



IMPROVING EFFICIENCY

With Construction
Artificial Intelligence

Artificial Intelligence is all around us – in our homes, cars, schools, and in our businesses. While the automotive, healthcare, communication and other industries have adopted AI as an integral part of their business processes, the construction industry is still hesitant to adapt to AI-led processes.

The Need for Construction AI

Even though construction is one of the top 5 industries that drive the world economy currently, much of it remains undigitized. However, the industry is finally opening to technological advancements that have the potential to change the construction sector for the better.

Countries across the globe, particularly Middle East and North Africa, have reported steady growth in their construction projects over the years.

Saudi Arabia is shaping up to be the largest construction market in the Middle East, according to Global Data. The growing population and economy have resulted in a rise for construction work with the countries "Vision 2030" to diversify economic reliance on the oil industry, only, being a contributing factor for future construction industry growth.

Similarly, it is predicted that construction in Egypt will expand by an average of 11.3% in the next few years and currently ranks as the 3rd most active country for construction activity in the MENA region for construction activity.

Likewise, office buildings and retail stores, while experiencing a down-turn during the Covid-19 pandemic, are still expected to be a growth contributor for the economy in the United Arab Emirates with estimates for growth to 2030. This indicates an active progression for construction in the Middle East region.

Despite consistent growth, the construction industry is yet to

witness the widespread adoption of AI as compared to other commercial enterprises.

AI – The Solution for Construction Efficiency

Artificial Intelligence enables computers to demonstrate human-like intelligence. Advanced algorithms, analysis data and then make action to perform tasks usually undertaken by humans.

Businesses and industries worldwide are adopting AI for their core processes and business models.

According to a report published by PwC, 72% of business decision-makers consider AI to be crucial for giving their business a competitive edge. Growth is shown to be a staggering 52% from 2017 to 2025, such that companies in the construction industry can no longer afford the risk of ignoring the advancement of artificial intelligence in business practice.

Yes, it can be daunting for teams to adopt the latest technologies, but when AI and machine learning contribute to more safe and efficient job sites the return on technological advancement will be worth it.

When we talk about construction and artificial intelligence, we are not talking about robots performing trade tasks yet—although this is happening, but we are talking about AI solutions to help make your construction business more efficient. AI devices provide an overall visual of construction sites from Virtual Reality goggles to mini robots and even the WakeCap construction hardhat. These offer clear visibility of on-site happenings, issues and inefficiencies that can be viewed for management correction.

Devices that track construction sites and worker behaviour can help identify discrepancies in the system and SOPs. They are also a great help to businesses that require data for future decision-making for training and task allocations.

Optimizing the Construction Processes

Conventional systems make it quite challenging to track the construction process. However, applications powered by AI can manage the scheduling and allocation of tasks to increase your business efficiency manifold.

Sixty Thousand (60,000) fatal accidents occur on construction sites throughout the world – In Africa, 26% of all injuries considered fatal occurred on job sites.

It is possible to prevent such occurrences by installing safety cameras or devices near construction workers – these can detect unusual or dangerous behaviours and alert the construction company in real-time.

Many companies, like WakeCap, offer digital solutions to improve safety on construction sites, intelligent solutions that are now ready of immediate site deployment as stand-alone systems or with integration to existing site management software.

Quality Control with Better Data Analytics

Drone collected images using AI can be used to compare construction site models and inconsistencies. Issues and potential threats to the building structure, construction material, and the site workers can be resolved with immediate action.

Artificial Intelligent processes will know your customers better than you do, using stored data to predict trends to propose a combination of services that will service client needs.

AI systems use sensors to understand signals and patterns, and the resulting data can provide real-time solutions to avoid mishaps, decrease delays increase deliverables and reduce costs.

With AI systems data is retained, tagged, and categorized for analysis to make recommendations for future decisions relevant to materials, cost, and design.

Prevention of Cost Overruns

Mega construction projects, the kind we are used to seeing in MENA territory, are often built over budget - despite employing the best managers and project teams.

Construction business now has the power of Artificial Neural Networks that can correctly predict cost overruns based on prior data as well as information on project scope, contract size and experience of project managers.

Artificial Intelligence makes it easier than ever before to envision realistic timelines and true future project cost.

AI Is the Future For Construction

Experts forecast that over US \$4 billion will be spent on AI in construction in the next six years – it seems like the construction industry is finally ready for digitization, especially in the MENA region.

WakeCap Technologies provides construction site safety and enhanced productivity solutions using Artificial Intelligence. WakeCap offer an AI-powered device that can digitize on-site information ranging from attendance, logistics, tracking activities and safety measures.