

Moulding the Future

Edition **13**

The Latest News and Information



POWER TO US: PREPPING FOR A WINTER OF CUSTOMER CONTENT

This energy crisis is a worry for us all. Not least manufacturing SMEs that are utterly reliant on power to make parts. Despite the welcome six month reprisal, as we hurtle into winter, even capping the costs at less than half the market rate is still a cost pressure that is hard for the most energy efficient business to absorb. Still, Broanmain endeavours to play our part. Both responsibly and as sustainably as possible. Ensuring production continuity for all our customers.

Although there's not a single 'megawatt' energy saving solution – moulding technical components requires power after all – our new Maintenance Engineer Steven Romano summarises the pre-planned steps the business has been taking to soften the financial shock and mitigate the impact of potential energy shortages and rising prices.

- **Planned maintenance regime:** Looking at the entire fleet of machinery, we've created a modified iPlan maintenance schedule that red flags more pressing maintenance tasks to reduce machine downtime. This keeps our technologies running as cleanly and efficiently as possible, cutting our production carbon footprint even further. Steven estimates that an effective regime can reduce unplanned machine breakdowns by as much as 60 percent.
- **Live dashboard data:** Tapping into energy supply data over the Wi-Fi, the team now sees exactly what it is costing by the hour to run our fleet of 11 injection moulding machines and all ancillary, finishing and tool making equipment. Even slight modifications, e.g. barrel insulation to contain heat, has already resulted in visible energy saving improvements.
- **Fixing compressed air leaks:** Experts estimate between 20 and 40 percent of generated compressed air is lost due to leaks. We have addressed this by putting in two isolation valves and shutting them off for the building and compressor, as well as incorporating a routine inspection and reporting system for air leaks. These actions, along

with a new timer controller on the compressor, is saving in the region of £17,000 p/a.

- **Monthly air and water filter changes:** Cleaner water protects tools. Less rust also reduces system contaminations, preventing component defects and material waste. Plus significantly improves heater efficiency.
- **New compressor timer:** No longer running 24/7, by introducing a timed program for dryers etc. is already saving approx. £17,000 in energy p/a.
- **Double shifts:** Given that the most energy intensive process is heating material up, to limit machine start-ups, Broanmain has moved virtually all production to Dorking and now operates two overlapping day and night shifts Monday to Thursday. Combined with carefully-considered production sequences, fewer machine shut offs, tool changeovers and restarts, is proving to be more productive and cost efficient, and increases our manufacturing capacity even further.
- **Drive upgrades:** Our all-electric IntElect featuring all-electric drive technology is clearly very energy efficient and reliable. For the remainder of our injection moulding fleet we are exploring the benefit of upgrading to variable speed drives to save energy use during the curing time. To benchmark the savings we will initially roll this out into our largest hybrid machine.

Other steps taken under Steven's direction that are making a real difference include reducing the top-end compressor pressure, engaging the entire Broanmain team and sharing a toolbox of tricks and tips to reduce energy consumption. This includes seeking feedback on future actions. One staff suggestion put forward and currently being instigated includes designing a machine shut-off traffic light system. Providing clear unsupervised visual instructions and flagging when guidance should be sought by production managers.

STEVEN KNOWS HIS STUFF

Having worked in engineering maintenance since 1989, including a stint in pharmaceutical manufacturing, and another in defence, Steven brings a fresh perspective and wealth of processing efficiency and optimisation improvements to the Broanmain production environment.

Joining Broanmain at the start of May 2022, his most pressing focus was to conduct a full assessment of all machinery assets and devise a robust maintenance plan. Identifying quick win fixes to enhance energy efficiency and reduce unplanned machine downtime to align with the company's First Time True quality culture and zero defects targets.

Maintenance routines have been refreshed, assets assessed, parts nearing the end of their lifespan replaced, and monitoring data dashboards introduced. Managing Director Jo Davis comments: *"For a polymer processing SME to have this level of foresight and technical competence combined with application expertise is a critical differentiator. Steven has proven himself to be a problem solver that thinks ahead and equally recognises the value his suggestions and actions have on our entire operational workflows and production capacity."*

Well aware that a robust production plan and maintenance programme is only as good as the data sourced, measured and benchmarked, driving utility and energy savings has been Steven's baby.

Tracking the performance of equipment and engaging with colleagues, seemingly small actions, for example the introduction of a compression timer, has already made a significant dent in escalating power consumption bills. Steven attributes Broanmain's family ethos and 'can do' attitude to the speed in which these differences are being made. *"It's a refreshing change to see workforce suggestions roll out so swiftly. It feels like everyone*



across the firm is thinking like a process optimisation and energy custodian."



Steven suggests that from past experience, a planned maintenance regime can result in a 60% drop in machine breakdowns. Which from a production and moulding capacity perspective is a real gamechanger.

Right now, Steven is directing his attention to Broanmain's Compression Moulding business. With orders coming in thick and fast – October saw Broanmain's biggest uplift in compression components for decades, in part attributed to customers maintaining their own legacy technologies – Steven is proactively keeping the machines in top condition and looking at how to source obsolete replacement parts. *"In time, the refurbished component pool will run dry. Realistically, 3D printing could be the most viable option for creating replacement parts for compression machines moving forward."*



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IN THE NEWS

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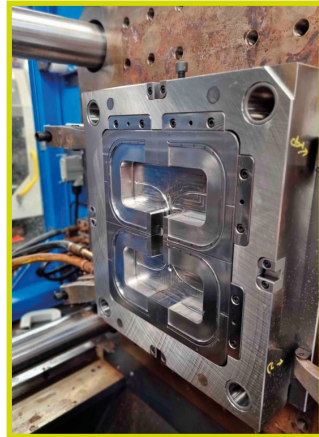
SHINY & NEW: TOOLING PROJECTS UPDATE

Another extremely busy six months in the Broanmain toolshop with recently promoted Engineering Manager Kamil Stec managing the production of:

4 impression tools for Aspen Pumps, requiring no undercuts, but more complex radii shutoff in the design. Cores and cavities were hard milled. (Pictured right).

12 new tools from an existing configuration but no 3D models for Platinum.

14 new tools for sensors for start-up company Cucumber Lighting Controls.



NO TIME FOR DOWNTIME

See how Broanmain continues to focus on value, efficiency and waste reduction using the **DOWNTIME** acronym.

#Defects: By validating every quality procedure before production, internal rejection and rework costs have fallen by over 10 percent in 12 months.

#Overproduction: Over 50% of Broanmain customers use Kanban and our MRP system to help reduce stock holdings and ensure working capital is not tied up.

#Waiting: Our 'pull' manufacturing system minimises delays to production, assembly and despatch, with 10% y-o-y fall in complaints.

#Non-utilised talent: An inclusive, multi-generational and equal opportunities employer, read how we are continuing to support wellbeing and reward staff overleaf.

#Transportation: We offer 'direct to customer' delivery and box collection service, including recycling packaging and strapping, plus fewer transport deliveries.

#Inventory: Domestic sourcing can reduce lead times and help OEMs to monitor and resolve quality and precision processing challenges in person.

#Motion: Collaboration keeps projects moving forward. Many customers see us as a natural extension of their engineering team.

#Extra-Processing: Our investments in advanced metrology, CMM and shadowgraph machines deliver marked quality improvements facilitating speedier order fulfilment.

CHRISTMAS CLOSING HOURS

Thank you for all your business in 2022. We hope it's been a productive and better year for you all. To help with your pre-planning, please note the following dates:

- **20th December 2022** – Last delivery day
- **21st December 2022** – Broanmain closes for Christmas
- **3rd January 2023** – Production and office reopens for 2023

TEAM REWARDS

Our people make our business. And they make the precision, safety, electrical, scientific and consumer components that so many people you serve depend on.

Given the current cost of living crisis and as a responsible and Real Living Wage employer, we consciously pulled forward a 10% pay raise for production staff to September 2022.

Another exciting feature in our wellbeing programme is the Broanmain factory now closes three hours earlier at 2pm on a Friday. Also, for our full-time team that work 5 days weekly, there's a new flexi-time option allowing colleagues to accrue hours and book off one Friday a month. Jo Davis explains: *"Unlike most other work environments, working from home is not feasible. So instead, we have introduced these new flexible working arrangements to give the team a better work/life balance."*



Injection Mould Setter Andy Budd (pictured with Sanka above) sums up the early Friday finish in one word – woohoo! *"The Friday night traffic to get home has always been a nightmare and quite stressful. Now I can get a jump on my weekend and clear the chores before Saturday. It makes such a massive difference. Although the flex-time is a good option, I'm more than happy to stick to my core hours and enjoy the bonus of an early Friday finish."*

Staff

In order to ensure your Broanmain enquires are answered efficiently, please update your contact records:



Production Manager
Monika Siakala

monikasiakala@broanmain.co.uk



Financial Controller
Sara Lowe

saralowe@broanmain.co.uk



Operations Manager
Thomas Catinat

thomascatinat@broanmain.co.uk



Quality Engineer
Sanka Ranasinghe

sankaranasinghe@broanmain.co.uk



After Moulding, Stores &
Despatch Manager
Alan Duffin

alanduffin@broanmain.co.uk



Engineering Manager
Kamil Stec

kamilstec@broanmain.co.uk



Maintenance Engineer
Steven Romano

stevenromano@broanmain.co.uk



Technical Manager and
Faygate Site Manager
Martyn Williams

martynwilliams@broanmain.co.uk



Managing Director
Jo Davis

jodavis@broanmain.co.uk



Chairman
Wilf Davis

wilfdavis@broanmain.co.uk