

Tackling Problems in Construction with Geospatial Analytics



The construction industry has traditionally lagged behind in innovation compared to other industries, but geospatial data analytics is set to transform the AEC sector. The additional insights provided to civil engineers and architects by geospatial data analytics (location-based information generated by billions of devices around the world) will help the construction industry to cut costs and improve efficiency.

Core problems with the construction industry

To understand the gains made from data analytics, it's important to explain the problems the construction industry faces. [According to a report](#), construction projects take 20% longer to complete and go over budget by 80%. Thus, we see an industry that's prone to wasting resources and going significantly over budget.

One reason for the high costs of construction is the discrepancy between early estimates and reality. Early estimates form the backbone of construction projects, but failing to account for one variable throw off the entire estimate. When this happens, the project's scope must be readjusted at the last minute, which is an additional cost to contractors. One reason why preliminary estimates go wrong is that they miss out on a single variable.

Certain variables are difficult to account for but, when encountered can throw off an entire plan. Therefore, the construction industry faces high costs due to differences between estimates and reality.

The high cost and waste of resources are compounded by a lack of innovation in the construction industry. For example, the automobile industry invests about 3.4% of resources into R&D, the aerospace industry invests about 4.5%, but the construction industry spends less than 1%. Thus the industry will lag behind on the technological front and miss out on innovations and improvements.

Here are a few ways geospatial analytics brings several positive changes that reduce costs and improve efficiency.

Accessing real-time information via geospatial data analytics

Conventional equipment reveals static information, which does not change until someone manually enters the new variables. Reliance on static information prompts many of the mistakes seen in estimates, as it's impossible to record all changes manually. However, with geospatial data analytics, architects and engineers can access real-time information.

Continue reading this story on [Geo4Construction](#), the new online platform that brings together construction engineers and geospatial professionals in order to disseminate surveying knowledge in the architecture, engineering & construction (AEC) industry.