the evolution of [LiDAR](#) (Light Detection and Ranging) technology and that is where this story really begins.

In the rapidly evolving HVAC industry, one company, [Conduit Tech](#), has now brought LiDAR into the realm of HVAC design and sales.

A VISION BORN FROM COLLABORATION

Conduit officially began in 2022, but its origins trace back to early 2021 when Marisa and Shelby, both with backgrounds in energy efficiency, began exploring the residential building efficiency space together.

Some background facts: Residential heating and cooling account for nearly 10% of U.S. energy use.

SUPPORTING HVAC PROFESSIONALS

“We saw these rapid changes in residential building efficiency and realized the immense pressures placed on HVAC professionals. We wanted to create a tool to help alleviate this pressure and help contractors connect with their customers through knowledge and visuals and subsequently close more sales,” Breger explains.

Motivated to support this industry shift, Shelby says she and Marisa dedicated their free time to learning from contractors, understanding market challenges, and testing software prototypes.

“As we started this journey of discovery, we met many exceptional contractors along the way who were very willing to dedicate time for us to interview. In these conversations, we’d ask them about the challenges they saw in designing, installing, and selling electrification and



high-performance installations.

“The more we learned, the more we realized that HVAC contractors had to manage customer education every step of the way – explaining key comfort challenges and their relationship to efficiency. Solving problems in these two key areas tends to be expensive. Most consumers never dreamed of how costly these problems could be.

“Add to that all the challenges contractors face regarding regulation and permitting that happens simultaneously.

INNOVATIVE TOOLS FOR A CHANGING INDUSTRY

The breakthrough for Conduit came when the team developed a design and sales system to simplify the complexity of HVAC system design.

“We challenged ourselves to build a tool to help contractors design and sell while collaborating with their customers,” Shelby continues.

The solution was a comprehensive platform incorporating LiDAR

technology to streamline the data collection process during home assessments.

“We discovered that high-performance contractors faced challenges in their sales process by taking the time to do a thorough design. With LiDAR, contractors can now scan a space, generate a 3D model, and create a detailed floor plan in a fraction of the time previously required, reducing design time from two hours to about 15 minutes.”

FROM PROTOTYPES TO INDUSTRY ADOPTION

Developing a functional product was not without its challenges.

“We built a lot of prototypes for different solutions, and many were not very good,” Breger admitted. “Feedback from early testers was always too kind, but noncommittal until we unveiled the current version of the Conduit software.

She says that in 2022, Conduit came up with a foundational version of the software they have today. The thought was to create a design and sales

system that helps contractors sell collaboratively with their customers.

“When we showed our core group of HVAC contractor testers this version, the response changed completely – they were ready to sign up immediately.”

This process was the launch pad for Conduit and, in Breger’s opinion, helped to move it to the forefront as a high-performance design and sales tool. She says contractors are embracing it for its ability to balance precision with speed and simplicity, which are key principles the company continues to build upon.

A UNIQUE BACKGROUND: FROM ENERGY EFFICIENCY TO HVAC

Before founding Conduit, Shelby and Marisa were not part of the HVAC industry. Shelby’s background was in industrial energy efficiency, while Marisa, who has an engineering degree, worked in agriculture efficiency. Both women say home performance was fascinating because of its direct impact on people’s lives.

“Our guiding question became, what can we do today that helps small HVAC business owners and consumers in a meaningful way?”

Their collaboration began in Boston, where they connected through a shared alum network and a mutual interest in residential energy efficiency.

“We just started learning together, driven by curiosity and the desire to make an impact,” Shelby Breger says.

BUILDING ON RELATIONSHIPS AND PARTNERSHIPS

Conduit’s growth strategy is heavily relationship-driven. Shelby says they have been fortunate that many early customers became vocal advocates.

“Word-of-mouth referrals and direct market engagement have been central to us moving forward. To build those connections, we participate in industry conferences like the [Air Conditioning Contractors of America \(ACCA\)](#) annual meeting and [Service World Expo](#).”

The company has also forged valuable partnerships with industry leaders, including the [National Comfort Institute \(NCI\)](#) and [Service Titan](#).

“I met [Rob Minnick](#) sometime in 2022 or 2023 when he was working with an HVAC contracting firm,” Shelby continues. “He became one of our earliest beta testers. So was another contractor named [Adam Mufich](#).

“Both helped shape the software as it is today. Both eventually became instructors for NCI and introduced us to the team there.

“Our alignment with NCI was natural,” she says. “NCI’s focus on high-performance training and testing fits perfectly with our mission of helping contractors deliver better results for homeowners.”

COMMITMENT TO CUSTOMER TRAINING AND SUPPORT

A core pillar of Conduit’s approach is its hands-on customer support and onboarding.

“We know change can be daunting,” Shelby says. “While the software is easy to learn, we strongly believe that personalized, live training sessions most effectively ensure contractors feel confident in applying the software.

have become vocal advocates of the platform.

“That’s the best thing possible for us,” Shelby says. “These contractors share what they do with Conduit with their peers, creating a significant word-of-mouth marketing strategy.

“We plan to expand our approach to reach more contractors over the next year or so but are grateful for how our users have shared our technology with their communities.”

DIFFERENTIATION THROUGH TECHNOLOGY AND SIMPLICITY

While Conduit faces competition from established platforms like Wrightsoft and Elite Software, its use of LiDAR technology sets it apart. In fact, Breger says the turning point for this tech came in 2020 when the latest Apple iPad Pros and iPhones had LiDAR built in. So, Conduit took advantage of it for their software.

“Our product is an on-site sales and design tool that transforms how contractors engage with homeowners,” Shelby continues. “Demonstrating HVAC system needs in real-time visually has been a game-changer.”

She says Conduit simplifies the design process without compromising accuracy.

“Our goal is to use design as a communication tool with the customer, not just as a technical process completed behind the scenes.”

CHALLENGES / OPPORTUNITIES IN A SHIFTING MARKET

Conduit continues to adapt as the



“Our training includes three personalized sessions where we walk contractors through using the software, adjusting their results for accuracy, and reviewing completed projects. This detailed approach helps ensure confidence in our product and its results.”

She adds that Conduit’s customers

HVAC industry evolves with new energy efficiency regulations and technologies. According to Shelby, the **electrification movement** and state rebate programs are introducing new contractor challenges.

“Our platform can help contractors stay compliant and streamline the documentation needed.”

LOOKING AHEAD: FUTURE GROWTH AND IMPACT

Conduit is ready for continued expansion with a growing team of 16 full-time staff and several consultants. Conduit’s headquarters office is in Massachusetts, but most of the staff are located across the U.S.

Breger says the benefit of such decentralization is that the company can



offer greater support availability for customers and can cover HVAC Industry conferences near where they live.

“Our focus is on scaling our partnerships, particularly with NCI, and continuing to embed best practices into our software,” she says.

Breger adds that the company remains committed to its three core principles:

- Driving precision with speed
- Making design a tool for homeowner engagement
- Serving as a comprehensive source of truth throughout the sales and installation process.

“We want to continue pushing the industry forward by making High-Performance HVAC™ design accessible and effective for all contractors,” Shelby concludes.

As Conduit continues to innovate and expand its contractor reach, its focus on empowering HVAC professionals with cutting-edge tools and training sets a powerful example of how technology can drive positive changes in this industry.

It is for these and many other reasons that the team at **High-Performance HVAC Today** magazine selected **Conduit Tech** as their *February 2025 Partner Spotlight*. Congratulations to co-founders Shelby Breger and Marisa Reddy and their entire team. **NCI**

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- Heat exchanger integrity test.
- Industry leading service times gets your analyzer back in your hands quickly.

Helping Customers Choose *the Right HVAC System*

At [Progressive Heating, Air and Plumbing](#), we have a mission to help educate customers about their HVAC systems. When I visit clients, I explain that my goal is to help find the best solutions for their concerns and needs.

I ask them to share their experiences with their current HVAC system, including what they like and dislike about its performance. I listen carefully and take notes.

After gathering all the necessary information from the homeowner, I ask for their permission to conduct a performance test on the equipment and ductwork. I explain that this process is similar to a doctor's visit, where tests and assessments are conducted to ensure that the recommended treatment is beneficial.

This helps customers understand the importance of testing to provide the best possible solution for their equipment or ductwork issues.

CUSTOMER BELIEFS VERSUS REALITY

Some clients initially believe that bigger equipment will make their home more comfortable. I ask them if they would buy a suit or dress that is too big or too small, and they usually realize they prefer something that fits just right. I then explain that I am testing and sizing the equipment

to fit their home for optimal performance.

There are many types of equipment to choose from. By evaluating the client's current setup and needs, I can determine whether a heat pump, ductless system, or gas furnace with straight air conditioning is the best fit. It's like choosing the right shoes for the right activity – running shoes, hiking shoes, water shoes, work shoes, and flip-flops all serve different purposes.



Crawlspace encapsulation is just one of the many services Progressive has to help customers decide what to buy and when.

When clients ask about saving money on equipment replacement, I review the differences between each choice and their functionalities. I use simple terminology that my clients understand, such as comparing

SEER ratings to MPG for cars, to make it easy for them to relate to the concepts.

WHAT ABOUT EFFICIENCY?

During my home inspections, I also check the attic insulation and, if there is a crawl space, the floor insulation. For older homes, windows can be a factor as well.

I discuss with clients how addressing these issues before replacing the equipment can save them money on overall operation costs.

At Progressive, we offer attic and floor insulation services, providing an additional revenue stream for the company and savings for our clients.



DUCT RENOVATIONS

I enjoy talking to clients about ductwork renovations. I keep pictures and reports of before-and-after results to show the benefits of these renovations. We discuss their current ductwork and how improvements can enhance equipment efficiency, even if they aren't replacing the equipment immediately.

By using illustrations and analogies, like comparing ductwork tuning to guitar tuning, I can help clients understand the importance of proper airflow.

Sometimes clients have researched online and believe they know exactly what they need. I appreciate their effort to be informed and explain that my recommendations are based on their specific needs and usage patterns.

I educate them on the differences in options and create a plan to achieve their goals with the new equipment.

STAYING UP-TO-DATE ALSO HELPS

Staying up to date with industry changes is crucial. The days of using outdated methods are long gone. I prioritize staying informed about future HVAC Industry developments to ensure we provide the best products, experience, and performance for our customers and staff.

At Progressive, we use advanced tools and conduct in-house training and testing to prepare our staff for solving problems confidently.

When performing tests on equipment and ductwork, I use tools like the TrueFlow® Grid and an airflow hood to get a clear picture of the system's operation. After testing, I provide a detailed report and create a plan of action for my clients. Hearing clients say, "The other companies didn't do any of this," reinforces

my commitment to thorough assessments and permanent solutions.

THE HIGH-PERFORMANCE APPROACH

Offering [High-Performance HVAC solutions](#) can be costly, and some clients may hesitate. I reassure them that we take full responsibility for ensuring their satisfaction from start to finish.

Plus, for clients concerned about upfront costs, we offer [financing options](#) to reduce anxiety and provide the best system they deserve.

Environmental concerns are important to us. We provide options to lower energy operating costs with energy star-rated equipment and energy consumption reports. We also ensure proper recycling of old equipment according to EPA standards.

We cannot offer these services without committing to keeping our



Using high-performance testing and measuring, as defined by NCI, Progressive technicians can find invisible problems and offer customers options for repairing and financing solutions.

team members trained. We subscribe to the National Comfort Institute (NCI) High-Performance HVAC™ approach and send our team for training on a regular basis.

MAINTENANCE PLANS

We offer maintenance plans tailored to our clients' needs. Progressive calls these our **Comfort Assurance Plans** that offer customers a number of benefits and discounts.

During maintenance visits, we check system static pressure and perform **measureQuick®** tests to ensure the system operates as it did when first installed. I also educate homeowners on simple maintenance tasks they can do between our visits to keep their equipment in good condition.

OTHER SERVICE OFFERINGS

Indoor air quality (IAQ) is a priority at Progressive. I ask clients if anyone in their home has allergies or poor air quality and gather information to provide the proper treatment.

A customer with severe allergies may want an HVAC system that improves indoor air quality. We often recommend a system that uses a HEPA filter and an integrated air

purifier. Customers often notice a significant reduction in allergy symptoms.

The idea is to provide solutions that may include replacing duct systems, installing better air filtration, or other ventilation systems to remove contaminants.

Progressive offers other services so we can provide for any needs our clients require. Among those services:

- Duct Cleaning
- Duct Sealing
- Duct Replacement
- Energy Savings
- Humidity Control
- Encapsulation Services
- Zoning Systems
- Geothermal
- Mini-Split Central Air Systems.

We also offer complete plumbing services. The idea is to be a one-stop shop for all our customers' comfort and healthy environmental needs.

Each customer is unique. Understanding their specific needs allows me to provide tailored solutions, whether it's noise sensitivity, humidity control, or VOC reduction. We offer 10-year parts warranties and optional 10-year labor warranties to protect our clients' investments. All installations include a maintenance plan for regular upkeep.

FOLLOW-UP IS KEY


After installation, we schedule a visit from our Home Solutions Adviser to review warranty paperwork, perform a quality assurance check, and address any client concerns. I also conduct a follow-up call about six months later to ensure the system performs well and meets their expectations.

One customer, a gentleman named Mr. Hernandez, was on a tight budget after retiring.

After a thorough assessment of his equipment and ductwork, I recommended a comprehensive solution that included a performance duct system renovation, new equipment, and crawl space encapsulation.

Despite initial hesitation, Mr. Hernandez appreciated my detailed explanations and commitment to his long-term satisfaction, ultimately choosing to proceed with the full project.

The team here at Progressive believes in offering customers with tailored solutions to meet their unique needs and preferences, thus ensuring satisfaction and improved comfort.

Our role is to help customers make the best decisions, and that is what we try to do with every contact, on every job, at all times. 



Darren McDonald has worked with **Progressive Heating, Air, and Plumbing** since February 9, 2007. He started as a helper and worked his way up through various roles. He has more than 23 years of industry experience and multiple **National Comfort Institute** certifications, including **Residential Air Balancing, Residential System Performance, Carbon Monoxide and Combustion**, and **Duct System Optimization**. To reach him, use this link: ncilink.com/ContactMe.

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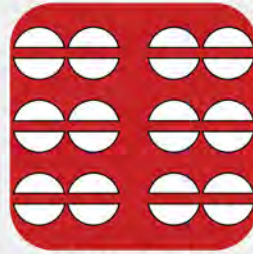
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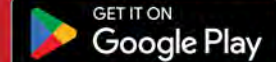
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Why Integrate HVAC Duct Renovation & Duct Cleaning Services

High-Performance HVAC™ companies have a unique opportunity to enhance HVAC system efficiency, indoor air quality (IAQ), and customer satisfaction by integrating **duct cleaning and duct renovation** services within their business model. These two disciplines, though distinct, share complimentary goals and often overlap in execution.

Collaboration between duct cleaners and duct renovators not only improves results, but also increases operational efficiency by leveraging synergies between their respective job tasks. First, let's define what I am talking about:

Duct Cleaning focuses on the 'source removal' of 'non-adhered' HVAC system contaminants and obstructions from the airside surfaces of the ductwork and HVAC equipment, to improve airflow and indoor air quality.

Duct Renovation addresses duct design, installation quality, and structural or performance issues such as air leaks, poor insulation performance, or structural damage to ductwork. Duct



Southeast Clean Air Solutions is a dryer vent company that teams up with High-Performance HVAC contractors to provide duct cleaning and renovation services.

renovation provides measurable improvements in the Btu delivery rate of the HVAC equipment into the space that equipment serves.

Now, let's evaluate where service synergies exist between duct cleaners and duct renovators by taking a look at the job tasks performed by them.

GRILLES AND REGISTERS

Starting with the **return grilles** and **supply registers**, removing and replacing or reinstalling these is common for the duct cleaner, and is an upgrade opportunity for the duct renovator to provide [vent boot gap caulking](#) as well as [high-performance grille and/or register replacements](#).

Moving on to the **return and supply duct systems**, there are several areas of overlap between duct cleaners and duct renovators based largely on the type of ductwork that's being serviced.

FLEX DUCTS

Flexible ducts offer a significant opportunity for both duct cleaners and duct renovators because they are often not installed correctly according to flex duct manufacturer installation guidelines. Often the same types of airflow obstructions that are observed in poorly supported flex ducts will also challenge duct cleaners' ability to perform duct cleaning activities.

Duct straps make it difficult to 'jump' the cleaning tools and air rods over the hurdle without risk of damage to the internal structure and lining of the flex line.

Additionally, and particularly in homes with floor vent duct configurations, it's common that construction debris, sharp objects, and other larger 'contaminants' fall into the 'floor trash chute' over time and cannot be safely removed from the



flex duct with traditional duct cleaning methods.

As a result, we often disconnect flex ducts from their takeoff collar to remove sharp or heavy objects before performing traditional duct cleaning. Duct cleaners will also disconnect flex duct to gain access to the main trunk lines without having to cut a 'service opening' into the ductwork that requires a patch.

Another approach to cleaning flex duct is to re-support, shorten, straighten, and re-route duct runs to enable cleaning tools to move through them freely.

Properly installed, supported, shortened, and straightened flex duct facilitates better airflow performance and safer execution of duct cleaning techniques!

EXTERNAL INSULATED METAL DUCTS

These ducts provide synergistic service opportunities between duct cleaners and duct renovators. How?

Because they both can identify duct renovation opportunities. The duct cleaner can see issues typically covered up by the external fiberglass wrapping, enabling them to identify where duct renovation service opportunities are located and required.

These internal duct images provide visual clues about common duct issues such as popped elbows, large air leakage gaps, misaligned or failed duct connections.

Duct renovators can use these inspection insights to know the locations of damaged metal components for replacement, where additional air sealing might be most beneficial, and even where the friction points are within the duct system based on contaminant deposits on internal duct surfaces.

Furthermore, duct cleaners and duct renovators can both identify where insulation repair or replacement may be necessary due to field observations of duct condensation that indicate poor insulation performance.

Lastly, there is the potential opportunity with external metal ductwork of using internal duct

sealing technologies and techniques, such as Aeroseal or ISAAC Robotic Sprayer with Hardcast RS-100.



The Dryer Vent Guys is a duct cleaning company working with Southeastern Clean Air Services.

Duct cleaners rely on taking photos and videos from inside the duct systems to validate cleaning efforts.



Zach Ortwine's (center) efforts in duct renovation and collaboration with High-Performance HVAC contractors earned him National Comfort Institute's (NCI) **2024 Small Contractor of the Year** award, highlighting his innovative contributions to the industry. He joined NCI in 2023 — becoming one of the first duct cleaning contractors to join the organization. He has earned certifications in [Duct System Optimization](#), [Residential HVAC System Performance](#), and [Residential Air Balancing](#).

INTERNAL-LINED METAL DUCTS

Internal lined metal ducts provide opportunities to both duct cleaners and duct renovators who can improve the installation quality of the internal lining.

Duct cleaners may visibly observe insulation liner issues including:

- Delamination of the liner adhesive from the duct walls,
- Tears in the liner, locations where there is no edge sealer on the nosing of the liners at duct connections
- Overall degradation of the liner's physical characteristics over time as indoor air quality complaints come into the picture.

Some solutions include **fiberglass surface repair coatings** that provide both measurable HVAC system performance improvements along with indoor air quality (IAQ) benefits.

HVAC system performance improvements may also include slight

internal duct sealing and reduction in duct leakage for internally-lined metal ducts. Keep in mind that fiberglass surface repair coatings are not designed for or intended for use as a 'duct sealant.' Slight performance improvements may occur as a byproduct of the coating application procedure which involves using an airless paint sprayer.

HVAC system performance improvements include:

- **A reduction in surface friction** which is a characteristic of the fiberglass liner material
- **Reduced static pressure** — as air moves across the ductwork, airflow increases, which reduces in *filter and coil contaminant loading intervals*.

DUCT BOARD

Duct board shares many of the same potential benefits of internally-lined

metal ducts, with the exception of providing measurable reduction of duct leakage due to the way duct board systems are fabricated and assembled.

The primary synergy involves installing a fiberglass surface repair coating after duct cleaning, but an additional opportunity exists where duct board connections result in edges that protrude far enough into the airstream.

Think of a duct 'bowing' because it was forced to fit into a space that it wasn't sized correctly to fit within. Duct renovators can modify the existing 'bowed in' or 'bowed out' duct board trunk to provide better alignment and support.

Another potential issue that duct cleaners may find is an improperly sized duct board installation that doesn't have the structural integrity to hold up against the HVAC blower fan.

"Collapsed ductwork" can occur with an undersized or partially blocked return duct board trunk. Ductwork can collapse when the blower tries to pull in enough air to achieve the fan speed setting but doesn't have the natural or 'allowable leakage' to facilitate this air pathway to the blower.

ADDED VALUE FOR THE CUSTOMER

High-Performance HVAC contractors who understand the value to their customers of both duct cleaning and duct renovating can grow their businesses and profits.

Today we spend more time indoors than ever before, generating higher concentrations of airborne pollutants as a result of our activities. Plus, our customers have greater access to

information and greater awareness about the importance that indoor air quality has on health.

IAQ AND “THE OTHER ELEPHANT IN THE ROOM”


Homes constructed after the 1970s energy crisis followed the ‘build tight’ mantra. This approach resulted in some significant IAQ challenges due to lack of ventilation, and people are developing building-related illnesses at higher rates than ever.

Post-Covid customers demand IAQ. They know the HVAC system plays a pivotal role in ensuring quality IAQ inside buildings.

However, we must also address the other elephant in the room – HVAC system operations and its energy

usage. We’ve seen extreme cases where the power company remotely increases indoor temperatures during summer peak hours to reduce electricity demand on the grid.

We know that our energy infrastructure has its limitations, our forecasted electricity demand is increasing faster than new power generating capacity is being created, and that the air conditioning system requires more power than any other appliance in most buildings.

Let the High-Performance HVAC companies provide customers with a shared focus on improving IAQ and HVAC system performance delivered into the space! 



Zach Ortwine is the owner of [Southeast Clean Air Solutions](#) and has been in the duct cleaning industry since 2017. He has been called “the redheaded stepchild of the HVAC industry,” because he helps High-Performance HVAC™ companies see the opportunities that duct cleaning and renovation can bring to their business. He can be reached at ncilink.com/ContactMe.

Kyle Newby founded [The Dryer Vent Guys](#) in 2013 with a goal of bringing excellence to the dryer vent industry. The company is committed to making all ductwork clean, safe, and efficient. He holds his Virginia I Master HVAC license, is certified with NCI, BPI, CSIA, and NAD-CA. Through collaboration with Zach Ortwine and John Puryear, The Dryer Vent Guys are on a journey from duct cleaning toward holistic and high-performance mechanical contracting. He can be contacted at ncilink.com/ContactMe.



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The Future is So Bright: I Gotta Wear Shades

What better way to describe the 2025 commercial HVAC marketplace than this song by an American folk music band called *Timbuk 3*. It was released in 1986 and was a song about the grim outcome of nuclear war.

But like many songs, the U.S. audience misinterpreted it to be about the bright futures in store for college graduates. Interesting, right?

However, the outlook for the commercial HVAC marketplace in 2025 is indeed bright. It stands poised for significant growth and transformation as office buildings, multi-family buildings, and institutions increasingly focus on indoor air quality (IAQ), energy efficiency, sustainability, and advanced technologies. The demand for

innovative HVAC solutions continues to rise.

Let's first consider the data.

COMMERCIAL BUILDINGS

The commercial HVAC market should experience robust growth in 2025, driven by the increasing need for energy-efficient systems and the retrofitting of aging infrastructure. According to a [Market Research Future](#) report, the U.S. commercial market should grow from slightly over \$63 million in 2024 to nearly \$112 million by 2032, with a compound annual growth rate (CAGR) of 7.4%.

This report bases this growth on the increasing demand for energy-efficient and sustainable cooling solutions.

“In the U.S., the commercial HVAC sector is benefiting from stricter energy regulations and a growing emphasis on green building practices,” the report adds. It points out three key factors as reasons for said growth:

- **Urbanization and Infrastructure Development:** As urban areas expand and new commercial spaces are developed, the demand for efficient HVAC systems rises.
- **Retrofits and Upgrades:** Older buildings are increasingly undergoing retrofits to improve energy efficiency and comply with updated regulations, boosting the demand for modern HVAC solutions.
- **Technological Innovations:** Advancements in HVAC technology, such as smart thermostats, variable refrigerant flow (VRF) systems, and energy-efficient heat pumps, are also driving market growth.

MULTI-FAMILY BUILDINGS

The multi-family building sector, including



apartments and condominiums, is also experiencing robust growth, particularly in urban centers with high housing demand.

In the U.S., market analysts expect the multi-family to reach \$12 billion in 2025. From an HVAC standpoint, analysts also expect high vacancy rates of 4.9% to end in 2025 and annual rent growth to be around 2.6%.

These two factors are good for the HVAC Industry because demand for comfort systems will continue to be high. Housing affordability and rising rents also contribute to the demand for multi-family housing.

Again, the **Market Research Future** report cites three key reasons for this trend:

- **Population Growth & Urbanization:** Increasing population and urban migration lead to higher demand for multi-family housing units. Developers seem focused on adding more multi-family units in the Sun Belt and Mountain regions.
- **Sustainability Initiatives:** Multi-family buildings are increasingly adopting green building practices, which often include energy-efficient HVAC systems.
- **Smart Tech Integration:** The rise of smart technology is prompting installing advanced HVAC systems that can be controlled remotely for improved comfort and efficiency.

INSTITUTIONAL BUILDINGS

Let's not forget that schools, hospitals, and government facilities represent a significant part of the commercial HVAC market. Studies find that the institutional segment should achieve \$10 billion in 2025.



Like the commercial building segment, the institutional building marketplace increasingly invests in advanced HVAC systems to improve energy efficiency and IAQ.

This sector's emphasis on sustainability and the need to comply with stringent environmental regulations are key drivers.

Adopting smart HVAC technologies and retrofitting existing systems should also contribute to the market's growth.

In a nutshell, three key factors influencing growth in this sector include:

- **Government Regulations and Funding:** Increased government spending on infrastructure and strict energy efficiency regulations are driving the adoption of advanced HVAC systems in institutional buildings.
- **Increased use of Smart Technologies and retrofitting existing systems** will contribute heavily to the market's growth.
- **Health and Safety Concerns:** The COVID-19 pandemic heightened awareness of IAQ, leading to increased investments in HVAC systems that improve ventilation and filtration.

● **Technological Advancements:**

Institutions are adopting state-of-the-art HVAC technologies to enhance energy efficiency and occupant comfort.

2025 TRENDS SHAPING THE COMMERCIAL HVAC INDUSTRY

Business Research Insights, a data-based market analysis firm, recently reported that the market "is currently witnessing a transformative shift marked by a strong focus on sustainability and the integration of smart technologies. Businesses are increasingly adopting energy-efficient HVAC solutions to not only reduce operational costs but also align with environmental conservation goals.

"Smart HVAC technologies, leveraging advanced sensors, automation, and data analytics, are gaining prominence for their ability to optimize performance and enhance overall system efficiency," the report says.

"This trend reflects a broader industry commitment to delivering cutting-edge solutions that meet commercial spaces' comfort needs and address the growing demand for eco-friendly and technologically advanced heating, ventilation, and air

conditioning systems.”

Smart and connected technologies continue evolving and revolutionizing the HVAC Industry. I believe the continuing adoption of smart HVAC systems in 2025 should accelerate, much of it driven by advancements in artificial intelligence (AI) and machine learning.

ARTIFICIAL INTELLIGENCE WILL CHANGE EVERYTHING

In light of the Business Research Insights prediction, an article published by the [Building Owners and Managers Association International \(BOMA\)](#) in May 2024 concurs from a commercial real estate perspective.

The article explains how smart tech like AI and “[generative AI](#)” will transform the commercial real estate market. Author Ella Krygiel writes, “Increasing AI into daily functions like investment management, design, and construction, or building and facility operations improves efficiency and cost-savings.

“The rise in AI will drive the need for more power, which will require more data centers or cooling facilities to meet these demands,” she says. “Not to mention, the companies involved in creating computer parts, software, or cloud services will become more common tenants in commercial spaces.”

AI OPPORTUNITIES?

Is AI a massive opportunity for commercial HVAC contractors? You betcha.

“Given that 2025 is about productivity and share to drive profitability, implementing AI-driven tools can

provide a competitive edge,” writes [David Gordon of HVACR Trends](#). He adds that AI can become a defining force for manufacturer reps, distributors, and manufacturers in 2025.

It’s only a matter of time before it also genuinely impacts HVAC contracting companies.

Imagine using this tech to help manage daily operations from data entry to marketing, project quotes, and more. Imagine what AI can do for predictive maintenance, integration with building management systems, and more.



INDOOR AIR QUALITY

The COVID-19 pandemic underscored the importance of indoor air quality, leading to increased demand for HVAC systems that enhance IAQ. This is true in both the residential and commercial sectors.

In 2025, you should expect a continued focus on IAQ, with HVAC systems incorporating advanced filtration, ventilation, and air purification technologies to ensure healthier indoor environments.

“There’s no question, maintaining healthy IAQ has taken center stage in recent years,” writes Joe Dion for [Facility Executive](#) magazine.

“Whether in commercial settings, healthcare facilities, or retail stores, ensuring clean and safe air is paramount. The challenges IAQ presents, the frequent guideline updates, and best practices are all important for building owners, operators, and facility management companies to understand. Doing so helps determine solutions that best meet the needs of a particular facility.”

Dion says that IAQ “is the lifeblood of commercial spaces.”

As a commercial HVAC contractor, isn’t it just as important to you to provide IAQ services to your customers?

RENEWABLE ENERGY INTEGRATION

Commercial HVAC contractors will continue seeing increasing demand for renewable energy sources in HVAC systems, such as solar and geothermal.

These systems reduce reliance on traditional energy sources and contribute to sustainabil-

ity goals. In 2025, market analysts expect more commercial buildings, multi-family units, and institutions to adopt renewable energy-integrated HVAC solutions.

In another article in [Facility Executive](#) magazine, facility managers discuss “[The Current State of Electricity](#),” including the need to focus on renewable and cleaner energy sources. They say a transition is happening to new energy sources and Direct Current (DC).

“With the energy transition, where we see the shift in the global energy system from reliance on fossil fuels to renewable and cleaner energy sources

such as solar, the electrical industry is re-examining the role of Direct Current and bidirectional power flow,” says Antonio Di Vaira, senior vice president, Power Products NAM Hub, Schneider Electric.

He adds, “The future will see hybrid AC and DC architecture, presenting opportunities and challenges for the industry.”

MODULAR AND SCALABLE HVAC SYSTEMS

Modular HVAC systems, which allow for scalability and flexibility, are also becoming increasingly popular.

These systems can be easily expanded or reconfigured to meet changing needs, making them ideal for growing businesses and institutions. In 2025, the demand for modular HVAC solutions, based on several market studies, shows a rise in demand for these systems.

In 2021, Dave Archer of Mitsubishi Electric wrote an article titled, “[The Future for HVAC is Modular.](#)”

In it, he also predicts the increasing popularity of VRF (variable-refrigerant flow) chillers for modular building services. Four years later, his predictions are reality.

Some of his other predictions include:

- **Timeliness:** small modular chillers are light and can be transported faster and installed more quickly than their conventional chiller plant brethren.
- **Space Savings:** Modular chillers can save up to 35% of the space and be installed conveniently on rooftops.
- **Ventilation:** Archer saw modular ventilation systems coming into their own. He also described

mechanical ventilation with heat recovery (MVHR) — such as Mitsubishi’s [Lossnay system](#) — in his article.

These technological advancements are making commercial HVAC systems more efficient, reliable, and user-friendly, ultimately leading to better performance and cost savings for your customers.

BIGGEST RESTRAINING FACTOR

Everything mentioned above increases the brightness predicted for the commercial HVAC market in 2025 and beyond. But there are a few storm clouds on the horizon as well.

In the **Business Research Study**, the authors say that economic uncertainty and supply chain disruptions can continue to be significant restraining factors.

“The lingering effects of economic downturns have compelled businesses to reevaluate and postpone HVAC investments, impacting the overall demand for new installations and upgrades.

“Simultaneously, disruptions in the global supply chain have led to delays in the availability of critical HVAC components, hindering project timelines and increasing operational complexities.

“These combined challenges pose hurdles for industry players, requiring strategic adaptation to mitigate risks and sustain growth amidst the dynamic landscape of the market.”

GONNA STILL NEED SUNGLASSES

The 2025 outlook for the commercial HVAC industry looks like it will



be getting brighter by the minute. Again, significant growth opportunities exist across commercial buildings, multi-family units, and institutions.


Key trends such as sustainability, smart technology integration, and a focus on indoor air quality are shaping the market landscape.

Contractors who embrace technological advancements, prioritize sustainability, invest in training, and enhance customer engagement, can position themselves for success in 2025 and beyond.

By the way, if you are trained in the science of **High-Performance HVAC contracting**, you have a considerable advantage over others because you can gather and leverage data through testing, measuring, and diagnosing issues normally invisible to others.

Such data can help you expand service offerings, build strategic partnerships, and comply with regulations.

These things are essential for thriving. As the demand for efficient and sustainable HVAC solutions continues, contracting firms adapting and innovating will lead the way in the commercial HVAC market.

As Timbuk 3 sings, “*Things are goin’ great, And they’re only gettin’ better, I’m doin’ all right, Gettin’ good grades, The future’s so bright, I gotta wear shades.*” 



CUTTING-EDGE TRAINING

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Think you know airflow? Think you know carbon monoxide safety? Think you know how to solve your customer's comfort issues? Be sure. Don't guess. Find the training and expertise you need from the National Comfort Institute (NCI). Only at NCI will you find certification courses like Duct System Optimization and Combustion and Carbon Monoxide Safety, taught by leaders and innovators in the HVAC industry. Find out why NCI says, "If You Don't Measure, You're Just Guessing!"™™ Visit the link below or call **800-633-7058** to find classes near you.

UPCOMING NCI TRAINING: FEBRUARY - MAY 2025

PUBLIC LIVE TRAINING

Duct System Optimization and Residential Air Balancing

February 11-13: Sacramento, CA
 February 11-13: Lewisville, TX
 February 18-20: Kissimmee, FL
 February 25-27: Glen Burnie, MD
 March 4-6: Monroeville, PA
 March 4-6: Eagan, MN
 March 4-6: Centennial, CO
 March 18-20; Houston, TX
 April 8-10; Valley View, OH
 April 15-17: Grand Rapids, MI
 April 22-24: Morristown, TN
 May 13-15: Tampa, FL

Residential HVAC System Performance and Air Balancing

February 11-13: Richmond, VA
 March 18-20: Salt Lake City, UT
 March 25-27: Phoenix, AZ
 March 25-27: Johnstown, CO
 March 25-27: Livonia, MI
 April 1-3: Roswell, GA
 April 8-10: Kissimmee, FL
 April 29 - May 1: Glen Burnie, MD
 April 29 - May 1: Pittsburgh, PA
 May 6-8: Centennial, CO
 May 13-15: Eagan, MN
 May 20-22; Dayton, OH

Commercial Air Balancing

February 18-20: Morristown, TN
 April 15-17: Richmond, VA
 April 29 - May 1: Lewisville, TX

PUBLIC LIVE TRAINING (cont.)

Refrigerant-Side Performance

May 13-14: Johnstown, CO

Combustion Performance and Carbon Monoxide Safety

May 20-22: Salt Lake City, UT

PUBLIC ONLINE LIVE TRAINING

Combustion Performance and Carbon Monoxide Safety Recertification - ONLINE LIVE

February 18-19

Airflow Testing and Diagnostics - ONLINE LIVE

March 11-12

Commercial Air-side Recertification - ONLINE LIVE

May 6-7

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Combustion Performance and Carbon Monoxide Safety

February 4-6: Anaheim, CA **SOLD OUT**
 March 25-27: Anaheim, CA **SOLD OUT**

Airflow Testing & Diagnostics

February 25: Anaheim, CA
 May 20: Tulare, CA

Refrigerant-Side Performance

February 26-27: Anaheim, CA
 May 21-22: Tulare, CA

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Hydronic Testing, Adjusting, and Balancing

March 4-5: Anaheim, CA

Duct System Optimization and Residential Air Balancing

March 11-13: Anaheim, CA

Commercial HVAC System Performance

March 18-19: Anaheim, CA
 April 16-17: Tulare, CA

Airflow Testing & Diagnostics Implementation Workshop

April 2-3: Anaheim, CA

Commercial Air Balancing

April 8-10: Anaheim, CA

Test and Certify Ventilation Systems and Economizers

April 22-23: Anaheim, CA

Residential HVA System Performance and Air Balancing

May 28-30; Anaheim, CA



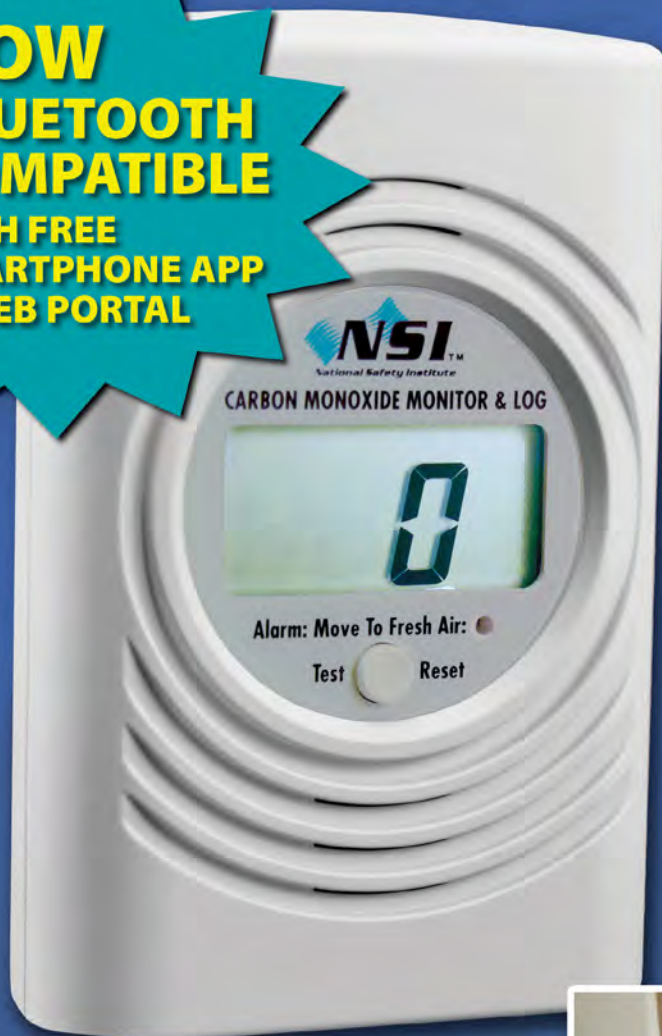
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REMINDER: SUMMIT 2025 EARLY BIRD DISCOUNTS

In case you haven't heard, the National Comfort Institute (NCI) [2025 High-Performance HVAC™ Summit](#) is scheduled for September 9th to the 12th in Austin, TX. Yes, that date seems far off, but it will be here sooner than you know. Now is the time to register you and your team to take advantage of the early bird registration rates.

Everything is bigger in Texas, and Summit 2025 is no different. This year's game-changing event is being held at the [Kalahari Resort & Waterpark](#) — an ideal location to join your fellow high-performance professional peers and bring your family for some fun vacation time.

Early bird rates save you \$100 per registration, plus you get additional savings by registering additional people from your company.

If you are an NCI member, you can save more based on your membership type:

- [Non-member/regular registration](#)
- [NCI member](#)
- [NCI premium member](#).

NOTE: NCI members who participate in the **Training Incentive Partnership Program** can use **NCI Bucks** to offset some of their registrations costs.

*If you plan on doing this, don't register through the website. Instead, call **NCI Customer Care at 800-633-7058** and they will register you.*

And finally, rooms at the Kalahari Resort go fast, so it's also a great idea to reserve your rooms sooner rather than later.

NCI has negotiated a preferred room rate. Go to ncilink.com/ReserveKalahari to make your reservations.

We look forward to seeing you in Austin in September!

ATD 3.0 IS HERE: YOU SHOULD ENROLL TODAY

Late last year, National Comfort Institute (NCI) rolled out its 3.0 version of its [Airflow Testing and Diagnostics \(ATD\)](#) class, which introduces the latest technologies and focuses on air upgrades.



The first live online class was on January 7th and 8th, and 35 contractors attended as NCI Instructor Casey Contreras walked them through the importance of conducting such testing for customers.

So why should your team attend this training?

First and foremost, ATD 3.0 integrates the Quick Test from [measureQuick®](#), NCI's [AirMaxx™](#), and workflows from [The Energy Conservatory \(TEC\)](#) into one testing system. These apps use NCI testing principles to embed industry-standard practices into this High-Performance HVAC™ training.

By using the latest technology, such as the [TEC Digital TrueFlow® Grid](#), you will simplify the testing process for "test-in" and "test-out" **Air Upgrades**. This allows your HVAC sales professionals to obtain the necessary data efficiently. The streamlined process is now part of a pre-packaged solution that offers flat-rate duct repairs, addressing common

issues related to equipment airflow and static pressure.

Another reason to participate in this class is that its update is based on extensive student feedback over the years. If you missed the January online class, no worries – the next class is scheduled for March 11th and 12th.

Don't wait. Get your tech team enrolled today.

For more information, call the NCI Customer Care line at **800/633-7058**.

NCI ROLLS OUT A NEW COACHING PROGRAM

Launched in November 2024, following the [High-Performance HVAC Summit](#) is a new exclusive 10-part online coaching series. This series focuses on helping contractors navigate integrating National Comfort Institute's (NCI) High-Performance HVAC™ approach.

Monthly online video group coaching sessions cover 10 key areas of integrating high performance. Each 90-minute interactive session is a group discussion led by NCI's VP of Training, David Richardson and other NCI coaches.

According to David Richardson, the current group of 20 contractors in the program are extremely interactive.




"The level of collaboration is incredible. Experienced guys who have been down the road implementing performance are helping others who are just starting or who are not as far down the path," he says. "It's incredible to watch."

Learn more details on topics, the schedule, and costs here: ncilink.com/Coaching2025.

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There are 5.5 million commercial buildings in the U.S. Approximately five million of them are light commercial spaces of 25,000 square feet or less, representing roughly 90% of the building stock.

Most large commercial TAB (Testing, Adjusting, and Balancing) contractors typically focus on the larger buildings that represent about 10% of this inventory. The truth is most light commercial buildings were never balanced when built, or re-balanced after renovations or TI (Tenant Improvement) work.

NCI has known for decades about the great opportunity for HVAC and mechanical contractors to balance and commission this huge inventory of mostly neglected buildings across North America.

Balancing these buildings can significantly improve comfort and energy efficiency. Plus, when properly air and pressure balanced, light commercial buildings are also healthier and safer.

THE OPPORTUNITY

Currently there are tens of thousands of NCI trained commercial and residential contractors across North America. A large percentage of these companies work in both residential and light commercial HVAC, so it wouldn't be a stretch to offer balancing and commissioning to the light commercial market.

If you are reading this, there is a good chance your company is one of them. There's also a very good chance that you already invested in the training and tools to do this work.

Have you thought about making light commercial balancing a bigger part of your business? Could this be that expansion and growth you've been looking for — right under your nose?

A number of NCI trained contractors have set up separate independent balancing companies

that offer these services to other contractors who install and renovate commercial systems.

They make sure the TAB business is separate from the HVAC business, and build trust with local contractors to test and balance their projects.

TIMES ARE CHANGING

An increasing number of states and localities are demanding air balancing on light commercial construction and renovation projects. In some, balancing is mandatory whenever a certain percentage of ductwork is modified or replaced.


Demand for these services should grow exponentially over the next decade. Thinking outside the box, if you set up a separate light commercial and residential balancing company, could you position yourself as the go-to in your market?

We also see a steady growth of independent companies that not only balance systems, but diagnose them. Then they provide a scope of work for other contractors to renovate and replace air distribution systems. The TAB contractor then does a final test and balance when the work is complete.

YOUR NEXT AREAS OF GROWTH

We also see **duct cleaning companies** starting to offer system testing and renovations. Keep an eye on this fast-growing trend. Could you expand your business to include duct cleaning, restoration, and renovation to your services?

As you can see, there are many potential business models that could build on the testing and diagnostic strengths of your company. Perhaps it's time to take another look at this high-potential niche within our industry.

We're just scratching the surface here. I hope I've piqued your interest to explore the possibilities of making testing and balancing, and related services part of your company's offerings! 

High-Performance HVAC™ Training



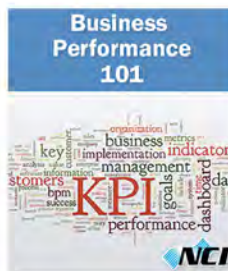
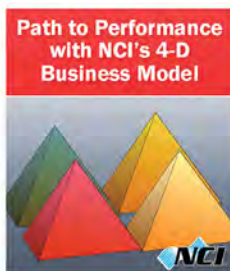
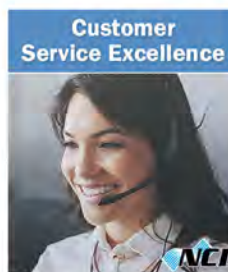
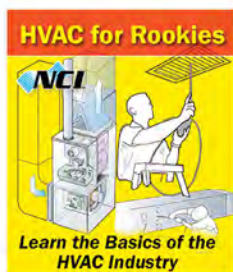
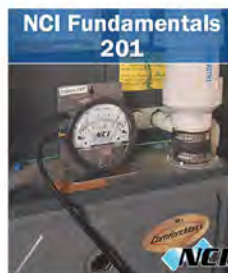
These courses are focused on helping your organization succeed and grow, at your pace. If you're just starting out, or have been in business for decades, there's training that you will find helpful on your path to performance.

Some Benefits of NCI's Online University Training:

- Training is available any day, any time, 24/7
- Enables you to train all of your employees - affordably
- Gets your entire staff on the same page
- Saves travel expenses
- Supports a High-Performance HVAC Contracting™ culture
- Training available from fundamentals to advanced courses.

NCI'S ONLINE UNIVERSITY

The National Comfort Institute, Inc. (NCI) Online University offers several online training options to super-charge your journey towards becoming a High-Performance HVAC Contractor. From self-guided online training, to recorded webinars, the Online University provides technical as well as customer service and business management courses.



NCI members receive a discount on every course and webinar in the University. You can add the Premium or Learning Excellence Online package to your membership and get unlimited access to the entire University!

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