HALO ENTERPRISE

Capability
Statement 2025

Welcome

A message from Halo's Managing Director — Josh White

Halo began with humble roots in the dairy sector, driven by a desire to help farmers make better decisions through smarter technology. Since those early days, we've grown steadily — learning alongside our customers, adapting to the needs of each industry we serve, and continually building our internal capabilities to deliver more.

That growth has been earned — not assumed. It's come from listening closely, solving real-world problems, and standing by what we build. We take great pride in being a Kiwi company that now helps monitor and manage some of New Zealand's most critical infrastructure. Our integrity is reflected in the tenure and trust of our customer relationships — with many of the country's most respected organisations relying on Halo to deliver, year after year.

Thank you for taking the time to learn more about what we do. We look forward to working with you — simplifying complexity, driving data performance, and making monitoring technology work for your operation.

Best regards,

Josh White

Managing Director, Halo Systems

Capability Contents

This document aims to help decision-makers understand Halo's core capabilities and where we add the most value. While our platform is highly flexible and used across many applications, we've focused this overview on our key strengths and proven impact areas.

Capability Snapshot

Halo Systems – At a Glance

For over 20 years, Halo has delivered intelligent monitoring technology that simplifies complexity, connects operations, and empowers better decisions across Australasia. We combine hardware, software, and cloud platforms into one unified system that gives our customers complete clarity and control — anytime, anywhere.

What We Do

End-to-end monitoring, automation, and data intelligence – all built in-house.

- Real-time monitoring of on-farm and industrial systems
- Cloud-based SCADA and telemetry platform
- Remote control of pumps, motors, valves, and sensors
- Automated alerts and compliance reporting
- Custom dashboards for data visualisation and system insights
- Integration-ready with third-party APIs, PLCs, Modbus and more

Our Technology

- ISO 27001 certification underway to ensure best-practice data security
- IrrigationNZ-approved 'Blue Tick' provider for water management services
- Standard solutions and dealer model for fast installs, or full custom for bespoke use cases
- Full IoT mesh network capabilities
- Industrial-grade, solar or mains-powered hardware
- Secure 4G LTE / Cat-M1 connectivity
- Modular design for scalable deployments
- Flexible control logic & automation rules
- Unified Halo Dashboard for multi-site visibility

Sectors We Serve

We serve critical industries where uptime, compliance, and insight matter:

- Agriculture — Dairy, cropping, effluent, irrigation, water
- Irrigation Schemes — Flow, pressure, compliance, remote control
- Commercial & Municipal — Factories, councils, utilities, water treatment
- Civil & Infrastructure — Environmental monitoring, pump control, reporting

Why Halo?

- Established in 2001 with a long-term, proven track record
- 10,000+ users across Australasia and 50,000+ connected devices
- 100% NZ-developed with full in-house engineering and support
- Proven results — view our Impact Studies

Our History

Over 20 years of proven innovation — and still building.

Since 2001, Halo has built a reputation for delivering reliable, scalable monitoring and control systems tailored to the demands of agriculture, water, and industrial operations. Over two decades, we've continually evolved our platform, expanded our hardware capabilities, and formed strong partnerships that support smarter resource management across New Zealand and Australia. This timeline captures the milestones that have defined our growth — and the direction we're heading as we continue to innovate and deliver measurable value for our customers.

2001 — The mission begins

Tag IT Technologies founded by Josh White and Russell Gibbs in Waikato, New Zealand.

2008 — Solutions focused

Halo product development begins.

2009 — 'IoT before 'IoT' was a thing'

First live Halo System launched.

2016 — Market proven

Kudos Environmental Science Award Finalist (Water Purification).

2017 — Recognised Innovators

Winners of 'Westpac Waikato Business Award for Innovation'.

2017 — New ground is broken

First Australian sales.

2020 — Product Diversification

First commercial water filtration system introduced.

2021 — Halo strengthens internal capabilities

Acquisition of Number 8 Systems Ltd.

2021 — Fonterra MVM

Appointed partners for Fonterra's MVM national rollout.

2023 — Strategic expansion

Acquisition of DTS' 'Vat-Man' milk monitoring service.

NOW — The mission continues

Global leaders in smart monitoring technology.

Our Purpose & Mission

Integrity is our foundation, global leadership is our direction.

We exist to help our customers solve unique, sector-specific challenges they face every day. This is the foundation of **our purpose: to develop technologies that grow and protect their operations**. With integrity, a hands-on approach, and a proven track record of delivery, we've earned lasting trust. That same commitment continues to drive **our mission: to lead in smart monitoring technology by delivering real solutions to more customers, in more markets.**

Purpose

GROW AND PROTECT

At Halo, our purpose is to help customers grow and protect their operations.

We enable **growth** by improving efficiency, reducing labour costs, and supporting compliance — all through smart, connected monitoring and control systems. At the same time, we help **protect** what matters most: critical infrastructure, natural resources, and the environment.

Grow and Protect is more than a statement — it's the foundation of how we deliver value every day, combining clarity, control, and confidence through intelligent technology.

Mission

FROM WAIKATO TO THE WORLD

To lead the world in smart monitoring technology — expanding into new markets, developing innovative products, and solving more problems for more customers.

We're driven to deliver greater value through technology that empowers operations, connects infrastructure, and enables smarter, more sustainable decisions at every level.

Team & Leadership

Creators of Cutting Edge Technology

Headquartered in Hamilton, New Zealand, with a full development and engineering hub in Pukekohe and a dedicated Australian office in Melbourne, Halo is proudly New Zealand-built and globally minded. Our team brings deep sector knowledge and hands-on experience to deliver real-world impact.

Our Teams

Field Operations: Skilled technicians installing and maintaining systems on the ground

Support: Responsive, NZ-based help when and where it's needed

Sales & Marketing: Connecting customers with solutions that fit

Project Management: Delivering large-scale, multi-stakeholder rollouts

Operations: Managing logistics, supply chain, and internal systems for scale

Technology: Architects of our core platform and infrastructure

Innovation & Development: Driving product evolution through R&D and emerging tech

Leadership Team

Josh White
Managing Director

Founder of Halo in 2002, Josh drives key account relationships, business growth, and strategic direction.

Andrew Llewelyn
Head of Information Systems

Andrew has been responsible for the technology behind the Halo platform since 2007.

Blake Lattin
Enterprise Lead

Blake leads sales and marketing for Halo, forging strong dealer relationships and ensuring customers maximise the value of their systems.

Tom De Wildt
Head of Enterprise Technology
& Product Systems

Tom leads the company's product portfolio's strategic standardisation. His role focuses on building scalable, maintainable, and manufacturable products that serve both enterprise customers and dealer channels.

Tim Kong
Head of Operations

With a strong technical and operational background, Tim oversees Halo's day-to-day operations with a strategic and analytical focus.

Ramy Sanad
Country Manager AU

With 17+ years' experience in technology and agriculture across diverse markets, Ramy drives growth in Australia through strategic partnerships and customer-focused development.

Core Capabilities

What is a Halo System?

Halo is an end-to-end smart monitoring and control platform — delivering cloud-based visibility, intelligent automation, and seamless integration across a wide range of industries.

Core Capabilities

Cloud-Based SCADA: Secure, browser-accessed dashboard with real-time data visualisation and remote access.

Monitoring: Live sensor readings, alerts, and system diagnostics tailored to user preferences.

Automation & Control: Command and control of field devices (valves, actuators, pumps, motors, VSDs) from anywhere.

Telemetry: Reliable data transmission from remote or complex environments via wired or wireless networks.

Data & Analytics: On-demand reporting, historical trend analysis, and smart alerting for informed decision-making.

Competitive Advantage

Halo's full in-house build process delivers unrivalled flexibility.

At Halo, we design and build all of our technology in-house — from custom hardware to the software that powers it. This end-to-end capability gives us complete control over the development process, ensuring our solutions are precisely tailored to the needs of your industry. It also allows us to remain agile and responsive to evolving business requirements and market demands.

By developing both the physical hardware and digital platforms ourselves, we can solve complex problems others can't. This approach allows us to innovate quickly, deploy at scale, and deliver dependable, tailored technology.

System Overview

Technology Stack

At the core of Halo's offering is a tightly integrated technology stack — bringing together robust hardware, adaptable software, and our powerful Halo Dashboard into one seamless system. While others offer isolated components, Halo delivers a fully unified, end-to-end solution purpose-built for real-time monitoring, precision control, and data-driven insights at scale.

Halo Hardware

- Mains or solar-powered options
- Modular design with I/O expansion boards
- Long-range point-to-point connectivity
- Cellular gateway (4G LTE / Cat M1 IoT)
- Industrial-grade durability

Halo Application

- Standard solution library
- Custom applications tailored to site needs
- Control logic for pumps, motors, actuators, valves, etc.
- API support for third-party system integration
- Local or cloud-based control capability

Halo Dashboard

- Standard or customisable Dashboard (Enterprise level)
- Historical data visualisation (graphs / trend analysis)
- Integrates data from APIs / Modbus protocols
- Smart alerts
- Logging intervals from 15 to 1 minute intervals

Our Approach to Data Security

At Halo, data security is fundamental to how we build, operate, and continuously improve our platform. **As part of our ongoing commitment to best practice, we are currently undergoing ISO 27001 certification**, reflecting a systematic and robust approach to risk management and operational controls — including those relating to information and data security.

To safeguard our customers' data, we apply the following core measures:

Access Control: Data access is strictly governed by user roles and permissions, ensuring individuals can only access the data relevant to their responsibilities.

Authentication: We use secure authentication protocols to prevent unauthorised access.

Monitoring: The Halo platform is continuously monitored to detect and respond to suspicious activity or unauthorised access attempts.

Backup and Recovery: Comprehensive backup and recovery processes are in place to enable rapid data restoration in the event of a breach or data loss.

Education and Training: We provide regular training to users and administrators to uphold best practices in data security and privacy.

Value Proposition

You don't know what you don't measure. But if you don't understand what you do measure — what's the point?

Halo solves both sides of the data problem: too little to act, or too much to understand.

In today's operations, the real challenge isn't collecting data — it's making it useful. Teams are often stuck without the insights they need, or overwhelmed by siloed systems and noisy, disconnected data. Halo changes that.

We bring everything together — hardware, control, and a unified platform — to turn fragmented information into clear, actionable intelligence. By simplifying complexity, we give our users the confidence to act faster, meet compliance with ease, and shift from reactive to proactive.

The Value Quadrant (The Problems We're Solving)

System Integration & Scalability

How can we manage hundreds of assets across multiple sites in one cohesive, scalable system?

- Unified dashboard for assets across multiple sites
- Seamless integration with existing systems and APIs
- Real-time data consistency across multiple sites
- Modular platform designed to scale with your growth

Compliance Management & Reporting

How can we simplify compliance with complex, site-specific consents?

- Consumption recording to prove compliance
- Automated daily reporting for councils and regulators
- Real-time consent compliance alerts
- Pre-configured site-specific rule logic
- Audit-ready data logs reduce admin load

Full Operational Visibility

How can our teams receive real-time data from remote sites — without costly site visits?

- Live insights and alerts via mobile/web
- Remote control of pumps and infrastructure Smart dashboards to support decision-making
- Reduced site visits and labour costs

Future Proofing & Efficiency Gains

How can we scale systems, deploy updates remotely, and reduce labour and cost?

- Cloud-based platform with remote code deployment
- Scalable to new sites, sensors, and applications
- Reduces reliance on custom development and programmers
- Designed to improve asset utilisation

Sectors We Serve

Commercial & Municipal

Halo delivers robust monitoring, control, and automation solutions across both brownfield and greenfield projects in the commercial and municipal sectors. Our expertise spans civil construction, water and wastewater management, quarries, and broader infrastructure and service-based operations. We enable operational efficiency, compliance, and enhanced environmental outcomes through integrated technology solutions.

Client Profiles:

- Local and regional councils
- Utilities and water authorities
- Schools, hospitals, and aged care facilities
- Civil and construction contractors
- Manufacturing and warehousing facilities

Key Applications Include:

- Plant & Factory Automation
- Pump Monitoring & Control
- Environmental Management
- Tanker Fill Stations
- Warehouse & Cool Store Monitoring
- Wastewater Irrigation

Agriculture

With over two decades of experience in the primary industries, Halo is trusted by farmers, processors, and agribusinesses to deliver end-to-end monitoring and control solutions that enhance productivity, sustainability measures and compliance. Our technology is purpose-built for the challenges of remote rural operations, with scalable systems designed for simplicity and reliability.

Client Profiles:

- Dairy, beef, and sheep farmers
- Horticulture and cropping operations
- Agribusiness and producer cooperatives
- Milk processors and transport companies
- Irrigation and water supply schemes

Key Applications Include:

- Milk Vat Monitoring
- Effluent Management & Irrigation Control
- Water Management
- On-Farm Automation
- Environmental Monitoring

Sectors We Serve

Irrigation Schemes

Halo supports irrigation schemes, water authorities, and collectives with scalable monitoring and control solutions that optimise water distribution, reduce manual workload, and ensure compliance with regulatory requirements. Our systems provide real-time visibility and automation across critical infrastructure, helping scheme managers meet both operational and environmental objectives.

Client Profiles:

- Regional irrigation scheme managers
- Water authorities and government regulators
- Agricultural cooperatives and farmer collectives
- Irrigation contractors and service providers

Key Applications Include:

- Flow & Pressure Monitoring
- Remote Valve Control
- Water Level Sensors
- Compliance & Reporting Dashboards

Civil

In high-risk, heavily regulated environments, Halo delivers end-to-end monitoring and automation solutions that reduce manual workload, improve site visibility, and support stringent environmental compliance. Our systems are trusted by contractors and civil operators to minimise environmental risk and ensure accurate reporting across diverse infrastructure and construction projects.

Client Profiles:

- Civil construction contractors
- Environmental and site management consultants
- Mining and quarry operators
- Local and regional government agencies

Key Applications Include:

- Environmental Compliance
- Water Management, Use & Reporting
- Dust & Conductivity Monitoring
- Pump Monitoring & Control

Halo Impact

▎Trusted by Industry Leaders

From global enterprises to local innovators, organisations trust Halo to help solve some of the most pressing challenges across agriculture, water, and industry. Our solutions don't just monitor — they enable smarter decisions, automate labour-intensive processes, and ensure compliance in a rapidly changing regulatory environment.

Whether it's navigating **Scope 3 emissions and sustainability reporting**, reducing **water consumption**, improving **resource efficiency**, or meeting **Taumata Arowai requirements** with ease, Halo delivers proven value where it matters most. These impact studies highlight how we're helping customers respond to real-world pressures — like climate risk, tightening regulations, and rising operational costs — by providing the clarity, control, and confidence needed to adapt and learn.

Australasia's Trusted Monitoring, Control and Automation Partner

7000+
Active Sims

10,000+
Halo Users

50,000+
Connected devices throughout Australasia

Fonterra · NSW GOVERNMENT · WAIRAKEI ESTATE · OPUHA WATER LTD (Enabling | Sustainable | Growth) · PĀMU · IRRIGATION NEW ZEALAND · Watercare (An Auckland Council Organisation) · AGRICULTURE VICTORIA

Impact Studies

Fonterra

Project Focus
Milk Data & Collection

Halo Deployment
Nationwide across
Fonterra supplier base

Project Duration
2019–Present

Fonterra's logistics network
Now benefit from live data on milking times and milk volumes,
improving fleet scheduling and reducing waste.

17 fewer milk tankers
Required in the 2022/23 dairy season, resulting in lower operational
costs and fewer emissions.

50% reduction
In insurance letters for on-farm, temperature-related milk disposal,
thanks to improved monitoring and fewer milk spoilage incidents.

45% reduction
In insurance claims related to milk spoilage.

"Our farmers are also disposing
less milk on-farm thanks to having
the MVMS information and alerts."

**James McCreery — Fleet Technical Project
Manager, Fonterra**

Wairakei Water User Group

Project Focus
Water / Irrigation
Compliance

Halo Deployment
15 integrated
network systems

Size & Scale
25,000 ha

Project Duration
2020–Present

25,000 hectares under centralised management
Ensuring unified control and real-time data across the entire
operation.

60 staff and contractors
Now have access to tailored dashboards and live data, enabling
timely and informed decision-making.

40% reduction
In estimated manual reporting time, allowing staff to focus on
proactive operations and compliance activities.

25% improvement
In estimated compliance adherence, with automated hardstop
controls ensuring full consent enforcement and reducing the risk
of non-compliance.

"Halo took ownership of
understanding our consent
requirements and worked with our
team to create a market leading
solution."

**Alex Tressler — Commercial Manager,
Wairakei Water User Group**

Impact Studies

Opuha Water Scheme

Project Focus

Irrigation Scheme

Halo Deployment

64 telemetry points across full irrigation network

Size & Scale

16,000 irrigated ha (200 farms / stakeholders)

Project Duration

2020–Present

64 telemetry points
Deployed across the irrigation network, integrating flow meters, pond levels, and weather stations for seamless data aggregation.

16,000 irrigated hectares
Now managed with centralised, real-time monitoring, improving water use efficiency and resource allocation

200 farms & stakeholders
Now benefit from enhanced data visibility, resulting in more informed decision-making and increased trust in reporting.

"Halo worked with us to design and implement this solution and provide shareholders with the confidence that this was the right direction to head in."

James Cullimore — Opuha Water Limited

Auckland Council

Project Focus

Water Treatment Plants (Regional Parks)

Halo Deployment

Multiple WTP projects across regional parks network

Project Duration

2022–Present

13 water treatment plants
Providing critical potable water infrastructure for more than 2 million annual visitors.

500,000+ litres of water
Monitored and controlled daily to ensure safe drinking water supply and compliance with Taumata Arowai regulations.

30–40% reduction
In estimated travel and labour costs achieved through remote monitoring and troubleshooting capability across remote sites.

80% decrease
In estimated phantom alarms and inaccurate alerts, improving operational efficiency and reducing unnecessary callouts.

"The ability to troubleshoot remotely across our sites in remote Auckland locations has been a game changer."

Alex Jacobsen — Senior Healthy Waters Specialist, Auckland Council

Contact Halo

Ready to take your data game to the next level? **Get in touch with us today.**

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