QUALITY ASSURANCE

Procedures and tests for Building Product Confidence

BACNET APPOINTMENTS

BACnet commitments elevated to new levels

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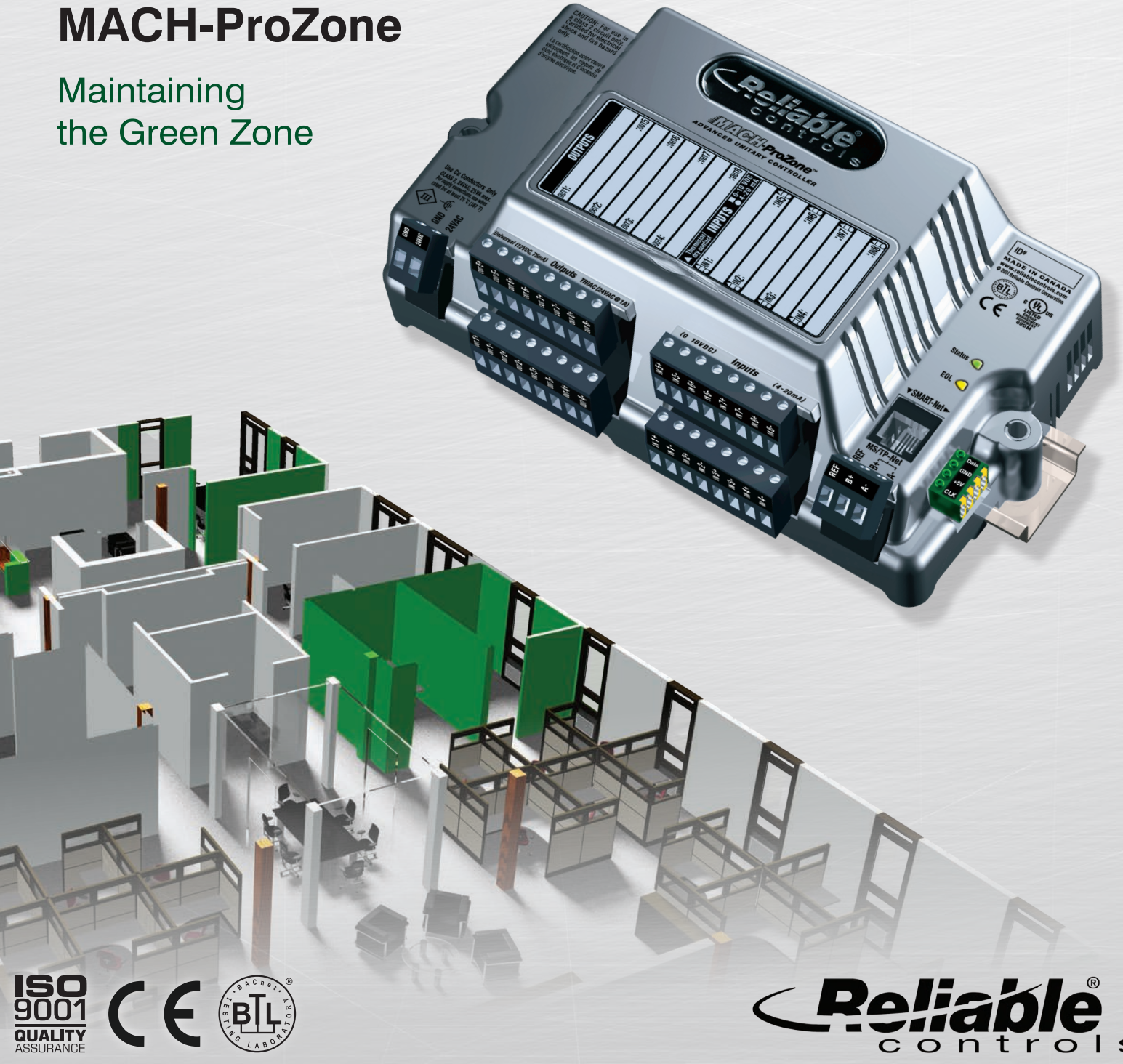
RUNtime

The Official Quarterly Newsletter of Reliable Controls Corporation

Q2 - 2012

MACH-ProZone

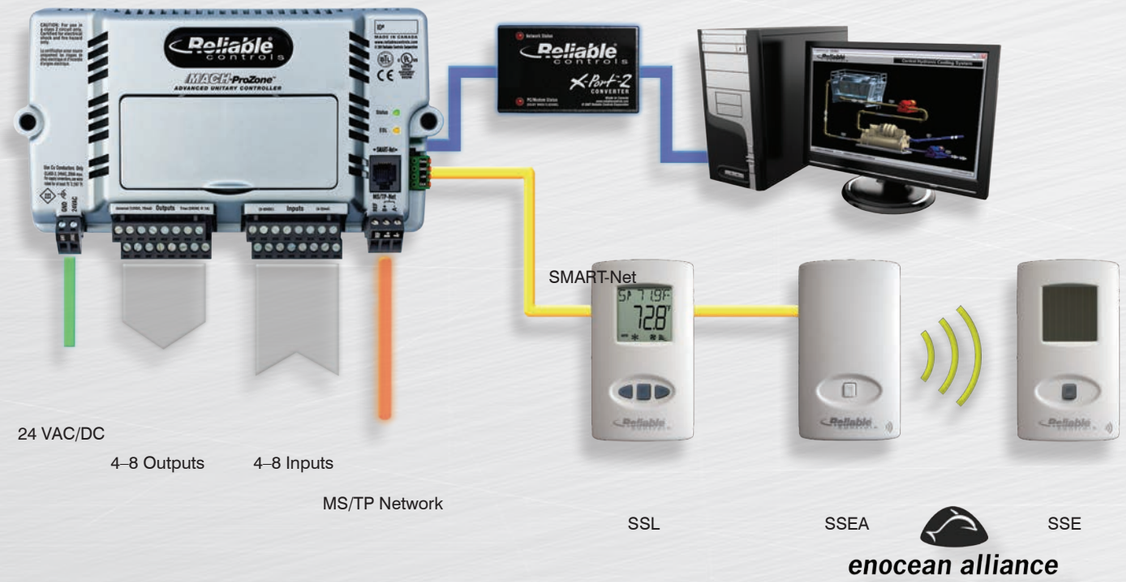
Maintaining the Green Zone



ISO 9001 QUALITY ASSURANCE

Reliable controls

MACH-ProZone: Maintaining the Green Zone



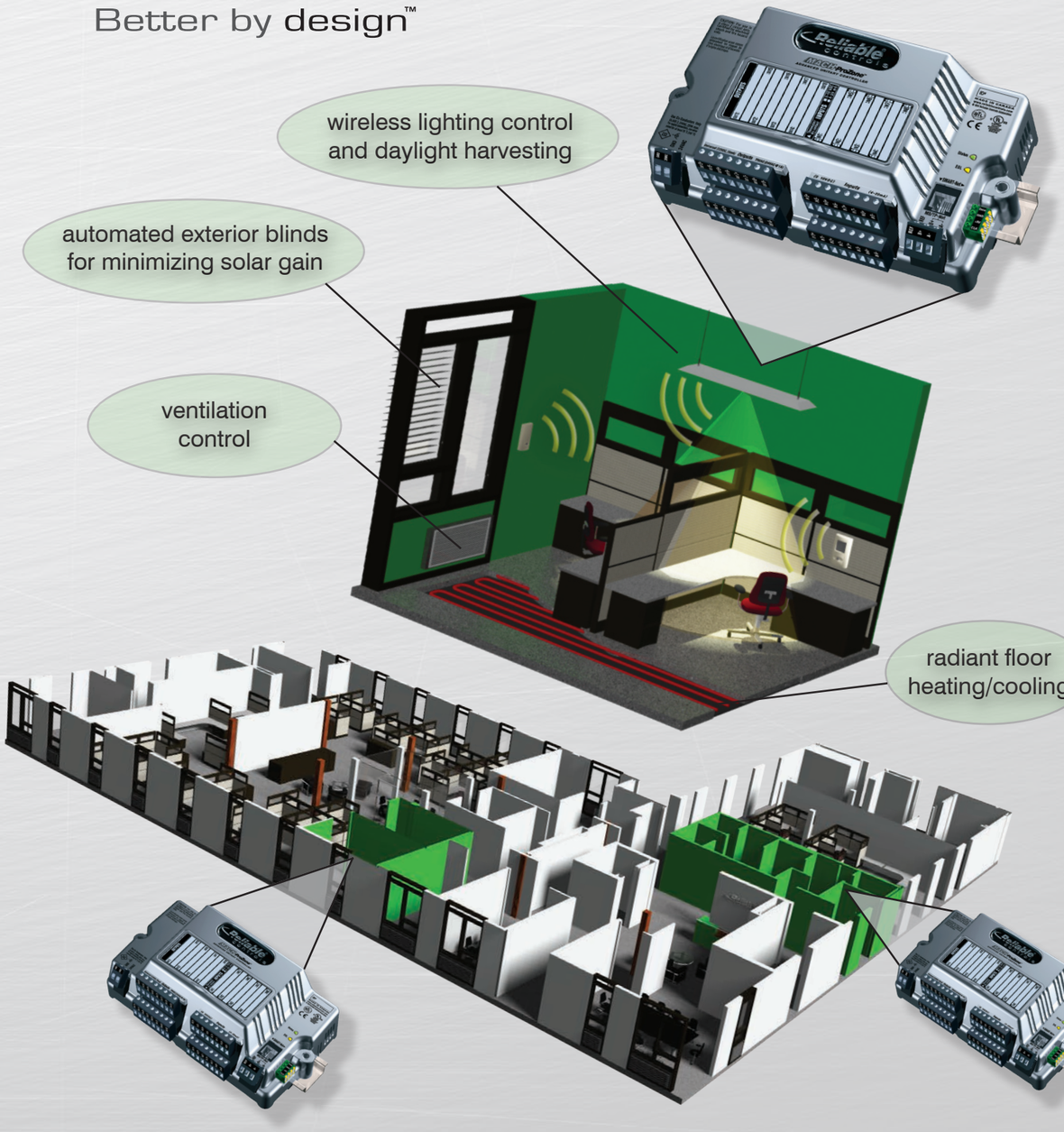
The MACH-ProZone™ controller, the latest addition to the MACH-Pro series of controllers, was released in mid-February and opened a new chapter for Reliable Controls®.

The MACH-ProZone™ is a fully programmable BACnet Building Controller (B-BC) with highly scalable I/O in a very small footprint. The MACHProZone™ is ideal for a wide range of applications that include small to mid-sized roof top and heatpump applications, and small mechanical room applications. The controller features up to eight universal inputs and up to eight universal outputs with jumper selectable TRIAC configuration. The MACH-ProZone™ ships standard with removable connectors and support for up to eight SMART-Sensors (SSLs) or four SMART-Sensor™ EnOcean Accesspoints (SSEAs).

With BACnet and EnOcean protocol support and a dynamic memory model, the MACH-ProZone™ provides tremendous flexibility for green building designers to implement the integrative strategies needed to maximize Energy and Atmosphere (EA) credits and Indoor Environmental Quality (IEQ) credits within the LEED rating system.

The MACH-ProZone™ is great for controlling unitary mechanical systems, radiant floor heating/cooling, and lighting in office applications. When adding the SMART-Sensor™ EnOcean Accesspoint, room temperature, occupancy, and lighting control can be integrated using wireless and batteryless EnOcean technology, thereby reducing the copper wiring required for installation and eliminating the maintenance and disposal issues associated with batteries.

Better by design™



For more information on the MACH-ProZone™, visit
http://www.reliablecontrols.com/products/controllers/MPZ/

BACnet Appointments

Reliable Controls® has a long track record of commitment and achievement with BACnet®. From its announcement to commit to the protocol in 1996, to its regular presence at the Interoperability Plugfests, Reliable Controls® has been a steadfast investor in the ASHRAE open protocol.

Recently, Reliable Controls® has embarked on a new level of commitment by allocating key personnel to the administration of the BACnet protocol.

Reliable Controls® President and Founder, Roland Laird, has accepted a nomination to the Board of Directors of BACnet International for a three year term. BACnet International (BI) is the organization committed to the promotion of the BACnet Protocol and protection of the brand. The BACnet Testing Labs is part of BI which ensures compliance to the standard. As one of seven directors, Roland will be responsible for guiding the organization's technical and marketing activities, policies, and finances.

At the end of the ASHRAE 2012 summer meeting, Reliable Controls® Firmware Manager, Michael Osborne, will assume the position of Secretary of the Standing Standard Project Committee (SSPC) 135 (BACnet). Michael was appointed to the secretary position by the Chair of the Committee and is expected to perform his BACnet duties for four years, after which, Michael will be appointed to the position of Vice Chair of the Committee for an additional four years. After serving as Vice-Chair, Michael will assume the Chairman position for an additional four years, for a total of a 12-year commitment.

Congratulations to Roland and Michael on their new BACnet appointments.

New **Singapore** Sales Office

Reliable Controls Corporation is very pleased to announce the opening of a new sales office in Singapore, and the arrival of Mr. Jimmy Wong as the corporation's new Regional Sales Manager for Southeast Asia.

Jimmy started his career at AT&T Bell Labs in Homdel, New Jersey working as a telecommunications R&D engineer throughout the eighties. He entered the controls industry in the late eighties, developing an in-house building automation system for Singapore Technologies as their R&D and project manager, then was hired on as Honeywell's Regional Sales Manager for Asia Pacific during the late nineties, and finally accepted a position as CEO of Infotel Technologies, a leading service provider/dealer of Advantech building automation systems in Singapore and Asia Pacific. Jimmy earned his BaSc in Electrical/Computer Engineering at State University New York (Stony Brook), and a Masters in Electrical/Computer Engineering at Cornell University.

As Regional Sales Manager for Southeast Asia, Jimmy will be responsible for growing and supporting the corporation's Authorized Dealer network from Korea to India. The arrival of the Singapore sales office is a welcomed addition to the corporation's existing offices in China and Australia.

New Dealers

Alaska Engineering Solutions

9th Street, G Block
Anna Nagar
Chennai, Tamil Nadu
600 102
India

Industrial Control Solutions

186, 1st District, Villas Area 2
5th Settlement, New Cairo, Cairo
11853
Eqypt

Essential Building Technologies - Oregon

PO Box 8194
Eugene, OR
97408
United States

Innovative Mechanical

4300 N Wilburn Avenue
Bethany, OK
73008
United States

Alliance Systems

A-13 Neo Blase CHS, Off Caesar Rd
Amboli, Andheri (West)
Mumbai, 400058
India

Trade Shows

Reliable Controls® will have a strong presence at the following trade shows.

TEMC 2012
Teritiary Education Management Conference
Adelaide Convention Center, Adelaide, SA, Australia
September 16–19, 2012
Booth #TBA
(temc.org.au)

Institute of Hospital Engineering
Healthcare Facilities Management Conference 2012
Hotel Grande Chancellor, Hobart, TAS, Australia
October 03–06, 2012
Booth TBA
(www.icebergevents.com/IHEA2012/)

Build Eco Xpo 2012
Marina Bay Sands Convention Center, Marina Bay Sands, Singapore
October 10–12, 2012
Booth #J25
(www.bex-asia.com/)

Australasia Award Winners

Reliable Controls® would like to recognize the following three Authorized Dealers in the Australasia market for outstanding achievement in 2011.

Top Sales of the Year

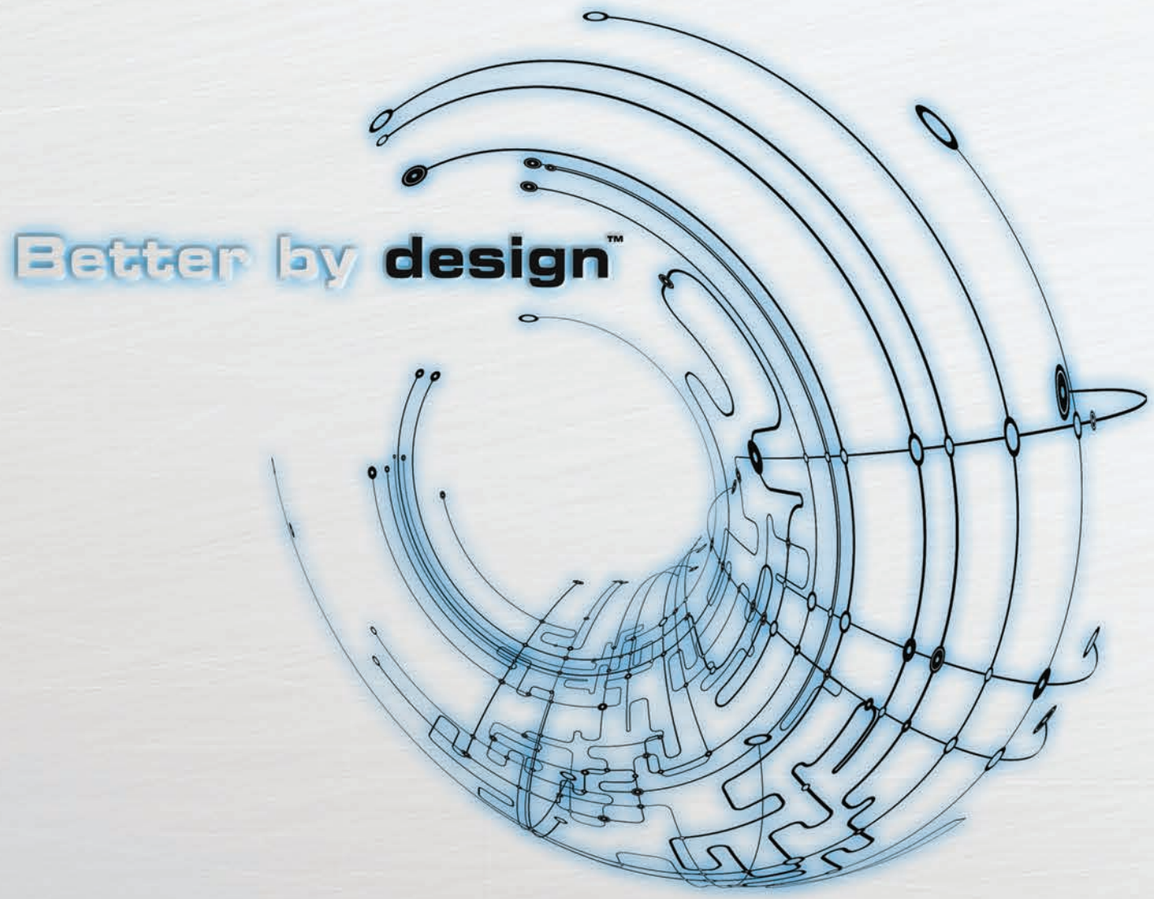
AUSTEC building automation Queensland

Entrepreneur of the Year

AUSTEC building automation South Australia

MVP of the Year

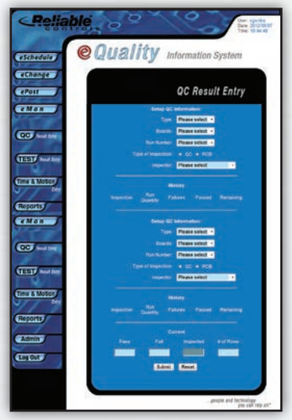
CALLANDER Control LTD



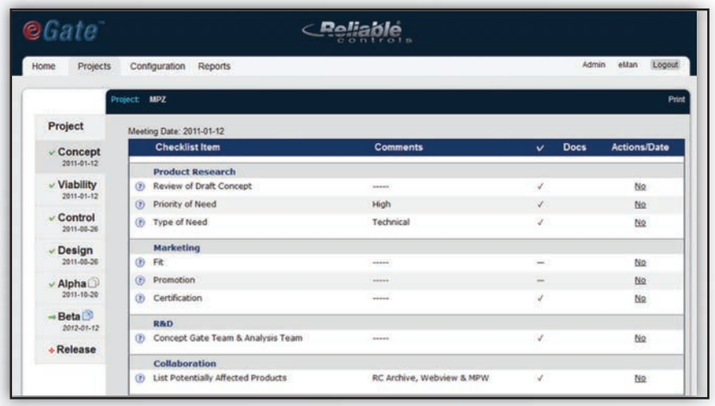
Quality Assurance @ Reliable Controls®

It is no secret that Reliable Controls® has an overriding goal; "Through ongoing monitoring and improvement of our operational processes, we will earn and sustain the reputation of having the most satisfied customers in our industry."

To monitor and record the progress in achieving this goal, quality control processes and procedures have been implemented at all levels of Reliable Controls Corporation. The company is constantly improving its design quality by implementing test points and checkpoints throughout the design and manufacturing process.



Quality control begins at Reliable Controls® in the Operations department where numerous manufacturing procedures are encapsulated in a special tool called ***eQuality***. This quality control monitoring and tracking tool records the inspection and test results for every product manufactured, and allows reports to be pulled on any product, based on any measured parameter.



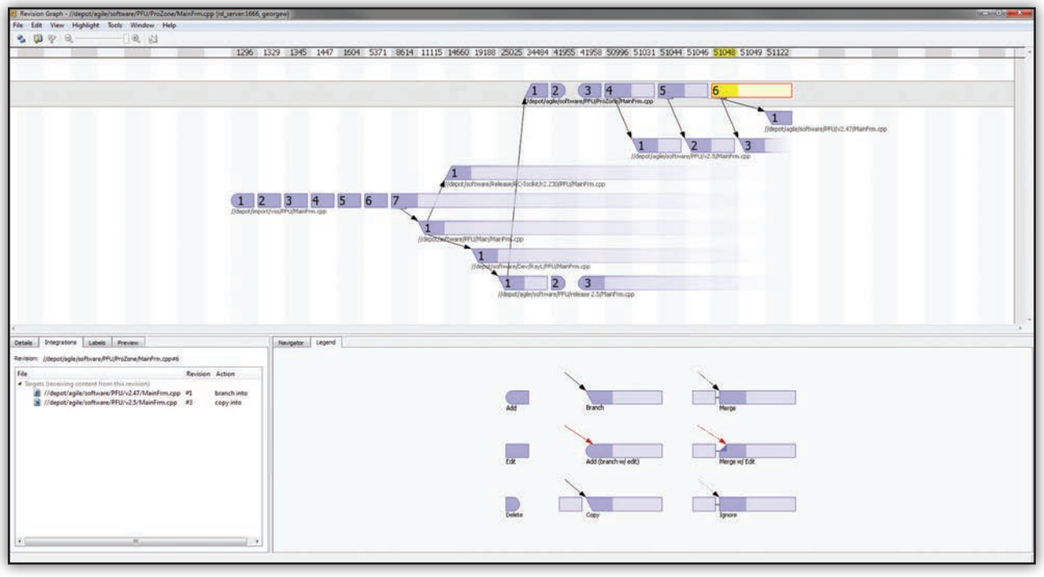
Taking an idea from concept to market involves thousands of thoughts and decisions. To help organize all those details, Reliable Controls® uses an important tool called ***eGate***. This tool provides a sequential process which organizes the overall control and collaboration of product development into six fundamental steps, or gates.

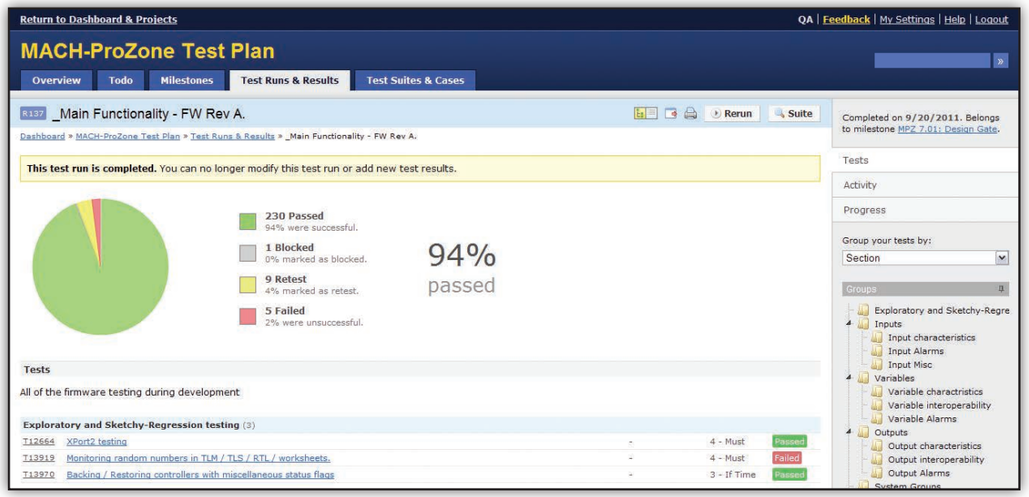
The process begins with the concept gate, which defines the product at a very high level, and then carries through the remaining gates to product release. In all, a series of six gates must be passed before a product can be shipped to market; 1) Concept, 2) Viability, 3) Control, 4) Design, 5) Alpha, and 6) Beta. Depending on the complexity of the product, it's not unusual for it to take two or three years to pass all of the gates.

Quality Assurance (con't)

A good ***warranty policy*** depends on years of accurate quality measurement. Reliable Controls® measures and analyzes sales order turnaround times, Return Material Authorizations (RMA) and advanced warranty turnaround times. Quality measurement results in dependable products and services which form the basis of the Reliable Controls® industry-leading, five-year warranty program. The five-year warranty was introduced in 1992 and the number of warranty returns over a five-year period remains well below 2%.

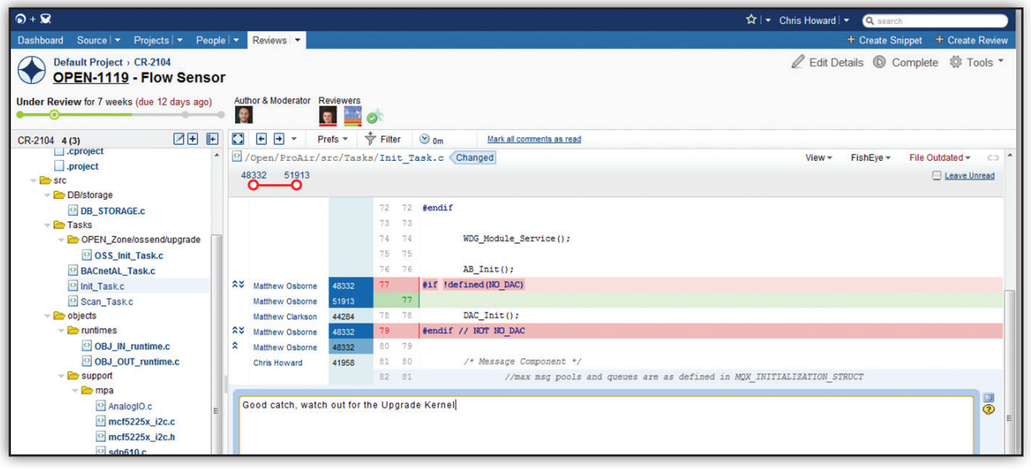
An enormous portion of the Reliable Controls® research and development resources focus on software and firmware programming. ***Perforce*** is an important tool used by the Research and Development team to manage versions of software and firmware releases. Code is securely checked in or checked out and is only editable by one person at a time. New product development at Reliable Controls® is tested continually throughout the entire development process.





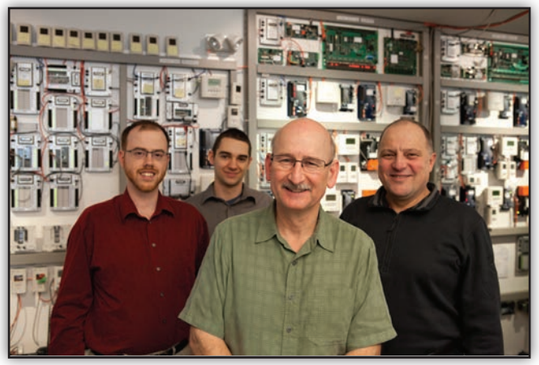
Testrail is the tool of choice for scheduling and recording the many test cases required for quality hardware and software development. Testrail offers separate tests for each specific area of functionality. These features can be individually tested during the design phase and again during alpha testing.

Crucible is a very important quality management tool employed at Reliable Controls® that facilitates "peer reviews" of software and firmware code. This effective process allows developers to closely examine each other's code and identify/remedy bugs or concerns before the product is compiled and released to the QA team for alpha testing.



Quality Assurance (con't)

After the Design Gate is passed, the product moves on to ***alpha testing***. Alpha testing is performed on every product designed by Reliable Controls®. A dedicated, highly focused team performs alpha testing of each individual function of a new product. After the alpha test team passes the product, it is retested by the entire development team in a group situation called Functional Stress Testing (FST). Only when the FST is successful can the product pass the alpha gate.



The Relaible Controls® Quality Control Team from left to right: Kyle Hendry, Jaymz Boilard, Roland Laird, and Laszlo Orban.

Reliable Controls® recognizes the true test of a new product lies in the real world. After all the in-house testing is completed, Reliable Controls® Authorized Dealers are invited to ***beta test*** the products for several months prior to releasing the official version.

After the official releases are shipped, new features and undocumented features (bugs) are reported to our Technical Support team and are recorded, tracked, and prioritized in another industry-leading tool called ***Jira***. New features and bug fixes are developed, tested, and posted as updates for controller firmware and software. Reliable Controls® Authorized Dealers download these updates from the Reliable Controls® website at any time.

The Relaible Controls® Technical Support Team from left to right: Emmitt Bell and David Brunsdon.

At Reliable Controls® we are committed to developing quality products and services and to earn the business of the most satisfied customers in our industry.

In 2010 the company set out to achieve ISO9001:2008 certification. This internationally recognized and highly regarded standard demands a commitment to ***continual improvement***. In September of 2011 Reliable Controls® achieved ISO certification and implemented yearly verification audits to demonstrate a commitment to continually improve.

ISO 9001 QUALITY ASSURANCE

If you want more information on the Reliable Controls® commitment to quality, or if you'd like more information about the company's ISO certification, please visit...

http://www.reliablecontrols.com/corporate/quality/

162**VIC**

green star™

Reliable Controls® Equipment Installed

1 MACH-ProCom
1 MACH-ProSys
1 MACH-ProWebSys
2 MACH-ProPoint Input
4 MACH-ProPoint
20 SPACE-Sensor Temperature CO_2
98 SMART-Space Controller Enhanced

162**VIC** is a new-generation office building in Auckland, New Zealand's Victoria Precinct, close to Victoria Park, the Viaduct area, and the new Wynyard Quarter. Rising five storeys from the two basement levels, 162**VIC** has a large 8,500 m² footprint complete with internal light well. The 4 Greenstar-rated building offers the latest in tenant services, including ample cycle parks, showers, dedicated limo parking, and its own on-site cafe. An atrium void extends from the entry level to all four upper office levels. Suspended walk bridges serve each level from the lifts, providing architectural interest and convenient access to the floors.

For Callander Control, a Reliable Controls® Authorized Dealer, the 162**VIC** project was their first major BMS job with Reliable Controls® to cover complete plant and zone control. With a tight timeline of just 9 months from shovels in the dirt to "For Lease" signs in the windows, the project was in some respects a trial by fire – in other words an exercise in smoke control.

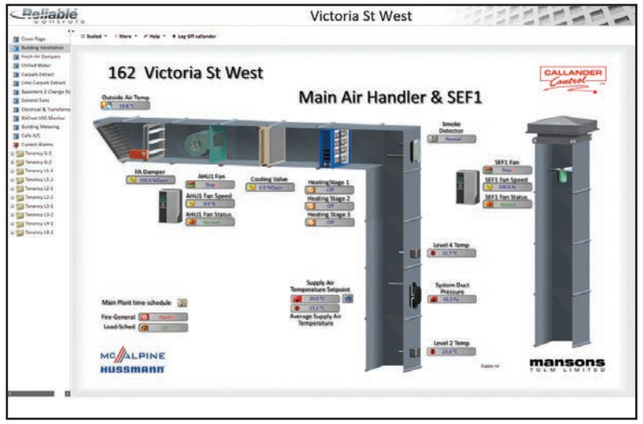
Main plant equipment installed at the facility includes: a Turkish made back-up generator, a Trane "R" series chiller, and a Trane air handler. The back-up generator uses a low-level interface, mainly load shedding if the main power is lost. The Trane chiller is HLI via Ethernet BACnet/IP – the pumps use VSDs which are EIA-485. The Trane air handler features 3-phase electric heat, chilled water, and fresh air damper section.

Ground to level 4 dampers are fire-rated for smoke control and smoke control strategy. Smoke detection for each tenant unit on each floor travels to the fire panel, then to the BMS which invokes a strategy that essentially closes the dampers on unaffected floors, allowing the atrium smoke extract fan to draw smoke from an affected floor, into the central atrium, and up and out of the building. In the atrium, the fan coils are always on. Smoke detection in the AHU return plenum travels first to the fire panel then to the BMS, the same as the smoke detection for the atrium. To prove proper operation of the smoke control system, Callander Controls witnessed an independent smoke test.

162**VIC** also features 11 electrical meters and 11 water meters, which have pulse input. With two tenants per floor, there are 2 electrical and 2 water meters per floor, plus 2 CO_2 sensors per tenant zone. Each floor is subdivided into roughly 20 fan coil zones, each with an enhanced SMART-Space™ Controller. In New Zealand, building owners find that it is important to provide visual access to the BMS for their tenants and the SSCE was an obvious choice for Callander Control who were able to provide building tenants with view/adjust access to date/time, setpoint temperature, auto or manual heat or manual cool, and a weekly schedule.

As a reward for a job well done, Callander Control landed a similar sized project in Auckland with the same builder.

CALLANDER Control LTD



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ElectCon
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Reliable® controls
Authorized Dealer

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With the country focusing its attention on energy efficiency and sustainability, now would be a great time to discuss your green building needs with a Reliable Controls® Authorized Dealer near you.

green star

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