

ASMAG UK Ltd. Wins New Business and Delivers in Record Time Using CoCreate® 3D Software from PTC

Custom-maker of Tube-shaping Machinery Discovers Explicit Approach to 3D Design is 30% Faster Than Autodesk Inventor®, Five Times Faster Than AutoCAD®

ASMAG UK, Willington, County Durham, England

Founded in May 2008, ASMAG UK designs and manufactures custom-built tube-manufacturing and material-handling machines for the steel and non-ferrous manufacturing industries. Together with its sister company in Scharnstein, Austria, the group provides full production lines for copper products, from run-out systems, extrusion presses, saws and cutters to pointing machines, drawing machines and other related equipment.

Despite setting up shop during one of the worst economic downturns in history in 2008 and 2009, the company began winning new business immediately. Its custom-built equipment—a mix of mechanics, hydraulics and electronic systems—shapes tubes or pipes, depending upon required size and design. Each machine is custom made to meet the precise needs of ASMAG UK's clients.

The Challenge: Respond Faster to Customers' Constant, Ever-Changing Requirements

- Develop and deliver complex new equipment within increasingly aggressive turnaround times
- Enable designers to make unlimited last-minute changes to designs without interrupting delivery schedules
- Exchange up-to-date 3D designs and development data with colleagues at ASMAG in Austria
- Establish a single, secure data vault for storing, managing and exchanging vital CAD data

The Solution: CoCreate Software for 3D CAD and Product Data Management

- CoCreate Modeling™—a complete, explicit 3D CAD package offering the speed, ease and flexibility for fast-moving global design teams
- CoCreate Model Manager™—a best-practice product data management (PDM) solution that enables users to orchestrate design processes and manage associated design data within a single, central database



The completed hydraulic crush pointer, just 15 weeks from initial client contact to final installed equipment

The Results: Winning New Business & Responding to Customer Requests in Record Time

- Delivering on time against nearly impossible deadlines that other companies are unable to meet
- Designers can make changes to 3D designs 'on-the-fly,' staying ahead of schedule
- One designer can immediately pick up the work of another designer and 'run with it'
- Much smoother hand-off of high-quality designs from Design to Engineering
- Automatic notification of design changes to all product stakeholders
- Short learning curve of just a few weeks to become proficient with the software

“The explicit modeling approach best aligns with the challenges we face in the custom projects we run, where they tend to be short, with lots of iterations and late customer inputs. And only one package—CoCreate—is able to give us what we need.”

—Paul Thompson, Technical Director, ASMAG UK

Addressing the Changing Needs of Customers

“Customer expectations regarding custom-built industrial equipment are changing rapidly,” explains David Liddle, Managing Director of ASMAG UK. “In the past, companies would have been happy with 12- to 15-month delivery schedules. Today, those same companies are looking for delivery of even more complex, custom-designed solutions in just 6–12 months. At ASMAG UK, thanks to our team and selecting the right product design tools, we’ve been able to adapt to this paradigm shift, and win new projects and customers,” states Liddle.

Take, for example, one of the projects the company won in late 2009. A European manufacturer needed to replace some ancillary equipment on an in-production machine that reduces the outside diameter and wall thickness of tubes by cold drawing. Paul Thompson, Technical Director, explains: “They contacted us in late September, 2009 and wanted delivery by December, 2009 at their location in Germany. That meant just 15 weeks from initial client contact to final installed equipment – a real challenge.”

And with five weeks required for manufacturing, assembly, delivery, installation and commissioning, that meant just ten weeks to finalize specifications, create concepts, detail the design, test it, adapt it, document it and hand over the finished designs to the manufacturing facility located over 1,000 miles away in Austria.

“With ten weeks for product design, we faced a real challenge,” Thompson adds. “But our project team and CoCreate Modeling rose to this challenge, and we sailed through every stage, and could even respond to last-minute changes we received from our client.”

And with all stages running smoothly, the custom-built machine was successfully delivered to Germany before the Christmas holidays.

Choosing an Explicit Modeling Approach to Design

While CoCreate Modeling, the industry’s leading 3D explicit modeling solution, is now ASMAG UK’s product modeling software of choice, the design team initially considered adopting other CAD tools, and had worked with both AutoCAD and Inventor. “However,” Thompson said, “we found the projects that were presented to us were becoming more complex, requiring faster turnaround times, and were becoming more iterative in nature. We concluded that a 2D process simply wouldn’t be able to address those challenges. So, clearly, we needed to look at 3D to help address the challenges. With Autodesk Inventor, the modeling approach simply required too much up-front planning and rigidity in the design, which wouldn’t accommodate the frequent last-minute changes we receive from our clients,” said Thompson.

When considering the 15-week German customer project that ran so well with CoCreate, Thompson couldn’t imagine making the deadline using either AutoCAD or Inventor: “With AutoCAD, I’m convinced that to achieve the same results as those seen in the project, it would have taken the same design team four- to five-times longer. I think any manufacturer that is still using 2D-based processes is facing immense pressure from customers and competitors, who are now simply demanding faster delivery.”



From left to right: David Liddle, Managing Director of ASMAG UK, Michael Dunn, Design Engineer and Paul Thompson, Technical Director

Thompson adds: “While Inventor, with its 3D approach, is definitely faster than a 2D-based process, our experience has been that, with Inventor, the team really needs to know what the end-design will look like, and what the design changes are that we’ll expect to drive. If we don’t [have this information], then the model’s history tree may not support unplanned and unexpected modifications, and in the worst of cases we’ll have to recreate the model and miss the planned project deadline.”

As a rule, ASMAG UK’s customers don’t know all the changes they need to make, so the design team is faced with last-minute changes that are both critical and unforeseeable. “With those types of challenges, we’d need to plan an overhead of at least 30% to cope with any late problems,” says Thompson. “And, again, I don’t think we’d have been able to deliver a result in line with the customer’s aggressive schedule.”

“CoCreate Modeling, with its explicit approach, is at least 30% faster than Inventor,” Thompson adds. “The explicit modeling approach best aligns with the challenges we face in the custom projects we run, where they tend to be short, with lots of iterations and late customer inputs. And only one package – CoCreate – is able to give us what we need.”

Leveraging Designs and Teams in UK and Austria

With both ASMAG UK and its sister company in Scharnstein, Austria focused on custom-built tube-manufacturing and material-handling machines, there’s plenty of opportunity for cross-leveraging designs between the two teams. One of the first infrastructure projects after ASMAG UK was founded was to connect the two sites to a shared data vault, so that designs could be easily exchanged between the teams, to encourage the leveraging of already available components. “You hear about projects to connect multiple sites that take years to establish, but with CoCreate Model Manager, we were able to connect both teams to a common vault in a matter of weeks,” explains Thompson.

And, with the manufacture of ASMAG UK equipment currently centralized in Austria, a common CoCreate Model Manager environment ensures the smooth hand-off of finished design and drawing to the manufacturing facilities.

“In other companies, I know of design data being sent by post, or being copied via an FTP site, only to find that the wrong version of a design is being used, simply because no formal electronic release process is in place,” explains Thompson. “With CoCreate Model Manager, once I’ve released the drawings and designs in the UK, they’re instantly routed to the manufacturing team in Austria, and they can access the released models and drawings and start manufacturing; if there are any changes, I know they’ll be notified automatically.”

Delivering Speed and Flexibility to Designers

“In our projects, speed and flexibility are decisive factors for success, and with CoCreate Modeling, I get both,” says Michael Dunn, design engineer at ASMAG UK. With more than 12 years of professional experience as a design engineer, Mr. Dunn has worked with several 2D and 3D CAD tools, including AutoCAD and Inventor.

With CoCreate Modeling and CoCreate Model Manager, Dunn reports that it took just a few days to become familiar with the software. Comparing CoCreate to other 3D CAD tools, he relates: “The explicit modeling approach is definitely a lot easier to learn than the more traditional approaches, as I can simply focus on 3D design and don’t need to worry about the design’s history, constraints or relationships; I work directly with the model.”

The fact that designers work directly with the models also makes it much easier for designers in both the UK and Austria to leverage each other’s work. “I can easily find and load any design stored in our shared vault, and start designing with it,” states Dunn. “I don’t need to worry about who created the model or how it was created; I can simply use it as the basis of a new design, and quickly get to the desired result – that’s a huge advantage when product design is measured in weeks.”

Thompson concludes: “CoCreate is really providing a key differentiator for us, and supporting us in winning new business despite the current economic climate. In reality, we would be more than happy for competitors to continue using more traditional design approaches and CAD tools, knowing that as long as they do, we’ll be achieving faster turnaround times for our clients, and winning new customer projects with CoCreate.”



The explicit modeling approach best aligns with the challenges ASMAG UK faces in its custom projects, where projects are short, with lots of iterations and late customer inputs

Supported by PTC Partners High Peak Systems and Techsoft

Thompson also points out the benefits of working with experienced local PTC partners at both ASMAG UK and the Austrian site: “For our deployment and training, we count on the competent support of both High Peak Systems here in the UK and Techsoft at our Austrian site. Both partners work together to make sure we’re successfully and quickly deploying CoCreate to achieve our business goals, and that our teams are up and running in a matter of days.”

Thompson adds: “Our partnership with both companies and PTC goes well beyond simply CAD. We’ve added product data management with CoCreate Model Manager to meet our specific needs – with no operating interruptions – and this allows us to have a single vault for sharing designs across both sites.”

ASMAG UK: Bucking the Trend in UK Manufacturing

One of the results of ASMAG UK’s success in winning new business has been a commitment by the ASMAG group to grow ASMAG UK, and to establish it as a global hub for all the group’s English-speaking activities, including plans to add manufacturing facilities in the UK.

As David Liddle, Managing Director of ASMAG UK, summarizes: “By using CoCreate, we’re able to win new projects, and deliver on time against aggressive deadlines – often so aggressive that we are the only company confident enough to deliver on time and on-spec – and that must be good for us and for UK manufacturing in general.”