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NEW AI SYSTEM SET TO DISRUPT THE CONSTRUCTION INDUSTRY

 PROPERTY & CONSTRUCTION

A new system uses drones and AI to improve accuracy and efficiency on large construction projects

The construction industry accounts for around USD 10 trillion annually – that’s about 13 percent of the global GDP. But up to now, this sector has lagged behind in productivity gains. This is due largely to the fact that large projects involve many different sub-teams, each installing different components. It is impossible for managers to accurately track every aspect of such projects. It could be weeks or months before they realise an error was made. According to the [McKinsey Global Institute](#), most large projects take 20 percent longer to finish than anticipated, and run up to 80 percent over budget. California-based startup [Doxel](#) is hoping to change this with an artificial intelligence system that can monitor every inch of a construction project and alert managers of potential cost overruns, inefficiencies and errors.

We have already seen the use of drones and robots to navigate spaces people can’t reach. Some examples are a [robot snake](#) that can crawl through pipes and a [robotic eel](#) that can search out water pollution. Doxel significantly expands this by using autonomous devices, such as drones and robots. They are equipped with LIDAR and HD cameras to visually monitor an entire construction project, even in small, dark spaces that are difficult for humans to reach and see. The system then uses deep learning algorithms to measure the quality and progress of the work in real time, comparing it to the original budget and schedule. The system can process three-dimensional data and determine how much material has been installed correctly, and where the project is in danger of running over-

budget. Project managers can then use this information to make changes early in the project and boost productivity. Errors can be spotted and fixed immediately, before they lead to cost and time over-runs.

Doxel is designed for use on large projects with contracts of USD 20 million and above. The system provides project managers with a cloud-based dashboard which can keep track of the hundreds of thousands of items in a project in real time. This could allow them to focus on making real improvements based on accurate data. The company has recently raised USD 4.5 million from a venture capital group led by [Andreessen Horowitz](#). What other types of projects could benefit from a similar system for keeping track of progress?

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Website: www.doxel.ai

Contact: www.doxel.ai/#press

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