Consolidation continues in the distribution industry

Gina Roos, executive editor, EPS*News*

Consolidation in the distribution industry continues to flourish. Over the past few years we've seen larger distributors gobble up their smaller brethren, consolidating the industry even further.

In the 1990s—when distributors such as Hall-Mark, Marshall Industries, Anthem, Wyle and Bell still existed—trade publications were able to rank as many as 100 distributors. But over the years, as acquisitions particularly by the top two distributors—Arrow and Avnet—became a mainstay of their growth strategy, the ranking slowly dwindled to the top 75 then the top 50, and maybe soon the top 40.

Today, there are fewer large acquisition targets, which means a lot of the smaller to mid-sized distributors in the $10-million to $25-million range are being eyed. Top distributors are typically buying up these smaller companies to boost market share in a specific region, component segment or end market sector.

However, there is still room for further consolidation in the top 25 range. For example, TTI acquired Symmetry, ranked at 25, in 2017 and Avnet acquired Premier Farnell in 2016. Who knows the next target?

This year's ranking has been reduced to 48 in part due to acquisitions of smaller distributors, and because many privately-held companies prefer not to share financial data.

Despite the consolidation, the North American distribution industry had a robust 2017. The electronics industry saw the signs of a turnaround in the second half as demand spiked and lead times extended for memory ICs (DRAMs and NAND flash), capacitors, resistors, discrete semiconductors and power components. Longer lead times—and allocations—have plagued buyers throughout 2017 and into 2018, which have also pulled prices upward.

This has led to significant challenges in component availability. Distributors with the most on-hand inventory are typically the winners during periods of component shortages and supply constraints: in 2017 they posted double-digit growth.

Demand has not waned in the first quarter of 2018, and distributors continue to be very optimistic for the year. But it's not without challenges. Margin erosion continues to plague the industry but component shortages were the top headache in 2017. Distributors also remain concerned about manufacturing lead times, allocation, and production capacity constraints.

The number one challenge in 2018, according to distributors, is getting parts. Many say they don't see this improving any time soon. It's taking suppliers a long time to bring on new production capacity and some parts won't be available until 2019. While there have been supply issues for capacitors, resistors and inductors, some distributors also report extended lead times for some connector types, which wasn't the case last year.

Customers with "preferred" status with distribution partners generally get their parts first. 2017 was clearly a year that showed new purchasers why there is a need to develop strategic supply relationships. It also revealed the value of supply chain visibility and accurate forecasting.

Another big worry is vendor consolidation, particularly in the semiconductor industry. In 2017, there were about two dozen acquisition agreements for semiconductor companies, business units, product lines and related assets that valued $27.7 billion, according to IC Insights. This is after acquisitions that totaled $99.8 billion in 2016 and $107.3 billion in 2015.

Some distributors are at risk if a merger results in overlapping product lines and a re-examination of sales channels. A prime example is Analog Devices Inc.'s (ADI) acquisition of Linear Technology. After the merger, ADI consolidated its volume distribution business under Arrow Electronics, leaving Avnet Inc.—except for Premier Farnell—out in the cold. That translated into a loss of about $500 million, according to investment firm Stifel.

For the key findings of the top North American electronics distributors survey, turn to page 30. The report ranks the leading distributors by revenue in North America, along with their sales growth rates, sales breakdown by component category, and percentage of sales from value-added services. The report also reveals the top 10 distributors by component sales segments—semiconductors, passives/electromechanical devices, interconnects, and computer products.

You'll also find a ranking of the distributors with the highest productivity levels. Only two of the top 10 revenue leaders made the top 10 ranking in sales per employee.

The report also includes a ranking of the top 10 distributors by growth rate. Only two of the top 10 sales leaders made the ranking. It also reveals that many of the smaller to mid-sized distributors, ranked above 30, experienced the biggest growth. The report also provides data on global sales by geographic region, and the industry sectors that distributors say will fuel growth in 2018.

The full report starts on page 22.

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About

Part of Berkshire Hathaway, Mouser specializes in the rapid introduction of new products and technologies for engineers and buyers worldwide.
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With a commitment to customer service excellence, 23 global Customer Support Centers, the widest product selection, plus same-day shipping, Mouser helps customers get innovative designs to market faster and easier. The company works hard to make sure customers always get what they need, when they need it. To help expedite orders and answer questions, each location provides local language support (17 languages) and can transact business in the preferred local currency, all from the same time zone. So, relax and rely on Mouser for your component needs.

Distributor sales boosted in 2017 with return to sellers' market

Optimism ruled in 2017 but it was tough getting enough supply to meet demand as the industry faced widespread component shortages.

Gina Roos, executive editor, EPS*News*

The North American (NA) franchised distribution industry made a tremendous recovery in 2017 after a 3 percent sales decrease the prior year. An uptick in demand across all market segments took hold in the second half of the year—unfortunately, that also led to constrained component supplies. Buyers will face extended lead times and allocation for many electronics components through 2018 and possibly into 2019.

North American sales for the top franchised distributors increased by 8 percent to $27.4 billion in 2017, compared with $25.3 billion in 2016. Passives/electromechanical components sales grew by 11 percent in 2017, followed by semiconductors (6 percent growth) and interconnects (5 percent growth). Three of the top 10 distributors—Arrow, Future and Master—did not report their sales by component type, which would have likely increased semiconductor sales into the double-digit range.

Getting enough parts was the leading headache for distributors in 2017. Last year's supply issues were different from other shortages or allocations because they stretched across a variety of component types.

Dealing with constrained supply during a period of consistent growth across all market segments was the common challenge for distributors, said Michael Knight, senior vice president, TTI Americas. "At the same time, everybody was trying to figure out what was the real demand and how long it would last," he added. "I think that consumed most of us last year."

"Last year we were trying to stay ahead of where the suppliers were and where lead times were going to make sure we were getting parts on the shelf at the right time," said Dan Casey, executive vice president, Future Electronics. "When you're representing many suppliers and dealing with tens of thousands of customers it gets relatively complex."

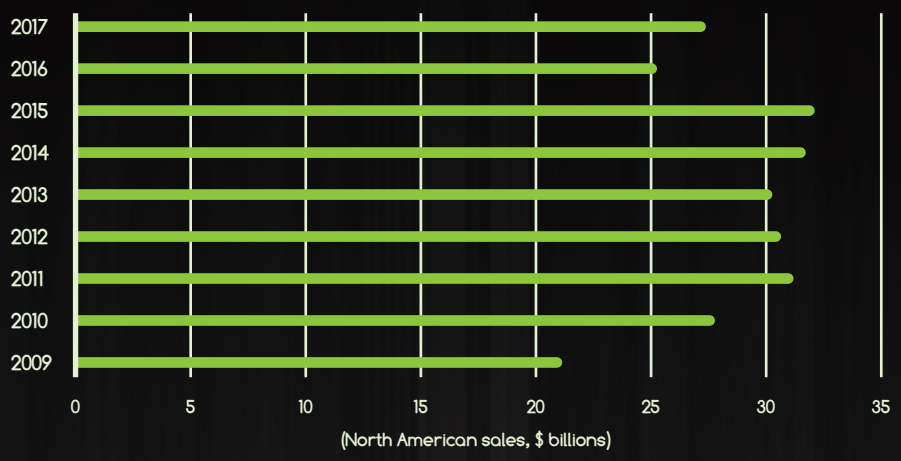
"It's been a long time since we've seen a year like 2017," said Therese M. Bassett, chief strategy, innovation and M&A officer, Avnet Inc. "Shortage of supply, extended lead times and forecasting when product will become available is probably the biggest challenge. It was very difficult to get product. After so many years of being in a non-allocation environment this was a big difference and a big change."

Historically, there is a widespread belief that demand will drive capacity so as demand increases capacity will increase, but this is not the case right now, explained Knight. "I'm not saying there isn't any new capacity coming online because there is, but it is extremely conservative; there is not the wholesale rush to add capacity."

"The rules are different from any other time we've seen before. It's taking all of us—the OEMs and distribution—some time to get our heads around that," Knight continued.

Shortages for many components will continue in 2018, believe distributors. Suppliers are no longer providing lead times for components on allocation, and for parts with constrained supply, some quotes are well into 2019.

Top distributor sales rise 8% in 2017



North American revenues for the top distributors rose 8 percent, climbing to $27.4 billion in 2017 from $25.3 billion in 2016. The revised & lower total sales for 2016 reflects Avnet's reporting on a continuing operations basis, following the sale of its Technology Solutions business

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Shortages are at an all-time high, said Casey. "At the beginning of 2017, it looked like shortages would last through most of the year and could go into quarter one of 2018. Now that we're in Q1 shortages will continue through the end of this year, and possibly into next year. Some folks are talking two more years. This year will continue to be pretty tough."

Constrained supply could potentially cause a slowdown in the industry. If buyers can't get one commodity part for their product then the production line goes down, leading to other issues in the supply chain.

"What I'm actually more concerned about in the near term is OEMs that can't get parts and start to struggle to make their own revenue numbers as they go line down and start to push out the rest of the bill of material (BOM)," said Knight. "There is no sense bringing in an entire BOM if you're missing a part and can't build your end product. I think starting next quarter and through the rest of the year it's going to be something that we all have to adjust to and navigate."

On top of these issues, many suppliers have chosen to obsolete parts. "What has made it even worse is a very meaningful piece of global capacity for these parts have been taken offline and it creates a bigger hole. This is something none of us have ever experienced before," said Knight.

"It's been a long time since we've seen a year like 2017," said Therese M. Bassett, chief strategy, innovation and M&A officer, Avnet Inc. "Shortage of supply, extended lead times and forecasting when product will become available is probably the biggest challenge."

"We're going to see extended lead times and shortages all this year, and maybe all next year," said Michael Knight, senior vice president, TTI Americas.

Distributors agree 2017 is a contrast to prior shortages such as the tantalum shortage of 2000 and shortages after the Great Recession (2008/2009).

"This is different than anything the industry has seen and it's widespread," said Knight. "It's power semiconductors, all different types of capacitors—MLCCs, aluminum electrolytics, film, polymer—, commodity resistors, precision thinfilm resistors, thickfilm resistors, current sense resistors, and inductors."

"I've seen a lot of shortage or allocation years, and last year probably was the worst I've seen as far as how broad it was," said Casey. "Sometimes it's one particular product area, but it was much broader last year and we've never seen so many customers calling so often to see if we could help."

Distributors such as Future, Mouser and TTI that saw the uptick early and started to bolster their inventories benefited the most from component shortages.

Mouser, which historically keeps inventory levels higher than the overall industry, grew its North American revenue by 15 percent last year. "Because we focus on our breadth of inventory, we did see an increase in our business in 2017, fueled by the increase in component shortages," said Mark Burr-Lonnon, Mouser's senior vice president of Global Service & EMEA and APAC Business.

TTI's inventory level at the end of the first quarter of 2018 was 30 percent higher than it was at the start of 2017. "You couldn't do that from a start today," said Knight. "The TTI advantage is that we saw what was coming in the middle of 2016 and started to buy accordingly. By the first quarter of 2017 we had plenty of confirmation that we were correct and started buying even more."

TTI also expanded its infrastructure to support the inventory increase with a new distribution center. The expansion also helped TTI to more efficiently supply its customers.

Future Electronics sees inventory as an investment. As a privately-held company, Future doesn't have to worry as much about how much inventory it carries, said Casey. "When we see lead times moving out we buy more. If we're sitting on it for six or 12 months it doesn't matter because we are going to sell it."

Supplier Consolidation

Supplier consolidation—particularly in the semiconductor market—also has been a challenge for distributors over the past several years. Long-term relationships have suffered due to M&A.

Like many distributors, Avnet continues to monitor supplier consolidation very closely. Except for its Premier Farnell business, Avnet lost its long-term deal with Analog Devices Inc. after it acquired Linear Technology.

"Whenever suppliers consolidate we always want to be one of the people that has a chair when the music stops," said Bassett. "No matter what happens it always creates some level of volatility in the supply chain."

"Right now, we're working very closely with Microchip and Microsemi to make sure that Avnet's got a winning value proposition for them if indeed [their merger] happens," she added.

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→ "The challenge of continued consolidation has been with us for a few years and while it is diminishing, it does continue to linger industry wide," said Burr-Lonnon. "However, it's all good for Mouser as we have most key lines of either the acquirer or the acquired so we sit in a strong position for future growth without fear of network change."

There has been some upside to the challenges, said Casey. They've helped Future improve in several areas, including working with customers to gain more visibility, staying on top of supplier lead times and backlogs, and ensuring that it has enough safety stock in place in the case of a customer having a lift in its business.

"Our strategy is you don't have to hold the inventory; we hold it for you and when you need it you pull it," said Casey.

Future also has worked on improving its receiving and shipping times. "We worked hard reducing the time from the truck hitting the dock to the time the product is in the system and ready to sell or getting it out the door to the customer," he added.

Consolidation has a mixed impact on sales, said Bassett. "Typically when we have shortages of supply and we have allocation, prices go up. What we saw was a slight lag in prices going up but we saw price increases and that passes through so we're able to also charge more for short supply products."

But you have to wait longer to get the product, she added. "The biggest challenge was making sure you had the product to sell."

The challenges have been the same for smaller interconnect, passives & electromechanical specialists such as SMD Inc. "It is harder to get parts and lead times are out," said Rich Unruh, president, SMD Inc. "A lot of component manufacturers are at high levels of total capacity. They are getting so many requirements for commodity parts."

"In my case, it's not as much of a commodity [problem] but it's still a challenge being able to acquire products that meet the customers' need because I don't think they have adjusted their MRPs to what the reality of the market is right now," he added. "We're seeing a lot of it with people calling in with shortages because their current supplier can't meet their needs."

"We are very optimistic about this year," said Mark Burr-Lonnon, Mouser's senior vice president of Global Service & EMEA and APAC Business. "2017 was a very good year for Mouser with strong double-digit growth, and we expect this level of growth to continue at least through 2018."

SMD has acquired four distributors—Prime Electro, Neumann Electronics, Components Center and Dalis Electronics—over the past four years, which added interconnects to its portfolio and expanded its supplier line card.

"Our success has been to focus on a customer base that truly needs our services and our attention to detail," said Unruh. "I think specialists have always survived. Even the biggest guys in the world can't take care of everybody."

Double Ordering

Most distributors are not accepting new customers on constrained parts, and have processes in place to help ensure that double ordering is not occurring in the supply chain. For example, if a customer comes in with an order quantity larger than its historical usage, distributors universally agreed "there's going to be a conversation" before the order is accepted.

But even so, it's difficult to determine if buyers are placing the same orders with different distributors to hedge their bets.

Knight suspects that distributors and suppliers both are monitoring double-ordering, which will lessen this problem. There's a lot of fear but no empirical evidence that double-booking is occurring, Knight said.

"It's been part of the issue and one of the significant factors that has slowed down any incremental investment in capacity because people are extremely worried about artificial backlogs, double ordering and a big crash on the back side of this," Knight added.

But other distributors believe double ordering is occurring. "Absolutely there is," said Casey. "It's very hard to know how much."

"Sometimes working with your supplier you can figure it out where they see significant upside on a particular part number or family of parts and then we can have conversations and compare notes. It's a very hard one to understand," he added.

Bassett said Avnet watches book to bill very closely. "If we start to see things get beyond a certain threshold we go back and work with customers to make sure there isn't double ordering. Suppliers do the same thing with distributors to make sure we're not over-ordering."

"When we start to see a customer or a particular region start to get a little too hot, that's when we'll go back and re-evaluate all the orders and we ask for commitments from customers to ensure they're taking the full supply," she added.

Existing customers always get preferred status.

"Quite frankly we're not accepting new customers on constrained parts. We stopped in the middle of last year," said Knight.

"If it's a customer that has always been buying from us we try to service all of them," said Casey. "Brand new customers coming in get a lower priority because it is important for us to service existing customers."

"Suppliers are taking care of their direct customers first; distributors also get a good place in the line, and we have to prioritize between our longstanding customers and what we can find for new and emerging customers," said Bassett.

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Optimism Grows for 2018
With strong demand across nearly all end markets and regions, the electronics industry is forecasting strong growth in 2018. Many distributors believe the industry could reach as high as 10 percent growth this year. The only thing that could limit their revenue is product availability.

Many distributors have reported strong first quarter 2018 growth.

"We are very optimistic about this year," said Burr-Lonnon. "2017 was a very good year for Mouser with strong double-digit growth, and we expect this level of growth to continue at least through 2018. Q1 has so far exceeded all expectations and is again strong double digit growth."

Knight said TTI could have a better year in 2018 than last year, as long as the distributor doesn't run out of parts.

"We have a strong ubiquitous demand picture right now," said Knight. "I honestly don't see that changing anytime soon. Even if does cool off a little bit I don't think it's going to last. There is so much new stuff getting ready to hit the market."

"Backlogs continue to grow. We had a remarkable first quarter and I don't think we were alone in that," Knight continued. "I think by the time we hit the midway mark on the year our run rates are going to be mind boggling. Whether we will be able to sustain it comes down to product availability during the second half of the year."

Future's sales were well above what they usually are, said Casey. "We carried a lot of inventory and are aggressive in how we buy. When we saw lead times moving out we loaded on more orders. Our backlogs with suppliers are at a record high and our backlog with our customers is at a record high. We see that continuing to grow."

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"I've seen a lot of shortage or allocation years, and last year probably was the worst I've seen as far as how broad it was," said Dan Casey, executive vice president, Future Electronics.

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→ Automotive and any transportation-related segment appears to be the biggest growth drivers. Other healthy sectors include industrial—the biggest sector for distributors—, military and telecommunications.

"Industrial automation, edge computing, cloud, connected devices and home automation, smart cities and growing electronic content for transportation are some of the biggest opportunities of our lifetime," said Michael J. Long, president & CEO of Arrow Electronics during a recent earnings call. "We expected 2017 to be a great year for growth in the semiconductor industry and indeed, it was. Early indicators suggest 2018 should be a good year for growth for the industry."

Distributors said they expect an uptick in infrastructure investments—data centers, cloud computing, server farms—to support the coming 5G technology. Even new construction—warehouses, manufacturing buildings and housing—is driving increased electronics content.

"Look out when 5G gets here and becomes widespread, you're going to see IoT and cloud-based things explode and create a huge amount of additional demand for server farms and storage," said Knight. "I think the ripple effect from 5G will be interesting. Everybody is getting ready for it. You'll see a lot of infrastructure spending; a lot of IT spending. I think the demand picture for our industry is extremely encouraging as far out as I can see."

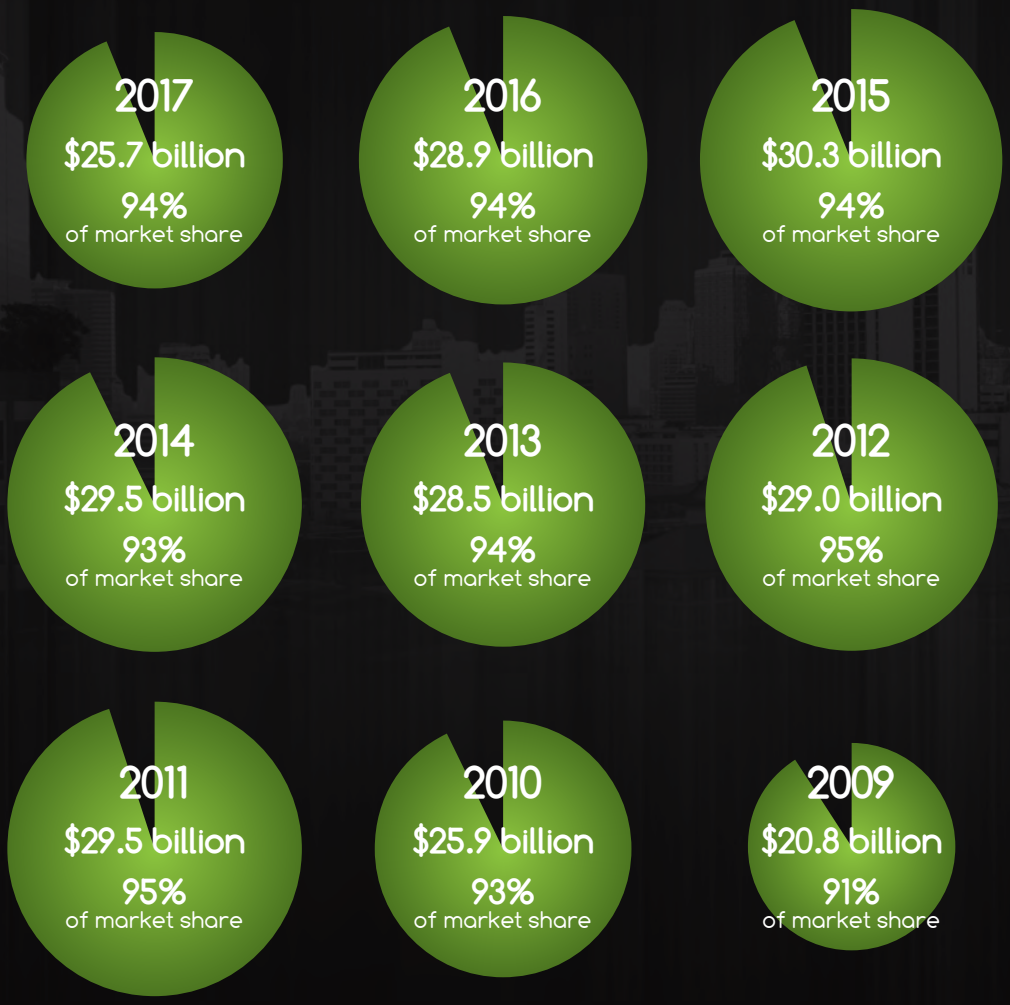
Bassett thinks growth could be in the 5 percent to 7 percent range for all regions. However, she thinks the Americas could have a higher rate because it is coming off of a down year.

"The Americas came off of a challenging ERP implementation and have been working on stabilization and now they are poised for growth and recovery," said Bassett.

"Where we're likely to see the growth are the sweet spots for Avnet, which are automotive and industrial. The highest growth rates tend to be those verticals where we play heavily. From a market outlook we feel there is a great opportunity to grow the business in the coming year."

Steady market share for top 10

The top 10 distributors account for the largest share of the North American distribution industry with 94 percent, or $25.7 billion in revenue in 2017



She also thinks there is an opportunity for Avnet to sell more complex and sophisticated solutions thanks to its growing ecosystem of companies, which will grow both revenue and profit in specific solutions.

"We think it's a really positive and optimistic outlook for the rest of 2018 and into 2019," said Bassett. "We like the markets where we see the growth. We're going to continue to look at the triggers and monitor for any overheating or correction and we're trying to build out on top of all of the component growth with our ecosystem and making sure we're servicing our customers and passing through our respective properties. Right now all things look good; all regions look poised for growth."

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Sager Electronics 130 Years and counting

About

Grounded in over 130 years of innovation and service, Sager Electronics is a North American electronic component distributor of interconnect, power and electromechanical products, and provider of value-add solutions. Our Distributing Confidence® business model goes beyond fulfillment to provide our customers and suppliers a unique combination of operational excellence and innovative business solutions.

Proud Tradition of Innovation and Service
Sager Electronics began in 1887 as a single storefront in downtown Boston that serviced the growing interest in radio technology. Under the vision and leadership of Joe Sager, the company rapidly established a statewide distribution system for home radios and related components. To further stimulate demand, Sager sponsored a weekly musical radio show and, in 1926, Sager developed the format for play-by-play broadcasts of the Boston Bruins' hockey games. Despite the onset of the Great Depression, Sager continued to grow by bringing new electrical products to Massachusetts' consumers.

From Retailer to Distributor
At the onset of WWII, Sager reacted to the critical demand for electronic components. The company refocused its operations to supply electromechanical components to the U.S. military. This transition positioned us to emerge as the leading regional electronic component distributor at the beginning of the consumer electronics market in the 1950s and 60s.

From Regional to National Prominence
Anticipating the explosive growth in electronics, in 1977, we relocated our headquarters to more spacious facilities in Hingham, MA and began building a national network and infrastructure. This included the prudent acquisition of smaller regional distributors and the creation of regional support facilities to service our expanding network of customers and suppliers.

Today Sager services our growing customer base via headquarters and a state-of-the-art distribution center in Middleborough, MA, a national network of field account representatives and sales engineers, strategically located service centers across North America, and a Power Solutions Center offering value add capabilities in Carrollton, TX. In June 2014, Sager Electronics acquired PowerGate LLC, a premier North American power specialist distributor. The acquisition preceded Sager's most recent purchase of Norvell Electronics in July 2015. Norvell was a North American power products distributor with extensive design and value-add capabilities.

From National Prominence to Distributing Confidence®
Throughout our long history, the key to our success has been our constant commitment to exceeding the expectations of our customers. Our unique Distributing Confidence® business model puts our customers' needs at the center of all our activities. From our customized services like bonded inventory programs, VMI, BOM quoting, credit, inventory management and value-added capabilities to our branded line card of authorized manufacturers, Sager Electronics has become a full partner with our customers.

In 2012, Sager Electronics was acquired by TTI Inc., a Berkshire Hathaway Inc. company. As a wholly owned subsidiary of TTI Inc., Sager continues to operate as it always has. Our customers can expect the same level of service and commitment from Sager with the added strength of TTI Inc. and Berkshire Hathaway Inc.

Electronics distributors ride the recovery for big gains in 2017

In the electronics industry, change happens fast and that is exactly what occurred in 2017. In 2016, the electronic components distribution industry faced declining component demand, supplier consolidation, currency fluctuations and lower margins, resulting in overall negative growth. Fast forward to 2017: Demand increased across several sectors and lead times for semiconductors—discretes, power and particularly memory ICs—and passive components stretched, and in some cases, were put on allocation.

Many component manufacturers questioned whether the uptick in demand was real and hesitated to ramp up production capacity. This contributed to additional supply constraints. Despite the scarcity of components, the top franchised distributors increased their revenue by 8 percent in 2017, due in part to higher prices, particularly DRAMs and NAND flash.

North American revenue for the top electronics distributors increased by $2 billion to $27.4 billion in 2017, up from $25.3 billion in 2016, according to the EPSNews survey of the distribution industry. Increased sales also led to a higher head count. Of distributors that provided employee data, 64 percent increased their roster while 21 percent maintained the same number of employees. Only 15 percent cut their workforce.

Passive/electromechanical (EM) sales by distributors saw the biggest gains by percentage. Despite supply constraints, extended lead times and allocation for many passive components, the passive/EM segment recorded 10.9 percent growth, reaching $5 billion. This product category accounted for 23 percent of the total NA top distribution sales in 2017, up from 17 percent in 2016. The top 10 passive/EM distributors posted $2.7 billion in sales in 2017, up from $2.2 billion.

Semiconductor sales accounted for 57 percent of the top total NA distribution sales, up from 46 percent in 2016. Semiconductor sales for the top chip distributors increased by 5 percent in 2017 to $12.7 billion, up from $12.2 billion in 2016. The top 10 chip distributors posted $4.9 billion in chip sales.

Interconnects accounted for 11 percent of the top distributors' total revenue to reach $2.6 billion, up 5 percent in 2017. The top 10 interconnect distributors reported $2.3 billion in connector sales, up slightly from $2.1 billion in 2016.

Computer product sales declined in 2017, indicating that fewer distributors are selling these products. Computer-related sales dropped from $6.3 billion in 2016 to $1.5 billion. Avnet's sale of its Technology Solutions business contributed significantly to the decline: that unit accounted for nearly $3.7 billion of Avnet's NA business in 2016.

Sales from "other" components dropped for the second year in a row. Sales in that segment declined by 3.5 percent, from $912 million in 2016 to $484 million in 2017. Other components include batteries, power, thermal products, filter components, chemicals, automation & control, test & measurement, and hardware. Component sales are based on responses from 42 distributors.

Overall, North American distributors benefited from strength across most industry sectors, particularly automotive, industrial and enterprise data centers. Forty of the top NA electronics distributors grew their revenue in 2017, up from 31 distributors in 2016. Of the 40 distributors with positive growth, 21 recorded sales gains in the double digits. This is up from only 9 in 2016. Only 6 of the top distributors posted negative growth, and two reported flat growth.

Two of the largest distributors—Arrow Electronics and Avnet Inc.—reported single-digit growth in 2017, which is a turnaround from negative growth last year. Arrow posted 7.8 percent revenue growth in North America in 2017, after dropping by 2.4 percent in 2016. Avnet also gained some ground in North America in 2017, recording 4.5 percent growth after a 9.6 percent decline in 2016.

Both distributors are acquiring companies outside of the electronics components distribution business as part of their diversification strategy. Arrow acquired eInfochips, a large design and managed services company focused on the IoT, in 2017. eInfochips has 1,500 IoT solution architects, engineers and software development resources worldwide.

Avnet acquired Dragon Innovation, a provider of hardware and manufacturing services, to help customers launch new products more efficiently. Avnet said the

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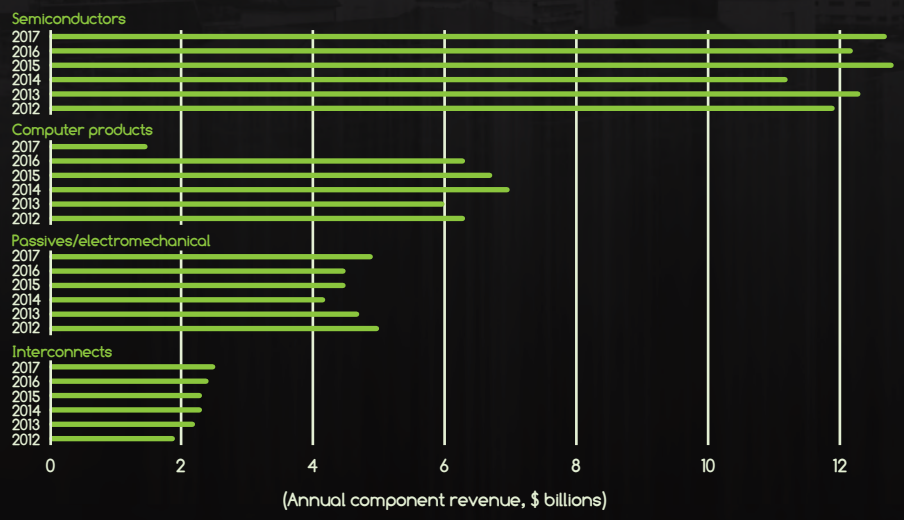
IP&E component sales grow nearly 11%



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← Paul Andrews, Founder of TTI

TTI Builds Its Specialty Distribution Dream Home

In the 45 years since Paul Andrews started TTI at the kitchen table of his Fort Worth, Texas home, the now multi-billion-dollar distributor has housed its North American inventory of electronic components at seven different warehouses, each significantly larger than the one that came before. Now, the company has opened its newest facility aptly dedicated as the Andrews Distribution Center in honor of the company's founder and current CEO.

The Andrews DC is designed expressly for the needs of TTI's specialty mix of connectors, passives, discretes and electromechanical components. Over 1.7 miles of conveyers tie the facility's shipping, inventory and receiving sections together; linking multiple story carousels filled with bins of pepper-sized components and racks of palletized cases of larger components to a customer base stretching across North America.

The design team visited numerous warehousing and distribution facilities looking for innovative ways to handle the variety and mix of TTI products. The team knew from experience that dealing with components that range in size from almost microscopic resistors to large scale industrial switches and heavy-duty connection systems, has always presented a challenge. Combining these broad product size differences with the extreme difference in inventory turn velocity between TTI's most requested components and the company's inventory of legacy parts, some of which are critical to electronics on defense systems that are decades old, added to the design task.

One entire section of the warehouse is served by wireguided lift systems allowing operators to reach both sides of racked aisles to a height of over 30 feet. This density of product storage increases the volume of the warehouse, speeds picking, and offers improved worker safety. Another section serves specifically palletized materials for high volume customers. A dedicated space serves cut reel warehousing and production, while another specialty area provides value added customization of various circular and D-Sub connectors for the military and aerospace market, as well as commercial off-the-shelf product.

It's a varied and fast-moving production environment and the quality program at TTI measures each area of the operation to ensure that the company provides the right parts, to the right place, at the right time. Internal benchmarks have shown that in spite of moving more than six billion individual components from the previous warehouse over a four-week period, the Andrews DC is consistently shipping parts with a better than 98% on time efficiency. TTI expects this to improve even further as the staff settles into their new home and gains familiarity with the latest material handling systems.

Adding to the abilities of the warehouse are the information technologies that overlay the entire operation. Miles of cable, wireless systems, and dedicated systems control networks connect the conveying systems and carousel control systems to TTI's own Warehouse Control System software. This incredible application suite, developed in-house to meet the unique needs of TTI's product mix and customer requests, links TTI warehouses around the world to the Andrews DC, enabling sales representatives to ensure inventory status in real time. Because the same software had been used to run the overburdened previous 500,000 square foot warehouse, the switchover to the new distribution center was one of the most seamless handoffs in TTI history. TTI and the 300 team members at the Andrews Distribution Center are rightly proud of their new dream home and while they are working hard to bring it to full capacity, Mr. Andrews isn't worried, the team designed the building to be able to expand to a full 1,000,000 square feet of space when needed, and with the extraordinary recent growth of TTI, that time may be here sooner than the company anticipated.

→ acquisition augments its design and supply chain capabilities beyond electronic components to include finished products.

There were no surprises in the top 10 rankings. All 10 distributors maintained their rankings in 2017—Arrow (No. 1), Avnet (No. 2), Future (No. 3), Digi-Key (No. 4), TTI (No. 5), DAC (No. 6), Mouser (No. 7), Allied Electronics (No. 8), Sager (No. 9), and Master (No. 10). The top 10 all recorded positive growth in 2017, with 4 posting double-digit revenue gains.

Demand continues to remain strong for "catalog" distributors that specialize in low-volume, high-mix orders. This is particularly true during times of component shortages. Digi-Key and Mouser, which derive close to half of their sales from semiconductors, both posted double-digit gains in 2017. Digi-Key recorded 19.8 percent growth in North America in 2017, after reporting a strong 6.2 percent growth—considering the general lackluster demand—in 2016. Mouser reported a double-digit increase of 15.1 percent growth in 2017, after recording 4.4 percent growth in 2016.

Catalog house Allied reported nearly 2 percent growth in 2017, down from 5.6 percent growth in 2016. The company announced its new trade name—Allied Electronics & Automation—in January 2018 to better reflect its focus on both electronics and automation and control products.

A newcomer to the top distributor listing, Chip 1 Exchange, recorded the highest growth rate in 2017. The hybrid distributor, ranked No. 44 on our list, grew sales by 42.9 percent, from $7 million in 2016 to $10 million in 2017. Chip 1 Exchange derived 70 percent of its sales from semiconductors, and the remainder from interconnects, passive and electromechanical (IP&E) products.

Several other small to midsized distributors experienced high gains in 2017. SMD (No. 23), an IP&E distributor, grew by 30.5 percent; Area-51 ESG (No. 32) posted a 21.4 percent gain; Fedco Electronics (No. 44), a battery specialist, expanded its revenues by 19.8 percent, and Sherburn (No. 39) reported 17.8 percent growth.

Two other IP&E distributors also achieved double-digit sales growth last year. Hughes-Peters (No. 16) increased its sales by 33.2 percent. The company acquired Hammond Electronics (ranked No. 31 in 2016) in September 2017, expanding its reach into the southeast U.S. March (No. 22) grew its revenue by 23.4 percent.

Other acquisitions in 2017 included PUI's acquisition of Eric Electronics, a regional distributor specializing in valued-added services in Northern California; Sager's acquisition of Power Sources Unlimited Inc., and TTI's acquisitions of Symmetry (ranked No. 24 in 2016) and Changnam I.N.T. Ltd. SMD acquired two distributors in 2017—Components Center (ranked No. 45 in 2016) and Dalis Electronics. RFMW purchased Microwave Marketing Ltd. in the UK.

Only a few distributors reported investments in personnel, offices or warehouses in North America. Cumberland expanded into two new territories. Diverse announced further expansion in Western Canada and Northeast United States. Stevens Engineering increased its facility capacity in Southern California and continued acquiring companies in the Pacific Northwest and Mountain states.

Phoenics increased its presence in the U.S. with additional sales, application engineers, and inside sales personnel. The company also expanded into Asia and EMEA including Israel.

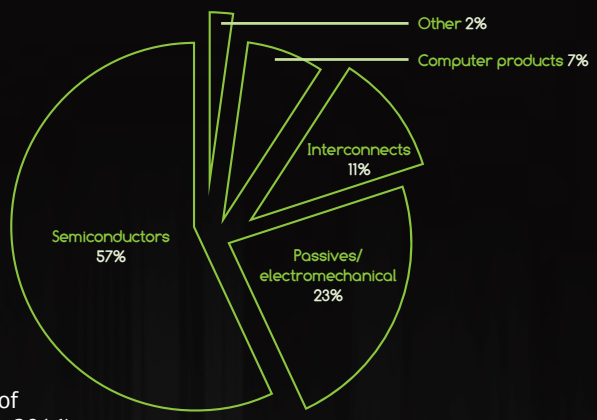
Several distributors expanded globally with new offices and personnel. IBS announced the expansion of existing global offices and the addition of new offices. Component Distributors added more reps in South America. RFMW added new resources in China, India, Europe and Southeast Asia. Richardson announced a global expansion for RF & microwave, power, electric and industrial products. Flame started a European forward stock location and added business development resources and product managers.

Headwinds in 2017

In addition to margin erosion, which continues to plague the distribution industry, distributors faced several other big challenges in 2017, according to the survey respondents. In fact, supplier/manufacturer lead times usurped margin erosion as the biggest headache for the first time in many years. Another big issue was the economy; and capacity constraints, counterfeiting, vendor consolidation, and a lack of qualified staff/talent acquisition were cited as problems. Only a few distributors noted global trade regulations or restrictions as an issue.

Semiconductors expand market share

(% of NA revenue of top distributors, 2017)



In 2017, the top distributors derived 28 percent of their revenues from the industrial sector for the fourth consecutive year. This is followed by the aerospace/military segment (24 percent), automotive (12 percent), telecommunications (9 percent), medical (7 percent), energy (5 percent), computer products (5 percent), and mobile communications (2 percent). The remainder came from "other" markets.

The industrial market continues to fuel distribution growth. Twenty-four distributors said the industrial sector was the biggest growth driver in 2017, although this is down from 29 distributors in 2016.

This is followed by transportation, according to 20 distributors, and aerospace/military, according to 19 distributors. Eighteen respondents expect the medical sector to drive sales growth, while 16 believe the energy sector will drive growth. Other hot spots include communications (12 distributors) and lighting (11 distributors).

All data for charts, graphs and tables throughout the Top 50 is courtesy of EPS*News*

Symmetry ELECTRONICS

Symmetry Electronics is a global specialty semiconductor distributor offering advanced technologies in wireless, IoT and video, with a focus on technical expertise and customer service, supported by a worldwide sales and engineering team.

Founded in 1998, Symmetry Electronics is headquartered in Los Angeles, with international offices in Mexico, Brazil, Canada and China. In 2017, Symmetry was acquired by TTI, Inc., a Berkshire Hathaway company. Symmetry continues to expand globally by adding applications engineers and sales representatives domestically and internationally. Symmetry remains committed to unmatched customer service through highly trained applications engineers, ready-to-ship inventory, and a focused line card.

Engineering

Symmetry offers supplier trained technical support & applications engineers to assist with part selection and throughout the design process.

Inventory

With ever increasing inventory, Symmetry stocks thousands of parts for immediate delivery, so customers don't experience allocation issues.

Focus

Symmetry's line card offers an unparalleled wireless, IoT, and video focus, with an emphasis on strong customer service.

866.506.8829 (U.S. Only) | 310.536.6190 | www.SymmetryElectronics.com

New products, new markets and value-added offerings drive growth

Nearly all the top distributors offer value-added services and when coupled with new product introductions (NPIs) and new market expansion, distributors expect strong growth in 2018. Some distributors report an increased need for design and value-added services, but a lack of qualified employees could be a roadblock.

Thirty-eight survey respondents, up from 37 last year, expect NPIs to be the biggest growth driver in 2018. Distributors also expect new markets (31 respondents) and value-added services (25 respondents) to drive sales this year. Seven respondents believe acquisitions will fuel growth.

In terms of applications, the internet of things (IoT) is expected to be the biggest growth driver among emerging applications, according to 20 respondents. Eight distributors also report that the smart grid/smart meter sector will boost sales this year. Other notable applications cited include robotics, electric vehicles and cloud computing.

For "green" applications, distributors continue to support energy-efficient lighting and renewable energy, although fewer distributors expect renewables to fuel growth in 2018. Twenty distributors expect the lighting segment to lift growth this year, up from 15 distributors last year. Only five distributors expect solar and wind power segments to drive growth, down from seven respondents.

The survey also finds that 40 of the top distributors posted gains last year. Four of the top 10 leaders by growth derived the majority of their sales from IP&E products which contributed to the component sector's boost in growth and market share. These distributors include Hughes-Peters, SMD, Marsh, and Sherburn.

Value-Added Services

Distributors play an important services role in two areas: traditional value-added services for products that include all types of assemblies, kitting, bar coding and device programming; and supply chain services. Last year, during an extended period of component shortages and long lead times, buyers and designers found out just how important distributors are in ensuring that they get the parts they need on time. Many supply chain services center on inventory management and replenishment programs that include vendor managed inventory (VMI), automated inventory management, bonded inventory, scheduled orders, JIT delivery, and consignment.

The survey finds that more than half of the top distributors believe value-added services will help them grow their sales in 2018. The survey reveals that 17 distributors derived 50 percent or more of their 2017 sales from value-added services. Six of the top 10 leaders by value-added services earned 50 percent or more of their business from these services.

Ten distributors said 20 percent to 49 percent of their sales are derived from value-added services. The remaining 10 distributors that responded said value-added services accounted for 19 percent or less of their sales.

Value-added sales totaled $4.8 billion or 17.5 percent of distributors' NA revenues in 2017. This is up from $1.6 billion in 2016, or 5.2 percent of NA revenues. Only 40 of the top distributors responded to the question, and 5 out of the top 10 distributors did not provide the percentage of their sales from value-added services.

Demand for more design help is fueling the distribution industry's move into services to help customers with complete end solutions. Thirty-two distributors said they offer design services, the same as last year. Those companies employ between 1 and 89 FAEs in North America, and between 1 and 148 designers.

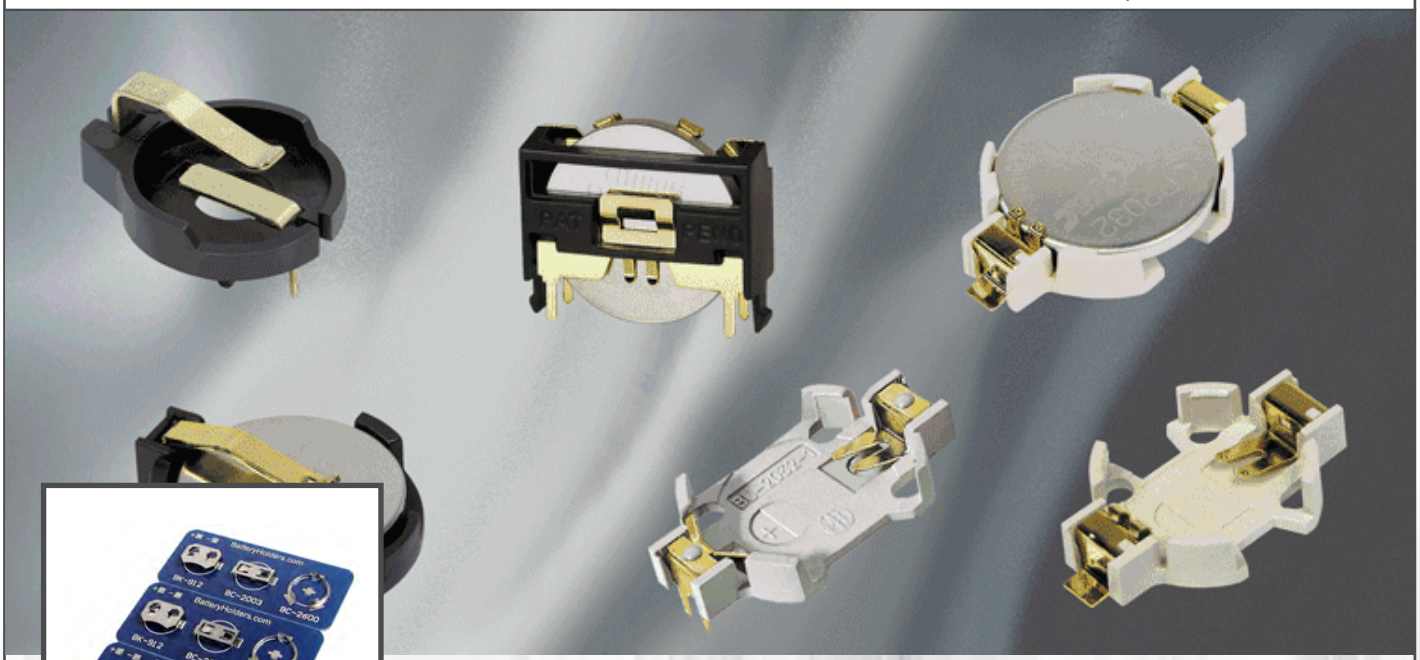
Leaders by value-added sales

Rank	Company	VA Sales ($ millions)	% of Sales	2017 NA Sales ($ millions)
1	Avnet, Inc.	$3,036.0	60	$5,060.0
2	TTI, Inc.	585.0	50	1,170.0
3	Digi-Key Electronics	361.8	25	1,447.0
4	PEI-Genesis	143.6	99	145.0
5	Phoenics Electronics Corp.	100.3	85	118.0
6	Sager Electronics	79.2	29	273.0
7	Electro Enterprises Inc.	74.5	65	114.6
8	Mouser Electronics	48.8	8	610.0
9	Hughes-Peters	39.8	40	99.5
10	Richardson Electronics, Ltd.	28.0	50	56.0

Other services provided by distributors include materials planning, forecast management, counterfeit mitigation, product life cycle management, reverse logistics and electronics asset disposition.

Distributors continue to maintain quality compliance. Of the top distributors, 40 of them have received ISO certification; 1 is in the process of being certified.

All data for charts, graphs and tables throughout the Top 50 is courtesy of EPS*News*



Memory Protection Devices, Inc an ISO 9001:2008 company

MEMORY PROTECTION DEVICES, INC.
an ISO 9001 manufacturer

About

MPD is one of the world's largest creators and suppliers of innovative and cost-effective battery and coin cell holders and contacts. We created the coin cell holder, and it is still the core of our product line. MPD also offers a full line of automotive plugs, cord sets and other components like fuse holders and power plugs, jacks and adapters. Another advanced concept introduced by MPD is our line of "Gliders": hybrid coin cell holders that combine the low cost of retainers with even higher reliability than standard coin cell battery holders. MPD is proud to be partnering with Microsoft to bring you the patented new Instaload technology. Gliders, SnapDragon and Instaload are the next chapter in the story of MPD's quest to make sure that battery holders are as technology-driven as the products in which they are used.

Products and services

Products and services include electronic design, prototypes and mass production for Battery holders, contacts and sockets and other power connection related products. Since 1980, Memory Protection Devices, Inc has been offering battery holders and contacts for lithium coin cells and alkaline cells. We offer products based on a range of standard products and custom proprietary solutions.

www.memoryprotectiondevices.com

allied forces

for a rugged world.

Microsemi Silicon General

DPACI

pdi Precision Devices Inc

Microsemi System on Chip FPGA

api technologies corp.

FMJ

SEMTECH

Microsemi HiRel Discretes

DATEL

HOLT INC. Integrated Circuits

SMART Modular Technologies

Microsemi Piezo Oscillator Products

mercury systems

TT Electronics Make Possible

OPTEK

Microsemi RF & Microwave Solutions

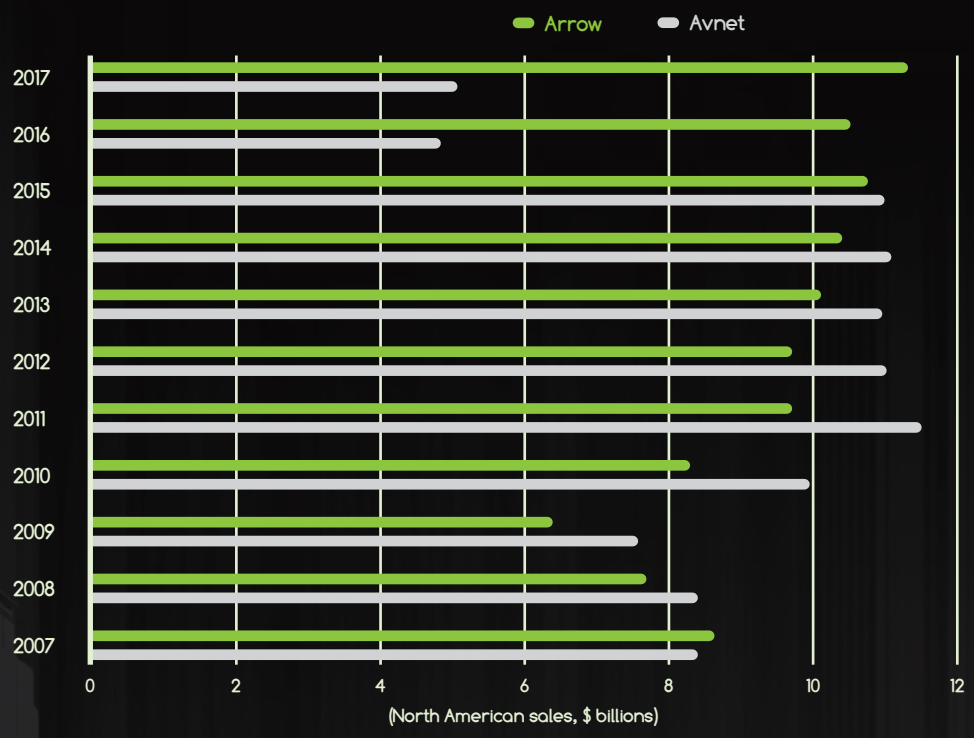
TT Electronics Make Possible

SEMELAB

Microsemi Space & Power Mgmt.

Arrow widens revenue gap

Market leaders



Arrow Electronics still holds the top spot for North American sales, widening the revenue gap between the number 2 distributor Avnet. Arrow's NA sales grew 7.8 percent, reaching $11.3 billion in 2017, up from $10.5 billion in 2016. Global sales grew by 12.5 percent, reaching $26.8 billion, up from $23.8 in 2016. Arrow reported that global components have been at or above the high end of its expectations for six quarters in a row and it achieved record fourth quarter sales in all three regions.

Avnet, ranked at No. 2, reported $5.06 billion in sales in the Americas in 2017, up 4.5 percent from 2016. Avnet's global sales increased by 10.9 percent from $16.44 billion in 2016 to $18.23 billion in 2017. Avnet's CY 2016 sales are now reported on a continuing operations basis, after the sale of its Technology Solutions business in February 2017.

Catalog distributors drive online sales growth

Of the top distributors, 25 said they offer online buying. However, several of the largest distributors—Arrow, Avnet, Future, DAC, and TTI—did not provide the percentage of their sales via the internet.

Eight distributors reported double-digit sales via online purchases. These distributors include Allied Electronics, Digi-Key, and Mouser Electronics. These catalog distributors continue to drive a bigger portion of their revenues from online sales, even if it's only by one or two percentage points per year.

Digi-Key's online sales hit 89 percent of total sales in 2017. The distributor has consistently increased its revenue from online sales annually from 83 percent in 2011 to 88 percent in 2016.

> "Catalog distributors continue to drive a bigger portion of their revenues from online sales"

Allied's online sales also increased in 2017: online sales rose to 43 percent of total sales up from 42 percent in 2016. Revenues from online orders have ranged between 40 to 41 percent from 2011 to 2015.

Mouser derived 54 percent of its sales from online orders in 2017, up from 53 percent in 2016 and 51 percent in 2015.

The distributor increased its online sales from 40 percent to 50 percent from 2011 to 2014.

Many distributor websites now offer buying tools including order status & tracking, order history, online quotes, saved parts list, real-time stock status, cart project sharing, and bill-of-materials (BOM) uploads. Other services include lead time information and life cycle notification.

Other website resources include parametric search, product training videos, live chat, reference designs, online catalogs and other online design tools. These are designed to help buyers and designers select the right components and vendors for their applications and end products.

All data for charts, graphs and tables throughout the Top 50 is courtesy of EPS*News*

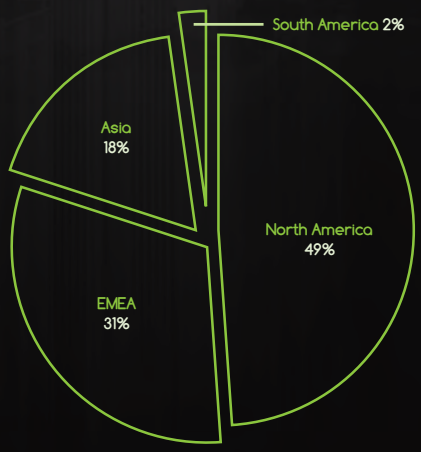
Global sales climb 10% in 2017

Global revenues of the top North American distributors increased by 10 percent in 2017, after dropping by two percent in 2016 and flat sales in 2015. Global revenues rose to $63.8 billion from $57.9 billion in 2016. The top NA distributors derived the majority of their global sales from North America with 49 percent market share in 2017, compared to 47 percent market share in 2016. Component distributors reported robust growth in all regions.

Regional breakdown revenues were based on 44 respondents, down from 48 last year. The top distributors derived $15.7 billion or 31 percent of their sales from EMEA (Europe, Middle East, and Africa) in 2017, that's up from$15.1 billion or 26 percent of their sales in 2016. Sales in Asia decreased from $14.6 billion or 25 percent of sales in 2016, to $9.3 billion or 18 percent of sales in 2017. Distributors still only derive about two percent of sales from South America.

Global sales reach $63.8B

(% of total revenue of top distributors, 2017)



Slightly higher sales needed to make the Top 50

To earn a spot on the top North American franchised distribution ranking in 2017, distributors needed to post $6.1 million in revenue, up from $5.8 million in revenue. Hybrid distributors also had to meet a specific percentage to be considered. However, this year's ranking only includes 48 distributors instead of the traditional 50. In 2017, three distributors were knocked off the ranking due to acquisitions. Components Center was acquired by SMD, East Coast Microwave was bought by Powell Electronics, and Hughes-Peters acquired Hammond Electronics. One new distributor, Chip 1 Exchange, joined the ranks of the top distributors.

STEVEN ENGINEERING

Controls for Industry

About

Established in 1975, Steven Engineering has grown into one of the largest distributors of industrial controls and components in the nation. With over two million available part numbers and a vast supporting inventory, they service a wide range of industries providing electrical and electronic components, automated industrial controls, and pneumatic products.

Steven Engineering's 95,000 square foot corporate facility is headquartered less than one mile from the San Francisco International Airport and includes a main Fulfillment Center, Customer Training Centers, and Contract Manufacturing Department. Two additional branch offices and warehouse facilities are located in Southern California and Portland, Oregon. The use of state-of-the-art systems and logistic services allows for delivery of product within hours, or the next day.

With a staff of engineers (Sales Application, Automation Systems, Motion Systems, and Technical Services), Steven Engineering helps customers find and specify the latest technologies available. Whether on-site or remote, this service guarantees the right product for every application and will increase efficiency and functionality for your end product. In many instances, an additional benefit of this process is reduced product and operating costs.

Other customer oriented services offered include managed inventory programs and on-site stocking, as well as manufacturing services such as din-rail assembly, mechanical sub-assembly, kitting, enclosure modification and pneumatic assembly. Steven Engineering is the solution for all your product and service needs.

STEVEN ENGINEERING

Today's Source for Tomorrow's Technology

www.StevenEngineering.com

A Certified Woman-Owned Small Business

Smaller distributors show leadership

There is no doubt that large distributors dominate component sales but some of the smallest distributors (<$50 million) posted the largest gains in 2017. Chip 1 Exchange, a new comer to the top ranking and hybrid distributor; SMD, Area 51-ESG, Fedco and Sherburn posted some of the largest growth rates. The smaller distributors also had the largest productivity rates. Sherburn, Component Distributors, Kensington, and Symmetry had the highest sales per employee.

Leaders in semiconductor sales

Rank	Company	Active Component Sales ($ millions)	% Total Sales	2017 NA Sales ($ millions)
1	Avnet, Inc. (2)	$3,693.8	73	$5,060.0
2	Digi-Key Electronics (4)	651.2	45	1,447.0
3	Mouser Electronics (7)	274.5	45	610.0
4	Phoenics Electronics Corp. (14)	116.8	99	118.0
5	Richardson Electronics, Ltd. (21)	42.0	75	56.0
6	RFMW Ltd. (20)	41.6	60	69.4
7	Symmetry Electronics Corp. (25)	34.3	98	35.0
8	Component Distributors, Inc. (24)	27.0	75	36.0
9	Area 51-ESG, Inc. (32)	10.8	49	22.1
10	Allied Electronics & Automation (8)	10.4	2	518.0

Leaders in computer sales

Rank	Company	Computer Sales ($ millions)	% Total Sales	2017 NA Sales ($ millions)
1	Avnet Inc. (2)	$354.2	7	$5,060.0
2	Sherburn Electronics Inc. (39)	3.2	18	17.9
3	Steven Engineering, Inc. (17)	6.9	7	99.2
4	Electronics Supply Co., Inc. (41)	0.8	5	15.0
5	Symmetry Electronics Corp. (25)	0.7	2	35.0
6	Bisco Industries, Inc. (11)	1.5	1	153.7
7	Phoenics Electronics Corp. (14)	1.2	1	118.0
8	IBS Electronics Inc. (29)	0.3	1	27.5
9	Cumberland Electronics Strategic Supply Solutions (CE3S) (36)	0.2	1	18.7

Leaders in interconnect sales

Rank	Company	Interconnect Sales ($ millions)	% Total Sales	2017 NA Sales ($ millions)
1	DAC (6)	$638.2	84	$759.8
2	TTI, Inc. (5)	538.2	46	1,170.0
3	Digi-Key Electronics (4)	217.1	15	1,447.0
4	Avnet, Inc. (2)	303.6	6	5,060.0
5	PEI-Genesis (12)	145.0	100	145.0
6	Mouser Electronics (7)	140.3	23	610.0
7	The Powell Electronics Group (13)	111.8	90	124.2
8	Electro Enterprises Inc. (15)	80.2	70	114.6
9	Allied Electronics & Automation (8)	72.5	14	518.0
10	Sager Electronics (9)	68.3	25	273.0

Leaders by sales per employee

Rank	Company	Sales per employee	2017 NA Sales ($ millions)	Total NA employees
1	Phoenics Electronics (14)	$3,371,428.6	$118.0	35
2	Flame Enterprises (18)	1,516,666.7	91.0	60
3	Avnet, Inc. (2)	1,176,744.2	5,060.0	4,300
4	RFMW Ltd. (20)	1,156,666.7	69.4	60
5	Sherburn Electronics Inc. (39)	895,000.0	17.9	20
6	Sager Electronics (9)	766,853.9	273.0	356
7	Component Distributors, Inc. (24)	720,000.0	36.0	50
8	Kensington Electronics, Inc. (38)	696,153.8	18.1	26
9	Symmetry Electronics Corp. (25)	686,274.5	35.0	51
10	Steven Engineering, Inc. (17)	684,137.9	99.2	145

Leaders in passives/em sales

Rank	Company	Passives/EM Sales ($ millions)	% Total Sales	2017 NA Sales ($ millions)
1	Avnet (2)	$708.4*	14	$5,060.0
2	TTI, Inc. (5)	631.8	54	1,170.0
3	Digi-Key Electronics (4)	578.8	40	1,447.0
4	Allied Electronics & Automation (8)	181.3	35	518.0
5	Mouser Electronics (7)	176.9	29	610.0
6	DAC (6)	121.6	16	759.8
7	Bisco Industries, Inc. (11)	92.2	60	153.7
8	Flame Enterprises (18)	91.0	100	91.0
9	Sager Electronics (9)	87.4	32	273.0
10	Hughes-Peters (16)	69.7	70	99.5

*Includes 'Other' Components

Leaders by sales growth

Rank	Company	% growth rate from previous year	2017 NA Sales ($ millions)	Total NA employees
1	Chip 1 Exchange (45)	42.9%	$10.0	30
2	Hughes-Peters (16)	33.2%	99.5	150
3	RFMW Ltd. (20)	30.9%	69.4	60
4	SMD Inc. (23)	30.5%	39.4	63
5	Marsh Electronics, Inc (22)	23.4%	52.7	125
6	Area 51-ESG, Inc. (32)	21.4%	22.1	53
7	Digi-Key Electronics (4)	19.8%	1,447.0	3,460
8	Fedco Electronics, Inc., DBA Fedco Batteries (44)	19.8%	10.9	38
9	Master Electronics (10)	17.8%	222.6	N/A
10	Sherburn Electronics Inc. (40)	17.8%	17.9	20

All data for charts, graphs and tables throughout the Top 50 is courtesy of EPS*News*

AMERICA II ELECTRONICS®

The power of distribution℠

800-767-2637

www.americaii.com

Company snapshot

- Founded in 1989
- 4 billion components in stock and ready to ship
- 165,000 unique part numbers
- Franchise and direct distribution lines
- Assurance of supply
- Cost-saving programs
- Inventory solution programs
- EDI transaction programs
- PPV (Price Point Variance) programs
- Bonded and reserve inventory programs
- On-site VOI (Vendor Owned Inventory) programs
- Hard-to-find and allocated parts
- Spot Buy orders
- Concurrent Cost Reduction programs
- ISO 9001, ANSI S20.20 certified, and AS 6081 certified
- C-TPAT Certified
- Member of E.R.A.I., S.M.T.A. and GIDEP

About

Established in 1989, America II is a global leader in component distribution. We stock more than four billion components, making us one of the world's largest global distributors of semiconductors and electronic components.

America II serves as a primary partner for OEM and EMS customers around the world. Headquartered in St. Petersburg, Florida, America II also has offices in the UK, Germany, China, Japan, Singapore and Mexico. In addition to a broad line of manufacturing lines, America II also provides value-added services and inventory solutions from our ISO 9001:2008 and ESD-certified 300,000 square foot distribution facility.

What We Do

America II offers the most complete range of products, from active, passive and electromechanical components to memory and specialty products. In addition to hundreds of franchise and direct manufacturing lines, America II provides supply chain solutions, cost-saving programs, end of life components, and custom inventory solution programs to industries ranging from telecommunications, industrial and lighting to healthcare, automotive and military. Our deep experience in global markets allows America II to provide superior service and a broad array of solutions to customers around the world.

As a global distributor, America II stocks many types of semiconductors and electronic components. These include: batteries, cable assemblies, capacitors, connectors, crystal oscillators, diodes, displays, fans, filters, FPGAs, fuses and circuit breakers, inductors and coils, LEDs, memory, microcontrollers, microprocessors, power supplies, resistors, sensors, switches and relays, thermistors, transistors, transformers, voltage regulators, and MRO items. Additionally, America II can provide an array of custom engineered solutions including plastic injection molding, precision metals, PCB's and cable harness and wire assemblies.

Our objective is to bring value to our customers' supply chain. As a result, America II has developed a line card that includes the products and manufacturers our customers can depend on.

AVNET
Headquarters: Phoenix, Arizona
Email: info@avnet.com
Web: www.avnet.com
Phone: 480-643-2000

ABOUT

Avnet started in 1921 as a radio components distributor. Now, we're the first ever to offer a true end-to-end solution in-house that takes an idea from prototype through to end of life whether you're a startup, an OEM or a major enterprise.

So, what does that mean for a buyer like you?

Your access to 5 million parts globally with regional accessibility helps you set the pace for technological change. Find your competitive edge by browsing what's new from Avnet and our 1,400 industry leading suppliers. That broad ecosystem means that we have 100% of the parts you need on the board from transistors to inductors and MCUs; however, we also have all the parts you need off the board, too, from assemblies to interconnects and more. Plus, our deep relationships will allow you to know ahead of the competition when a component is going EoL or when you need to consider drop-in replacements.

Whichever way you buy, Avnet helps speed your product's time to market while also boosting your financial key performance indicators for internal stakeholders.

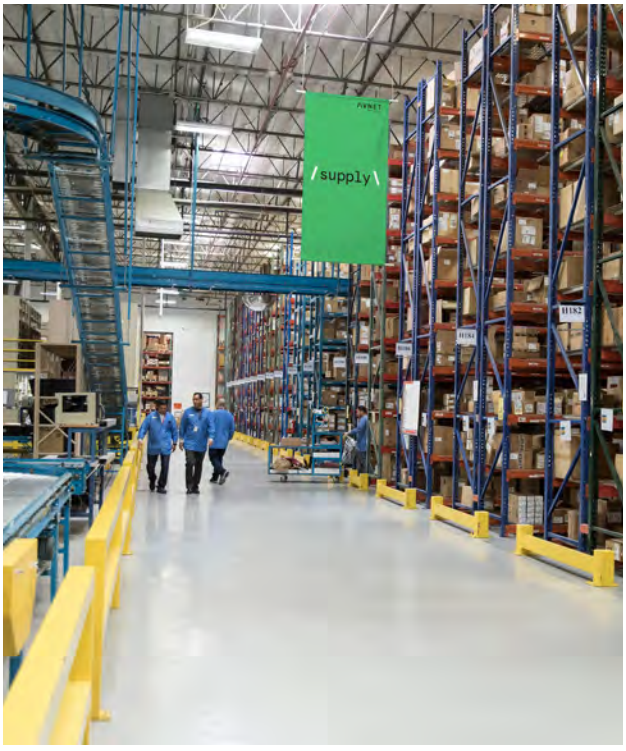
You'll find our deep expertise and established partnerships throughout a variety of markets help us identify the long-life technologies you require to reduce your lead times and excess inventory exposure. Online, you'll see our e-commerce platforms allow you to quickly buy the parts you know you need, viewing inventory in real time to buy in bulk and order with one-click—without having to create a bill of materials. What's more, when you come back, you can view a quick snapshot of previous orders and even statuses on orders still pending or finally build a BOM that allows you to order with two clicks.

Technology's next wonder is out there, somewhere. It may just be scribbles on a napkin right now, a possibility on paper, but tomorrow, it could change the world – with a little help from Avnet. That's why we're committed to helping your business Reach Further. How far can we take you?

AT A GLANCE

Avnet designs, makes, supplies & delivers technology solutions to customers of every size, in every corner of the world.

- Founded in 1921
- 15,000+ employees worldwide
- 2,500 engineers around the world
- 2.1 million customers in 140+ countries
- 1,400 technology suppliers globally
- 117 billion units shipped annually
- 125 locations across the globe
- Number 108 on the Fortune 500 in 2017



Top electronics distributors 2017

Rank 2017	Rank 2016	Company	2017 North American ($ millions)	% growth rate from previous year	Sales breakdown %						% of sales derived from VA	Total NA employees	Sales per employee
					Active Components	Passive Components	Electro-mechanical	Interconnect	Computer Products	Other			
1	1	Arrow Electronics, Inc.	$11,321.9	7.8%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2	2	Avnet, Inc. (1)	5,060.0	4.5%	73	14 (2)(3)	0	6	7	0	60	4,300	$1,176,744.2
3	3	Future Electronics (4)	4,307.5	8.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4	4	Digi-Key Electronics	1,447.0	19.8%	45	23	17	15	0	0	25	3,460	418,208.1
5	5	TTI, Inc.	1,170.0	10.4%	0	48	6	46	0	0	>50	1,800	650,000.0
6	6	DAC	759.8	7.0%	0	0	16	84	0	0	N/A	N/A	N/A
7	7	Mouser Electronics	610.0	15.1%	45	19	10	23	0	3	8	1,607	379,589.3
8	8	Allied Electronics & Automation (5)	518.0	1.6%	2	3	32	14	0	49	N/A	850	609,411.8
9	9	Sager Electronics	273.0	5.8%	0	5	27	25	0	43	29	356	766,853.9
10	10	Master Electronics (4)	222.6	17.8%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
11	12	Bisco Industries, Inc.	153.7	7.0%	<1	20	40	20	1	18	13	440	349,318.2
12	11	PEI-Genesis	145.0	-6.5%	0	0	0	100	0	0	99	500	290,000.0
13	13T	The Powell Electronics Group	124.2	3.5%	0	0	10	90	0	0	18	215	577,674.4
14	15	Phoenics Electronics Corp.	118.0	15.7%	99	0	0	0	1	0	85	35	3,371,428.6
15	16	Electro Enterprises Inc.	114.6	14.7%	0	0	30	70	0	0	65	240	477,500.0
16	19	Hughes-Peters	99.5	33.2%	3	30	40	25	0	2	40	150	663,333.3
17	18	Steven Engineering, Inc.	99.2	17.4%	0	0	35	35	7	23	28	145	684,137.9
18	17	Flame Enterprises	91.0	5.8%	0	0	100	0	0	0	0	60	1,516,666.7
19	21	Waldom Electronics Corp.	74.5	16.4%	0	5	25	70	0	0	0	120	620,833.3
20	22	RFMW Ltd.	69.4	30.9%	60	30	0	10	0	0	15	60	1,156,666.7
21	20	Richardson Electronics, Ltd.	56.0	-15.7%	75	15	5	5	0	0	50	247	226,720.6
22	25	Marsh Electronics, Inc	52.7	23.4%	3	39	43	15	0	0	40	125	421,600.0
23	27	SMD Inc.	39.4	30.5%	3	12	22	63	0	0	65	63	625,396.8
24	26	Component Distributors, Inc.	36.0	2.9%	75	8	2	7	0	8	1	50	720,000.0
25	24	Symmetry Electronics Corp.	35.0	3.2%	98	0	0	0	2	0	10	51	686,274.5
26	28	CDM Electronics Inc.	32.0	10.3%	0	30	5	65	0	0	35	150	213,333.3
27	-	Falcon Electronics Inc.	29.8	59.4%	96	0	2	0	2	0	20	17	1,752,941.2
28	23	NRC Electronics Inc.	28.7	-13.3%	5	65	20	10	0	0	60	45	637,777.8
29	30	IBS Electronics Inc.	27.5	9.1%	30	40	3	20	1	6	10	52	528,846.2
30	29	DEE Electronics Inc. (4)	26.4	1.1%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
31	34	House of Batteries	24.8	12.2%	0	0	100	0	0	0	80	95	261,052.6
32	37	Area 51-ESG, Inc.	22.1	21.4%	49	13	11	27	0	0	20	53	416,981.1
33	32T	March Electronics	22.0	0.0%	0	0	0	100	0	0	60	38	578,947.4
34	35	Diverse Electronics	20.8	4.5%	20	24	10	15	0	31	19	40	520,000.0
35	32T	Air Electro Inc.	20.6	-4.6%	0	0	0	100	0	0	65	62	332,258.1
36	38	Cumberland Electronics Strategic Supply Solutions (CE3S)	18.7	3.9%	1	10	30	28	1	30	75	40	467,500.0
37	36	PUI Projections Unlimited Inc.	18.5	1.1%	17	38	32	13	0	0	65	34	544,117.6
38	39	Kensington Electronics, Inc.	18.1	5.8%	0	10	0	90	0	0	30	26	696,153.8
39	41	Sherburn Electronics Inc.	17.9	17.8%	10	11	33	28	18	0	57	20	895,000.0
40	40	Gopher Electronics Company	15.5	-1.9%	0	10	60	30	0	0	24	45	344,444.4
41	43	Electronics Supply Co., Inc.	15.0	11.1%	1	1	3	0	5	90	30	28	535,714.3
42	44	Bluff City Electronics	12.6	-3.8%	10	10	55	10	0	15	15	35	360,000.0
43	45T	Benchmark Connector Corp.	11.0	10.0%	0	0	0	100	0	0	90	37	297,297.3
44	47	Fedco Electronics, Inc., DBA Fedco Batteries	10.9	19.8%	5	0	0	0	0	95	52	38	286,842.1
45	-	Chip 1 Exchange	10.0	42.9%	70	10	10	10	0	0	5	30	333,333.3
46	48	Metuchen Capacitors Inc.	8.0	0.0%	0	40	40	20	0	0	0	20	400,000.0
47	49	ECCO (Electronic Connector Company)	7.5	4.2%	0	0	2	98	0	0	66	24	312,500.0
48	50	URS Electronics	6.1	5.2%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	13	469,230.8

(1) Includes Argentina, Brazil & Puerto Rico sales; continuing operations (2) Component breakdown based on FY2017 sales
T Denotes tie (3) Includes Electromechanical & Other (4) EPS*News* estimate (5) Allied estimate, FY end 3/31/18

Sales figures are revenues from N. American nations only; include sales from all wholly/majority owned U.S. distribution operations

All data for charts, graphs and tables throughout the Top 50 is courtesy of EPS*News*

Newark element14
Supporting your journey at every stage

About

Newark element14 is a high-service distributor of technology products, services and solutions for electronic system design, maintenance and repair. Bringing together the latest products, services, and development software, all connected to an innovative online engineering community where purchasers and engineers can access peers and experts, a wide range of independent technical information and helpful tools.

The brands engineers trust
Our line card is one of the broadest in high-service distribution, covering a wide range of products, services and solutions – from bench to board. All ready for fast delivery anywhere in the world.

The direct relationships we have with industry-leading manufacturers mean you can access the very latest technology and information first, with no minimum order requirement. Plus we offer software and support from technology leaders like ARM, CadSoft and Micrium, unique development boards, and PCB services from proven providers.

Global access, with service that's close to home
We have operations in the US, Canada and Mexico, serviced from our regional distribution hub in South Carolina. We are committed to supporting local language, currency, product and shipment needs across North America and around the world.

In addition, our global reach as part of Premier Farnell and Avnet provides greater access to stock and stronger relationships with suppliers, ultimately allowing us to better serve your needs with the latest technologies and a wider range of products.

Valuable services to save you time, money and resources
Along with your personal local support, we also offer a multitude of services, including our online tools such as BOM upload, Quick Buy and our eProcurement tool, iBuy. These services help you populate and place orders efficiently, while giving you more spend control and transparency.

Our other services include design resources, facility and operations support and multiple custom order opportunities. Our goal is to provide you with exactly what you need to get your projects done faster and easier.

Top 50 directory

Air Electro, Inc.
Rank: 35
9452 De Soto Ave., Chatsworth, CA 91311; (818) 407-5400
Distributor type: Broadline/specialized
Management: Steven Strull, president; Todd Walk, VP; Ben Strull, sales contact
Major lines: Visit website
Value-added (product) services: Connector assembly, design and kitting
Website: www.airelectro.com

Allied Electronics
Rank: 8
7151 Jack Newell Blvd. S, Ft. Worth, TX 76118; (800) 433-5700; (817) 595-3500
Distributor type: Broadline
Management: Lindsley Ruth, CEO, Electrocomponents plc; Steve Newland, president, Allied; Scott Jayes, VP: Mark Simon, VP; Andrew Jackson, VP; Frank Cantwell, VP; Patti Crozier, VP; Nick Hawtrey, VP; Mark Simon, VP; Dan Stewart, VP
Major lines: Alpha Wire, Amphenol, Belden Wire & Cable, Crouzet (Automation, Crydom, Crydom-Controls, Motors, Switches), Crydom Inc. Danaher, Eaton Cutler-Hammer, Ebm-papst, Fluke (Amprobe, Fluke Corporation, Fluke Networks, Pomona, Fluke Calibration), Honeywell, Keysight, Molex, Omron, Panduit, Pentair (Birtcher, Calmark, Hoffman Cooling, Hoffman Enclosures, Schroff), Phoenix Contact, Schneider Electric (Schneider Electric, Schneider Electric Industrial, Schneider Electric/ Magnecraft, Square D, Telemecanique, Schneider Electric IT USA, Inc.), Siemens, SMC, TE Connectivity, Vishay
Value-added (product) services: Kitting, bar coding, customized shipments, parts customization, bagging & tagging, next plane out, break standard packaging, and online design tools
Website: www.alliedelec.com

Area51-ESG, Inc.
Rank: 32
51 Post, Irvine, CA 92618; (949) 387-0051
Distributor type: Broadline
Management: Steven G. Shammah, president; Peter Nguyen, CEO; Daniel Nguyen,COO; Miroslav Maramica, VP of quality, PhD; sales@area51esg.com, sales contact
Major lines: AEM, Alpha Wire, Black Box, EDAC, L-Com, Littelfuse, Orion, Panduit, Walsin
Value-added (product) services: Cable and harness assemblies, switch assemblies, connector assemblies, electronic manufacturing services, device programming, barcode labeling, kitting, tape & reel, and testing
Website: www.area51esg.com

Arrow Electronics, Inc.
Rank: 1
9201 E. Dry Creek Rd., Centennial, CO 80112; (303) 824-4000
Distributor type: Broadline
Management: Michael J. Long, chairman, president, CEO
Major lines: Visit website
Value-added (product) services: Design services, programming, assembly services, end-of-life services, etc.
Website: www.arrow.com

Avnet, Inc.
Rank: 2
2211 South 47th St., Phoenix, AZ 85034; (480) 643-2000
Distributor type: Broadline
Management: William H. Schumann, III; William Amelio, CEO
Major lines: products.avnet.com/shop/AllManufacturers?catalogId=10001&langId=-1&storeId=715839035
Value-added (product) services: www.avnet.com/wps/portal/us/services/value-add-and-integration/overview
Website: www.avnet.com

Benchmark Connector Corp.
Rank: 43
4501 NW 103rd Ave., Sunrise, FL 33351; (954) 746-9929
Distributor type: Specialized
Management: Wayne Nelson, general manager; Richard Pacceca, chief procurement officer; Jason Brand, sales contact
Major lines: ADI, Aiconics, Aero-Electric, American Micro, Conesys, Cristek Interconnect, Elecsys Dision of DCX-Chol, EMP, J-Tech, Preci-Dip, Step N Components, Spacecraft Components and SPI-Connects
Value-added (product) services: Custom assemble to customer specifications (several different types of Mil-Spec electrical connectors), government packaging, kitting, and cable assemblies
Website: www.benchmarkconnector.com

Bisco Industries
Rank: 11
1500 North Lakeview Ave., Anaheim, CA 92807; (714) 693-2901
Distributor type: Broadline
Management: Glen Ceiley, chairman, CEO; Don Wagner, president, COO; Zachary Ceiley, VP and sales contact; Joshua Uhlich, director of material
Major lines: Acme, Brady, Essentra, Heyco, Kato, Keystone, Mill-Max, Pentair, RAF, Southco
Value-added (product) services: Kitting, bar coding, customized quality programs
Website: www.biscoind.com

Bluff City Electronics
Rank: 42
3339 Fontaine Rd., Memphis, TN 38116; (901) 345-9500
Distributor type: Broadline
Management: Alfred L. Cowles III, president; Daniel Cowles, VP; Laura Cantrell, chief procurement officer; Alfred Cowles, IV, sales contact
Major lines: Visit website
Value-added (product) services: Kitting
Website: www.bluffcityelectronics.com

CDM Electronics
Rank: 26
130 American Blvd., Turnersville, NJ 08012; (856) 740-1200
Distributor type: Broadline
Management: Brian Miller, sales contact
Major lines: Amphenol PCD, Binder USA, Conec, Eaton/ Cooper-Interconnect, Eaton/Burton, Delta Electronics, Times Microwave, Sumitomo Electric, Winchester Interconnect
Value-added (product) services: Cable assemblies, kitting, wiring harnesses, box builds
Website: www.cdmelectronics.com

Chip 1 Exchange
Rank: 45
25652 Commercentre Dr., Lake Forest, CA 92630; (949) 589-5400
Distributor type: Franchised independent
Management: Sasan Tabib, CEO; Damon Pouya, COO; Salvador Lagos, chief procurement officer; Arif Arifi, sales contact
Major lines: Visit website
Value-added (product) services: In-house testing, design services, kitting
Website: www.chip-1.com

Component Distributors, Inc.
Rank: 24
3963 Walnut St., Denver, CO 80205; (800) 777-7334
Distributor type: Specialized
Management: John Williammee, chairman, president; Lori Pacheco, COO; Whit Allen, VP; Doug Slansky, VP
Major lines: Skyworks Solutions, Solartron, Sumitomo, TDK, Meanwell, InvenSense, TE Connectivity, Xicato
Value-added (product) services: Evaluation platforms, kitting, and special assemblies
Website: www.cdiweb.com

Cumberland Electronics Strategic Supply Solutions (CE3S)
Rank: 36
2501 Sycamore St., Harrisburg, PA 17111; (888) 565-3026
Distributor type: Broadline
Management: Donald G. Smeltz, president; Jeremy Wagner, VP; Tom Misiti, sales contact
Major lines: Belden, 3M, Alpha Wire, Aim Solder, Chemtronics, Techspray, IDEC, Dymo, Panduit, Greenlee, Fluke, Desco, PACE, HAKKO, Wieland, SSAC.Symcom, Dremel, EATON, Weller
Value-added (product) services: Kitting, production and rework support, wire and tube cutting
Website: www.ce3s.com

DAC
Rank: 6
58 Jonspin Rd., Wilmington, MA 01887; (978) 657-4870
Distributor type: Specialized
Management: Robert W. Clapp, chairman
Major lines: 3M, Accuride, Amphenol, Heyco, Hirose, JAE, LEMO, Molex, Omron, PEM, Panduit, POP, RAF Electronics, Richo, Shercon, Southco, Sugatsune, TE Connectivity
Value-added (product) services: Visit website
Website: www.heilind.com, www.dbroberts.com,

DEE Electronics
Rank: 30
2500 16th Ave. SW, Cedar Rapids, IA 52404; (319) 365-7551
Distributor type: Specialized
Management: Todd Gifford, president
Major lines: Visit website
Value-added (product) services: Visit website
Website: www.dee-inc.com

Digi-Key Corp.
Rank: 4
701 Brooks Ave. South, Thief River Falls, MN 56701; (218) 681-6674; (800) 344-4539
Distributor type: Broadline
Management: Ronald A. Stordahl, chairman, CEO; Mark A. Larson,vice chairman; Dave Doherty, president & COO; VPs: Chris Beeson, Kevin Brown, Chris Lauer, Linda Johnson, Rick Trontvet, Mark Blais, Roy Lunde, Teri Ivaniszyn, Rich Myers, Jim Ricciardelli, Chad Broadwell, David Stein, Randall Restle, Paul Dosser; sales@digikey.com, sales contact
Major lines: Analog Devices, Maxim Integrated, Microchip, Molex, Murata, ON Semiconductor, Kemet, STMicro, Panasonic, TDK, Texas Instruments, TE Connectivity, Vishay
Value-added (product) services: Assembly, cut tape, reeling, kitting, programming, and battery packs
Website: www.digikey.com

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Diverse Electronics
Rank: 34
5400 Thimens Blvd., St. Laurent, Quebec, Canada H4R 2K9; (800) 381-7308
Distributor type: Broadline
Management: Rick Masciotra, president, CEO; Eric Grados, COO; John Massi, VP; Robert Miozzo, sales & operations director; Roussos Koliakoudakis, sales contact; Ingrid Bergh; sales contact
Major lines: Instek, 3M, Panduit, Yageo, Henkel-Loctite-Bergquist, SCS-Desco, Wieland, Brady, Extech-Flir, E-Switch, Apem, Keystone, SunLED, Hitano, HSM, ECS, ILSI, Kang Yang, UTC/Unisonic, Stannol, Apex-Weller, Aven, MG Chemicals
Value-added (product) services: Tape and reeling, component labeling, device programming, pin cutting, lead trimming & forming, BGA reballing, custom packaging, component marking (Kapton/poly labels, laser mark, ink dot), kitting
Website: www.diverseelectronics.com

Electro Enterprises Inc.
Rank: 15
3601 North Interstate 35 Service Rd., Oklahoma City, OK 73111; (405) 427-6591
Distributor type: Specialized
Management: Marilyn Enright, president; Mitch Enright, COO; Nathan Little, sales contact
Major lines: Amphenol PCD, Array Connector Corp., Corsair Electrical Connectors, Delphi Connection Systems, DRI Relays, Harbour, Honeywell Sensing & IoT, RMS Connectors, RSCC Aerospace, Sabritec, Souriau, Sumitomo, TE Deutsch, TE Connectivity, Winchester Electronics, WL Gore
Value-added (product) services: Build military connectors, fiber-optic cable assemblies, and cut terminal boards to size
Website: www.electroenterprises.com

ECCO (Electronic Connector Co.)
Rank: 47
6332 South Central Ave., Chicago, IL 60638; (773) 767-2000
Distributor type: Interconnect specialized
Management: Bernard Gizzi, president; Michele Thelen, COO; Kevin Hayes, vp; Marc Natola, chief procurement officer; John Garcia, sales contact
Major lines: Aero Electric/Conesys, Amphenol, Cinch, Glenair, ITT Cannon, ICONN, Molex, Otto, Astro Tools, Caplugs
Value-added (product) services: Connector assembly, connector design, custom contacts, wire assemblies, overmolding services, kitting, government packaging, special marking, and electromechanical assembly
Website: www.eccoconnectors.com

Electronics Supply Co., Inc.
Rank: 41
4100 Main St., Kansas City, MO 64111; (816) 931-0250
Distributor type: Broadline
Management: Joanne LaBelle, chairman & CEO; Janet Niekamp, president; Robert Niekamp, COO; Kirk LaBelle, VP; Donn Weisser, chief procurement officer; Bill Neustadt, sales contact
Major lines: APC, Belden, Commscope
Value-added (product) services: Panel assemblies, cable assemblies, kitting
Website: www.eskc.com

Falcon Electronics Inc.
Rank: 27
47 Mall Drive (#5), Commack, NY 11725; (631) 351-8515
Distributor type: Specialized
Management: Brian Diaz, chairman, president, CEO; Richard (Skip) Wecker, COO, VP, chief procurement officer; Ian Mikles, sales contact
Major lines: HoltIC, FMJ Storage, Microsemi, TT Electronics (Semelab and Optek)
Value-added (product) services: Additional screening tape and reeling, and solder testing
Website: www.falconelec.com

Fedco Electronics, Inc. dba Fedco Batteries
Rank: 44
1363 Capital Drive, Fond du Lac, WI 54937; (920) 922-6490
Distributor type: Specialized
Management: Stephen Victor, Jr., chairman, CEO; Peter Victor, president; Joel Peterson, VP; Thomas Santy, VP; Joel Petersen, VP; Dennis Boelter, chief procurement officer; Joel Peterson, sales contact
Major lines: Enersys, FDK, Energy Access, Maxwell, Renata, Ultralife, Panasonic, Saft, Varta
Value-added (product) services: Battery assemblies, barcoding and custom labeling
Website: www.fedcobatteries.com, www.energyplusbatteries.com

Flame Enterprises
Rank: 17
21500 Gledhill St., Chatsworth, CA 91311; (818) 700-2905
Distributor type: Specialized Electromechanical
Management: Michael Epstein, chairman, CEO; Neil Rostholder, COO; Peter Epstein, president; Dave Boush, chief procurement officer & VP; Monica Beith, VP; Eric JR Mahler, sales contact
Major lines: Amphenol PCD, Esterline/Leach, L-3/Electrodynamics, Electroswitch, Hartman, Labinal, Rebling Power Connectors, Sagem, Safran, Sensata Technologies, TE Connectivity
Value-added (product) services: N/A
Website: www.flamecorp.com

Future Electronics
Rank: 3
237 Hymus Blvd., Pointe Claire, Quebec, Canada H9R 5C7; (514) 694-7710
Distributor type: Broadline
Management: Robert Miller, chairman, president, CEO; Pierre Guilbault, VP; Dan Casey, VP; Karim Yasmine, VP; Jamie Singerman, VP; Sam Abrams, VP; Helmut Lippmann, VP; John Sainis, sales contact
Major lines: Visit website
Value-added (product) services: Kitting, technical support services, lighting solutions
Website: www.futureelectronics.com

Gopher Electronics
Rank: 40
222 Little Canada Rd., St. Paul, MN 55117; (651) 490-4904
Distributor type: Broadline with electromechanical focus
Management: Jeff Mrozinski, chairman, CEO; Dennis Tully, chief procurement officer; Rick Kosiarek, sales contact
Major lines: Visit website
Value-added (product) services: Flat flexible cable assembly, value-added customization, cable harness, DIN rail/panel build, sensor and switch assemblies, custom "connectorizing of fan and blower assemblies, and heavy gauge wire assemblies
Website: www.gopherelectronics.com/company

House of Batteries
Rank: 31
10910 Talbert Ave., Fountain Valley, CA 92708; (800) 432-3385
Distributor type: Specialized
Management: Don West, president; Maggie West, CEO; Mel Weis, COO; Terry Ragone, chief procurement officer; Carlos Gonzalez, sales contact
Major lines: Duracell, EnerSys, Energizer, KZ Energy, Leoch, Panasonic, Saft, Samsung, Sony, Tadiran
Value-added (product) services: Battery pack and circuit design and assembly
Website: www.houseofbatteries.com

Hughes-Peters
Rank: 16
8000 Technology Blvd., Dayton, OH 45424; (937) 235-7100
Distributor type: Broadline
Management: Michael Okel, president; Donna Hensley, VP; Mike Smith, VP
Major lines: Apem, ebm-papst, Honeywell, Littelfuse, Mean Well, NMB, Schurter, Mechatronics, Omron, Schroff, ZF
Value-added (product) services: Visit website
Website: www.hughespeters.com

IBS Electronics, Inc.
Rank: 29
3506-D Lakecenter Drive, Santa Ana, CA 92704; (714) 751-6633
Distributor type: Broadline
Management: Bob Tavi, chairman, president, CEO; Rob Tavi, COO and sales contact; Yassi Tavi, VP; Jenny Melwani, chief procurement officer
Major lines: Ametherm, Analog Device, Cal-Chip, Diotec, ECI Caps, Etal, Genteq, Henkel, Hi Tech Resistor, KEC, Maxim, Molex, Omron, TE Connectivity
Value-added (product) services: Kitting and cable assemblies
Website: www.ibselectronics.com

Kensington Electronics, Inc.
Rank: 38
11801 Stonehollow Dr., Ste 150, Austin, TX 78758; (512) 339-3300
Distributor type: Broadline
Management: Doris Rabbitt, chairman; Patrick Rabbitt, president; Casey Cavender, VP; Terence Rabbitt, VP; Sean Donovan, sales contact; Bonnie Shores, sales contact
Major lines: Autosplice, Fischer Connectors, Halo Electronics Inc., JAE, Smiths Interconnect, Staubli
Value-added (product) services: Kitting, cable assemblies, connector assemblies, special packaging, and customization
Website: www.keiconn.com

March Electronics
Rank: 33
25 Feldland Street, Bohemia, NY 11716; (800) 444-6056
Distributor type: Broadline
Management: Diane Vilardi, chairman; John Vilardi, president; Ron Alonso, chief procurement officer; Matt Parish, sales contact
Major lines: Visit website
Value-added (product) services: Connector assembly, kitting, cable assembly, bar coding
Website: www.marchelectronics.com

Marsh Electronics
Rank: 22
1563 S. 101st Street, Milwaukee, WI 53214; (414) 475-6000
Distributor type: Broadline
Management: John Casper, president; James W. Banovich, CEO; Jim S. Banovich, VP
Major lines: ASC Capacitors, Eaton Cooper Industries, Otto, United Chemi-Con, Vishay, ZF Cherry
Value-added (product) services: Cutting/stripping/marking of wire, wire harnesses, cutting tubing, ROHS soldering, light mechanical assemblies, kitting, special packaging, indicator light assemblies, lead tinning (Visit website for complete list)
Website: www.marshelectronics.com

Master Electronics
Rank: 10
1301 Olympic Blvd., Santa Monica, CA 90404; (888) 473-5297
Distributor type: Broadline/IP&E
Management: Jamil Nizam, president; Ike Nizam, CEO
Major lines: Visit website
Value-added (product) services: www.masterelectronics.com/va
Website: www.masterelectronics.com

Metuchen Capacitors Inc.
Rank: 46
2139 Hwy. 35, Ste. 2, POB 399, Holmdel, NJ 07733; (800) 899-6969
Distributor type: Limited Line
Management: Gary Ficsor, president; Steve Ficsor, CEO; Lisa Mace, VP; Steven Young, VP
Major lines: Visit website
Value-added (product) services: Testing, soldering, burn-in, filter plates, marking, specialty capacitors
Website: www.metcaps.com

Mouser Electronics
Rank: 7
1000 North Main Street, Mansfield, TX 76063; (817) 804-3800
Distributor type: Catalog
Management: Paul Andrews, chairman; Glenn Smith, president, CEO; Pete Shopp, VP; Mark Burr-Lonnon, VP; Jeff Newell, VP; Kevin Hess, VP; Hayne Shumate, VP; Raju Shah, VP; Todd McAtee, VP; Scott Brown, VP; Coby Kleinjan, sales contact
Major lines: AVX, Altera, Amphenol, Analog Devices, Avago Technologies, Kemet, Littelfuse, Maxim Integrated, Microchip, Molex, Murata, NXP, ON Semiconductor, Panasonic, Phoenix Contact, STMicroelectronics, TDK, Texas Instruments, TE Connectivity, Vishay
Value-added (product) services: Cable assembly, chip and crystal programming, kitting, broken pack quantities, local tech support
Website: www.mouser.com

NRC Electronics, Inc.
Rank: 28
6600 Park of Commerce Blvd., Boca Raton, FL 33487; (561) 241-8600
Distributor type: Broadline
Management: Dennis Eisen, president; Eric Eisen, VP; Tom Consiglio, chief procurement officer; Michael Thomas, sales contact
Major lines: www.nrcelectronics.com/products.aspx
Value-added (product) services: Barcoding, in-house testing, on-site FAE support standardization (www.nrcelectronics.com/services.aspx)
Website: www.nrcelectronics.com

PEI-Genesis
Rank: 12
2180 Hornig Rd., Philadelphia, PA 19116; (215) 673-0400
Distributor type: Specialized
Management: Steven Fisher, chairman, president, CEO; Peter Austin, VP; John Hufnagle, sales contact
Major lines: Amphenol, Cinch, Esterline Connection Technologies, ITT Cannon, LEMO, TE Connectivity
Value-added (product) services: Connector design & assembly, custom packaging, kitting, custom bar coding, marking, labeling, and specialty services (www.peigenesis.com/en/value-added-services/custom-packaging-and-kitting.html)
Website: www.peigenesis.com

Phoenics Electronics Corp.
Rank: 14
31 Nagog Park, Acton, MA 01720; (978) 856-0111
Distributor type: Specialized/limited line
Management: Peter Rooks, chairman, president, CEO, COO; Sheri Klatsky, VP, marketing; David Owens, sales contact
Major lines: Cavium, Finisar, Micron, Microsemi
Value-added (product) services: Kitting, labeling, programming, software testing & loading
Website: www.phoenicselectronics.com

The Powell Electronics Group
Rank: 13
200 Commodore Dr., Swedesboro, NJ 08085; (856) 241-8000
Distributor type: Specialized
Management: Ernie Schilling Jr., CEO; John Barrington, VP; Todd Bethea, VP; Rodney Sellers, VP; Albert Fiorilo, VP
Major lines: Amphenol, Glenair, AirBorn, Honeywell, TE Connectivity, Positronic, Conesys
Value-added (product) services: Kitting, cable assemblies, and connector assemblies
Website: www.powell.com

PUI Projections Unlimited, Inc.
Rank: 37
15311 Barranca Parkway, Irvine, CA 92618; (714) 544-2700
Distributor type: Specialized
Management: David R. Herring, president; David Burgener, VP; Travis Griffin, VP; Bob Gau, sales contact
Major lines: Apem, Cornell-Dubilier/Illinois Capacitors, ILSI-MMD-Ecliptek, Kycon, Mill-Max, PUI Audio, Samtec, Sanyo Denki, SUnLED, United Chemi-Con
Value-added (product) services: Fan & fan tray assembly, cable and harness assembly, sensor and switch assembly, heat sink & thermal management assemblies
Website: www.gopui.com

RFMW Ltd.
Rank: 20
188 Martindale Lane, San Jose, CA 95119; (408) 414-1452
Distributor type: Specialized
Management: Joel Levine, chairman, president, CEO; Steve Takaki, VP; John Hamilton, VP; Mike Carroll, VP and sales contact
Major lines: Qorvo, Skyworks, Ampleon, MACOM-Metelics, Rosenberger, Peregrine, Carlisle, Sangshin, P1dB, API, Smiths
Value-added (product) services: Cable assemblies, die handling, die visual inspection, special marking, tape and reel, hybrid assembly, custom packaging, parametric test, evaluation boards, part screening/sorting/binning, and lead trimming/forming/tinning
Website: www.rfmw.com

Richardson Electronics, Ltd.
Rank: 21
40W267 Keslinger Rd., LaFox, IL 60147; (630) 208-2200
Distributor type: Specialized
Management: Edward J. Richardson, chairman, president, CEO; Wendy Diddell, COO; Greg Peloquin, EVP; Robert J. Ben, CFO; Kathleen M. McNally, SVP, Global Supply Chain; Philippe Valy, sales contact
Major lines: Anokiwave, Cornell Dubilier, CPI, Dynawave, Fuji Electric, Kendeil, LS MACOM, Ohmite, Qorvo, Starpower, Tecate Group, Transphorm, United Silicon Carbide, WanTcom, Vishay
Value-added (product) services: Private labeling, cross referencing, component sorting, component testing, ECCN/ITAR control programs, and special packaging (military)
Website: www.rellpower.com

Sager Electronics
Rank: 9
19 Leona Dr., Middleborough, MA 02346; (508) 947-8888; (800) 724-3780
Distributor type: Specialized
Management: Paul Andrews, chairman, CEO; Frank Flynn, president; Bruce Kellar, senior VP of sales; Faris Aruri, senior VP of marketing; Shannon Freise, VP operations
Major lines: Artesyn, EBM-Papst, Honeywell, Laird Technologies, Mean Well, Molex, Omron, Phoenix Contact, Samtec, Sensata Technologies, SL Power, TE Connectivity
Value-added (product) services: Modular power supplies, custom modifications, setpoints and adjustments, power cycling and HALT testing, wire harnessing, series and parallel connections, enclosures, firmware updates, fan assemblies, DIN rail cutting & assembly, marking/label printing, wire duct cutting, laser printing, switch assembly, engraving, special package labeling, bar coding, bag & tag, kitting, UL certified for repackaged recognized components
Website: www.sager.com

Sherburn Electronics Inc.
Rank: 39
175 Commerce Dr., Hauppauge, NY 11788; (631) 231-4300
Distributor type: Specialized
Management: James Burke, president; John Odenthal, VP; Gerard Barry, sales contact
Major lines: Burndy, Boeing, Dell, HP, EHC, Ohmite, PAAL Technologies, Rayovac, Shock Watch, Struthers Dunn, TE Connectivity
Value-added (product) services: Visit website
Website: www.sherburn.com

SMD Inc.
Rank: 23
1 Oldfield, Irvine, CA 92618; (949) 470-7700
Distributor type: Specialized
Management: Rich Unruh, president; David Herrera, VP; Pete Ainsworth, VP; Sean O'Bannon, VP; Paul Klein, VP; Jeni Rodriquez, chief procurement officer; sales@smdinc.com, sales contact
Major lines: Avery Dennison, Bussman, Cal Chip, CIT, ECS, EDAC, EPCOS, E-Switch, Hellermann Tyton, King Cord, KEMET, Kycon, NKK Switches, NMB Fans, Novacap, OST, Oupiin, Panduit, Pentair, Samtec, Singatron, TDK, Yazaki
Value-added (product) services: Cable assembly and testing, kitting
Website: www.smdinc.com

Steven Engineering, Inc.
Rank: 17
230 Ryan Way, So. San Francisco, CA 94080; (800) 258-9200
Distributor type: Specialized
Management: Bonnie A. Walter, chairman; Paul E. Burk III, president and sales contact; Bryan J. Wolfgram, CEO & COO; Kevin F. Mutto, chief procurement officer
Major lines: Banner Engineering, E-T-A, Honeywell, IDEC, Mersen, Phoenix Contact, Rittal, Schneider Electric, SMC Pneumatics, Turck, Value Added Services
Value-added (product) services: Kitting, cable assemblies, rail assemblies, engraving, enclosure modifications, pneumatic assemblies, terminal block marking, custom modification, etc
Website: www.stevenengineering.com

Symmetry Electronics Corp.
Rank: 25
5400 Rosecrans Ave., Hawthorne, CA 90250; (310) 536-6190
Distributor type: Specialty semiconductor
Management: Mark Zack, president; David Beck, VP; Clancy Barham, VP; Willie Chan, chief procurement officer; Stephan Buba, sales contact
Major lines: Digi International, Lattice Semiconductor, Micronas, Nordic Semiconductor, Silicon Labs, Telit
Value-added (product) services: Field and in-house applications engineers, cellular and cloud services, testing, custom engineered solutions, exclusive development kits, design services, cellular and cloud plans for M2M/IoT applications, programming, kitting
Website: www.symmetryelectronics.com

TTI, Inc.
Rank: 5
2441 Northeast Pkwy., Ft. Worth, TX 76106; (817) 740-9000
Distributor type: Specialized
Management: Paul Andrews, CEO; Mike Morton, COO; Chris Goodman, CFO; Tom Vanderheyden, VP, TTI Sales America & sales contact
Major lines: Amphenol, AVX, Bourns, Delphi, FCI, Glenair, Honeywell, KEMET, KOA, Littelfuse, Molex, Nichicon, Ohmite, Omron, Panasonic, Phoenix Contact, TDK/Epcos, TE Connectivity, Vishay
Value-added (product) services: Connector assembly, product special services, packaging, and labeling
Website: www.ttiinc.com

URS Electronics
Rank: 48
123 NE 7th Ave., Portland, OR 97232; (800) 955-4877
Distributor type: Broadline
Management: Mark Twietmeyer, president and sales contact
Major lines: Visit website
Value-added (product) services: Visit website
Website: www.ursele.com

Waldom Electronics Corp.
Rank: 19
1801 Morgan Street, Rockford, IL 61102; (815) 968-9661
Distributor type: Specialized
Management: Basel Nizam, president; Karen Collins, chief procurement officer; James Clark, sales contact
Major lines: Honeywell, Molex, TE Connectivity
Value-added (product) services: N/A
Website: www.waldom.com (USA), waldomemea.com (EMEA), waldomapac.com (APAC)