

Manufacturing: Fabricated Metal Products

Industry Digest

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SUMMARY

Manufacturers of fabricated metal products often rely on manufacturing estimates for custom product quotes. Production scheduling is complicated by machine setup, scrap, and machine capacity constraints across work centers. Co-products and by-products are common where more than one product is produced per production order or where valuable scrap such as chips and shavings can be recovered for recycling.

Fabricated metal products manufacturers using legacy ERP systems lack integration, automation, and information to boost profits, reduce costs, and improve the customer experience.

Digital transformation is a reality for fabricated metal products manufacturers across industry segments. Modern ERP applications provide mobility, cloud computing, and integrated applications for estimating, scheduling, and connectivity with external applications.

This Industry Digest provides an overview of the Fabricated Metal Products Manufacturing market with insights into the industry's future, critical features to consider when evaluating a new ERP application, and a list of resources to get more information.



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INDUSTRY Overview



The fabricated metal products industry is impacted by price fluctuations in metals and precious and semi-precious raw materials such as aluminum, copper, stainless steel, gold, platinum, and more. Manufacturers are heavy users of computer-aided drafting and design (CAD) while few have product lifecycle management (PLM) requirements. Engineering change orders (ECO) are common for ever-changing product designs. Purchasing, costing, and scheduling outside processes such as heat treating, plating, coating, and painting are common across industry segments.

Fabricated metal products manufacturers make standard and custom-fabricated products. Downstream manufacturers use the majority of products. Some products, such as cookware and hand tools, are sold through distribution and retail channels to consumers. Fabricated metal products manufacturers are categorized under SIC Code 34 and NAICS Code 332. An industry breakdown for US manufacturers by employee size is provided below.

INDUSTRY SEGMENT	1-20	21-50	51-100	101-250	251-500	501+	TOTAL
Metal Cans and Shipping Containers	357	155	111	106	19	20	768
Cutlery, Hand Tools, and General Hardware	2,862	713	309	246	88	63	4,281
Heating Equipment	5,551	782	255	178	89	54	6,909
Fabricated Structural Metal Products	1,206	556	211	113	17	8	2,111
Screw Machine Products (Fasteners)	1,330	498	215	146	25	27	2,241
Metal Forging and Stamping	2,099	992	551	455	127	104	4,328
Coating, Engraving, and Allied Services	9,898	1,682	622	378	64	60	12,704
Ordnance and Accessories (348)	437	68	38	41	18	20	622
Miscellaneous Fabricated Metal Products (349)	11,243	3,292	1,284	920	256	201	17,196
TOTAL	34,983	8,738	3,596	2,583	703	557	51,160

“Anything Acumatica can provide, we want it. We are planning to build on it as our foundation.”

– YURI DOROVSKIKH, IT MANAGER
OFS INTERNATIONAL

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INDUSTRY OUTLOOK

More than 50,000 US fabricated metal products manufacturers generated \$20 billion in annual revenue in 2019. The US market is expected to grow to \$25 billion by 2026 with a 3.48% CAGR.¹ The industry employs approximately 12 million people, including machine operators, machinists, assemblers, welders, and related occupations. In addition, fabricated metal products account for \$2.3 billion in imports and \$1.2 billion in exports.² According to the Business Research Company,³ the global market is expected to grow from \$2.1 trillion in 2020 to \$2.4 trillion in 2021 at a compound annual growth rate (CAGR) of 14.5%. The research company predicts that the global market should reach \$3.1 trillion in 2025 with a CAGR of 7%.

1. Source: [Facts and Factors](#)

2. Source: [IBISWorld](#)

3. Source: [Business Research Company](#)

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 fabricated metal products manufacturing ERP applications.

FEATURE	BENEFIT	PRIORITY	Acumatica		
Engineering Change Orders	Configure approvals workflows for Engineering Change Requests (ECR) and Engineering Change Orders (ECO).		✓		
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.		✓		
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.		✓		
Manufacturing Estimates	Create estimates for new items. Convert estimates into bills of material, production orders, or other estimates.		✓		
Barcoding	Print and capture transactional data using barcodes for material movement and labor or inventory transactions.		✓		
Lot and Serial Tracking	Pre-assign lot and serial numbers with cradle-to-grave traceability from raw materials and components to finished goods. Capture lot and serial attributes ⁴ such as chemical composition, heat numbers, and certificates of analysis (COA) for raw material and finished goods.		✓		
EDI Transactions	Prepare and receive electronic data interchange (EDI) transactions with customers and vendors.		✓		
Backflushing	Automatically issue labor or material to work-in-process (WIP) using backflush settings by routing or bill of material.		✓		
Quality Management	Manage quality with connected applications for testing and quality analysis for streamlined industry compliance.		✓		
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.		✓		
Machines and Work Centers	Group machines into work centers for scheduling. Print or view machine and work center dispatch reports.		✓		
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.		✓		

4. Lot and serial attributes require a small modification. Full support is planned for a future release. Contact Acumatica for details.

INDUSTRY Resources



Resources are provided below to aid fabricated metal products manufacturers in their digital transformation projects. Attend industry trade shows, read about ERP software and manufacturing 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

- Design2Part (formerly Job Shop Shows) ([Link](#))
- Eastec ([Link](#))
- Fabtech International ([Link](#))
- International Manufacturing Technology Show IMTS ([Link](#))
- PMTS Precision Machining Technology Show ([Link](#))
- Southtec ([Link](#))
- Westec ([Link](#))



INDUSTRY ASSOCIATIONS

- American Bearing Manufacturers ([Link](#))
- American Gear Manufacturers Association ([Link](#))
- American Welding Society ([Link](#))
- American Wire Producers Association ([Link](#))
- Can Manufacturing Institute ([Link](#))
- Canadian Tooling & Machining Association ([Link](#))
- Cookware Manufacturers Association ([Link](#))
- Fabricators & Manufacturers Association ([Link](#))
- Hand Tool Institute ([Link](#))
- Industrial Fasteners Institute ([Link](#))
- International Association of Diecutting & Diemaking ([Link](#))
- Mass Finishing Job Shops Association ([Link](#))
- Metal Building Manufacturers Association ([Link](#))
- Metals Service Center Institute ([Link](#))
- National Association of Chain Manufacturers ([Link](#))
- National Institute for Metalworking Skills ([Link](#))
- National Tooling and Machining Association ([Link](#))
- Pipe Fabrication Institute ([Link](#))
- Precision Machined Products Association ([Link](#))
- Precision Metalforming Association ([Link](#))
- Pressure Vessel Manufacturers Association ([Link](#))
- Rack Manufacturers Institute ([Link](#))
- Spring Manufacturers Institute ([Link](#))
- Steel Plate Fabricators Assoc. / Steel Tank Institute ([Link](#))



- United States Cutting Tool Institute ([Link](#))
- Valve Manufacturers Association ([Link](#))
- Wire Association International ([Link](#))

TRADE MEDIA AND ANALYSTS

- American Machinist ([Link](#))
- Capterra ([Link](#))
- Fabricating & Metalworking ([Link](#))
- FabShop Magazine Direct ([Link](#))
- G2 Crowd ([Link](#))
- Industrial Equipment Manufacturing ([Link](#))
- Industrial Equipment News ([Link](#))
- Industrial Machinery Digest ([Link](#))
- Industry Week ([Link](#))
- Manufacturing Engineering ([Link](#))
- Metalforming Magazine ([Link](#))
- Metalworking World Magazine ([Link](#))
- Modern Machine Shop ([Link](#))
- Ornamental & Miscellaneous Metal Fabricator ([Link](#))
- Production Machining ([Link](#))
- Software Advice ([Link](#))
- Fabricator, Stamping and Tube & Pipe Journals ([Link](#))
- Welding Journal ([Link](#))



ACUMATICA RESOURCES

Access the online Resource Center to learn more about Acumatica Manufacturing Edition, Manufacturing Estimates, Production Management, Bill of Materials and Routings, and other business and industry resources for Fabricated Metal Products manufacturers.



[Visit Resource Center](#)

Personalized ERP Demonstrations

Answer a few questions to configure a customized demonstration of Acumatica

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ACUMATICA Benefits



Fabricated metal products manufacturers prosper with Acumatica Cloud ERP. Source new products with the embedded Requisition Management application with vendor bidding and create new manufactured finished goods with Manufacturing Estimates. Acumatica's robust inventory management application supports matrix items to create and manage product families based on item attributes such as material type, thread direction, length, diameter, and other attributes.

With Acumatica, fabricated metal products manufacturers have everything they need to streamline production, monitor work-in-process, optimize material plans, and schedule operations against finite capacity constraints. Create purchase orders for outside processing with barcoded transactions for any inventory or manufacturing activity.

ACUMATICA FOR FABRICATED METAL PRODUCTS MANUFACTURERS

Last-mile features such as kitting with disassembly, engineering change control, and demand forecasting streamline critical manufacturing processes. 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 installation and on-site services. Leverage automation, workflows, and document management to connect data and processes throughout all parts of the manufacturing business for improved customer service, customer retention, and growth.

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 gave us much more visibility and ability to understand what's coming in and what's going out from the front to the end . . . As we start to schedule production orders, things of that nature, that's something else that we've been able to streamline through Acumatica.”

– NICK GREEN, OPERATIONS MANAGER, SCOTT FETZER CONSUMER BRANDS

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About Milestone Information Solutions

Milestone IS has been helping businesses implement enterprise resource planning (ERP) systems to improve business processes and profitability for over 30 years. By combining our unique accounting expertise, dedication to customized support, and attention to detail, we are able to help businesses maximize their ERP systems and get the most out of their investments.

To learn more about how Milestone and Acumatica can streamline your business, visit www.milestoneis.com.