

User Story

Zeus Engineering



The FARO CAM2 Metrology Software is the ideal companion to the FaroArm® and has been chosen by Zeus Engineering to support their strong service offering extension.

Zeus Engineering choose FARO® CAM2® Metrology Software to Support its Business Growth Plans

SUB-CONTRACT MACHINING / IN-PROCESS INSPECTION Zeus Engineering is a Scottish sub-contract precision machining company. Very dynamic and fully committed to providing market leading solutions to customers and partners, serving national and international business organizations from many different sectors, including Energy, Food, Oil and Gas, and Transport. Significant investments in production and machinery technology have been supporting Zeus Engineering's strategy aimed at increasing business results by expanding service offerings with the ability to meet challenging and constantly changing market requirements.

The relationship between Zeus Engineering and FARO® started in 2013 after Zeus Engineering invested in new machinery and tooling to enable the business to increase machining capability and improve existing processes. Once they started using the new machines, due to the high value and complexity of the components, they realized a coordinate measuring machine located close to the machines for carrying out metrology quality inspections was required.

Moreover, being a sub-contractor working for different end customers, Zeus Engineering were looking for a flexible and versatile metrology solution

with the ability to meet the various demands of an ever-changing market. After some investigations, Zeus Engineering chose a high accuracy FaroArm® to be used in combination with the FARO CAM2® Metrology Software. Indeed, FARO's solutions offer great versatility and flexibility, and can be used to meet different customer requirements.

Beside accuracy and repeatability performances, ease of use was among the main reasons why Zeus Engineering preferred FARO's metrology technology. The ability to easily generate inspection reports to clearly document that appropriate checks are performed prior to delivering machined

parts to customers, has also been a key element for final Software selection.

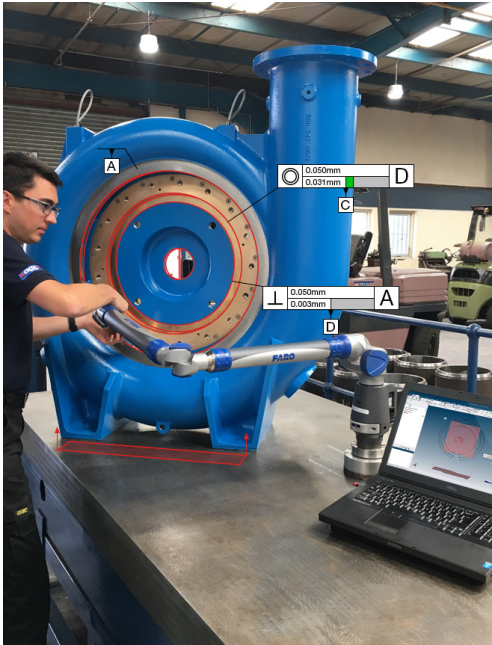
Metrology Applications with FARO Technology

The FARO solution has been chosen for different metrological applications, including alignment checks. This is one of the most critical activities for Zeus Engineering, considering that the company produces several complex parts that need to be machined from multiple orientations.

The flexibility and versatility of the FaroArm has allowed the alignment checks to be performed both on and off the production machines. This

Zeus Engineering

www.zeusengineering.co.uk



The ability to run FARO CAM2 from a portable laptop ensure maximum portability and flexibility.

significantly reduces downtime and improves efficiency as the alignment of a given component can be done in parallel with the machining of the next component. As they became more familiar with the FARO technology, Zeus Engineering quickly realized that it could be used for multiple applications. As an example, the FaroArm and the FARO CAM2 Software are now used to perform in process checks, before final processing. This is very important since raw components can be very expensive, so identifying any errors upstream can dramatically reduce costs. Zeus Engineering also perform final inspection on components before being dispatched to customers and have implemented First Article Inspection (FAI) of incoming goods.

Thanks to the FaroArm's portability, multiple mounting options and temperature compensation it has become the perfect tool for Zeus Engineering to perform on-site inspections for its customers and partners. The ability to run CAM2 from a portable laptop provides portability in the challenging environments they face in the various industries.

FARO Metrology Software's Role

The role of CAM2 software is key to all these activities. Ease of use has been a key element in its favour. Following the initial onsite FARO training, Zeus Engineering immediately appreciated the user friendliness of CAM2's features such as Geometric Dimensioning and Tolerancing (GD&T), which offers a very intuitive and easy to understand system for displaying tolerances; auto recognize functionality, which automatically recognises the feature type from the reading the user takes; and the CAM2 height gauge (DRO) function that enables quick confirmation of material heights and thickness. These are just a few examples of complex functionality that is easily performed in CAM2.

Zeus Engineering were impressed by the reporting

capabilities of CAM2. Based on specific customer requirements and needs, reports can be simply customised in terms of format and information, allowing users a comprehensive view of their results. Another key differentiator of CAM2's reporting capabilities is the use of colours to highlight the status of the machined component according to its tolerances.

Visualizing the 3D representation of components in CAM2 is extremely user-friendly, obtaining the required view orientations via mouse, hotkeys and pre-set isometric projections views. The Feature Information Panel provides a tabular view that complements the data displayed in the 3D Viewer. Again, colours are used to assist users in the decision making.

The transition to the newest version of CAM2 provided new solutions, which perfectly align with Zeus Engineering's growth strategy. In particular, the Repeat Part Management (RPM) software supports high volume production. The combination of RPM Control Station with a FaroArm offers an ideal solution to inspect components without the need for highly qualified personnel. RPM Control Station provides users access to CAM2 QuickTools that have been programmed and published to perform a fully-guided inspection routine that enables the inspection of any component to be performed by anyone, anywhere across the factory floor. This ensures consistent inspection methods and results regardless of personnel, while supporting the increasing customer demand for 100% inspection.

RPM Control Center offers a solution to Zeus Engineering's customer requests for SPC (Statistical Process Control) by delivering real-time information through active monitoring from a web-based dashboard that provides actionable manufacturing insight. The trend analysis capability helps Zeus Engineering improve processes by providing them with fault analysis predicting when components may drift out of specification. Finally, RPM Control Center provides the company with an at-a-glance perspective of their inspection and quality routines, identifying areas within their production environment that may need attention.

ZEUS ENGINEERING LTD

Zeus Engineering was established in Airdrie (Scotland) in 1966. Part of the AGZ Group, the company provides a comprehensive Manual/CNC precision machine shop facility while, through the associate companies Argon Engineering and Gillrick Metalwork, it offers high tolerance sheet metalwork components in both ferrous and non-ferrous materials, and comprehensive engineering, fabrication and maintenance services. It is a result of our strong belief in quality procedures that the company has been providing a second to none service to a broad customer base for more than fifty years. With the implementation of ISO 9001:2015, OHSAS 18001:2007, ISO 14001:2015 and stringent internal operational processes and systems, Zeus Engineering ensures that their daily working principals are based on a proactive not reactive ethic.

WWW.ZEUSENGINEERING.CO.UK

- FOUR GOOD REASONS -

- 1 Regardless of the specific applications, CAM2 is the only software that can ensure maximum feature integration with the FaroArm.
- 2 CAM2 allows any user to simply and easily step through almost any measurement inspection routine.
- 3 CAM2 Reporting capabilities allow Zeus Engineering to provide their customers with customized, comprehensive and easy to understand overviews of quality inspections.
- 4 FARO RPM supports Zeus Engineering's strategy for high volume production and 100% inspection.



WWW.FARO.COM/CAM2

SUMMARY

Zeus Engineering is a very dynamic and ambitious sub-contract machining company, always looking for new opportunities to streamline manufacturing processes. FARO's CAM2 Metrology Software and FaroArm has been chosen to support their strong service offering extension and business growth strategies.