



TRINIDAD AND TOBAGO  
CONTRACTORS ASSOCIATION

# THE Contractor

TRINIDAD & TOBAGO

QUARTERLY E-MAGAZINE JULY-SEPTEMBER 2023 ISSUE NO. 5



**Featured: TTCA Members  
Equipment Rentals**

**Cement: The Product  
Certification Process**

**Sustainability Through  
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**Concrete Batching Plants  
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**Building Success in the Caribbean  
Construction Industry:  
Striking the Right Balance in Employee  
Recruitment and Retention**



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# THE Contractor

TRINIDAD & TOBAGO

TTCA QUARTERLY E-MAGAZINE JULY-SEPTEMBER 2023 ISSUE NO.5

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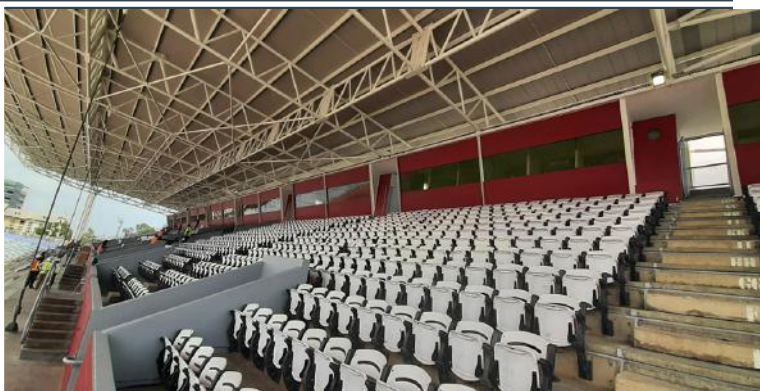


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## President's Message



Glenn Mahabirsingh - TTCA President

The Trinidad and Tobago Contractors Association (TTCA) is proud to announce the hosting of our Annual Awards and Dinner in 2023 to celebrate our 55th anniversary. This year's event is even more special as we honor and showcase the achievements of our members who have contributed immensely to the construction industry in Trinidad and Tobago. We would like to invite you to join us as we celebrate this remarkable milestone and acknowledge the hard work and dedication of our members.

Planned for the evening of November 25th, 2023, the Annual Awards and Dinner of the TTCA promises to be a remarkable event, celebrating the achievements and growth of the construction industry in Trinidad and Tobago. The theme of the event is "Celebrating 55 years of Building a Better Trinidad and Tobago". The evening will be filled with entertainment, food, and drinks, making it an excellent opportunity for networking and building relationships.

It has been two months since the full proclamation of Trinidad and Tobago's procurement act, and the impact is already being felt across the country. Contractors and businesses are experiencing an increase in opportunities for public tenders, signaling a positive shift towards transparency and fair competition in procurement processes and opening doors for contractors to thrive in Trinidad and Tobago.

As we approach the end of the year, government ministries should be actively working towards publishing their procurement guidelines based on the recently enacted procurement legislation. This legislation has been designed to address gaps in existing procurement processes and ensure compliance with international best practices.

For contractors looking to seize the opportunities arising from the procurement act, it is essential to be well-prepared. Stay informed and keep abreast of government announcements and publications regarding upcoming tenders. Government websites and procurement portals are valuable sources of information. Continuously invest in your skills and knowledge. Stay updated with the latest trends and best practices in your field of expertise, as this will give you a competitive edge.

On this note, there will be three forthcoming workshops by TTCA in the upcoming months. To stay informed, follow us on Facebook, LinkedIn, and visit our website, to keep up to date on the latest information.





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# Building Success in the Caribbean Construction Industry:

## Striking the Right Balance in Employee Recruitment and Retention

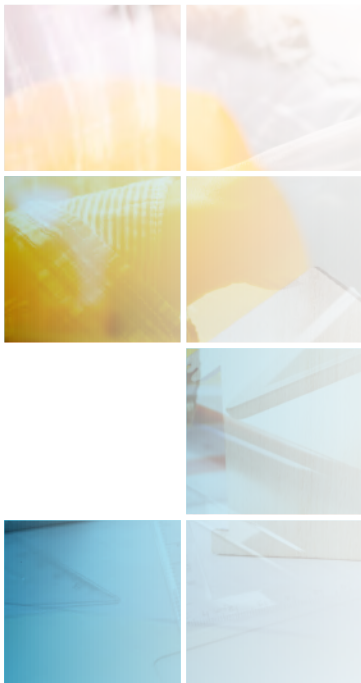
by Mikey Thackoor - NH International Caribbean Ltd

*In the vibrant Caribbean construction industry, the success of a construction company heavily relies on its ability to recruit and retain talented professionals. While effective recruitment strategies are crucial for attracting skilled individuals, it is equally important to focus on retaining them to foster a reliable and dedicated workforce. Many companies suffer from a “catch and release” policy. When there is no “Buy In” the risk of a successful project diminishes.*



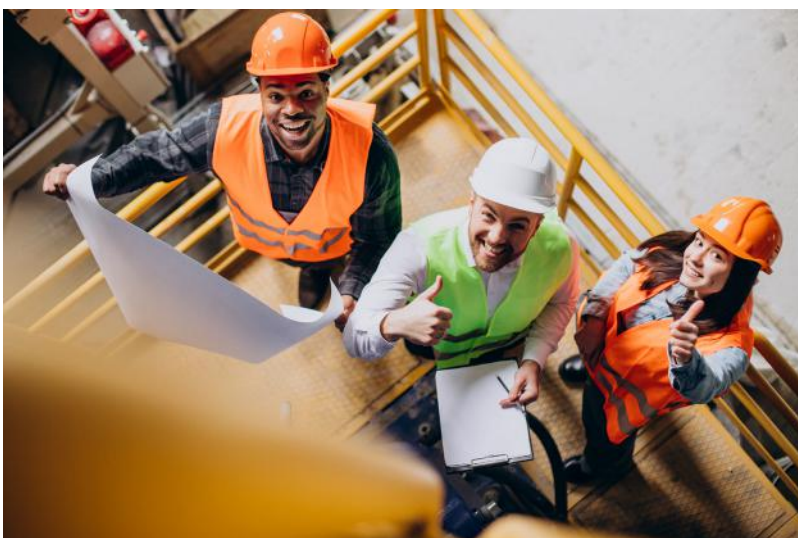
Just like constructing a sturdy building, companies operating in the Caribbean construction sector should carefully assess their employee retention strategies to avoid a situation where recruitment exceeds retention. High turnover rates not only disrupt project timelines but also result in increased costs associated with hiring, training, and decreased productivity on construction sites.

Based on my observations, some construction companies in the Caribbean excel in attracting talented individuals but struggle to maintain their workforce for the long term. This imbalance can negatively impact project continuity and hinder the organization’s ability to deliver high-quality work.



*To address this challenge, Caribbean construction companies must prioritize employee engagement, job satisfaction, and opportunities for professional growth. Establishing a positive work environment that promotes effective communication, recognizes achievements, and supports work-life balance is crucial in retaining construction talent.*

*Investing in comprehensive onboarding programs, mentorship initiatives, and continuous skill development will not only enhance employee satisfaction but also ensure that workers feel valued and motivated to contribute their best to the company’s success.*



Furthermore, actively listening to employees’ feedback and concerns is essential for retention efforts. Conducting regular employee surveys, fostering open dialogue, and implementing feedback mechanisms will help identify areas for improvement and address any issues that may contribute to turnover.

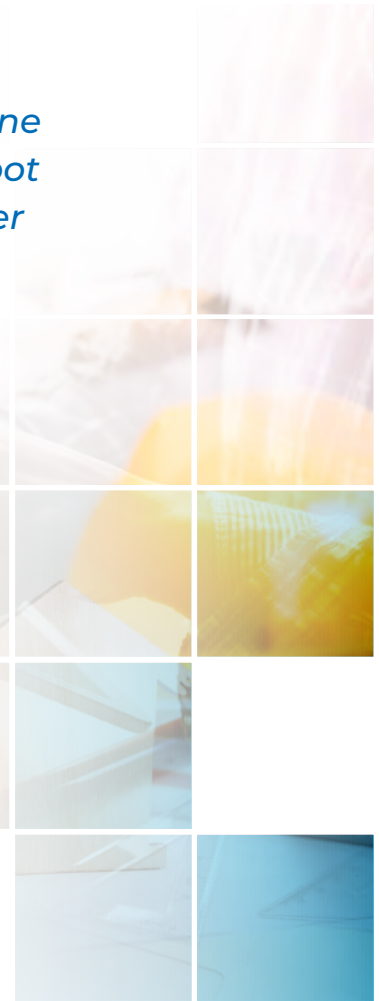
*When a company experiences a significant disparity between its recruitment efforts and employee retention rates, it is essential to look beyond the surface and examine the underlying issues. The statement suggests that the root cause lies within the maturity level and capability of upper management. Let's explore this perspective further.*

**1. Lack of Leadership and Vision:**

Effective leadership is crucial in guiding the company's direction and creating an environment where employees feel motivated and valued. If upper management lacks maturity and capability, it can result in a lack of clear vision, inconsistent decision-making, and a failure to establish a positive workplace culture that fosters employee loyalty and retention.

**2. Inadequate Talent Management:**

Retaining talented employees requires a strategic approach to talent management. It involves understanding the needs and aspirations of employees, providing opportunities for growth, and creating a supportive and engaging work environment. If upper management is unable to effectively manage talent, employees may feel undervalued, unsupported, and seek opportunities elsewhere.





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### 3. Misalignment between Organizational Goals and Employee Development:

A mature and capable upper management team understands the importance of aligning organizational goals with employee development. They prioritize the growth and advancement of their workforce by providing training, mentorship, and career advancement opportunities. In contrast, a lack of maturity and capability can lead to a disconnect between company objectives and the professional aspirations of employees, resulting in increased turnover.

### 4. Ineffective Communication and Feedback Channels:

Open communication and feedback are vital for understanding employee concerns, addressing issues, and fostering a positive work environment. Upper management plays a pivotal role in establishing effective communication channels and encouraging feedback. If they lack the maturity and capability to listen, communicate transparently, and act upon feedback, employees may feel unheard and disengaged, leading to higher turnover rates.

### 5. Failure to Create a Supportive Work Culture:

A mature and capable upper management team understands the significance of cultivating a supportive work culture that values employees' well-being, respects diversity, and promotes collaboration. In contrast, an immature management team may foster a toxic work environment, lack inclusivity, or fail to address conflicts, creating an unsupportive atmosphere that drives talented employees away.

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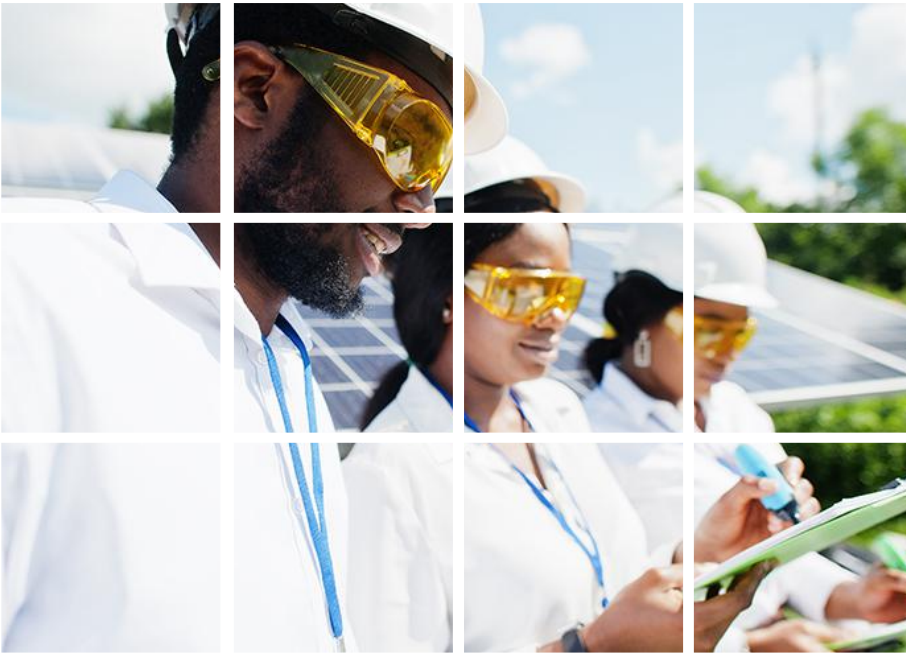
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To address this deep-rooted problem, upper management must introspect and prioritize improving their maturity level and capability. They should invest in leadership development programs, enhance communication, and feedback mechanisms, align organizational goals with employee development, and foster a supportive work culture. By doing so, companies can create an environment where talented employees feel valued, supported, and motivated to stay and contribute to the company's long-term success. By acknowledging and addressing the underlying problems within management, companies can improve employee retention, create a positive work environment, and ultimately thrive in the competitive landscape.

In conclusion, while effective recruitment strategies are vital to attract skilled professionals in the Caribbean construction industry, the long-term success of a company lies in its ability to retain and nurture its employees. By striking the right balance between recruitment and retention efforts, construction companies can lay a solid foundation of dedicated workers, leading to improved project outcomes and a strong reputation in the industry.

Together, let's build organizations in the Caribbean construction industry where employees thrive, enabling both individual and collective success on every project.

***"It does not make sense to hire smart people and tell them what to do: we hire smart people so they can tell us what to do"***  
Steve Jobs.



**Author**  
**Mikey Thackoor**

**NH International  
Caribbean Ltd**

Mr. Mikey Thackoor is an experienced professional in the construction industry with a track record of over 25 years working across the globe. Presently, he holds the position of Head of Operations (Eastern Caribbean) at NH International Caribbean Ltd. In this role, Mr. Thackoor provides expert leadership in project development, design, implementation, and execution to ensure optimal results are achieved.



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Sustainability is a critical aspect of any business operation especially contractors, due to the responsibility of builders, constructors, contractors, and their significant role to play in ensuring sustainable development. Though, there are several barriers that hinder the achievement of sustainable practices in construction. This article aims to highlight the importance of sustainability for a contractor and the potential barriers they may face.

# Sustainability Through The Contractor's Lens

*by Andrew Chin Lee - NH International Caribbean Ltd*

The importance of sustainability for a contractor encompasses varying categories which affect every stakeholder or player in the life cycle of a project.

## **Environmental Protection**

Construction activities generate a significant amount of waste and consume a vast number of resources, including energy and water. Contractors who incorporate sustainable practices reduce their environmental footprint by minimizing waste, conserving natural resources, and using renewable energy sources.

## **Social Responsibility**

Contractors have a responsibility to ensure that their projects have a positive impact on the community. Sustainable practices ensure that construction activities do not cause harm to the local environment, wildlife, or residents. It also ensures that the project's impact is sustainable and benefits the community in the long term.

## Economic Benefits

Sustainable practices also provide significant economic benefits to contractors. For instance, incorporating energy-efficient technologies and practices can reduce energy consumption, leading to significant cost savings. Sustainable practices can also increase the project's value and marketability, attracting environmentally conscious clients. Lastly, the implementation of government incentives as well as Public Private Partnerships can be a mutually beneficial venture for all stakeholders.

Despite these benefits there are barriers towards sustainability specifically for a contractor.

## Cost

One of the primary barriers to sustainable practices is the cost associated with implementing them. Sustainable materials and technologies are often more expensive than traditional ones, making it difficult for contractors to prioritize sustainability over profitability. However, it is essential to recognize that sustainable practices can lead to cost savings overall. Costs can be managed in these following areas.

## Energy Efficiency

Incorporating energy-efficient technologies such as LED lighting, smart thermostats, and high-efficiency HVAC systems can significantly reduce energy consumption and costs over the life of the building. The initial investment in energy-efficient technologies may be higher, but the savings in energy costs can offset the upfront costs overall.

## Water Conservation

Using water-efficient fixtures such as low-flow toilets, faucets, and showerheads can reduce water consumption and costs. Water-efficient fixtures may cost more upfront, but the cost savings in water bills can add up over time.



### Waste Reduction

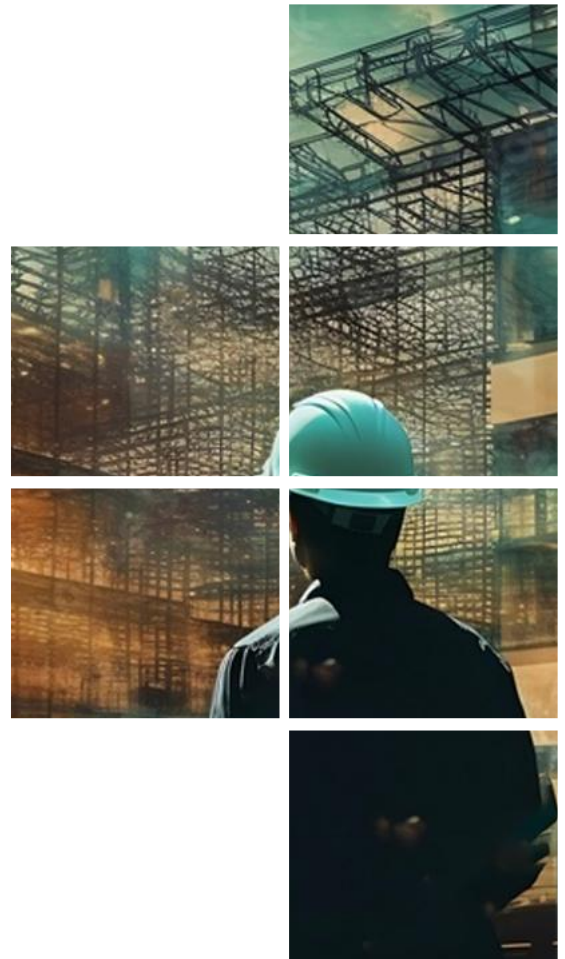
Minimizing waste by using sustainable materials and construction techniques can lead to cost savings by reducing disposal costs and the need to purchase new materials. For instance, using recycled materials or salvaged materials can reduce the need for new materials, thereby reducing costs.

### Health and Safety

Sustainable practices can also lead to cost savings by improving the health and safety of workers and occupants. For instance, using non-toxic materials and improving indoor air quality can reduce the incidence of illness and absenteeism, leading to increased productivity and cost savings.

### Marketability

Sustainable buildings are often more marketable, which can lead to increased profits for contractors. Green buildings have been shown to attract higher rents, higher occupancy rates, and higher resale values, making them a valuable investment for contractors.



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There are several hinderances that can be mitigated once all stakeholders are on the same page. These are but not limited to:

### Lack of Awareness

Some contractors are not aware of the benefits of sustainable practices, and the impact their activities have on the environment and the community. Therefore, education and awareness campaigns are necessary to ensure that contractors understand the importance of sustainability and its potential benefits.

### Regulatory and Policy Framework

In some cases, the regulatory and policy framework may not support sustainable practices, making it difficult for contractors to implement them. For instance, some building codes may not allow the use of certain sustainable materials or technologies, making it difficult for contractors to incorporate them into their projects.

### Resistance to Change

Finally, some contractors may resist sustainable practices because they are not used to them, or they do not see the need for change. This resistance to change can be overcome by education, awareness campaigns, and incentives that encourage sustainable practices.

Sustainability is critical for contractors, and they have a significant role to play in ensuring sustainable development. However, several barriers hinder the implementation of sustainable practices in construction. It is essential to address these barriers by educating contractors, creating a supportive regulatory and policy framework, and providing incentives that encourage sustainable practices. By overcoming these barriers, contractors can contribute to a sustainable future while also benefiting economically, socially, and environmentally. Essential planning is a colossal consideration for the long-term benefits of sustainable practices when evaluating their costs. Although the initial investment in sustainable practices may be higher, the cost savings and increased marketability can result in higher profits for contractors overall. Furthermore, the environmental and social benefits of sustainable practices cannot be measured in monetary terms and should be considered as an integral part of a contractor's responsibility to society and the environment.



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BSc., MSc., A.M.ASCE, M.APETT

**NH International  
Caribbean Ltd**

Mr. Andrew Chin Lee is a versatile professional excelling as a dedicated Civil Engineer and a unifier of Civil Engineering, Project Management, and Sustainable Development. With extensive exposure to diverse construction and sustainable markets across North and Latin America, he is optimistic about Trinidad and Tobago's infrastructural development. Andrew spearheads projects, advocating for environmentally friendly materials, energy-efficient designs, and innovative construction techniques. His collaboration skills aids in promotion of timely and budget-compliant deliveries, while his knowledge in stakeholder management and sustainable integration sets him apart. Beyond his career, Andrew actively contributes to research and conferences such as The American Society of Civil Engineers and The Association of Professional Engineers of Trinidad and Tobago. His thought leadership has earned recognition, positioning him as an emerging leader. Driven by a passion for a more sustainable future, Andrew leads the new generation of builders, pushing boundaries and inspiring the next.



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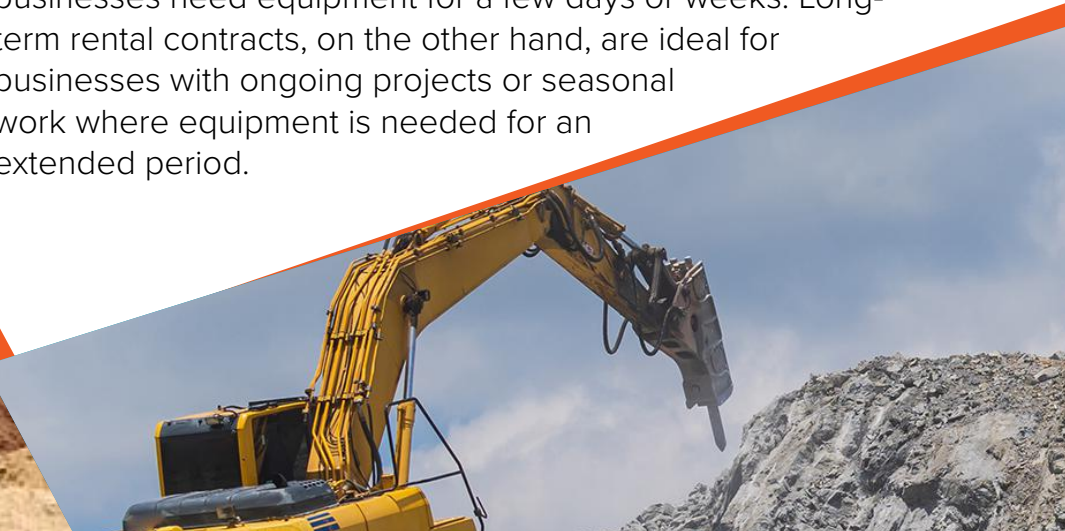
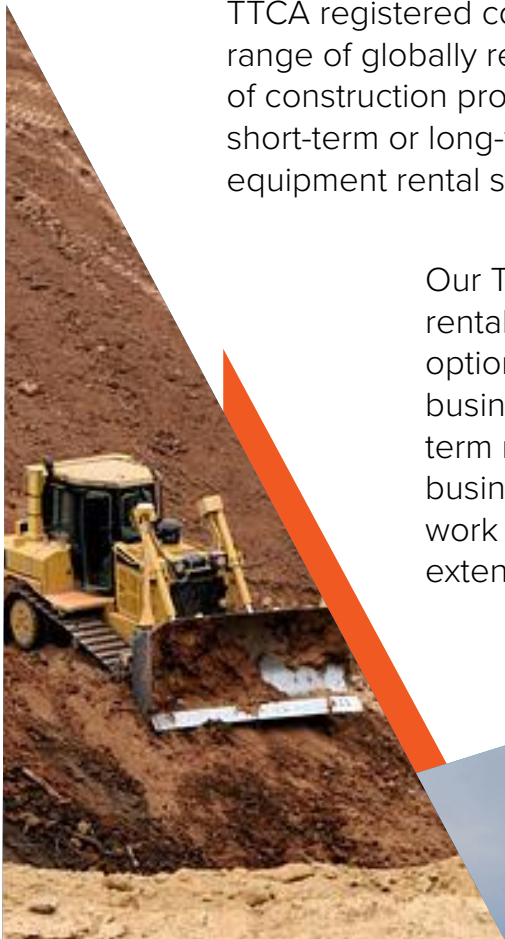


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## Featured... Equipment Rentals from TTCA Members:



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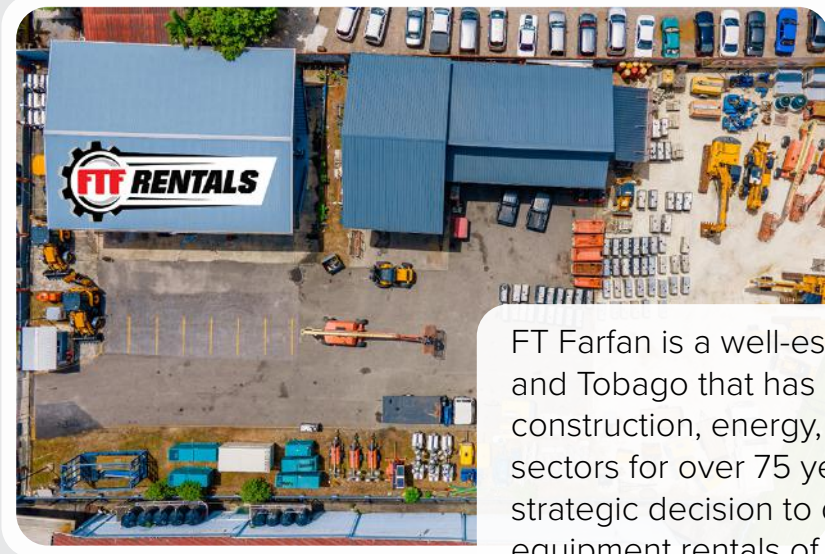
Superior strength of Concrete over Asphalt ensures low & predictable maintenance costs.

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## equipment rentals



FT Farfan is a well-established company in Trinidad and Tobago that has been providing services to the construction, energy, manufacturing and agriculture sectors for over 75 years. The company made a strategic decision to diversify its services to include equipment rentals of the brands they distribute, and established FTF Rentals in 2002. The FTF Rentals team is led by Division Manager Jason Collins and Team Leader Leigh-Ann Mohammed, who have over 24 years' combined experience in the rental business supported by a full team of sales, factory trained technicians with over 20 years of experience.

FTF Rentals also can boast of certified and experienced delivery teams, with over 15 years of experience, ensuring prompt and efficient delivery services. They have Factory Trained Technicians, able to troubleshoot and attend to any issues that customers may experience. In the event of any emergencies, the company has a 24hr response team to attend to customer's needs. Additionally, they offer training and certification on aerial work equipment and forklifts, providing customers with the opportunity to operate equipment safely.

FTF Rentals has a competitive pricing scheme, with price breaks for longer rentals, providing more flexibility to customers. The company's chosen partnerships with NESCC and MIC enable them to provide hands-on training to trainees as technicians and office support staff, demonstrating their commitment to investing in the workforce of the future.

FTF Rentals division has been an excellent addition to FT Farfan, providing a one-stop rental shop and option for clients' needs in various sectors. With their diverse team, trained staff, 24-hour response team, competitive pricing, and hands-on training, FTF Rentals remains a reliable option for construction, energy, manufacturing and agricultural equipment rental services. With such a legacy of excellence spanning over seven decades, the company has established itself as a leader in the industry and continues to push the boundaries to meet its clients' needs in the modern era.

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# equipment rentals



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## BAOLI

When it comes to quality, performance and support, the Baoli KBG25 is one step ahead of the competition. It's Isuzu IMPCO K25 engine (LPG Models) and Kohler Turbo Diesel (Diesel Models) provides outstanding performance and exceeds the standard for economy forklift trucks. Baoli's optimized standards and specifications allow it to offer higher quality trucks than its competitors.



## LINDE

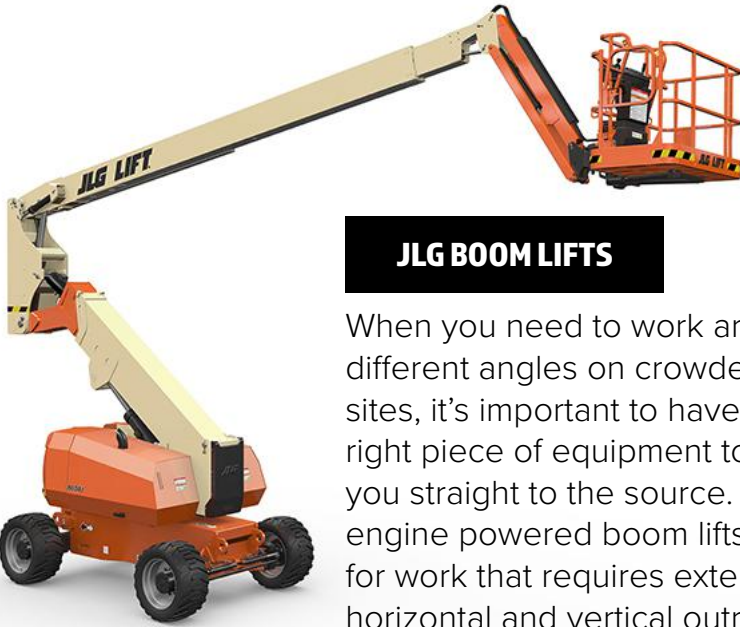


The IC truck H25 is powerful, easy to operate, robust, low-maintenance, and versatile. The forklift for loads 2,500 kilograms is particularly well suited for high loads in multi-shift operation and assignments in the harshest outdoor conditions. Hydrostatic drive, dual pedal control, Linde Load Control, and optimal visibility ensure precise interaction between man and machine. Design details combined with intelligent assistance systems guarantee the highest possible levels of safety.

## SCANCLIMBER SC8000

Rack and pinion driven SC8000 mast climbing work platform is a robust lifting machine as well as a working platform - all in one convenient package. The loading capacity is 4500 kg for a single mast SC8000 and 8000 kg for a twin mast arrangement. With a full 17-meter platform, a single mast machine is able to lift 2800 kg. Special anchoring allows even greater heights with no limits.





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**ATLAS COPCO V4 LIGHT TOWERS**



Atlas Copco V4 light towers offer increased serviceability with wide wing doors and all components easily accessible. Environmental considerations have also been taken into account, with a frame design that prevents oil, fluids and fuel from leaking out and contaminating the ground. The extended safety features give users complete peace of mind, even in the most demanding conditions. The light towers can be transported with their masts in a vertical position, enabling safer transportation and installation.

**JLG ES3246 SCISSOR LIFTS**



The JLG ES3246 electric scissor lift is a highly efficient and versatile machine used in construction and maintenance projects. This particular model offers a working height of up to 32 feet, making it an ideal choice for tasks that require working at heights. The electric power source allows for quiet and emission-free operation, making it suitable for indoor use as well. With its compact design and intuitive controls, the JLG ES3246 is easy to maneuver and can be operated by a single person. Its durability and reliability have made it a popular choice for contractors.

# equipment rentals



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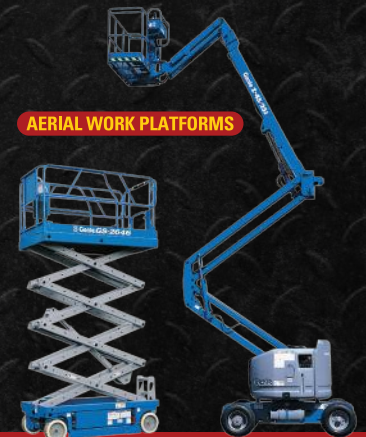
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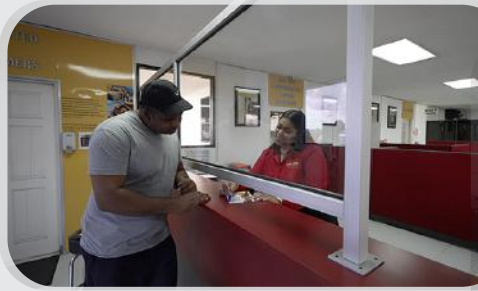
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Massy Cat Rental Store understands that every project is unique. That's why they offer personalized equipment rental solutions tailored to fit your specific requirements and budget. Their experienced team can guide you in selecting the most suitable equipment, enabling you to save costs without compromising quality or functionality.

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For reliable and trusted equipment rentals in Trinidad and Tobago, Massy Cat Rental Store is the name to remember. Whether you're undertaking a small residential project or a major commercial development, Massy Cat Rental Store can provide you with the equipment you need to get the job done right.

# equipment rentals

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**CAT® GENERATORS**

When it comes to completing construction projects or ensuring a reliable backup power source, having a dependable generator is essential. Cat® Generators offer a convenient solution for all your power needs. With 17kVA to 500 kVA Generators available, the Massy Cat Rental Store is equipped to power today and built to power tomorrow. Built with high-quality materials and advanced engineering, these generators are known for their durability and long-lasting performance.

They are designed to withstand harsh environments and deliver consistent power output and are equipped to operate in various settings including construction sites, entertainment venues, industrial plants as well as manufacturing & distribution facilities. Cat generators prioritize fuel efficiency, employing technologies like electronic fuel injection and advanced combustion systems to maximize energy output while minimizing fuel consumption. Cat generators - a reliable choice for dependable and high-performance power generation solutions.



**AERIAL WORK PLATFORMS**

Aerial work platforms are easy to use and cost-effective, making them the first choice for a wide range of applications.

Their lightweight and compact size makes aerial work platforms convenient to use in schools, churches, warehouses and more. They also provide solutions for interior work on large construction sites as well as being perfect for light-duty construction purposes. The Massy Cat Rental Store offers a wide range of aerial work platforms, including electric scissor lifts ranging from 19 feet to 40 feet and engine-powered boom lifts with heights ranging from 45 feet to 80 feet, ensuring you find the perfect solution for your specific job requirements. Whether you're looking for energy efficiency with longer runtime or high performance with larger work envelopes, you can trust that with the Massy Cat Rental Store, you'll get the job done right.



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The biggest benefit of this new design is that the same performance is placed in a smaller footprint with a foldable tongue. This allows for more units to fit on a truck which optimizes freight. Main configurations and accessories for the LTV include automatic start, telematics, automatic winch, shore power and hitch options. They are ideally suited for illuminating general job sites, site prep, concrete pours, specialty events, parking lots, road work and bridge work.

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# Concrete Batching Plants

## Best Management Practices

by *Environmental Management Authority (EMA)*

The Environmental Management Authority (EMA) is responsible for maintaining a balance between environmental management and development as outlined in the Environmental Management Act Chapter 35:05 (EM Act). Its aim is to minimize negative environmental impacts resulting from human activities.

The Certificate of Environmental Clearance (CEC) process is governed by the CEC Rules and the CEC (Designated Activities) Order (as amended), subsidiary legislation to the EM Act. The CEC process is one of the instruments used by the EMA to regulate development and reduce negative environmental impacts.

Through the CEC process, the EMA assesses the potential environmental impacts from new or significantly modified existing activities. The CEC (Designated Activities) Order 2001, as amended, identifies 44 Designated Activities (DAs) that require a CEC.

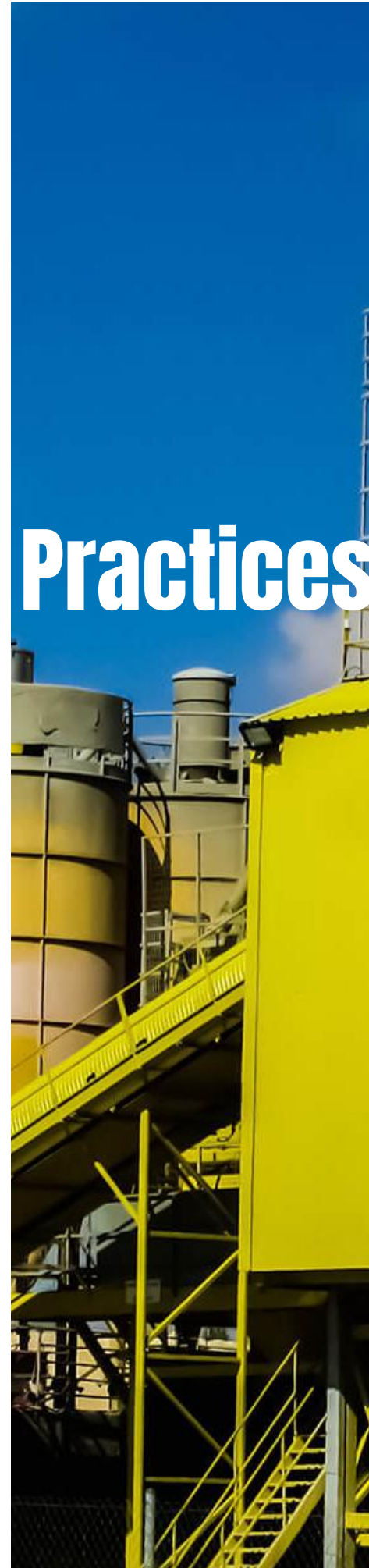




Table 1. Applicable DAs for Concrete Batching plants

	Activity	Definition
18	Establishment of a facility for materials used in construction	(a) The establishment, modification, expansion, decommissioning or abandonment (inclusive of associated works) of a plant for the manufacture of raw materials or products used in construction.

**CONCRETE PLANTS, IMPACTS AND EMISSIONS**

Concrete Batching Plants (CBP) encompass facilities manufacturing concrete from any combination of cement, cement supplements/additives, sand (fine aggregate), coarse aggregate (gravel) and water (DEP, 2014) (USEPA, 2011). These facilities store, convey, measure, and discharge concrete constituents into concrete mixers for transport to construction sites (DCCEEWW, 1999) (USEPA, 2011). Typical plant types include dry batch and central mixed concrete production systems featuring associated aggregate bins, weigh hoppers and cement storage silos (DEP, 2014) (DCCEEW, 1999). In dry batching, concrete is mixed and hauled to the construction site in dry form. Central mix facilities produce the concrete mix on site, before transfer to an open bed dump truck or a concrete mixer for transport to the construction site (DCCEEW, 1999).



There are emissions naturally associated with Concrete Batching Plants that may result in impacts on the surrounding community and natural environment. Potential impacts include dust emissions, noise, solid and liquid waste, as well as turbid and highly alkaline wastewater which are explored in Table 2.

**Table 2. Potential impacts from Concrete Batching Plant operations (USEPA, 2006. DCCEW, 1999. ERMCO, 2006)**

Impact	Source
Air Emissions	1. Point source – solely from the transfer of cement and material to silos, usually vented through a fabric filter.  2. Fugitive (all other sources) - Originating from: <ul style="list-style-type: none"> <li>• the transfer of sand and aggregate,</li> <li>• truck unloading/loading, mixer loading,</li> <li>• vehicular movements on-site, and</li> <li>• wind erosion from sand and aggregate storage piles.</li> </ul>
Noise	Generated from activities such as: <ul style="list-style-type: none"> <li>• Delivery of cement, sand and gravel;</li> <li>• Handling, loading and mixing of concrete;</li> <li>• Truck movements including reversing beepers;</li> <li>• Running of machinery such as pumps, conveyor belts, compressors and motors</li> </ul>
Waste	Unused wet waste concrete, waste oil, and chemicals arise during general operational activities.
Contaminated Water/ Wastewater	Arising from the common industry practice to clean the inside of a concrete truck mixer drum at the end of each day with water, with disposal at construction sites, landfills, or into concrete wash-out pits at ready mixed concrete plants.  Concrete wash waste materials are either wet or dry, both having identical chemical compositions but differing properties. The dry waste exhibits the same properties as hardened concrete and is suitable for recycling or disposal in inert landfills. Wet concrete wash wastes and concrete sludges are unacceptable for landfill containing cementitious materials, chemical admixture residue, other potential pollutants and are typically characterized by a high pH value, ranging between 11 and 12 (high pH), which is harmful to aquatic organisms in streams and rivers (ERMCO, 2006).

**BEST MANAGEMENT PRACTICES (DCCEEW, 1999. USEPA, 2006)**

Negative environmental impacts from Concrete Batching Plants can be managed and reduced by adopting BMPs which are explored in the following points:

BMPs to manage dust emissions at batching plant sites include:

- Stockpiled aggregates maintained in a damp condition, particularly during periods of dry conditions;
- Use of dust screens in areas near sensitive receptors;
- Location of stockpiles downwind of built development or receptors;
- Adoption of a speed limit for vehicles on unpaved surfaces;
- Use of non-toxic dust-suppressant chemicals;
- Transfer of raw materials in a dampened state to and from the aggregate storage area(s) to minimise the generation of windborne dust;
- The use of enclosures, hoods, curtains, shrouds, movable and telescoping chutes (USEPA, 2006);
- Conveyor systems equipped with measures for cleaning return belts and transfer points from conveyors, aggregate weighing, and ground level loading hoppers etc., enclosed as far as practical to minimise the generation and release of particulate matter;
- Implementation of emission control technologies such as but not limited to, fabric filters on silo vents, commonly installed to reduce the concentration of substances in venting air streams prior to emission. Where such abatement equipment is to be installed, the collection efficiency of the equipment needs to be considered. These must be inspected to maintain their efficiency and efficacy;
- Loading from the batching plant to the concrete trucks via an enclosed system, where applicable;
- Dust generated from the movement of heavy trucks over unpaved or dusty surfaces in and around the plant can be controlled by wetting of the road surface.

BMPs to manage noise (CCAA 2019) include:

- Enclosure of noise at its source, for example: pumps, electric motors and compressors,
- Use of silencing devices/mufflers fitted on pressure-operated equipment and engines;
- Sound-absorbing materials at the source, such as hoppers lined with sound-absorbing material (e.g., rubber);
- Sound-barriers and buffers between noise-generating equipment/plants and neighbours, such as screens, barriers, trees, shrubs, etc.
- Locating entrances and exits away from noise-sensitive areas and receptors;
- Locating noise-generating equipment and sirens further within the site to increase the distance to sensitive receptors;
- Substituting quieter equipment, such as utilizing visual alarms instead of audible alarms where appropriate, which does not contravene occupational safety and health requirements;
- Maintenance of all equipment, heavy machinery and trucks and all sound-reducing equipment;
- Operation within defined operating hours and liaison with the local community if operating outside of business hours;
- Liaise with the local community to promptly respond to and resolve issues.



### **BMPs to manage concrete wash water include (ERMCO 2006):**

- Waste reduction by minimisation of wash water, re-use of materials, recovery of materials, and recycling;
- Methods of handling concrete wash water include settling pits, stoning out, chemical wash out, reclaimers (coarse and fine aggregates can be reclaimed into individual stockpiles and water and hydrated cement recovered and stored for re-use), recycled water (Water from settling pits re-used to batch concrete and wash out trucks.)

### **SUBSIDIARY LEGISLATION**

Subsidiary legislation of the Environmental Management Act, 2000 also regulates the operation of concrete batching plants, such as the following:

- Air Pollution Rules, 2014 (APR) - Any air pollutant from the operational phase of the concrete batching must be in compliance with the permissible levels prescribed in Schedules 1 and 2 of the APR;
- Noise Pollution Control Rules, 2001 (as amended) (NPCR) - Operational activities must be in compliance with the prescribed Standards in the NPCR when measured at the property line, except in circumstances described under Rule 7 of the NPCR.
- Water Pollution Rules, 2019 (WPR) - Any effluent intended to be discharged during the operational phase of the project must be in compliance with the permissible levels prescribed in Schedule II of the WPR;
- Waste Management Rules, 2021 (WMR) – As described in the WMR, the requirement for a Waste Generation Permit if the operation will produce non-hazardous wastes at or above specified quantities, or hazardous waste at any quantity.





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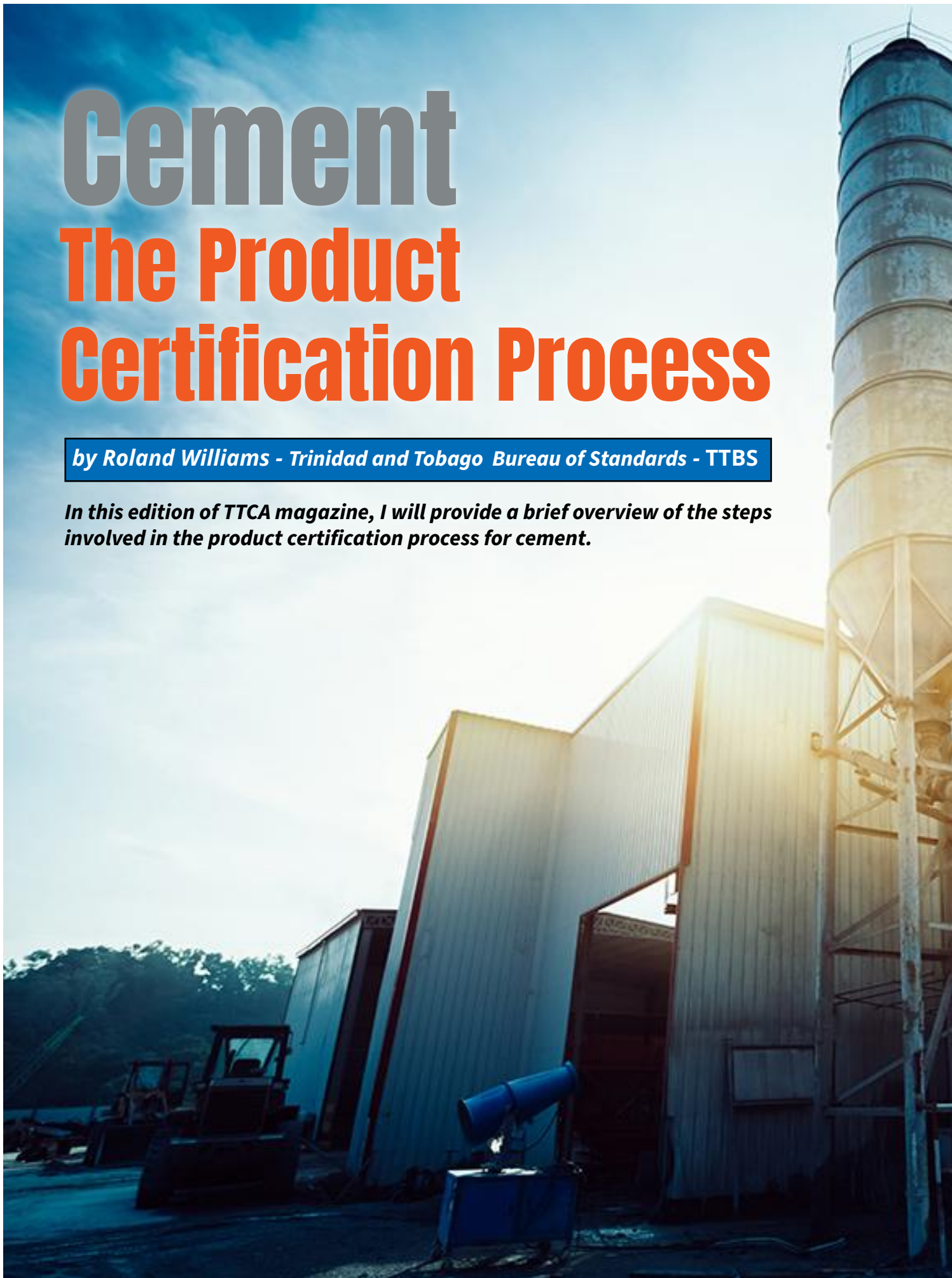
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# Cement The Product Certification Process

*by Roland Williams - Trinidad and Tobago Bureau of Standards - TTBS*

*In this edition of TTCA magazine, I will provide a brief overview of the steps involved in the product certification process for cement.*



### What is Cement?

Cement is any material with adhesive and cohesive properties that is capable of bonding mineral fragments into a compact whole. Cement consists of limestone, silica, iron and aluminium oxide. Cement is produced by burning calcareous and argillaceous materials. For example, limestone and chalk with clay and shale at 1400-1700 degrees Celsius in a kiln to form clinker. This clinker is ground into a fine powder in a cement mill. It's then mixed with gypsum to create cement. Cement plays an important role in creating strong, resilient concrete structures that can withstand natural disasters such as earthquakes; however, if cement is not correctly mixed in the concrete, it can cause drying shrinkage. This can lead to cracks in the concrete structure over time. To ensure a building's longevity, the mix ratio of cement, aggregate and water within the concrete mix, must be accurate.



### **What is Product Certification?**

Product certification is an activity used to assess whether a product conforms to a set of established requirements. These requirements can be found in local, regional, or international standards. The product certification process involves an onsite review of the manufacturers' production and quality control systems. Some areas normally assessed during the review are:

**Quality Control in Production** - Consistency is key to determining the quality of cement. Its quality is assessed via repeatable results. For example, any result obtained at a specific hour should remain the same when the process is repeated an hour later.

**Purchasing** - Emphasis is placed on reviewing the Purchasing Specifications sent to the supplier when the raw materials are being ordered and the Verification checks performed by the organization when the raw material is received.

**Calibration and Maintenance** - This looks at the accuracy of the Measuring Equipment used in the process.

**Monitoring and Measurement** - Here, a review is done on the in-process checks performed by the organization/ manufacturer.

**Control of Nonconforming Products** -The organization must have a system in place to prevent nonconforming products from reaching the consumer.

**Storage and preservation of the product** - Visible inspection will be done at the area where the final product is stored to ensure its suitability to prevent damage to the product.

**Traceability of the end product** - In this area we ensure that the system the organization has in place to trace the final product back to the raw material used in production is adequate e.g. Unique code or batch number, date of production.

## The Product Certification Process

Cement is sampled over an 8-hour period from the point of manufacture. Once the sampling activity is completed, the composite samples are then prepared to be sent to a lab for testing. Some of the tests performed on the samples are Compressive Strength, Air Content, Autoclave Expansion, Chemical Composition, Time of Setting and Insoluble Residue, etc.

A labelling evaluation/ assessment is also performed on the packaging of the product to ensure that it complies with the labelling requirements of the standard. The product must have the following information:

- Cement designation (type)
- Brand name of the product,
- Net quantity,
- Country of origin
- Packaging date or code.

Once the product fulfils all the requirements of the standard, the manufacturer is issued a certificate and a Product Certification mark of conformity which can be placed on the packaging of the product. The intent of this mark is to give consumers the confidence that the product is durable, reliable and of good quality.

Continual surveillance of the product is also performed in the open market. This involves sampling and testing the cement at regular intervals throughout the country to determine conformance to the standard.

In conclusion, cement is an integral building material for many projects worldwide. Due to cement's durability and strength, it's the ideal choice for constructing buildings. So, when executing construction projects, you want to ensure you get the highest quality of cement available.

Rest assured that any product which is certified by TTBS Certification Division has undergone rigorous tests to ensure that it complies to the requirements of the standard.

To view our list of product certification clients kindly visit our website at <https://gottbs.com/product-certification/> for further details.



Author

**Roland Williams**

**Standards Officer 1  
Trinidad and Tobago  
Bureau of Standards**

Roland Williams holds the position of Standard Officer in the Certification Division of TTBS. He has over ten (10) years, experience in certifying products to meet local, regional and international standards, and has assisted in the development of several mandatory programs that are currently enforced by TTBS:

- Roof Sheets (TTS 69: 2019)
- Safety Matches (TTS: 2013)
- Cold-formed steel products  
-Purlins (TTS 598: 2019)
- Liquid Chlorine Bleach  
(TTS 58:2018)



**TRINIDAD AND TOBAGO  
BUREAU OF STANDARDS**

[www.gottbs.com](http://www.gottbs.com)

## TTCA MEMBER PROJECT PROFILE

COOSAL'S

# Coosal's Construction Company Limited

## Rienzi Kirton Highway Pedestrian Overpass

Coosal's continues to establish itself as timeless over the decades and evolved as one of the leading Contractors in the Construction Industry. Technical collaboration and proven track record of proper execution of infrastructural projects are a couple of the tenets of the Coosal's brand, led by Group Executive Chairman of the Coosal's Group of Companies, Sieunarine Persad Coosal, a highly motivated, energetic and successful businessman.

With cohesive teamwork, one project evidenced by said collaboration is the successful completion of the Rienzi Kirton Highway Pedestrian Overpass Project. This dynamic Project forms part of the overall San Fernando Waterfront Redevelopment Project.



This Pedestrian Overpass is the first to be built in the City of San Fernando and will serve as a valuable asset to the neighbouring communities, businesses and schools. The Pedestrian Overpass was designed by the Ministry of Works and Transport, Programme of Upgrade Roads Efficiency Unit (PURE) and constructed by Coosal's Construction Company Limited (CCCL).

It features two steel trusses of a combined 49.4 Meters (162 feet) in length, which are strategically positioned across both the Rienzi Kirton Highway and Lady Hailes Avenue. The steel trusses are seated on three ramp structures approximately 100 Meters (328 feet) long and installed at a height of 5.2 Meters (17 feet) above the major roadways to allow sufficient clearance for vehicles traversing beneath.



Additionally, the two steel trusses were fabricated and fully assembled off-site to their required spans of 18.6 Meters (61 feet) and 30.8 Meters (101 feet), each weighing 16 tonnes and 28 tonnes respectively, prior to transportation and installation on site within a 24-hour period.



A combination of high-strength concrete reinforced with high tensile steel rebars were used in the construction of the ramp structures. The finished concrete surfaces, along with the steel trusses were painted using a multiple coated paint system to, not only protect the structure against extreme weather conditions, but to protect against typical coastal conditions due to its location.



As mandatory, the Pedestrian Overpass was designed and constructed with various safety features to ensure the well-being of users. These include the incorporation of ramp structures with a gentle slope, to facilitate easy access for elderly, differently-abled individuals and wheelchair users, the installation of sturdy metal handrails along the overpass ramp structure to prevent slips and provide support for users, and lastly, the implementation of an adequate lighting system to ensure visibility during periods of low lighting. Moreover, high security fence panels are installed on either side of the two trusses to prevent users and objects from falling onto the roadway below.

To protect against vehicular collisions, metal guardrails were established at locations on the perimeter of the ramp structures. Also, a retaining wall was constructed along the east ramp structure to protect the adjacent residential properties from any damages.



Although faced with numerous challenges, the Pedestrian Overpass was constructed over an 18-month period, inclusive of the Covid-19 shutdown period of the construction sector (May 2021 to July 2021). Equally challenging was the full adherence to all Covid-19 regulations during the construction phases. With effective pre-construction planning and diligent site execution by the Ministry of Works and Transport, Programme of Upgrade Roads Efficiency Unit (PURE) and Coosal's Construction Company Limited, the works were successfully completed. In addition, the steadfast support of the Mayor of San Fernando, the San Fernando City Corporation and the neighbouring communities ensured the seamless execution of said Project.

This commissioning in the City of San Fernando is a noteworthy milestone which allows burgesses to use this modern Pedestrian Overpass to traverse both the Rienzi Kirton Highway and Lady Hailes Avenue safely, unimpeded and easy access.



# Industry Overview



**Sieunarine Persad Coosal**  
*Group Executive Chairman*  
*Coosal's Group of Companies*

To date, although the demand for construction activity remains high, the upturn in major infrastructural projects, which are key drivers of economic recovery has not proceeded as anticipated. Within recent times, with the adoption of Procurement Legislation under the Public Procurement and Disposal of Public Property Act, 2015, we project an increase in tender proposals for Contractor participation and possible award of Contracts.

Consequently, the impact of the pandemic has led to significant cost inflation and disruptions in the supply chain, which have severely hampered progress, leaving long lasting economic repercussions.

The Coosal's Brand fully support this Act, which include formalized change management, capacity building in procurement, and strong enabling legislation, just to name a few. We hope with measures implemented it will equate to the sustainability of the industry.

Sieunarine Coosal prides himself on excellence and always impress he holds his employees to that standard, committed to innovate, embrace new technologies, change perspectives and by remaining unwaveringly committed to the formula for success, the Coosal's Brand has established itself as a formidable Contractor in the Construction Industry.

Regionally, Coosal's Guyana Construction Incorporated (CGCI) and Coosal's Guyana Mining Incorporated (CGMI) were incorporated. The Cooperative Republic of Guyana is steadily pursuing a housing drive, amongst other major construction goals and commitment to growth. CGCI successfully commissioned a ready-mixed concrete operations for delivery and pumping to support the demand to our regional neighbours. Coosal's is encouraged to provide the requisite products, services and related civil engineering works which include but is not limited to asphalt production; production of concrete masonry units – concrete blocks and pavers, RCCP cylinders, and soil stabilization to list a few.

## TTCA MEMBER PROJECT PROFILE



# Fides Limited

## Hasely Crawford Stadium

***As the country gears up to host the Commonwealth Youth Games 2023, which will take place between 4th to 11th August 2023, The Refurbishment of The Hasely Crawford Stadium was tasked to be upgraded. Fides Limited, a well-known construction company and TTCA Member, has been contracted this project, by the Urban Development Corporation of Trinidad and Tobago.***



The project is expected to be completed within 150 days of commencement, and Fides Limited is on track to achieve this target. The project commenced in January 2023 with a kick-off meeting and Fides Limited has been working tirelessly to ensure that every aspect of the refurbishment is completed on time. The project is scheduled to be handed over in early July 2023.

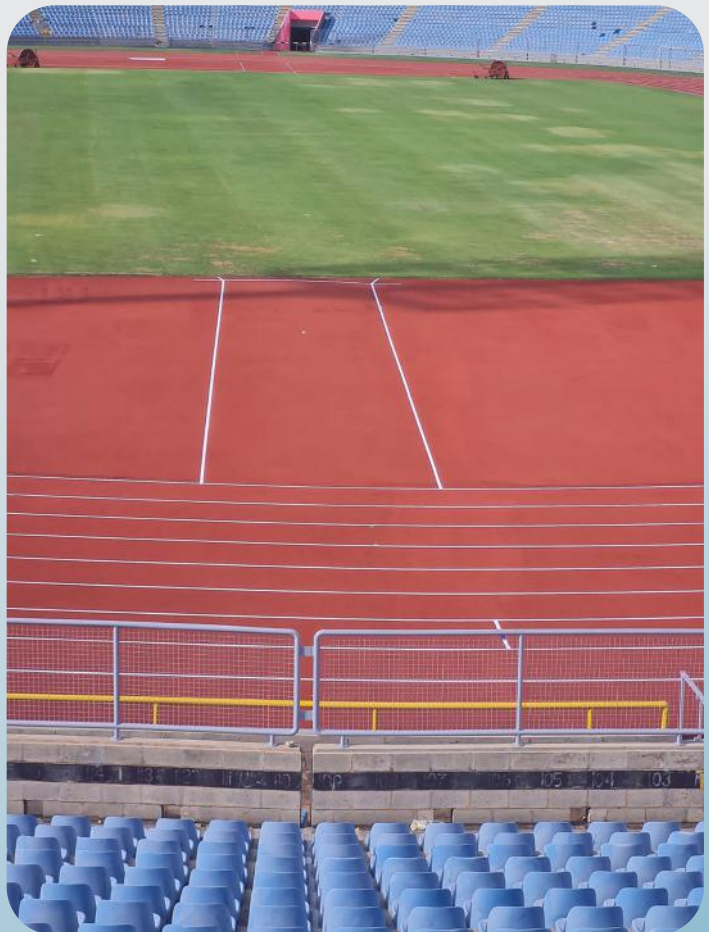
The completion of the stadium before the Commonwealth Youth Games 2023 is of national importance, and Fides Limited is upholding this sense of responsibility with utmost dedication and commitment. The scope of the project includes the refurbishment of the entire Hasely Crawford Stadium, encompassing major mechanical, electrical, and plumbing works. These works comprise electrical upgrades, plumbing upgrades, and installation of AC systems. Additionally, the company has undertaken other essential works such as mass lighting, elevator and escalator installation, and refurbishment of the track, among others.



The team handling this project at Fides Limited comprises experienced professionals who have worked round the clock to ensure the completion of the project within the stipulated timeframe. Yeimer Saurez Fuentes is leading the team, while Shawn Bissoon is managing the project together with the MEP engineer, Virindra Boodram. They have been instrumental in ensuring the completion of the project with utmost safety and quality. The team's dedication, commitment, and hard work are paying off as the project nears completion.

Fides Limited has remained focused on the quality of work and ensured that every aspect of the project receives the required attention. Apart from refurbishing the stadium, the company has also undertaken steel retrofit works, painting and power washing, paving, resealing of concrete tiers, and resurfacing of grano flooring.

In conclusion, Fides Limited's commendable efforts in refurbishing the Hasely Crawford Stadium for the Commonwealth Youth Games 2023 are indeed praiseworthy. The company has upheld its reputation for delivering quality work, and this project is no exception. Once completed, the Stadium will stand as a testament to the company's commitment to excellence and will serve as a venue for hosting worldclass sporting events.





# TTCA Welcomes New Member

## CONSTRUCTION SERVICES AND SUPPLIES LTD

Construction Services and Supplies Limited (CSSL) was formed as a limited liability company in 1999. Due to the substantial growth in the commercial and industrial construction sectors over the years, CSSL has been able to establish itself as a dependable organization in the construction industry. As a stow certified business and a member of the US Green Building Council, we prioritize sustainability, quality, and safety. To satisfy the different demands of our Clients, we provide a wide range of services ranging from project management to building and design services.

We adhere to the toughest industry standards and perform extensive quality control processes throughout the whole building process. We prioritize investing in continual training and professional development for our personnel so that they are knowledgeable about the latest building techniques and technology. Furthermore, we maintain a strong safety culture and strict security measures to safeguard not just our personnel, but also our customers and the society at large.



Project: Renovation of the Manta Lodge Hotel  
Speyside, Tobago  
Client: Tobago House of Assembly

CSSL has proven its ability to effectively finish several initiatives for a wide range of Clients. Our portfolio includes commercial, industrial, and institutional buildings, showcasing our ability to address a wide range of construction needs in several settings. We prioritize client satisfaction and aims to surpass their expectations on every project. We provide open communication, openness, and collaboration throughout the building process by developing excellent working relationships with our clients. We can give customised solutions that are suited to the exact project needs and aid in obtaining the required outcomes while staying under budget because of our customer-centric approach.

CSSL services include: Building Rehabilitation/Renovation/Restoration Work, Demolition, Commercial and Industrial Construction, Pre-Engineered Building Solutions, Infrastructural Design and Construction, Commercial Building Maintenance.

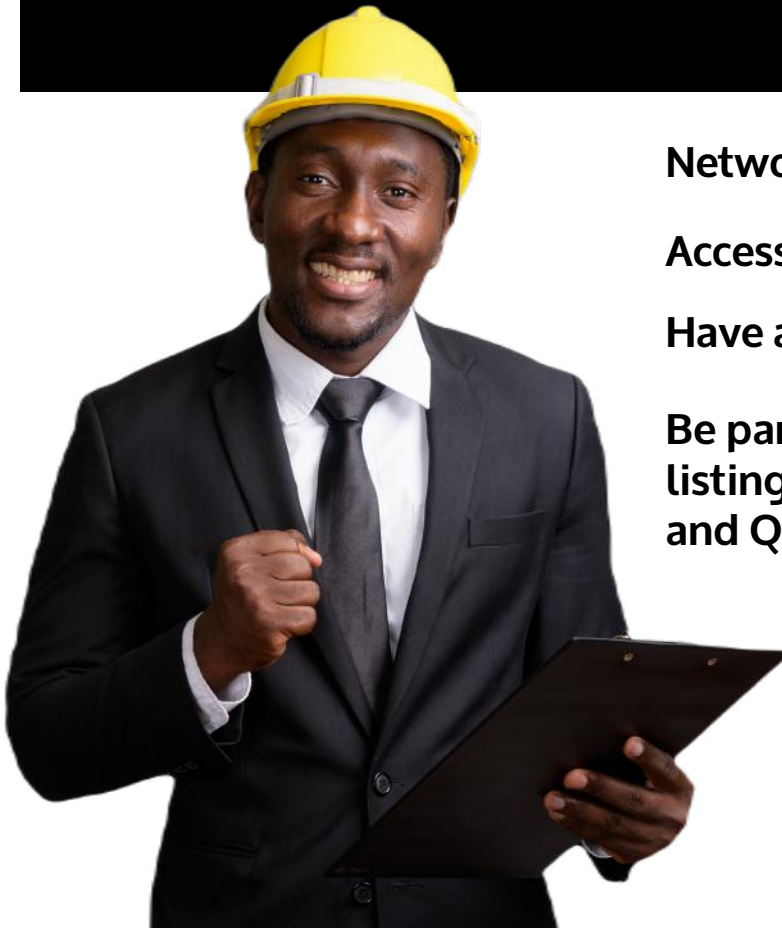
- ABEL Building Solutions
- Adam's Project Management & Construction Limited
- Agostini Building Solutions
- All Rock Investment Ltd
- Alpha Engineering & Construction Ltd.
- Anjay Limited
- ANSA Coatings
- ANSA Motors
- Bhagwansingh's Hardware
- Broadway Properties Limited
- Building Professional Ltd
- Cadmus Holdings Ltd
- Caribbean Industrial Research Institute (CARIRI)
- Capital Signal Company Ltd.
- CBE Trinidad Ltd.
- Comfort Engineering Limited
- Concepts & Services Company Limited
- Construction Services and Supplies Ltd
- Coosal's Construction Company Ltd.
- D. Lak Transport Ltd.
- Deonarine's Engineered Construction Ltd
- Dipcon Engineering Services Ltd.
- Doc's Engineering Works Ltd.
- Eastern Engineering & Marketing Services (1994) Ltd.
- Emile Elias & Co. Ltd.
- Fairways Construction Company Ltd.
- Fides Ltd.
- Flags – TC International Limited
- F.T. Farfan Limited
- Gardiner & Associated Engineering Services Ltd
- General Earth Movers Limited
- GML Contractors Ltd.
- Haniff Mohammed & Son Ltd.
- HEVI-QUIP Company Ltd
- Home Solutions
- Hookmally Ali Ltd.
- International Interiors Ltd.
- Junior Sammy Contractors Ltd.
- JUSAMCO Pavers Ltd.
- Kall Co Ltd
- KEE-CHANONA Limited
- Kurv Enterprises Limited
- LAING Sandblasting & Painting Co. Ltd.
- Lifetime Solutions
- Logan Contracting & Transport Services Ltd.
- Lutchmeesingh's Transport Contractors Ltd.
- Massy Energy Engineered Solutions
- Massy Machinery Limited
- Mecalfab Limited
- Namalco Construction Services Ltd
- National Quarries Company Ltd
- NH International (Caribbean) Ltd.
- NIPAT General Contractors Ltd
- Online General Contractors Ltd
- Parks International Ltd
- Powermac Limited
- Pres-T- Con 2021 Ltd.
- Prindi Contractors T&T Limited
- Ramkaran Contracting Services Ltd
- R.B.P Lifts Ltd
- Roof Systems Ltd
- Rosscan Limited
- SAMCOLL Construction Co. Ltd.
- Sammy's Multilift Services Ltd.
- SCL (Trinidad) Limited
- Seereeram Bros. Ltd.
- Servus Ltd
- Soar Construction Services Ltd
- Streamline Systems Co. Ltd.
- Syne's Contracting & Industries (1988) Ltd.
- The Paramount Transport and Trading Co. Ltd
- TN Ramnauth And Company Ltd
- Total Housing Ltd
- Trinidad Cement Limited
- Trinidad Contractors Ltd
- Trinidad Pro Construction Ltd
- Trinity Housing Limited
- Trinmesh Limited
- Unicom Limited
- Weathershield Systems Caribbean Ltd.
- Williams Foundry Limited
- Zaftraxx Ltd

# TTCA

TRINIDAD AND TOBAGO  
CONTRACTORS ASSOCIATION



**Be part of a United Voice for our Construction Industry**




**Network with fellow Members**

**Access to Events, Workshops, Seminars &**

**Have a Voice in shaping Industry Legislation**

**Be part of TTCA's Database with Company listings on our Website, Annual Directory and Quarterly e-Magazine - The Contractor**

**Register Online** 

 **627-1266 / 8020**

 **generalmanager@ttca.com**