

SINGAPORE

Follow the arrows

Smart Exit & Emergency Lighting Monitored System

YEFFRY WIYANA – PRODUCT MARKETING MANAGER

Agenda



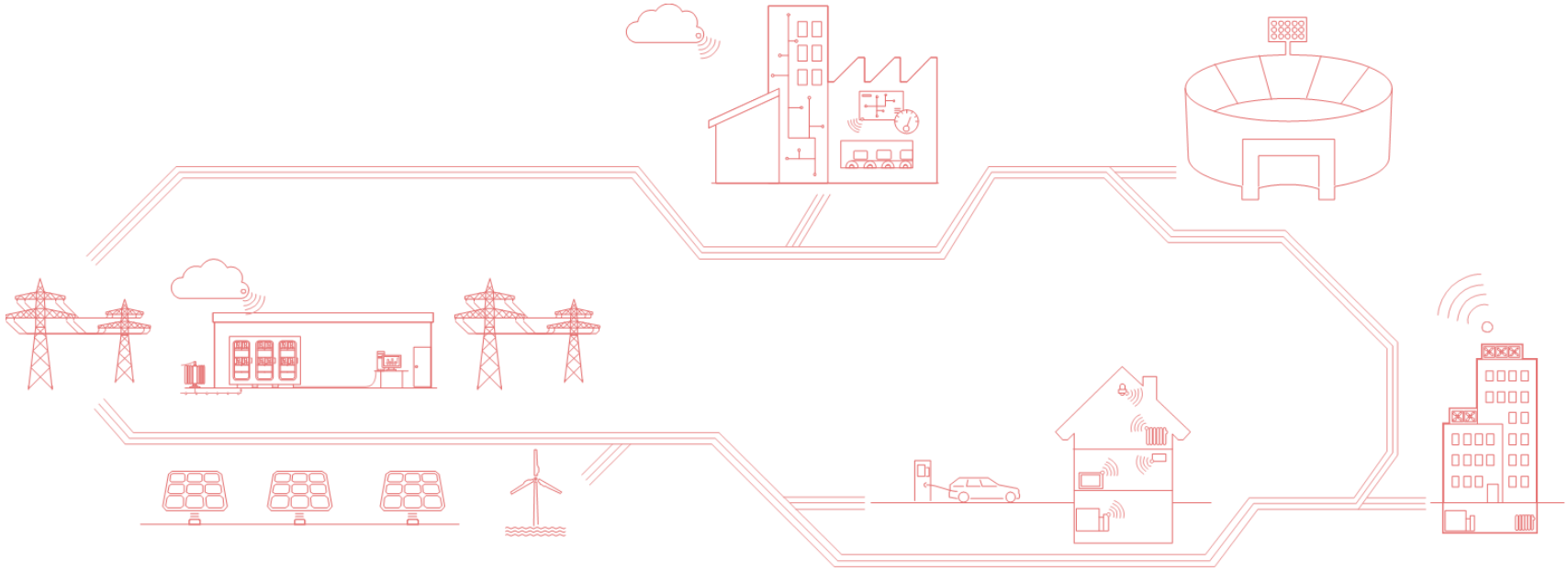
- Smart Requirements
- SS 563 Part 1 & Part 2 Compliance
- How can a Smart System achieve this
- NexusRF
- Currently Installed Sites

Smart Definition



How to Comply

- **Automated operations** which increase productivity
- **Real time reporting** to provide actionable information
- **Proactive self analysis** for preventative maintenance



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SS 563 Part 1 & 2

Are you prepared for an emergency?



SS 563 : Part 2 : 2010

13.2 Monthly procedures

Observe that the self-contained emergency escape luminaires and exit signs function satisfactorily. Replace any defective lamp.

SS 563 Part 1 & 2

Are you prepared for an emergency?



13.3 Twelve-monthly procedures

The procedures prescribed below shall be carried out at intervals of not greater than 12 months.

13.3.1 Battery discharge test

13.3.1.1 Where manual battery discharge facilities are provided, the following procedures shall be carried out:

(a) Operate the emergency escape luminaires and exit signs from their battery supply by simulating failure of the monitored supply. The luminaire and exit signs shall remain illuminated for not less than the required rated period.

NOTE – Provision may be made for the continuance of the discharge test beyond the required duration, e.g. until operation is terminated by the automatic battery cut-off device.

(b) Restore the emergency escape luminaires and exit signs to normal condition and check that the battery charger operation indicator functions correctly.

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SS 563 Part 1 & 2

Are you prepared for an emergency?



11.2 Maintenance records

The installer of the emergency lighting system shall provide maintenance records in a durable hard-bound cover or an alternative system for recording of maintenance information. These shall be kept on the premises at all times.

Provision shall be made to enter all details in the record that are required to be maintained in accordance with Clauses 12 and 13, as appropriate.

All entries shall be made by the authorized person and shall be dated and signed.

How is this achieved manually?



Clause 13.2 “Monthly Procedures: Observe that the emergency escape luminaires and exits function satisfactorily. Replace any defective lamp.”

- A walk-through of the building can be very labor intensive
- Impacts on the facility and/or tenants, are there secure areas that can’t be accessed? How were these checked?
- Plant Rooms, Motor Rooms, Switch Rooms – were these all accurately checked?

How is this achieved manually?



Clause 13.3.1.1 “Annually conduct a battery discharge test and rectify all defects .”

- Engaging the test switches to discharge the emergency lighting circuits
- Highly labor intensive.
- How accurately has this been performed
- Were all fittings discharged
- What are the impacts to the facility

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How is this achieved manually?



Clause 11.2 “Maintenance Records: The installer of the emergency lighting system shall provide maintenance records in a durable hard-bound cover or an alternative system for recording of maintenance information.”

Clause 11.1.1 “The Operating and maintenance manual shall be kept up-to-date .

- Could you find these records easily at your building?
- How accurate are they
- Very labor intensive manual process

Smart Emergency & Exit Lighting



A Smart Emergency Lighting System is a real-time system which allows building owners to take control of their public safety obligations with ease and simplicity. The system allows users to do:

- Real-time live snapshots of an entire system, identify defects such as faulty lamps from a single location, or do it remotely
- Cost effectively test and monitor the system with unequalled accuracy
- Records all maintenance operations and logs all test results
- Compliance to Standards and local authority expectations
- And so much more

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A Brief History of NexusRF



With over 30 years of experience, Stanilite (now ABB) introduced NexusRF into the Australian Market in 2007 and has remained the market leader since inception

- Now over 1500 Major Facilities including Airports, Defence Sites, Hospitals, Office Towers, Universities, Transit Systems, and Shopping Precincts
- Installing contractors product of choice
- Specification of choice
- End-users product of choice

How has it achieved this success?



By being a smart, yet simplistic system.

- Simple to install for the contractor
- Simple to use for the End-User and maintenance staff
- Reliability of NexusRF product due to stringent production testing procedures
- Automate your mandatory testing requirements and maintenance logs
- Through Life System Support
- Engineered based on market requirements
- Scalability
- Future Proof your building

What makes a NexusRF System?



- NexusRF Emergency and Exit luminaries





- NexusRF Area Controller (controls 90 luminaires)



- For each additional 90 luminaries, a NexusRF Router is required
- IP Backbone for the Area Controller and Routers



How does it work?



Emergency and Exit lights create a mesh network and transmit their operating information back to centrally located routers wirelessly

- The NexusRF system creates a wireless mesh network
- Optimum Smart Channel Selection technology utilizing the full spectrum of the band to ensure trouble free operation
- Automatic Route Optimization ensures the shortest path taken between fittings
- The mesh network connections are formed automatically and change dynamically and intelligently to suit the RF environment

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NexusRF Luminaires

What do they look like?



- The same as single point units
- NexusRF Antennas are seamlessly integrated into the luminaires, most commonly behind the diffuser of an exit light or emergency batten
- Generally the only way to tell it is a NexusRF fitting is if the MAC Address is visible











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NexusRF Area Controller Head End



NAC-2

- System Head End Controller
- Co-ordinates up to 90 units
- SD micro flash memory
- 7” colour graphical user interface
- LCD resistive touch screen
- Integrated Web Server
- Ethernet; USB A; USB B;
- Back up battery with fast recharge capability
- Contains all system and unit information
- HTTPS and DHC via Static IP Address



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NexusRF Area Controller Router



NACR-1

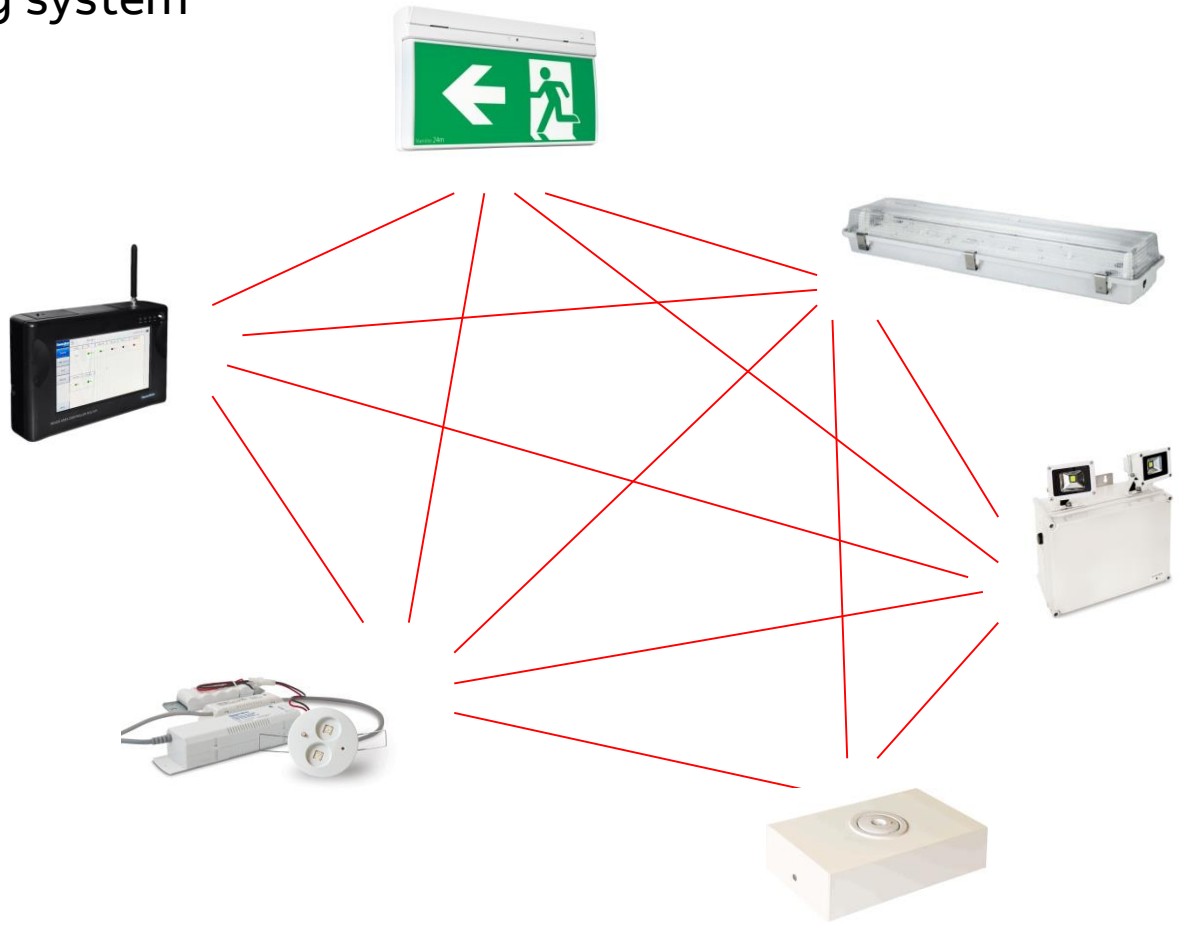
- Synchronizes a back up all system and unit information
- Co-ordinates up to 90 units
- SD micro flash memory
- Integrated Web Server
- Ethernet; USB A; USB B;
- Back up battery with fast recharge capability
- HTTPS and DHC via Static IP Address



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What does it look like?

A SMART living system



User Friendly Software



Screenshot

Thomas&Betts
Leading the Way

08-06-2018, 13:58
Nexus: 3.43
Table: 2.93

Home

Search | Logout

ABB AYER RAJAH

- Units in domain
- Routers in domain
- Domain tools
- Commissioning
- Emergency light testing
- Reports

SPUS

Total	Online	Offline	Maintenance	Retest	Test Due
9	2	7	0	0	1

ROUTERS

1 2

User Friendly Software

Screenshot



Thomas&Betts
Leading the Way

08-06-2018, 14:01
Nexus: 3.43
Table: 2.93

Home

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ABB AYER RAJAH

- Units in domain
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GROUPS IN DOMAIN

	Group ID	Name	Schedule Test	Units
	0	WEST WING 4STY Segment A	27-03-2018, 14:30 240/(120-90)	2
	1	WEST WING 4STY Segment B	28-03-2018, 14:30 240/(120-90)	3
	2	WEST WING 4STY Segment C	08-06-2018, 11:15 125/(120-90)	4
		Maintenance		0
		Retest	30-03-2018, 14:30 240/(120-90)	0

Where can I use NexusRF?



Anywhere

Commercial



Airports



Transit Infrastructure



Defence



A&A



Health



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