

Managing data and increasing efficiencies

Data management, customised management software and identification systems are integral parts of today's rapidly changing waste management industry especially when it comes to maximising revenues. *Marie-Claire Kidd* looks at some of the latest systems including bin identification.

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TECHNOLOGICAL INNOVATIONS offer solutions to sticky issues from noise nuisance to data management – with the emphasis firmly on user friendliness.

One company at the forefront of this is German manufacturer Moba Mobile Automation, an active developer of electronic products and systems for the waste collection and machine control markets.

Moba's on-board computer, Operand, and a single control box are the only active components of its system, which can collect input from ultra high frequency antennas as well as weighing sensors.

Its MAWIS bin identification system identifies each bin with a reference number via a transponder, or chip. This allows precise monitoring of the collection activity, with the option of calculating additional charging based on the number of containers serviced. "It makes waste collection processes transparent," explains Ian Lewis, MOBA's business development manager for waste and logistics.

Saving time and money

Moba's M-Scale on-board weighing system turns a vehicle into a mobile scale, saving time and money by cutting out visits to a certified weighbridge. Loading and unloading is documented at the customer's location and an accurate receipt can be produced immediately.

MAWIS EM, Moba's customisable management software, manages orders, locations and bin information, and assigns transponder and emptying data to individual bins when identification systems and bin weighing are used together.

According to Lewis, a simple data input form, along with a clearly structured layout and filter functions, make it easy to use.

Operators can answer questions from residents 'just in time' and managers benefit from full statistical bin analysis.

The modular design feature means MAWIS EM can be developed from bin management, tour planning, service changes and invoicing to providing full financial accounting.

Lewis says: "The open structure of all MOBA systems makes it possible to integrate easily



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into a customer's third party software and allows each customer to select single modules according to their individual needs.

"MOBA's bin identification and weighing systems enable the customer to optimise their processes, leading to increased productivity, cost reduction within the collection cycle and improved customer service to the end customer," adds Lewis.

Developing new uses for RFID

Marc Biemann, vice president for identification technologies at California-based HID Global, which has delivered over a billion radio frequency identification tags worldwide, says European hauliers are developing new uses for RFID technology, including billing and verification. "The infrastructure for other applications is still being developed in the US," says Biemann.

"Suppose a waste haulier charges to pick up trash, but not to pick up recycling. If a resident doesn't put out trash one week, the RFID system could be set to tell the billing system that the customer incurred no charges. Systems like this are gaining acceptance in European countries where hauliers routinely charge for trash but not recycling or compost.

"This is a rapidly changing time for the waste management industry. When it comes to reducing waste, increasing efficiencies and maximising revenues, RFID solutions are playing a central role," continues the VP.

The firm recently added two new bin RFID tags to its portfolio of secure identity solutions for waste management. Its UHF and HDX tags are water, chemical and shock resistant and fit into the standard DIN 30745 tag nest of most plastic bins. Easy to insert and hard to remove, they can be pre-installed or used for retrofitting existing bins.

Its range also includes epoxy disc tags and IN tags, often used for encapsulation during bin manufacture or for screw-on application to bins already deployed. Its plug tags are said to be ideal for bins where a small, plug-in form is required. For industrial containers, HID's InLine on-metal UHF tags are robust enough to screw or weld into place, where a high read-range is key simply due to container size.

Focusing on integrating IT and technology is AMCS Group. In April, it acquired Glasgow-based recycling and waste software provider The Solution Works, best known for its WIMS software system.

It has been a busy year for AMCS research and development too, with new software and hardware products for management software, web portal, mobile computing and RFID.

CEO Jimmy Martin says: "Integration of TSW into the group is now complete. It means we have true end-to-end solutions for the whole operation of recycling and waste companies.

"We directly provide everything from on-board weighing and identification, through routing, weighbridge integration, material

sales, credit control and web portals. It's a unique position to be in."

Helping clients manage data

Martin says providing all this carries an obligation to ensure customers can leverage the data, and AMCS has been developing its business intelligence and analysis capabilities to meet that challenge. "Greater efficiencies and decision support come from better data analysis, and enabling our customers to interrogate their own data in meaningful ways," he says.

Also this year, Brigade Electronics launched a new pulsed radar system, with close-in corner to corner blind-spot detection. The Workzone Backsense, designed for light to medium duty mobile plant machinery, has two antennas offering complementary detection ranges. One antenna offers a shorter radar beam for close-in detection across the back of the vehicle. The other offers a three-metre range and is approximately the width of the vehicle, preventing false alarms. The sensors are connected to an in-cab warning device to alert the driver of an object, vehicle or person in his danger zone when manoeuvring.

Brigade is phasing out beeping tonal alarms in favour of white sound reversing alarms or broadband sound technology.

Brigade chairman Chris Hanson-Abbott explains: "The sound source of a BBS alarm is directional and therefore locatable, unlike tonal alarms which can cause disorientation. They can only be heard in the danger zone, preventing noise nuisance."

Brigade's BBS-tek alarm can self-adjust to ambient noise levels, so it will never be too loud or too quiet. Gloria Elliott, CEO of the Noise Abatement Society, says: "It's really good to see a manufacturer coming up with an idea that's going to improve the urban environment. This is a real innovation."

And environmental monitoring specialist enitial has just announced it has won a contract to manage redundant landfill sites, thanks to its newly developed electronic field data collection software. It will monitor three sites for Bracknell Forest Council using enidata, a PDA-based data collection system which replaces paper-based data recording.

Live self-validation allows technicians to check environmental data against historic trends and thresholds on site to minimise inaccurate readings. Data is streamed directly to enitial's central server within minutes of completion and produces bespoke data reports within one hour of completing the monitoring.

The system provides traceability by automatically recording date, time and location by GPS for all sampling and monitoring activities. It can also provide photographic evidence if necessary. The data can be populated into Google Earth to show the locations of the monitoring and allow technicians to pinpoint issues.

Ivor Parry, business development director at enitial, says: "Waste management companies and local authorities are now specifying electronic field data capture. It doesn't just speed up the job of data management and production of reports; it also reduces the possibility of inaccuracies. Because the system self-validates and checks data against previous readings, the chance of incorrect data being submitted is reduced dramatically." RWW