

# CRANES

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# RFID: An inexpensive way to maximize efficiency

Radio frequency identification (RFID) seems almost limitless in its application, particularly when applied to the construction sector. Kevin Walsh reviews new ancillary equipment

Previously regarded as the unattainable stuff of spy novels and too expensive for common usage, we now encounter RFID almost everyday in different forms from hospital armbands to clothing tags.

It has already been adopted by various businesses to streamline their operations, and is most often used commercially for stock tracking and management.

This is true for industries ranging from fashion to aerospace, for example BAE use RFID tags on aircraft maintenance personnel toolkits to reduce the chance of loose tools being left inside the airplane before a flight.

Increasingly the construction industry is acknowledging the vast range of applications RFID could be used for within the sector.

And with the market push to implement building information modeling (BIM), contractors are finding even more opportunities to increase efficiency using the technology.

One such firm is Ainscough crane hire, who began the process of fitting high frequency RFID tags to its fleet just over four months ago.

So far things have been running that little bit smoother, with ordered cranes being configured, checked and delivered with no hitches.

Ainscough have already fitted the jibs of their Liebherr cranes with RFID tags, and will soon have kitted out the jibs of every vehicle in their fleet.

Once this is done, they intend to RFID tag the ballasts, hoists and every vital component.

"In theory we shouldn't lose anything and we shouldn't leave anything on site either, you will know where things are

100% of the time," explains Ainscough's heavy cranes depot manager, Jim Fleming.

"The end goal initially was to make sure we could get all the luffing jib parts ID tagged so we know where they all are, and we've got everything in the fleet.

"The next stage will be to get all the ballasts all tagged up so we know where all that is, and what configuration it is.

"Now the end goal is to get all the tackle, the slings, the chains, and the shackles, done. They're slightly more awkward because you can bolt an RFID tag to the jib sections and the ballast easy enough, but when you've got a moving part like a chain or a sling it's slightly harder."

Such an extensive rollout could be expensive, but according to Fleming the outlay is minimal, at around £1.20 per tag, and more than worth it.

Once fitted, the information stored on the tags can be accessed with an RFID scanner, which works in much the same way as a bar code reader.

When an order comes in for a crane of a particular configuration, once the yardmen have found each piece in the yard, the scanner helps them to cross-reference the customer requirements with the piece they have located.

If it doesn't match up, or the crane component is currently damaged and under repair, the scanner will read the information from the tag and will not allow the component to be picked.

This, Fleming hopes, will speed up the order delivery process, while providing an extra check to prevent mismanaged orders leading to costly errors.

He explains: "What the bar code actually tells the yard men is what configuration to send out, so it helps us to



Above: **The M3 Mobile High Frequency RFID reader**

make sure we're sending out the exact sections that are required to do that job.

"The RFID tags that are on each individual section will tell them if it's the right or wrong section, but they also help us identify if there's any damage being done."

Explaining the system's importance Fleming says: "If you have a damaged section turning up to a job you get the customers trying to counter-charge you for the downtime because they can't get the crane working. It stops all of that and gives us total control of everything."

The current system is accessible from each Ainscough depot, so when the scanner is showing the yardmen the correct configuration for an order, it can also tell them whether all the components are in that yard, and if not, which depot they are at.

Although at the moment Ainscough only have RFID scanners at three of their depots, eventually they expect to have them at every depot.

Fleming is also considering giving them to their drivers for damage checking before and after transport.

Ainscough's RFID equipment was supplied by Warrington based firm Core RFID.