

Improving the efficiency of torque application and data traceability for a nacelle manufacturer.

Torque tightening solutions for the manufacture of critical components for the Aerospace manufacturing industry.

In the Aerospace industry, where precision manufacturing and the assurance of the highest possible quality is paramount, the requirement for accurate torque measurement is critical.

Crane Electronics offer a series of torque measurement and management tools and systems for the assessment of the manufacturing and assembly processes, with regard to torque application on joints and fasteners.

Our torque equipment is utilised during the production of aircraft and of critical components such as engines, wings and fuselages. Members of Production, Quality and Engineering teams need to deliver accurate measurements and traceable control of assembly data and we provide a one-stop shop for this very process.

When one of the world's largest aerospace manufacturers needed to improve their speed and efficiency of applying torque to specific critical components, Crane Electronics were called upon to provide a suitable, precise solution.

The customer is one of the world's largest manufacturers of aircraft nacelles and cowlings, supplying the global market and all of the major aerospace engine manufacturers. On an aircraft, a nacelle is a housing or cover that is separate from the main fuselage, that incorporates part of the plane, typically the jet engine. Cowlings are similar but they can be opened or removed easily for service maintenance, repair or general inspection.

One of the issues facing the customer was their manufacturing process which was relatively slow, utilising older manual click wrenches for tightening critical fasteners around the nacelle, and data was also logged manually. The customer wanted to improve the speed of their fastener tightening and testing process, without compromising on quality. In addition they also wanted to be able to improve the efficiency of the process as a whole and to provide complete traceability to their customers and end-users.

Working with the Manufacturing and Engineering departments Crane were on hand to demonstrate their torque management expertise within the Aerospace industry. Crane suggested the introduction of their innovative IQWrench2 series of digital torque

Customer: One of the world's largest manufacturers of aerospace nacelles and cowlings.

The Challenge: To improve the speed and efficiency of torque application to specific components and to improve data traceability.

Crane Products: Incorporating a series of IQWrench2 digital torque wrenches and OMS software for complete quality auditing control and traceability.



Our torque measurement solutions are utilised across the aerospace industry in a number of critical applications including the assembly and inspection of nacelles and cowlings.

wrenches, in replacement of the current manual click wrenches. The IQWrench2 offers all of the features of a high specification torque wrench but with built-in torque data collection and auditing capabilities. The IQWrench2 was designed specifically with aerospace manufacturing environments in mind, being fully FOD compliant to ensure no foreign debris such as screws could accidentally fall out of the wrench and contaminate production.

The wrenches were also supplied with a series of specially made, bespoke ID wrench heads. These unique ID heads incorporate a chip that communicates with the torque wrenches to automatically compensate for the critical length between the wrench and the fastener. This would allow the users to quickly and easily switch between jobs, using the same wrench, with no concerns about data inaccuracy.

In addition to the IQWrench2's, Crane's OMS (Opta Management System) software was also introduced to help provide the customer with a complete management system for all of production's torque data records per tightening process.

The customer was extremely happy with the new equipment and the updated processes, with the new solution being implemented by engineering for the production operators. This was a first for the customer, as previously they had only been planned to be introduced solely in a quality auditing capacity.

The IQWrench2 torque wrenches and accompanying OMS software allowed the customer to improve their level of quality and traceability recording and reporting significantly. The new process also allowed them to link a nacelle serial number via a barcode scan, to the recorded data for each and every component tightened on that unit.

In high quality and precision engineering environments, such as those in the Aerospace industry, the application of torque when fastening and testing critical components is vital. The solution provided by Crane gave the customer complete peace of mind that components within the nacelles, such as high-pressure hydraulic pipes, were secured correctly, with zero chance of any unsecured fasteners.

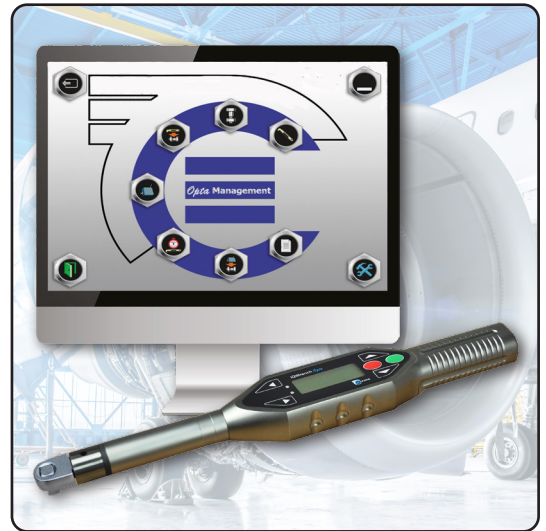
Ian Brown, Sales Manager at Crane Electronics Ltd, comments:

"We take pride in being able to suggest and deliver new innovative solutions for our customers and our level of experience and knowledge of the aerospace industry allows us to understand their applications and be able to deliver a real solution that works for the customer."

In this case, the customer was completely open to implementing new technology that would allow them to improve their process and efficiency levels. They took to the new IQWrench2 wrenches and OMS software really quickly and the improvements to their everyday roles means they enjoy using the new system."

Crane Electronics plays a crucial role in the Aerospace industry, delivering solutions for assembly tool testing, auditing the assembly process capability and final assembly quality verification.

For more information about how we can provide a solution for your business, please contact us online at www.crane-electronics.com or alternatively, email us at sales@crane-electronics.com.



OMS (Opta Management System) is a torque software package providing a fully encompassing range of functions providing a company-wide solution for torque related activities.



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