

Manufacturing: Instruments and Medical Devices

Industry Digest

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SUMMARY

Few ERP applications provide a modern and adaptable framework to support the ever-changing needs of instrument and medical device manufacturers. As a result, companies using entry-level applications and legacy ERP systems struggle to get accurate, timely, and detailed reporting needed for new compliance initiatives. Further, rigid systems force executives to invest in costly, one-off customizations and cumbersome manual business processes that limit the company's ability to scale without adding headcount.

Approximately one in every thirteen Acumatica Manufacturing Edition customers is engaged in instrument or medical device manufacturing making it a proven choice for progressive manufacturers seeking a modern platform for growth. Manufacturers of search and navigation equipment, laboratory and measurement instruments, medical devices, ophthalmic products, photographic equipment, and timekeeping devices rely on Acumatica to navigate compliance requirements while streamlining manufacturing operations.

This Industry Digest provides an overview of the Instrument and Medical Device Manufacturing market with insights into the industry's future, critical features to consider when evaluating a new ERP application, and a list of industry events, trade associations, and media outlets to get more information.



Discover How Manufacturers Succeed with Acumatica

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INDUSTRY Overview



The instrument and medical device industry is poised for sustainable growth following the global coronavirus pandemic. The pandemic and increased medical research created dramatic growth in segments of the industry while stifling growth for products related to elective surgeries. Further, instrument markets are expected to grow to support the booming housing and construction market. Additionally, global unrest among foreign economic powers and coronavirus supply chain disruptions have increased onshore manufacturing creating domestic demand for measuring and analyzing instrumentation.

The instrument and medical device industry is comprised of six distinct segments: search and navigational instruments, laboratory and measurement equipment, medical devices, ophthalmic products, photography and optics equipment, and timekeeping devices. Leading instrument and device businesses include Medtronic, Johnson & Johnson, Abbott, Stryker, Siemens, GE, Baxter, Boston Scientific, Thermo Fisher Scientific, Agilent, Mettler Toledo, Fluke, Trimble, Garmin, Topcon, Panasonic, Honeywell, Rolex, Swatch, and more. Most businesses are classified under SIC Codes 38 and 3596. An industry breakdown for US manufacturers by employee size is provided below. Smaller manufacturers dominate the market with sixty-three percent having less than 20 employees and only six percent of businesses employing more than 250 full-time workers.

INDUSTRY SEGMENT	1-20	21-50	51-100	101-250	251-500	501+	TOTAL
Search and Navigation	2,080	825	402	422	122	216	4,067
Laboratory and Measurement	7,530	1,490	591	521	155	221	10,508
Medical Devices	9,549	2,764	1,348	1,271	422	694	16,048
Ophthalmic Products	1,186	193	70	48	20	28	1,545
Photographic Products	286	77	37	28	8	20	456
Timekeeping Devices	160	33	13	12	7	9	234
TOTAL	20,791	5,382	2,461	2,302	734	1,188	32,858

INDUSTRY OUTLOOK

More than 32,000 manufacturers specialize in instrument and medical device manufacturing. According to Fortune Business Insights, the global medical device market is projected to surpass \$658 billion in 2028 at a compound annual growth rate (CAGR) of 5.4%.¹ Likewise, the laboratory supplies market is predicted to reach nearly \$54 billion by 2030, growing at a CAGR of 6.1%.² Similarly, Research and Markets suggest that the global navigation equipment market will grow at 5% CAGR through 2029, and the ophthalmology market will surpass \$81 billion by 2022 at a 6.52% CAGR.³ Finally, the global clock and watch industry should top \$73 billion by 2027, growing at a modest 2.8% CAGR.⁴

1. Source: [Fortune Business Insights](#)

2. Source: [Precedence Research](#)

3. Source: [Research and Markets](#)

3. Source: [Research and Markets](#)

“Acumatica is a great technology enabler that is going to give any company that chooses it a tremendous edge over their competition. Acumatica absolutely delivered on the premises of our criteria, and it’s going to be a great enabler for the future for us.”

– SYLVAIN BOUCHER, CEO AND PRESIDENT
ERGORESEARCH LTD

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ERP Features



Selecting an ERP system is a decision that will affect your company for many years. Many products offer similar features. The [Acumatica Manufacturing System Evaluation Checklist](#) provides a starting point to evaluate manufacturing ERP requirements, including accounting, purchasing, sales order, inventory, and general manufacturing capabilities. The checklist below provides a shortlist of critical features standard in manufacturing ERP applications for the instrument and medical device industry.

FEATURE	BENEFIT	PRIORITY	Acumatica		
Engineering Change Orders	Configure approvals workflows for Engineering Change Requests (ECR) and Engineering Change Orders (ECO).		✓		
Connected PLM	Manage part revisions, approved vendors, and requirements tracking with connected product lifecycle management.		✓		
Manufacturing Estimates	Create estimates for new items. Convert estimates into bills of material, production orders, or other estimates.		✓		
Product Configurator	Create new manufactured products with a flexible rules-based configurator for quotes, sales orders, and production orders with real-time price and cost rollup.		✓		
Lot and Serial Tracking	Pre-assign lot and serial numbers with cradle-to-grave traceability from raw materials to finished goods.		✓		
Expiration Dates	Assign expiration dates for inventory lots or serial numbers and set effective dates for routings and bills of material.		✓		
Backflushing	Automatically issue labor or material, including lot or serial tracked items, to work-in-process (WIP) using backflush settings by routing or bill of material.		✓		
Quality Management	Manage quality with connected applications for inspections, testing, corrective and preventative actions (CAPA), and quality analysis for streamlined industry compliance.		✓		
Outside Processing	Ship work-in-process (WIP) to vendors for outside processing. Create shipment documents, process receipts, and capture purchasing costs to WIP for outside services.		✓		
Job Cost and WIP Reporting	Analyze and report on costs by job with real-time work-in-process (WIP) costing for in-process production orders.		✓		
Barcoding	Print and capture transactional data using barcodes for material movement and labor or inventory transactions.		✓		
Warranty and Service	Leverage embedded service and equipment management for warranty tracking, field service, and installation.		✓		
EDI Transactions	Prepare and receive electronic data interchange (EDI) transactions with customers and vendors.		✓		
Capable-to-Promise	Use APS logic to determine how many units of an item will be available by a date or calculate availability dates for a quantity of items based on finite constraints.		✓		
Purchase Orders	Purchase directly to the job, manage outside process costs, set up blanket orders, create requisitions with approvals and vendor bidding, and manage landed costs.		✓		
Sales Orders	Link purchase orders to sales orders, create production orders from sales orders, manage drop-shipments, reserve stock for orders, and manage shipments. Boost sales with up-sell, cross-sell, and item substitutions.		✓		
Security	Multiple levels of security with audit logs with a framework to manage industry compliance and safeguard data.		✓		

“We have 22 branches currently and our plan in the next two years is to grow to 30 branches. Acumatica will speed up our business process and make us more efficient.”

– LOUIS HARTANTO, CO-OWNER & DEVELOPMENT MANAGER
ONEMED HEALTH CARE

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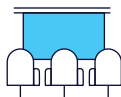
INDUSTRY Resources



Resources are provided below to aid instrument and medical device 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 operations and manufacturing processes.

INDUSTRY EVENTS

- ADA SmileCon ([Link](#))
- American Medical Device Summit ([Link](#))
- Automate Expo ([Link](#))
- BioMedDevice ([Link](#))
- Clinical Lab Expo ([Link](#))
- CMSC Conference ([Link](#))
- Florida Int'l Medical Expo ([Link](#))
- MD&M with Quality Expo ([East](#)) ([West](#)) ([South](#)) ([MN](#))
- MedTrade Expo ([East](#)) ([West](#))
- OMTEC Conference ([Link](#))
- Quality Show ([Link](#))
- Sensors Converge ([Link](#))
- SPIE Medical Imaging ([Link](#))
- SPIE Optics + Photonics ([Link](#))
- SLAS Expo ([Link](#))
- True Quality ([Link](#))
- Vision Expo ([East](#)) ([West](#))
- World Conference on Quality ([Link](#))



INDUSTRY ASSOCIATIONS

- Advanced Medical Technology Assoc. ([Link](#))
- American Measuring Tool Mfg Assoc. ([Link](#))
- American Precision Optics Mfg Assoc. ([Link](#))
- American Society for Quality ([Link](#))
- American Watchmakers-Clockmakers Institute ([Link](#))
- Assoc. for Advancement of Med. Instrumentation ([Link](#))
- Association of Medical Diagnostics Mfg ([Link](#))
- ASTM International ([Link](#))
- Consumer Healthcare Products Assoc. ([Link](#))
- Contact Lens Manufacturers Assoc. ([Link](#))
- Coordinate Metrology Society ([Link](#))
- Dental Trade Alliance ([Link](#))
- Diagnostic Imaging - DITTA ([Link](#))
- Global Medical Technology Alliance ([Link](#))
- Healthcare Supply Chain Association ([Link](#))
- Hearing Industries Association ([Link](#))
- International Society of Automation ([Link](#))
- Int'l Society of Weighing & Measuring ([Link](#))
- Laboratory Products Association ([Link](#))
- Measurement, Control & Automation ([Link](#))
- Medical Device Manufacturers Assoc. ([Link](#))
- Medtech Canada ([Link](#))
- National Electrical Manufacturers Assoc. ([Link](#))
- National Industrial Scale Association ([Link](#))



- North American Coordinate Metrology ([Link](#))
- Scale Manufacturers Association ([Link](#))
- Scientific Equipment and Furniture Assoc. ([Link](#))
- Society for Laboratory Automation and Screening ([Link](#))
- SPIE: Society of Photographic Instrument Engineers ([Link](#))
- Vision Council ([Link](#))

TRADE MEDIA AND ANALYSTS



- 20/20 Magazine ([Link](#))
- AAO Journal ([Link](#))
- About Time ([Link](#))
- American Journal of Ophthalmology ([Link](#))
- American Laboratory ([Link](#))
- Cal Lab Magazine ([Link](#))
- Capterra ([Link](#))
- Chrono24 ([Link](#))
- CLP Magazine ([Link](#))
- Dental Equipment and Materials ([Link](#))
- Dental Products Report ([Link](#))
- Dentistry Today ([Link](#))
- G2 Crowd ([Link](#))
- GPS World ([Link](#))
- InVision Magazine ([Link](#))
- International Wristwatch ([Link](#))
- Laboratory Equipment ([Link](#))
- Medical Design & Outsourcing ([Link](#))
- MassDevice ([Link](#))
- Medical Device & Diagnostic Industry ([Link](#))
- Medical Product Outsourcing ([Link](#))
- Metrology Journal ([Link](#))
- Metrology News ([Link](#))
- Quality Digest ([Link](#))
- Quality Magazine ([Link](#))
- Quality Progress Magazine ([Link](#))
- Software Advice ([Link](#))
- Watch Time ([Link](#))
- Weigh & Measure ([Link](#))

ACUMATICA RESOURCES

Access the online Resource Center to learn more about Acumatica Manufacturing Edition for instrument and med device manufacturers.



[VISIT RESOURCE CENTER >](#)

ACUMATICA Benefits



Take control of your operations and grow with a future-proof cloud ERP platform. Acumatica empowers instrument and medical device manufacturers with applications to boost sales, reduce costs, shorten engineering to manufacturing cycles, and increase throughput by maximizing resource utilization. Stay informed and manage your business by exception with role-based dashboards, actionable reports, and tailored inquiries. Empower employees with information through business events and notifications while eliminating data entry with automated data capture, connections to ancillary systems and equipment, and automation through artificial intelligence with machine learning.

ACUMATICA FOR INSTRUMENT AND MEDICAL DEVICE MANUFACTURERS

FDA-regulated medical device manufacturers are challenged to find a modern ERP platform capable of adapting to industry and compliance changes. Acumatica's holistic ERP solution provides the framework, tools, and functionality needed to manage daily business operations while streamlining manufacturing operations with multiple levels of security and data integrity. Every business benefits from the robust manufacturing suite with connected product lifecycle management and quality management applications for requirements tracking, inspections, corrective and preventative actions, and approved vendors. Native apps connect data and business processes for engineering change control, production management, material planning, advanced planning and scheduling, estimating, and rules-based product configuration.

Last-mile features such as kitting with disassembly, matrix items for product families, engineering change control, outside processing, lot and serial tracking, and demand forecasting enable productivity across departments. Create production orders manually, from the material requirements planning (MRP) application, or sales orders. Commerce and Field Service extend Acumatica for manufacturers who sell online (B2B or B2C) or provide warranty and remote services. Boost sales with embedded CRM to increase leads, automate sales cycles, and win more business.

Acumatica Manufacturing Edition is designed for make-to-stock, make-to-order, configure-to-order, engineer-to-order, and project-centric manufacturers. Acumatica provides unparalleled manufacturing depth with robust financials, native customer relationship management, and powerful business intelligence applications. Built on a future-proof cloud platform with an open architecture for modern technologies, rapid integrations, scalability, and ease of use, Acumatica delivers an unparalleled experience for users and customers alike.



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](#).