CP MANUFACTURING INC.
AUTOMATING DEVELOPMENT OF RECYCLING PLANTS AND SYSTEMS WITH SOLIDWORKS SOLUTIONS

Case Study

While CP Manufacturing's initial migration from 2D to SOLIDWORKS 3D design resulted in development cycles that were twice as fast, its SOLIDWORKS PDM Professional implementation—and automation achieved via its open Application Programming Interface—have produced development cycles that are four times as fast, helping the recycling systems manufacturer support and sustain dramatic growth.

Challenge:
Build upon existing SOLIDWORKS design, product data management, and technical communication solutions to achieve additional productivity gains to support rapid growth.

Solution:
Leverage the SOLIDWORKS Application Programming Interface (API) to automate processes across the enterprise and add SOLIDWORKS Visualize Professional photo-realistic rendering software to improve sales and marketing efforts, as well as facilitate interactions with customers.

Results:
- Developed recycling systems four times faster
- Tripled the size of manufacturing facility
- Doubled the size of engineering department
- Supported rapid, sustained growth

For more than four decades, CP Manufacturing has led the world in waste material separation technology—designing, building, and installing hundreds of waste recycling facilities and related material separation machinery and equipment. Founded in 1977, CP Manufacturing is the primary manufacturing division of the CP Group, which evolved out of CP Manufacturing, the company that designed the world's first aluminum-can flatteners and densifiers. Over the years, CP Manufacturing has acquired several companies and set up international offices to provide more complete sorting solutions. It has established itself as the world leader in manufacturing advanced systems and equipment for the recycling and waste industries.

As a leading innovator in the waste management and recycling equipment industry, CP Manufacturing is known for its superior engineering and advanced disc-screen separation technology. As demand for CP's custom-engineered plants and equipment continues to grow, the need to streamline processes, increase throughput, and expand product development has become critically important for supporting rapid, ongoing growth, according to Engineering Manager Jason Kerns.

"Although our interest in 3D, when we moved many years ago from AutoCAD® 2D design tools to the SOLIDWORKS® 3D product development environment, was initially related to improving the visuals in our sales proposals, we've since come to realize the possible productivity gains associated with utilizing integrated SOLIDWORKS 3D solutions and the automation potential of the SOLIDWORKS Application Programming Interface [API]," Kerns explains. "Since our initial implementation of SOLIDWORKS tools, we've heavily leveraged the SOLIDWORKS API—particularly with respect to the SOLIDWORKS PDM [product data management] Professional system—to automate a host of distinct processes, and have added SOLIDWORKS Visualize Professional photo-realistic rendering software to our SOLIDWORKS Professional design, SOLIDWORKS Premium design and analysis, SOLIDWORKS PDM Professional product data management, and SOLIDWORKS Composer technical communication solutions."

DEVELOPING RECYCLING SYSTEMS FOUR TIMES FASTER

While the initial migration from AutoCAD tools to SOLIDWORKS software doubled the speed of the company's product development cycles, CP has since tapped the power of the SOLIDWORKS API to further automate and accelerate the development of recycling systems to become four times faster at product development. "SOLIDWORKS has really complemented our efforts to expand our recycling systems footprint globally," Kerns stresses.

"We're doing more business in other countries and have introduced an innovative clean-up system for broken glass," Kerns adds. "We've had to move into a new facility that's three times as large, have doubled the size of our engineering department, and have dramatically increased product development throughput. With SOLIDWORKS integrated solutions, we've been able to support rapid, sustainable growth without missing a beat, primarily because of our ability to automate sales, marketing, design, and production."

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>
> — Jason Kerns, Engineering Manager

AUTOMATING PROCESSES VIA SOLIDWORKS PDM API

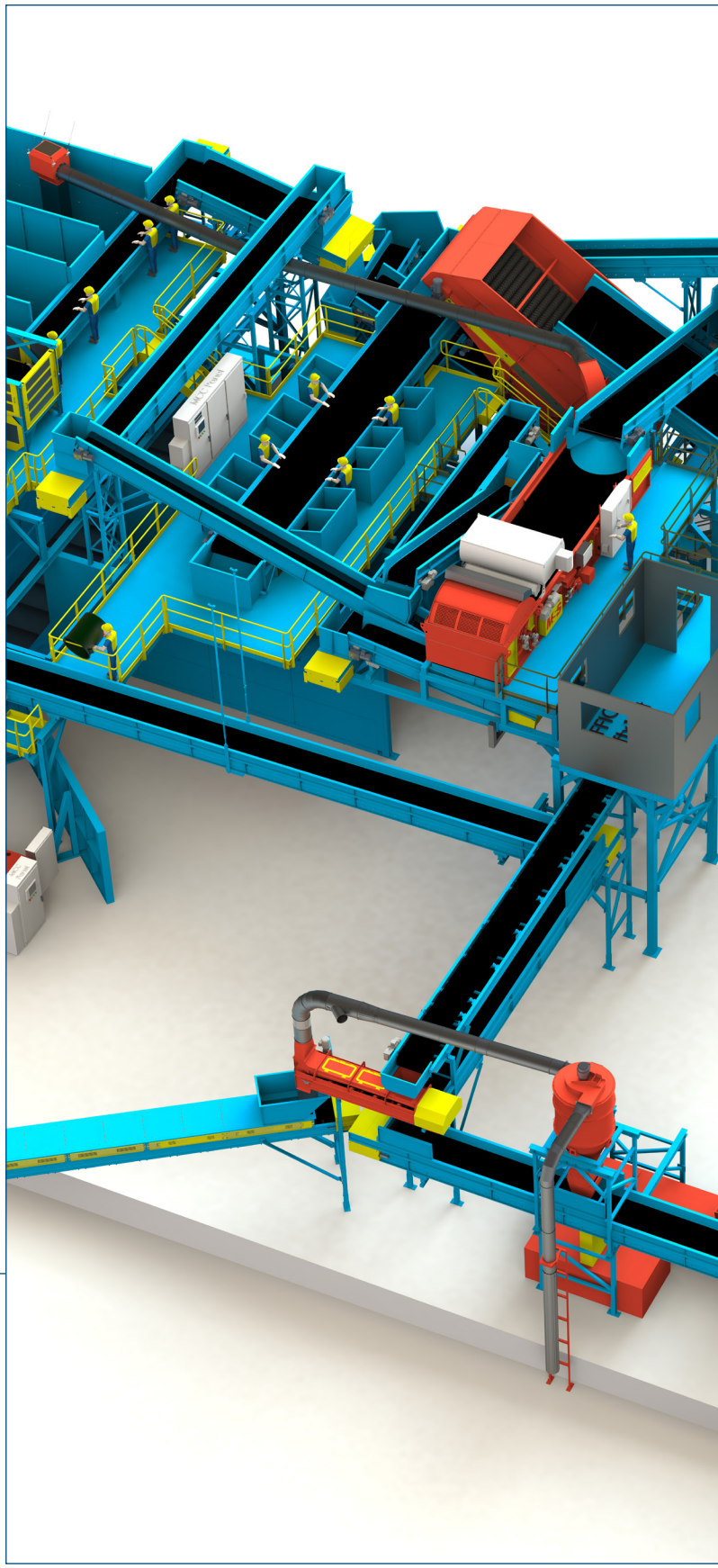
Utilizing the SOLIDWORKS PDM API, CP has automated many of its product development and manufacturing workflows and tasks, and has integrated SOLIDWORKS PDM with its Epicor® enterprise resource planning (ERP) system. Examples of CP's SOLIDWORKS PDM automation include automatic creation of SOLIDWORKS models, associated visuals, and equipment lists from information entered into a sales layout; automatic generation of DXF® files to drive CP's laser cutters, press brakes, and water-jet cutters; automatic notifications sent to Electrical engineering whenever BOM changes require motor horsepower modifications; and automatic upload of BOM information directly into CP's ERP system to drive preproduction planning with no need for manual intervention.

"Working with our reseller, DASI, and the API team at DS [Dassault Systèmes] SOLIDWORKS, we've been able to leverage the SOLIDWORKS API to the greatest extent possible to support our specific development processes, as well as to automate manual and repetitive tasks," Kerns notes. "The flexibility that we enjoy to automate processes with the SOLIDWORKS API saves us a ton of time and money."

TAKING CUSTOMERS INTO VIRTUAL RECYCLING WORLD

Adding SOLIDWORKS Visualize Professional software to its SOLIDWORKS Composer technical communication software and the Demo3DVR virtual reality plug-in for SOLIDWORKS provides CP with a wide range of capabilities for creating compelling photo-realistic visuals and immersing customers and prospects inside virtual-reality-based representations of the company's recycling facilities. CP now communicates digitally and virtually, and has completely eliminated paper from its development processes, including the use of SOLIDWORKS eDrawings® on the shop floor for checking measurements and dimensions.

"Whether we need to create a custom rendering to support a sales call, conduct a virtual flythrough to facilitate a customer design review, or set up a virtual reality station at a trade show so prospects can enter a virtual recycling facility, the combination of all of our SOLIDWORKS visualization solutions really helps to set us apart," Kerns points out.



By adding SOLIDWORKS Visualize Professional photo-realistic rendering, SOLIDWORKS Composer™ technical communication, and the Demo3DVR virtual reality plug-in for SOLIDWORKS to its SOLIDWORKS installation, CP can create compelling photo-realistic visuals and can immerse customers and prospects inside virtual-reality-based representations of the company's recycling facilities, giving CP a clear competitive edge.

While the company realized substantial productivity gains when it migrated from AutoCAD® 2D design tools to the SOLIDWORKS 3D product development environment many years ago, CP has achieved additional advances in efficiency by leveraging the SOLIDWORKS Application Programming Interface (API) to automate many development and manufacturing processes and by adding SOLIDWORKS Visualize Professional photo-realistic rendering software to its existing SOLIDWORKS Professional design, SOLIDWORKS Premium design and analysis, SOLIDWORKS PDM Professional product data management, and SOLIDWORKS Composer technical communication solutions. By growing and automating its SOLIDWORKS implementation, CP has developed recycling systems four times faster, tripled the size of its manufacturing facility, doubled the size of its engineering department, and supported rapid, sustained growth.

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