

# Delivering a bespoke torque application to safeguard a vital steel production operation.

Developing a torque monitoring and alert solution for the UK's largest manufacturer of steel products.

At Crane Electronics, we pride ourselves on being more than just a torque measurement product provider. Not only are we a manufacturer, we aim to provide a complete torque management 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.

The UK's largest manufacturer of high-quality steel products required a bespoke solution at one of their steel mills. This particular production facility receives the raw material for steel manufacture and manages the process of converting those materials into steel components. The plant supplies a number of industries and particularly for rail and construction.

The steel manufacturers needed a method of ensuring that their 'rolling lines', which would contain and transport the produced steel structural sections, would continually move at the required speed and frequency to allow the plant to continuously produce and move their products.

The main issue for the customer, was that the rolling lines could often move at a disproportionate speed to the speed that the structural steel sections were being produced, leading to a number of line breakdowns or 'pile-ups' of steel product.

Crane Electronics were approached to propose a potential solution that would measure the torque applied by the conveyor lines, to ensure that they moved at the required pace and speed as steel beams were being produced. The level of torque being measured in the rolling conveyors would then be converted into a line speed control system.

## **Industrial Measurements**

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A steel-making plant (steel mill / steelworks) is an industrial plant for the manufacture of steel. The plant in this specific case study manufactures steel components for a variety of industries; rail and construction in particular.

### **Customer:**

A large steel-making plant based in the UK, part of the country's largest steel product manufacturers.

### **The Challenge:**

To devise a method of monitoring a consistent speed on the customers manufacturing lines to allow the plant to produce steel products at a consistent and smooth pace.

### **Crane Solution:**

A series of IM torque transducers installed at intervals to measure the torque being applied to communicate and manage the speed of production.



Over a period of time working alongside the customer, Crane Electronics devised a new plan to install bespoke torque transducers at a series of intervals along the conveyor belt, that would measure the torque and load being applied, to communicate and then manage the speed at which the belt moved and transported the steel products, in relation to the speed that it was being produced and moved on to the conveyor belt.

The new torque measurement system allowed the steel manufacturing plant to properly supervise their steel production and movement around the plant.

The results delivered by the new Industrial Measurements torque transducer system, meant that the customers had fewer occurrences of downtime caused by mismatched conveyor speeds and steel beam 'pile-ups. It also gave the customer increased control over the output of product they created.

In addition, the torque transducers also allowed site engineers to be notified of any potential issues with the conveyor belt such as stoppages or unexpected rises or falls in speed at certain points measured by the multiple transducers.

The positive results gained by the bespoke torque monitoring system left the customer feeling incredibly satisfied and impressed with the bespoke approach that we were able to provide for their unique challenge and situation.

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

**“At Crane Electronics we always strive to be able to deliver a complete solution that fulfils all of the customers often unique challenges and applications.**

**We have a wide-range of experience and knowledge of working in many different manufacturing industries and we were delighted to be able to offer a complete solution at the steelworks, that went above and beyond the expectations of what the customer required.**

**This solution was ideal as we were able to help the customer not only save time and money due to downtime caused by the previous system, but we also helped improve their overall control of the process which they hadn't expected to be able to do.”**

### **Industrial Measurements**

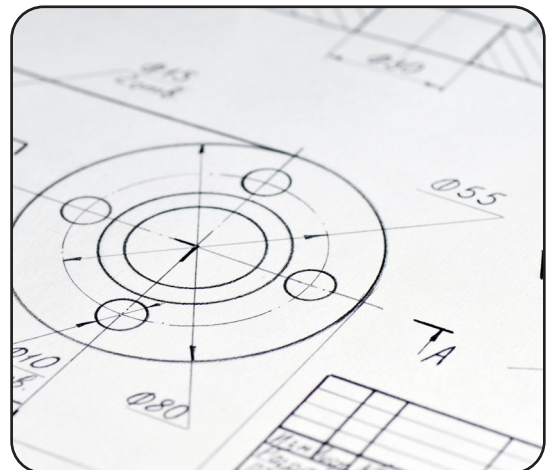
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Above: An example of the rolling mill conveyor belts that transport the consecutively produced steel sections through the long manufacturing process. These lines must move at a consistent speed to keep the process moving smoothly.

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**.

