

# Knocking heads together



*If you're stuck in the rut of the production-versus-maintenance blame game, it could be time to take another look at your maintenance software, says Brian Tingham*

**Y**ou know the age-old quandary: production operations blame maintenance engineering, while maintenance, in turn, blames production, whether it's performance problems, quality issues, machine downtime or safety transgressions. It's the unhelpful face of a blame culture that's all too familiar, and which not only gets in the way of problem solving, but also hampers efforts towards all-important continuous improvement – distorting priorities and damaging relationships. Most of all, it costs time, money and ultimately competitiveness.

Yet this is the crazy situation that, behind the scenes, still dogs so much of British manufacturing. Crazy because the lack of accurate, timely, independent information around production problems, that has been its cause for so long, is entirely avoidable. The fact is that the technology in today's more advanced integrated computerised maintenance management systems (CMMSs) – or enterprise asset management (EAM) solutions, if you prefer – is routinely enabling its adopters to unlock the shackles

of blame and get operations and engineering working together.

Take Heinz Single Service. It's a good couple of years since that award-winning organisation implemented what was then called Eventsengine, from MVI Technology, since absorbed into CDC Factory, part of the CDC Software empire. Based in Telford and employing 130, Heinz Single Service supplies both Heinz and own-brand products to the catering trade, with 13 production lines filling sachets and sticks with sauces, condiments and vinegars to the tune of around 900 million units a year.

Its system trial was initially a response to the then quality system's limitations, which were forcing operators to run overweight on some lines, leading to product giveaway costing thousands of pounds. Within three months of installing Eventsengine, overfilling was under control because a touchscreen timer on each filling line was counting down to half-hourly weight checks and allowing operators to complete sampling quickly – automatically recording results, prompting action if required and stopping

the line if nothing was done. Jane Buckley, manufacturing manager at the time, commented: "We immediately reduced giveaway by 1%, which saved us a substantial amount of money... The beauty of the system is that it is built around what the operators actually do; it relates to their job rather than the IT."

That was just the start. Soon, reports from the system were being used for daily shift briefings – at first to show performance against quality targets, but then also to shine new light on maintenance issues. How? By capitalising on the system's operator-focus, which made it easy to define and capture events, such as the most common reasons for downtime on a machine, and then to visualise analysis in terms, for example, of OEE (overall equipment effectiveness) and financial impact on the business.

In fact, it prompts operators to log (via pre-coded touchscreen buttons) reasons for stoppages, automatically building a picture of most frequent symptoms and thus focusing minds – production and



maintenance together – on finding the causes. As Buckley put it: “We can see the reasons for stoppages, challenge them and direct our engineering team where they need to go.” That was key to enabling Heinz to run improvement workshops and root cause analyses – helping, for example, to show how changeover of sachet rolls (then the single biggest cause of downtime) could be improved, simply by standardising working practices. “We reduced the changeover time by 42% and that led to a 5% increase in capacity, with a significant reduction in running costs.”

More recently, savoury pies, pasties and sausage rolls maker Ginsters has been implementing a more conventional Mainsaver CMMS, from Spidex, with a view to achieving similar improvements, not least through team working – having already learned how not to do it. Engineering manager Steve Arthur explains that Ginsters is a high-volume, fast turnover, 24/7 operation and equipment maintenance is critical to the business. That’s why, six years ago, the company invested enthusiastically in what turned out to be a disastrous CMMS implementation.

“The system supplier came in and did all the FMEA [failure mode and effects analysis]

work, and put in a planned maintenance strategy. But when we went live, it was all unachievable,” he explains. Why? Because it focused on planned checking of equipment known to suffer failures, but without adequate consideration of the causes. For instance, motors might fail due to water ingress, but that might be caused by overzealous wash down processes, which happen when they happen. “That system did nothing to help downtime; it just consumed engineering man-hours doing all the checks,” says Arthur.

His advice: first, sort out your mean time to failure data for key equipment, such as motors and bearing assemblies on conveyors, to better prioritise and schedule health checks and intervention. Second, make sure that your plant numbering is understandable and consistent to eliminate errors and stock duplication. And third, keep accurate information on key plant – such as drawings or work instruction sheets – to simplify and streamline maintenance procedures.

At the time, Ginsters reverted to spreadsheets, Word documents and a T-Card work request system to get all those points right, moving mostly to a planned maintenance regime, backed by what Arthur

calls structured MBWAs (management by walkabout), looking for machine problems, such as excessive noise or vibration, or guard damage. “As a result, over a two-year period for example, we practically eliminated downtime caused by bearing failures on our 2,000 conveyor rollers,” says Arthur.

Last year, he re-opened the CMMS project file. He wanted to look at automating what had, by then, become robust, albeit manual, processes and to integrate with the organisation’s AS/400-based System21 ERP system, now part of the Infor stable. His primary goals: to improve Ginsters’ ability to analyse and report on asset performance; to ease adherence to SOPs (standard operating procedures); and to simultaneously cut spares holdings and costs by consolidating procurement through the Infor system.

Arthur says Spidex’s Mainsaver ticked all the boxes. “It aligned with all the work we’d done around the plant-numbering hierarchy,



our Word documents for planned maintenance, the T-Card work request system and our MBWA rounds. For example, we’re getting software on PDAs showing planned maintenance routes, tasks and procedures. The system also automatically generates work requests specific to the task at the time. And there’s automatic tracking and audit trails behind all that.”

Arthur agrees that, on the face of it, he can’t claim quantifiable downtime reductions from the new system. He can, however, expect faster, better, more accessible data and, most important, information available throughout the organisation. “At the moment, engineering is accused of working in silos and coming up with analyses – which we do by spending



numerous hours looking through archive records," he says. "With the new system, anyone can go back and look at any issue – by asset, area, shift, particular fault type – and get their own factual, unbiased reports. So it will break down the barriers between operations and engineering and put an end to the finger pointing. That will not only lead to better working relations, but also better, more targeted team efforts for continuous improvement."

None of which is to imply that either CDC or Spidex and Mainsaver are necessarily better than any of the others. As Arthur himself says, the top end CMMSs are much of a muchness, only limited by those prepared, for example, to offer integration to existing ERP systems and those that are not. And he should know: his team looked closely at competing systems from the likes of Infor (which owns Datastream) and Agility, before making its selection, based mainly on price and comfort zone.

But support services giant Amey swears by Infor EAM, which the organisation started using to deliver planned and preventive maintenance services to road and rail infrastructure providers, schools and offices back in 2007. By the end of this year, Amey plans to be managing 25 contracts using the system – monitoring employee productivity, assessing the physical condition and energy consumption of assets, and optimising work schedules and performance to align with service level agreements.

Martyn Capes, head of ICT improvement at Amey, says: "We have worked with a number of system suppliers – Maximo, Infor, Oracle, SAP and others – and, in my opinion, the two leaders are IBM Maximo and Infor... Infor EAM has enabled us to innovate in many ways. We are now using information gathered by our mobile workforce, entered via handheld computers, to gain real-time insights into the condition of assets. Because the system can cross-reference the engineers' location data with their skill sets, we can dynamically deploy our workforce to meet service level agreements. This is having a huge, positive impact on our productivity." He also cites the system's analytics as further improving operations. "By spotting trends by location, time periods, or even



*Ginsters used Spidex's Mainsaver system to automate robust, manual processes*

asset class, we can deliver real insight into the state of both linear and fixed assets for our customers," he points out.

But whichever system you plump for, Capes strongly recommends reviewing user requirements carefully and examining how your chosen CMMS can help to reframe conventional wisdom and make existing processes slicker.

#### **Fish scales**

That thought chimes well with Paul Rumsey, managing director of bizarrely named CMMS provider Logical Fish. "As both an engineer and a maintenance manager, I was tired of coming across complicated CMMSs that silently collected volumes of useless information that were never acted on. Our approach is different, allowing you to scale the information you record and display it visually right across your factory, using multiple LCD screens or projectors. This way, your entire organisation can be aware of your service and asset status, resulting in unambiguous priorities, a healthy appetite to improve response times, and ongoing data analysis that will eliminate the root causes of any problems."

It's one hell of a claim, but Rumsey was formerly production engineering manager at a large automotive supplier, so he comes from a position of wanting to knock heads together. That's why the company's so-called Effishon CMMS has been designed, he says, primarily as a visual management and communications tool, not just a TPM (total productive maintenance) support or maintenance scheduling system.

And it works. Gas detectors manufacturer City Technology installed Effishon just over a year ago and lead technician Barry Martin

can't speak highly enough of it. "I reckon we've reduced downtime by about 50%," he claims. "And it's not just downtime: it's call waiting time as well. No-one has to chase technicians around any more. Everyone knows they'll be wherever they're needed as fast as they can, because everyone – operations, engineering, management – can see what's happening in real time on screens all over the factory."

That's the key. "There's no more phoning; no more forgotten call logs. If something goes down or an operator has a question, he or she just swipes their barcode card on the nearest shopfloor PC and logs the fault – which then appears on all screens for them and us to see. Our technicians then go to the line, fix the problem, log on to any PC, mark the job as done and complete the engineering log." In fact, it's so good that IT and the automated test equipment departments are now running their own variants for maintenance.

What's more, he says, those same screens also show planned TPM activity, with the detail of which machine, next job and, behind that, facilities for data entry and setting up follow-on tasks. "So there's no hiding and because everyone can see where we are and what we're doing, the system improves team working," observes Martin. He also says it improves decision making, because its analysis functions make finding the biggest causes of downtime, those that are the longest and most expensive, so easy. "Also, every week we can print off stats, such as planned downtime versus reactive downtime. So we can see peaks and troughs of activity and improve our loading of maintenance work."

Too good to be true? Adrian Fulford, site leader at industrial products manufacturer Honeywell, confirms the claims. "After discovering a non-conformance in our processes, using Effishon we were able to pinpoint the exact date, time and action of the process adjustment that caused the failure, and take immediate corrective action.

"Overall, the software is essential in maintaining and increasing our process efficiencies and ensuring that we meet our delivery schedules and maintain our high-levels of customer service," he says. ■