

Waste Management Solutions



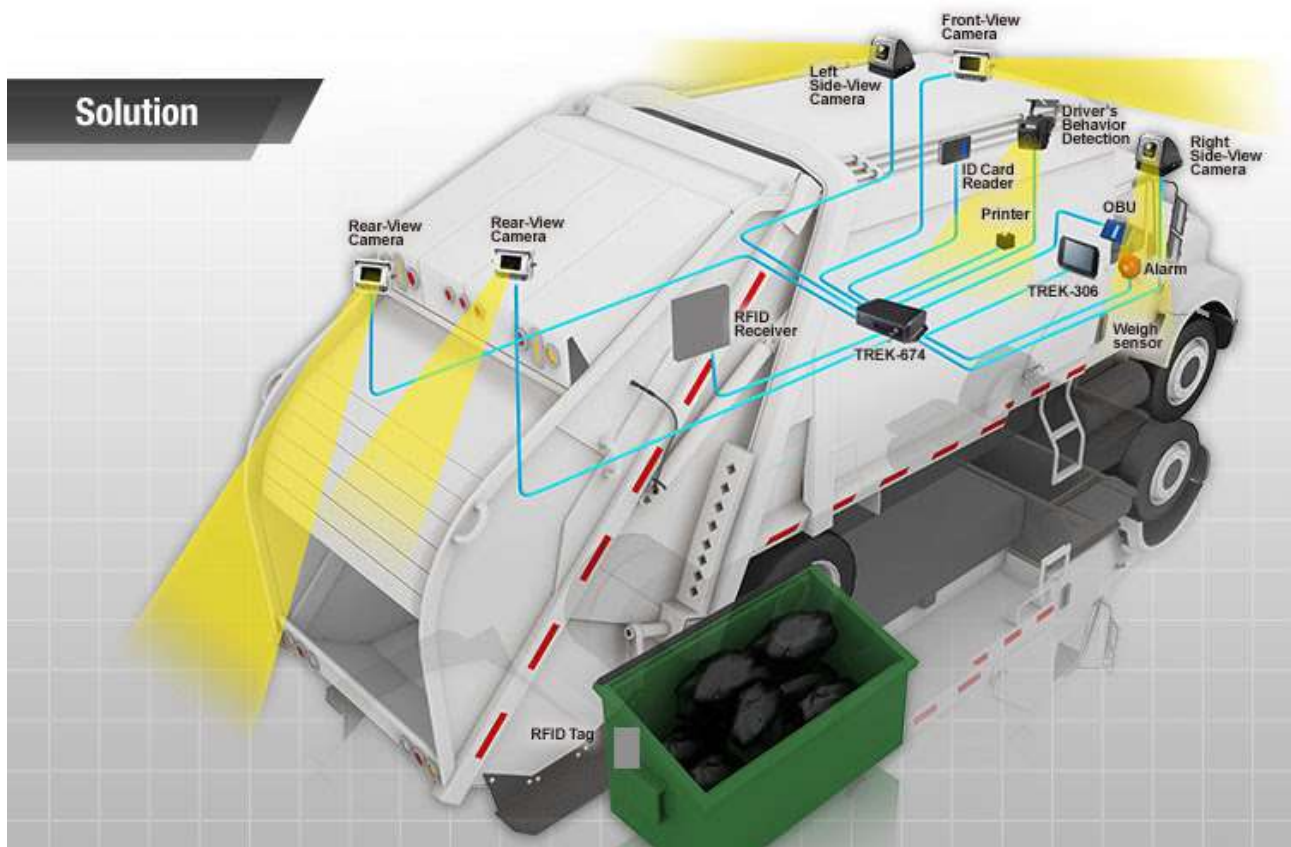
Unique Micro Design (UMD) *Application Briefs* are designed to provide ideas around systems and solutions that UMD can deliver and or develop, to solve customers' real world problems.

This includes adding value to various UMD key vendors, such as Advantech.

Advantech, is a leading mobile computing platform provider, and has extensive experience in implementation of both industrial and commercial waste management solutions at a multinational waste management corporation. This is based on years of accumulated experience, Advantech's waste management solutions comprise a TREK-674 computing box and TREK-306 in-vehicle display, support real-time data transmissions to/from a central dispatch center, and feature built-in RFID technology as well as 8 analog camera channels for conducting real-time video surveillance. The integration of a PWS-870 tablet enables portable video recording for enhancing operational productivity and business management.

- Asset Management
- Flett Tracking
- Centralised control and monitoring
- Enhance operationa efficiency
- Seamless systems interoperability
- Real time video surveillance

SOLUTION OVERVIEW



SOLUTION COMPONENTS

HARDWARE

TREK-674

In-vehicle Computing Box for Surveillance



- Intel® Atom™ E3827 SOC, Embedded Stretch S7 video encoder supports 8 analog video and 4 audio inputs
- Vehicle diagnostics interface with CAN (J1939, OBD-II/ISO 15765) and J1708 (J1587) protocols
- Built-in GNSS, WLAN, Bluetooth, and WWAN (with dual SIM cards) modules

TREK-306

10" In-Vehicle Smart Display



- Single-cable connection to TREK computing box
- Extended I/O ports (USB 2.0 Type A, power button and reset button) and built in 2-watt speakers
- (-30° C ~ 70° C) working temperature

PWS-870

10" Fully Rugged Tablet & Peripherals



- 4th generation Intel® Core™ i processor supports Windows 8 and 10.1" HD high-brightness, multi-touch, Gorilla Glass panel with dig • MIL-STD-810G and IP65 certified, can withstand drops of up to 4ft.
- Built-in 4G LTE, WLAN, BT4.0, GPS/BDS/GLONASS support, dual cameras, and NFC RFIDitizer

UHF RFID Bin Tag



- Designed to fit into the tag nest of most plastic bins
- Significantly higher read-range and memory capacity than LF/HF tags
- May be pre-installed or used for retrofitting existing bins
- Compliant to UHF standards EPC Class 1 Gen 2 and ISO 18000-6C
- No line of sight necessary to operate

Rugged RFID Antennas



- Specifically developed for industrial and vehicle applications
- Enables fast and inexpensive installations
- Flexible and configurable to support changing application needs
- Adaptable Load Backrest (ALBR) lift truck attachment
- UMD custom mounting brackets

SOFTWARE

Middleware	UMD has extensive experience development middleware and embedded software application.
Host Application	UMD has a range of partners that can provide Host systems application around waste management.

SERVICES

Solution Architecture	UMD has extensive experience in the design, development and integration of ICT and data capture technology, including device interfacing.
Engineering	UMD can design, manufacture electronic devices, interfaces, cable assemblies and mounting hardware to meet specific needs
Software Development	UMD's Software Development Team developed all software applications in-house
RFID Tag Programming	UMD has extensive experience in RFID tag encoding schema based around the GS1 standards and can provides in-house tag programming services or systems for user to program their own RFId tags.
Payments	If required UMD's Cardgate service (http://www.cardgate.net) was used to integrate credit card payments facilities to online ticket sales.
Project Management	To ensure on time and on budget delivery.