

# Providing an innovative torque monitoring and alert solution at an Oil Refinery.

Working alongside one of the world's largest Oil and Gas companies to provide a new Industrial Measurements solution.

At Crane Electronics, we pride ourselves on being more than just a provider of torque measurement products. Not only are we a manufacturer, we also aim to provide customers with a complete torque management and control solution, utilising our years of knowledge and expertise.

Our Industrial Measurements brand in particular, allows us to provide custom solutions for our customers, offering higher torque ranges and bespoke designed and manufactured systems across a number of industries.

When one of the world's largest oil and gas companies required an innovative monitoring and alert solution at one of their refineries located in the UK, they approached Crane Electronics.

A series of slurry tanks located at the refinery were installed with a range of industrial mixers designed to help agitate and blend the slurry contained within them. To ensure that the sludge within the slurry tanks could never become too thick or solidify, and therefore become difficult and costly to remove, the mixers were designed with a shear-pin coupling, which would automatically break and set off an alarm if the contents of the slurry tanks became too congealed.

The main issue for the customer was that the process was quickly becoming very costly, with the client having to replace each of the shear-pin couplings located on the mixers each time the alarm was triggered. This process was costing the customer a considerable amount each year due to replacement parts and the labour costs for engineers constantly visiting site to reset the mixers. In addition to this, repairs were also time critical as downtime for the mixers in the slurry tanks meant that the slurry was not being agitated.

Crane Electronics were approached to propose a more advanced solution for the complex application that could be related to the

## **Industrial Measurements**

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An oil or petroleum refinery is an industrial process plant where crude oil is refined and transformed into useful products such as petroleum, gasoline and diesel fuel.

### **Customer:**

An oil refinery based in the UK, part of one of the world's largest oil and gas companies.

### **The Challenge:**

To devise and to implement a new innovative torque monitoring and alert system for the customers industrial slurry tank mixers, replacing the current shear-pin coupling system.

### **Crane Solution:**

Incorporating a new bespoke torque transducer within each of the mixers shafts to alert site engineers to changes in slurry consistency.



measurement of torque, related to the force working against the mixers when agitating the slurry. Crane's Industrial Measurements team were committed to devising a completely new and efficient system that would not only improve the process but make it more economically viable.

Over a period of time working alongside the customer, Crane Electronics devised a new plan to replace the current shear-pin coupling system. The new solution was to incorporate a new, customised torque transducer, within the shaft of each individual mixer within the slurry tanks.

Each newly installed torque transducer, would then trigger the alarm system once a predefined level of torque was reached. The predefined torque level was relevant to the viscosity levels of the slurry within the tanks and therefore the client would be alerted when the slurry was becoming too thick, allowing them to react quickly to counteract this occurrence.

The results delivered by the new Industrial Measurements torque transducer system meant that the customer's slurry tank mixing process was greatly improved. The torque transducers allowed the customer's site engineers to be notified, as soon as specified torque levels were reached but most importantly, without then having to set in motion a reactive maintenance plan to replace the previous shear-pin system.

Overall, the new process implemented by Crane Electronics, saved the customer in the region of £125,000 over the course of the next year, both in man hours on-site and in costly replacement parts and site downtime.

David Kelly, part of the Industrial Measurements team at Crane Electronics, who also worked closely with the customer to devise the solution, commented;

**“At Crane Electronics we are committed to being more than just a product provider. Our Industrial Measurements offering gives us a wide range of knowledge and expertise across our business, especially within the Oil & Gas industry.**

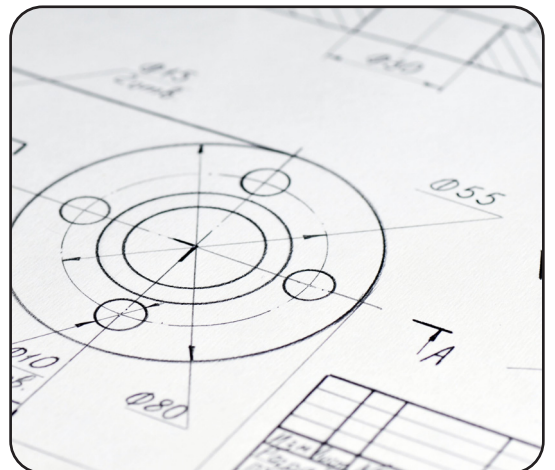
**We were delighted to have been given the chance to provide a new torque solution and to be able to help the client save money and improve their current process.**

**The solution provided for the oil and gas refinery was a first for us, opening up a new channel for us to help our customers improve the monitoring process of similar applications.”**



Above: An example of a container tank at an oil refinery. These tanks contained industrial mixers that would agitate the slurry contained within, with a new monitoring and alert system required to advise of the slurry status.

Below: Industrial Measurements, the experts in designing custom and innovative torque measurement solutions.



Crane Electronics provides technical advice, high quality support and dedicated repair and calibration facilities for torque tools, transducers and systems.

Our experienced and highly trained staff offer a broad range of technical knowledge, expertise and a professional, specialist service offering

For more information about our Industrial Measurements brand and the solutions we can provide for your business, why not call us on **+44 (0)1455 25 14 88**, email us at **sales@indmeas.co.uk** or visit us online at **www.indmeas.co.uk**.