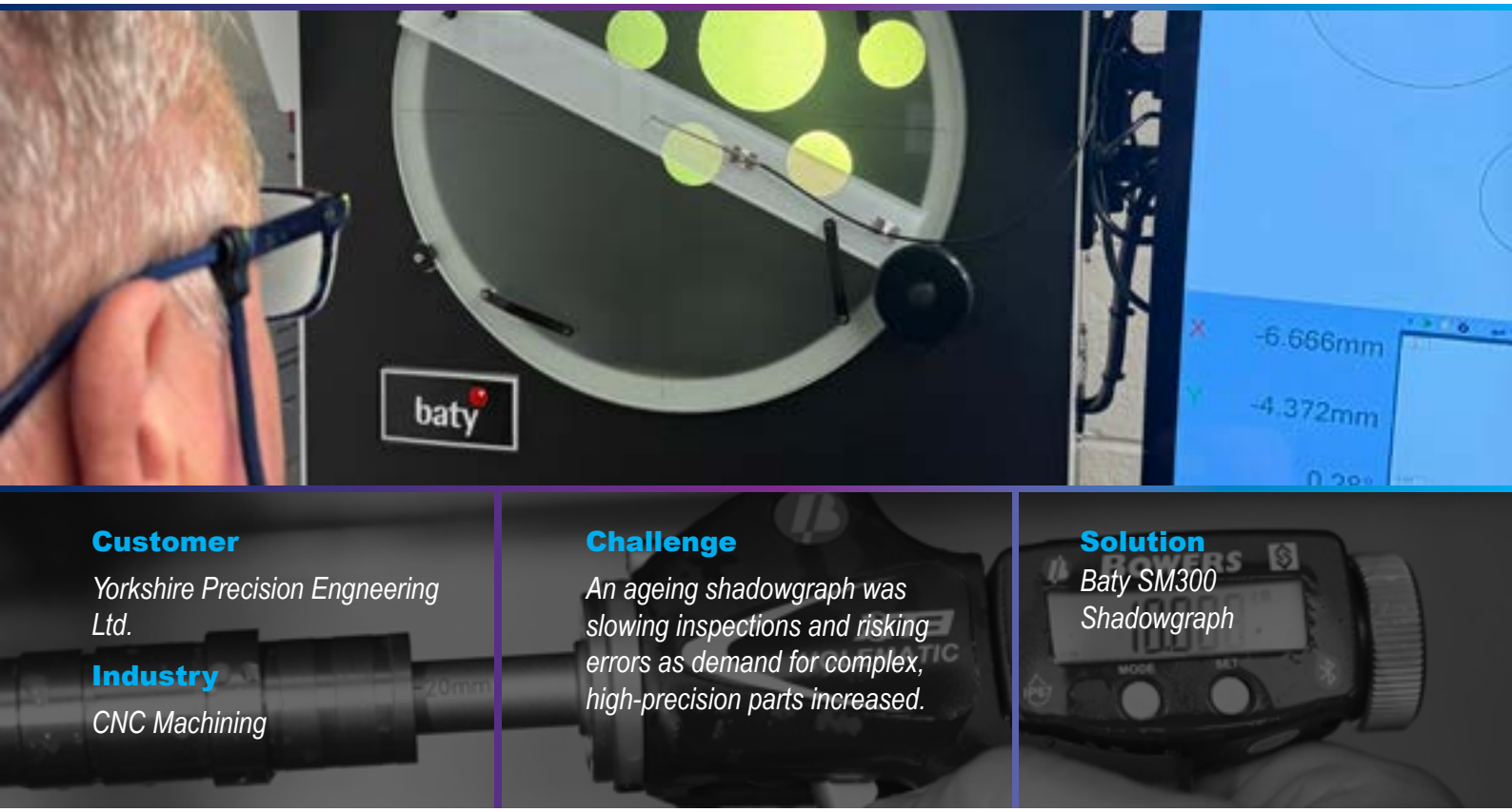
CASE STUDY

Yorkshire Precision Engineering Ltd. Accelerate Inspection Process by 40% with Baty Upgrade



Customer

Yorkshire Precision Engneering Ltd.

Industry

CNC Machining

Challenge

An ageing shadowgraph was slowing inspections and risking errors as demand for complex, high-precision parts increased.

Solution

Baty SM300 Shadowgraph

APPLICATION BACKGROUND

Yorkshire Precision Engineering Ltd. (YPEL) is a family-owned subcontract CNC machining company, now managed by brothers Sam and Jack Laybourne. The business has been part of the Laybourne family for generations, with its origins going back to founders Michael and Lynda Laybourne. From helping in the workshop as teenagers for pocket money to running the company today, Sam and Jack have developed YPEL into a trusted partner for customers across the UK and beyond.

The company supplies precision-turned and milled components to a wide range of industries including medical, oil and gas, automotive, food, agriculture, and brewing. YPEL manufactures components from as small as 1 millimetre up to 65-millimetre diameter bar-fed parts and billets up to 300 millimetres. The business also operates a milling department equipped with 4th-axis machines, allowing for a wide range of technical capabilities.

At the heart of YPEL's operation is a simple but powerful philosophy: quality is everything. From the way they communicate with customers to the accuracy of every part that leaves the workshop, YPEL has built its reputation on doing things right the first time.
This focus on quality is reflected in customer loyalty, with some clients continuing to return for more than twenty years.

In today's fast-paced manufacturing environment, achieving precise, repeatable measurements is more critical than ever.

THE CHALLENGE

As a company whose reputation depends on precision, inspection has always been a crucial stage in YPEL's process.

For more than a decade, the business relied on a Baty SM300 shadowgraph to ensure the accuracy of components. Although it had served the company well, it began to show its age. The clarity of the screen had deteriorated, making it more difficult to measure components with the required accuracy. This lack of clarity increased the risk of human error, particularly when dealing with complex parts where small details were essential. In addition, inspections were taking longer, which affected production efficiency and reduced the number of checks engineers could perform each day.

As demand for more complex components grew in critical sectors such as medical, oil and gas, and automotive, it became clear that the company needed to upgrade its inspection equipment to protect its reputation for quality and reliability.

THE SOLUTION

After considering the available technology, YPEL chose to invest in the Baty SM350 with FT2E supplied by Bowers Group. The SM350 offered significant advantages over the outgoing SM300. The addition of edge detection removed the subjectivity that previously caused operator errors and the improved screen clarity allowed for sharper and more reliable visual inspection. The machine's ability to carry out GD&T measurement provided more advanced analysis of component geometry, while the large interactive touchscreen made it quicker and easier to capture dimensions.

In addition to the new shadowgraph, YPEL also continues to rely on Bowers internal micrometers for checking bores, ensuring that both internal and external features are measured to the highest standards.

The SM350 quickly became a central part of YPEL's inspection department. It is used daily to check turned and milled profiles, verify thread forms and angles, confirm chamfer and countersink sizes, and assess the concentricity of shafts and blocks. It is also particularly effective when checking internal holes for burrs or foreign bodies, which is vital for the production of medical components.

Because all engineers at YPEL have been trained to use the system, the SM350 is operated not only by the two dedicated inspectors but also by engineers during setup and in-process checks. This flexibility means that quality assurance is built directly into the workflow, reducing the chance of issues going undetected and helping machines to keep running efficiently.

The results have been impressive. Managing Director Sam Laybourne had reported that inspections are now carried out around 40% faster than before. This improvement allows more parts to be checked in less time, reduces bottlenecks, and gives engineers the freedom to focus on keeping production moving. The edge detection feature has eliminated guesswork, providing confidence in every measurement and making inspections both quicker and more reliable.

"Bowers are a fellow BTMA member and it was an absolute pleasure to work with them. It's also fantastic to know their products are manufactured here in the UK."

COMMENT

Managing Director Sam Laybourne explained the impact of the investment: "The clarity of the SM350 machine has been welcomed by all of our engineers and has sped up inspecting our parts, meaning the engineers can focus on keeping the machines running, making us more profitable. The edge detection has eliminated human error, inspections are quicker and more reliable, and we've seen huge time savings. We estimate it has sped up our inspection processes by around 40 per cent, which is a massive gain for us."

"The shadowgraph and software are both very user-friendly, and the engineer who came to set it up was extremely knowledgeable. The software has lots of transferable skills with the Aberlink CMMs we already use, so training was straightforward. The touchscreen is brilliant, pulling dimensions off is so much easier and more interactive. Overall, we couldn't be happier with the upgrade."

"Bowers are a fellow BTMA member and it was an absolute pleasure to work with them. It's also fantastic to know their products are manufactured here in the UK. We're very happy with our new shadowgraph, and it's already proving to be an essential part of our inspection process."

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