UNIQUE MICRO DESIGN
...Engineering IoT Solutions

Customer Handbook

2026 Edition

Adding eyes and ears to software




HB-201

UMD Customer Handbook

2026 Edition

Engineering IoT Solutions for Physical-AI and Industry 4.0 / 5.0

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Foreword

Since the incorporation of Unique Micro Design (UMD) in 1983, we have continued to redefine how we go about doing what we do — to improve customer productivity and keep pace with technology trends.

There have now been five distinct “versions” of UMD, each reflected in our evolving by-line:

- **UMD Version 1.0 (1983) –** Custom Electronic Engineering. Electronics hardware design house.
- **UMD Version 2.0 (1991) –** Technologist and supplier to professional systems integrators. Manufacturer and distributor of data capture and POS products.
- **UMD Version 3.0 (2001) –** Engineering IT Solutions. Edgeware solution provider (including middleware software).
- **UMD Version 4.0 (2016) –** Engineering IoT Solutions. Full-stack IoT solution provider.
- **UMD Version 5.0 (2025) –** Engineering IoT Solutions for Physical-AI. Connecting edge technologies to enterprise software, AI and autonomous agents.

With each evolution, we have expanded our solution components. We are now in a position to deliver “full-stack” solutions encompassing electronics, ICT and software — or any combination thereof — to solve customer needs for productivity improvement.

This evolution is driven by the growing complexity of delivering modern solutions, particularly around the Internet of Things (IoT) and the need to integrate with legacy and disparate systems. Our deep expertise in Radio Frequency Identification (RFID) and edge computing puts UMD in an exceptional position to deliver Physical-AI and Industry 4.0 / 5.0 outcomes.

This Handbook should give you some insight into how we do this. I hope you find it of value.

Geoffrey Ramadan

Business Development Manager, Director and Co-Founder

Unique Micro Design Pty Ltd

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1. About UMD

Mission Statement

At Unique Micro Design (UMD), we help organisations “add eyes and ears to software” — giving enterprise systems real-world awareness through automated data capture, intelligent devices, and edge-to-cloud integration.

This enables companies to:

- Improve productivity through automated data capture
- Access specialised custom and standard electronic products
- Adopt Physical-AI and Industry 4.0 / 5.0 practices

Physical-AI and Industry 4.0 / 5.0 are about connecting edge technologies — RFID, IoT, sensors, machine vision, and terminals — to enterprise software, enabling AI and autonomous agents to deliver insights, automate workflows, and enhance operational resilience.

What Business Are We In?

Since 1983, UMD has been solving customer needs for productivity improvement by adding real-time visibility and control to software using edgeware, IoT and engineering IoT solutions. With over 40 years of engineering experience, we design and deliver interconnected solutions through deep expertise in:

- Electronics design and engineering
- Automatic Identification & Data Capture (AIDC) technologies
- Systems integration and wireless networking
- Deployment and support services
- Cloud, mobile, and embedded software development
- Research & development

Our products, systems and solutions span three core domains, each described in detail in Section 2:

- Human Interface Devices (HID) — Mobile terminals, tablets, barcoding, point-of-service, wireless.
- Autonomous Interface Devices (AID) — IoT, RFID, machine vision, embedded systems, interfaces and middleware.
- Software, Systems Integration & Services — Cloud middleware, application services, mobile and embedded software, payment technologies, and full electronic engineering design and support.

In simple terms, UMD adds eyes and ears to software.

Our Unique Selling Proposition

UMD provides full-stack solutions using Edgeware and IoT technology, in addition to supplying solution components and subsystems. Our offering combines:

- Electronics & Sensors
- Engineering & Design Services
- Information & Communication Technology
- Software (cloud, mobile, embedded)
- Professional Services

We have exceptional experience in protocols and interfacing — the connective tissue that makes Physical-AI and Industry 4.0 / 5.0 deployments work in real environments.

Markets We Service

Data capture solutions are like computing — every industry needs them. UMD services many industries, with particular interest in:

- Supply Chain and Manufacturing
- Asset Management
- Retail
- Payments
- Events
- Agriculture
- Healthcare
- Aviation

Industry Affiliations

UMD is an active participant in the Australian technology ecosystem and maintains formal affiliations with:

- Australian Industry Group (Ai Group) – www.aigroup.com.au
- IoT Alliance Australia – iot.org.au
- GS1 Australia (Solution Partner)
- Monash Microwave, Antenna, RFID and Sensor Laboratories (MMARS)
- Monash Precinct Network – Australia's largest concentration of ICT, scientific and medical industries

Vendor Certifications

UMD holds the following key vendor accreditations relevant to RFID and Physical-AI deployments:

- Zebra Solution Partner – RFID Specialist
- Zebra Registered ISV
- Zebra Select Industrial Automation Partner
- Times-7 Authorised Distributor
- Epson Authorised Warranty Repair Agent
- Honeywell Authorised Service Provider (for printers)
- Senor Authorised Service Centre (for POS)
- RFID Tags
    - Avery-Dennison
    - Beontag
    - HID
    - Troy RFID
    - Xerafy
    - UMD (custom)
    - Zebra

Company Structure & History

UMD is a wholly Australian owned company, established in 1983 by Geoffrey Ramadan (Business Development Director) and Harry Ramadan (Head of Engineering & Director). Our offices and manufacturing facilities are located in the Monash Precinct in Clayton, Victoria — Australia's largest concentration of ICT, scientific and medical industries.

More than half of our staff are in technical roles, focused on solving customer needs for productivity improvement. The company is organised around functional Groups, with cross-functional Project Teams formed to address specific customer demands. This reflects the multi-skilled nature of UMD employees and the integrated way we operate.

Awards

- Smart Supply Chain Award 2015 – Winner
- Melbourne Business Award – Finalist
- Monash Business Award 2012/2013 – Winner

2. Solution Domains

UMD's offering is organised across three integrated solution domains. Together, they form the technology stack that enables Physical-AI: edge devices that sense and act in the real world, autonomous interfaces that operate without human intervention, and the software, integration and services that bind everything to enterprise systems.

Human Interface Devices (HID)

HID covers everything an operator, technician or customer touches — mobile terminals, tablets, vehicle-mount computers, wearables, point-of-service hardware, and barcoding.

Mobility

- Mobile terminals, tablets, PDAs and wearables
- Vehicle-mount computers
- Industrial touchscreen terminals for HID applications
- Voice-directed terminals

Point of Service (POS)

- Fixed, mobile and kiosk touchscreen terminals
- Cash drawers and peripherals
- POS receipt and docket printers

Barcoding

- Handheld and presentation barcode scanners (1D / 2D)
- Fixed industrial scanners for production line capture
- Desktop, industrial and mobile label printers
- Plain, pre-printed and asset labels; thermal transfer ribbons

Wireless Infrastructure

- Wi-Fi access points and controllers
- Site surveys, design and commissioning
- BLE, cellular, LoRa and wired connectivity

Autonomous Interface Devices (AID)

AID covers technology that operates without (or with minimal) human intervention — IoT, RFID, machine vision, embedded systems, custom interfaces and the middleware that connects them. This is where Physical-AI is enabled at the edge.

RFID

- Fixed, handheld and OEM readers
- UHF RFID portals, tunnels, gates and tables
- Antennas (far-field, near-field, specialised and custom)
- RFID tags – LF, HF, UHF and BLE
- RFID printers and tag encoders

IoT

- Gateways, sensors and edge devices
- BLE, cellular, LoRa, Wi-Fi and wired
- Industrial sensors for flow, temperature, vibration, valve control

Machine Vision

- Smart vision sensors and area-scan cameras
- 3D scanning systems for sub-millimetre accuracy
- AI-powered OCR and anomaly detection

Embedded Systems & Custom Interfaces

- Microcontroller and digital circuit board design
- Custom keyboards, terminals and customer display units
- RFID, BLE and barcode interface modules
- Cash drawer triggers (serial, USB, Ethernet)
- Communications interfaces and protocol converters

RFID
Fixed, handheld and OEM readers, portals, antennae, printers and tags.

Mobility
Terminals, tablets, PDAs, wearables and vehicle mounted.

Printers
Industrial, desktop and portable barcode, RFID, POS and ID card printers.

Consumables
Plain, pre-printed, asset and RFID labels. Thermal transfer ribbons. ID tokens.

POS
Touchscreen terminals (fixed, mobile and kiosks). Cash drawers and peripherals.

Scanners
Barcode and RFID; fixed, handheld or wearable. OEM modules.

IoT
Gateways, devices and sensors. BLE, cellular, LoRa, Wi-Fi and wired.

After Sales
User replaceable parts, batteries and accessories.

Software, Systems Integration & Services

This domain ties everything together — from cloud middleware and mobile applications down to embedded firmware — and is backed by our engineering and after-sales support teams.

Cloud Middleware & Application Services

- UMD Chariot – cloud broker for events from edge devices to host applications
- RACE / Collect, Track, Report and Insight modules
- Single sign-on, API security and device management
- PCI/DSS compliant hosting; on-premises options available
- UMD Web Services – Secure (PCI-DSS audited), high-reliability hosting services

Mobile & Embedded Software

- Android, iOS and Windows mobile applications
- Embedded firmware in C/C++ and assembler for various microcontrollers
- Linux-based edge applications
- REST/JSON APIs for integration with host systems

Payment Technologies

- CardGate – PCI-DSS certified payment service provider
- Embedded payments and mobile payment integration
- Custom payment applications and gateways

Engineering Services

- Electronics design and PCB layout
- Industrial and mechanical engineering
- Rapid prototyping (3D printing, laser cutting)
- Manufacturing and assembly
- Research & development

cardgate

A PCI-DSS certified payment service provider that makes it easy for businesses to add electronic payments to their business.

UMD BOS

A micro-ecommerce site to order goods, services and issue vouchers.

UMD CHARIOT

Broker used to integrate intelligent sensor networks and capture data from Edgeware devices.

UMD REAP

An inventory and asset management platform enabling retailers to incorporate real-time inventory tracking using RFID technology.

UMD TXP

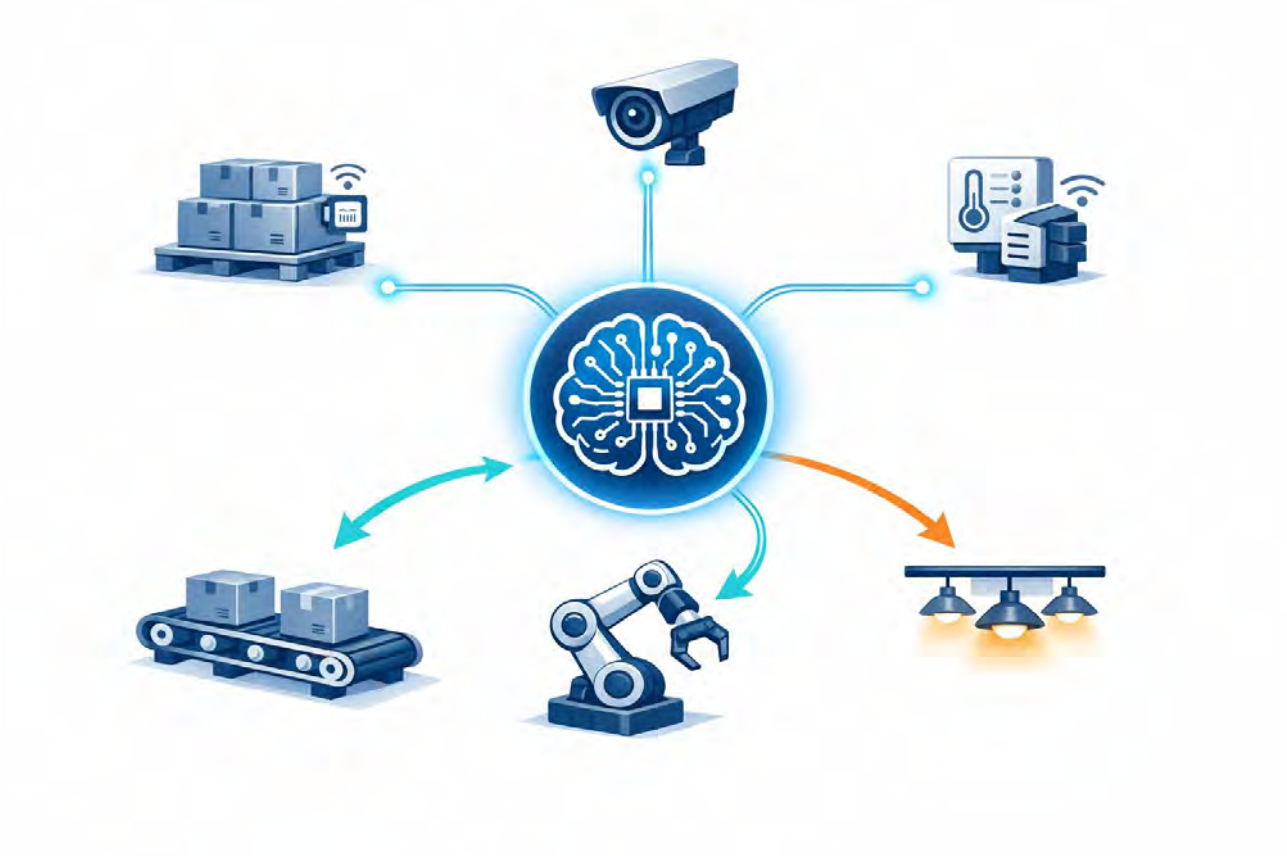
A digital platform that helps regions and their marketing teams boost their visitor engagement by linking offers or experiences to tickets and events.

UMD VAST

Patron access and control software: real time access control, reporting, ticket lifecycle management, support for fixed or mobile validators.

Physical-AI

RFID is a foundational technology for Physical-AI and Industry 4.0 / 5.0. UMD has been delivering RFID solutions for over 20 years and is a Zebra Solution Partner with RFID Specialist accreditation. This section summarises the UMD & Zebra RFID portfolio across tags, readers, antennas, cables, mounting hardware and complete RFID systems.



3. RACE & Cloud Platforms

RACE is UMD's industrial computing platform for RFID, IoT and data collection. It consists of smart edge devices with embedded control intelligence, supported by a cloud broker and modular application services. RACE can be deployed standalone or as a cloud-integrated architecture, and provides a browser-based dashboard for monitoring and diagnostics.

RACE Industrial Systems Controller (RISC)

RISC is a standalone edge computer that provides visibility of industrial workflows using Automatic Identification and Data Capture (AIDC) technologies — such as the UMD A120 RACE Control Panel. RISC is fully configurable and can connect to other host systems including UMD's RACE-Ware and UMD Chariot middleware cloud platform.

Its main function is to locally manage the interfacing and collection of data, add local workflows and logic where required, and communicate with host applications. RISC systems consist of:

- RISC – Computer (industrial edge hardware)
- RISC – Software (configurable embedded application)

RACE Mobile Application

The UMD RACE Mobile software application runs on a range of Android-based RFID mobile terminals. It supports barcode, HF and UHF RFID scanning, with core functions including:

- **Tag-It** – UHF RFID tag programming
- **Transfer / Receipting** – read tags and transfer to a nominated location
- **Audit** – scan against a selected location and compare to expected contents
- **SCAN** – simple scan and log including background BLE scanning with associated GPS location data

RFID Tag Programmer – UMD Tag-It

The UMD Tag-It Series is a desktop software application designed to operate with the UMD Model 85X Series of USB UHF RFID tag programmers, enabling RFID tag encoding. It is available in several configurations and licensing models and is designed as a platform that can accommodate various automated tagging applications. A typical kit (part number SS-TAGIT-M853-101-CSE) includes a UMD Model 853 RFID / USB reader and a UMD Tag-It PC software licence.

RACE Cloud Solution

RACE Cloud combines three layers — a broker service, application services, and hosting.

UMD Chariot Cloud Broker Service

- Single sign-on user authentication
- API security
- Device brokerage – events POSTed to one or more services
- Metadata for subscribing services, used for application-specific purposes

Application Services

- **RACE / Collect** – logs event data (POSTed events)
- **RACE / Track** – asset database of current status of assets and inventory
- **RACE / Report** – custom reports, including integrated triggers
- **RACE / Insight** – AI-based system providing operational insights, reporting and agents

UMD Hosting Service

- High-reliability, high-availability cloud hosting
- Security to PCI/DSS audit standards
- Optional on-premises services available

RACE-WARE Systems Architecture

RACE-WARE delivers a three-tier technology stack:

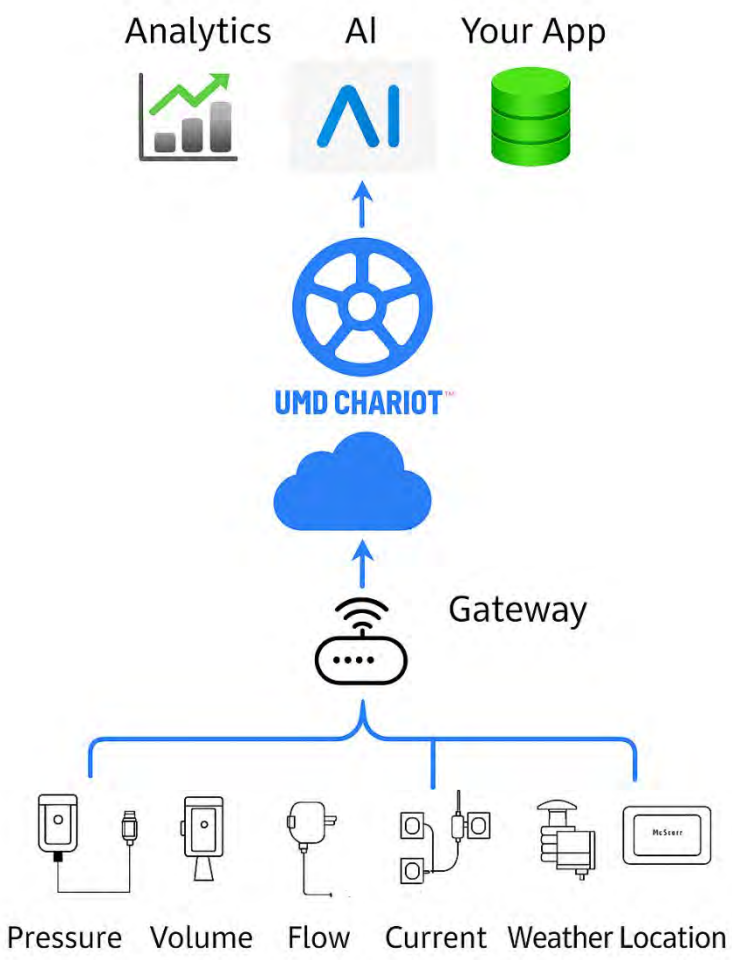
- **Edge Devices** – data collection with RISC embedded software
- **UMD Chariot** – cloud broker service and application platform
- **Host APIs** – REST / JSON integration to external systems

RACE-WARE Capabilities

- RFID, IoT and barcode data capture and processing
- Multi-sensor integration and monitoring
- Local diagnostics and database management
- Network communications via REST / JSON APIs

Why Choose RACE-WARE?

- Flexible edge and cloud deployment options
- Modular architecture for custom requirements
- PCI/DSS security compliance
- Comprehensive professional services and support

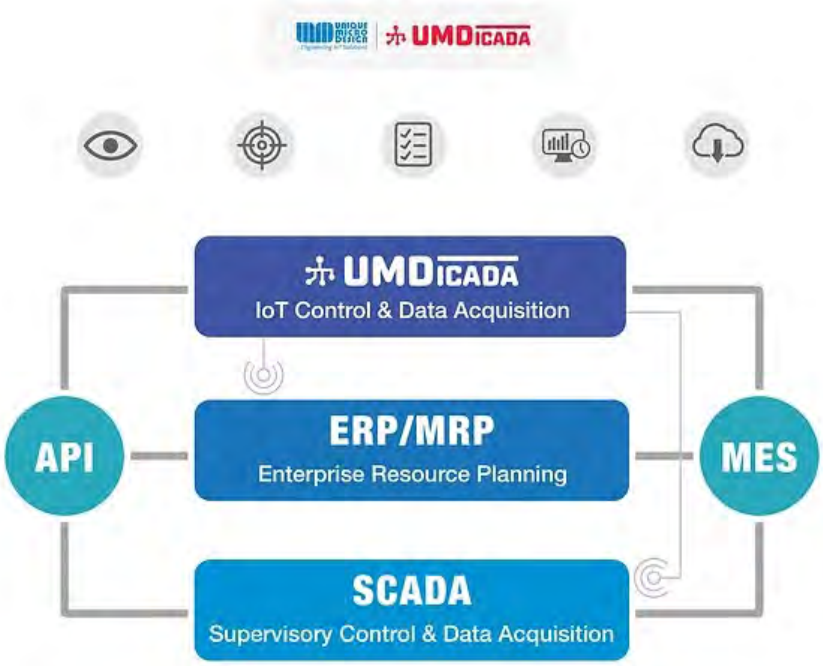


ICADA – IoT Control And Data Acquisition

ICADA is UMD's IoT-era evolution of SCADA, and one of our key delivery frameworks for Physical-AI. It is the architectural pattern used in UMD's industrial and agricultural deployments, integrating:

- Edge data capture and asset ID (water flow / volume, barcode, RFID, valve control, BLE, GPS, IoT, mobile)
- Gateway providing internet access
- Cloud-based application broker (UMD Chariot)
- Data visualisation and dashboards (Digibus.AI and similar)
- Application Programming Interfaces (APIs) to external applications
- Browser and mobile user interfaces

Reference: www.icada.com.au



4. Solution Platforms

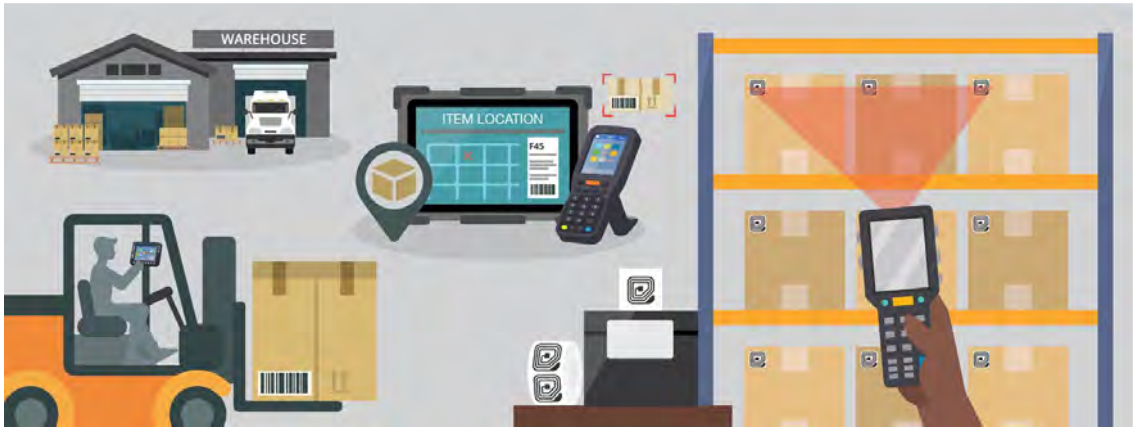
UMD combines hardware, software and services into vertical solution platforms. Each platform follows the same Physical-AI pattern — edge devices and sensors feeding cloud middleware that exposes APIs to enterprise applications — but is tailored to a specific business problem.

Supply Chain & Mobility – UMD SCM

UMD SCM provides mobility, warehousing and asset solutions for organisations using specialised mobile devices.

- Mobile touchscreen terminals with integrated barcoding and / or RFID
- Tablets and laptops
- Voice-based terminals
- Vehicle-mount terminals
- Fixed HID terminals

Connectivity options include Telnet and HTTPS, screen modernisation (touchscreen), classic keypad emulation, and voice. Device management is delivered through SOTI and Ivanti.

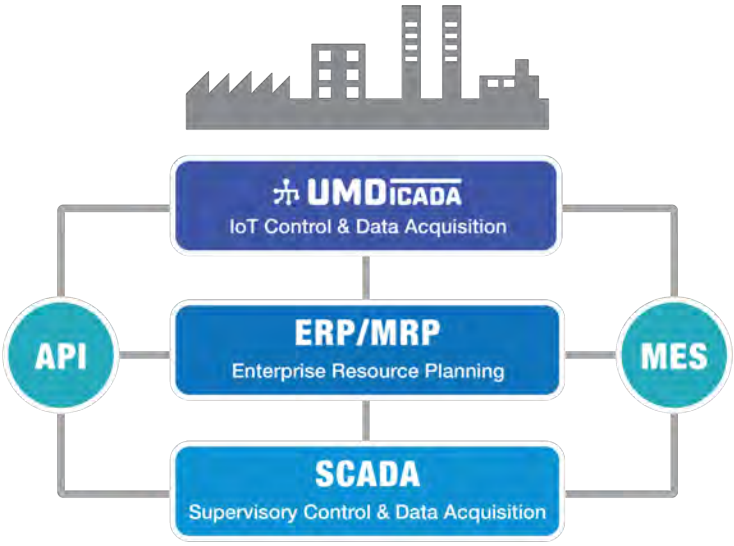


IoT / Industry 4.0 – UMD ICADA

UMD ICADA builds industrial IoT monitoring and control networks, providing real-time visibility across disparate systems and additional inventory or asset control beyond existing systems. It is the foundation of UMD's Physical-AI offering.

- Cloud broker service
- Monitoring via IoT
- Sensors and RFID
- Dashboard and analytics

Edge devices include RACE (RFID), IoT sensors and mobile terminals. Cloud services include acquisition, storage and analysis layers, with device management through UMD Chariot, SOTI and Ivanti.



UMD CHARIOT – Cloud IoT Edgeware Application & Device Management Platform

UMD Chariot™ is a cloud service that collates edgeware device data into a unified stream that can be distributed to multiple Applications whilst also providing device asset management. Its key feature is to abstract data source and device management from Applications, reducing this operational burden. UMD Chariot™ is based on a "Broker" architecture which is designed for large scale IoT device deployments and also our ICADA architecture.

Retail & POS

UMD REAP – Retail Edgeware Application Platform

UMD REAP is an inventory and asset management platform that enables retailers to incorporate real-time inventory tracking using RFID technology.

- Expand POS / Enterprise functionality
- Add RFID to POS (in many cases with no POS software changes)
- Add marketing redemptions to POS

UMD TXP – Token eXchange Platform

UMD TXP is a digital platform that helps regions and their marketing teams boost visitor engagement by linking offers or experiences to tickets and events. It is also a community-commerce platform.

- POS-agnostic integration with any POS or PC system, with no software changes
- Manage redemption of vouchers and cashless transactions at POS
- Attach vouchers or cashless to any token

UMD BOS – Basic Ordering System

UMD's Basic Ordering Service 'BOS' is a Multi-Function, Omni-Channel, µ eCommerce platform.

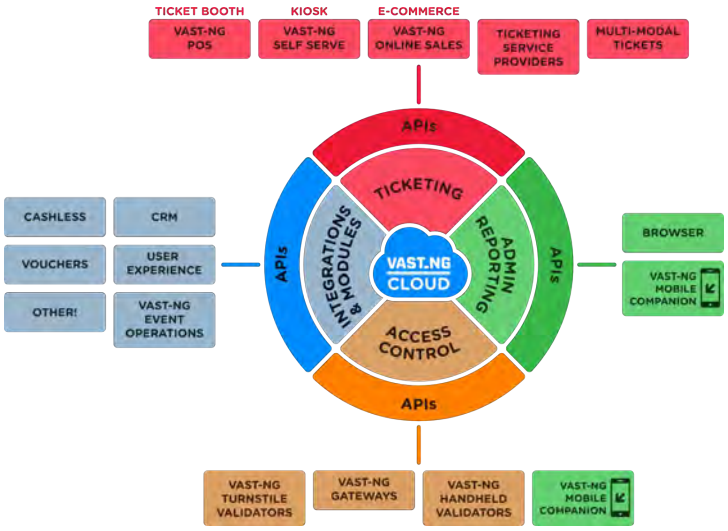
- *Multi-function* – sell products, vouchers, tickets and services with functionality to process and redeem these items (in-store or in-field), including creating and managing your own mini marketing campaign.
- *Omni-channel* – sell online, via a kiosk or in person using a smartphone. A single service can have multiple white labelled micro e-comm stores and even via API from your own service application.
- *µ eCommerce* – hosted, simple drag-and-drop eShop creation, which requires no programming

For more advanced applications, BOS can integrate to UMD Edge.Solutions such as Patron Access Ticket 'PAX', voucher redemption 'Loyalty or POS' or even your own service via API.

Patron Access – UMD VAST

UMD VAST (Venue Access System for Turnstiles) supports venues, attractions, stadia and events with:

- Cloud-based ticketing
- Real-time ticket validation, fixed or mobile validators
- Ticket life-cycle management
- Support for multi-source tickets
- Reporting and access control



Payments – Cardgate

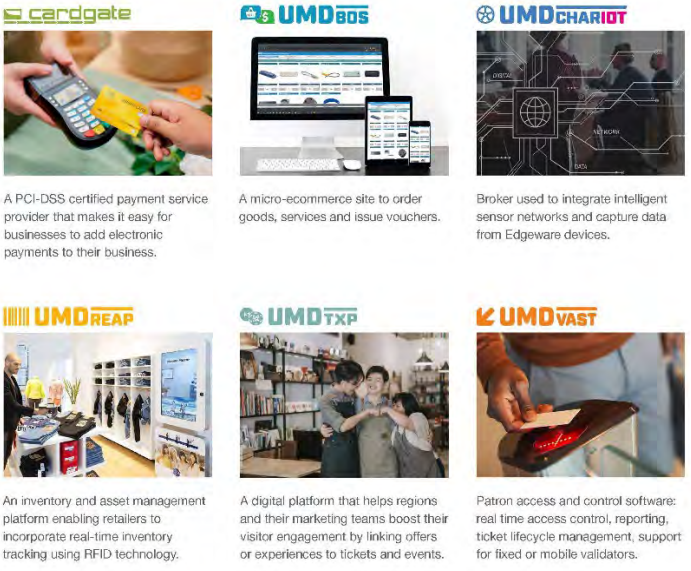
Cardgate is a PCI-DSS certified payment service provider that makes it easy for businesses to add electronic payments. Services include:

- Cardgate Internet Service
- LEMOTO Batch processing
- UMD BOS integration
- Mastercard payment gateway (CommBank acquirer)
- Mobile payments and embedded payments
- Custom payment applications

Full-Stack Managed Edge Solutions

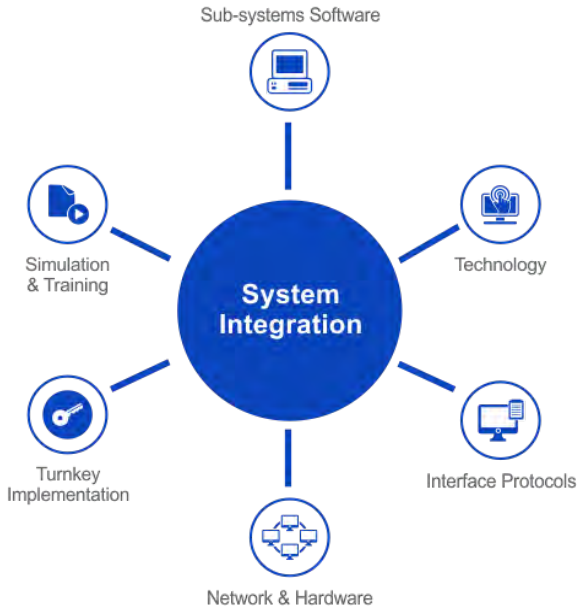
UMD engineers edge solutions that integrate vertically and horizontally across our managed service platforms. The full stack consists of:

- **Applications (ISV Layer)** – UMD SCM, UMD ICADA, UMD REAP, UMD VAST, Cardgate
- **Connectors (APIs)** – REST / JSON interfaces to host systems
- **Middleware Applications and Services** – UMD Chariot broker, RACE Collect / Track / Report / Insight
- **Edge Devices and Sensors** – industrial terminals, AIDC sensors, validators, POS / voucher terminals, payment gateways
- **Device Management** – SOTI, Ivanti and UMD Chariot



5. Professional Services

UMD's professional services span the full project life cycle — from initial consultation through to ongoing support.



Pre-Sales

Pre-Sales Consulting

Pre-sales consulting reflects the time and effort taken to develop proposals and quotations, including investigation work to ensure the solution is technically feasible, economically viable and culturally acceptable. Pre-sales consulting is typically included in proposals as a line item, payable once the customer accepts the proposal.

Site Audits

Site audits investigate specific customer sites in order to develop an appropriate solution. Like other pre-sales activities, site audits are quoted as a line item and payable only on proposal acceptance.

RFID Evaluation

An RFID Evaluation is essential to any RFID project. To design a solution that matches the customer's unique requirements, a vendor must thoroughly understand the technology, RFID standards, Australian regulatory issues, middleware, tag selection, environmental issues and interface protocols. The evaluation typically takes the form of a workshop in which these issues are discussed and customer-specific requirements analysed. The customer concludes with a clear understanding of the implementation considerations, probable timelines and costs.

Consulting

Site Surveys

Site surveys involve physical visits to the customer site to develop an understanding of the physical environment — layouts, equipment mounting, cable installations and other elements that will impact the implementation.

Radio Frequency Site Surveys

An RF Site Survey is essential for developing an effective wireless network infrastructure and ensuring effective radio coverage. The physical site is examined and measurements taken to establish the types, quantities and locations of wireless access points, antenna arrays, mounting options, cabling and power management.

Desktop RF Site Surveys

Where a physical site survey is not warranted in the first instance, a Desktop RF Site Survey can be conducted using site drawings, construction details, and network and power cable diagrams. A desktop survey is useful for supporting quotations and proposals, but a physical survey will usually be required for final confirmation.

RFID Site Survey and Tag Selection

RFID site-surveys consider the positioning of equipment, surrounding environment, and — critically — RFID tag selection, including mounting options, orientation, RF permeability of materials and other environmental issues.

Systems Analysis and Network Auditing

Systems analysis uses analytical tools, design methods and evaluative techniques to determine process requirements and appropriate software solutions. Network auditing reviews and clarifies the architectural issues and features of the existing network, supporting successful optimisation and integration.

Implementation

Procurement

UMD can conduct procurement on behalf of the customer for products, services and additional items provided by UMD business partners, associates or contractors.

Pre-Configuration

Pre-configuration involves preparing devices in response to specific customer-site parameters prior to installation, as determined by the site survey. Devices are tested and any quality issues identified, ensuring rapid installation and minimising disruption to the customer's workplace.

Logistics

Logistics covers the management and coordination of procurement and pre-configuration, including distribution, maintenance, and allocation of appropriate resources.

Installation and Commissioning

Installation covers the physical installation of equipment as per the system requirements identified during the surveys. Commissioning involves testing systems after installation — from simple device power-on through to more complex system testing that requires suitable technical skills.

Engineering Services

Research & Development

R&D ensures the appropriate selection and suitability of technology — typically including technology literature research, technology evaluation and prototyping.

Hardware Design

UMD's hardware design covers the full development cycle of evaluating, designing, developing, prototyping, programming and testing of electronic circuit boards and device packaging — typically microcontroller-based and digital boards for terminal and interface devices. Capabilities include:

- PCB layout and digital circuit design
- Embedded systems hardware
- RFID hardware and software
- BLE readers and gateways
- Display technologies
- Automatic data capture (barcode, magnetic stripe)
- Communications interfacing and protocols

- Programmable logic and radio frequency
- Rapid prototyping

Semi-Custom Design

In many cases UMD already has an existing microcontroller or interface board that can be adapted to meet customer-specific needs. Most UMD-designed boards include features specifically incorporated to allow this customisation.

Manufacturing Services

Under the direction of the Engineering Services Group, UMD provides electronic product assembly, modification and testing services. Rapid prototyping is supported with in-house 3D printing and laser-cutting facilities.

Laser Cutter


3D Printer

Software Development

Software development capabilities and experience include:

- **Embedded systems software** – assembler for various microcontrollers, .NET / C#, C / C++, Linux
- **Mobile applications** – Android and iOS, .NET / C#
- **PC applications** – .NET / C#
- **Cloud applications** – C / C++ / C# / Visual Basic / Java / JavaScript / HTML / Django / PERL / PHP / Python
- **Databases** – SQL database systems, PostGIS location-aware database
- **Operating systems** – Linux / Unix and Microsoft

RFID-Specific Services

UMD provides a complete set of RFID services tailored to support successful deployment:

- **RFID Tag Selection and Testing** – arrange samples for testing in the customer environment
- **RFID Tag Encoding Schema** – selection and development of customised GS1 sub-schemas
- **RFID Tag Encoding Service** – supply and encode tags per customer schema
- **RFID Proof of Concept** – confirm that the RFID tag can be read reliably in the customer environment
- **RFID Pilot** – develop and manage an RFID solution for a key element of the application
- **RFID Induction Systems** – fixed or mobile systems for tag programming in a production environment
- **RFID Software** – mobile and cloud applications tailored to the use case
- **RFID Engineering Services** – RFID optimisation services – get the best result from your RFID installation

Project Management

The Project Manager has overall responsibility for delivery on project outcomes as defined during the consulting process. Key responsibilities include defining project objectives, developing implementation plans, and monitoring and managing the implementation process. The Project Manager sets milestones and test procedures, ensuring project objectives and customer expectations are met, and provides a single point of contact for all project communications.

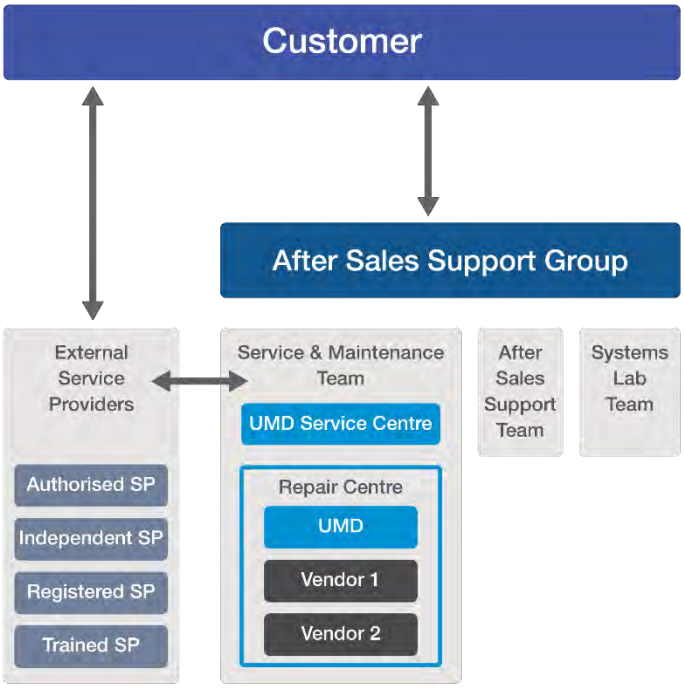
6. After Sales Support

The After Sales Support Group provides a range of services tailored to your needs — from return-to-base repairs and supply of spare parts, through to inclusive on-site maintenance and support programs. Customised support packages can also be developed. Refer to UMD After Sales Support Handbook HB-220 for full detail.

Support Group Structure

The After Sales Support Group comprises three teams:

- **After Sales Support Team (AST)** – systems and technical support, software support, systems monitoring, service contracts (on and off-site), maintenance contracts, device management (remote and local), exchange programs and training.
- **Service and Maintenance Team (SMT)** – warranty repair, in-house equipment repairs, managing vendor repairs and service contracts, supporting third-party service centres, preventative maintenance, and supply of spare parts.
- **Systems Laboratory Team (SLT)** – assembling systems, loading and pre-configuring firmware and software, testing devices and systems, and reconfiguring devices and systems after service.



UMD Plus™ Support Programs

UMD Plus™ is UMD's comprehensive service and maintenance offering, consisting of components that "plus" or add value to the products, systems or solutions provisioned by UMD.

- **Asset Plus** – UMD's unique database for managing devices, systems and service. Ties into the other support programs and simplifies delivery of their features.
- **Repair Plus** – break-fix repairs managed by UMD and provisioned by UMD or product vendors. Scheduled through Asset Plus.
- **Priority Plus** – a priority version of Repair Plus with a dedicated portal for priority handling and reduced turn-around times.
- **Warranty Plus** – extends the device warranty up to three years and includes fair wear and tear.
- **Exchange Plus** – loan equipment during repairs to preserve business continuity.
- **Maintenance Plus** – routine maintenance including parts and labour.
- **Vendor Plus** – augments vendor maintenance programs by reloading software / firmware and reconfiguring devices before return.
- **Manage Plus** – cloud-based device management for real-time device optimisation and device usage dashboards.
- **Support Plus** – pre-paid support for hardware, software and development.
- **Print Plus** – converts the cost of printer purchase, maintenance and consumables into a single per-use charge.
- **Training Plus** – tailor-made training for your trainers or end users to get the most from the devices and systems in place.
- **Enterprise Plus** – a customised support program for enterprise-class installations.

After Sales Support Contacts

Team	Email	Phone
After Sales Support (AST)	support@umd.com.au https://www.umd.com.au/support/index.html	+61 (0)3 9582 7050
Service and Maintenance (SMT)	service@umd.com.au https://www.umd.com.au/service/index.html	+61 (0)3 9582 7060
Main reception	reception@umd.com.au	+61 (0)3 9582 7000
Return Address	Unique Micro Design Pty Ltd Rear, Unit 1, 200 Wellington Road (Enter via Garden Road) Clayton VIC 3168, Australia	

7. UMD Ethics & Policies

UMD Ethics

Ethics

UMD will perform its work with professional ethics, avoiding conflicts of interest, and striving to improve activities through good works and professional responsibility. UMD will present the truth in its advertising and services in order to ensure total customer confidence.

Value

UMD will offer value-added services that are highly competitive and offer opportunities for true value to our customers. UMD will continue to offer a variety of free services and information to promote our industry and enhance workplace efficiencies.

Quality

UMD will provide the highest level of quality to its customers by analysing each customer's needs and providing appropriate service. For all projects and opportunities, UMD will endeavour to provide its services without interruption of normal operations and without undue burden on the customer's management.

Usefulness

UMD will provide services and products that are inherently beneficial to our customers, and use customer feedback to reassess usefulness. UMD will not market products or services that do not provide a meaningful and practical application solution.

Policies

Freight

UMD is able to provide shipping to all regions of Australia. All on-line shop orders (shop.umd.com.au) are supplied Free-In-Store Australia-wide. Freight terms and conditions:

- Pricing excludes GST.
- Quotes will be provided by our Sales Team once the order is processed.
- Freight rates are based on UMD's nominated couriers using express services. Expedited services are available and quoted on request.
- Weight used is the greater of the actual (scale) or volumetric (size) weight.

Returns

Product returns sometimes need to be made. Please contact UMD Sales for a Return Authorisation Number (sales@umd.com.au or +61 (0)3 9582 7070).

Sales Terms and Conditions

UMD's complete Sales Terms and Conditions are available on the UMD website, and the operative document covering customisation and development work is also published online. The complete terms appear in Section 12 of this Handbook.

8. Contact Details & Procedures

Main Contact Details

Area	Email	Phone (Local / International)
Reception	reception@umd.com.au	(03) 9582 7000 Int. +61 3 9582 7000
Sales	sales@umd.com.au	(03) 9582 7070 Int. +61 3 9582 7070
Service	service@umd.com.au	(03) 9582 7060 Int. +61 3 9582 7060
Support	support@umd.com.au	(03) 9582 7050 Int. +61 3 9582 7050
Accounts	accounts@umd.com.au	(03) 9582 7010 Int. +61 3 9582 7010
Cardgate	sales@cardgate.net	(03) 9582 7000 Int. +61 3 9582 7000

Other Contact Details

- Dealer Administration – DealerAdmin@umd.com.au
- Purchasing – purchasing@umd.com.au
- Marketing – marketing@umd.com.au

Address Details

Physical Address

Unique Micro Design Pty Ltd

Wellington Road Business Park

Unit 1, 200 Wellington Road

Clayton, Victoria 3168, Australia

Postal Address

Unique Micro Design Pty Ltd

PO Box 4297

Mulgrave, Victoria 3170, Australia

Delivery Address & Customer Service Counter

Unique Micro Design Pty Ltd

Rear, Unit 1, 200 Wellington Road

(Enter via Garden Road)

Clayton, Victoria 3168, Australia

Operating Hours

- Sales – 9:00 am to 5:30 pm - Monday to Friday
- Service – 9:00 am to 5:30 pm – Monday to Friday
- Stores – 9:00 am to 4:00 pm – Monday to Friday
- Customer Service Counter – 9:00 am to 4:00 pm

Ordering Procedures

Ordering

All orders are required to be in writing. Orders can be placed via:

- Email – sales@umd.com.au
- Online (consumable orders only — credit card payment required) – shop.umd.com.au. Note: all online orders are supplied Free-In-Store Australia-wide.

Non-account customer orders will be confirmed in writing advising pricing, availability and payment options. Account customers are only advised if pricing does not match the order, items are not in stock, or UMD is unable to meet the expected delivery date.

Payment Terms

Unless a Trading Account facility has been established, payment prior to delivery is required. Sales will issue an Order Confirmation form with payment options. Once a trading history has been established, customers are welcome to apply for a credit trading account via the UMD Trading Account Application Form, available from the UMD website.

Payment Methods

- **EFT (AUD):** CBA, Account Name: Unique Micro Design Pty Ltd, BSB 063-010, Account 12890644.
- **EFT (USD):** CBA, Account Name: Unique Micro Design Pty Ltd, BSB 063-010, Account 13030531, SWIFT CTBAAUS2.
- **Online credit card:** Online credit card payments for invoices, statements or sales orders can be made via UMD's secure payment service: cardgate.net/~umd/. Mastercard, Visa and Bankcards are

accepted. A processing fee may apply to large credit card payments. Currently only AUD payments can be processed online.

Customer Service Counter

UMD operates a Customer Service Counter for service / repair drop-offs and pick-ups, and a trade counter for casual purchases without a written order. Access is via the rear of Unit 1, 200 Wellington Road (enter via Garden Road), Clayton VIC 3168.

Web Services & Useful Links

- **UMD website –** www.umd.com.au
- **Online Shop –** shop.umd.com.au
- **UMD Support Desk –** uniquemicro.atlassian.net/servicedesk
- **Cardgate –** www.cardgate.net
- **ICADA –** www.icada.com.au

9. Customer Experience – Case Studies

UMD's long history of delivery is best illustrated through the work we have done with customers across many industries. The following case studies are a representative selection, drawn from our archive of more than 40 years of engineering.

RFID Dispatch Tracker – Citizen

Custom RACE Solution for Grey-Market Prevention

UMD designed and deployed a custom RACE solution for Citizen Watch to track watch dispatches by merchant. The system reads RFID-tagged watch items as they move through a tunnel, assigns each dispatch to a merchant via a tablet, and updates the vendor database to enable end-to-end tracking. The RACE tunnel achieved 100% tag readability, automated the recording of shipment details, and communicated data to head office — providing insight into delivery details and helping to prevent grey marketing.

Client Comment:

"Being able to leverage RFID Technologies in real time, provided better inventory visibility and minimised counterfeit marketing."

- Tommy Jameson, IT Manager, Citizen Watches Australia.

Aquaculture Traceability – RFID RACE Portal

An Australian aquaculture leader approached UMD to develop a traceability solution for their growing customer base. The brief was to deliver 99.9% RFID tag read rate as stock passes through an RFID portal, the selection of a suitable tag and tag attachment method, an appropriate data numbering schema, encoding of tags on a moving conveyor, and a mobile solution for rapid deployment.

UMD supplied its A250 RACE Portal — a self-contained system comprising housing, RACE controller, and RFID reader and antenna. For the Proof of Concept, the A250 was configured as a standalone

solution with a dashboard reporting on operation and data capture. Following a successful one-month commissioning period, the customer proceeded with full implementation across multiple sites including both fixed and mobile RACE portals.

Paper Pulp – RFID RACE Solution

An Australian paper manufacturer (operating since 1937 and producing close to 600,000 tonnes of paper and board annually) approached UMD to improve workflow and increase production visibility beyond their existing barcode-based system. Following a site visit and workflow analysis, UMD ran a Proof of Concept to test the technical and business viability of RFID. The PoC investigated data-capture locations, label and inlay choice, and mounting location.

Following the successful PoC the business proceeded with full RFID RACE implementation. UMD's engineering experience expanded the scope to include barcode scanning integration and connectivity to existing scales. Outcomes included automation of data capture (with direct connection to host ERP systems), real-time inventory visibility, and improved OHS — staff no longer needed to physically inspect labels.

Toll Shipping – RFID Container Tracking

Toll Shipping operates shipping container services between Melbourne / Victoria and Burnie / Tasmania. With anticipated growth in container volumes, a larger drive-on / drive-off vessel was commissioned, in turn requiring improvements to work practices and supporting technology. UMD worked in conjunction with a software company developing the Wharf Management System, adding "eyes and ears" via RFID. Key components included sixteen UMD custom RFID control boxes and outdoor portals for gates, forty-six UMD custom vehicle-mount RFID readers (for reach stackers), two RFID tag programmers and 50,000 RFID tags.

Melbourne Water – Tool Traceability PoC

Melbourne Water manages and protects the city's major water resources and field service crews. They commissioned UMD to develop a Proof of Concept to investigate how RFID could be used to:

- RFID tag and audit tools stored in the central store
- Automate the association of taken tools with field technicians via a portal
- Automate the identification of tools in vehicles, ensuring nothing is left behind

UMD custom-built an RFID tunnel portal and an RFID vehicle reader (which reads the tools in the vehicle when the door is closed), and developed a mobile application for auditing and a cloud service to collect and analyse the data.

Fenwick Software / ToxFree – Waste Contract Management

Fenwick Software, a Microsoft Gold Partner, secured a contract to supply waste management for ToxFree, which had in turn won the Chevron contract for waste management at a WA gas plant. UMD developed a custom RFID solution consisting of a vehicle RFID reader controller, interface to the existing vehicle scale, UHF RFID bin tags, UHF RFID industrial antennas, an in-vehicle tablet and communications, and software to manage data capture and push events to the Fenwick cloud solution. The system enabled automatic capture of waste metrics for environmental compliance reporting.

Plant Access – RFID Stillage Tracking for Green-Life Logistics

Plant Access is a specialised logistics provider catering for the green-life industry, delivering plants to Bunnings stores across Victoria and South Australia. With thousands of re-usable stillages spread across hundreds of sites, knowing where an order is at any moment was difficult, and real-time notification was needed to detect any items leaving in the wrong consignment.

UMD designed and developed an RFID system to track stillages and provide real-time visibility across the supply chain. The solution included passive UHF RFID tags (EPC Gen2) fitted to metal stillages for many-metre read range, a nursery mobile handheld application that associates stillages with purchase orders, an RFID capture portal sized for semi-trailers carrying 100+ stillages, and the UMD EdgeNet web service for real-time visibility on the internet.

"This project has succeeded in capturing asset location data at critical points in the supply chain and providing this information in real time. We and our customers stand to benefit from the improved visibility the RFID tracking system can offer."

— Richard Smithells, Plant Access

Cotton On – "Try On Your Sound" RFID Fitting Rooms

Cotton On launched its "Try On Your Sound" service at a Queensland flagship store, in which selected RFID-tagged denim jeans triggered a music playlist chosen to match the garment. UMD designed and implemented the solution over a six-week refurbishment window, including an RFID interrogator built around a SkyeTek RFID reader module (configured to comply with Australian regulatory frequency requirements, 920–926 MHz). Each fitting room had an antenna behind an access door, with a passive infrared sensor activating the system when someone entered. Data was collected and monitored via UMD's cloud-based REAP (Retail Edgeware Application Platform).

Skybus – Bus Ticketing System

SkyBus, a Melbourne-based private bus operator providing express services between Melbourne Airport and Southern Cross Station, needed to replace an aging ticketing system. UMD designed and implemented a fully integrated bus ticketing system supporting ticket booth and internet sales, pre-printed ticket books, single and multi-use tickets, real-time ticket validation when boarding, and management and shift reports.

Key components included Senor 15" touchscreen POS terminals, Custom Engineering TK300 ticket printers, Honeywell MS7580 barcode scanners, Ubiquiti airMAX Pico-Station access points, and Casio IT"800

handheld validators. UMD's in-house T-POS and M-POS software, hosted ticket server, online ticket sales site and Cardgate.net payment integration completed the solution.

> *"UMD was a collaborative partner in developing and implementing a new system. They were never fazed by our custom requirements. Their experience in hardware, software, and payment systems enabled them to provide an integrated solution. After the initial implementation, they have continued to work with us to refine the functionality and reliability."*
>
> *— Simon Cowen, Managing Director, SkyBus*

Metropolitan Fire Brigade – RFID Apparel Management

Stewart & Heaton Clothing Company (SHCC) is one of Australia's leading protective apparel suppliers, with major contracts in the fire services sector — starting with the Metropolitan Fire Brigade (MFB) in Melbourne. To enhance its market position, SHCC asked UMD to develop a RFID-based Total Apparel Management (TAM) system covering the full life cycle of MFB garments — a "cradle to grave" asset management solution covering issuing, cleaning, repair, decontamination, return and disposition.

The solution used HF (13.56 MHz, ISO15693) RFID laundry tags, HF RFID hand readers with USB interfaces for the laundry process, an industrial panel-mount computer with touchscreen for the laundry shop floor, and a GPRS-based mobile asset verifier. UMD hosted the apparel management software on the UMD-Edge platform, integrated into SHCC's existing Navision ERP. The system has been installed at the Metropolitan Fire Brigade, Country Fire Authority and the Fire & Emergency Services Authority of Western Australia.

> *"The solution represented a significant rise in available data to the customer, which allows for timely and predictive decision making by both us and our Customer."*
>
> *— Sean Underwood, Inventory & Systems Manager, Stewart & Heaton Clothing Co Pty Ltd*

Davies Collison Cave – RFID Document Tracking

Davies Collison Cave is Australia's leading intellectual property legal practice, with over 30,000 document wallets associated with customer patents and trademarks. UMD developed an RFID-based document tracking and management system on the UMD-Edge platform, using Alien UHF RFID paper tags, Intermec CN3/IP30 portable readers, and UMD-designed UHF RFID USB pad readers for legal secretaries. The Document Tracking System (DTS) allows users to stocktake areas, flag files as lost, find files, and provide a picklist for library staff. Desktop RFID readers at workstations track files from one legal partner to the next, providing full visibility and audit of file locations.

Racing Victoria – RFID Horse Identification (eMitt)

As of 2003, all thoroughbreds born in Australia require an RFID microchip near the neck for identification. Existing readers were too large and obtrusive, frightening horses on race day. UMD, in consultation with Racing Victoria and Biowatch, developed the eMitt — a glove-form mobile RFID reader. The user wears the glove and strokes the horse; once it passes the embedded microchip the unique identification number is read and wirelessly transmitted via Bluetooth to a mobile computer. The glove form provides safety benefits for both user and animal and allows hands-free operation.

> *"Microchips are a great assistance to stewards in monitoring horse identification. On race day all the stewards need to do is run the eMitt scanner on the horse's neck and its details come up on the hand-held computer."*
>
> *— Des Gleeson, Chief Steward, Racing Victoria*

Wagga Wagga Saleyards – Multi-Lane LF RFID Reading

Wagga Wagga Livestock Marketing Centre is the premier livestock market in Australia, selling approximately 1.5 million sheep and 130,000 cattle annually. They had originally installed RFID readers to meet NLIS reporting obligations — eight lane readers totalling 32 panel readers — but the system proved unreliable, with cattle frequently needing to be rescanned. After a UMD design engineer's site visit revealed undesirable antenna placement and gate-induced interference, UMD custom-designed and manufactured a synchronisation interface and controller to coordinate all 32 panels simultaneously, eliminating the interference and achieving near 100% read rates.

> *"I can't praise or recommend your company and work highly enough."*
>
> *— Paul Martin, Manager, Wagga Wagga Livestock Marketing Centre*

Patron Access – UMD VAST Across Major Venues

UMD VAST (Venue Access System for Turnstiles) was first deployed at the Victoria Racing Club in 2006 and used at the Melbourne Cup Carnivals from 2006 onward. UMD VAST manages complex ticketing structures and provides real-time data to event staff. It interfaces to any turnstile and any ticketing system — a key differentiator. The infrastructure typically consists of fixed and temporary turnstiles plus Portable Data Entry units configured as mobile turnstiles operating over a wireless network.

UMD VAST has been installed at major venues including Flemington, Caulfield, Moonee Valley, Rosehill, Royal Randwick, AAMI Stadium, Hindmarsh Stadium, Royal Melbourne Showgrounds, Luna Park (Sydney), Parramatta Stadium, WIN Stadium, the Bangladesh Cricket Board (for the 2011 ICC Cricket World Cup), and others.

Warehousing

UMD has extensive experience in providing warehousing automation solutions encompassing:

- Industrial rugged mobile and forklift terminals
- Barcode printing solutions
- Wireless infrastructure
- Voice picking solutions
- RFID
- Mobile Device Management (MDF) support services

Selected Additional Engagements

- Kmart Tyre & Auto Services – Ethernet cash drawer solution (250+ drawers rolled out across KTAS and Coles Express)
- Department of Primary Industry – RFID pig-feeder reader, capable of identifying up to three animals simultaneously
- NHP Electrical Engineering Products – RF warehouse site survey, wireless LAN design and commissioning
- Champion Data – electronic football whiteboard using iButton tags for player positioning and real-time data collection
- Gippsland Herd Improvement – short-range, single-tag HF RFID pad reader for milk-testing vials
- Mazda Australia – supply and installation of mobile terminals, portable printers, wireless infrastructure and a custom multi-device charging bay at a 20,000 m² spare parts warehouse
- Symbion Pharmacy Services – warehouse mobility upgrade across Melbourne, Adelaide and Perth distribution centres
- City of Unley aquatic centre – UMD-IPAS integrated ticketing, access control and point of sale
- Royal Melbourne Show – UMD VAST for patron access with Ticketek integration

10. Sales Terms and Conditions

Unique Micro Design Pty Ltd A.C.N. 007-419-490 ("UMD") agrees to supply the Customer Goods and Services including UMD customised goods and services subject to the terms and conditions set out below. The Customer, in placing an order with UMD for any goods and / or services, agrees to the said terms and conditions.

1. Customisation

Customised goods and services are developed by UMD to meet customer-specific requests. These developments include, but are not limited to: (a) modification of existing product (hardware, software or firmware); (b) development of new product (hardware, software or firmware); (c) packaging design, including cosmetic (e.g. colour) and customer-specific graphic elements (e.g. logo).

2. Placement of Orders

The Customer shall order customised goods and services from UMD in writing. The order shall specify: (a) the date of placement of the order; (b) the goods and services ordered; (c) a preferred delivery date for the goods; (d) prices; (e) for goods shipment, courier details (UMD's or Customer-nominated).

3. Declining Order

UMD may decline to accept any order received from the Customer.

4. Cancellation of Orders

If the Customer requests UMD to cancel or postpone delivery, UMD may agree subject to the Customer paying a cancellation / postponement fee covering all direct or indirect losses or expenses, including: costs incurred in processing the order; moneys paid or payable by UMD to third parties on behalf of the Customer; any penalties or fees payable to third parties; any claims for losses or expenses made by third parties; and pre-production and production costs incurred up to the date of the request.

UMD shall be entitled to cancel or suspend an order without liability to the Customer by giving written notice. UMD shall not be liable for loss or damage incurred by the Customer where delivery is frustrated or delayed by strikes, riots, disasters, trade disputes, acts of government, export restrictions, default of suppliers, unavailability of components, or other circumstances beyond UMD's reasonable control.

5. Packing of Goods

UMD shall ensure goods are safely and securely packed for transportation, having regard to fragility, distance, and method of transport.

6. Delivery of Goods

Delivery of goods shall be ex UMD's premises. UMD shall notify the Customer when goods are available for collection. If requested, UMD can arrange delivery by UMD's carrier. The cost of delivery and any special packing is at the Customer's expense, even if omitted from the original quotation.

7. Missing Goods

The Customer shall notify UMD within five (5) working days of delivery of any missing items from the shipment.

8. Loss or Damage in Transit

UMD is not responsible for loss or damage to goods during loading and unloading or whilst in transit, nor for any loss suffered by the Customer due to a delivery delay by UMD's or the Customer's nominated carrier. Freight insurance is the responsibility of the Customer. UMD shall, on request, provide copies of all documents evidencing proof of collection by the nominated carrier.

9. Payment

9.1 Unless the Customer has been granted credit facilities, payment terms are strictly Cash Before Delivery (CBD). For CBD Customers, UMD shall issue a tax invoice on delivery of the goods.

9.2 To apply for credit facilities, the Customer must complete a UMD Trading Account Application Form. The granting of credit facilities, payment terms and credit limit is at UMD's sole discretion and will be confirmed in writing. UMD reserves the right to cancel credit facilities without notice and for any reason whatsoever.

9.3 Where credit facilities have been granted, UMD shall invoice the Customer for goods and services delivered and the Customer shall pay each invoice within the trading terms as agreed in writing.

10. Price

10.1 The price of goods shall be the price published in UMD's price list issued from time to time, unless the parties have agreed otherwise in writing.

10.2 Unless otherwise stated, all prices quoted by UMD are exclusive of Goods and Services Tax (GST). The cost of GST is included in the invoice total.

11. Intellectual Property Rights

11.1 Intellectual Property Rights means all intellectual property rights including patents, copyright, rights in circuit layouts, registered designs, trademarks and the right to have confidential information kept confidential; and any application or right to apply for registration of any of those rights.

11.2 This agreement does not transfer to the Customer any intellectual property rights in the Customised Product, except in the licence granted in clause 11.3.

11.3 Where the Customer provides intellectual property which is incorporated into the Customised Product, UMD grants an exclusive licence to distribute the Customised Product. Specifically, UMD: (a) must supply, where possible, Customised Product to Customer; (b) grants to Customer an exclusive licence to distribute (including the ability to sub-distribute) the Customised Product; (c) grants Customer the ability to assign these rights to a third party.

11.4 UMD is not restricted in developing similar or identical customised products provided: (a) Customer confidentiality is not breached; (b) Customer's intellectual property is not used.

12. Ownership of Goods

12.1 Ownership of goods only passes to the Customer when UMD has been paid in full in cash, bank cheque or cleared bank funds. Until then the relationship between the parties is a fiduciary relationship; the Customer holds the goods as bailee and is authorised by UMD to sell the goods in the ordinary course of its business. The Customer shall pay the proceeds of sale into an identifiable bank account and keep separate sales records of the said goods, pending payment to UMD.

12.2 If payment is not received within seven (7) days of the due date, or the Customer becomes insolvent, the Customer licenses UMD or its agent to enter any premises owned, occupied, leased or controlled by the Customer or any associated company or agent to repossess the goods. UMD shall apply towards satisfying the Customer's indebtedness either the value of any goods repossessed or, if sold, the proceeds of sale less the cost of repossession (including legal costs on a solicitor / client basis) and sale.

13. Passing of Risk

Risk of loss or damage of the goods passes to the Customer on delivery to the Customer or their agent.

14. Returned Goods

14.1 The Customer must obtain a Return Authorisation Number (RAN) from UMD before returning any goods for credit or repair or replacement. The RAN must appear on the packing boxes.

14.2 Goods may not be returned for credit without UMD's prior written consent. UMD may grant consent subject to conditions including the payment of a re-stocking fee, calculated having regard to: (a) when the original goods had been invoiced; (b) the condition of the returned goods including original packing and

merchantability; (c) whether the goods are part of UMD's product range or have been specifically procured or manufactured for the Customer.

15. Warranties

15.1 The benefits conferred by the warranties set out below are in addition to all other rights and remedies the Customer has in respect of the goods and services under the Trade Practices Act 1974 (Cth) (now the Competition and Consumer Act 2010 (Cth)) and similar laws of the States and Territories of the Commonwealth of Australia.

15.2 UMD warrants the goods manufactured and supplied by UMD to be free from defects in material and workmanship for the period specified in the UMD Equipment Service and Maintenance Policy.

15.3 The warranty does not extend to or include: (a) defects caused by misuse, mishandling, neglect, adjustments, accident, non-adherence to operating and maintenance instructions and / or improper voltage; (b) failure resulting from use of the goods under arduous or unreasonable climatic or operating conditions; (c) goods serviced by unauthorised personnel; (d) failure resulting from installation errors or incorrect installation procedure; (e) failure caused by consumables not complying with manufacturer's recommendation or acceptable industry standards; (f) goods that have had identification marks and numbers altered or removed; (g) paper jams in printers; (h) normal maintenance and service adjustment as part of operating instructions; (i) consumables such as belts, CRTs, diskettes, lamps, laser tubes, lenses, magnetic heads, print ribbons, print heads, protective stationery and windows; (j) goods returned in inadequate or unsuitable packaging.

15.4 UMD does not warrant that where the goods comprise of or include software the software will be completely error free.

15.5 Warranty repairs shall be undertaken by UMD or on its behalf by an Authorised Service Centre in accordance with the UMD Equipment Service and Maintenance Policy.

15.6 Hardware maintenance such as extended warranty can be purchased separately; the terms are contained in the UMD Equipment Service and Maintenance Policy.

15.7 UMD warrants that the service will be rendered with due care and skill and that any material supplied in connection with those services will be reasonably fit for the purpose for which it is supplied.

16. Fitness for Purpose

Given the complexities of developing customised goods or services, no fitness for purpose is provided by UMD. It is therefore the Customer's responsibility to: (a) verify the customised goods or services meet their functional requirements; (b) establish the merchantability and fitness for purpose of the customised goods or service.

17. Limitation of Liability

17.1 Subject to clause 17.2 and where such limitation is not prohibited by law, UMD's liability for any breach of any implied or express conditions and warranties (other than implied conditions and warranties as to title, encumbrances and quiet enjoyment of the goods supplied) and / or any loss or damage (including economic loss and special and consequential damages) arising out of or in relation to the supply of any goods or services shall be limited, at UMD's option, to any one or more of: (a) for goods – (i) the replacement of the goods or the supply of equivalent goods; (ii) the repair of the goods; (iii) the payment of the cost of replacing the goods or of acquiring equivalent goods; (iv) the payment of the cost of having the goods repaired; or (b) for services – (i) the supplying of the services again; or (ii) the payment of the cost of having the services supplied again.

17.2 To the extent permitted by law, UMD shall not be liable for any special, direct or indirect, incidental and / or consequential damages or loss including but not limited to economic loss, loss of use of goods, or loss of data or information of any kind arising out of the supply of the goods and / or services, or the negligence of UMD, its employees or agents or however otherwise caused, or failure of the goods to work or perform in any way, or any liability to End Users, Dealers or third parties except as set out in clause 17.1.

Appendix – Reference Links

Useful links to UMD product and company information available online.

Company & Product Portfolios

- **UMD Portfolio (SB-144):** umd.com.au/ftp/pub/SB-144_UMD_Portfolio.004.pdf
- **UMD Edge Solutions:** umd.com.au/ftp/pub/UMD_Edge%20Solutions.014.pdf
- **UMD ICADA Microsite:** www.icada.com.au
- **UMD Chariot Cloud Broker (SB-167):** umd.com.au/ftp/pub/SB-167-UMDChariot.003.pdf
- **UMD RACE RFID Portals:** https://www.umd.com.au/ftp/pub/SB-162_RACE_%20Portals_Flyer.003.pdf
UMD Corporate Video: umd.com.au/images/UMD_Corp_Vid.004.m4v
- **Company Website:** www.umd.com.au
- **Digibus.AI:** digibus.ai

RFID Tag Vendor Catalogues

Detailed catalogues for tag selection are available directly from the vendors. UMD can advise and arrange samples for testing in your environment.

- Avery Dennison RFID Tag Catalogue
- Alien RFID Tag Catalogue
- Beontag RFID Tag Catalogue
- HID RFID Tag Catalogue
- Troi RFID
- UMD IoT Series
- Xerafy RFID Tag Catalogue
- Zebra RFID Tag Catalogue
- Times-7 Full Line Antenna Catalogue

Online Services

- **UMD Online Shop:** shop.umd.com.au
- **UMD Support Desk:** uniquemicro.atlassian.net/servicedesk
- **Cardgate Payment Gateway:** www.cardgate.net

Unique Micro Design Pty Ltd

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