BUILD NEWS

SIBL Newsletter

DECEMBER 2021

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Risk Management of Construction Projects through Contract Management

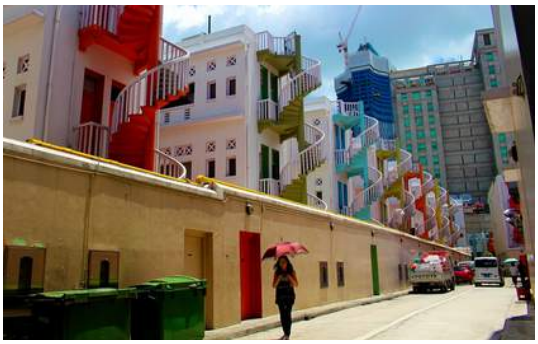
Construction projects carry different risks. This is why the successful completion of a construction project depends on how well the project team manages its risks. When managing project risks, we can't ignore the importance of contract documents. This is where contract management plays a vital role in successful project completion.

By identifying the possible risks during the pre-award stage, the contract management team can incorporate a risk management plan in contract documents and manage the contract during the project execution to minimize the risks. Financial risks, legal risks, security risks and brand risks are the major risk categories during project execution.

However, below are some of the risk allocation concepts to be considered during the formation of contract documents for a construction project. By identifying these risks and by finding the best way to mitigate these, the contract management team can come up with the most suitable clauses to minimize the consequences and likelihood of each possible risk.

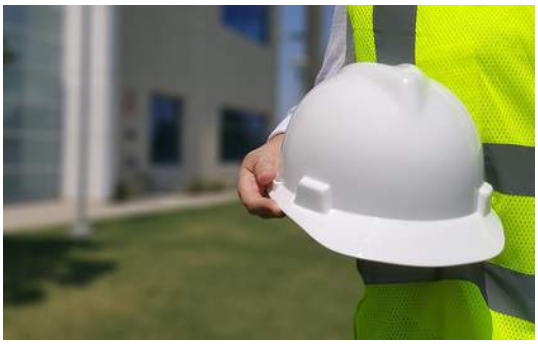
Indemnity provisions for risk allocation

The indemnity clause is one of the important clauses in construction contracts where risk can be allocated through the indemnity process. Typically, a construction contract requires the contractor to indemnify the employer from any claim that arises due to negligence or ignorance of the contractor.



Check the important clauses for claims management

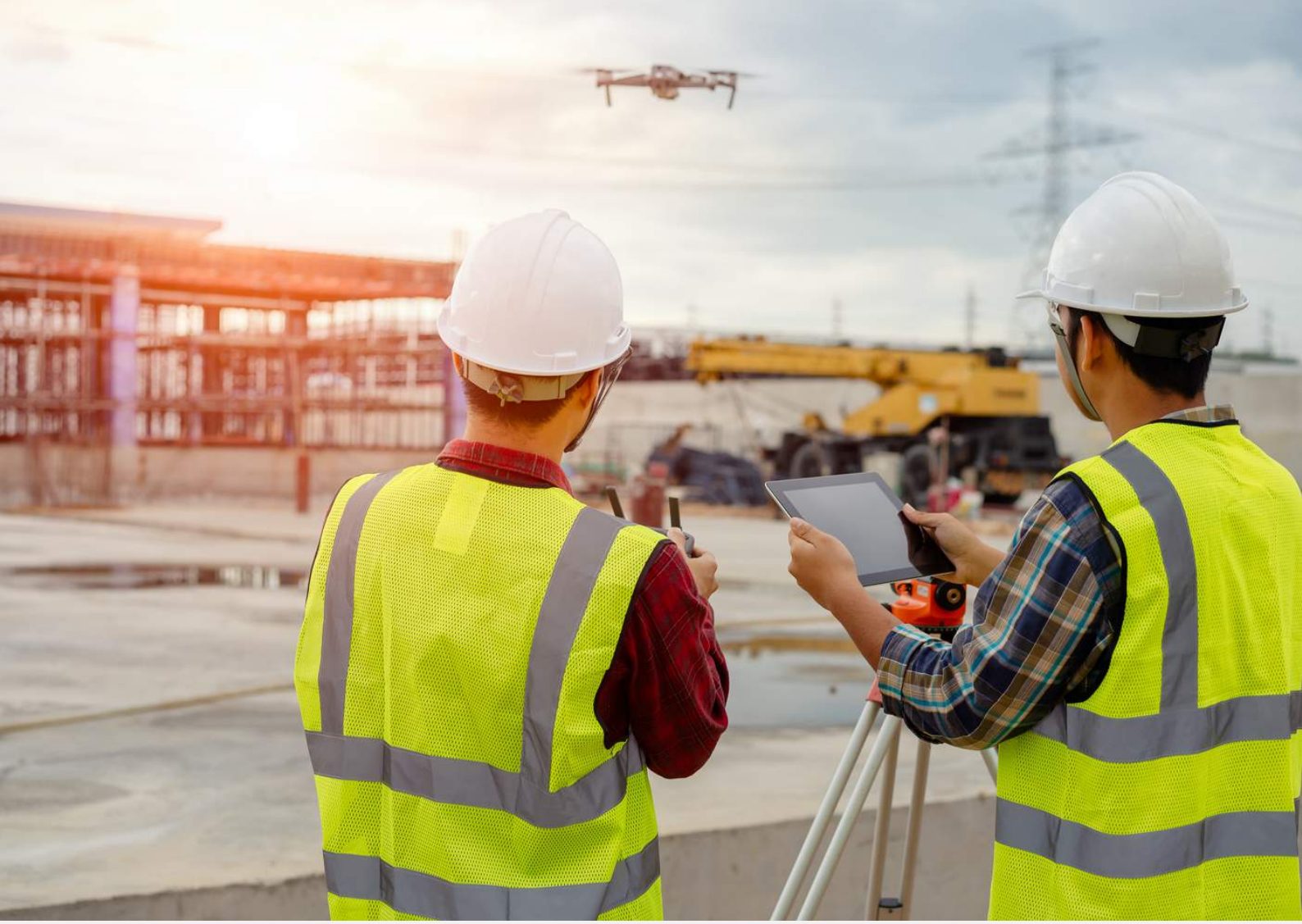
Construction claims are inevitable. Most projects end up with claims. Therefore, it is important to include all the important clauses in contract documents. Liquidated damages, variation orders, the extension of time, force majeure clauses are some of the important clauses for contract claim management. Identify these important clauses and remember to include them in your contract document.



Support indemnity provisions using insurance

Insurance coverage is one of the ways to satisfy indemnity provisions. Therefore, during the contract drafting, be sure to identify the insurance requirements for the project depending on the type of work scope. Once identified the scope of work and possible risk exposure, then it is easy to include the required insurance for the project. Therefore, don't ignore the importance of insurance policies in your contract document.

These are some of the three things to consider during the time of contract drafting. However, only the drafting of the document is not enough for the risk management process. Finally, better contract management will help to mitigate some of the possible risks during the project execution. A project delivered within cost, time, and quality objectives without safety issues and without disputes will make it a successful project.



About the Author:

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Amila Gamage is the founder and contracts manager of Sihela Consultants where she offers quantity surveying services, consultancy, and training solutions for her clients in Singapore and overseas. As an ACLP certified trainer and a lecturer for different educational institutes and organizations, she helps learners to gain industry knowledge on relevant topics including Contract Management and Facilities Management.

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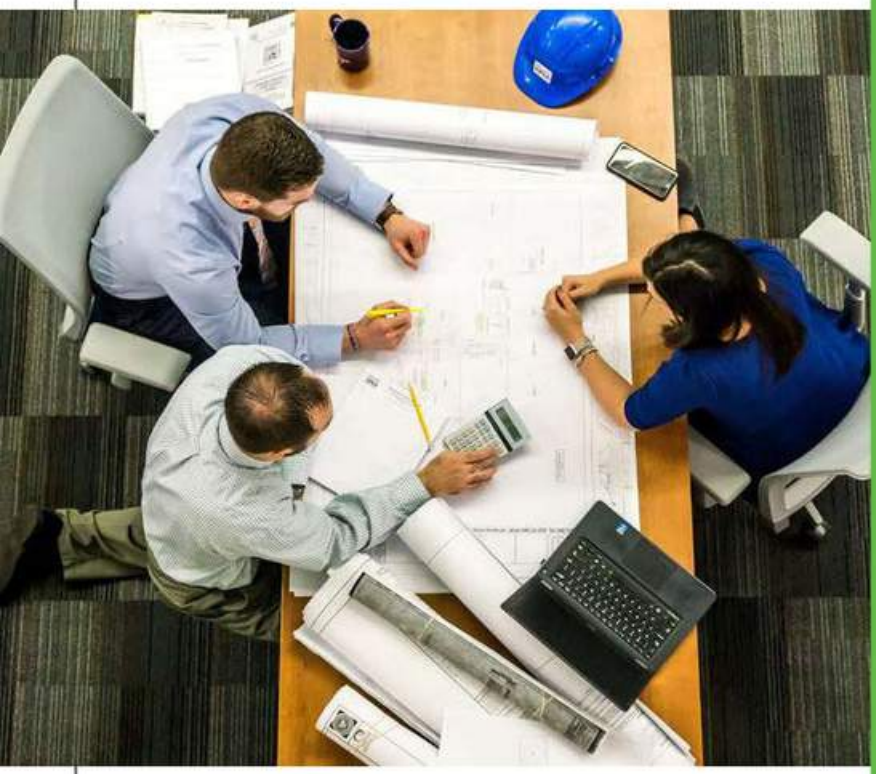

Accrediting Green Building Professionals

The SGBC Green Mark Professional Qualification Scheme succeeds the BCA Green Mark Specialist programme and aims to uplift, upskill and recognise green building competencies of professionals active in the built environment sector.

Certification Types

Green Mark AP

The Green Mark AP certification qualifies industry professionals with the knowledge and expertise needed for the implementation of Green Mark projects.

- Green Mark Accredited Professional *(Green Mark AP)*
- Green Mark Advanced Accredited Professional *(Green Mark AAP)*

Green Mark AP (FM)

The Green Mark AP (FM) certification qualifies industry professionals with the knowledge and expertise needed to maintain and operate green buildings.

- Green Mark Accredited Professional (Facilities Management) *[Green Mark AP(FM)]*
- Green Mark Advanced Accredited Professional (Facilities Management) *[Green Mark AAP(FM)]*

Continuing Professional Development

A key feature of the SGBC Green Mark Professional Qualification Scheme is the establishment of a Continuing Professional Development (CPD) framework for all Green Mark APs. Through a host of meaningful programmes and activities, Green Mark APs are able to remain abreast of industry trends and stay ahead of sectoral developments.

Green Mark AP certifications are renewed annually upon fulfillment of the renewal requirements.

Renewal requirements **for Green Mark AP and Green Mark AP (FM)** → **12** SGBC-GMAP CPD Points

Renewal requirements **for Green Mark AAP and Green Mark AAP (FM)** → **18** SGBC-GMAP CPD Points

About the scheme

Upcoming CPD activities

Renewal Requirements

Frequently Asked Questions

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Green Retrofitting and Sustainability

The COVID-19 crisis has induced reduction in revenue and increase in operating expenses to most sectors due to "new normal" compliance requirements, like Social Distancing (reduced seat capacity), Travel Restrictions (higher labour costs), and personnel identity and temperature monitoring (additional labour), etc.

Adoption to AI-enabled services like Asset Performance Management and Digital Utilities Monitoring can help reduce operating costs and conserve cashflow where possible. Moreover, such digital platform allows for consolidation and centralisation of data, and with application of advanced analytics, insights can be provided on building behaviour, and how improvements can be made to reduce wastage of resources.

Digitalisation

Asset Performance Management (APM)

The APM platform is enabled with Artificial Intelligence (AI) and is able to assist the facilities management team for day-to-day operations of the Chilled Water Plant.

Leveraging on existing available data from BMS/EMS (or IoT sensors in cases where BMS data is not available), an AI-enabled platform could better work with buildings in-house engineers remotely to optimise energy consumption, resolve alerts and issues, while simultaneously recommending maintenance activity with performance tracking on an ad-hoc basis. **There are 4 key features to such APM system:**

Anomaly Detection Module
Automatically detect abnormal behavior in system vs the normal pattern. Reduce unnecessary wastage in energy consumption. React to anomalies before operations gets disrupted

Failure Detection Module
Automatically detect deviations in performance and diagnose which component of the system is malfunctioning. Able to detect component degradation before system failure. As a result, the module reduces operational downtime and increase system performance.

False Alarm Detection Module
Identification of "sparks" or false alarms and its eventual suppression. Reduces cluttering of minor warnings within the user interface, and increase effectiveness of reacting towards such "sparks".

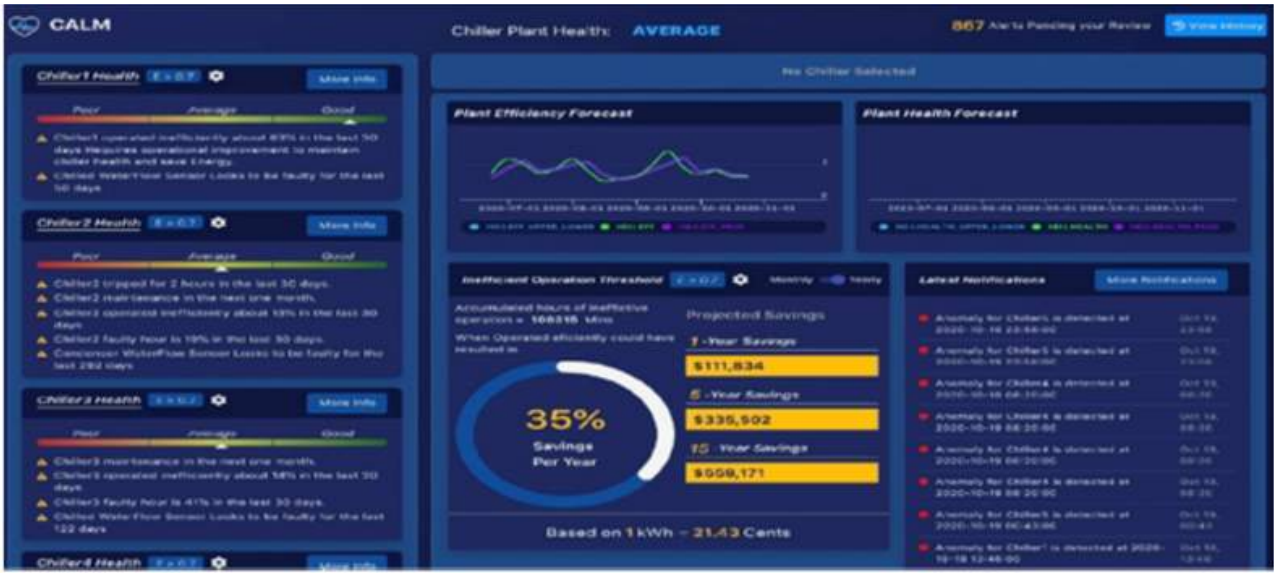
Condition Based Asset Life Cycle Management
Ability to diagnose and give indications on equipment health, and provide early warnings of component degradation, in order to prompt operator to upkeep maintain the asset/equipment in tip top condition for best performance.

Digital Utilities Monitoring and Data Analytics

Using wireless sensors to capture consumption of electricity and water, data is sent to the cloud and allows for easy access anytime, anywhere. Consolidation and tabulation of data can also be done easily via access using a web browser, and customized reports can be generated according to user's needs.

Adoption to Digital Utilities Monitoring helps to reduce laborious tasks like manually recording readings from a conventional power meters and water meters, especially in buildings where such meters are in large quantities. Digital Utilities Monitoring also reduces the chances of human errors in recording of readings.

Installation of such a system is simple, with minimum to no disruption to daily operations.



Example of Asset Performance Management dashboard

Application of data analytics to such digital utilities monitoring system, allows for detection of anomalies in power and water consumption, which brings to light any faulty equipment, user abuse in facilities, leakage, or other situations that is "out of the norm" during day-to-day operations.

Meeting Sustainability Goals

Moving towards digitalisation is a first step towards our global and national sustainability goals to reduce our carbon footprint. With digitalisation, detailed data can be collected on resource consumption of a building, forming a baseline of a building's operations behaviour and the equivalent carbon emissions. With centralization and consolidation of data, as well as application of advanced analytics, improvements can be implemented to reduce wastage of resources, such as energy and water.

Improvements can be in the form of optimising operating conditions, or Green Retrofitting to replace existing equipment with more efficient that is of the latest technology (for example, switching from T8 fluorescent lamps to LED lamps). Harnessing renewable energy (such as using solar energy) can also be considered to reduce consumption of conventional fossil energy, and in turn reducing carbon footprint.

Even after improvements has been implemented, the digital platform enabled with artificial intelligence can continuously monitor building behaviour and continuously improve on daily operations strategy, maintaining the optimal operating conditions and make sure resource wastage is kept at the lowest level.

Green Retrofitting

After the digitalisation process, data can be collected and analysed to discover areas or systems that can be improved in the building to reduce energy consumption through Green Retrofitting. Some examples of building assets and equipment that can be retrofitted or upgraded are:

- Heating, Ventilation, and Air-conditioning System (HVAC)
- Lighting system
- Indoor Air Quality (IAQ) sensors
- Installation of solar panels to harness renewable energy

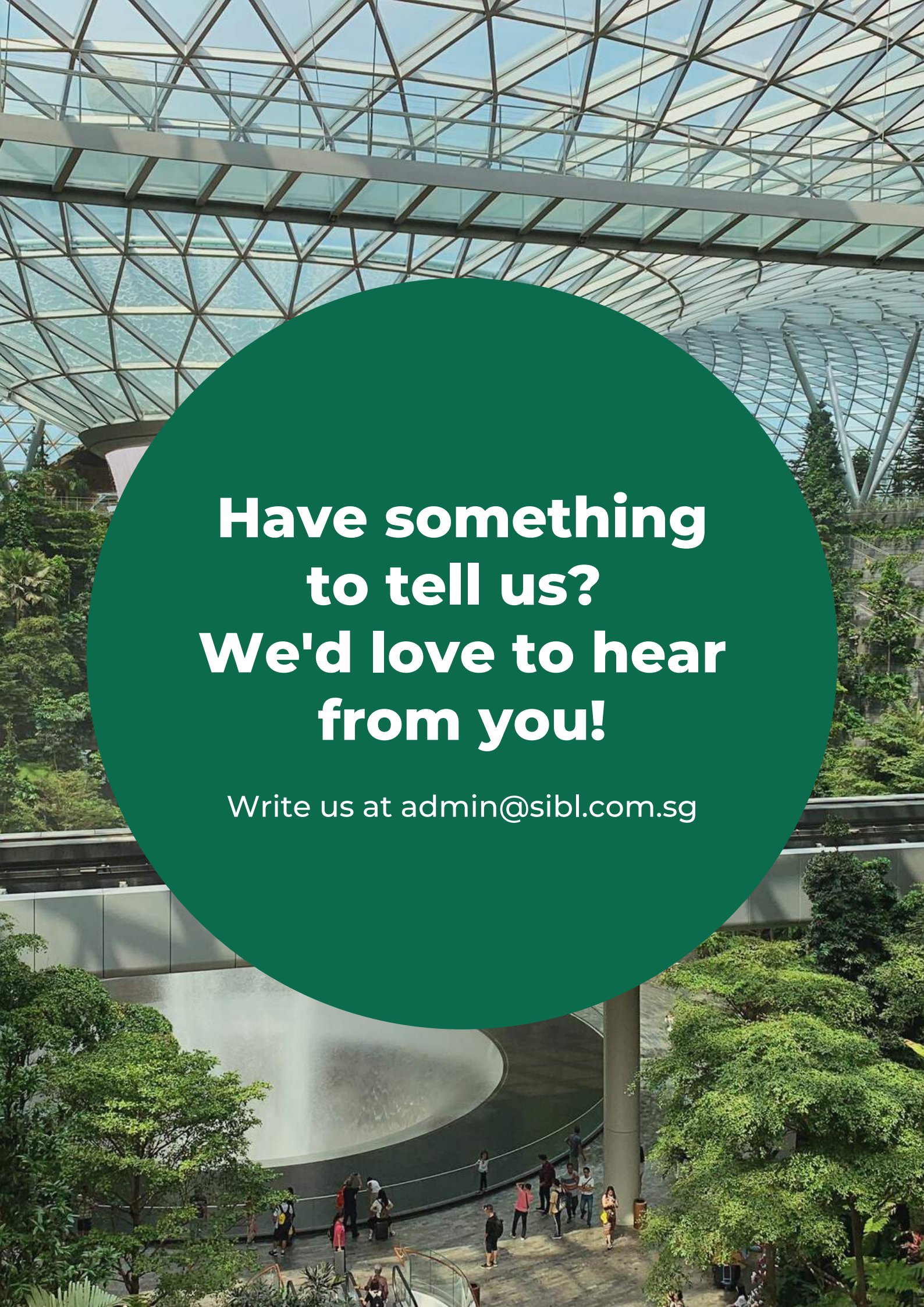
After implementation of Green Retrofitting, the digital platform equipped with AI data analytics will be able to continuously optimise energy consumption through learning the patterns in daily operations and adjusting system operating parameters according to dynamic and live conditions.

Green financing programs are available that simplifies the sustainability process by combining the technical assessment, installation, and maintenance, together with financing options. Companies can tap into the green financing program and leverage on green loans, grants or shared savings model to achieve energy efficiency improvement and cost-savings for buildings without incurring heavy initial capital outlay. Such programs makes it simple and seamless for businesses to adopt energy efficiency and reap the financial and environmental benefits.

About King Wan Eco Solutions Pte Ltd

King Wan Eco Solutions Pte Ltd is a joint venture between Evercomm Singapore Pte Ltd and King Wan Corporation Ltd. We aim to help businesses in our collaborative national effort to work towards the Singapore Green Plan 2030, as well as to grow and thrive within a Safe, Smart and Sustainable Built Environment.

At King Wan Eco Solutions, we provide a one-stop solution by using Digital Solutions and Technology to identify areas of energy saving opportunities, and implement the improvement plans through the Green Retrofitting process. With a seamless network of Internet of Things (IoT) sensors and use of Artificial Intelligence (AI), buildings can be transformed into truly Smart Buildings of the future.



Have something to tell us? We'd love to hear from you!

Write us at admin@sibl.com.sg