

Next Gen Delivery Industrialised Construction Workstream

Industrialised Construction

Definition and Narrative

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Construction Leadership Council

What?

Industrialised Construction refers to the application of standard, repeatable manufacturing and assembly processes to the delivery of building and infrastructure projects.

Why?

This approach aims to improve productivity, predictability and quality by minimising the *proportion* of construction projects delivered through variable craft-based activities and manual labour.

How?

By focusing on process standardisation and repeatability, Industrialised Construction reduces variability, enables continuous improvement, and unlocks the benefits of advanced manufacturing technologies, robotics, and digital workflows.

Application

Industrialised Construction approaches can be applied to specific projects, or entire programmes - providing the scope for standardisation and repeatability is sufficient to offset any additional investment in design, production processes and supply chain mobilisation. Though the specific approach may vary, Industrialised Construction applies to both buildings and infrastructure assets.

Note: This definition is a co-created, working definition of Industrialised Construction for the purpose of driving collaboration and best practice in the field. It is intended to be tested and refined over time and, as such, feedback is welcomed. Please contact ron.lang@atkinsrealis.com.

Industrialised Construction: A Relative Concept



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clear. It is more useful to think about the <u>extent</u> to which a project or programme is leveraging industrialised approaches.

While Industrialised Construction, *is* synonymous with a *'manufacture and assembly'* or *'offsite'* approach to delivery, it is more fundamentally about breaking projects and programmes down into standard, repeatable processes that can be controlled, optimised (e.g., through automation) and continuously improved.

Industrialised Construction: Related Terms



MMC

Modern Methods of Construction (MMC) is a broad term used by UK government to describe a range of 'non-traditional' offsite and onsite techniques. However, in practice, 'MMC' is generally used in reference to 'Offsite' methods.



Offsite Manufacturing or Offsite Construction is used to reference the pre-fabrication and/or preassembly of construction elements or subassemblies away from the construction site. Industrialised Construction approaches often incorporate some level of Offsite Manufacturing, but not all offsite approaches are industrialised. "Building on progress made to date, the Department for Transport, the Department of Health, the Department for Education, the Ministry of Justice, and the Ministry of Defence will adopt a presumption in favour of offsite construction..." <u>Autumn Budget (2017)</u>

"Building on the presumption in favour of offsite ...there is a new expectation for departments and ALBs to set targets for the level of use of MMC in the delivery of projects and programmes." <u>Construction Playbook (2020)</u>

DfMA

To enable Industrialised Construction approaches, buildings and infrastructure assets need to be consciously designed around repeatable components and subassemblies that can be efficiently manufactured, transported, and assembled. This methodology is called Design for Manufacture and Assembly (DfMA).

Modular

As part of DfMA, designers need to determine the most logical and economical way to break assets down into systems, sub-assemblies and components. This is modular design.

Note: While the term 'modular' is commonly associated with 3D 'volumetric' building approaches, this is just one way of achieving a modular design.

Platforms

The nature of construction projects limits the level of standardisation that is appropriate. Platforms are a way of driving commonality in parts, processes and relationships while retaining the flexibility to meet project-specific requirements.

Note: For more information, see the Construction Innovation Hub's <u>Product Platform Rulebook</u>)