

## Press Release

### **Intelligent Tool Control enhances World Class Manufacturing at Rolls Royce**

**Leading aero engine manufacturer adopts Zeroshift's Intelligent Tool Control system to provide 100% tool accountability**

Rolls Royce has enhanced its workshop practices thanks to the installation of Intelligent Tool Control (ITC) systems from Zeroshift. Installed at the company's Customer Delivery Centre (CDC), in Derby, the ITC concept brings a new level of control to Rolls Royce offering accurate track and trace capabilities, which electronically check tools both in and out in a secure manner, supporting its Foreign Object Damage (FOD) programmes.

After the initial approach in 2006, the system was further developed with the help of Rolls Royce, which brought its world-class procedures and extensive experience on FOD prevention in aircraft engine manufacturing to bear – especially with regard to the detailed functionality of the Man Machine Interface (MMI). One particular demand was that Rolls Royce wanted minimal, if any, changes to the working practices of its technicians, while ensuring 100 percent tool control and accountability to prevent FOD.

The system is now live across multiple shifts and is now being adopted on other assembly lines. The CDC is Derby's flagship assembly line and ITC is among the many advanced technologies deployed and shown to the worlds leading airline buyers.

ITC enables transparent FOD prevention without placing any additional burdens on the assembly process, which is itself under pressure in terms of increasing demands on efficiency and cost management. In operation, the system comprises a cabinet, which incorporates tool-silhouette foam cut outs. Each tool cavity is equipped with a sensor, which automatically detects the removal or replacement of a tool, without the need to modify the tool in any way. To access a tool, users must first enter a PIN via either a swipe card or a keypad.

The system will compare the PIN with its internal or network database and allow (or disallow) access to the tool drawers. The individual sensors will then notify the control system when a tool is removed or replaced.

Tools can be made of any material including wood and plastic and even very small items such as precision sockets or screwdriver bits can be accommodated. Unlike other systems on the market, there is none of the vulnerability associated with RFID, barcode or paper-ticket based systems. Additionally the system allows users to track the calibration status of tools ensuring that costly and dangerous errors in assembly and repair are avoided.

Stuart Adam, head of operational capability, at Rolls Royce explains: "As an aerospace manufacturer we have to uphold extremely tight internal and external quality standards, one of which is FOD prevention. This system from Zeroshift gives us much more control over our tooling, enhancing procedures that are already in place. We are always looking for ways to improve our systems, not only to address quality issues, but also to reassure our customers of our commitment to deliver world-class products by adherence to best-practice processes."

"Intelligent Tool Control can be part of a highly integrated tool/inventory management system or operate totally independently without any external connectivity," explains Zeroshift's Managing Director Bill Martin. "It's a very powerful system with reference installations at leading aerospace companies in UK and US already generating a considerable amount of interest from manufacturing and maintenance companies across a range of high-technology engineering and defence industries. Leading precision manufacturing firms worried about tool control recognise the control and flexibility ITC offers."

Zeroshift continues to work closely with Rolls Royce (among other customers) on the development of future versions and enhanced functionality for ITC; development work that is spurred on by the fact that FOD prevention continues to be a key quality process in the Aerospace sector and a USP in a competitive and increasingly regulated and audited market.

## About Zeroshift Ltd

Zeroshift is a privately owned British innovation company backed by a number of private individuals. It specialises in the development and application of power transmission and electronic control solutions across a wide range of transport industries.

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