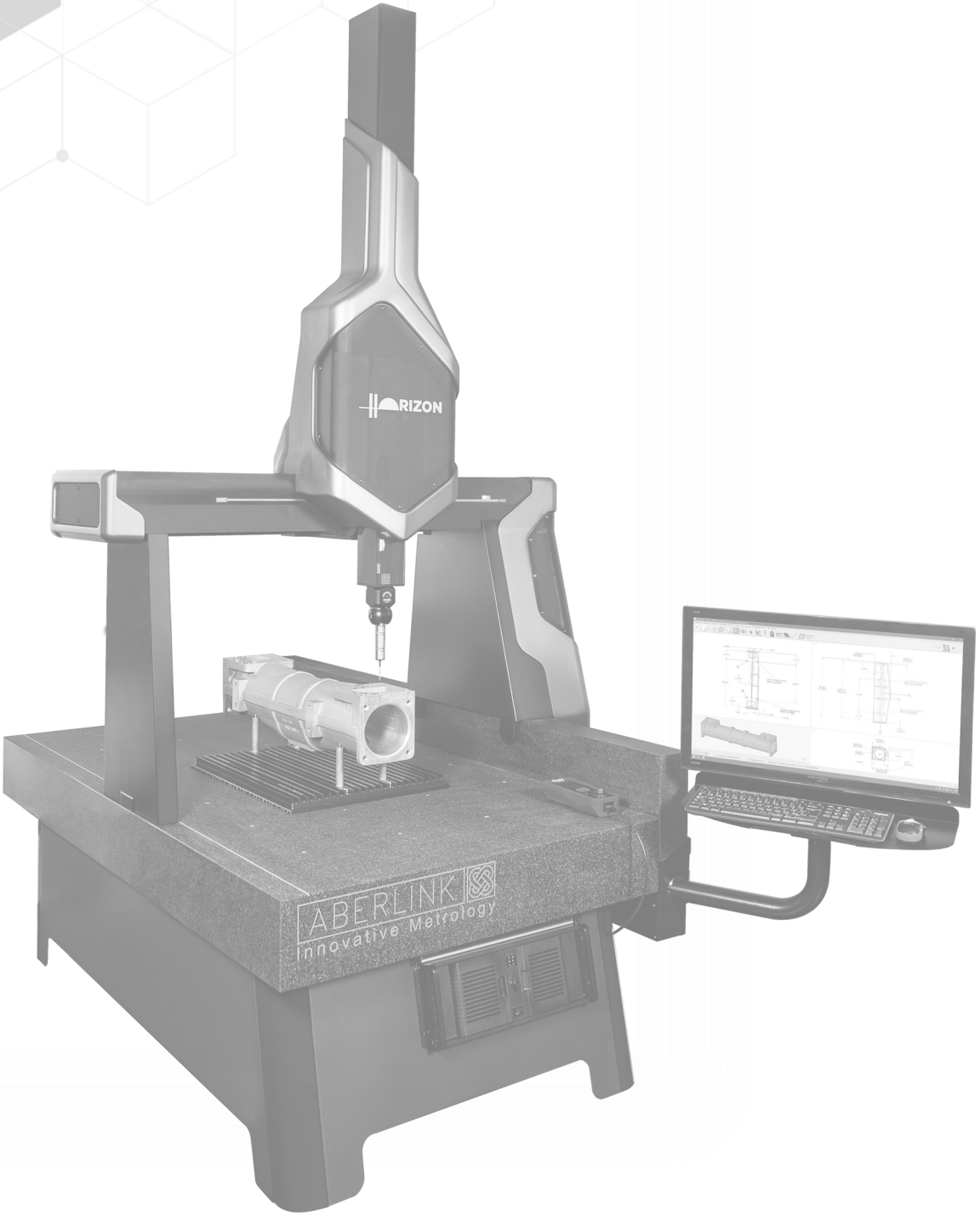
DP Engineering

Subcontract Case Study 10/2021



ABERLINK

Innovative Metrology

DP Engineering extend their Horizon

DP Engineering has been offering a tailored, state-of-the-art precision engineering service for nearly 70 years. In 1952, motorcycle rider David Paull was frustrated at not being able to obtain engine parts for his motorbike, so he took the matter into his own hands and machined his own.

To secure an income so that he could continue his biking, he opened David Paull Motorcycles. What started as a foray into motor recon, led him into sub-con manufacturing, and DP Engineering was born. In the 1980s, David recognised the increase in demand in precision engineering in other industry sectors and the business grew. The company moved to bigger premises in Treleigh, Cornwall to accommodate the larger workforce. Due to business expansion, in 2014, DP Engineering purchased a large purpose-built 17,000 sq. ft. factory and office space in Redruth - the heart of industrial Cornwall. This is where the business operates successfully today.

As well as investing in the latest 5-axis multi-pallet machining centres, investment in employee development is of paramount importance. Phillip Anthony, Sales & Marketing Director at DP Engineering, explains: “We’re a relatively small team of 38, of which 7 are trainee apprentices. This level of investment in our staff ensures we have the right skills to meet the increasing demands of our business.”

Now an established Aerospace and Oli & Gas (AS 9100 and ISO 9001 accredited) sub-contract parts machining business, DP Engineering offer a bespoke precision engineering service throughout the UK, tailored to the customer’s specific requirements. The COVID pandemic triggered a need to look at other industry sectors, due to the reduced demand from their traditional customer base. Having AS 9100 and ISO 9001 accreditation, new opportunity arose within the medical industry. However, the greater need to report upon statistical process capability (SPC) placed increased demand upon their quality assurance capacity. Having already invested in an Aberlink CMM software retrofit and an Aberlink Zenith too CNC CMM, DP Engineering looked again at what Aberlink had to offer, Phillip Anthony again: “We have had a longstanding relationship with Aberlink and the new Horizon linear drive CMM from Aberlink caught our attention.

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The ability to scan geometric features at high-speed, due to the 3-axis linear drive system, met the needs of our traditional and new medical industry customers.” Aberlink is the *only* known UK-owned CMM manufacturer to produce a linear drive CNC CMM, the Horizon. It breaks new ground in design and innovation using frictionless linear drives, which are the key to its fast and exceptionally smooth motion. The kinematic isolated drive structure is completely independent of the CMM structure and ensures that the motor thrust is directed through the centre of gravity of the moving parts. This not only avoids acceleration induced metrology errors but also has the effect of thermally isolating the linear motors from the metrology structure of the CMM. Linear motors are non-contact and therefore have no wearing parts, thus provide the perfect solution for CMM drives, improving reliability and reducing maintenance. The Horizon is a standout machine with fast, smooth, silent motion ideally suited to contact scanning and with a first-term accuracy specification of under two microns.

A demonstration at the Aberlink factory in Gloucestershire, attended by Emily Brown of DP Engineering, confirmed the Horizon exceeded their expectations for fast, accurate measurement of geometric features, Emily explains: “Seeing the scanning head in action, measuring our parts, definitely helped convince me that the Horizon would give us the measuring capability we needed to meet the new customer requirements. Upon my return, I gave my report, and a quick decision was made to purchase the Horizon CMM.”

The new CMM was installed on the shop floor within 4 weeks of the order received and the 2-day training course followed shortly thereafter. The immediate positive impact of having the Horizon CMM became apparent, Phillip Anthony explains: “Having the Horizon machine to back up what the other Aberlink CMM is saying has given the guys a lot of confidence. We are very impressed with the accuracy and repeatability of the Horizon CMM results out on the shop floor. It is within the production environment, where we need it, and we haven’t had any problems with it at all. We’ve recently had some projects that could only be measured using the scanning capability of the Horizon CMM. The roundness tolerance of work is so tight that we would have struggled if we didn’t have the new linear drive machine. This has also enabled us to challenge our customers when they have questioned the roundness of critical features. We have the last article inspection reports to prove the size and form of critical features were within tolerance when the batch of parts left us.”

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As for the future for DP Engineering, Phillip summarises by saying: “We’re coming out of the unknown after the last 18 months. As a business we have maintained our customer base and we continue to keep on top of the demand. The mix of work has changed, but Aerospace is starting to recover. We will continue to focus on key industries, like Aerospace, as it continues to recover. There’s a greater emphasis on SPC and the Horizon CMM is well placed to support us with that work. The COVID crisis has been horrible for everyone, but it has forced us to look closely at how we manage our business, what stock we carry and, more importantly, what new skills we need within the business to continue to be successful.”

Aberlink supply their CMMs with no cost annual software maintenance contracts and free software updates for the life of the machine. This means that the cost of ownership is very low providing a fast return on investment. Aberlink are now able to offer remote online demonstrations for the entire range of CMMs, measurement software and accessories to customers who are unable to travel to a regional demo facility.

Editors Notes

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About Aberlink

The largest UK owned CMM manufacturer, Aberlink’s comprehensive range includes 40 variants of both CNC and manual CMM. Aberlink CMMs enable the precise measurement of the smallest of components, to parts of over 3 metres long and up to 6 tonnes in weight. Customers can select from a wide range of probing and non-contact measurement options and on-machine fixturing. The company’s wide range of available solutions allows Aberlink to offer high quality CMMs and vision measuring systems to suit all applications and budgets.

Based in Eastcombe, Gloucestershire, Aberlink has established a global reputation for its metrology products which are innovative, easy-to-use and competitively priced.