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Over the horizon

Changes are needed to improve productivity in the building industry. We look at some key changes and innovations that could bring big improvements.



WHAT WILL BUILDING be like in 10, 25 or 50 years' time? If the past is anything to go by, and if we don't start making changes now, it may not be that different.

Much of our domestic building has not changed much in the last 50 years, and we need to consider modifications to how we design and construct buildings to make the process of building more efficient. This would enable us, as an industry, to meet the projected future workload - particularly in Auckland and Christchurch.

Smarter thinking for the present

There are a number of changes that we can incorporate, however, to make us better at procuring buildings.

Prefabrication

The first is to increase the amount of prefabrication - that is, to take construction activity off site and ideally carry it out in a controlled environment - assembling, not building, buildings.

A key advantage of prefabrication is significant timesaving. With parallel workstreams, both on-site and factory-based construction can occur concurrently. In the Elam Hall project at Auckland University, this method saved around 11 months.

Embracing BIM

The second is for all parties involved in the project to embrace BIM. Building information modelling by both the design and construction teams provides the ability to create a building digitally through models before construction on site starts. Benefits include:

- eliminating many of the inefficiencies of current construction practices and improving the transfer of information during all the phases of a building's life
- identifying and resolving potential structural, architectural and service conflicts

before they become real and impact on construction programmes

- removing the need for shop drawings as the model provides the basis for fabrication
- the ability to walk the client through a completed model so that on-site changes are minimised.

Work together from the start

Thirdly, integration or involvement - all those involved during design, construction and operations of a building should be represented from the initial briefing of the project.

Five effective practices

Other ways of making the building industry more effective include:

- greater use of repetitive elements, components and finishes - the more repetition, the quicker the construction process
- incorporating digital fabrication and scanning technologies
- increasing emphasis on detailed project planning and coordination of all construction activities
- adoption of self-certification with the acceptance of the responsibility that brings
- increasing scale - bigger rather than smaller developments. ◀