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SUCCESS STORY / Standard Chartered Bank

Occupancy analytics and energy savings spur Standard Chartered Bank to implement the Redwood® Intelligent Sensor Network

The leading international bank Standard Chartered Bank (SCB) saw an opportunity to achieve significant energy savings, improve workplace experience and capture advanced occupancy data by implementing CommScope's high-density Redwood® sensor solution.

After a successful deployment at two locations, the bank is now seeking to use Redwood for applications beyond lighting control.

"Redwood exceeded our expectations. We know that The Forum uses around 60% less energy with 6% fewer fixtures than if we'd used a conventional lighting system. In Singapore, we anticipate savings of almost $100,000 USD during our first year of occupation alone. Perhaps the most important thing is we live up to our "Here for good" promise, making significant progress towards our 2019 energy targets.

Justin Halewood, Head, Environment, CRES, Standard Chartered Bank

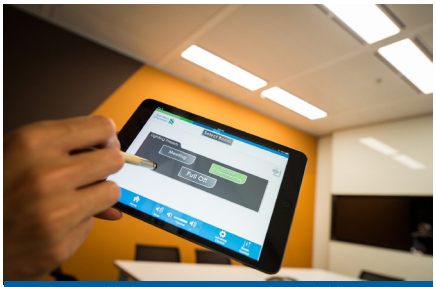
Achieving greater efficiencies in Singapore and Hong Kong

Headquartered in London but doing most their business in Asia, Africa and the Middle East, Standard Chartered Bank (SCB) employs some 87,000 people and operates over 2,000 properties in more than 70 countries. In seeking to prove the Bank's "Here for good" brand promise, the Group's CRES Function sets out to identify a lighting control system that was both user-friendly and energy efficient.

After a thorough market review, project teams for the new office buildings at *Changi Business Park II* in Singapore and *The Forum* in Hong Kong identified the **Redwood Intelligent Sensor Network** from CommScope as the best option. With both installations now complete, the buildings are the first major commercial offices to implement the Redwood solution in the Asia Pacific region.

Redwood employs a high-density network of sensors to both power and control LED lights. By collecting data on heat, light and motion, sensors can provide a valuable insight to the occupancy of the building, as well providing intelligence to other building systems. For example, SCB uses the sensors to turn audio visual technologies on and off in certain conference rooms at *The Forum*. The Bank also plans to use the sensor data to monitor space utilization, helping to inform real estate strategies.

The Redwood platform is powered over a low voltage architecture using Category 5e, 6 or 6A twisted pair cables. Through a high density network of sensors, the system is able to provide real-time reporting by fixture, group, floor or building. Lighting can be controlled using the online Redwood Management software, or via a mobile device, offering an exciting opportunity for occupants to digitally interact with the building.



Customized lighting scene presets are available via an SCB branded iPad application, giving employees complete control of the environment

From purchase to deployment—making it happen

The business case for Redwood at *The Forum* and *Changi Business Park II* was supported by energy savings – projected as 63% in Hong Kong. SCB selected certified PartnerPRO™ Network provider Xin Networks to design, install and maintain both solutions.

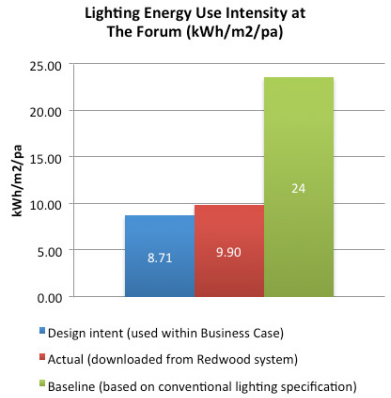
To achieve buy-in from all parties and prove the concept (particularly in relation to the quality of light emitted by the LEDs), Xin built a mock-up at an existing SCB office. The installation was very well received by SCB staff who commented on the crisp yet comfortable light produced.

Moreover, Redwood sensors were shown to create genuinely fine-grain control of the fixtures, something that existing control system installed by the Bank had failed to achieve. Once confidence in the solution has been generated, CommScope and Xin worked closely with the general contractors (Davis Lighting in Singapore, Hover Lighting in Hong Kong) and the LED fixture company to ensure a budget-friendly, on-time installation.

Once installed, Facilities Management teams at each facility were provided detailed training to ensure the Redwood software was fully utilized. At *The Forum*, this resulted in the system being established and power maintained at only 75% of potential light output. In addition, the intensive training provided during commissioning keeps upgrade and maintenance costs in-house, helping the company avoid expensive third-party consultancy support.

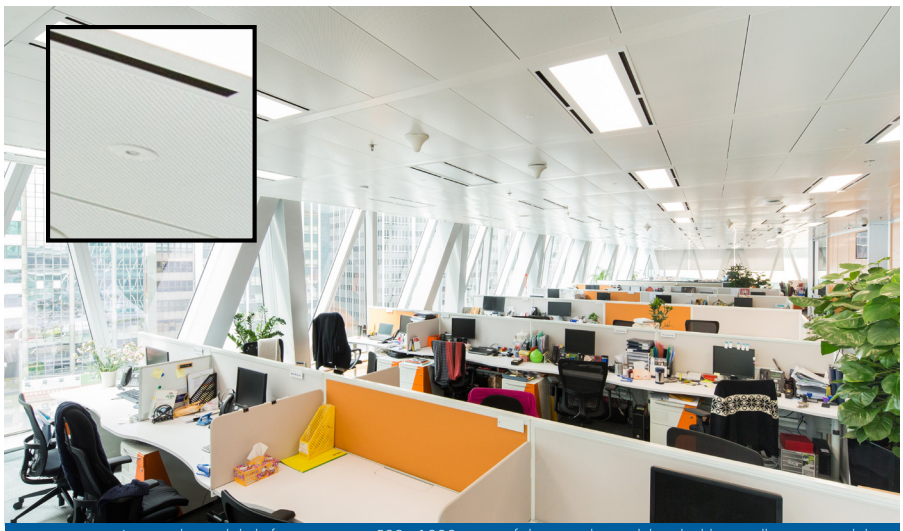
Redwood energy savings measured at The Forum:

- *Design benchmark of 24 kWh/m2/pa for a conventional lighting system and 9 kWh/m2/pa for LEDs and Redwood - a 63% reduction.*
- *Actual lighting energy data from The Forum shows the system is operating at 10 kWh/m2/pa - a 58% reduction.*
- *Further energy savings of 10 kWh/m2/pa can be achieved by linking the HVAC system to the Redwood sensors.*



"The Redwood solution helps us accomplish a few very important things. Primarily, we enjoy significant savings on our lighting energy consumption. Second, we can use the occupancy data to make other systems in the building smarter. Third, it tells us when, where and how internal spaces are being used, helping optimize our footprint."

Denis McGowan,
Global Head, Workplace, CRES,
Standard Chartered Bank



A sensor by each light fixture captures 500 - 1000 points of data per day to deliver building intelligence capabilities

Expanding on a bright future

On a daily basis, the Redwood solution aggregates a vast amount of data on motion, temperature and light levels. For example, each motion sensor installed in the *Hong Kong Forum* alone captures 500 - 1000 points of data per day. That amounts to approximately 1.4 million data points per week—information SCB plans to capture and transform into actionable intelligence that will help:

- Support space utilization studies and optimize the use of space
- Add intelligence to other building sub-systems (including conference room booking, HVAC control and security) — without adding any hardware or significant costs

In keeping with SCB's ambition to lead the way, 12 major Asian-Pacific companies have already toured the on-site Redwood solution with a view to deploying it in their own buildings.

CommScope (NASDAQ: COMM) helps companies around the world design, build and manage their wired and wireless networks. Our network infrastructure solutions help customers increase bandwidth; maximize existing capacity; improve network performance and availability; increase energy efficiency; and simplify technology migration. You will find our solutions in the largest buildings, venues and outdoor spaces; in data centers and buildings of all shapes, sizes and complexity; at wireless cell sites and in cable headends; and in airports, trains, and tunnels. Vital networks around the world run on CommScope solutions.

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