A **Blu2Light**-based Building Management System

MIDRAND, SOUTH AFRICA

VS Africa Office Building

■ **BLU2LIGHT CAN BE OPERATED AS A MODULAR BASE FOR COMPLETE BUILDING MANAGEMENT SYSTEMS (BMS) TO CONTROL AN ENTIRE BUILDING COMPLEX USING A BLUETOOTH MESH OR WIRED INSTALLATION NETWORKS.**

In the building of Vossloh-Schwabe in South Africa (offices, showrooms and warehouse) a Building Management System has been specified and installed by our partner companies RDL and WARDEW. This BMS has been developed with the background of the **Blu2Light-Technology** and has been enhanced to control and record diverse applications, normally to be found in modern buildings. The installation has been designed, installed and monitored for more than a year to gain experience especially in the challenging African environment.
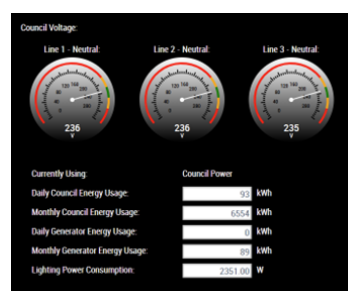
This Blu2light installation in the VS Africa building in Midrand was a first of its kind for Vossloh-Schwabe in South Africa. RDL Consulting was hired by VS Africa to ensure that every Blu2Light installation is functioning according to the required specifications.

The BMS access and communication is realised with the **license free VS-Gateway**, connected to a PLC (programmable logic controller), a combination which makes basically everything possible. The following section explains the various functions of the Blu2Light-based BMS and the reasons for the success and of the system.

■ **SYSTEM FUNCTIONS & SCENARIOS**

Power monitoring

Due to the power monitoring the failure of a luminaire can mostly be attributed to the failure of phase, neutral or overvoltage.

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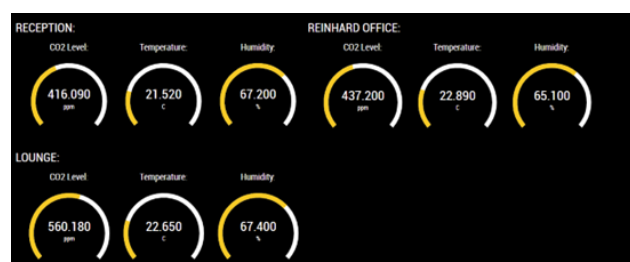BMS, Homescreen

Live camera footage
In the building is a small test laboratory where thermal and lighting performance tests are conducted. A smoke detector has been installed in the room. If smoke is detected, an email is sent to the building's operations manager as well as a link to the camera, which provides immediate footage of the potential fire hazard.

Air quality
The Blu2light Air sensors are installed in the VS Africa offices. They monitor and record the air temperature, humidity, and CO_2 levels. Limits can be set for each value. When the CO_2 levels drop too low, an email can be sent to the employees, giving them the option to switch on the air conditioning or to act manually and open a window.

UV-C air purifier units
Furthermore, professional UV-C air purifier units are installed throughout the building, for example in the kitchen and bathrooms to sanitise the air with UV-C rays. These open channel UV-C purifiers should never be on when the room is occupied, to eliminate possible health risks. The devices have been connected to the Blu2Light lighting control system via DALI relays and are set to be switched on every night at 11pm until 3am. If any presence is detected in the building, the UV-C air purifier units are switched off immediately.
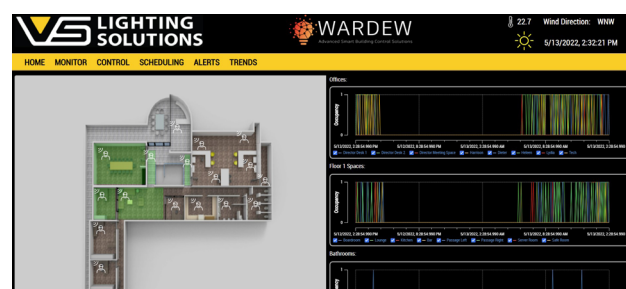

Water monitoring
A flow meter was installed into the building's incoming water supply. If there is no presence in the building but water is running, it indicates a water leak or an open tap. This will alert the operations manager by email or SMS.

Occupancy
The Blu2light XS Sensors are installed all over the offices, not only to control the lighting, but also to control the building. These sensors control the lighting via presence detection and daylight harvesting. The data from the sensors are used to indicate movement on the BMS as well as an occupancy page which immediately shows, which area is free and which area is occupied.
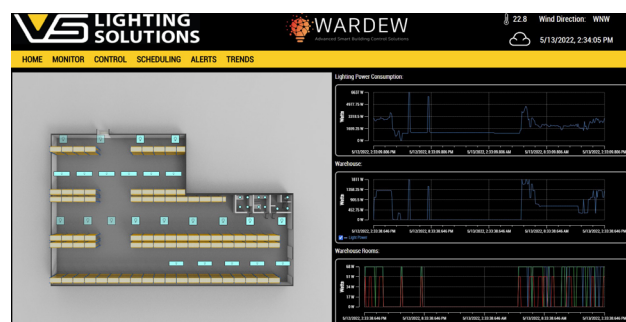

Lighting status
The status of each luminaire can be displayed, so that the building's maintenance manager can ensure that every light is working. The next picture is an example of the warehouse lighting system. The dimmed lighting represents the light output, at the time this photo was taken. 20% output is shown here, controlled by the daylight harvesting function.

Generator
A generator is set to automatic start when the council power is no longer available. In the building the Blu2light lighting system manage this process. If there is no presence in the building, the generator will not start. Only if Blu2light has recently noticed movement, the generator will get a start signal.

Blu2light has a programmed lighting scene that takes over when the generator is powering the building. This lighting scene gives full power to all office lighting which is set to daylight harvesting. This means it is running as efficient as possible while still giving each workstation the correct amount of light, required by the health and safety code. Feature lighting is switched off to save fuel. Once municipal power switches back on, the Lighting System goes automatically back to full function.

A live status viewing of the generator is also possible. Depending on the controller, fuel, oil pressure, speed, battery voltage, supply voltage, power factor and more can be shown.

BMS, Homescreen

Air conditioning

Several air conditioners in the office are connected to the BMS, which allows full control of the units. A problem that 90% of offices have, air conditioners are used but never switched off. Blu2light is programmed to switch off each conditioner where no presence is detected. If the entire office is empty for 30 minutes, all air conditioning units will be switched off.

■ MORE THAN 30 INSTALLATIONS IN SOUTH AFRICA

Blu2light currently has more than 30 installations in various buildings in South Africa, installed in diverse locations for example offices, restaurants, museums, warehouses and even facade lighting. The VS-RDL-Service in assistance from design and specification process as well as the commissioning of the lighting system, has proven to be the key for success and customer satisfaction.

■ VS PRODUCTS IN USE

- Blu2Light Apps

  LiNA Connect   **LiNA** Touch

- Blu2Light MultiSensor AIR
  Ref. No.: 186954
- Blu2Light MultiSensor XS
  Ref. No.: 186954
- Blu2Light LAN-Gateway
  Ref. No.: 186706
- LED drivers:
  DALI drivers "Blu2Light ready"
  DALI Track drivers
  PrimeLine DIP switch C-R3 DALI2
- LED modules and kits:
  W2 Gen. 4 SMD Boards and Optics
  W5,5 Gen. 4 3R Boards and Optics
  W5,5 Gen. 3 4R Boards and Optics
  ComfortLine CoB Gen. 2
  Light&Dark System
  RGBw FlexTAPE and suitable 24V DALI driver
  Emergency Kits

■ PARTNERS

Warehouse installation in the VS building with Blu2Light sensors