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**MAGAZINE**

SEPTEMBER – OCTOBER 2022



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# WILL POLITICAL UNREST AFFECT YOUR CONSTRUCTION PROJECT?



As Kenya looks to recover from a market disruption caused by the Covid-19 pandemic, the country finds itself at crossroads as presidential elections loom in 2022.

With elections typically a period of inaction and subdued growth, industries are struggling to recover from Covid-19 before being thrust into yet another challenging moment. The construction industry is among the industries that are most affected during the elections.

The construction industry in Kenya is exceedingly imperative in the country's economy. The industry explores new ways to help deliver affordable housing and to improve infrastructure that the country requires to enhance its capabilities in a bid to improve the quality of life of its citizens.

But the industry is a subject to politics, especially during the election season.



While both national politics and the construction industry plays a role in the country's economic development, politics affects the construction industry in many direct and indirect ways. This is not uncommon in Kenya where elections and the building and construction industry is usually in a give and take partnership.



....The Report developed in partnership with TIFA Research indicated that tourism and hospitality are the most optimistic sectors of the economy at an average confidence index of 68 points.

The optimism was attributed to the regulation of Covid-19 pandemic restrictions.

Building and construction together with wholesale and retail sectors followed, both standing at 62 index points.



Further, the report noted that business executives expect the economic conditions to improve across all industries compared to six months ago, rising from an average of 47 index points to 66 points for the economy and 69 index points for the respective industries.

“ Looking into the future, the least optimistic sectors are finance & ICT, perhaps since businesses in these sectors were already experiencing growth relative to other sectors at the height of the Covid-19 Pandemic and do not expect much change for them in the coming six months,” the report noted.



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# Construction growth slows amid general election jitters



Construction activity appears to have significantly slowed down as the country approaches Election Day 2022.

A major manufacturer of building products said new production had been slowed down to allow existing stock to clear first. However, hardware shops in the city and environs remained operational though with decreased activity noted at several outlets.



Election jitters in Kenya is not an uncommon phenomenon especially after the disputed 2007 polls that resulted in loss of life, property and displacement of sections of the population. However, any problems this year would have a devastating effect considering that the industry is just recovering from the ravages of Covid 19 that saw mass layoffs and closure of many businesses across several sectors.

The government has assured Kenyans and the international community of security before, during and after the elections.

Elections are scheduled for Tuesday 9<sup>th</sup> August.



# S&P SYLDON & PARTNERS

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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 Roorpra, 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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# CONCERNS IN THE CONSTRUCTION INDUSTRY

A concern for many in the construction sector is whether the current situation in the country will change. Will the political atmosphere in Kenya affect the construction industry? Will the situation deteriorate to a point of affecting investments and construction projects? To investors and all involved, the question will be, will the occurrence of political events affect the profitability of a given investment? Let's have a look at what to expect during the elections.



## POLITICAL UNREST

Political unrest includes civil disobedience, acts of war, and labour relations that affect work schedules. The list might extend to include the expropriation of assets, delays in client approval, force majeure, corruption, and changes in some of the policies already in place.

## LOCAL INTERFERENCE

Local interference signifies the closing of business, offices, workplace and education with the object of realizing a demand. In Many countries, politicians use this as a tool to disrupt the economy as people protest. When a political party calls for nationwide "local interference", the country is forced to shut down. The movement of people, goods, and services are either restricted or completely stopped.



## TIME AND COST

Time and cost are of the essence in the construction industry. Typically, a project is broken down into time and cost needed to complete the project. Political unrest represents one of the largest challenges, consequently leading to time overrun and cost increase for construction projects.





## PROTESTS

During protests, workers possibly will not reach the work site in time due to disruption of transportation services. Protests also have advanced effects on material delivery to the construction site. Events such as these have a direct impact on construction works at different locations in the country.



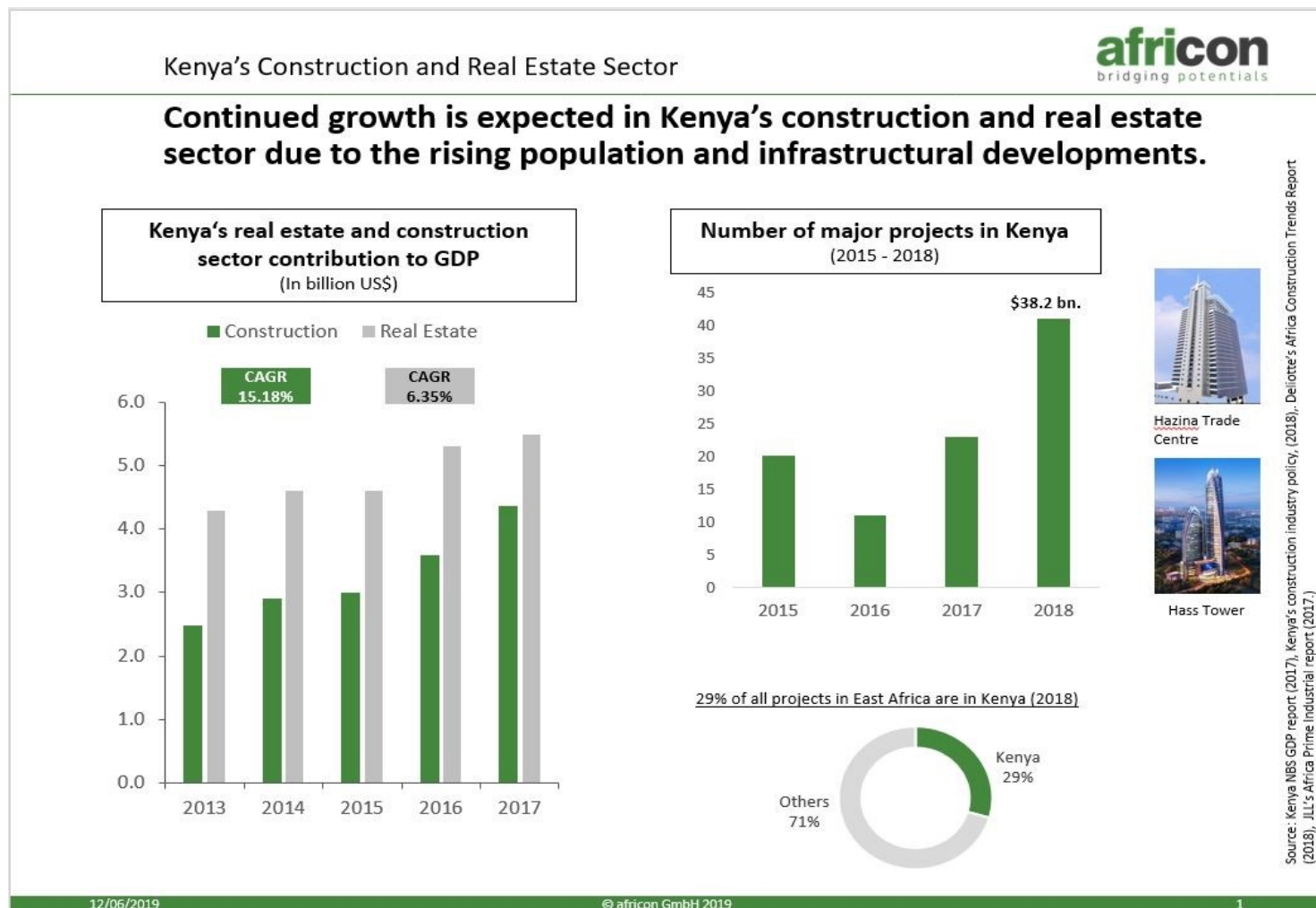
## INVESTMENT AND CASH FLOW

While money supply and investments are important to every industry in the country, there is the risk the two could suffer due to political instability in a country during elections. The fact that investors and key businessmen have already expressed fear over the stability and security of their investments ahead of the 2022 general elections, makes matters worse. According to reports, most investors are unwilling to invest in projects. They are gauging the political stability in the country before launching big projects. The lack of investors in itself, lead to cash flares, which is already affecting the construction industry.

## **ACTIONS TO CONTROL THE EFFECTS AT YOUR CONSTRUCTION SITE OR COMPANY**

- Nurture peace and discipline at the workplace and reduce absenteeism to limit the decline in productivity at the workplace.
- Construction companies and organizations should regularly monitor government announcements to ensure compliance with the most recent regulations and guidelines.
- It is critical to mandate workers to refrain from coming to work with party slogans and printed t-shirt of the party they support.
- Address workers concerns regarding their safety and welfare to prevent widespread fear and uncertainty before and after the political cycle.
- Boost employee morale and provide support for maintaining neutrality at the workplace and avoiding politically related chat.
- Nurture peace and discipline at the workplace and reduce absenteeism, which, in turn, will limit the decline in productivity at the workplace.
- Companies and investors should maintain regular communication and coordination between workers.
- Assess the possibility of late or halted deliveries of materials from suppliers
- Ensure labour, equipment, and material availability.

# Kenyan CEOs Express Increased Optimism In 2022 Elections Compared To 2017



The Kenyan CEO Business Confidence Survey 2022 has revealed a 37 per cent increase in optimism in the 2022 election compared to the 2017 election.

The survey prepared by the Kenya Private Sector Alliance (KEPSA) noted that most business executives are less jittery this time round and expect a stable economy after the August 9 election.

“This sentiment is reported against the backdrop of the ongoing war in Ukraine that has disrupted global value chains resulting in price increases in fuel, wheat, and fertilizer, which are critical inputs for Kenya’s manufacturing and agriculture sector, coupled with the rise in inflation globally,” said KEPSA CEO Carole Kariuki during the launch.

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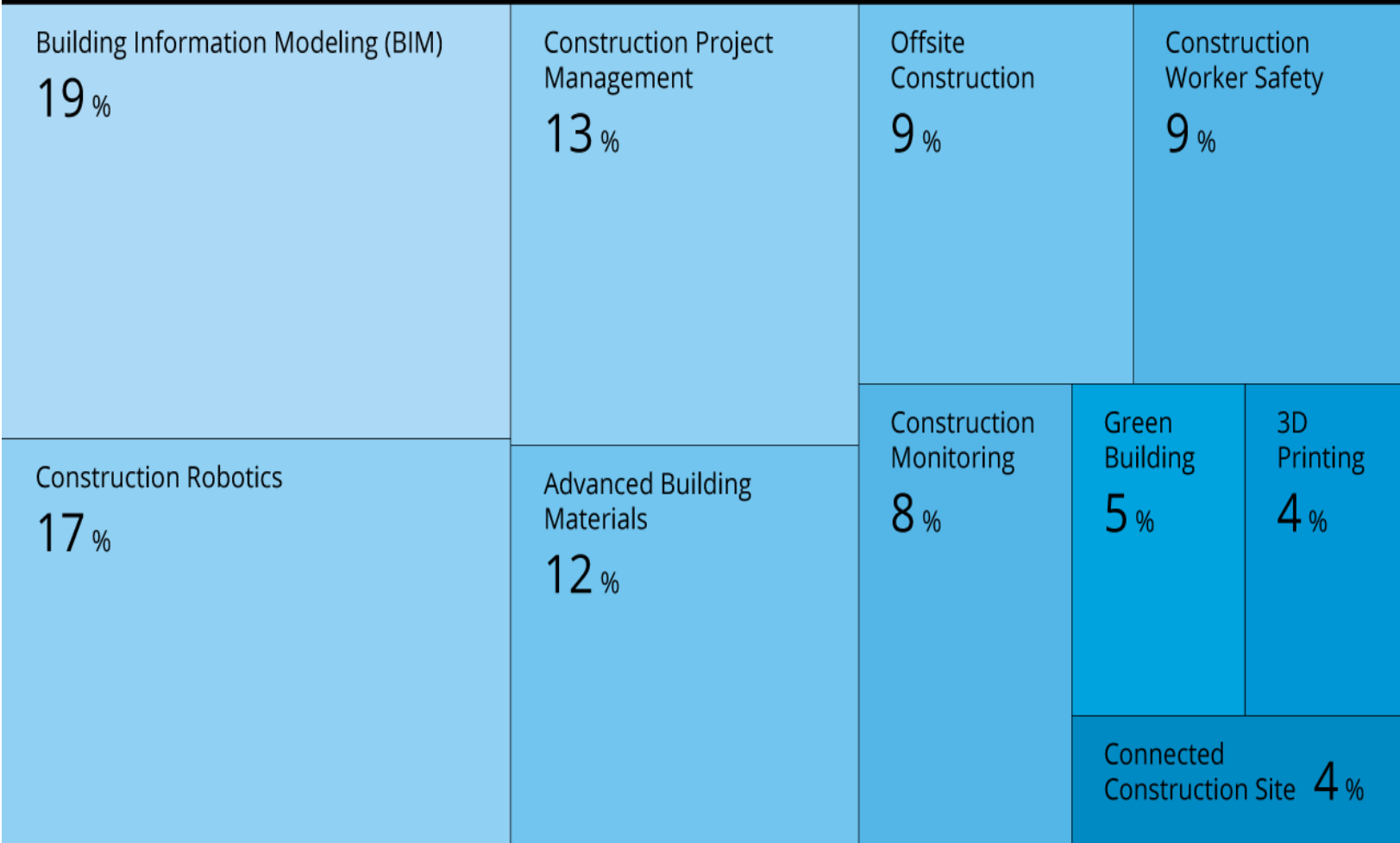
# Construction Technology Trends Impacting the Industry in 2022

- ◆ Lidar
- ◆ Connected Hardhats
- ◆ Smart Infrastructure
- ◆ Virtual Reality and Augmented Reality
- ◆ Artificial Intelligence
- ◆ BIM Software
- ◆ 3-D Printing Houses
- ◆ Exoskeletons
- ◆ Humanoid Labourers
- ◆ Robot Swarms

**LiDAR technology can help measure distances (ranging) by illuminating the target with laser light and measuring the reflection with a sensor that can be mounted on a range of other construction tech across the site. Allowing workers the ability to scan the surrounding worksite and produce high-resolution 3D images in real-time. Therefore, making it possible for workers to perform site work from a distance which as result helps reduce and or eliminate health and safety risks and injuries to other workers.**



# Impact of Top 10 Construction Industry Trends & Innovations in 2022



This tree map illustrates the top 10 innovation trends & their impact on the Construction Industry



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January 2022

LiDAR technology can be used for and can assist several different purposes, these include:

- 3D Printing
- Shadow analysis
- Land Classification
- Tunnel Surveying
- Structural Flaw detection
- Drone mapping

## Connected Hardhats

From smartwatches to smartphones, wearable tech has already smashed the personal gadget space, however, there is certainly more room to grow for wearable devices in the construction space. As a result of this, companies like Shimabun have released upgrade kits that can be fitted to standard hardhats, providing workers with a new extensive range of advanced safety capabilities.



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...“For the 23 percent expecting lower growth prospects for their companies and the 29 percent expecting lower growth prospects for their industries, these expectations were tied to failure to address the high-cost production, inflation, rise in fuel prices, change of government, and generally tough economic conditions,” noted Victor Ogalo, KEPSA Deputy CEO in charge of KEPSA Business.

Even so, the report shows business executives are encouraged by the implementation of key policies and ongoing infrastructure improvement initiatives as well as the various business support subsidies by the government.

“CEOs are considered to have a helicopter view of the economy and their assessment of specific industries, and the overall economy provides investors and entrepreneurs with invaluable insight on the current and future economic conditions and performance in the country,” said TIFA Research CEO Maggie Ileri.



## Humanoid Labourers

In response to the continued labour shortage concerning many labour industries worldwide, Japanese researchers have developed Humanoid labour technology called: HRP-5P. HRP-5P is a humanoid robot capable of performing basic physical tasks like installing drywall or bricklaying independently.



Alongside HRP-5P, there are also other robotic advancements such as TyBot, Doxel AI, and many other built robotics i.e. Automated Track Loader, or ATL. Each of which has its own features and responsibilities,

These include:

- Doxel AI -using robots and artificial intelligence (AI) to monitor site progress with real-time, actionable data using a range of different technology features such as High tech Cameras, LiDAR, and drones.
- TyBot – an autonomous rebar-tying robot designed to augment and reduce labour requirements in the most critical path activity of bridge deck construction
- ATL – developed to excavate smaller construction sites using a range of different technology features such as augmented GPS and LiDAR.

However, there can be both positives and negatives to this construction technology advancement.

For example, it automates dangerous tasks meaning human workers out of the risk of harm and health and safety risks are reduced.

There is also a fear that advancement in technology would also take them out of the workforce and cut down the need for human labour. With many industry leaders recommending widespread retraining to help retain employees in fields that are already short on workers.



### 3-D Printing Houses

3D printing technology has developed massively over the years, to the point that many companies within the construction industry have discovered how to print an entire home faster and cheaper than the traditional method using this exact software and technology.



The first 3D printed home sold for less than \$10,000 in the United States (approximately less than £7,509). A further 50 3D printed houses are currently being developed in Mexico, contributing to the change in the house building industry.



This in turn will make buying a home more affordable for everyone. Just another step that the construction industry is taking to adapt to new technological advancements.





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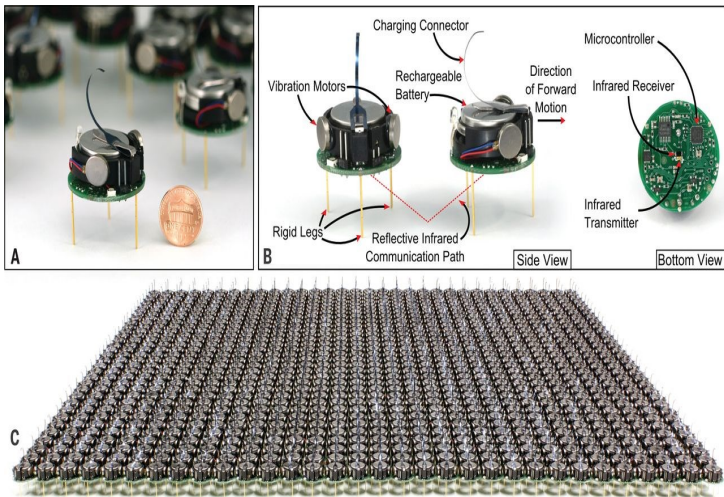
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## Robot Swarms

In contrast to humanoid robots, which look vaguely like people, robotic swarms consist of hundreds of small individual robots that work in tandem with each other to perform regular mundane site tasks such as laying bricks.

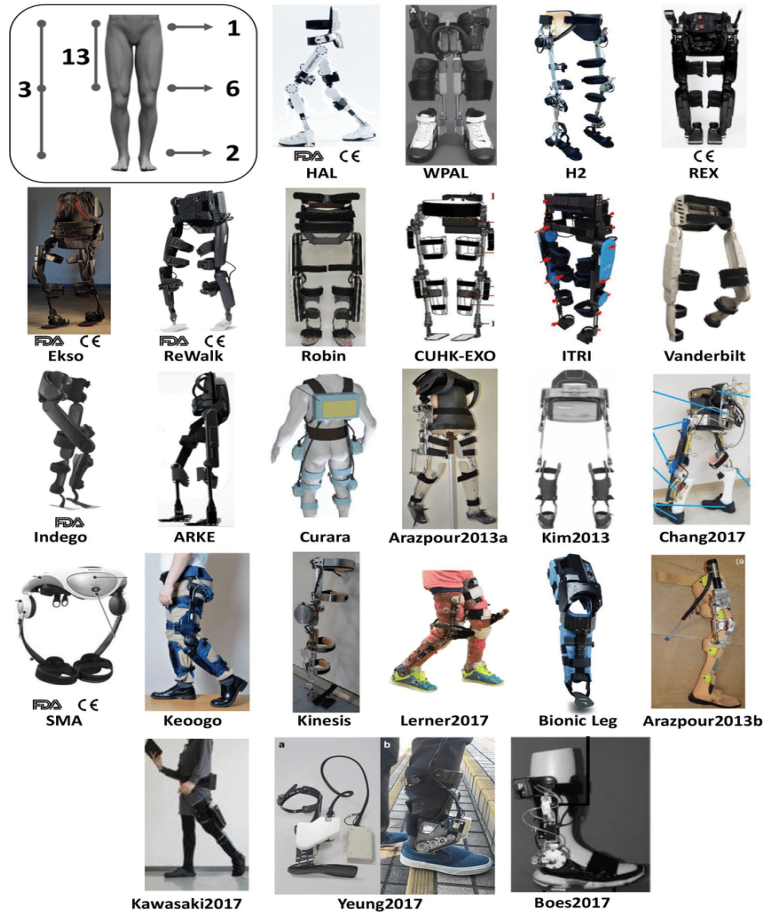
The first of its kind was designed and created by researchers at the Systems Research Group at Harvard University, who designed a swarm of small, four-wheeled robots that function in a cohesive way to carry out tasks.



The possibility for this robotic swarm technology is endless, as not only can they be programmed to lay bricks they can also safely repair infrastructure in flooded or hard-to-reach locations that would be deemed dangerous for human workers, once again helping to reduce the construction industries issue with Health and safety.

## Exoskeletons

Another technological advancement for 2022, is the use of exoskeletons within the construction industry. Exoskeletons are another piece of wearable technology that works in tandem with the user, allowing site workers to carry out more work than humanly possible.



The aim of this technology is to minimise strain and injury to the workers' bodies whilst also helping to increase worker productivity as workers appear less fatigued when using this technology.

As a result, this construction technology advancement will help increase safety on site and reduce the number of lost hours due to injuries.

There are also two significant types of Exoskeletons: the mechanical which is designed for redistribution of weight and the electrical which is designed to en-



There are a variety of different versions of exo-skeletons, all of which have their own purpose. These include:

- Power Gloves – Gripping tools and materials
- Arm and shoulder support – Overhead activities and lifting
- Back support – Stopping, lifting or reaching
- Standing and crouching support – Task that requires prolonged standing I.e., drilling
- Whole body suit – Lifting and carrying heavy tools and or objects

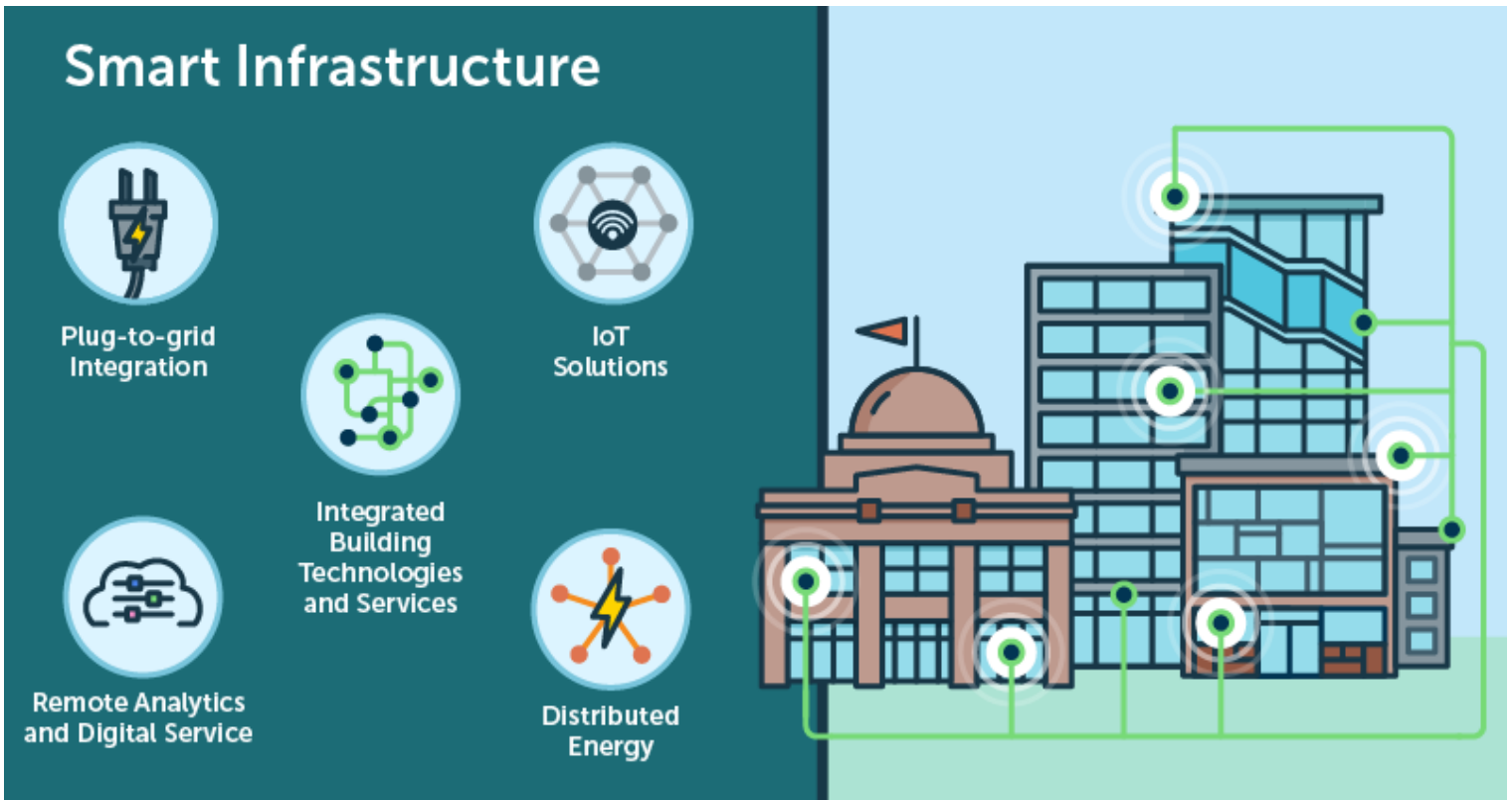


## Smart Infrastructure

Hexagon Geosystems have created a structural monitoring system that uses sensors to monitor the strengths and weaknesses of a specific structure which otherwise would be invisible to the human eye.

The monitors are designed to help workers predict structural problems before they happen, allowing the site owner to bring in the correct team to perform necessary maintenance before the site becomes dangerous, thus avoiding accidents and reducing further health and safety risks.

It's worth explaining the differences between these two terms to avoid any confusion. Virtual Reality (VR) refers to the creation of an entirely simulated environment and has a relatively long history within the construction industry. However, Augmented Reality (AR) involves superimposing computer-generated images and real-world image information.



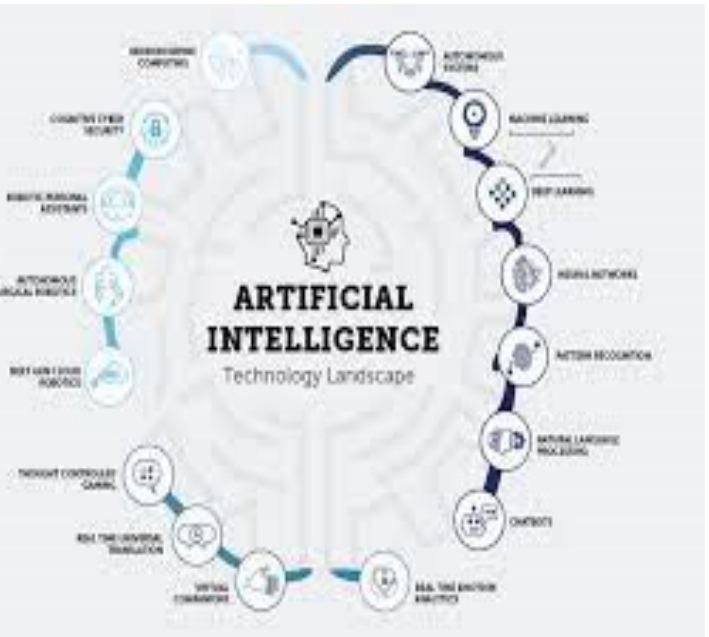
VR is an important piece of construction technology for the industry in a variety of ways, these include training, safety, structure walkthroughs, plan reviews and similar aspects. VR can also help equipment operators on site seamlessly run simulations that could be too dangerous to replicate, i.e., natural disaster or major equipment malfunction.



## Artificial Intelligence

Artificial intelligence or AI has become a key technology advancement for many industries including construction. AI offers the construction industry the ability to speed up planning and make entire operations faster and more efficient. Thus, creating a greater need for AI technology within the industry as a result of ALICE, an AI assistant designed specifically for the construction industry was created.

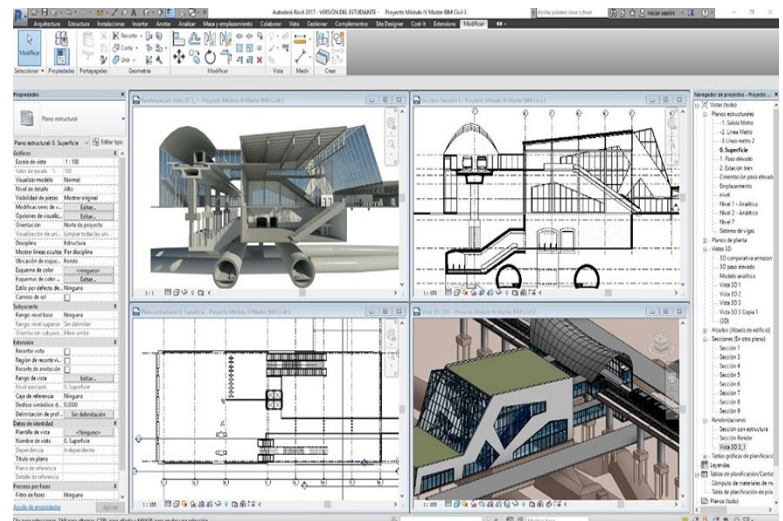
The technology within the bot is designed to reduce project build lengths and costs by as much as 15%. Whilst also being able to evaluate millions of data and generate scheduling options that are specifically optimised with time and cost in mind, allowing projects to stay up to date.



## BIM Software

BIM or building information modelling combines the uses of IoT and AR technologies, to generate a smart option for management and workflow planning tools. A key construction technology advancement within the industry due to its capabilities and opportunity. For example, construction managers can create intelligent 3D models of their projects whilst also generating smart workflows based upon it.

As a result, this technology has elevated the whole construction experience at all stages, from planning and design all the way to building maintenance.





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