SIEMENS
Ingenuity for life

Industrial machinery

MOLD'ALP

Solid Edge helps French research firm develop high-quality injection molds

Product

Solid Edge

Business challenges

Maintain competitiveness in France and beyond

Meet customer demands for quality and lead time

Advise customers on modifications to optimize manufacturing

Address complexity of mold tools

Keys to success

Leverage extensive practical moldmaking expertise

Implement Solid Edge for design flexibility, ease of use and reliability

Use in-context assembly design, moldability analysis, and flow simulation

Results

Reduced modification times by two-thirds

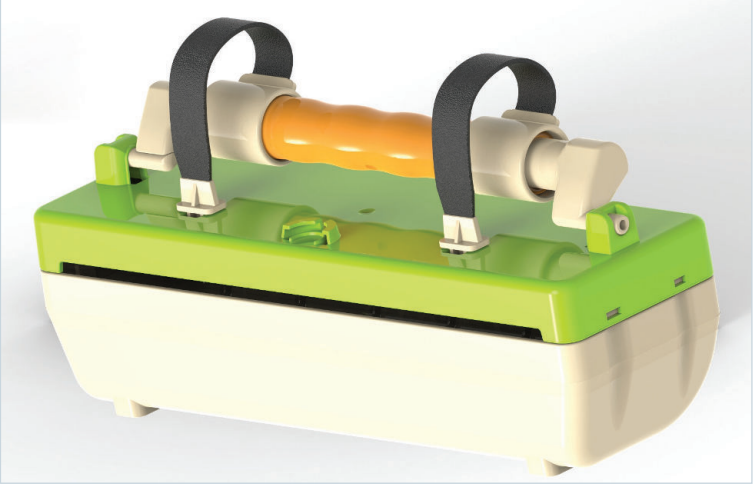
Virtually eliminated errors and improved quality

Sustained international competitive advantage

MOLD'ALP combines molding expertise with advanced 3D CAD to gain competitive advantage

MOLD'ALP is a research firm specializing in the 3D design of tools for plastic injection molding. Located in Haute-Savoie, France, the company designs injection molds used in diverse industries such as automotive, consumer goods, pharmaceuticals and medical, for products including caps, tips, handles, pressure sensors, flow control systems and others.

Company founder Thierry Blain is fully familiar with the tooling business, having worked for more than 20 years in workshops that manufactured and maintained injection molds for prestigious companies before moving on to work in research. He speaks of his vocation with enthusiasm and pride: "Tools are assemblies that are complex to produce because they contain many components and must perform several functions – shaping, feeding, adjusting, guiding and separating. My workshop experience allows me to quickly make the necessary technical design choices and to justify these choices, as well as advise my customers on possible modifications to be made to the parts to optimize the manufacturing process. This is decisive in such a fiercely competitive market."

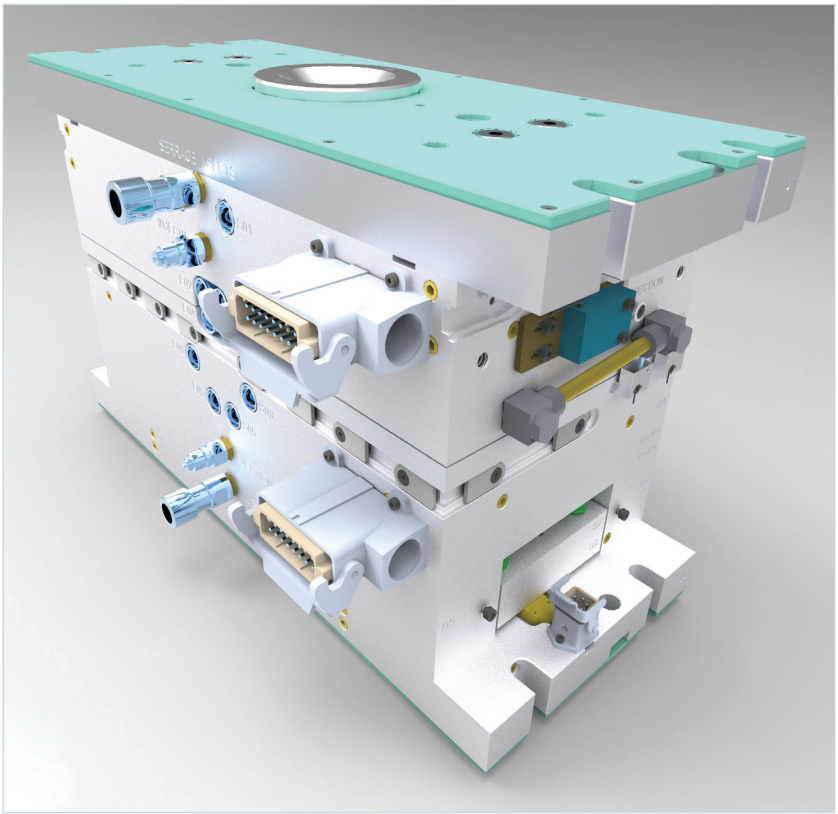


"With the multibody feature available in Solid Edge, all of the associated elements can be moved automatically. This reduces modification times by at least two-thirds, and removes any risk of forgetting an element, which means gaining time, quality and peace of mind."

Thierry Blain
Founder
MOLD'ALP

Maintaining a competitive advantage

To measure up to the competition both in France and internationally, MOLD'ALP draws on its expertise, its versatility and the quality of its services. Its customers, mainly consisting of toolmakers, are under considerable pressure from their prime contractors, and are particularly demanding in terms of quality and production time. To fulfill these demands, the company knows that it can depend on Solid Edge® software from product lifecycle management (PLM) specialist Siemens PLM Software to meet its customers' quality and lead time requirements.

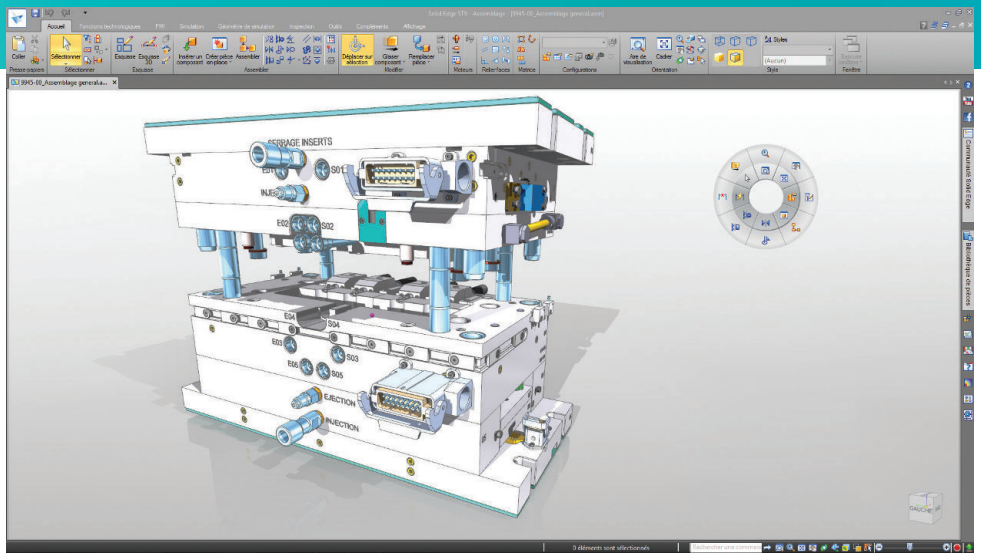


Solid Edge: flexible, user-friendly and reliable

MOLD'ALP has used Solid Edge since 2012. At that time, support for the software was provided by Bytics, a Siemens partner and the Solid Edge solution reseller in Switzerland. When Blain decided to create his own business, he had to select a 3D computer-aided design (CAD) software solution as the cornerstone of his design activity. He initially considered a number of alternatives and turned to Bytics for advice to help him with his choice. After conducting a technical and economic analysis, he opted to continue with Solid Edge, based on key attributes of the software including its flexibility, ergonomics, reliability and especially its cost.

Extraordinary flexibility

The synchronous technology capability of Solid Edge offers enormous 3D design flexibility. It enables users to work intuitively in the structure of the product without having to concern themselves with the modeling environment. Synchronous modeling techniques can be used to create new parts, or to modify existing native Solid Edge parts and data produced by other CAD solutions without leaving the assembly environment. Consequently, users can easily and freely navigate and work inside the model. "It's a bit like being on a boat that starts to pitch: you have to be able to steady it quickly," explains Blain.



Outstanding ergonomics

Blain also underscores Solid Edge's ergonomic attributes. He notes that the software is extremely intuitive compared to other CAD solutions that he has observed in use by his customers. "Just a few hours after getting started, I was operational," Blain says. "I went on to explore the features on my own and basically taught myself. The Solid Edge radial menu and the use of a 3D mouse help me gain huge amounts of time. I only use the keyboard to type in text; everything else is done using the two mice."

Reliability and stability

"I have always been very pleasantly surprised by the stability of Solid Edge, even after installing new versions," Blain adds. "For a mid-sized company likes ours, putting business on hold for a few hours or even days is simply inconceivable. A business leader has to be able to count on reliable working tools. With Solid Edge, I have never had to worry about reviewing models subsequent to a change of version. As far as I'm concerned, this is much more important than fancy functionality."

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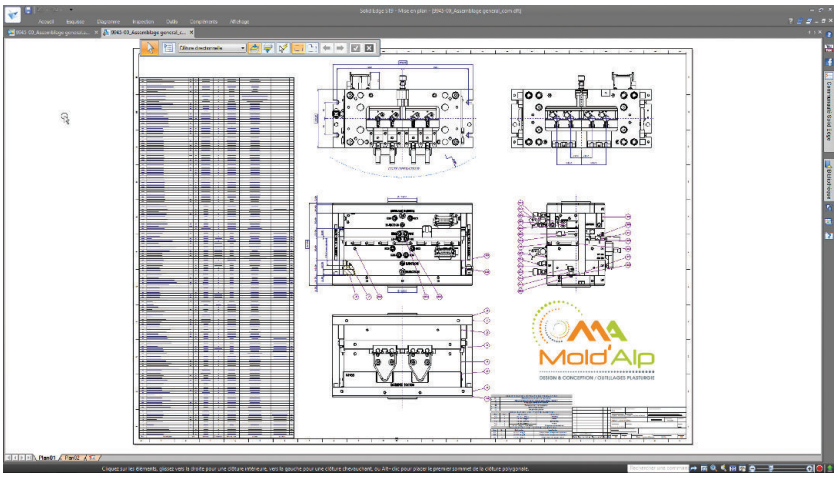
Close relationship with partner Digicad

For support it in its activities, MOLD'ALP knows that it can fully count on Siemens PLM Software solution partner Digicad. Blain particularly appreciates Digicad's responsiveness: "Our customers impose very tight schedules, and we need to be able to quickly resolve any problems that might arise. Digicad employees have both the requisite technical knowledge of the software and the industrial skills to go with it; they understand our business and our requirements, and always have the right answers."

As France's leading reseller of Solid Edge software, Digicad has successfully established a trusting relationship with its customers, and contact goes far beyond that of a simple technical hotline. Ahmed Ben Abdelkader, MOLD'ALP's technical contact at Digicad, says, "My customers know that they can call me whenever necessary in case of any problem, and the people I have trained often send me screen grabs of their projects. It's very rewarding to see what they are capable of producing." Asked about Solid Edge's key distinctions, Abdelkader cites: "Solid Edge provides superior ergonomics, like Windows, and its price is three to four times lower than other tools on the market."



Modification times reduced by two-thirds

The process for designing a mold comprises a number of steps. The first step is to analyze the part's 3D digital shape model provided by the customer to determine whether it is compatible with the plastic injection manufacturing process. If not, exchanges between the customer and MOLD'ALP's research department establish a dialog before making the necessary changes to the part. This is followed by the actual design of the tool's 3D model, which includes defining the parting surface and positioning the injection point. "At this stage, if more advanced studies are needed, we can use specialized rheology tools such as those of CADFLOW, which interfaces directly with Solid Edge," Blain explains. "These tools serve to optimize the position and number of injection points, detect weld lines and air entrapment locations, and design the filling so that all the requirements of the part are met."

Solution

Solid Edge
www.siemens.com/plm/solidedge

Customer's primary business

MOLD'ALP is a research firm specializing in the 3D design of tools for plastic injection molding.

Customer location

La Balme-de-Sillingy,
Rhône-Alpes
France

Partner

Digicad Group
www.digicad.fr

The mold tooling design process is seldom trouble-free: the part's geometry is liable to change at any time, in which case the modifications to its geometry must be applied to the tool, often as a matter of urgency. "For example, if the customer decides to move a hole one-half of a millimeter on the part, then everything on that hole's axis will also have to be moved one-half of a millimeter," says Blain. "With the multibody feature available in Solid Edge, all of the associated elements can be moved automatically. This reduces modification times by at least two-thirds, and removes any risk of forgetting an element, which means gaining time, quality and peace of mind. That, for me, is what it's all about."

Parts design and analysis

MOLD'ALP also works on parts analysis projects, and seeks to expand this activity in the future. Blain cites the example of an innovative project in the medical sector: "We worked alongside a startup on a 6-axis robot handle intended to assist surgeons during operations on the spinal column," he says. "Based on a pre-study sketch, we designed the handle from A to Z using Solid Edge."

Here too, MOLD'ALP intends to build on its toolmaker expertise. "When you design a part, obviously you have to not only comply with the specifications, but also keep in mind all of the constraints inherent in its manufacture, including technical feasibility and costs," Blain says. "For example, a simple rounding of a corner on a part can lead to considerable supplementary tooling costs. In other words, you have to 'think tool' when designing, and this is in our DNA."

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