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Midas Flagtags with drone technology

A pairing that makes autonomous
inventory of outdoor metallic assets
fast and accurate



RFID technology significantly reduces the resources needed for time-intensive inventory checks in the construction industry.

The challenge

A key element of the construction industry is keeping detailed inventories of every unique item being used in a project. This is a time-intensive process and can be error-prone.

The construction industry has made use of standard foam or plastic-based RFID tags for tracking of outdoor metallic assets, but these tags suffered from readability and performance issues. Additionally, these traditional solutions were expensive, given the hundreds of thousands of items that needed tagging. They also had to be disposed of after the construction build process, which also impacted the environment.

A more reliable, cost-effective solution was needed to speed up the process and improve accuracy.

The solution

Suar Group Indonesia chose to work with Avery Dennison by adopting its unique Midas Flagtag on-metal RFID solution. At just 60 x 21 mm, these durable labels are designed for use in harsh environmental conditions such as outdoor construction sites, that work particularly well for tagging metal items.

Midas Flagtag has an innovative feature that creates an exposed flag of just 17 x 21 mm. The antenna uses the metal on which it sits to amplify its read range, allowing the tag to be read at distances of over ten metres.

The Midas Flagtags are also relatively inexpensive, providing Suar with the opportunity to use the latest RFID technology on the wide variety of inventory items it holds for each construction job.

“When we were looking for a solution to our inventory challenge, we needed something that was robust enough to survive the tough conditions you find on a construction site,” said Bambang Tribudiman, CEO, Suar Group. “This is a big project. We have involved an RFID systems integrator as well as a prominent local engineering, procurement, and construction company. The Avery Dennison Midas Flagtags are well-suited even for a project as large as this.”

Midas Flagtag RFID inlay



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Bambang Tribudiman, CEO, Suar Group



How it works

The tags are first encoded and printed with standard RFID printers, enabling a fast and reliable encoding process at high volumes. They are then installed onto the construction metallic materials such as steel girders, beams and plates, enabling high-speed, long-distance inventory checks with a handheld reader.

In collaboration with Nusa Indonesia, the Suar team takes its inventory tracking to the next level by adopting their drone technology. The airborne vehicles are fitted with RFID readers and can be programmed to fly in a pre-set path around the construction site, reading tags from a height of more than four metres. This will make the inventory process entirely autonomous, saving even more time and therefore cost.

Initial tests show that the drone can read the tags even when items are stacked up on each other, without direct line of sight, which makes them a preferable solution for a range of industries including ship building, metal production, and manufacturing.



The outcome

The Midas Flagtag-based solution proved an immediate success. Tribudiman continued, “We are now able to carry out inventory checks in a fraction of the time it had previously taken, much more accurately.

Not only did this reduce the number of work hours needed, it sped up the entire construction process. It’s a win-win for both us and our customers.”

The benefits



Speedier inventory checks



More accurate inventory taking



Lower cost per inventory check through fewer work hours



Reduced health and safety risks

Contact information

rfid.averydennison.com/contact

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