



**Mercian Labels achieves World
First automation with SCREEN
and other partners**

SCREEN





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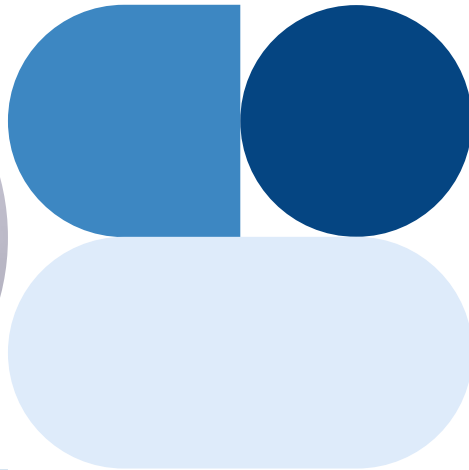
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Introduction

Mercian Labels, a leading and world-class self-adhesive label printing company, like everyone else in the industry, faced a number of short-run production challenges which were impacting efficiency and profitability. Their vision was to automate as much of the production process as possible, minimising operator intervention and creating fault-free production, which they sought to achieve through a global first partnership with the digital printing experts at SCREEN as well as CERM, an ERP / Workflow specialist and ABG, a leading label finishing equipment producer.

Specialising in Digital and flexographic label printing, Mercian Labels produce thousands of short-run jobs as well as high volume variable data and barcode labels, tamper evident security labels and specialist labels for the healthcare, food and chemical industries – among others – for their clients in the UK and around the world.



Adrian Steele

Managing Director, Mercian Labels

Introduction

As with any label printer, one of the biggest challenges, and cost centres, is in the time taken to changeover print and especially finishing equipment from one job to the next, and this problem is particularly evident when producing lots of short-run jobs. Not only does this take much longer as a proportion of production time, but it also provides the potential for operator error.

Mercian's Managing Director Adrian Steele stated, "We realised that only a highly automated production process would enable us to achieve fast and cost-effective delivery of high-quality labels, whilst also giving our clients increasingly shorter and more personalised print runs".

Being already aware of SCREEN's first-class digital print capabilities, they knew that automation of the print part of the process was already possible, but it was the holistic integration with the finishing equipment that would be truly revolutionary.



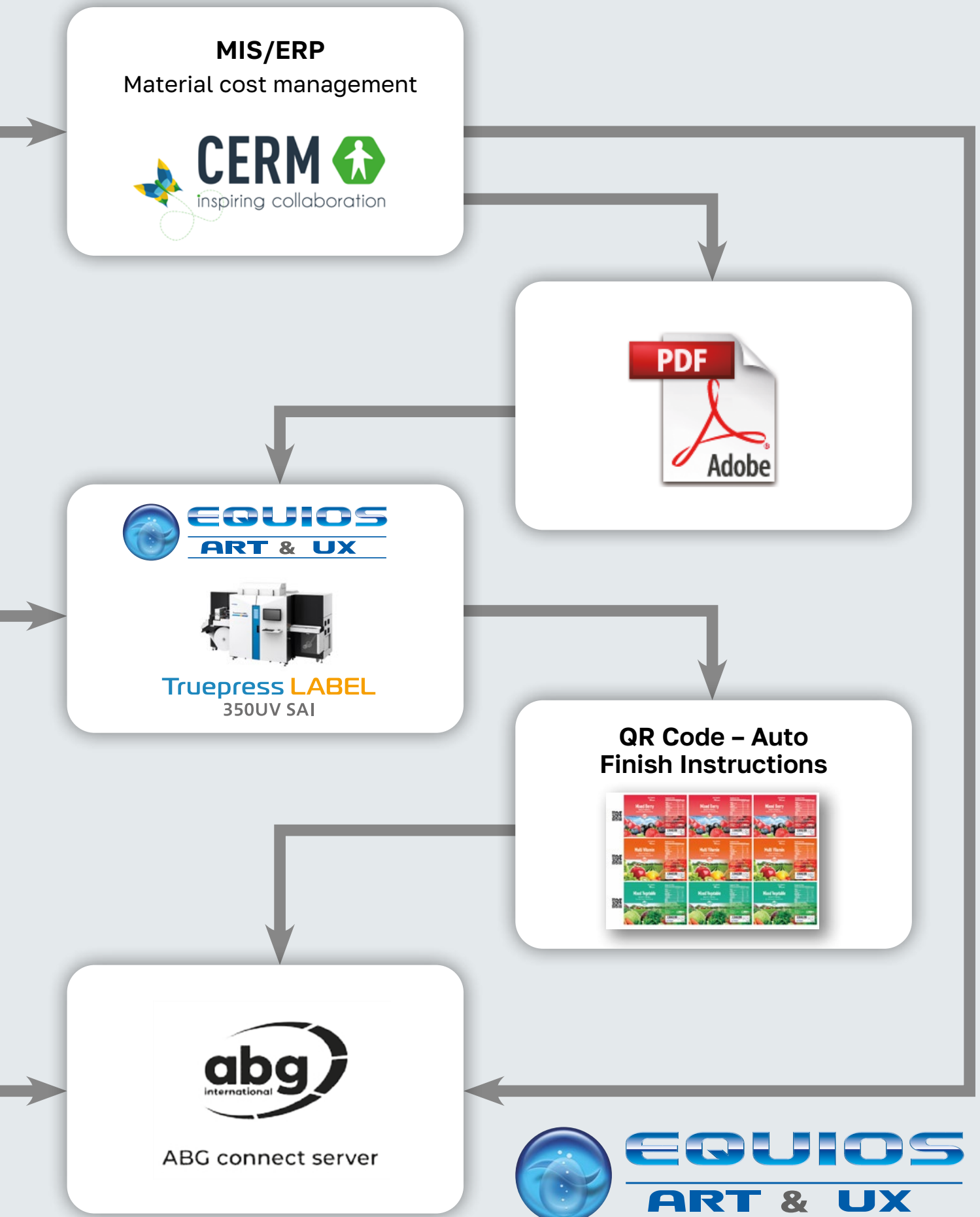
EQUIOS Workflow

In order to achieve their envisioned aim of 'lights out' production, Mercian had established that the key to the required automation would be the repeated reliable management of job data and the ability to communicate this effectively between the different stages of production. From their initial research Mercian had already established that SCREEN's proprietary EQUIOS workflow could reliably communicate job data and parameters between CERM's ERP software and a digital press.

EQUIOS interacts and communicates with all key steps within the workflow, both before and after printing, but critically it can provide anchor points for process automation at both ends of the value chain. At the front end, it enables more efficient planning and a fully automated pre-press system and then within the finishing process for accurate order completion in full.

This was why Mercian ordered a SCREEN Truepress LABEL 350UV SAI-E as its digital printing partner to take the next step in their automation journey. "Knowing the capabilities of SCREEN and their EQUIOS workflow helped us decide fairly quickly on what machine to choose," says Adrian. "We knew that what we were looking to achieve had not been done before and to ensure project success, we had to look at the most innovative companies to partner with. SCREEN met our toughest criteria and we also like the Japanese approach. It's refreshing and, most importantly, it delivers a high degree of reliability and print quality."





Machine Reliability

As well as good Enterprise Resource Planning (ERP) software being a prerequisite for effective communication along the whole of the production workflow, machine reliability is even more crucial to each step taken towards integration of production equipment.

SCREEN's dedication to precision engineering and attention to detail in every aspect of production has resulted in highly dependable equipment that consistently delivers high-quality results, which is why SCREEN's digital printing presses have such a strong reputation for reliability and robustness, thanks to their Japanese origins. Their commitment to quality control and rigorous testing procedures ensure that each machine is built to withstand the demands of high-volume production environments, making it a trusted choice for label companies seeking reliable digital printing solutions with higher machine uptime.



Minimum Operator Intervention

The automated workflow and digital printing capabilities of the Truepress LABEL 350UV SAI-E were key to Mercian achieving their vision of automated production. The aim was to try running multiple short-run jobs on the same printed reel and to have the finishing equipment alter its own settings whilst still running at speed, to suit the requirements of the next job on the reel and then the next and the next and so on, all without operator intervention. This automation would reduce change over times and free up operators to undertake other tasks, whilst enabling automated inspection throughout the job, guaranteeing 100% accuracy and 100% fulfilment of the order.

Providing Instructions

The difficulty had always been how to communicate the correct set up instructions to the finishing machine 'on the fly', and this was finally achieved through the collaboration of all project partners and the creation of a bespoke machine from ABG, which was capable of receiving and understanding these instructions at speed, but more importantly, through the ability of SCREEN's digital press to print a set of coded instructions in between print jobs and all on the same reel. This code is then read by the ABG machine as the reel passes through, providing the correct machine parameters to set itself up for the next job.

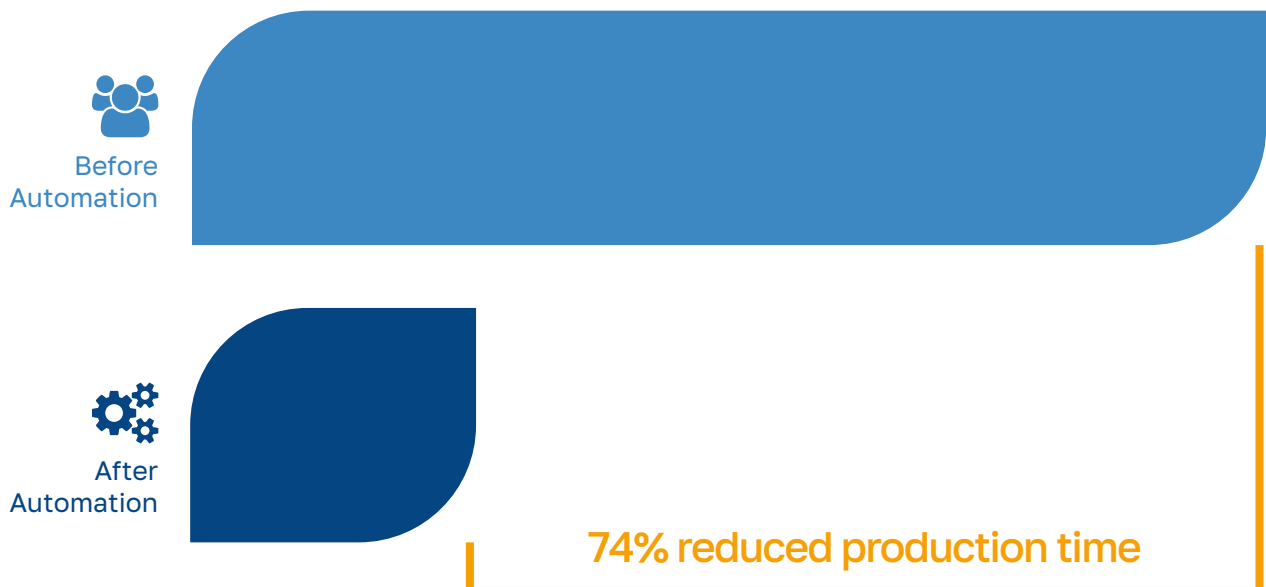


Lead Times

The improvement in production quality and efficiency, the minimisation of waste and the accuracy of a data-based workflow is superb, but the biggest improvement delivered through this world first project is the reduction in lead times for customers.

By streamlining the production process, reducing the number of manual interactions required and automating many of the repetitive tasks involved in finishing labels, Mercian were able to achieve a 74% reduction in production times when running the same job of 117,600 labels with 102 SKUs on 112 rolls with 1,050 labels per roll. Since installing the SAI-E Mercian's OTIF delivery reliability has increased from 89% in 2022 to 94% in 2023, that's world class print reliability in complex digital labelling.

Time to produce 117,600 labels



102
SKUs

112
Rolls

1,050
Labels per roll

Waste Reduction

With the ability to change machine settings on the fly and the relentless print quality and accuracy of the Truepress LABEL 350UV SAI-E to ensure consistent colour matching and label positioning, the new automated workflow removes opportunities for human error, whilst also reducing waste during machine changeover, which in turn can save on material costs and therefore reduce the environmental impact of each job.





SCREEN

Mercian
Labels

Streamlining your prepress & finishing workflow with JDF

Automating repetitive tasks saves time and reduces errors. It also allows your prepress operators to focus on added value operations – their real expertise – with operator - independent consistency in file handling, naming and storage.

- **Automated workflow via JDF**

Based on the product properties available in the CERM MIS system, JDF instructions are sent via an automatically generated prepress job to SCREEN EQUIOS.

Dragging and dropping the product artwork file provided by the print buyer stores the file in a shared network location and automatically launches the workflow towards the SCREEN EQUIOS. This workflow executes a series of tasks (size check, pre-flight, file optimization, etc.) with the possibility of operator interventions where needed.

- **Synchronizing artwork status**

In this automated process the evolution of the artwork status is bidirectionally synced. Product colour details are exchanged with the CERM MIS to be part of the product description. The generated output files (thumbnail, soft proof and high-res PDF) are automatically stored in the shared product folder structure. There is no file duplication.

- **Soft proof approval**

Finally, the soft proof PDF generated by pre-flight is submitted to the print buyer for approval. There are several options available to submit the soft proof and register the customer's feedback. Once approved, the product prepress workflow is completed. The product has reached the point where it can be produced when the customer orders it.

- **Bidirectional data exchange**

The CERM - SCREEN EQUIOS integration is based on bidirectional JDF-JMF data exchange.

- **Job instructions and scheduling**

The CERM - SCREEN integration has the purpose of sending job instructions to the SCREEN DFE (Digital Front End) according to the standard JDF-JMF interface. The print job in question is automatically set up on the SCREEN machine and appears in the printing queue, with all relevant information about quantities to print, digital media and references to artwork files.

- **Automating machine configuration and optimizing output for waste management**

Subsequently, the SCREEN machine adjusts its settings and configurations before starting, and monitors its output. The submitted job instructions out of the CERM MIS contain all information about the quantities to produce, to make sure you have just enough semi-finished goods for the required finishing steps.

- **Job instructions and Shopfloor Data Collection**

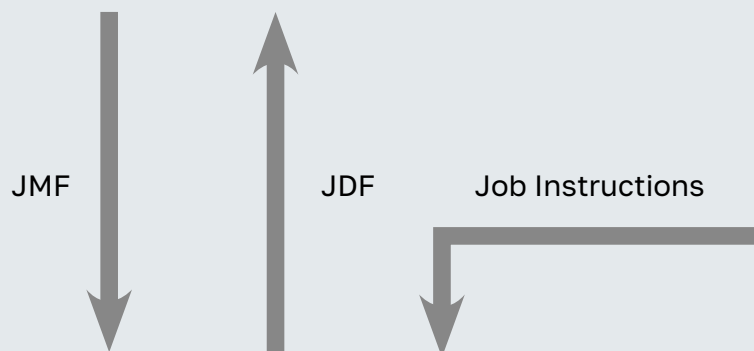
Job instructions contain a specific set of data and are therefore the core foundation of Shopfloor Data Collection (SFDC). The SCREEN machine returns real-time data via JMF messages to the CERM MIS. This includes counter data for material consumption, ink consumption and time registration.



The ABG finishing machine turns semi-finished goods, like printed rolls, into a final product that's ready for shipping.

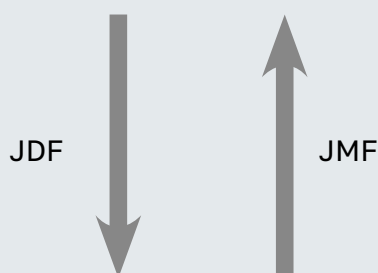
CERM MIS will send a JDF file with the required instructions for the applicable finishing (e.g., die cutting, slitting, lamination, varnish, etc.)

After all job instructions have been received, the ABG machine automatically performs a setup to execute the finished roll with a unique SKU identifier that links it to the printing job within CERM MIS.



CERM sends job instructions to the SCREEN EQUIOS DFE according to the standard JDF-JMF interface.

The print job in question is automatically set up on the SCREEN Truepress and appears in the printing queue, with all relevant information about quantities to print, digital media and references to artwork files.



Subsequently, the Truepress adjusts its settings and configurations before starting and monitors its output. The submitted job instructions out of the CERM MIS contain all information about the quantities to produce, to make sure you have just enough semi-finished goods for the required finishing steps.



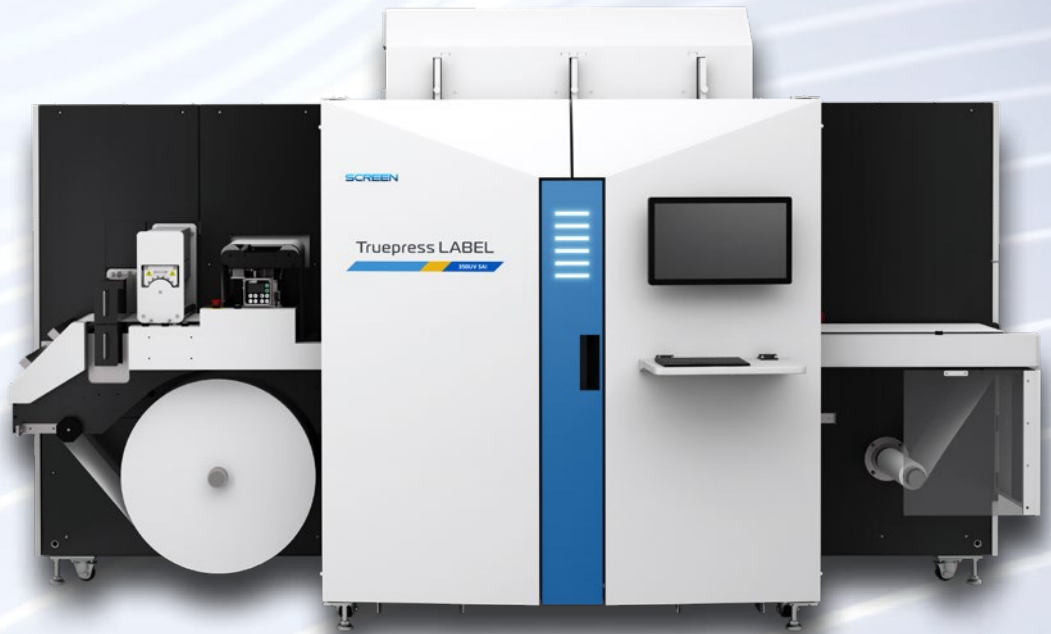
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Awards

Winners of 6 prestigious national & international awards for innovation and manufacturing excellence in 2023-2024 for labels printed on SCREEN Truepress LABEL 350UV SAI-E.





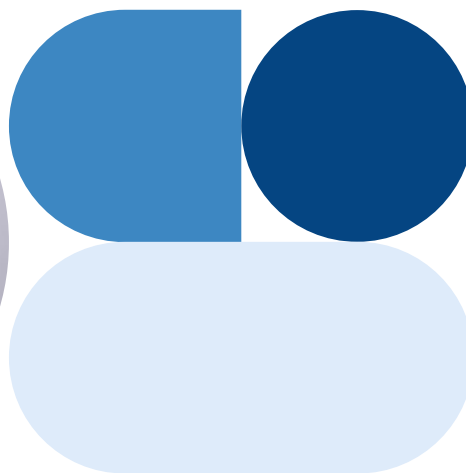
Truepress LABEL 350UV SAI Series



Conclusion

The benefits of reliable high-quality digital printing, combined with comprehensive workflow automation and the integration of label finishing processes, can bring significant improvements in reducing job lead times, minimising operator intervention and delivering fault-free production for a label company.

By integrating the Truepress LABEL 350UV SAI-E inkjet digital press with other industry leading partners such as ABG for finishing equipment and CERM for enterprise resource planning (ERP), Mercian Labels were able to achieve significant improvements in their production process, ultimately leading to greater efficiency and increased profitability, with Mercian's Adrian Steele concluding "We were able to double our production capacity with the same number of staff."



Adrian Steele

Managing Director, Mercian Labels



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