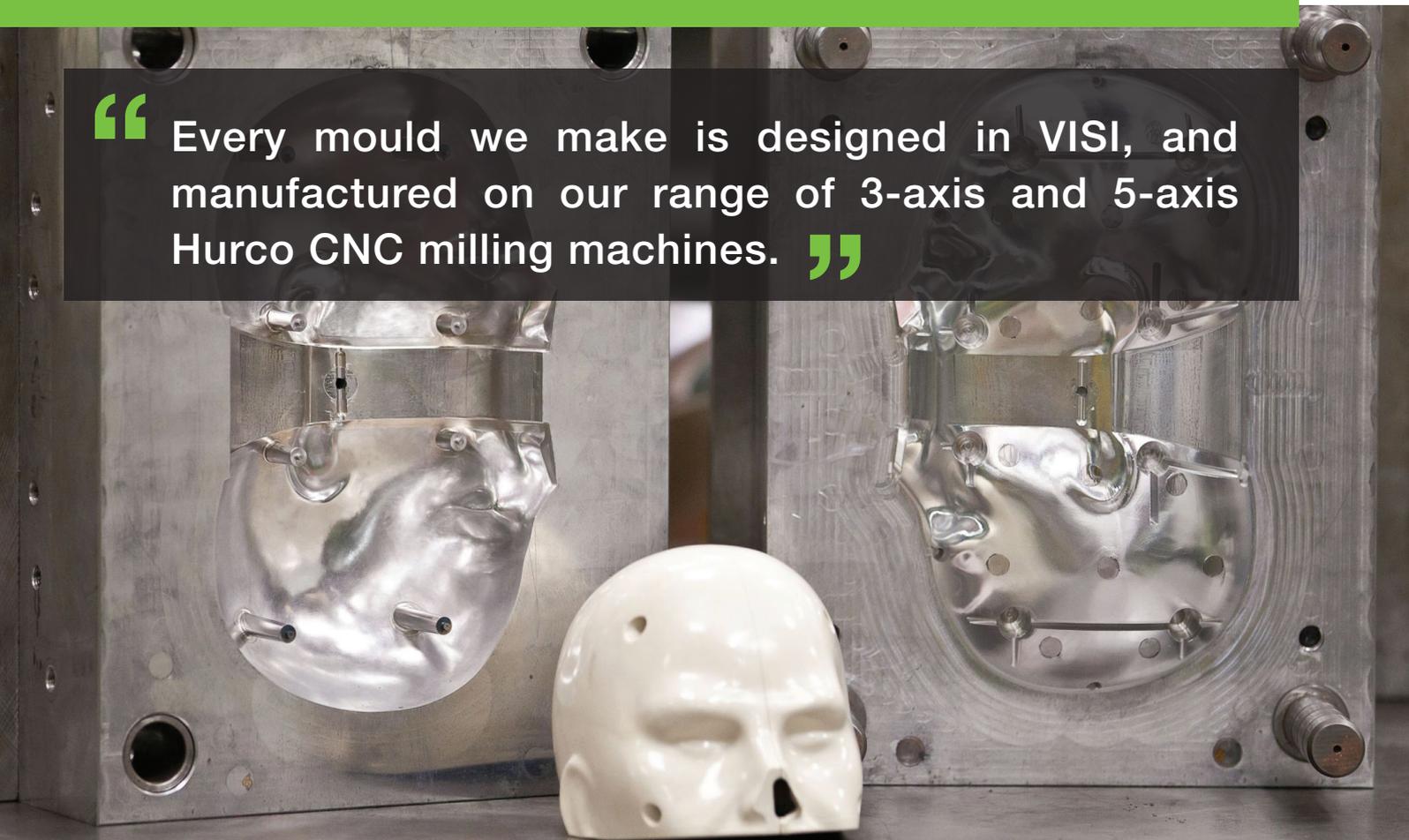




CROSSEN ENGINEERING LTD

“ Every mould we make is designed in VISI, and manufactured on our range of 3-axis and 5-axis Hurco CNC milling machines. ”



VISI is one of the world's leading CAD CAM software solutions for the Mould & Die industries.

It offers a unique combination of applications which includes fully integrated wireframe, surface and solid modelling, 3D tool design, plastic flow analysis and progressive die design. VISI encompasses a wide range of manufacturing solutions such as wire EDM, and comprehensive 2D, 3D and 5 axis machining strategies.

Crossen Vote for VISI

Anyone who voted in the recent UK General Election and last year's American Presidential election is likely to have slotted their paper into ballot boxes manufactured for the leading Government election solutions provider, Pakflatt, by Irish injection moulding specialists Crossen Engineering LTD.

Operating from a 22,000 square foot facility in Belfast with 32 employees, Crossen produce all their own tooling, ranging from aluminium alloy moulds for small to medium batch production through to fully hardened hot runner mould tools for larger runs of 500,000+ components.

Servicing a variety of industries, including automotive, aerospace, medical, construction, household and materials handling, they can ship up to quarter of a million moulded parts a month produced on their Romi, Fanuc and Demag machines.

As well as Crossen's technical expertise in mould design – finely honed by their use of the market leading mould and die software, VISI – their success is built on strategic partnerships with their clients, assisting on project needs from initial design concept through to prototyping and production, tailored to meet individual budgets and timescales.

In addition to the ballot booths and ballot boxes for the recent elections, other notable products include: components for the award-winning Bloc Blinds; plastic mouldings for Resusannie medical CPR mannequins; release mechanisms for the Euro fighter pilots; interior solutions for Porsche; and helmets for the Irish national sport of hurling.

Bloc Blinds' Managing Director, Cormac Diamond, says Crossen are now an integral part of their team, having established a strong and collaborative relationship over the last ten years. "Their superior technical expertise, ability to deliver within rigid lead times, and their service, have all helped Bloc become a market leader in the manufacture and supply of innovative and award-winning window blinds."

Crossen's Business Development Manager, Peter Crossen, says they like to be included at the start of the design stage, and they are geared up for a quick turnaround of their aluminium alloy injection mould tools for low volume to medium production.

"Every mould we make is designed in VISI, and manufactured on our range of 3-axis and 5-axis Hurco CNC milling machines. We've also recently invested in a Rödgers high speed machining centre, mainly for the quick turnaround of complex mould inserts."

The other side to the family-run operation – press tools. They have 13 presses in place, ranging in capacity from 50 to 500 tonnes, and all press tooling for that is also designed exclusively with VISI and manufactured in house.



About The Company:

Name:

Crossen Engineering Ltd

Business:

Injection moulding specialists

Website:

www.crossenengineering.co.uk

Benefits Achieved:

- Quick turnaround of complex mould inserts.
- Can easily make adjustments.
- VISI Flow "preventative analysis" software optimises the tool design and moulding parameters by detecting a wide range of potential manufacturing issues.
- Reduces error and increases performance of the final mould.

Comments:

"We review a customer's CAD file in VISI and then design the mould around that file. We can easily make adjustments to aspects such as wall thicknesses, part radii, and draft angle"

Peter Crossen

Business Development Manager



“We work with companies who have an idea for a product but need assistance with design, a low cost tooling option and rapid turnaround. We frequently find that a customer has a 3D printed part and needs to start running at volume, but it can be costly for them to see it through to fruition, independently. However, with VISI we can quickly design inserts to turn around a simple injection mould tool in less than two weeks.

“We review a customer’s CAD file in VISI and then design the mould around that file. We can easily make adjustments to aspects such as wall thicknesses, part radii, and draft angle.”

Managing Director Paul Crossen says they have used the VISI CAD module for several years, but have only recently installed VISI Flow, which is now playing an increasingly important part in their process. The “preventative analysis” software optimises the tool design and moulding parameters by detecting a wide range of potential manufacturing issues such as warpage, weld lines, air traps, filling issues and hot spots, while determining the optimum gate size and position, along with runners.

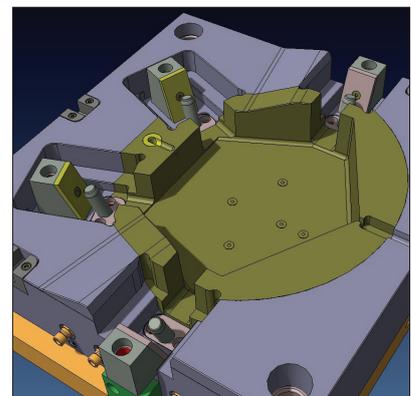
“It gives us total confidence that the parts are achievable, and the gates are in the right place. It highlights any warpage and filling issues, and means we can see potential problems which may occur further down the line while we’re still at the mould design stage. The cost of changing a mould to correct a preventable quality issue only adds up to wasted time and money. Customers are extremely impressed that we can accurately forecast these issues and back it up with facts from the flow simulation. All moulding variables and results are reported and fed into a report that can be shown to the customer. We couldn’t do all that without VISI.”

His team import the customer’s CAD file directly into VISI then undertake a draft analysis and carry out the basic mould design before running it through VISI Flow. “When everything has been proved out we’ll continue with the full mould design, importing the steel or aluminium and bill of materials directly into VISI. Then we’ll cut the cavities and add in the injection system.”

Paul Crossen says their apprentices are trained how to operate VISI at an early stage of their development, as it’s something they’ll need to be highly proficient in throughout their careers, complementing traditional engineering skills.

Third year apprentice James makes extensive use of VISI for extracting electrodes, and modifying parts for machining. “If I’m starting from scratch with 2D, I’d import that into VISI and start to build the relevant geometry. However, if a colleague provides me with a 3D model I’ll open that directly and make any machining adjustments on that.”

He began using VISI in the first year of his apprenticeship and says his job would take considerably longer without it. “It’s a very powerful system, and means we don’t have to manufacture a mould only to find it doesn’t perform as expected. By simulating the entire process in VISI we can be sure the mould is going to produce perfect plastic products before we start cutting the metal.”



VISI

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