

Industrialised construction: building the future with Platned & IFS



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Introduction

Industrialised construction is transforming the way we design, manufacture, and assemble buildings. It leverages modern manufacturing techniques to streamline construction, improve efficiency, and reduce waste. With Platned as a trusted reseller of IFS software, companies can fully integrate industrialised construction processes within their operations using IFS Cloud™.

What is industrialised construction?

Construction companies are increasingly investing in their ability to support an industrialised construction strategy, including adapting their business processes to improve project delivery performance. Some of the following terms are used interchangeably but have overlapping themes:

- **Offsite construction** – manufacturing building components in a controlled factory setting before assembling them onsite.
- **Modular construction** – constructing entire sections of buildings in factories for faster and more efficient site assembly.
- **Prefabrication** – standardising and pre-building materials for consistent quality and reduced wastage.
- **Construction integrated manufacturing** – merging manufacturing and construction workflows to enhance productivity.
- **Panelised construction** – assembling large prefabricated panels that simplify and accelerate the build process.
- **Platform design for manufacturing & assembly (P-DfMA)** – using standardised kits of parts for diverse building applications.



Real-world examples of industrialised construction

A key principle of industrialised construction is finding the commonality between systems within asset types across different sectors. This results in standard kits of components that can be adapted to various structures. Lessons learned from the manufacturing industry show that standardisation results in:

- More precise material use
- Reduced raw material consumption
- Less waste and higher productivity due to rapid assembly

Example 1: Modular housing developments
In urban areas facing housing shortages, modular construction has proven to be a game-changer. Countries like Sweden and the UK have successfully implemented factory-built housing units that can be assembled onsite within days, reducing construction times by up to 50% and cutting costs by 20%.

Example 2: Prefabricated office buildings
Many large-scale companies are now opting for prefabricated office structures to accommodate rapid expansion needs. By using prefabricated components, businesses can ensure quality control while also significantly reducing project lead times.

Example 3: Infrastructure projects
Industrialised construction has also been applied to infrastructure projects such as bridges and transport hubs. Prefabricated components are built offsite and transported for assembly, allowing for minimal disruption to existing urban landscapes and road networks.



Benefits observed across these projects:

- Faster project completion
- Cost savings through efficient material use
- Improved environmental sustainability by reducing onsite waste
- Higher consistency in build quality
- Enhanced safety due to fewer onsite hazards

Categories of industrialised construction

There are several categories within industrialised construction, including:

- **Volumetric modular** – entire building modules constructed offsite.
- **Structural panelised** – preassembled structural panels used in construction.
- **Offsite components** – components manufactured in a controlled environment.
- **Additive manufacturing** – use of 3D printing for construction.
- **Non-structural assemblies** – prefabricated elements like MEP systems.
- **On-site material improvements** – on-site processing of prefabricated materials.
- **On-site process improvements** – streamlining construction with automation.



What challenges are driving this trend?

Several industry-wide challenges are accelerating the adoption of industrialised construction:

- **Increased competition** – market demand is pushing companies to improve efficiency.
- **Labour shortages** – skilled labour is in short supply, making automation necessary.
- **Government targets** – regulations are pushing for sustainable and efficient construction.
- **Project delivery issues** – traditional methods suffer from cost overruns and delays.
- **Low margins & cost pressures** – profitability is squeezed in conventional construction.
- **Quality & safety concerns** – industrialised methods improve consistency and safety.
- **Sustainability demands** – governments and consumers expect greener buildings.
- **Material supply shortages** – prefabrication reduces dependency on volatile supply chains.





Turning challenges into opportunities

By shifting the construction process into controlled environments, companies unlock numerous benefits:



50% faster
project delivery



Cost savings
up to 20%



Higher quality
control and fewer
defects



Predictable project
timelines with fewer
delays



Greater sustainability
through waster
reduction and energy
efficiency

Origins of industrialised construction

Contrary to the belief that industrialised construction is a modern-day concept, this method has been in use in different variations for over 10,000 years. Archaeologists have found examples dating back to the Mesolithic period.

- **Roman armies** pre-fabricated and transported forts in small sections for rapid assembly.
- **California gold rush (1840s)** – Prefabricated houses were made in New York factories and shipped west.
- **1942 US government projects** – Entire towns were built using prefabricated cement sections.
- **1908 Sears catalogue homes** – Sears, Roebuck & Co. sold mail-order prefabricated houses.
- **1960s–1970s architects** – Experimented with modular housing in the US, Israel, and Japan.

This history demonstrates how industrialised construction has evolved and continues to impact modern construction methods.



How IFS Cloud™ supports hybrid construction models

To realise all the potential benefits of industrialised construction, companies need best-in-class integrated business systems that support hybrid models. IFS Cloud™ enables businesses to execute various methods, including:

- Traditional construction processes
- A structured work package approach to construction execution
- Improved logistics and structured materials management
- Seamless integration between manufacturing and onsite assembly

IFS Cloud™ provides the flexibility to transition to an industrialised construction model while still performing core business processes on the same platform.



Example of an IFS Cloud™ end-to-end solution

IFS Cloud™ uniquely blends traditional construction and modular or prefabricated manufacturing into a single integrated solution. By incorporating best practices from both industries, companies benefit from faster time-to-value and greater returns on investment.

Key Capabilities:



Project management
Integrated tools for tracking progress and financials.



Procurement and supply chain management
Ensuring seamless material flow.



Manufacturing execution
Supporting modular production and automation.



Cost control and risk mitigation
Enhancing financial efficiency.

By adopting IFS Cloud™, businesses can confidently embrace industrialised construction while ensuring smooth operational transitions.



Start your journey towards industrialised construction today with Platned and IFS Cloud™, and build a more efficient, sustainable, and profitable future.

Contact Platned today to learn more
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