

# PROJECTS

MAGAZINE NOVEMBER DECEMBER 2021

## Elevate To A New Lifestyle

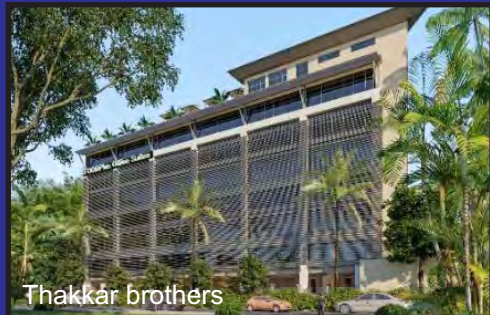
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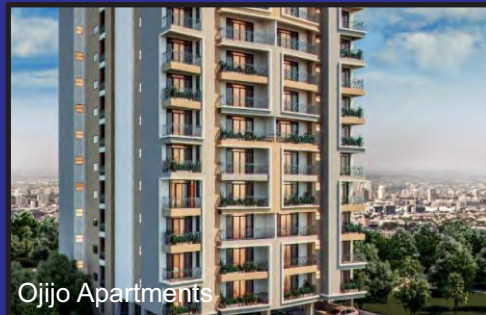
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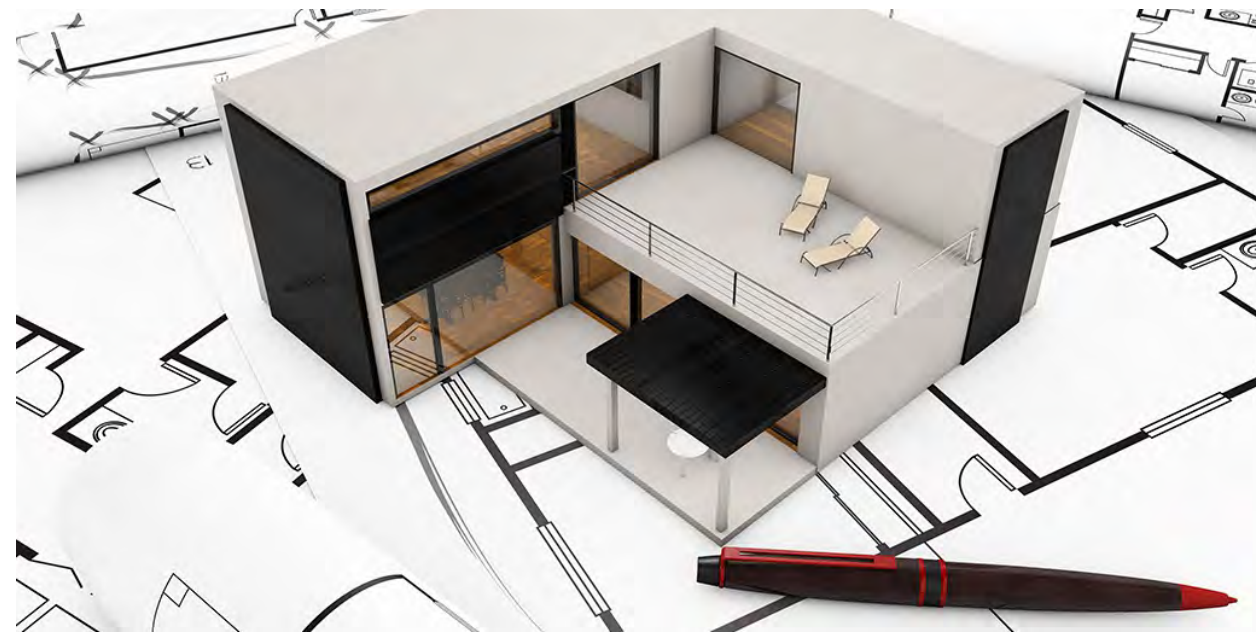
  
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# SHIPPING CONTAINERS



Shipping containers is revolutionizing how people set business premises around the world, and the trend is slowly being witnessed in African cities. There is a huge rise of container shops, restaurants, offices, and classrooms, homes and many more. The famous giant boxes mostly used in transporting cargo are now hosting businesses of types in our busy cities. They are affordable, eco-friendly, and movable making it easy to switch locations when things are not working well for your business!

## Benefits and challenges



### Solar Powered Container Internet Cafes

Containers are rapidly changing the way people build their spaces around the world and making heads turn for sure. The traditional brick and mortar model is becoming monotonous and the container fabricated solutions are capturing every aspect of human life with speed, from homes, hospitals, retail, schools, shopping complexes, offices and many more.

If you are having an upcoming project or looking to build your humble abode you may probably

consider going for fabricated containers because of the following benefits and challenges.

- ✦ Faster construction and transport
- ✦ Greater degree of predictability in cost
- ✦ You Can Imagine and build anything
- ✦ Transport to any location
- ✦ Environment friendly
- ✦ Less dependency of weather and site conditions (leading to higher productivity of workers)
- ✦ Reduced material waste and transport carbon emissions
- ✦ Increased safety to workers
- ✦ Design options can to some extent be restricted by the use of standardized modules
- ✦ Over-engineering e.g. wall thickness as several modules are assembled
- ✦ Limited ability to change the structure through future renovations

## Guidelines to Building from a Container



Solar Powered Container Internet Cafes

Numerous DIY builders think that building from a shipping container is not difficult, but most of the time, it requires a skilled professional's expertise. It's a long-term investment, so choosing the right methods and techniques is necessary. There are several guidelines everyone interested in living in a container home should know to make an informed decision about the construction plan. Few Guidelines about how to build a perfect from a shipping container are jotted down below.

### 1. Check the Space:

Shipping containers come in various sizes, and it is always a good idea to do a recheck before investing in one. The shipping container should be of appropriate size according to the residents' needs and the design they choose to build. The design can be customized according to the size, so communicating the requirements to a reliable, professional container builder is recommended to avoid inconveniences later.

### 2. Research about Local Rules:

The most crucial part of building a container is to adhere to the local rules of the area where the construction has to be done. Every country and every city has its own rules and regulations about building a container home, so before looking for tips about how to build a container home, it's necessary to check the local laws about it. Some areas are prohibited from building a container home. Some require a legal permit from a relevant authority before the construction of the house. The builder has to check the fire, climate, and other laws, too, which are not generic in every country or even cities. An extensive pre-construction homework is the safest way to avoid any obstacles in the path towards

your dream container.

### 3. Inspect the Container:

The second most essential tip about how to build a container home is to inspect the container. Never believe in the company's word and always make a personal visit to inspect the container to ensure that it is in good shape and doesn't require a lot of repair and welding work.

### 4. The material of the Container:

Always be sure of the material of the container. Aluminum and steel are the most durable materials and long-lasting. Containers constructed from these materials are generally not rusty and dented, but an inspection visit is necessary.

### 5. Find the right Contractor:

Finding a professional contractor who really knows how to build from a container is a critical aspect of the process. Look for a contractor who is experienced and flexible. It is advised to choose a single contractor for the whole process and not a separate contractor for the construction and interior work. An experienced all-rounder, who can take care of the entire process, starting from planning, designing, budgeting, and execution, would be an appropriate choice to avoid any discomfort at later stages.

### 6. Choosing a new or used container:

New and used both containers can be utilized to build a perfect home, and it all depends on the builder's budget. Without any doubt, new containers would be the most suitable choice, but it would not be the best option if someone is on a strict budget.

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Contributions

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A new container is tailor-made too if there are specific requirements. Some used containers are as good as the new ones and cheaper. They require little repair work, which the contractor can easily take care of. It is advised to look for a container that has been used on a single trip. They are generally affordable and just like new and don't require any extra refurb work.

### 7. Plan, Design, and Execute:

The workflow should be like plan design and execution. Always plan ahead for the plumbing, insulation, and welding work. Then create a design according to the plan and finally execute it appropriately to build a comfortable, efficient, and budget friendly container home.

### Most Innovative Uses of Shipping Containers

Shipping containers are boring steel boxes used for transporting goods both on land and in the sea. These boring steel boxes are rapidly changing the dynamics of how we create modern day spaces, commercials and residential.

Around the world, containers are becoming the best alternative to the traditional brick and mortar way of building spaces. Architects are building their trade with these steel boxes to create some of the most outstanding spaces. Here 20 most innovative uses of shipping containers:

#### Container Restaurants



Are you looking to set up a restaurant in an extraordinary way? Shipping containers are steadily winning the hearts of proprietors in the hospitality space and this is giving rise to creative and trendy container restaurants. By the nature of their almost "out of place" presentation, they instantly become the centerpiece of conversation in the communities they land in. Container structures do not go unnoticed. If you're into being bold, hip and

cutting edge...a shipping container structure is the way to go.

#### Container Houses



Who would like to stay in a Lego like cold and big box steel? But containers with their native aesthetics that bring out the contemporary industrial design conform to the tiny house movement and they help create some of the most beautiful houses that will instantly turn heads. If you want to live in a magnificent space that is built within weeks or a few months then shipping container house concept is your thing. Best thing is that they are portable and can be moved and reinstalled from place to place.

#### Container Schools



Building classrooms out of shipping containers can be cost effective and fast. It is cost effective to build classrooms out of used shipping containers and the best thing is that you can transport them to the most remote locations. The benefit of working with this process is the minimal installation time, allowing the classrooms to be ready for the kids much faster than traditional building methods.

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#### Container Retail Stores



Containers provide perfect spaces for retail branding, they are becoming the modern day billboards that customers actually look at and want to come in. This is rapidly building a force behind container retail stores adoption. Shipping containers allow for a quick building process that a new and upcoming business majorly benefits from. They give free publicity from the attraction they create.

#### Container Bar



Using shipping containers as the foundation for your bar building allows you to transform any area into the trendy new "watering hole". Humans can always make a bar out of anything, they only need to add alcohol and the conversation will flow. If you want to create a perfect trendy bar that will keep your customers coming then you should consider shipping containers. It will leave a lasting impression on your bar business.

#### Container Café



One of the giants in the cafe space in the world, Starbucks is building beautiful cafes out of shipping containers. You know it is a big thing when Starbucks is doing it. Just like the restaurants, cafes also depend on appeal and appearance to keep things interesting for their customers. Container coffee houses are the most ideal applications for the steel shell.

### Container Hotel



Shipping containers are also making their mark in the hotel industry. Due to their lego-like structure and sizes which come in 10, 20, and 40 ft it is easier to stack them into multiple levels. The users are also able to add key lifestyle factors like lighting, plumbing, and electricity to keep their customers satisfied and wanting to return.

### Container Hospital



Hospital facilities have been recently following the trend of using shipping containers in order to sustain their needs in an inexpensive way. They are

very helpful in poorer countries where the affordable prices are extremely convenient, especially since hospitals are needed everywhere.

The short construction time is also advantageous in that they can save money by getting their business up and running as soon as possible

### Container Apartments



Shipping containers can be transformed into beautiful container apartments. With shipping containers you can cut down on your cost and project time to build residential apartments out of shipping containers.

They are easily stackable and have many design opportunities that allow you to develop your house plan however you want. You can also easily change or add the interior to anything you want ranging from tile to wood to brick.

### Container Commercial Offices



Offices are commonly spacious which is why using shipping containers is convenient. Since they are affordable, you can buy many containers to stack and create levels as well as easily move around and change your layout. In addition, with multiple containers, you don't need to cram as many people into one space.



### Container Solar Powered Internet Cafes



A shipping container transformed into a solar-powered internet café or classroom for people in need living in distant regions, like refugee camps, is a great concept. This concept can be used to break a cycle of exclusion and gives people a space that they deserve to improve their learning experience and achieve their goals. It also allows teachers to pass vital 21st-century digital skills and ignite learning in ways that are most relevant to their students' objectives and success in their local economy.


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# MAGIC DASH APARTMENTS, RUAKA, NAIROBI



The government of Kenya has in the past few years put effort, emphasis, energy and resources in its “Big four Agenda” as the epicentre of economic development as well as a legacy to be remembered. One of these “Big four Agenda” is the “affordable housing” and it is in light of this that the developer

came up with the Ultra-modern development, located in the hottest upcoming neighbourhood of Ruaka by the name Magic Dash Apartments, which have been tastefully designed with state-of-the-art uniqueness making it an iconic building even in its surroundings.

With the country experiencing rapid urbanization in the recent past and thus increasing the demand for housing facilities around the major cities and towns. With sustainable development goals requiring cities to be made safe, inclusive and resilient, there has been a high need for

middle income housing in Nairobi. The developer approached Spire Studio Architects to design an apartment block in Ruaka area to meet the need for the middle income class for affordable residential facilities.

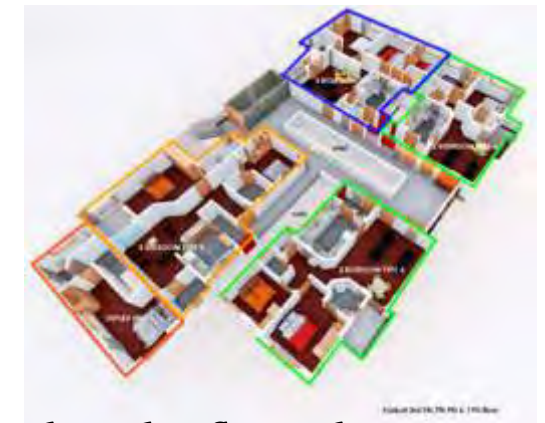


Magic Dash Apartment - Ground Oblique View



Magic Dash Apartment - Side View

The apartment block comprises of 45 units of different typologies; 3 bedroom, 2 bedroom and 1 bedroom duplex units. This is aimed at giving the prospective residents a wide scope of choice in their journey to owning a residential home.



Typical 3rd, 5th, 7th and 11 floor plan

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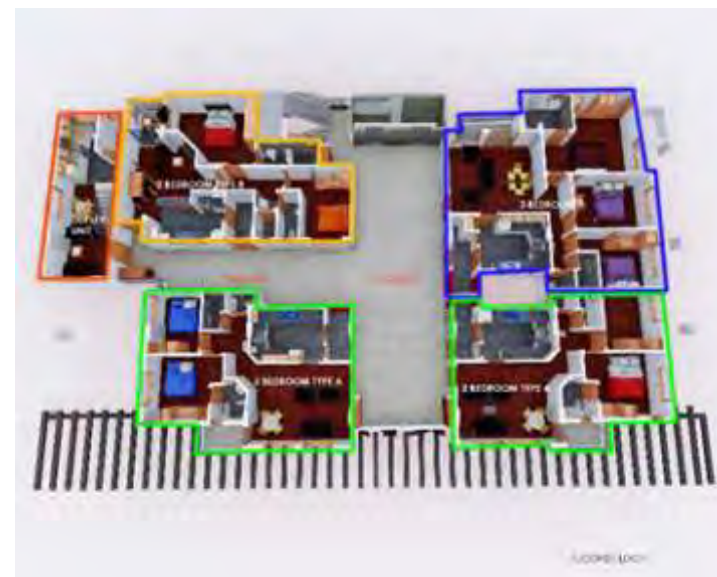


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Second floor plan.



Ground close up



The apartments take pride in not only the unique architectural design but also its artistic interior design and décor complementing the firm structural construction. Upon completion, the block will meet the housing needs for the city dwellers as well as international expatriates working in the nearby UNEP and embassies in a convenient manner with closeness to various social amenities in its proximity.



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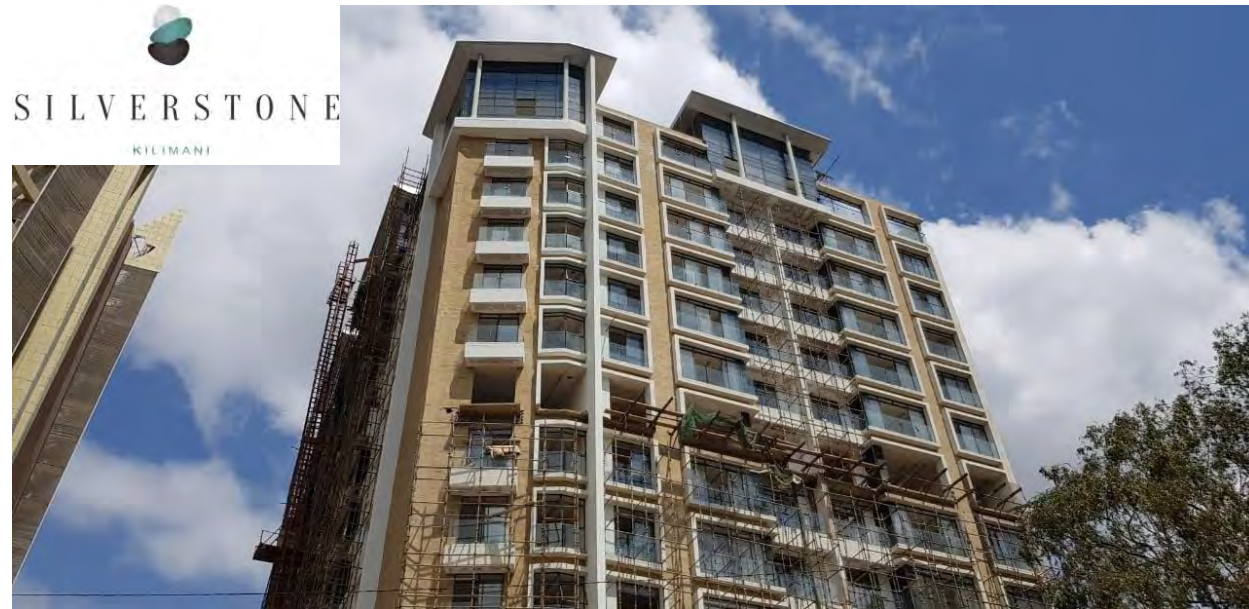
WE ARE PROUD TO BE ASSOCIATED WITH PURSHOTTAM DEVELOPERS LTD FOR THE DEVELOPMENT OF THE

MAGIC DASH APARTMENTS

*Congratulations !!!*



# The spectacular Silverstone Kilimani brand new development in Nairobi



The spectacular Silverstone Kilimani is a brand new development in Nairobi's upmarket Kilimani area comprising a total of 146 private apartments

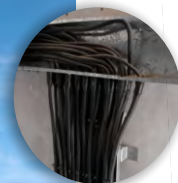
divided across 14 floors, along with 3 pent suites on the terrace floor. These are serviced by 3 lifts, in addition to 2 basements with ample parking. The development provides a vast range of highly-specified one and two bedroomed apartments.



The apartments are in close proximity to Yaya Centre Shopping Mall, Kilimani Police Station, The Nairobi Hospital and downtown Kilimani.

### Apartment Features

840 Square feet 1 Bedroom apartment  
All apartments are fitted with ceramic tiles in the lounge, dining, kitchen and wet areas while the bedrooms are floored with warm wooden flooring.



**We are proud to be associated with Silverstone Apartments**

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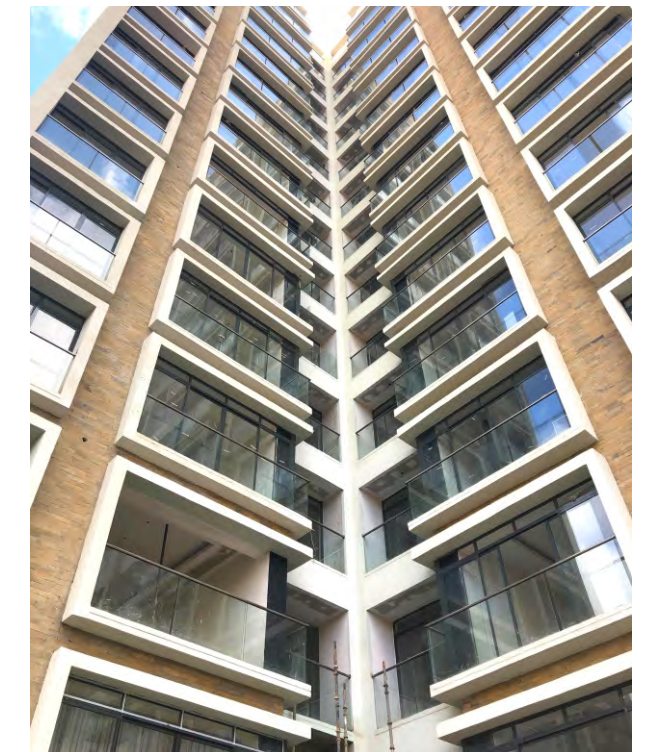
- ✦ High Speed Elevators
- ✦ Fitness area and Fitted Gym
- ✦ Solar water heating systems
- ✦ Rooftop Infinity Swimming pool
- ✦ Cable TV and Internet Ready
- ✦ Back-Up Generator
- ✦ Borehole and Water softener Plant
- ✦ Rooftop Barbecue Kitchen
- ✦ Landscape Garden

### Specifications:

- ✦ One bedroom apartment - kshs10.5m
- ✦ Monthly rental - 75,000/month
- ✦ Two bedroom apartment - kshs15m
- ✦ Monthly rental - 90,000/month
- ✦ Furnished & serviced options available

### Features:

- ✦ Fitted kitchen
- ✦ 2 car park spaces per unit
- ✦ Solar-heated water
- ✦ Cctv and intercom
- ✦ High speed elevator
- ✦ On-site borehole
- ✦ Full-time generator
- ✦ Yoga area
- ✦ Fully equipped gym
- ✦ Kid's play zone
- ✦ Electric fence
- ✦ 24/7 hours manned gates
- ✦ Internet connection



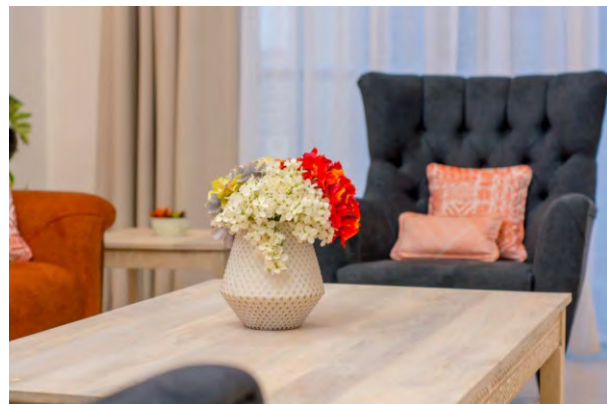
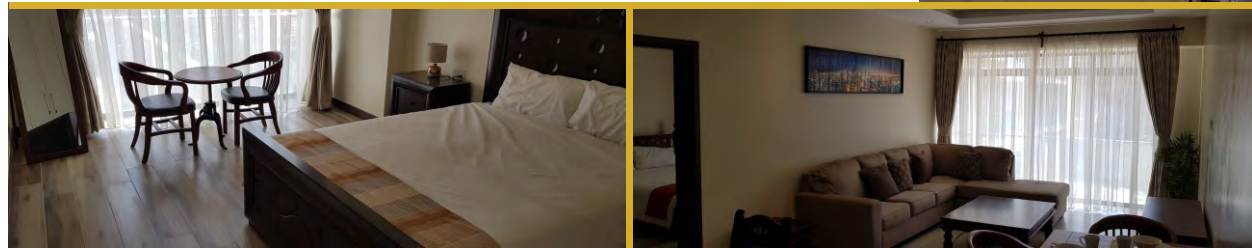


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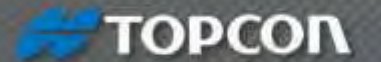
- \* Fitted kitchen
- \* 2 car park spaces per unit
- \* Solar-heated water
- \* Cctv and intercom
- \* High speed elevator
- \* On-site borehole
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GREY PEARL

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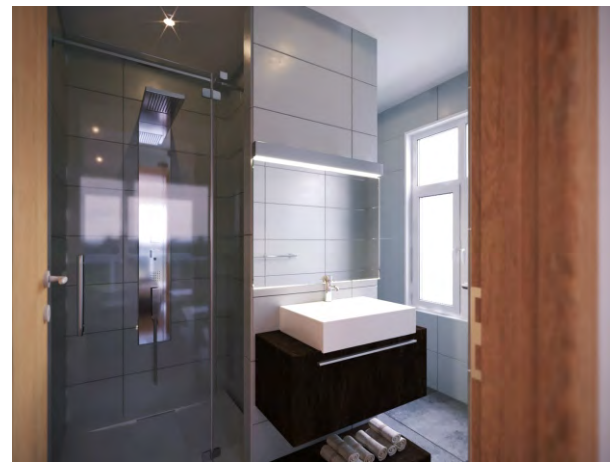
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Each apartment features a breathtakingly spacious terrace perfect for entertaining and relaxing.

Our apartments offer the residents a fully equipped kitchen including microwave, oven, extractor hood, kitchen hob and a fridge along with a water purifier for clean drinking water.

## MODERN DESIGN



Our stunning Grey Pearl Apartments have been designed with modern living in mind. Every part of your new apartment has been designed with a focus on luxury and ease, whilst maintaining a focus on unmistakable high quality and security.



The residents will enjoy access to a rooftop pool along with a sauna, fully fitted gym and a clubhouse offering spectacular views of the city.

The apartments are carefully designed and planned with the client's comfort in mind.



Extra amenities like the water filter are just few of the features you will be able to enjoy in your new apartment.

### Common amenities include:

- Rooftop swimming pool
- Clubhouse
- Sauna
- Gym
- Borehole
- Generator
- DSQ (optional)
- CCTV
- Children's playground

### The apartments come in 3 different options:

1. Unit comes with a DSQ plus 2 parking spots
2. Unit comes with a DSQ and one parking
3. Unit is offered with no DSQ and one parking spot

### APARTMENT OPTION

Our commitment to quality is evident in the smallest details of your new home. The above amenities, features and the strategic location give *GREY PEARL, A CLASS OF IT'S OWN.*

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# KURA to “Reclaim” South B Roads from Roadside Traders



**Residential properties in South B. KURA has give notices to roadside traders in the area to vacate. (Image: Standard Properties)**

Hundreds of traders and business owners encroaching on nine road corridors in South B, Nairobi, have less than three weeks to find an alternative location for their businesses.

This follows a 30-day notice by the Kenya Urban Roads Authority (KURA) to the traders to pull down all structures erected along the roads, failure to which the properties would be demolished.

The roads include Kapiti, Aoko, Plainsview, Mwangeka, Sorre, Mchumbi, Daidai, Mukenia, and Mariakani.

The affected traders include vegetable vendors, clothes sellers, shoes hawkers, building material vendors, kiosks and semi-permanent structure owners.

In a letter dated August 26, 2021, Kura's director of road asset and corridor management, Abdulrashid Mohammed said the traders have illegally encroached the roads and should vacate to pave way for rehabilitation. Mr Mohammed said the traders have 30 days

from the date of the notice to remove structures encroaching road corridors.

This, he said, is in accordance with Section 49 (a) of the Kenya Roads Act which forbids all persons from erecting, constructing or laying or establishing any structure or thing on or over or below the surface of a road reserve or creating vehicular or pedestrian obstruction without permission from the Roads Authority.

“Please take notice that failure to act as directed above will result in forcible removal of yourselves and the encroaching matter disclosed above at your own cost by the Authority upon the expiry of the stipulated notice period,” said Mr Mohammed.

He warned that defying the notice shall additionally attract penal sanctions culminating in the institution of criminal prosecution against the traders, agents or anyone acting on their behalf.

Mr Mohammed said personnel from the project's implementation team have met the traders several times to urge them to move away from the road as they interfere with its safe usage, particularly its walkway, and blocking off the drainage system. – Business Daily

# Real Estate to Bounce Back by Early 2023



The African real estate market is expected to normalise and bounce back to pre-Covid-19 levels by Q1 2023. This is according to Malcolm Horne, CEO of Pan-African professional real-estate services provider Broll Property Group. Many of the trends dominating the international real estate market at present were already prevalent or on an upward tick prior to Covid-19. “A lot of the trends we have seen, whether globally or in Africa, had their roots before the pandemic. It was not a case of Covid-19 suddenly leading to massive change. It did accelerate market trends, especially as the sectors benefitting now had already started to grow prior to Covid-19.”

Looking at the international real estate market, Horne says the obvious winners at present are industrial, data centres and lifestyle, the latter focused on well-being and healthy living, in addition to healthcare. “These have done very well. However, if you compare it to Africa, they have fared equally well.”

Thus, there seems to be a real correlation across the board between those resilient

sectors that have stood out. In Africa, industry, data centres and hospitals have been at the forefront of much development. Secondary emerging investment sectors that are rapidly gaining traction include cold storage, self-storage facilities and affordable housing.

“The real challenges lie in offices, retail and hotels,” says Horne. In the case of retail, the sector continues to attract investment. “Yes, there have been major retailers exiting some African markets, but if you look at the international trend, a lot of landlords have actually invested in retailers in order to get them going again. We have observed a similar trend in Africa in terms of a resurgence of local investor interest in the retail sector.”

In terms of the office sector and the global ‘work from home’ phenomenon, while a general return to the office environment is predicted by Q3 this year, with a hybrid model most likely to be adopted, Africa is an interesting exception. “Due to the slow rollout of vaccines across the continent, a lot of companies are still working remotely.”



## Graham Berman Refrigeration Services

# Equity Holdings to Develop Kigali International Financial Centre Towers,



Equity Holdings Venture Capital, an investment arm of Equity Group plans to build towers for the Kigali International Financial Centre (KIFC). Rwanda's cabinet approved the project which is seen as a strategic growth support initiative recently.

The CEO of Rwanda Development Board (RDB) Clare Akamanzi said the Kigali Financial Towers will be a real estate project that will be located in Nyarugenge District.

"They will build one of the buildings for the Kigali International Financial Centre (KIFC), and the idea is for it to be a state-of-the-art real estate project with a hotel that can accommodate people working at the Centre," she told Rwanda's New Times.

The Rwandese government set up Kigali Finance Limited to oversee the development of the financial centre whose aim is to build an attractive ecosystem for big banks, fund managers, insurance firms, and other multinationals to set up shop in Rwanda.

Akamanzi said Rwanda is keen on attracting big names like HSBC and Citibank hence the need to invest in big real estate projects like this. She said the country is eyeing the status of a regional financial centre so it can key into the global financial system through partnerships.

The government is set to sign an agreement allowing for the development of the project, which is expected to be complete within three years from the signing date.

An official from EHeniture Capital in Nairobi the project was still at an early stage adding that the design will be done by early 2021. Details of the project's size are still unknown.

## Nairobi Financial International Financial Centre

Nairobi has long been in discussions to establish an international financial centre with moves dating back to 2015.

The Nairobi International Financial Centre Act was gazetted in August 2017 to serve as a legal framework for the establishment and regulation of the centre.

In November 2018, Kenya's National Treasury invited bids for consultants to develop the framework for the establishment of Nairobi International Financial Centre, a regional financial hub.

The project forms part of the country's Vision 2030 which envisages the NIFC as a catalyst for Kenya to gain a deeper foothold in sub-Saharan Africa's growing financial services segment. However, implementation has been slow.



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# Making a fortune in real estate development is more than standard procedures



Real estate is a growing industry in East Africa, owing to the fact that demand and supply push and pull of decent housing in urban areas is changing with the dynamics of population, economic development and investor projects. Most entrepreneurs have had a better analysis of their projects from market research and trends. However, it is evident that a good number of investors never get to visualize a full cycle of an infrastructure project and one minor consideration that is well known by professional in construction may land the whole project in turmoil. This has been the case in some real estate development project. Only a full cycle visualization will give a secure way to seal minor loopholes to threats of a real estate project.

Almost everyone's wish is to have a decent housing, a decent home or both. For investors in the real estate industry, they target to construct sustainable standard housing that meet the needs of the target market and considers the safety of anyone who will dwell in or use the housing. According to the National Housing Corporation, Kenya has a deficit of 2 million households which annually grows by 200,000.

The Ministry of Housing estimates the supply of households at 50,000 units per year which is far much lower than the demand and deficit. This is why housing infrastructure is key and should focus on sustainable economically to benefit investors and tenants. In this piece, we are going to focus in three key factors that individuals and company must factor in fully while planning to implement an infrastructure project for real estate. Some of these factors never get considered by local investors in a full cycle because they may not be well visualized in the initial planning for building and construction.

## ***Sustainability of future business prospects***

According to the Forbes Real Estate Council, addition of transportation system and increasing of rent charges are two key factors that indicate that development is improving in an area. These two factors means people are moving into an area at a high rate, hence creating a demand and supply tension which result into more infrastructure projects to cover for housing, shopping centers and malls and social amenities.



## ***Two rivers mall in Ruaka, Kiambu County***

Despite all these luring factors that attract many investors into initiating infrastructural development projects in an area, but in some instances, even after doing a proper market research, the vision of sustainability to a future business might be diverted by critical dynamic factors that may not show up anywhere at the initial stages. According to a report by Credit Suisse, a Switzerland financial advisory company that was released in the last quarter of 2017, one out of four shopping malls in America would not exist in the next five years because of the crazy growth of digital sales. The report highlights that the digital sales of apparels will grow by 17% by 2030 and this means closures of more shops in malls. Credit Suisse approximated that 8,640 stores would be closed in 2017 due to the new niche in digital sales and shopping that was growing day by day.

This might be a similar case in East African countries, not necessarily this year but probably by 2025, owing to the growth of digital marketing, online sales and freelance businesses. This is also worsened by unstable market and economic times that the region is currently facing, especially in the rise of commodity prices, prolonged drought and political environment, mostly affected by the prolonged electioneering period in Kenya. The sustainability of business in any infrastructural development beyond ordinary factors must be

focused on to analyze full potential of an infrastructure business.

## ***Maintenance policy***

Any real estate property needs proper maintenance policy to ensure that it maintains its standard and value. Most people have witnessed houses, offices, apartments and residential estates with poor drainage, leaking roofs, blocked sewerage lines and dry taps. Maintenance policy applies to roads and bridges in a real estate construction area. With time, these factors diminish the value of a property and lead to tenants moving out of the houses or apartments. Some real estate investors are then forced to lie to tenants on the status of the house or office, but it is realistic that no one is always ready to spend money on something that does not give them value. This is the case where you find unoccupied apartments, just because of some failures that would have been avoided if a maintenance policy would be in existence and effective.

Projected physical, environmental manmade effects to properties 2016 and 2017 (except the first quarter of the years) witnessed heavy rains that turned most of the admired flats along airrobi highways into swimming pools. Residents of some of these houses, especially those living on the ground floors lost almost all properties in their houses. Almost all residents of such apartment who had no luck but incur unplanned budget

in servicing, reselling and seeking insurance compensations after their cars were soaked in rain waters that flooded their parking areas.

There are two sides of the coin in weighing this occurrences. It is obvious that one of the initial planners, architects, surveyors and contractors ignored major procedures of construction such as surveying and architecture. There are local governing authorities that must authorize the construction of any building in the area within their mandate. If a building is illegally constructed after breaching a standard regulation, it means corruption has taken its way, but when tenants move out of an apartment because of frequent and risky flooding, the owner of the property has all the losses to take. Woo to the investor if a good number of tenants leave when he or she had solely banked on the rent from them to pay a loan he took to construct the same house. This is where insurance would help, but mostly if standard procedures during the surveying and construction were followed. The best standard beyond the ordinary procedures here is to avoid any irregularity in real estate development because it might negatively affect an investment in the long run.

### ***Fake building and construction professionals***

This is one of the major challenges that urban developments are facing. Most of the storey buildings in residential areas, especially in the Eastland area of Nairobi have been collapsing. Some findings from the authority erre the achitecture that designed a specific building together with giving architectural expertise in the construction in a fake professional and in Kenya's case is not registered with the Board of Registration of Architects and Quantity Surveyors (BORAQS). If an investor did not check the registration status of the architects, quantity surveyors together with relevant firms working for him or her, then it is a loss that the investor will carry for ruining his or her investment. Most times, working with fake professionals happens because of intention to evade high contract costs from professional individuals, when the projects have not be legally authorized by local authorities and when the land intended to host the infrastructural projects has not met legal requirements for the construction to go on.

There are rampant cases of this nature that affects investors in cities and largely affect local citizens across East African countries who have no idea on who is who and how who is who professionally. In case of unfortunate incidences like collapsing of houses that cause deaths like the ones we have

recently witnessed in Huruma and Kariobangi areas of Nairobi, the investor together with all the key players in the construction of the building will have the wrath of the law if at all any lapses from their roles caused the accident. As an investor, if you hired a fake professional to work for you as an architecture, then you may be the only constant man standing at the docks of courts together with your other partners who will be accomplices in the cases. This means more wasted resources to battle cases in court. If these factors would be considered in a full cycle beyond the standard procedures, then more loss to a flawed construction investment would not take place.

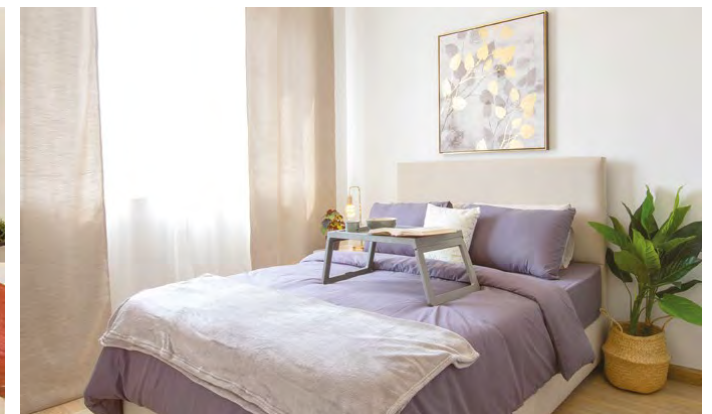
That aside, technical audits which are done by quantity surveyors are key in all the stages of construction. This is one solution that can help avoid any lapses in construction project that may lead to losses such as collapsing of story building, water percolating from underground and external infrastructural projects affecting a house or an apartment. The chairman of the Institute of Quality Surveyors in Kenya (IQSK) Andrew Wandere believes that technical audits are the buttons to successful infrastructural projects, saying quantity surveyors are not efficiently used in construction projects.

"In the recent times, only engineers are engaged in infrastructural projects. He/she designs, documents, does valuation, does final accounts and so on. As a result, there are no checks and balances in infrastructural development projects as there are in buildings. It is quantity surveyors who bring those balances.

"The audits should be over and above financial audits. We as surveyors propose that a small allowance be included in the contracts to cover the costs of technical audits as this would ease budgetary constraints." Wandere said.

The above mentioned illustrations are some of the major lapses that are never taken into full cycle considerations in construction investments. In government policies/guideline, economy demographics, interest rates and all other key factors that affect real estate investments, not viewing any of these factors in a full cycle will lead to losses that would have been easily avoided and unsustainable venture, hence killing a real estate entrepreneur.

Entrepreneurship is taking the next visualized risk, but taking it with sound, resound and informed mind is the risk that everyone must focus on, especially in real estate business.



These images are an artist's impression



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# KENYA LAUNCHES CHEAPER BUILDING



Thomson Reuters Foundation came up with a cheaper technology in the construction industry which they have applied it in Kajiado, Kenya and it's fantastic. Justus Opiyo who lives in one of the 50 polystyrene houses in a new development in Kajiado County has testified its major advantage over his previous homes.

## Men at a construction site. Using Polystyrene

"It has a constant temperature even when the weather is extreme, unlike the houses I have lived in before, it is a real refuge from the heat of the Kenyan summer from January to March" he said.

The new construction technology is expanding housing sector in Kenya at a neck breaking speed by the aid of this polystyrene panels which are made of a light cellular plastic which is a byproduct of oil refining.

This panel consists of mini spherical particles containing almost 98% air. To make houses, polystyrene foam is sandwiched between two slabs of steel wire mesh for joining them together then they are sprayed with cement to anchor support and strengthen the walls.

Due to the fact that air is a poor conductor of heat, polystyrene houses have tiny air bubbles trapped in the foam so as to control climatic conditions better than buildings made of timber or concrete. Because of this special feature, the house stays cool when external temperatures are high and warm when it is cold outside.

"Construction with polystyrene is ecologically friendly, uses little water and is suitable in water-scarce urban and semi-arid areas." Said Romanus Otieno, an urban planning lecturer at the University of Nairobi.

For Dennis Muli, an architect with Gem Arch plans in

Nairobi said "The most important green benefit of polystyrene is its lightness, meaning less wood is needed to support the building. This helps reduce deforestation."

## ITS BENEFITS AND ADVANTAGES

Has a lower labor costs because polystyrene is easier to move around and put in place.

Polystyrene homes are also quicker to build, which could play a key part in reducing housing shortages in the country.

It's safer than concrete homes, when it collapse it causes less harm and hardly death since they are very light hence can only cause minor injury. The technology has yet to be fully cuddled by homeowners, tenants and other housing developers who are dubious about the solidity of polystyrene panels.



**Taib Ali, a mason at the Ole Kasasi project, is often asked, "When are you completing this paper house?" People believe the homes are fragile because polystyrene can be broken with bare hands.**

Mary Nkatha, who lives in a concrete home near the new building in Ole Kasasi, has yet to be convinced that polystyrene can hold the weight of a house for long. She fears it could fall down, and plans to wait and see how sustainable the buildings are before she would consider vacating into one very soon.

But architect Muli said polystyrene homes are just as durable as concrete ones, provided the correct procedure is followed during construction. Polystyrene has been a major success in countries like Japan, where it has been used in small dome-shaped homes, he added.

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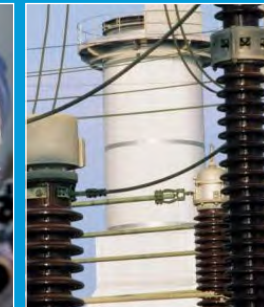
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Syldon and Partners is a wholly Kenya owned limited liability firm established in May, 2000 in Kenya to undertake consultancy services in design, installation and maintenance of Electrical, Mechanical Services and Management Information Systems (MIS), Civil and Structural works.

There are two directors, Eng. G.N. Olando – Managing Director in charge of all Electrical Services and general management of the firm. Eng. Calleb Olali is Director in-charge of mechanical services. Other core staff members include Assistant Electrical Engineer John Ruddy Munda and Assistant Mechanical Engineer Felix Ollando.

Eng. H.S Roopra, Eng. Peter Chege are associates of the firm and backstops Eng. Olando and Eng. Olali in all electrical and mechanical assignments respectively. Eng. Victor Ongewa and Eng. Cyrus Njungu are associates in-charge of power sub-stations and transmission/distribution lines respectively.



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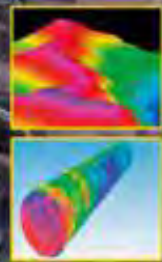


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## Completion of Nairobi Expressway project in Kenya pushed to June 2022



An impression of the Nairobi Expressway.

Construction of the Nairobi Expressway is taking longer than expected, with officials now expecting the project to be operational in June 2022, and not February as initially planned.

The Kenya National Highways Authority (KeNHA) on Wednesday said the 27-km highway is 57% complete with the heavy works having been accomplished.

“Between now and December 2021, we are likely to see all the heavy works involving deep excavation, diversions completed,” KeNHA chairman Wangai Ndirangu said on Wednesday.

“For the period between January 2022 and June 2022, we will proceed to install the infrastructure that will allow us to operate the road furniture, marking, and the tolling booths.”

KeNHA did not give details on the causes of the delay.

The Nairobi Expressway, which has been underway since mid-last year, begins at Mlolongo, connects Jomo Kenyatta International Airport to the CBD, and then terminates at James Gichuru in Westlands.

The project follows the signing of a deal between the Kenyan government and China Road and Bridge Corporation (CRBC) to have the latter undertake the venture as a concessionaire.

CRBC will build the road on a public-private partnership (PPP) basis, with a concession period of 30 years after which the project will be handed back to the government.



CRBC, which is expected to invest its own money, will recoup its investment from toll fees paid by motorists using the expressway. There will be 10 tolling stations along the route.

“Project investors will recoup their costs through modest pay-as-you-use fees at designated toll stations. The expressway is expected to serve at least 25,000 vehicles per day,” the President’s Delivery Unit said in statement last year.

According to the road design, the first 15.5km is being constructed at grade, while the last 11.2km will be constructed as an elevated road.

The section between Eastern Bypass and Southern Bypass will be a six-lane dual carriageway, while Mlolongo to Eastern Bypass, and Southern Bypass to James Gichuru will be four-lane dual carriageway.

The elevated highway will begin near Ole Sereni Hotel and run through the CBD along Uhuru highway up to James Gichuru junction. Haile Selassie Road, Kenyatta Avenue and University Way will pass below the elevated road.

The Nairobi Expressway, which is part of KeNHA’s plan to improve the thoroughfare

from JKIA to Rironi, is being built at a cost of Sh62.2 billion.

It comes less than three years after the government said it had abandoned its pursuit for the elevated highway that was initially estimated to cost Sh38 billion.

A section of Nairobi residents had earlier expressed concerns about the negative visual impairment the double decker road would have created.

At the same time, business owners and landlords alongside the highway had also expressed concerns that, if erected, the road would lower their property values.

These concerns were then believed to be among the key reasons as to why KeNHA had opted to pursue alternatives for easing congestion on the busy road.

“The stretch around Uhuru Park will not have an overpass, so as not to cause visual intrusion. Motorists should have an unobstructed view of the surrounding greenery,” a KeNHA official said in February 2018.

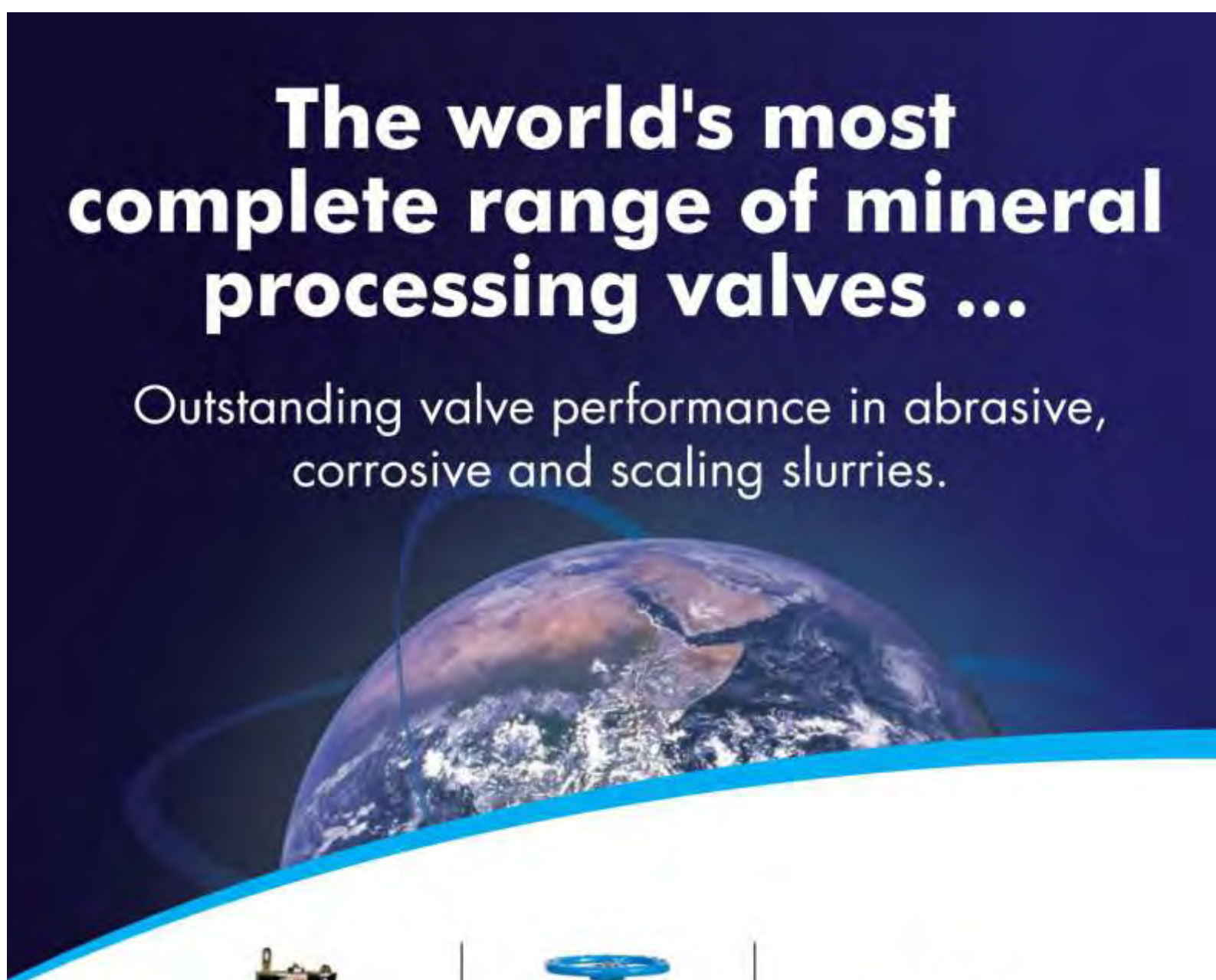
The Authority said it would instead set up a 43.5km toll road from JKIA to Rironi at a cost of Sh59 billion, funded by the World Bank and the African Development Bank.

These plans have since been abandoned and the government is now keen to implement the double decker highway project against professional advice by various stakeholders.

Previously seen as a means to decongest cities, elevated highways are today viewed as infrastructure mistakes of the 20th century and are now facing the axe in many countries.

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# Reap all the benefits of on-site oxygen production with Atlas Copco's efficient OGP+ oxygen generators

Atlas Copco proudly unveils its latest range of cutting-edge OGP+ Oxygen Generators that seamlessly, efficiently, reliably and cost-effectively produces oxygen (O<sub>2</sub>) on-site, requiring only a supply of dry compressed air. These environmentally-friendly machines deliver significant across-the-board savings through lower total cost per cubic meter of oxygen, optimised uptime due to continuous oxygen supply and the delivery of guaranteed gas purity.

Oxygen is a critical gas for a vast number of industries including waste water treatment, food & beverage, pulp & paper, steel, medical, pharmaceutical, bioenergy, metallurgical, glass and aquaculture. Oxygen has multiple uses within diverse applications: Oxygen is added to a process for better control of heating patterns, for higher furnace efficiencies (for lower fuel consumption) and for the reduction of particulate and NO<sub>x</sub> emissions. It can also be used with fuel gases to enhance processes such as gas welding, gas cutting, oxygen scarfing, flame cleaning, flame hardening and flame straightening. Moreover, oxygen is a raw material in many oxidation processes and it is also used to regenerate catalysts.

The on-site production or generation of oxygen as opposed to purchasing this gas from a vendor presents a highly cost-effective, safe, space-saving and convenient solution. Owing to ground-breaking engineering, Atlas Copco's new OGP+ 3-30 PSA (Pressure Swing Adsorption) machines deliver best-in-class oxygen generation performance and efficiency. These generators ensure continuous reliable on-site oxygen generation at a significantly lower total cost per unit of oxygen. Furthermore, with the

touch of a button, the user is able to choose the correct oxygen purity level for the application.

"With our OGP+ Oxygen Generators, professional oxygen users can become oxygen producers," states Zandra van der Westhuizen, Business Line Manager at Atlas Copco Compressor Technique. "To switch from sourcing the gas from a vendor to producing oxygen on-site is easy. All that is required is a compressed air system plus a gas generator and the plug-and-play machine is ready to produce oxygen on-site."

Van der Westhuizen draws attention to the countless benefits that can be gained from on-site oxygen production. "Our Atlas Copco OGP+ generators are 30% more efficient at full load compared to a traditional generator. Moreover, thanks to the machines' innovative Variable Cycle Saver technology, the OGP+ generators offer up to 70% in additional energy savings when oxygen demand is low. This all adds up to a lower cost per cubic meter of oxygen, delivering unparalleled cost savings."

Generating oxygen in-house also ensures a dependable and continuous supply source, thus mitigating potential stoppages due to stock shortages. "Reliance on a third party supplier is eliminated," adds Van der Westhuizen. "The user is in complete control, generating the exact amount of oxygen when needed at the correct and guaranteed purity required for the particular application. If more oxygen is required, simply run the generator a little longer. Bottom line - users only pay for the gas they need and use."

Coming back to the topic of purity, Van der Westhuizen points out that the purity of purchased oxygen is usually over-specified for most application requirements. "An on-site generator not only achieves this high purity more cost-efficiently, but it also offers additional savings. Because generating oxygen of the highest purity uses more energy, the ability of on-site generators to set the correct purity for a particular application will significantly reduce the user's operational costs."

Yet another advantage offered by on-site oxygen production is that there is no need for a facility to store oxygen cylinders or to install a large liquid oxygen tank. Owing to an intelligent design, aluminium extrusions and best-in-class usage of zeolite molecular sieve (ZMS) material, the OGP+ generator has a very small footprint and requires only a small space in a production facility.

And finally, producing oxygen on-site with Atlas Copco's OGP+ generator removes the hassles of long-term contracts, logistics and safety concerns that accompany the ordering and handling of third-party oxygen cylinders. There is no need to move pressurised cylinders around the plant thus avoiding the potential risk of employee injuries. And finally, the elimination of oxygen transport and delivery reduces the user's carbon footprint.

The generation of oxygen for industrial use is a straightforward process that involves the

separation of oxygen molecules from the other molecules within a clean, dry compressed air stream. The OGP+ generator uses and optimises Pressure Swing Adsorption (PSA) technology. This simple, reliable and cost-effective process takes place in two separate pressure vessels (tower A and tower B), each filled with carbon zeolite molecular sieve (ZMS) that separates the oxygen from the incoming air. Adsorption happens when atoms, ions or molecules from a substance (compressed air in this case) adhere to a surface of an adsorbent. PSA technology isolates oxygen molecules from other molecules (nitrogen, CO<sub>2</sub>, water vapour and trace gases) to leave high purity oxygen at the outlet of the generator. The ZMS material switches between a separation process and a regeneration process. So at any time, one of these vessels produces oxygen while the other is regenerating its saturated ZMS. Thus PSA technology enables continuous, high-capacity oxygen flow at the desired level of purity (90% to 95%).

The Atlas Copco OGP+ generator is supplied standard with an oxygen sensor, a digital flow meter, a pressure regulator and an automatic start-up function. The machine features a new advanced controller with a large HD colour touchscreen that enables easy, user-friendly navigation through options such as oxygen purity selection and purity alerts. The automated 24/7 feed air and oxygen monitoring and interception function safeguards the quality of the OGP+ generator's performance and output.



# SKF in collaboration to speed up development of fossil-free bearing steel



## SKF in collaboration to speed up development of fossil-free bearing steel

SKF is supporting the development of fossil-free bearing steel through a collaboration with Luleå University of Technology's CH2ESS initiative. As part of the collaboration, SKF will participate in and fund research within hydrogen use in industrial processes and energy systems, speeding up the development of fossil-free bearing steel.

Victoria Van Camp, President, SKF Technology, says: "Mechanical components are very important to ensure the function and operation in future hydrogen systems. Together with CH2ESS and its partners, we can contribute in designing robust, reliable hydrogen systems, with the lowest possible impact on the environment and on total cost of operation. This will not only benefit Swedish industry, but also global technology development for the future hydrogen economy."

Research areas will include hybrid ceramic bearings, EVs and other applications, and the development and commercialisation of fossil-free bearing steel production. SKF's expertise in fluid machinery, material science, production technology and IoT solutions will actively contribute to the work.

Rikard Gebart, Program manager CH2ESS and professor in Energy Engineering at Luleå University of Technology, says: "We are very happy that SKF has decided to join our competence centre CH2ESS. The large expertise of SKF in many strategically important areas is a welcome addition to the

existing knowledge base in CH2ESS. We are looking forward to an exciting collaboration where we together address the many important problems that are connected to the hydrogen technology."

Hydrogen is the key to a fossil-free energy system and CH2ESS (Center for Hydrogen Energy Systems Sweden), a newly established research and knowledge initiative at Luleå University of Technology, is focusing on hydrogen use in industrial processes and energy systems, in close collaboration with Swedish industry.

*SKF's mission is to be the undisputed leader in the bearing business. We do this by offering solutions that reduce friction and CO2 emissions, whilst at the same time increasing machine uptime and performance. Our products and services around the rotating shaft, include bearings, seals, lubrication management, artificial intelligence and wireless condition monitoring. SKF is represented in more than 130 countries and has around 17,000 distributor locations worldwide. Annual sales in 2020 were SEK 74 852 million and the number of employees was 40,963. www.skf.com* ® SKF is a registered trademark of the SKF Group.



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# Optimise your plant's performance with thyssenkrupp's condition-based maintenance solutions

While there can be no argument against the crucial role that maintenance plays in optimizing your plant's overall performance, adopting the correct maintenance strategy is equally important. Although preventative and corrective maintenance can add value, they also have limitations: Preventative maintenance favours your maintenance team by enabling the advanced planning of maintenance activities. But it could also lead to over-maintenance, placing a burden on labour and maintenance costs. Corrective maintenance is not ideal in a high performance production environment where machine availability is crucial, more specifically where capital outlay for spares and redundancy are restricted.

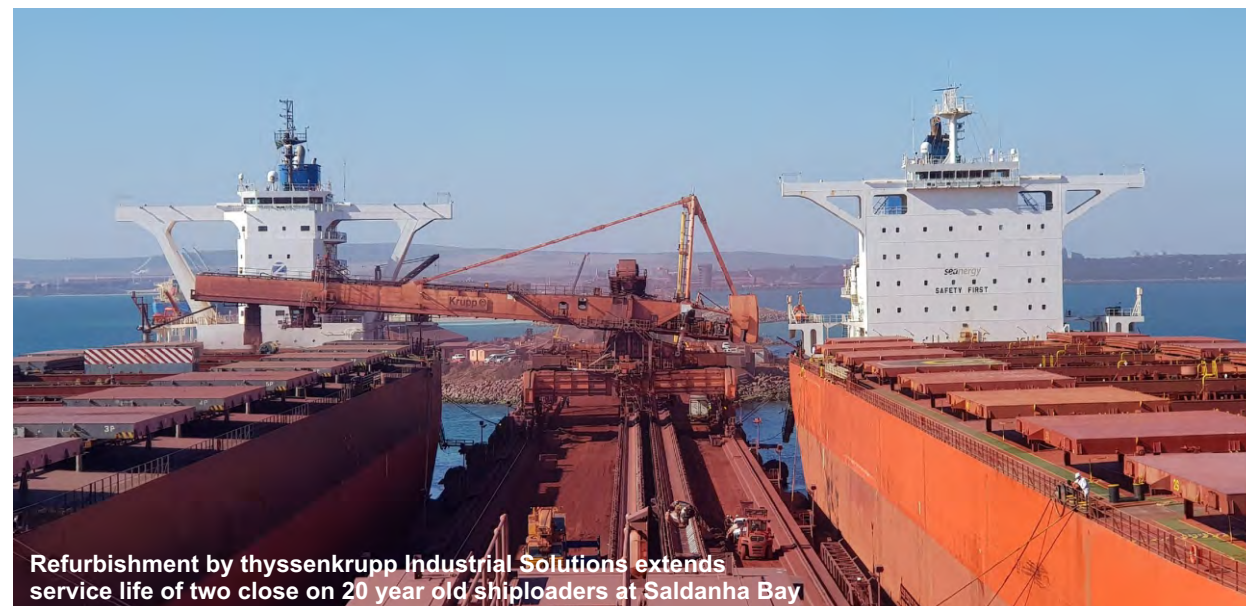
"The solution is therefore to extract the best of both through a condition-based maintenance strategy that combines the advantages of preventative and corrective maintenance into a win-win solution," says Francois de Villiers, Area Manager – Western Cape and Namibia, at thyssenkrupp Industrial Solutions. "The implementation of a condition-based maintenance strategy will help to avoid potential conflict between your Production and Maintenance

Engineering teams by aligning the teams' respective scope of work."

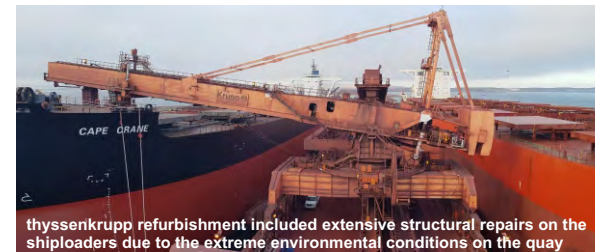
De Villiers also points out that a condition-based maintenance approach will also help to cultivate a healthy culture within your organisation.

thyssenkrupp Industrial Solutions, as a market leader and employer of choice for materials handling equipment in the mining industry, has been expertly supporting customers with condition-based maintenance solutions over the past decade. The company recently successfully completed a mid-life refurbishment on two 10 000 ton/hour shiploaders operating at Saldanha Bay that has extended the life of these almost 20-years-old machines by a further ten years.

According to De Villiers, owing to the extreme environmental conditions on the quay where the shiploaders are in operation, extensive structural repairs were done together with the application of a 3-coat corrosion protection. Unpacking the scope of work, De Villiers explains that all the mechanical drives on the shuttle inside the boom, on the slew system and the travel bogies were replaced as well as the respective Variable Speed Drives (VSDs) as



Refurbishment by thyssenkrupp Industrial Solutions extends service life of two close on 20 year old shiploaders at Saldanha Bay



thyssenkrupp refurbishment included extensive structural repairs on the shiploaders due to the extreme environmental conditions on the quay

these items were obsolete with limited support from the manufacturers. The latest technology safety sensors were implemented to ensure a safe environment for personnel and equipment. No limitations were put to the scope or detail thyssenkrupp executed, from Software upgrades to the machine's control system to replacing the hydraulic luffing cylinders on the main boom and the cooling systems for the main conveyor belt gearboxes. Consultation with the end-user maintenance team prior to the refurbishment lead to improvements made to the design of transfer chutes that was replaced; a cable festoon was also replaced with an energy chain.

Although thyssenkrupp is the original equipment manufacturer (OEM) of these two shiploaders, it does not mean the company's expertise and capabilities are limited to its own equipment. In fact, thyssenkrupp is close to completing a condition-based refurbishment project on a Stacker/Reclaimer that was manufactured by a third party.

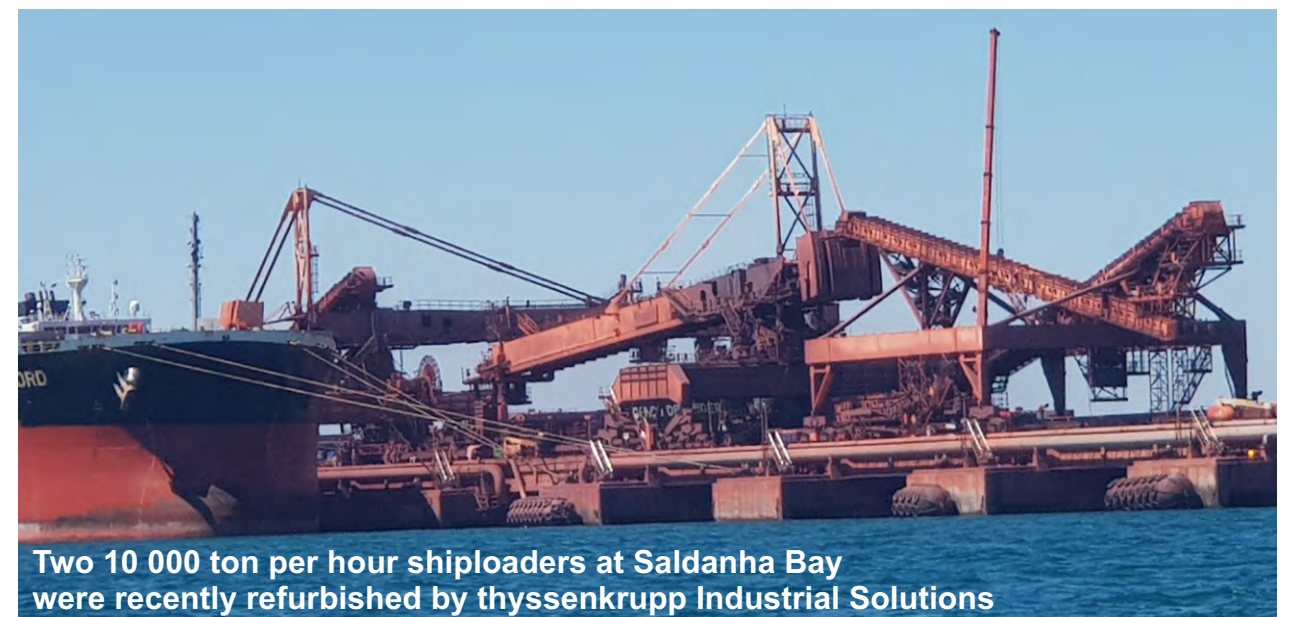
De Villiers attributes a number of factors to the success of thyssenkrupp's condition-based refurbishments. "Firstly, our highly skilled team of design and field service engineers and experienced project manager work alongside our customers, combining all the findings and reports

in a working document. This forms the backbone of our condition-based maintenance strategy. Secondly, the end-user experience and practical, hands-on involvement must never be underestimated. Subsequently, we always liaise with the customer's maintenance team and consult breakdown reports when the scope of work is defined."

"Also playing a key role in our successful deployment of our condition-based refurbishments is the expertise of our highly accomplished team and their in-depth pool of knowledge," affirms De Villiers. "This enables us to assist customers irrespective of the size of their maintenance or refurbishment requirements. Moreover, as many of our design engineers have been involved in the initial design and manufacture of our machines, they are equipped with the necessary know-how and skill sets to implement new improvements and upgrades during refurbishments.

The involvement of thyssenkrupp's field service engineers in the complete value chain of condition-based refurbishments ensures that realistic schedules as well as detailed method statements are prepared to ease planning for site activities and to mitigate risk during maintenance.

"And finally, we believe in strong teamwork between customer and contractor, and we are flexible to the structure- and responsibility-split that the customer is comfortable with i.e. consultancy basis, turnkey solutions or on-the-job skills training," concludes De Villiers.



Two 10 000 ton per hour shiploaders at Saldanha Bay were recently refurbished by thyssenkrupp Industrial Solutions



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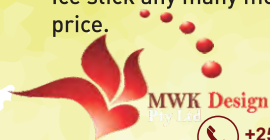
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