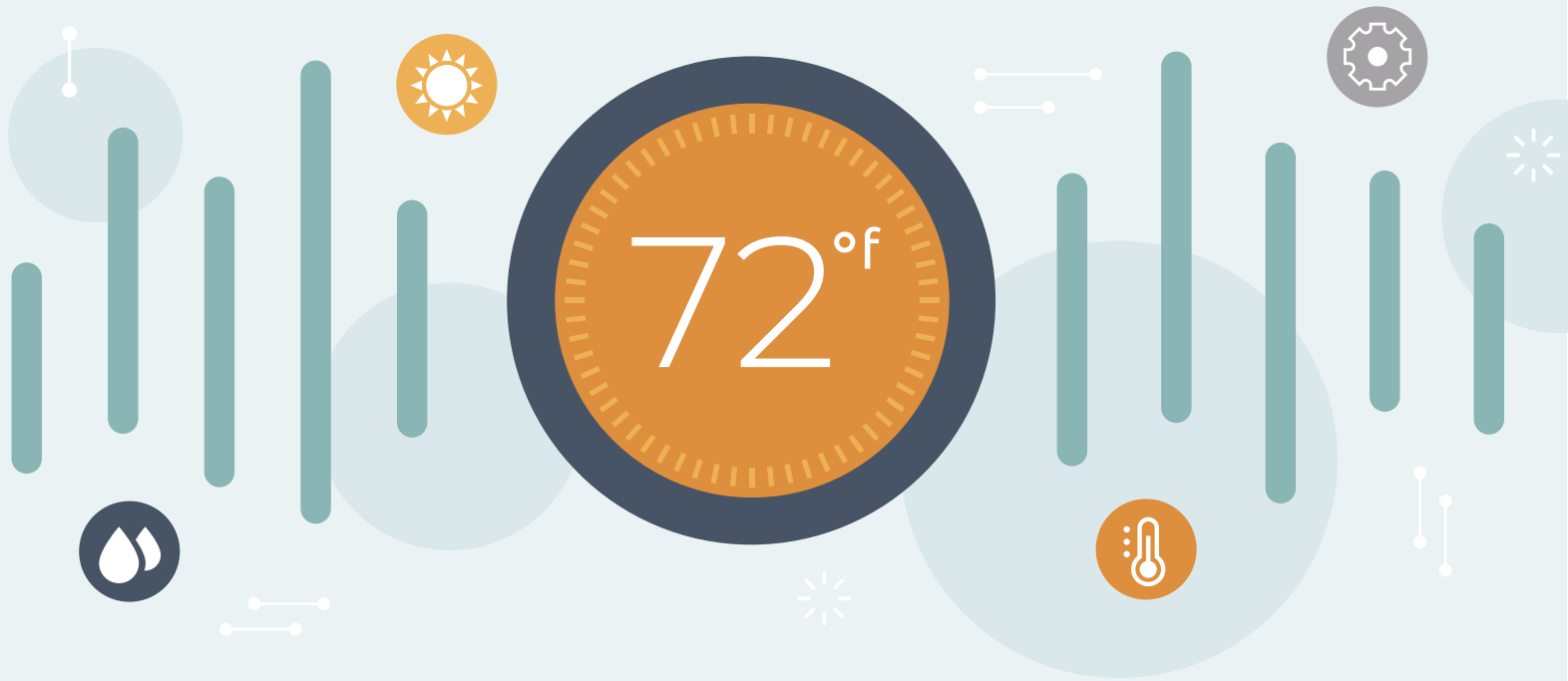


HARDI

The Controls Market in Wholesale Distribution



About Us

HARDI (Heating, Air-conditioning & Refrigeration Distributors International) is the single voice of wholesale distribution within the HVACR industry. HARDI members market, distribute, and support heating, air-conditioning, and refrigeration equipment, parts and supplies. HARDI Distributor members serve installation and service/replacement contractors in residential and commercial markets, as well as commercial/industrial and institutional maintenance staffs. HARDI proudly represents more than 480 distributor members representing more than 5,000 branch locations, and close to 500 manufacturers, manufacturer representatives and service vendors.

About the Report

As part of its mission to make wholesale distribution the channel of choice for heating, ventilation, air conditioning, and refrigeration (HVACR) manufacturers and contractors, HARDI partners with a range of organizations and research outlets to illuminate the drivers and threats affecting the wholesale industry. This summary offers a synopsis of the 2019 research HARDI conducted in partnership with MaxIt, LLC to analyze the market for HVACR controls, and uncover the unique aspects of the future of controls distribution. The scope and objectives for the controls project can be summarized as follows:

- Quantify and establish a baseline of wholesale distribution's share of the controls market;
- Define who sell controls, and learn how the channel is changing;
- Understand the trends driving vendor and customer decision-making;
- Look for potential common issues and overlaps with other areas of HVACR distribution; and
- Determine if and how HARDI can add value.

To meet its research objectives, HARDI/MaxIt established a task force to serve as the project's steering body. The task force – comprised of controls manufacturers, controls distributors, and equipment distributors – supported the project by providing market data, industry contacts, and expert feedback to the HARDI team. HARDI/MaxIt also conducted supplemental market research, in-depth interviews with channel constituents, and a survey of HARDI members to round-out the research process.

RESEARCH FINDINGS:

Market Composition

Although definitions vary, a control is generally defined as a product integrated within an HVACR system that assists in the regulation of ambient air temperature. Examples of the types of products defined as controls include:

Residential	Commercial	
Gas valves	Combustion controls (comfort)	Pneumatic controls
Ignitors	Ignitors	Software
Thermostats	Thermostats	DDC Controllers
Zoning controls	Economizers	Panels
Sensors	Sensors	VFDs
Actuators	Actuators	Temperature controls
Zone valves	Zone valves	Pressure controls

Figure 1

Based on the definition and examples outlined above, HARDI/MaxIt research establishes the commercial and residential controls market (which includes the U.S. and Canada) at \$5.9 billion in annual sales (see Figure 1).¹ Commercial HVAC control product sales make up 52 percent of the \$5.9 billion, with residential HVAC control product sales and commercial refrigeration sales accounting for 40 percent and 8 percent, respectively. In terms of product channels, 39 percent of the \$5.9 billion flows through wholesale distribution, 27 percent is purchased directly by contractors, another 27 percent is purchased by equipment manufacturers, and 7 percent is purchased by retailers and end-users.

¹ The \$5.9 billion in annual sales is based on manufacturer sales, not distributor sales.

Controls Purchases by Market & Buyer Segment

(US & Canada, in billions of dollars)

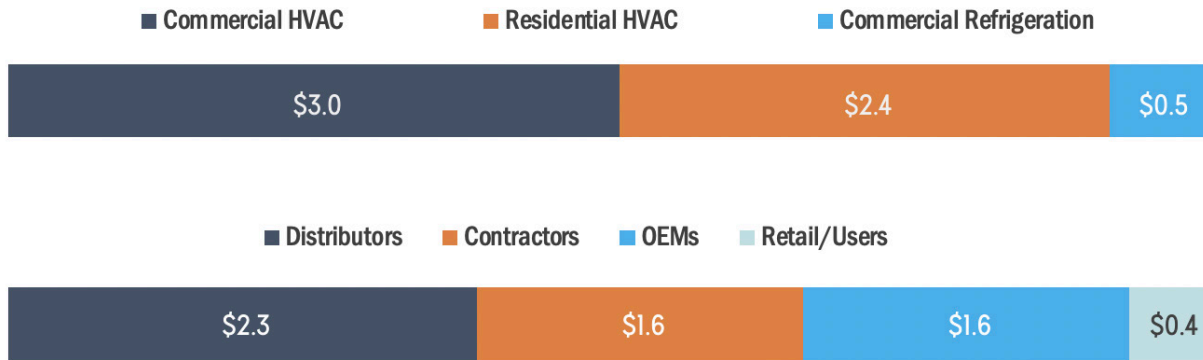


Figure 2

On the commercial-side, \$1.3 billion of the \$3 billion in commercial HVAC sales is directly purchased by contractors. Of the remaining \$1.7 billion, 33 percent is purchased by distributors (\$1 billion), 20 percent is purchased by equipment manufacturers (\$600 million), and 4 percent is purchased by retailers and end-users (\$100 million).

Commercial & Residential Controls Purchases by Buyer Segment

(US & Canada, in billions of dollars)

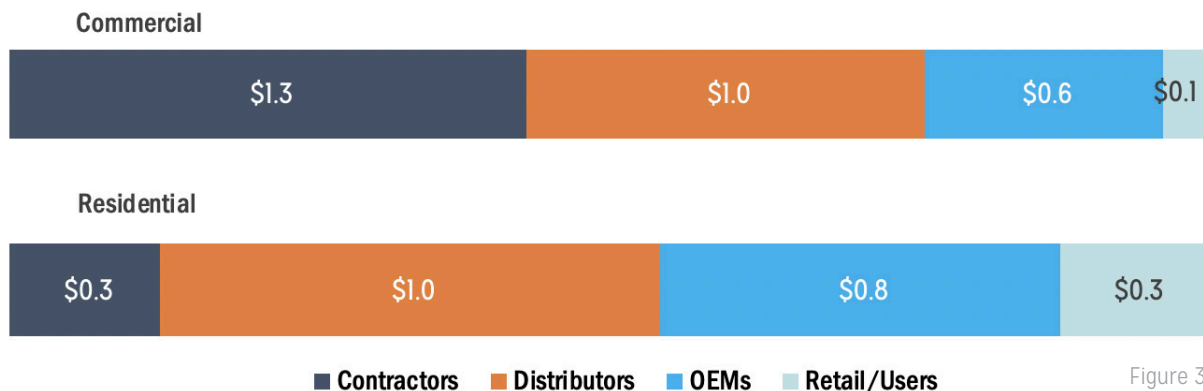


Figure 3

Figure 3 illustrates the importance of wholesale distribution to the residential market, with \$1 billion (42 percent) of the \$2.4 billion in residential HVAC sales flowing through a two-step process. Notably, contractor purchases of controls direct from manufacturers falls from \$1.3 billion (43 percent) in the commercial market to \$300 million (13 percent) in residential.

Within the wholesale sector, commercially focused distributors derive significantly more of their annual revenues from controls sales than do residentially focused distributors. Equipment distributors, which are defined as such because of their focus on equipment sales, generally earn less than 20

percent of their revenues from the sale of controls and are primarily concentrated in the residential and light-commercial markets. Controls distributors earn anywhere from 20 – 70 percent of their revenues from the sale of controls and operate in light-commercial and commercial markets. Operating almost exclusively in commercial or commercial-plus² markets are systems distributors and systems integrators, which each earn in the range of 70 – 100 percent of their revenues from the sale of controls. Figure 4 below more plainly shows the spectrum of distributor involvement in the controls market, as well their typical customer base and services.

Distributor Sales of Controls

	Equipment Distributor	Controls Distributor	Systems Distributor	Systems Integrator
% Controls	← <20%	←	>70% →	→
Buildings	<ul style="list-style-type: none"> Residential and LCB 	<ul style="list-style-type: none"> LCB and Commercial 	<ul style="list-style-type: none"> Commercial 	<ul style="list-style-type: none"> Commercial +
Customers	<ul style="list-style-type: none"> Mechanical contractor (residential and commercial) 	<ul style="list-style-type: none"> Mechanical contractor Controls contractor 	<ul style="list-style-type: none"> Mechanical contractor Controls contractor 	<ul style="list-style-type: none"> Mechanical contractor Controls contractor User
Services	<ul style="list-style-type: none"> Inventory Logistics 	<ul style="list-style-type: none"> Inventory Application engineering 	<ul style="list-style-type: none"> System engineering Graphics design Controls integration 	<ul style="list-style-type: none"> Spec influence Software Building integration
Number	<ul style="list-style-type: none"> (100x) 	<ul style="list-style-type: none"> (10x) 	<ul style="list-style-type: none"> (5x) 	<ul style="list-style-type: none"> (x)
Trade Organization	<ul style="list-style-type: none"> HARDI 	<ul style="list-style-type: none"> HARDI/CGNA 	<ul style="list-style-type: none"> CGNA 	<ul style="list-style-type: none"> CGNA/Vendor conferences

Figure 4

² Commercial-plus (or commercial +) refers to traditional commercial markets as well as industrial and mission-critical applications.

RESEARCH FINDINGS:

Market Trends

The composition of the HVACR controls market is constantly evolving as manufacturers and contractors adapt or refine their business strategies to meet changes in consumer demand. Consequently, distributor interests and strategies must also evolve to keep pace with changes in manufacturer and contractor strategies. Current strategy changes and exogenous factors like technological advancement are pushing the controls market into a transitional phase; which may serve to align the interests of equipment distributors and controls distributors. Growing mistrust among manufacturers, distributors, and contractors - a consequence of both a perceived and actual lack of planning and proactivity - is fracturing existing relationships and upsetting established supply chains. Simultaneously, as existing relationships and supply chains are being upset, the rise of the Internet of Things (IoT) is compounding the pace and volatility of channel disruption. Taken together, the controls industry is at a major inflection point that poses a significant threat to distributor businesses relying on reactive decision-making. Proactive decision-making and better collaboration among suppliers, distributors, and contractors can help mitigate some of the messiness and disruption in the market; while also improving profitability throughout the channel.

INDUSTRY MISTRUST & EVOLVING PARTNERSHIPS

The HARDI/MaxIt team conducted in-depth interviews with 31 channel constituents, including representatives from manufacturing, distribution, and contractor companies. The general tenor of those interviews can be summarized best through the following quotes:

- “20 percent (of controls distributors) run a great business. I can’t believe the rest are still in business.” - Manufacturer
- “Manufacturers are trying to figure it out as they go along.” - Controls distributor
- “Many distributors just complain about the weather: riding the waves.” - Manufacturer
- “(We) have had to add people to our business to compensate for manufacturers’ incompetency and inefficiency.” - Controls distributor

The consistent thread linking each of the comments above - a generalized mistrust of industry counterparts - is exemplified through the highly-complex channel buying and selling patterns exhibited in Figure 5:

Commercial & Residential Controls Paths to Market

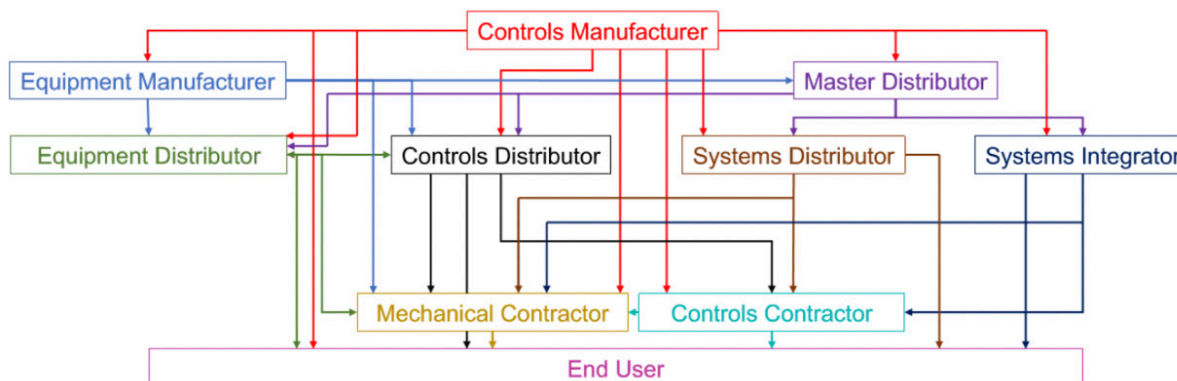


Figure 5

After years of growing, industry-wide mistrust, leading controls market players are starting to pursue deeper, more exclusive relationships with their highest-performing counterparts. Manufacturers are eager to identify stable, proactive distributor partners with strong business acumen, and when they do manufacturers seek exclusive partnership arrangements. Likewise, many distributors are seeking exclusive relationships with manufacturers, and are consolidating with other distributors to strengthen their market position.

INTERNET OF THINGS (IOT)

Although its most widespread impacts may still be years away, the Internet of Things as a force for HVACR market disruption has fully arrived. Speaking generally, IOT is a catch-all phrase used to describe the growing network of automated, everyday items that are connected and share information via computer networks. In the context of the HVACR industry, nearly every type of system control comes with or is compatible with network-enabling software, increasing demand for service providers that can integrate building control systems. In response, companies in the commercial controls sector have begun expanding their business units into the area of building systems integration. Commercial manufacturer branches have taken the lead as systems integrators for large buildings and campuses; controls and mechanical contractors are working together to find integrated solutions for end-users, and distributors have begun forming distributor-alliances and coalitions to serve the needs of end-users. Conversely, the residential controls sector has done very little to capitalize on demand for residential systems integration (RSI) – despite the enormous opportunity. The rise of smart home companies like Resideo, Google Nest, and Ecobee is driving demand for RSI, which HARDI research indicates is collectively worth \$23 billion globally. While the potential value of systems integration to residential distributors is massive, the growth in demand for integrated solutions is not without its

challenges. The following questions frame the current challenges facing residential distribution, and partially explain the industry’s slow response to the growing demand for RSI:

- Who’s going to do the installations and service?
- How will communication protocols evolve?
- Which companies will take the lead in residential systems integration?
- How will distributors deliver a consistent message to users?
- How can distributors maintain profitability when an increasing percentage of their revenue comes from software sales and subscriptions?
- Where will distributors find employees trained in both HVACR and information technology?
- How will distributors handle current territory restrictions?

Although the challenges confronting distributors from the rise of IOT and demand for RSI are significant, they are not insurmountable. One possible avenue for overcoming IOT and integration-related challenges to distributors is through their collaboration in the buying, bundling, and selling of equipment and controls products. Collaborative equipment and controls distributors are likely to experience positive synergies due to their complementary skillsets; equipment distributors bring extensive logistics experience and deep relationships with equipment manufacturers, while controls distributors are well versed in application engineering and possess the requisite IT knowledge to serve as systems integrators. Collaboration also eliminates the need for contractors to bundle equipment and controls products, as well as their incentive to bypass distributors and buy directly from manufacturers. Moreover, collaboration helps strengthen the market position of distributors by countering the expansion of smart home product vendors. Distributors’ failure to meet demand for RSI has created a void in the market that is increasingly being filled by product vendors that understand the HVACR market. Collaboration between equipment and controls distributors creates a pathway for distributors to enter the \$23 billion RSI market and challenges the expansion of vendors like those listed on the chart below:

Residential Vendors: Controls Products	
Arlo	Google Nest
Apple	Insteon
Amazon	Resideo
Ecobee	Ring

Figure 6

LIGHT COMMERCIAL BUILDINGS

For equipment and controls distributors looking to collaborate, the light commercial buildings market offers the most obvious – and potentially lucrative – entry point for partnerships. According to a 2012 survey³ from the U.S. Energy Information Administration, 88 percent of the commercial buildings inventory in the U.S. are light commercial.⁴ HVACR controls that are installed in one of the 5.6 million buildings in the light commercial segment have generally followed one of the paths listed in Figure 7 prior to their installation:

Light Commercial Controls Paths to Market

Path	Equipment Manufacturer	Controls Manufacturer	Equipment Distributor	Controls Distributor	Outcome
1	Equipment distributor buys equipment	Contractor buys controls	Contractor buys equipment		Contractor bundles & installs
2	Equipment distributor buys equipment	Controls distributor buys controls	Contractor buys equipment	Contractor buys controls	Contractor bundles & installs
3	Equipment distributor buys equipment	Equipment distributor buys controls	Contractor buys bundled package		Contractor installs bundle
4	Equipment distributor buys equipment	Controls distributor buys controls	Contractor buys bundled package	Equipment distributor buys controls	Contractor installs bundle
5	Equipment distributor buys equipment	Controls distributor buys controls	Contractor buys equipment	End-user buys controls	Contractor bundles & installs

Figure 7



³ United States Energy Information Administration. A look at the U.S. Commercial Building Stock: Results from EIA's 2012 Commercial Buildings Energy Consumption Survey (CBECS). 2015. <https://www.eia.gov/consumption/commercial/reports/2012/buildstock/>

⁴ Light commercial buildings are defined as commercial buildings less than 25,000 square feet.

While controls and equipment distributors may benefit individually from each of the paths listed above, overall Path 4 is the most advantageous pathway for distributors. What separates Path 4 from the other paths is that equipment distributors sell bundled equipment/controls packages, rather than just equipment. In such a scenario the equipment distributor is positioned to add greater value to the end-product by bundling controls with equipment, allowing for the possibility of greater sales margins. Controls distributors might pursue a similar strategy in buying equipment from an equipment distributor and selling a completed bundle. Regardless of which distributor group assembles the final bundle, there is a clear incentive for distributor-to-distributor sales as the non-bundling distributor risks being cut from the market entirely if the bundling distributor buys directly from a manufacturer.

Controls Add to Revenue & Profitability

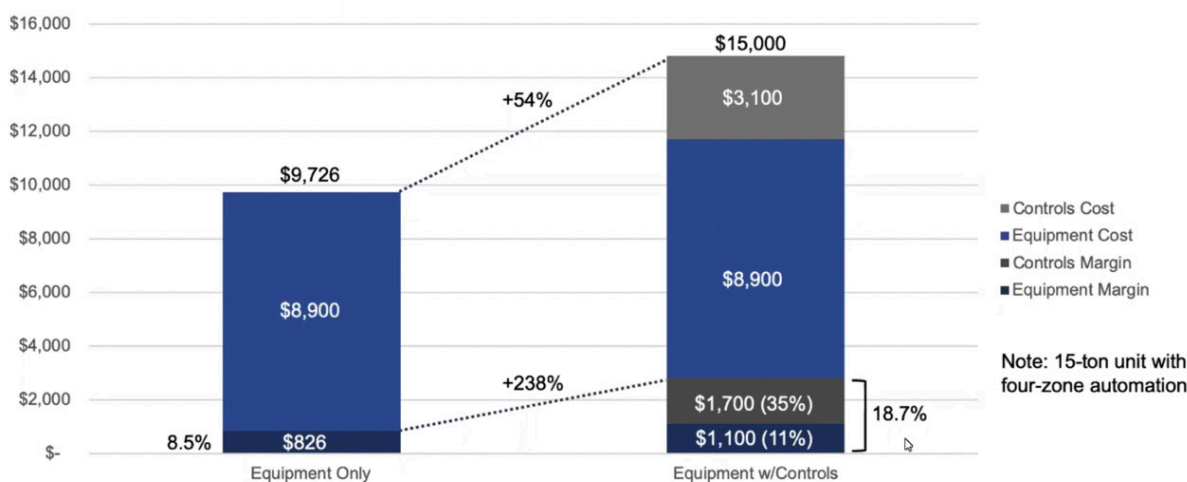


Figure 8

HARDI/MaxIt research indicates that a typical equipment-only sale of a 15-ton unit is roughly \$9,700, providing an 8.5 percent sales margin for a distributor. The same 15-ton unit when bundled and sold with controls for \$15,000 can produce margins nearing 19 percent – or a 238 percent revenue gain from the previous equipment-only sale. Given the fact that both mechanical contractors and controls distributors also benefit from this arrangement, path 4 offers an unmistakable opportunity for equipment distributors to strengthen the market position and improve their bottom line.

Summary

The HVACR controls market is in the midst of a major transitional phase; threatening to disrupt and realign partnerships between manufacturers, distributors, and contractors. The challenges prompting the transition – widespread industry mistrust and the rise of IOT – pose serious threats to distributor businesses. Nevertheless, distributor businesses that understand the changing market dynamics and that are proactive in their response stand to make significant gains in market strength and profitability. Greater collaboration among both equipment and controls distributors is essential for the long-term success of both groups, and HARDI stands willing to serve as the platform that makes collaboration possible and ensure the success of distributor operations within the controls sector.