Acumatica
The Cloud ERP

Manufacturing: Electronics and Electrical Products

Industry Digest

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SUMMARY

Technology has infiltrated every aspect of our lives, from household appliances to smartphones and autonomous vehicles. Technology has advanced considerably in the past few decades bringing innovation to our homes and businesses. In fact, technology is everywhere, and it is getting faster, smaller, and more sophisticated every year.

The ever-changing technology industry places tremendous demands on electrical and electronic products manufacturers. Small companies are challenged to continue innovating while managing expanding product lines, new markets, and new product applications.

Unfortunately, many growing manufacturers are underserved with entry-level accounting or legacy ERP software, limiting their ability to adapt and thrive in today's competitive, global market. Acumatica is one of the few affordable modern manufacturing ERP applications available with robust features designed for electronic and electrical product manufacturers.

This Industry Digest provides an overview of the electronics and electrical products manufacturing industry with insights into the industry's future, critical features to consider when evaluating a new ERP application, and a list of resources for additional information.

Discover How Manufacturers Succeed with Acumatica

LAUNCH THE VIEWER >

Manufacturers of electronics and electrical products demand robust manufacturing and inventory control features to manage expansive product lines with cradle to grave serial traceability, connectivity with CAD and PLM applications, and robust engineering change control. Estimating and product configuration are also common in some industry segments to create unique items based on previous estimates or variable options and values. Matrix items, kitting, disassembly, item suggestions, stock reservations, and other advanced features streamline inventory management and boost sales. Service and support are common to manage warranties and issues with firmware and embedded applications.

Electronics and electrical product manufacturers are classified as SIC Code 36. However, manufacturers of residential lighting, household appliances, and home audio and video equipment are often categorized as furniture and home goods companies due to similar sales strategies such as retail and commerce business requirements. Further, manufacturers of printed circuit boards and semiconductors have specific requirements often unmet by general manufacturing ERP applications. The table below provides a summary of electrical and electronics manufacturers based on the number of employees.[1]

ELECTRONICS AND ELECTRICAL PRODUCTS	1-20	21-50	51-100	101-250	251-500	501+	TOTAL
Electric Transmission and Distribution	1,069	377	189	150	61	66	1,912
Electrical Industrial Apparatus	2,151	685	325	275	88	93	3,617
Current and Non-Current Carrying Wire Devices	240	158	85	85	41	34	643
Non-Residential Lighting	520	134	86	54	20	26	840
Music Media (Records, CD, Cassette, etc.)	222	51	12	24	9	5	323
Communication Equipment	3,791	919	339	294	87	115	5,545
Electronic Components and Accessories (except printed circuit boards and semiconductors)	309	209	144	100	40	12	814
Other Electrical Products and Supplies	7,006	1,008	438	355	119	136	9,062
TOTAL	**15,308**	**3,541**	**1,618**	**1,337**	**465**	**487**	**22,756**

Despite industry titans like ABB, Philips, Schneider Electric, Intel, Samsung, Qualcomm, Texas Instruments, and others, the market is still fragmented, with only three percent of companies having more than 500 employees and just eleven percent having more than 100 employees. As a result, smaller manufacturers are essential to the electrical and electronics supply chain providing specialized products for various consumer and commercial industry segments.

The electrical product market is expected to experience a seven percent compound annual growth rate (CAGR) from $1.27 trillion in 2021 to $1.66 trillion in 2025.[2] The electronics manufacturing industry is experiencing more substantial growth with expectations to grow at nearly twelve percent CAGR through 2026 to $2.57 billion.[3]

Consumer demand for laptops, monitors, and other home office products is at an all-time high, with businesses shifting from traditional work settings to telework scenarios due to the global coronavirus pandemic. In addition, the worldwide housing and construction boom also fuels growth in the electrical and electronics sector with high demand for electrical products and electronics for smart home construction.

1. Source: Data Axle
2. Source: Electrical Equipment Global Market Report 2021, Research And Markets
3. Source: Electronic Manufacturing Services Market Research Report 2021, Research And Markets

ERP
Features

The Acumatica Manufacturing System Evaluation Checklist provides a starting point to evaluate ERP requirements, including financial, purchasing, sales, inventory, customer management, retail point of sale, commerce, and business intelligence applications. The checklist below provides a shortlist of critical ERP features specific to electrical and electronics manufacturers.

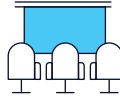| FEATURE	BENEFIT	PRIORITY	Acumatica		
Engineering Control	Manage Engineering Change Requests (ECR) and Engineering Change Order (ECO) for product revisions.		✓		
CAD/PLM Connectors	Use connected applications to synchronize engineering bills of materials from popular CAD or PLM applications to manufacturing bills of material in the ERP application.		✓		
Serial/Lot Tracking	Capture vendor serial and lot numbers and define serial and lot masking for manufactured components and finished goods with cradle-to-grave traceability.		✓		
Rules-Based Configurator	Rules-based manufacturing product configurator to define attributes and values to create a unique bill of material, routing, inventory item, cost, and price for finished goods.		✓		
Manufacturing Estimates	Create custom estimates for electronic and electrical products from scratch or copy existing estimates or bills of material.		✓		
Kitting and Disassembly	Create sales kits with multiple components with disassembly back to inventory for kit components.		✓		
Production	Track production orders, work in process, and job costs.		✓		
Planning and Scheduling	Generate time-phased MRP plans based on forecasts and actual customer demand. Manage your shop floor schedule with a visual schedule board and finite capacity constraints.		✓		
Inventory Management	Streamline inventory with multi-warehouse, perpetual inventory, replenishment, and physical inventory.		✓		
Matrix Items	Create and manage matrix items based on size, color, and other attributes. Matrix items streamline item management, purchasing, and sales processes.		✓		
Item Suggestions	Configure item substitutions, up-sell, and cross-sell suggestions manually or using artificial intelligence.		✓		
Warehouse Management	Native WMS with barcode scanning, prioritized picking queues, and paperless, directed picking for warehouse and manufacturing transactions.		✓		
Service and Support	Embedded CRM provides case management for service and support for firmware and embedded software issues.		✓		
Commerce Connectors	Native commerce storefront integration for B2B and B2C online sales with bidirectional ERP integration.		✓		
Point of Sale	Point of sale app with connected receipt printers, cash registers, barcode scanners, and credit card terminals.		✓		
EDI Transactions	Connected EDI for customer and vendor transactions.		✓		
CRM	Embedded CRM for marketing, sales, and support.		✓		
Purchasing	Purchase management with blanket orders and requisition management with vendor bids and approvals workflow.		✓		

INDUSTRY Resources

Resources are provided below for electronic and electrical product manufacturers in their digital transformation projects. Attend industry trade shows, read about ERP software and technologies in trade media and industry analyst reviews, network with peers in associations, and access Acumatica resources to learn more about ERP software to automate and streamline business and sales operations.

INDUSTRY EVENTS
- Anaheim Electronics & Manufacturing Show (Link)
- Applied Power Electronics Conference (Link)
- Battery Show North America (Link)
- Del Mar Electronics & Manufacturing Show (Link)
- Design Automation Conference (Link)
- EDS Leadership Summit (Link)
- IEEE Electronic Components Tech Conference (Link)
- IPC APEX Expo (Link)
- PCB East (Link) and PCB West (Link)
- SemiCon West (Link)
- Sensors Expo (Link)
- SME Events – Eastec, Westec, Southtec, Houstex (Link)
- Upper Midwest Electrical Expo (Link)

INDUSTRY ASSOCIATIONS
- American National Standards Institute (Link)
- Battery Council International (Link)
- Edison Electric Institute (Link)
- Electrical Generating Systems Association (Link)
- Electronic Components Industry Association (Link)
- Global Semiconductor Alliance (Link)
- Institute of Electrical and Electronics Engineers (Link)
- Int'l Electronics Manufacturing Initiative (Link)
- Int'l Microelectronics Assembly & Packaging (Link)
- Int'l Wireless Industry Consortium (Link)
- IPC, formerly Institute of Printed Circuits (Link)
- JEDEC: Microelectronics (Link)
- Lighting Controls Association (Link)
- Microelectronics Packaging & Test Engineering (Link)
- National Electrical Manufacturers Association (Link)
- Power Supply Manufacturers Association (Link)
- SEMI Association (Link)
- Semiconductor Industry Association (Link)
- Solar Energy Industries Association (Link)
- Surface Mount Technology Association (Link)
- Telecommunications Industry Association (Link)
- Transformer Association (Link)
- Wiring Harness Manufacturers Association (Link)

TRADE MEDIA AND ANALYSTS
- Battery Power Online (Link)
- Circuitnet (Link)
- Circuits Assembly (Link)
- Digital Engineering (Link)
- EE Times (Link)
- EDN Magazine (Link)
- Electrical Products & Solutions (Link)
- Electro Pages (Link)
- Electronic Design (Link)
- Electronic Products (Link)
- Electronics Weekly (Link)
- Electronics World (Link)
- EMS Now – Electronics (Link)
- EPS News (Link)
- Fierce Electronics (Link)
- Global SMT & Packaging (Link)
- IEEE Industrial Electronics Magazine (Link)
- IEEE Power Electronics Magazine (Link)
- IEEE Spectrum (Link)
- Power Electronics News (Link)
- Power Magazine (Link)
- Printed Circuit Design & Fab (Link)
- R&D World (Link)
- Semiconductor Digest (Link)
- Semiconductor Engineering (Link)
- Semiconductor Review (Link)
- SMT Today (Link)
- Wiring Harness News (Link)

ACUMATICA RESOURCES
Access the Resource Center to learn about the Acumatica's Manufacturing Edition, Production Management, Engineering Change Control, Acumatica for Arena Native Connector, Manufacturing Estimates, and other resources for electronic and electrical products manufacturers.

Visit Resource Center

"Without the Acumatica suite, we would certainly not have gotten ISO-certified . . . We framed our entire quality management framework around Acumatica, from document management to update processes . . . Acumatica has been brilliant, and we can't live without it."

– NATHANIAL FAIRWEATHER, MANAGING DIRECTOR, TRIODE

LEARN MORE >

Discover why so many electronics and electrical product manufacturers rely on Acumatica Manufacturing Edition to maximize resources, reduce costs, and improve profits. An extensive suite of connected business applications provides unparalleled manufacturing depth for production, estimating, engineering, material planning, scheduling, product configuration, and manufacturing data collection.

ACUMATICA FOR ELECTRONICS AND ELECTRICAL PRODUCTS MANUFACTURERS

Acumatica Manufacturing Edition is the solution of choice for progressive electronics and electrical product manufacturers. Designed for the cloud, Acumatica's unique unlimited user license pricing model makes it the clear choice for smaller and growing manufacturers who demand robust features without complexity in an affordable and connected ERP application suite.

Expedite the engineering to manufacturing hand-off with native product lifecycle management and connected CAD applications to harmonize engineering bills of material with manufacturing bills of material in Acumatica. Reduce inventory and increase throughput with adaptable inventory management, material requirements planning, and visual scheduling applications.

Last-mile features empower manufacturers to boost sales and reduce costs with manufacturing estimates, purchase order requisitions with vendor bidding, rules-based product configuration, serial tracking, and item recommendations for substitutions, up-sell, and cross-sell. In addition, native point of sale and commerce storefront connectors facilitate sales in business-to-consumer (B2C) and business-to-business (B2B) environments.

Acumatica Manufacturing Edition provides ease of use and rapid integrations to connect modern technologies for streamlined processes and meaningful insights into manufacturing operations. Acumatica delivers an unparalleled experience for users and customers alike. It is built on a scalable and future-proof cloud ERP platform with open architecture backed by the industry's best value-added reseller (VAR) network.

"Reporting is fantastic in Acumatica. Recently when a salesman and I were looking something up, we pulled it up immediately because finding information in Acumatica is relatively straightforward and simple. He said to me, 'You realize what you just did would have taken us six hours in the old system.' That's just one of Acumatica's tremendous benefits. It's a matter of just clicking a couple of buttons, and we can get every piece of data we're looking for."

– CHAD TREADWELL, VICE PRESIDENT OF OPERATIONS, FSC LIGHTING

LEARN MORE >

Acumatica
The Cloud ERP

Acumatica Cloud ERP is a comprehensive business management solution that was born in the cloud and built for more connected, collaborative ways of working. Designed explicitly to enable small and mid-market companies to thrive in today's digital economy, Acumatica's flexible solution, customer-friendly business practices, and industry-specific functionality help growing businesses adapt to fast-moving markets and take control of their future.

For more information on Acumatica, visit www.acumatica.com or follow us on LinkedIn.

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