

ST.DAVIDS ASSEMBLIES SUMITOMO (SHI) DEMAG CASE STUDY

OCTOBER 2021

WELSH MOULDER FLYING THE EFFICIENCY FLAG

Adding the sustainability stamp to its injection moulding fleet is not enough for Pembrokeshire-based St Davids Assemblies. Manufacturing tens of thousands of precision components and intricate bimetallic safety controls weekly, General Manager Glen Wells chronicles the importance of “good old customer service” and how the company’s acquisition of four Sumitomo (SHI) Demag machines this year and has helped him to feel better about production capacity and quality in the future.

A trade moulder of the highest distinction, for over half a century St Davids has secured a niche space on the global stage manufacturing safety controls inserted into some of the world’s biggest automotive, electronics and domestic appliance brands. Having won several large contracts at the height of the pandemic, the Pembrokeshire facility escalated its strategy to replace several legacy systems with a mix of hybrid and all-electric injection moulding technology.

Straight talking Glen tasked Sam Carr at Sumitomo (SHI) Demag with the unenviable task of presenting a range of machines that would reduce scrap, drive better part quality, increase productivity and make energy savings. Starting with a 100 ton hybrid Systec training model, the company swiftly commissioned a Systec 280 ton, followed by two precision all-electric IntElect’s (100 and 350 ton) this summer.

Highlighting how the emphasis of the business has evolved, Glen explains: *“Given that we are more heavily focused on larger mouldings, the 350 ton IntElect has helped to increase our production capacity and enables us to fulfil the new projects we won during the pandemic.”*

Being part of the Otter Controls Group, Glen had to present the CEO with a clear business case for switching to all-electric technology. During negotiations, a power rating comparison using consumption calculators estimated a seven month ROI. Providing Glen with enough evidence to earn the CEO’s investment backing.

The general manager continues: *“We intentionally selected Sumitomo (SHI) Demag for their accuracy and dependability, as well as their reliable customer support. The IntElect machines are already proving their worth in energy savings, even more critical given the current shortages and supply chain challenges.*

“They do run slightly differently and we have had to slightly adjust our processes to ensure that during peak injection the pressure is maintained,” adds Glen. Another advantage of the 350 ton IntElect is the barrels and screws come reinforced as standard, improving the performance and extending the lifetime and efficiency of the machine to minimise abrasions when processing high temperature materials and thermoplastics with reinforced content, e.g. glass fibres. The other three machines were upgraded with special coatings to prevent corrosion.

Silver linings

Maintaining productivity is a constant obstacle that Glen and the 72 team members at St Davids navigate. Like many moulders, they have faced a myriad of challenges, not least procuring silver for the contacting brass strip used to create the bimetallic patented safety controls which the company has manufactured for over 50 years and continues to be exported globally, predominantly to Asia and the Americas.

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“To navigate these supply chain challenges sometimes requires an ‘all hands on deck’ response. Our new machines gives us the flexibility and capacity to react in real time to these different variables and ramp up production to meet demand as needed,” explains Glen.

Having already automated the overmoulding and assembly of the precision bimetallic components, the addition of the precision IntElect machines closes the productivity loop for St Davids. With two 350 ton machines in their fleet, the team has the additional capacity required to fulfil all orders for difficult and high volume technical mouldings, some of which are produced in huge batches, claims Glen. For assembly, the dimensions and precision required for these components have to be exact.

Impressed by the environmental and repeatability credentials of the new IntElect’s, St Davids is now considering switching its twin-shot machines that produce Covid tests to all-electric as well.

“Strategically we are on a big push to save energy and boost productivity. Since introducing these four Sumitomo (SHI) Demag machines, our output is higher and machine uptimes are noticeably improved,” states Glen.

Flexibility is where the IntElect series really excels, notes sales manager Sam Carr. *“The combination of direct drives plus the IntElect’s advanced toggle system ensures a more stable process. Because the injection process runs more steadily, the plasticised material flows more consistently into the mould cavities. This in turn helps ensure even weight distribution in each cavity and minimise part rejects and scrap.”*

Since the turn of the century, St Davids’ customer base has vastly expanded and now comprises numerous electronic and precision businesses. Shortly, the company will commence producing electric vehicle battery parts. *“As our business evolves we will continue to invest in good quality machines,”* ends Glen.

ENDS

Images /captions:



Image 1: The 350 ton IntElect has helped to increase production capacity and fulfil new projects St Davids won during the pandemic



Image 2: The Welsh technical moulder intentionally selected Sumitomo (SHI) Demag for their accuracy and dependability, as well as their reliable customer support

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Sumitomo (SHI) Demag Plastics Machinery UK Ltd. is a wholly owned subsidiary of Sumitomo (SHI) Demag, Germany, established in 1956. Sumitomo (SHI) Demag specialises in the production of electric, hybrid and servo hydraulic injection moulding machines with clamping forces between 250 kN and 20,000 kN. With over 125,000 machines installed worldwide, over 65,000 of which are full electric, we supply machines to all sectors, including automotive, packaging, electric/electronic, medical and pharmaceutical, building products and leisure, and assist injection moulders to meet their energy management, quality assurance, lean manufacturing and Total Cost of Ownership strategic and production goals. The company's UK and Ireland business delivers world-class service and support to more than 400 customers, supporting in excess of 1,800 injection moulding machines. Sumitomo (SHI) Demag won Best Technology Application of the Year two years running at the Plastic Industry Awards (2015 and 2016). Our UK-based Training Academy is a Cogent Skills Partner and delivers six structured and bespoke polymer processing and industry-led training and development courses, aimed at all operational levels, from new starters to tool setters, engineers and asset care managers. All course content has been designed to enhance precision, productivity and Overall Equipment Effectiveness (OEE).

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