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MODULAR CONSTRUCTION **USD 175 BILLION BY 2025**

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MODULAR CONSTRUCTION USD 175 BILLION BY 2025

Modular, or prefabricated, construction appears to be currently attracting a new wave of interest and investment on the back of new processes that are occurring across the global technology and economic spectrum¹. Constructing large-scale structures in a manufacturing plant, under controlled conditions, empowers modules to be created with the same materials and designed to the same regulations and standards, delivering them on site in order to be assembled.

¹ McKinsey & Company. (2019). Modular construction: From projects to products. Retrieved from: <https://www.mckinsey.com/~/media/mckinsey/industries/capital%20projects%20and%20infrastructure/our%20insights/modular%20construction%20from%20projects%20to%20products%20new/modular-construction-from-projects-to-products-full-report-new.ashx>

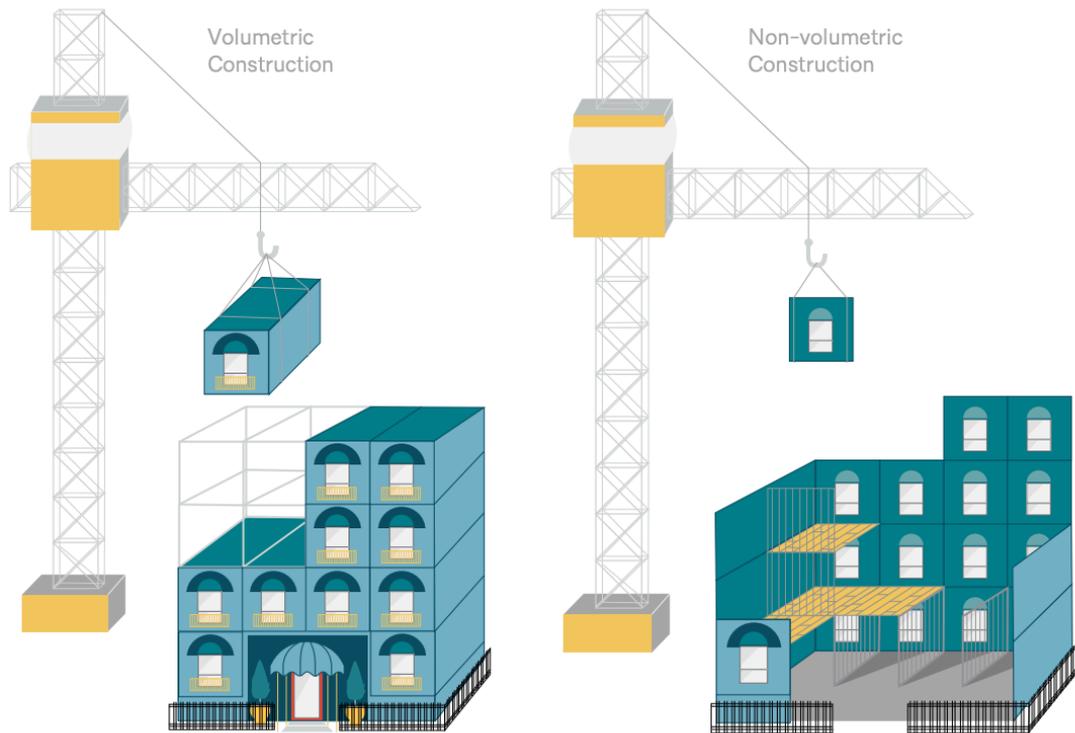


Figure 1² Volumetric and non-volumetric construction

Modular construction can be delivered in either non-volumetric components or volumetric units. The volumetric process involves the offsite creation of three-dimensional units which are connected onsite to compose a single structure.

The non-volumetric process includes the offsite prefabrication of structural elements, including frames, beams, columns and other structural components, which are then later assembled onsite³.

The modular construction global market accounted for USD 111 billion in 2018. By 2025, that figure is forecast to reach USD 175 billion⁴. Katerra, a global modular construction vendor, recently reported a funding round which took its approximated overall value above USD 4 billion⁵.

Modular construction is capable of generating value and demonstrating numerous benefits over conventional construction methods.

² Wilson, J. (2019). Design for Modular Construction: An introduction for architects. Retrieved from: <https://www.aia.org/resources/6119840-modular-and-off-site-construction-guide>

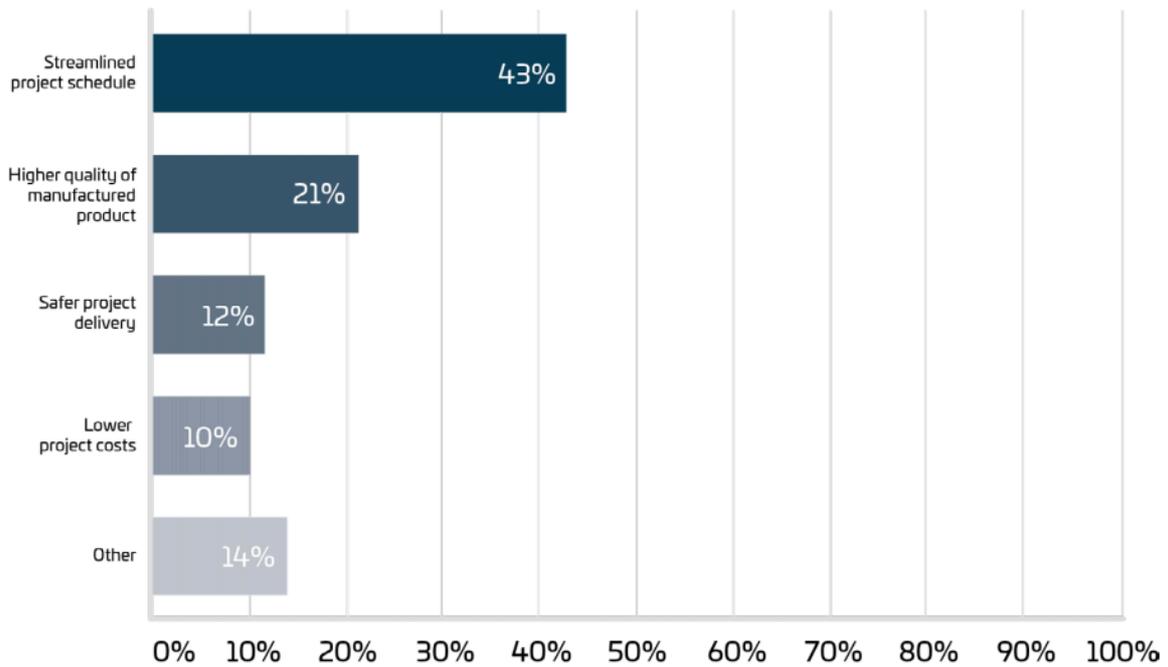
³ ibid 2.

⁴ BuiltWorlds and Skender. (2019). 2019 Modular Construction Update. Retrieved from: <https://www.skender.com/news-media-item/skender-and-builtworlds-release-2019-modular-construction-update-research-report/>

⁵ McKinsey & Company. (2019). Modular construction: From projects to products. Retrieved from: <https://www.mckinsey.com/~/media/mckinsey/industries/capital%20projects%20and%20infrastructure/our%20insights/modular%20construction%20from%20projects%20to%20products%20new/modular-construction-from-projects-to-products-full-report-new.ashx>

- **Acceleration of Build Schedules by 20-50 Percent**

Modular projects have traditionally had a delivery track record of 20 to 50 percent earlier than conventional construction. Optimized timetables significantly benefit organizations who sell units in blocks or rent them out. It enables for earlier revenue collection, improved cash flow, and fewer market cycle concerns. Quicker project turnover further empowers organizations to enhance land and bank liquidity during opportune cases.



Source: BuiltWorlds Insights

Figure 2⁶ Most appealing

- **Reduced Construction and Life Cycle Costs of up to 20 percent**

One major benefit offered by such benefits of Modular Construction a manufacturing approach is reduced costs. Nevertheless, modular construction has not demonstrated such an effect within the wider industry yet. Nevertheless, this is likely set to change as the construction industry adjusts its mindset and expands its capabilities.

Construction savings can account for nothing in some occasions, yet they can also reach 20 percent in many others. There are two principal issues regarding costs; the first is related to life-cycle expenditure and the effect that modular construction may have on that balance, and the second is the cost of factory investment and how this affects the overall value that is eventually generated.

⁶ ibid 4.



- **Substantial Socio-Economic Benefits**

An offsite manufacturing approach is able to overcome issues concerning low productivity which have plagued the industry for a long time, thereby enhancing the economic performance of a gigantic and slow-to-adopt sector. A significant productivity gap of approximately 1.6 trillion has been identified between the construction industry and the wider economy. Covering this gap will generate value to stakeholders (through cost savings), to construction organizations and vendors (through margin improvements) and to employees (through higher salaries).

Modular construction can also assist in reducing health and safety incidents. The controlled setting of a factory eliminates the risk of construction accidents. It offers better organization, lowering the trades which compete for the same area. Furthermore, operating in a steady factory location instead of following projects and working outdoors, which is susceptible to uncontrollable elements such as the weather, enhances the wider wellbeing of the workforce⁷.

⁷ ibid 1.

- **Sustainability Benefits**

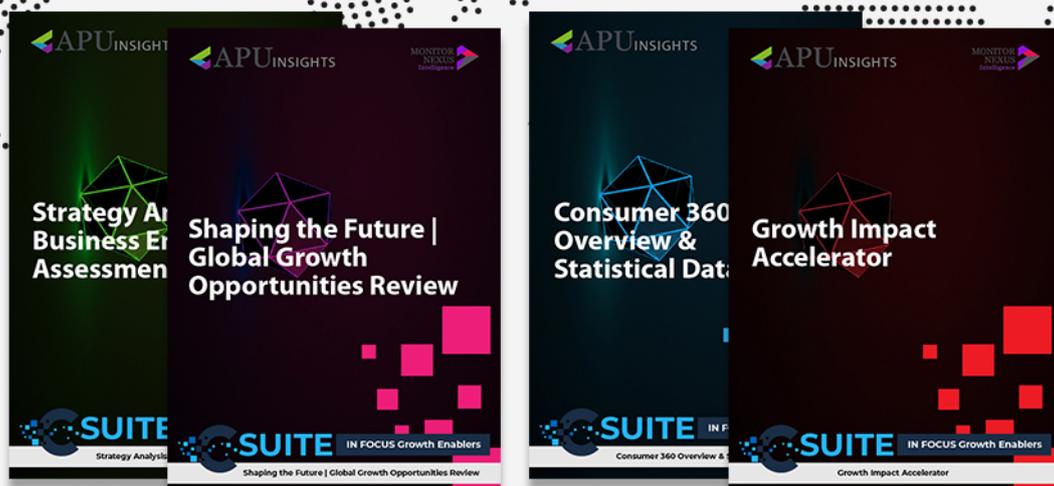
Modular construction is further able to considerably aid in meeting the environmental sustainability targets of a project. For instance, the offsite creation of building components enables optimal management of material usage, ensuring both decreased material input and wastage compared to conventional onsite construction. What is more, a considerable amount of additional material can be recycled and reused. Project groups may also collaborate with fabricators in order to choose specific products that further alleviate the demands of extraction, process and transportation.

The operational energy of modular construction process can be lowered through an enhanced and more stable thermal performance generated through a more precise and consistent system, ensuring greater quality control that is fundamental in the offsite creation of structure's components under controlled conditions. In addition, as prefabricated construction usually requires less seams and joints to be finished onsite, it ensures extremely high levels of impermeability.

In most cases, modular construction requires less execution time and less space around the worksite for personnel, vehicles traffic and resources storage, offering a lower construction footprint and minimized disturbance to the neighboring community.

Since the majority of industries have developed to depend on more industrial and automated approaches, it seems certain that the construction industry will begin to increasingly perform accordingly, for instance, by adapting to solutions such as modular construction. The fact that many powerful global construction organizations have recently established modular divisions, while others have collaborated with existing modular manufacturers, demonstrates that this revolution has truly commenced⁸.

⁸ ibid 2.





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