ZONEWORKS®
XT HIVE

SIMPLE. FAST. POWERFUL.

We are
Emergency Lighting

At Clevertronics, we make emergency lighting easy by designing world-class products and systems that are supported with unrivalled expertise and customer service.

Our innovations are spread across many parts of our business, including luminaire design and functionality, world-class monitoring systems, and how we support customers to learn, source, install and manage emergency lighting.

An example of our innovation is the release of our L10 Lithium Nanophosphate range, which completely revolutionised the global emergency lighting market in 2012. Emergency lighting as a life saving device had been incredibly high maintenance and expensive to manage due to the low service life of the battery and lighting components of luminaires. This resulted in emergency lighting often being non compliant and challenging to maintain. The introduction of the L10 Nanophosphate range improved luminaire lifetimes from four years to twelve years, resulting in over 80% maintenance savings compared to the available alternatives. These outcomes significantly increased the time that each emergency and exit luminaire was in working order if required.

Zoneworks XT HIVE continues our innovation culture by simplifying emergency lighting, resulting in faster design, installation, commissioning, testing, and maintenance combined with a lower installation and operation cost. The removal of the traditional wired backbone makes Zoneworks XT HIVE easy to integrate organically into existing buildings to upgrade ageing systems without changing every luminaire at once.

XT HIVE results from years of engineering development which includes partnering with one of the world's leading specialists in IoT and adaptive multi-hop mesh topology. Our product development and innovation team of over 30 engineers live and breathe emergency lighting to deliver outcomes like Zoneworks XT HIVE.

ZONEWORKS®
XT HIVE

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XT HIVE

Zoneworks is the world's most advanced emergency lighting system with over 1,500 sites installed across Australia, New Zealand and the UK.

The introduction of Zoneworks XT HIVE has redefined the way emergency lighting is designed, installed and managed, making it the most advanced system on the market.

Zoneworks XT HIVE reduces the backbone hardware requirements to a single RF controller and adds dynamic self-managed meshing technology to make your emergency lighting simpler, faster and easier than ever before.

● If you are designing an emergency lighting system, **it is simpler**
● If you are installing and commissioning emergency lighting, **it is faster**
● If you are managing emergency lighting, **it is easier**

Zoneworks XT HIVE will continue to be supported by a team of Advantage Lifetime Support specialists that ensure each system is looked after for its lifetime at no additional cost. It's just what we do.

Faster
Design, Install, Commissioning, Testing & Maintenance

Lower Cost
Installation & Operation

Zoneworks XT HIVE is simple because you **DON'T NEED** to purchase & install:

- ✖ Additional Routers
- ✖ Additional Controller
- ✖ Additional Repeaters
- ✖ Additional Networking Cable
- ✖ Additional Couplers
- ✖ Additional Data Points
- ✖ Data Cable Between Fittings
- ✖ Additional Extenders

Zoneworks XT HIVE features the **absolute simplest RF backbone** set up for **any site**.

- One single RF controller per 1,000 fittings
- Unlimited fittings per system
- Powerful Sub-GHz radio frequency
- Industry grade encryption and site security
- Highest data throughput and performance

Less backbone = **Less** cost
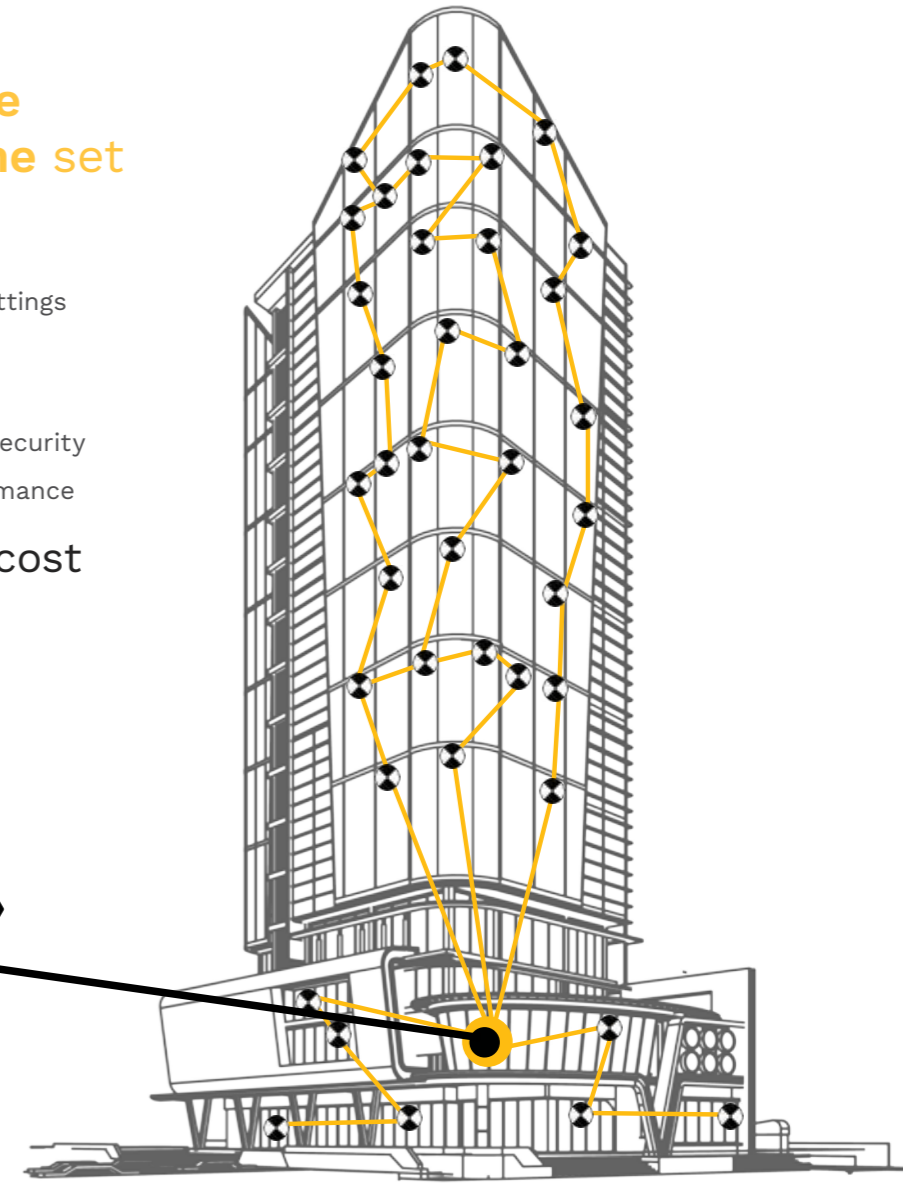
One Single Controller*

*1000 fittings per controller, unlimited fittings per system.
Location of the controller is flexible & can be moved should the need arise.

Unmatched Simplicity

Unmatched Performance

Dynamic Self-Managed (DSM) Meshing

- Every fitting self-discovers other fittings around it to form "colonies" that dynamically build the network
- These colonies only communicate with each other and will not interfere with other wireless networks, even if they are on the same frequency.
- Maximising the efficiency of the overall network
- Minimising commissioning and system management time

Zoneworks XT HIVE
Backbone & Connectivity

Zoneworks XT HIVE is fast, simple and smart, allowing you to save time and costs across design, installation, commissioning and testing.

1. Automatically Mesh Devices

Once HIVE fittings are installed and powered up they automatically create a network by self-discovering others around them using dynamic self-managed meshing (DSM Meshing), saving valuable commissioning time.
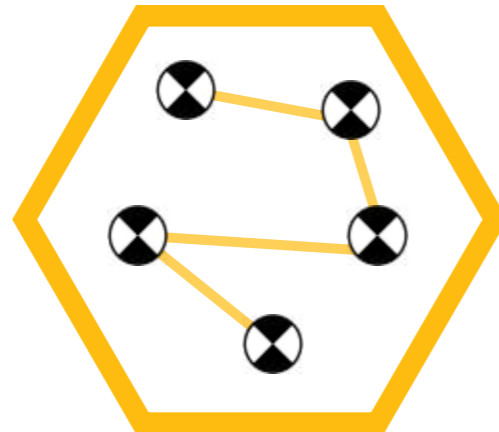
2. Enable the Controller

Switch on the controller to provide access and control of the emergency lighting system.

Cloud Server

Local Server

Admin Access
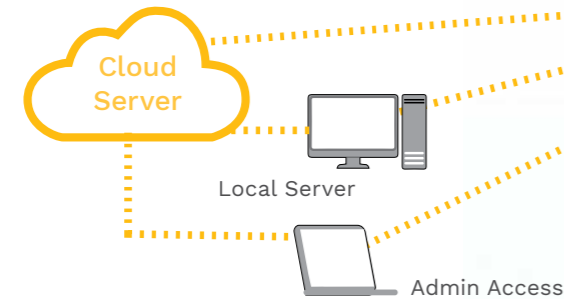
3. Create your Log Book

The fitting register can now be easily uploaded and a smartphone or tablet can be used to perform local fitting diagnostics and identification.

Mobile Access Device

Local fitting diagnostics & identification
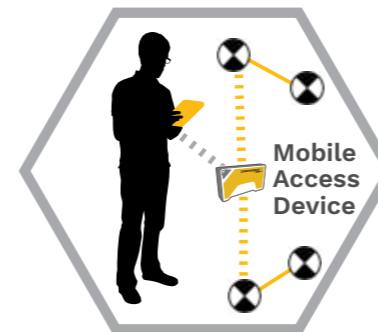
The MAD (Mobile Access Device) is a portable access tool (as small as a smartphone) that enables service technicians a mobile field connection to the XT HIVE network using a smart phone or tablet app.
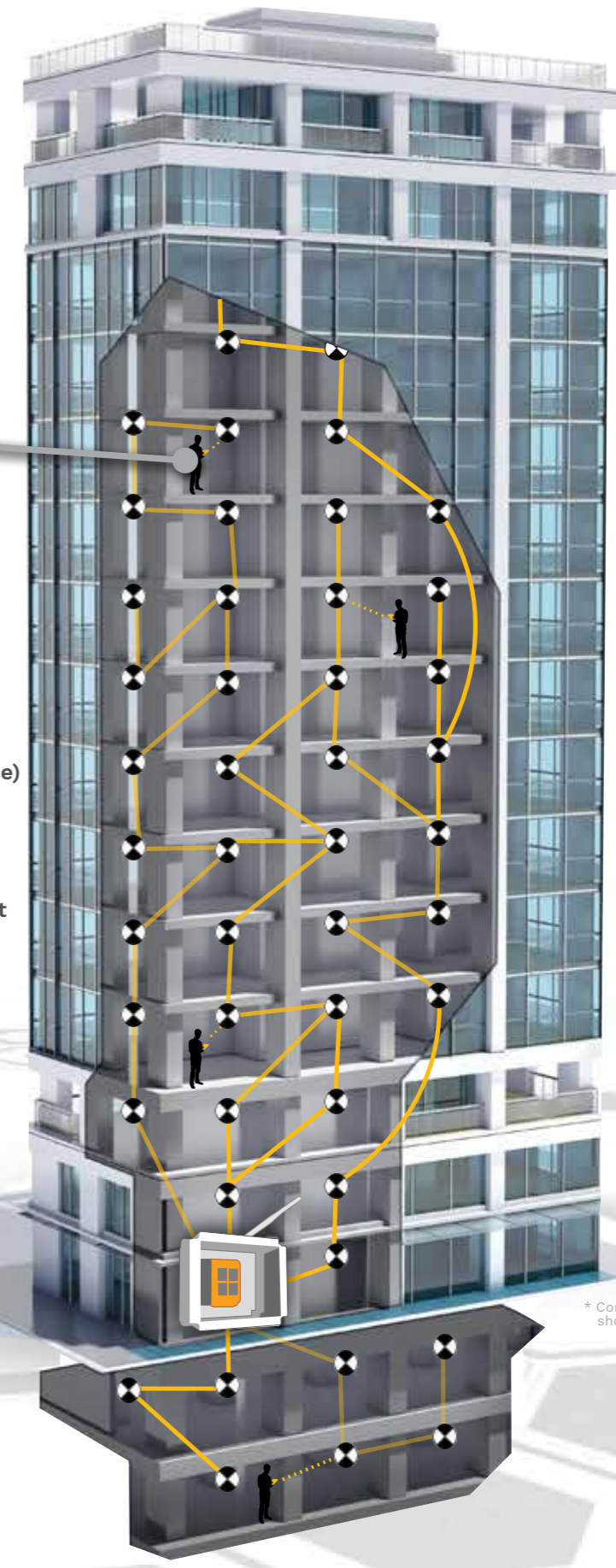
RF with Dynamic Self Managed Meshing

RF Mobile Access Device to Fittings

Bluetooth to Smart Device

* Components not shown to scale.

Security

The method used by the HIVE controllers to achieve this outcome is via a unique encryption key. Following the initial commissioning, the fittings are then issued an encryption key; either globally across the entire site or on a controller-by-controller basis.

In the same way that bees join a colony, once the encryption key is applied to the HIVE emergency fittings and the controller, a segregated community of Zoneworks XT HIVE emergency light fittings is established, and the members of this HIVE will only communicate with their fellow members, ignoring any others within range.

New members can only be added to this community by the issue of the site's unique encryption key. This key can be changed by the client if or as required.

The HIVE controller(s) and fittings also provide 3 levels of **RF network security** – **Message Integrity, Message Confidentially (encryption)** and **Node Authenticity**.
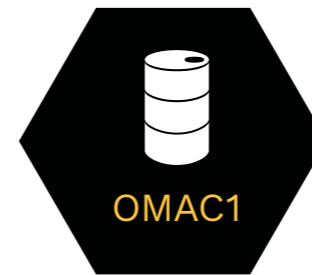
OMAC1

Message **Integrity**

Each message is appended with an OMAC1 Message Integrity Code.

Making sure the message content was not interfered with during transmission.

AES128 CTR

Message **Confidentiality**

**Every message is encrypted with AES128 CTR mode using a message specific nonce.**

Ensuring the message is encrypted in such a way that if it could be heard or intercepted the message could not be understood.

Message Integrity Code

Node **Authenticity**

Network signalling messages are encrypted and appended with an OMAC1 Message Integrity Code (MIC). Nodes without the correct encryption & MIC key pair cannot join the network.

Making sure that received data can be trusted.

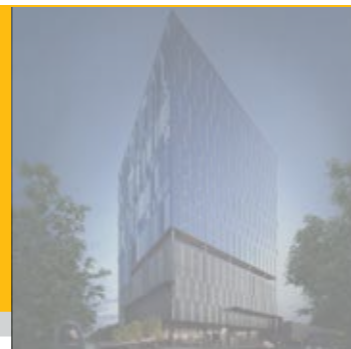**SSH HTTPS MQTT**
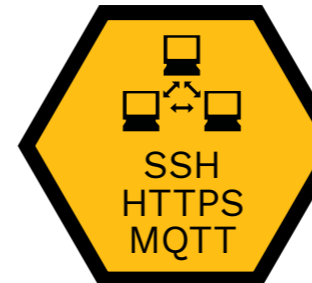
Security at the Controller and Server

Industry standard:

- SSH for file transfer
- HTTPS
- Secure Socket Layer for MQTT
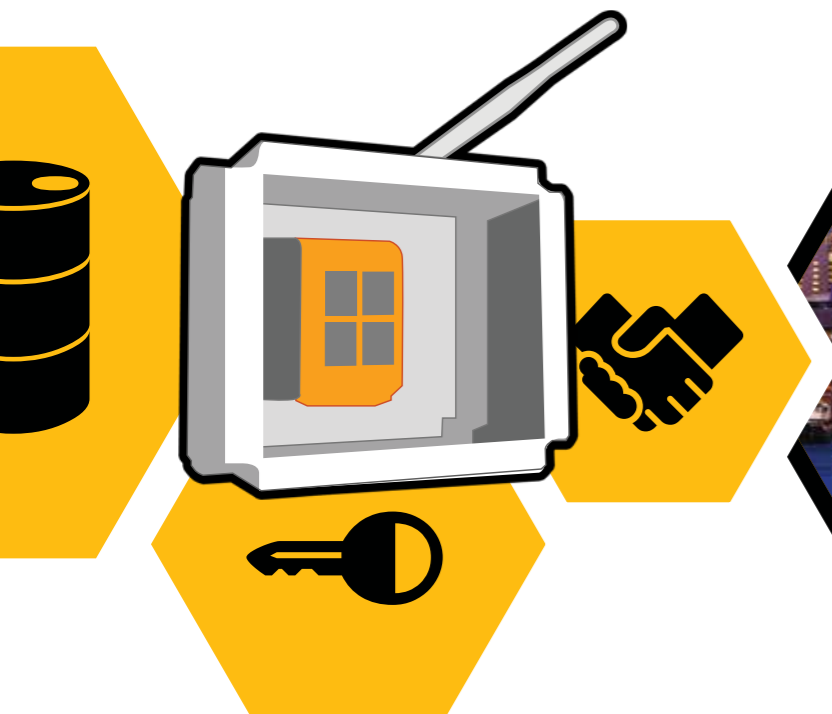
Trusted across **many industries**

Government & Defence

Data Centres

Infrastructure & Transport

Operation & Reporting

Zoneworks XT HIVE has all the functionality users are familiar with, including a clean and simple web-based interface that can be integrated seamlessly with other networked building management services.

Fittings by groups

The reporting functionality provides everything you need at the push of a button from faulty fittings, maintenance log and full test results.

Fitting detail and test history

Flexible Site and **User** Management

Allows organisations with large sites or multiple locations to put one controller at each address to centrally manage all their emergency lighting systems from one place, including gathering compliance test results without needing to attend the sites in person.

A feature named "Site Group Access" enables facility managers to grant specific access to users across different parts of the network. For example, they might have an agreement with different local contractors to provide emergency lighting maintenance for different locations. The building manager can give them access to the system, but they'll only see the parts that are relevant to their location.

This feature coupled with Active Directory Integration allows system administrators to manage users more effectively.

Cloud Hosting

While the Zoneworks XT platform can be housed locally, clients may instead choose to access Zoneworks XT Cloud Hosting, making it the practical choice for installations where there are no dedicated building management facilities. All that is required is an internet connection to the local XT HIVE RF controller and you are set to go.

Simpler Commissioning

Multiple installers can work efficiently together at different locations to create the master register, ready for managing compliance testing for the site. The Zoneworks App lets maintenance personnel manage multiple sites, including control of access to the system for additions or changes as required.

Sensitive Areas that cannot utilise wireless platforms

Zoneworks XT HIVE has the solution if an RF network isn't suitable for selected rooms or areas that are shielded from all RF interference due a specialist function, or a requirement for specific luminaires. These may include high-security facilities, emergency services control rooms, hazardous area lighting, or hospital MRI rooms.

Adding a Hive2Wired bridge outside of the sensitive zone enables a Zoneworks connection using a (Non-RF) wired communication link into the shielded area and includes the fittings in the same system.

Building Management Systems Integration

The Zoneworks XT management software includes the capability to integrate with 3rd party Integrated Building Management Systems platforms. This allows for the integration of the emergency lighting information into a single, consolidated building management system, alongside other building services including general lighting, ventilation, security, access, and more.

We offer integration with 3rd party Building Management Systems on several levels:

a) **Low Level via voltage free contacts that provide system alarm and fault indications.**

b) **High Level via a Direct Structured Query Language (SQL) database access where all information associated with each emergency light fitting can be obtained (no additional cost).**

c) **High Level via REST API or MQTT interfaces that work with multiple supervisory systems, including Integrated Building Management Systems (IBMS).**

Clevertronics can provide a "System view" for the BMS integrator to access only the relevant information for each site.

# Upgrading your **existing Zoneworks system** to XT HIVE

An investment in a Clevertronics Zoneworks system is an investment for life. Every new Zoneworks system is backwards compatible with previous generations that allows for a seamless upgrade pathway for all our end user clients to accommodate refurbishments like tenancy refits, building additions, or simply migration to our latest technology as fittings fail through natural attrition.

It is not a large investment to commence a system upgrade, simply add an XT HIVE controller and add or replace fittings when required under regular maintenance. Software updates are free and Clevertronics provides commissioning support to migrate your existing Zoneworks system and XT HIVE into one front end interface for ongoing testing, reporting & compliance management.

Backwards compatible HIVE nodes

Clevertronics LP & L10 battery technology combined with 100,000hour luminaires means your installed fittings have industry leading service life.

With our engineered backwards compatible HIVE nodes there is no need to discard functioning emergency lights to access the benefits of the Zoneworks XT HIVE as part of your upgrade project. The Zoneworks HUNI Card [HIVE Upgrade Node Interface] is a plug-and-play solution that links the existing evacuation luminaire into the Hive platform. This process can happen in bulk or over time to build a complete Hive system to maximise the life of your investment in lithium fittings.
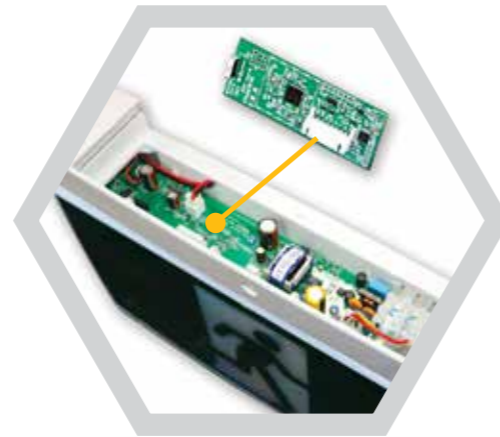
Seamless experience between **new** and **existing** Zoneworks systems

A single hybrid front-end Zoneworks interface allows existing clients to control both the existing and new generation of Zoneworks in one location, without jumping between interfaces or windows.

This creates a more seamless experience for clients with no separation between emergency lighting - allowing for staged upgrades or new XT HIVE additions on sites using our powerline platforms.

LP LITHIUM IRON PHOSPHATE
PREMIUM
PREMIUM PROJECT PERFORMANCE

L10 LITHIUM NANOPHOSPHATE®
OPTIMUM
NOTHING ELSE COMPETES WITH NANOPHOSPHATE®

Upgrading your site to **XT HIVE** from **scratch**

Previous emergency lighting system upgrades were costly and complex due to the required backbone and cabling requirements. With Zoneworks XT HIVE's simple backbone and RF meshing system, all sites, regardless of manufacturer, can now be easily upgraded cost-effectively.

Here are some signs you might need to consider an upgrade:

- Your facilities management team are struggling to stay on top of testing and maintenance requirements
- Your team isn't sure how your system works because training and support is minimal
- You're not sure if your building is compliant, and there's no log of the testing or maintenance
- Your costs to manage, maintain, and test your system are high - and going up over time
- Your lamps and batteries are an older style that needs replacing every year or so

XT HIVE progressive upgrades don't add any significant upfront cost to your emergency lighting maintenance budget as it only requires the small investment of a HIVE controller. As the existing fittings fail and need replacement, XT HIVE compatible fittings are installed as a progressive upgrade throughout the site. This process ensures you are only using the maintenance budget to achieve the upgrade. Depending on the health of the existing fittings, you will likely have a fully operational HIVE site within a few years.

Only one XT HIVE fitting and controller is required to start you on a better emergency lighting compliance journey.
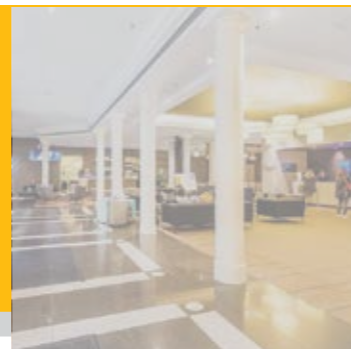
Are you interested in understanding more about an **upgrade at your site**?

Contact **Clevertronics** for a site audit, demonstration and cost analysis report.

Trusted across **many industries**

Residential & Hotels

Heavy Industry

Warehouse & Distribution

Technical Overview

Fittings per controller	Up to 1000.
Fittings per system	Unlimited.
High data throughput	Ultra fast data network enabling real-time analytics and response. Status and test result request times for a 1000 fitting network are an average of 1 second, or less per fitting.
Network Commissioning	The RF network builds itself automatically (unattended) resulting in a dramatic reduction in site commissioning time - Clevertronics can deliver a fully commissioned network faster.
Bluetooth Connectivity	Smart devices (IOS & Android) can connect locally via our mobile access device.
Compatibility	Supports powerline and RF controllers.
Antenna Configuration	Internal (external antennas by exception only on a limited range of products).
Product Availability	L10 & LP Exits, Emergency Lighting & Battens.
Fittings Product Code	Add suffix '-HV' to existing L10 & LP Exits, Emergency Lighting or Battens.
Security	XT HIVE fittings use high grade network security protocols to ensure that they only communicate within their site and will not interact with any device outside of the commissioned group.
No Interference	The RF networks operates within the ACMA approved range of 915-928MHz which is outside of Wi-Fi, Mobile Phones, Bluetooth, and other wireless communication streams. XT HIVE is designed to operate in environments alongside other RF systems, even those using the same frequency band. It has proven performance in various environments including hospitals, retail, distribution centres, power stations, data centres, transport hubs and televised stadiums.

Your **Partner** in **Compliance**

With the Zoneworks XT HIVE platform, Clevertronics also includes ongoing support through our complimentary Advantage Lifetime Support (ALS) program. This service is designed to help the building owner & maintenance contractor manage the on-going health for the life of the system.

Emergency lighting is regarded as a life-saving device, and therefore, it should always in working order. Compliance with the standard can be costly, especially if the products and operating systems regularly fail.

Many emergency lighting companies finish their involvement on your project once the product has been supplied. However, at Clevertronics we know that on-going support is important to contractors and building owners.

How can we **help you**?

|	
System Health Check	Once you complete the testing, we assist with interpreting results
Optimisation	We can provide expert support to assist with optimising the system
Training	Periodic training is provided to ensure the user is confident with operating the system
Software	Complimentary software upgrades are installed to ensure your system is always up to date
Contact	You will always have a dedicated point of contact to answer your emergency lighting questions

ALS
ADVANTAGE
LIFETIME SUPPORT

Complimentary Lifetime Support

Trusted across **many industries**

Retail & Commercial

Medical & Health

Education

Clevertronics
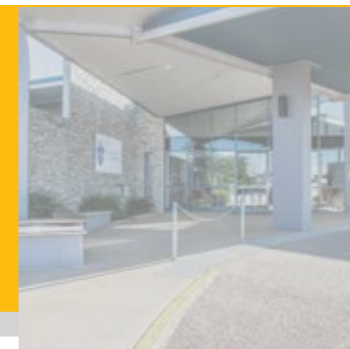
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