CAST ALUMINUM SOLUTIONS, Inc.

This Batavia, Illinois company is a global force in...

- making the latest smartphones, tablets, and IOT devices,
- creating critical components for lifesaving medical devices,
- sending rockets into space and testing new jet engines

And if that’s not impressive enough, this company helps make better burgers for the world’s most famous restaurant brands.
Cast Aluminum Solutions, an innovator in heated components based in Batavia, Illinois.

CASE STUDY

History: How the company developed its business and its current product line
Success Factors: What products, services and offerings define its markets and its future
Unique qualities: The methods or tactics that make the company unique
Economics: What market factors are affecting growth
Outcomes: How does Cast Aluminum Solutions benefit from being in Batavia, Illinois?

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President of CAS Michael Flint explains company’s growth

“People always say ‘we’re living in a global economy,’ but at CAS, that’s not a cliché. We live it every day. Semiconductor, oil and gas, medical devices...these are global markets with multinational customers and competitors.

So if you’re not prepared to travel, if you’re not prepared to deal with time zone changes, different languages and cultures, and listen and learn, then you’re not prepared to succeed in today’s economy. But don’t be mistaken: CAS isn’t buying products from overseas – we’re selling our products into those markets from right here in Batavia, Illinois.”
CASTING ALUMINUM

10,000 lbs. Each Day

Not all jobs start in the foundry, but the majority do. CAS casts over ten thousand pounds of aluminum every day, utilizing tilt-pour casting techniques as well as PLC-controlled pressurized casting machines that allow foundry technicians to modify mold temperatures, flow rates, cavity pressures, and cooling times. These casting techniques allow for heating elements, flow-tubes and other key components to be placed inside the casting. The casting process results in a 'near net shape' product, with embedded heaters and fluid paths: in most cases, the next step is a precision machining process.

CERTIFIED ISO 9001
Because Efficiency Counts

As an ISO 9001 Certified company, Cast Aluminum Solutions has highly-efficient systems in place for writing CNC machine programs, initiating and running those programs on specific machines, and advancing large batches of parts through the machining and surface finishing processes. Efficiency is a central focus as rough parts are loaded in, and precision-machined industrial components are output. CAS technicians and managers ensure that efficiency and speed don’t translate to reductions in accuracy or quality.

TIGHT SPECIFICATIONS
On Highly-Engineered Components

CAS manufactures highly-engineered components for tightly specified projects such as jet engines and DNA analyzers. That means the tightest of tolerances must be maintained across all machining and finishing procedures. To guard against damage and enhance performance of products in the field, many CAS components feature special coatings and finishes, including hard-coat anodizing, electroless nickel plating, special FDA-certified epoxy coatings, and more. For products that CAS supplies to the medical device and micro-circuitry markets, ensuring cleanliness and eliminating contamination are of paramount importance.

TECHNOLOGY
Drives Productivity

With dozens of programmable CNC mills, lathes, and multi-axis machines, all supported by an in-house high-output casting foundry and robust assembly & finishing departments, the CAS Production Team generates thousands of precisely-manufactured thermal components every month. The manufacturing floor buzzes and hums with activity, often six or seven days a week with day and evening shifts.

CLEAN ROOM PURITY
For Critical Markets & Applications

To reduce possible contamination from particulates and residues during production processes, CAS cleanroom technicians perform their work in state-of-the-art facilities, wearing protective gear specially made for high-purity environments. These measures protect the integrity of components such as blood plasma heaters for kidney dialysis machines, inline fluid heaters for scientific applications, and chamber heaters for silicon wafer gas deposition processes.
EXACTING QUALITY CONTROL
For Final Inspection and Delivery

When products are ready for final inspection, CAS provides customers with a wealth of exacting quality control options. To measure and confirm dimensional properties, the CAS Quality Department employs several laser-tracker bridge CMMs (coordinate measuring machines), accurate to a hundredth of a thousandth of an inch. These ultra-precise machines are programmable, so operators can set them up to verify the same key data points on all the parts in a batch: this increases the accuracy of inspections, while reducing the amount of time necessary to inspect each piece.

MICROCHIP COMPONENTS
Where Inspection Rules

Because CAS manufactures components that help make microchips for the latest smart phones and tablets, being ‘off’ by even a thousandth of an inch is not acceptable. For particularly challenging products, CAS quality technicians have the ability to inspect parts using the in-house X-Ray station. To ensure the integrity of the flow-tubes used in their CAST-X Heaters (which are used to heat flammable fluids such as jet fuel, rocket fuel, and natural gas) helium leak testing is available. Of course, every circuit undergoes high-pot and volt-watt testing.

BAR CODE TECHNOLOGY
Tracking and Range Competitive Advantage

CAS Marketing Director Jeff Awe notes that CAS organizes every aspect of its workflow toward product success: “CAS ensures that technicians can track each part and batch along the way. Bar code technology is incorporated into each work station to maximize project workflow and accuracy. We also utilize a range of technologies to ensure that our components out-perform competing designs. These technologies represent key benefits to our customers.”

PRACTICAL INNOVATIONS
For Multiple Industries

CAS helps customers stay at the forefront of their respective industries by creating products that help them achieve their precision heating and cooling goals. When CAS’s customers succeed, it typically leads to additional projects. And with the CAS Team producing components for so many critical industries and applications, it is imperative to maintain a rigid training and continuous improvement regime, always staying current on best practices and industry standards.
LEAN MANUFACTURING
The Perfect Mix of Speed, Quality and Efficiency

Abiding by LEAN Manufacturing principles, the CAS Team continually seeks to optimize their wide-ranging design, manufacturing and assembly processes. Additionally, CAS has an American Society for Quality (ASQ) Six Sigma Black Belt on staff. The company carries membership with the American Foundry Society, the SEMI global industry association, as well as ISO, ASM International, and the Association for Manufacturing Excellence.

AMERICAN MARKET IS ROBUST

CAS supports robust OEM and end-user customers throughout the United States. The company’s success can be attributed to the strategic thinking of leadership, the hard work of its employees, and the importance given to engineering expertise, operational excellence, and bringing products to market quickly.

The Illinois Manufacturing Alliance recognized CAS with a Manufacturer of the Year Award, and CAS is a member of the Valley Industrial Association, recently winning the Spark Award for Product Innovation. In 2019 and beyond, the company will continue to meet the challenges of today’s business environment head-on. So the next time you read about another rocket launch or use your awesome new smart phone, think of Cast Aluminum Solutions.

Cast Aluminum Solutions, LLC is a company in expansion mode. Their new 25,000 square foot Technical Center off Douglas Road in Batavia opened Q4 2018. “but it also represents a key benefit for our customers.”
Batavia: the Right Place to Succeed

The City of Batavia hosts some of the world’s leading companies in commercial, industrial, retail, manufacturing and distribution. Batavia’s location two miles north of the I-88 corridor and 35 miles west of Chicago is ideal for a diverse business base. Leading manufacturers and distributors such as Sun-cast, Flinn Scientific and Flagsource all base operations in Batavia, which also serves as world headquarters for Aldi, Inc. with more than 9,000 stores in the United States.

POSITIONED FOR YOUR BUSINESS SUCCESS

Batavia’s commercial and retail district occupies more than 1.5M square feet of leased and available retail space. From its historic downtown to its growth-focused Randall Road corridor, Batavia hosts well-known service brands ranging from Panera Bread to Trader Joe’s. Its big box retailers include Walmart, Jewel/Osco, Office Max/Depot, Hobby Lobby and Menard’s. This makes for a diverse and growing retail market where Batavia’s 27,000+ residents can shop, work and entertain.

On its eastern border, Batavia shares boundaries with the world-renowned scientific research facility Fermi National Accelerator Laboratory. After 50 years of leadership in the field of particle research, this government facility associated with the University of Chicago has set its sights on the pursuit of knowledge about dark matter, an entirely new field of research. These new pursuits are expected to create more than 2000 jobs and bring residents from around the world to live and work in Batavia.

Economic Development

The primary contact for Economic Development in the City of Batavia is Christopher Aiston, Phone: 630-454-2061. Our goal: help businesses large and small find ideal locations for commercial, industrial or retail enterprise.

Commercial Real Estate in Batavia

Visit [http://www.cityofbatavia.net/182/Economic-Development](http://www.cityofbatavia.net/182/Economic-Development) to search by category Office, Retail Space, Industrial Space, Commercial Land

Economic Development Partners in Batavia

For business support and advocacy across the spectrum of retail, commercial and industrial needs, contact the Batavia Chamber of Commerce, Holly Deitchman, Executive Director at 630-879-7134. [www.bataviachamber.org](http://www.bataviachamber.org)

For Downtown Batavia business connections, sponsorships and community events, contact Christopher Faber, Batavia Mainstreet, 630.761.3529. [www.downtownbatavia.com](http://www.downtownbatavia.com)

We invite you to make Batavia your business destination.