

How Industrialized Construction is building tomorrow

Discover how IFS Cloud can help you embrace the industrialized construction trend



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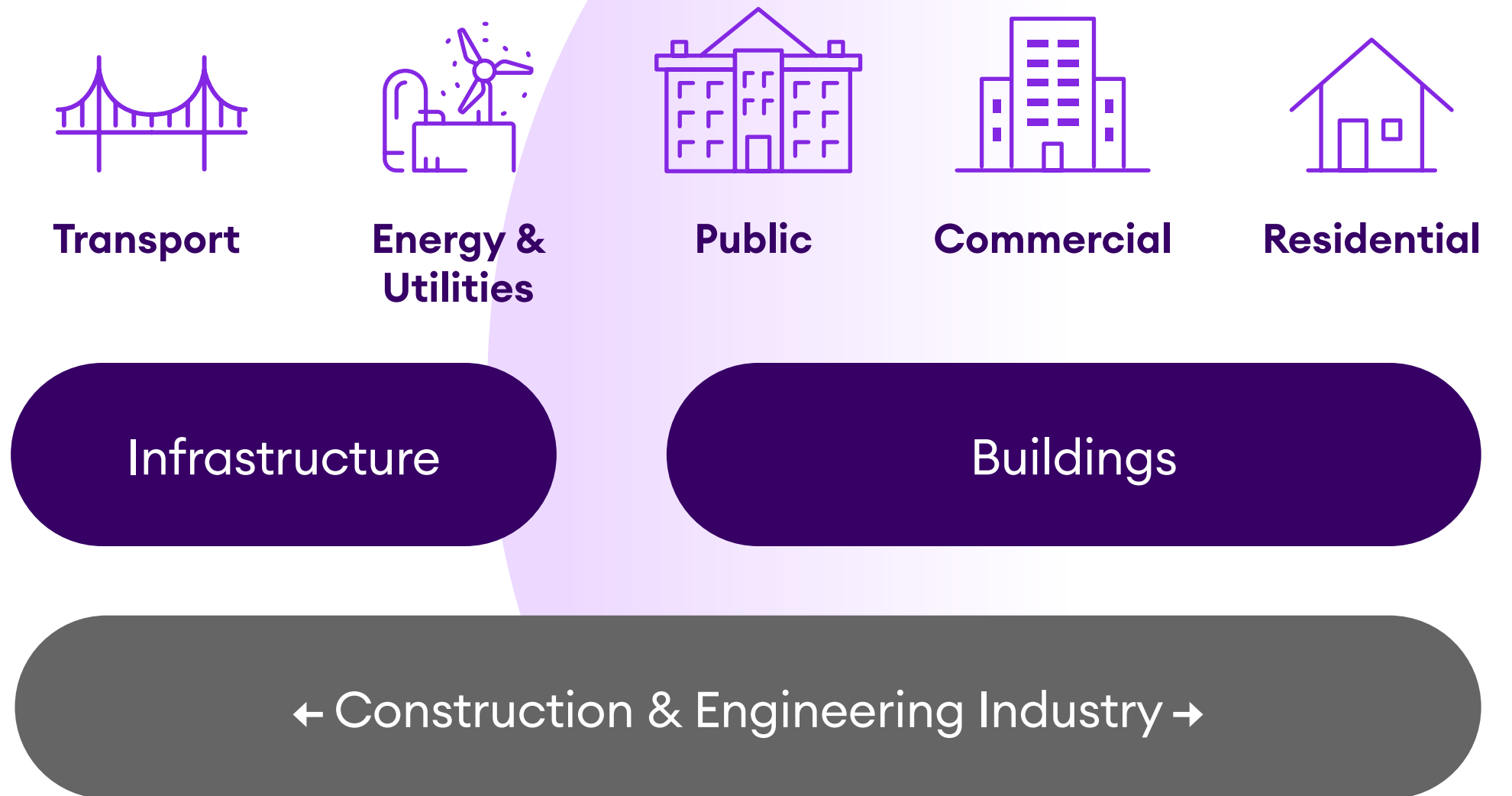
What is Industrialized Construction?

Construction companies are increasingly investing in their ability to support an industrialized construction strategy, including adapting their business processes to **improve project delivery performance**.

Some of the following terms are used interchangeably but have overlapping themes, and they can mean different things depending on your industry sector. One of the key characteristics is the trend towards **standardization of materials** and processes and the trend towards doing less work on the construction site and more on offsite facilities.

To illustrate how these concepts are used in real-world scenarios, we'll share a deep dive example next.

- **Offsite construction**
- **Modular construction**
- **Prefabrication**
- **Construction integrated manufacturing**
- **Panelized construction**
- **Platform designed for manufacturing & assembly (P-DfMA)**



Real-world examples of Industrialized Construction

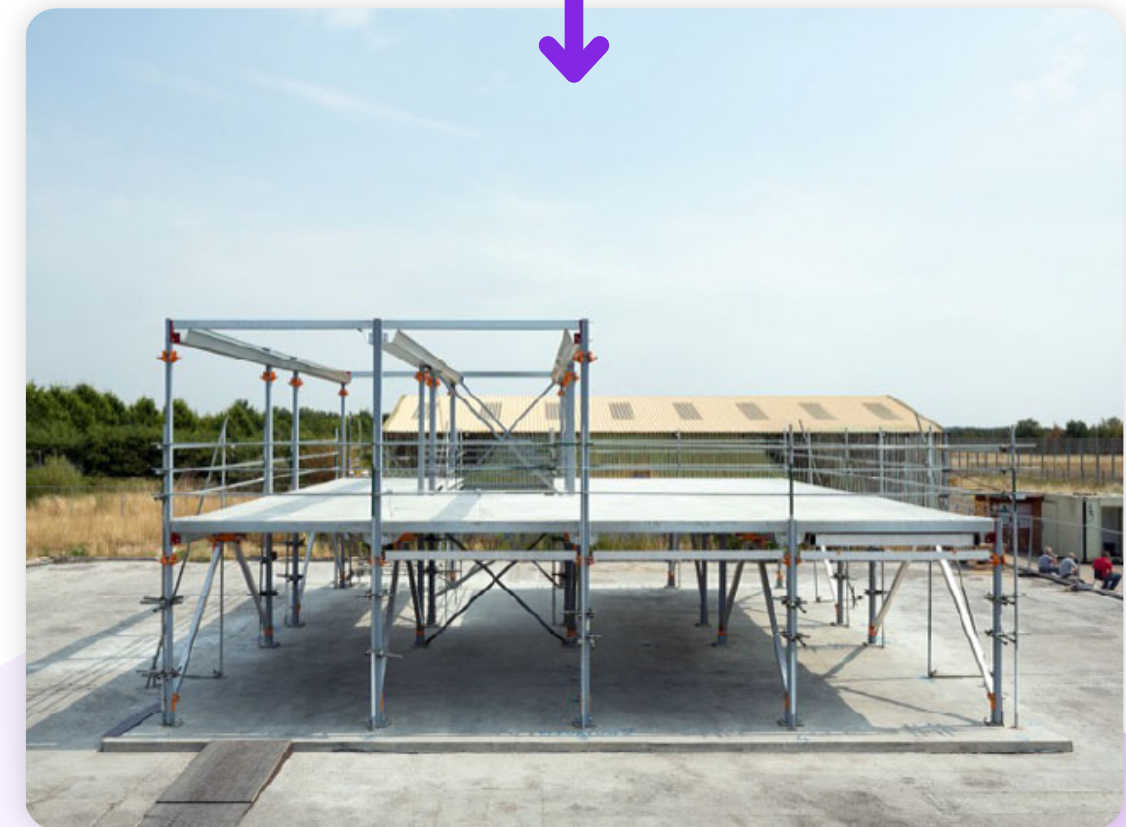
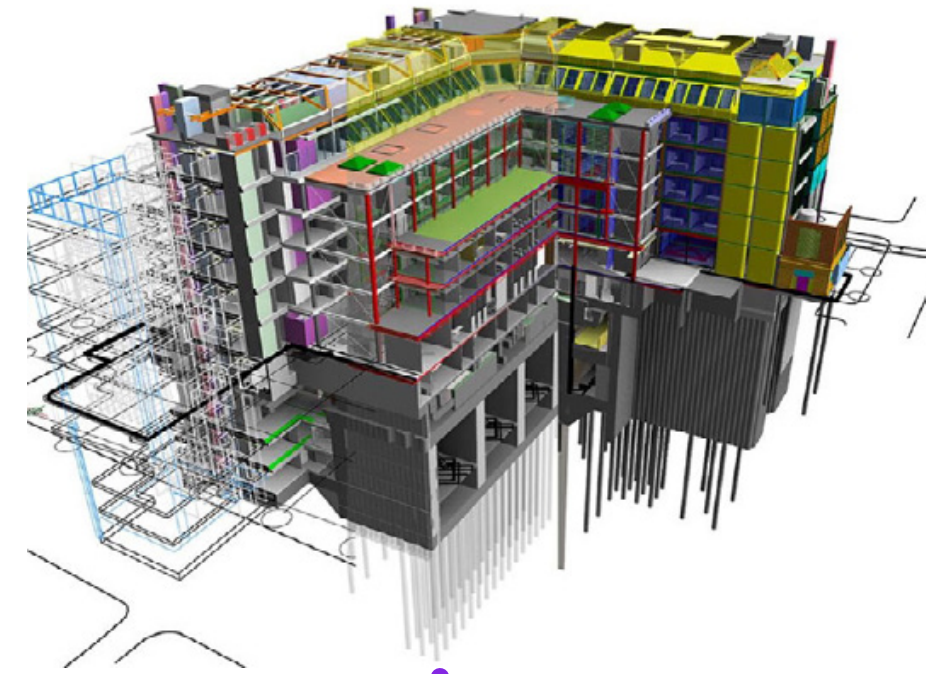
Let's break down the theory behind P-DfMA (Platform Design for Manufacture and Assembly).

In traditional construction, every project is effectively a new prototype and every industry sector is treated as a specialty.

In contrast, the platform approach finds the commonality between the systems within asset types across many different sectors. The end goal is to design standard kits of components that can form the structure of just about any asset. The size, shape, style, finish

and function of the asset is then completely flexible.

This approach takes lessons learned from the manufacturing industry, where the materials are standardized and manufactured precisely, meaning fewer raw materials are consumed, far less waste is produced, and productivity is enhanced because of the speed these kits can be assembled onsite.



Categories of Industrialized Construction

There are many different methods that could be categorized within Industrialized Construction.

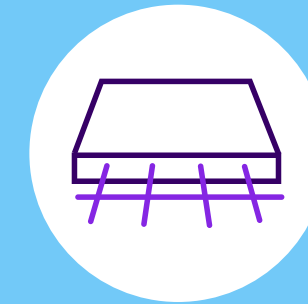
Let's define each one.



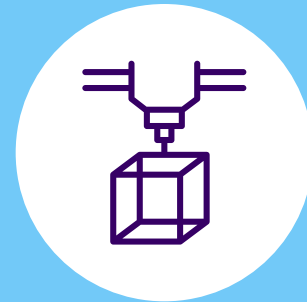
Category 1
Volumetric
Modular



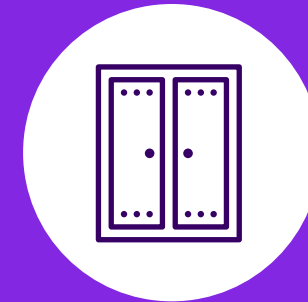
Category 2
Structural
Panelized



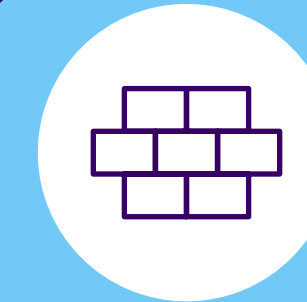
Category 3
Offsite
Components



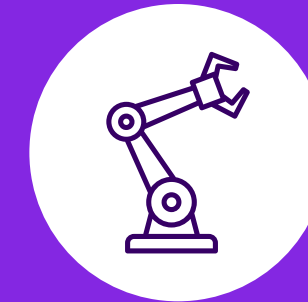
Category 4
Additive
Manufacturing



Category 5
Non-structural
Assemblies



Category 6
On-site Material
Improvements



Category 7
On-site Process
Improvements

What challenges are driving this trend?



**Increased
Competition**



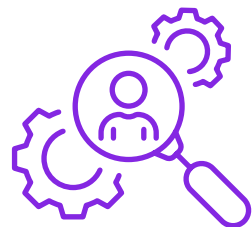
**Government
Targets**



**Low Margins &
Cost Pressure**



**Sustainability
Agenda**



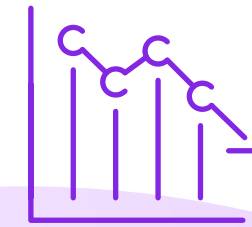
**Labor
Shortage**



**Poor Project
Delivery**



**Quality &
Safety**

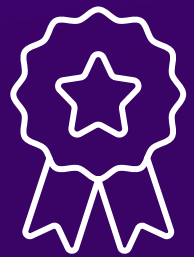


**Material Supply
Shortages**

Turning challenges into opportunities

With all the inherent challenges faced by onsite construction work, moving parts of the build process to a controlled, shop-based environment simply makes sense. Modular construction is one example of industrialized construction that is gaining popularity because it is fast, cost-effective, and infinitely customizable.

The benefits of modular construction are clear:



Improved quality and output



Reduced costs by up to **20%**



Accelerated end-to-end project timelines by up to **50%**



More predictable deadlines, fewer weather-related delays

The sustainability benefits are also tangible, helping to **reduce construction cost** and **waste** while increasing **energy efficiency** and the **use of recycled materials**.



Origins of Industrialized Construction

Contrary to the belief that industrialized construction is a modern-day concept, this method has actually been in use in different variations for **over 10,000 years**, with archeologists finding examples dating back to the **Mesolithic period**.

- **Roman armies** pre-fabricated and carried forts in small sections and assembled them onsite
- During the **California gold rush of the 1840s**, prefabricated houses were made in New York factories and shipped to the west coast
- **In 1908, Sears, Roebuck, and Co.** introduced prefabricated housing in their mail-order catalog, offering over 400 housing styles that came in pre-made sections
- **In 1942, the US government** ordered the building of a town in Tennessee “virtually overnight” with houses coming in pre-made cement sections
- **In the 1960s and '70s**, architects in the US, Israel and Japan all experimented with residential building designs based on plug-and-play configurations and identical prefabricated modular units

Habitat 67 designed for the 1967 Montreal World Exposition to be the future of urban housing by architect Moshe Safdie



Industrialized Construction adoption and market growth

In a recent poll of US construction companies, **34% said they are moving** into one example of industrialized construction—modular or offsite manufacturing—in 3 years and **nearly 40% are considering it.**

Yet out of those currently using these methods, half of them are delivering less than 10% of their projects with modular or offsite.

While the trend is slowly gaining traction in North America, it's experiencing significant growth in Europe where the modular

construction market is projected to grow **from USD 18.41 billion** in 2023 **to nearly 28 billion** by 2030.

The European market growth is being fueled partly by the need to build affordable housing and partly by increasing construction in road, rail and bridge infrastructure.



How IFS can help you embrace Industrialized Construction

What's holding you back from adopting an Industrialized Construction strategy?

Many companies have considered new ways of working, but their IT system does not support the processes required to implement an industrialized construction model.

To realize all the potential benefits, companies need best-in-class integrated business systems that support a hybrid model, allowing them to execute various methods including:

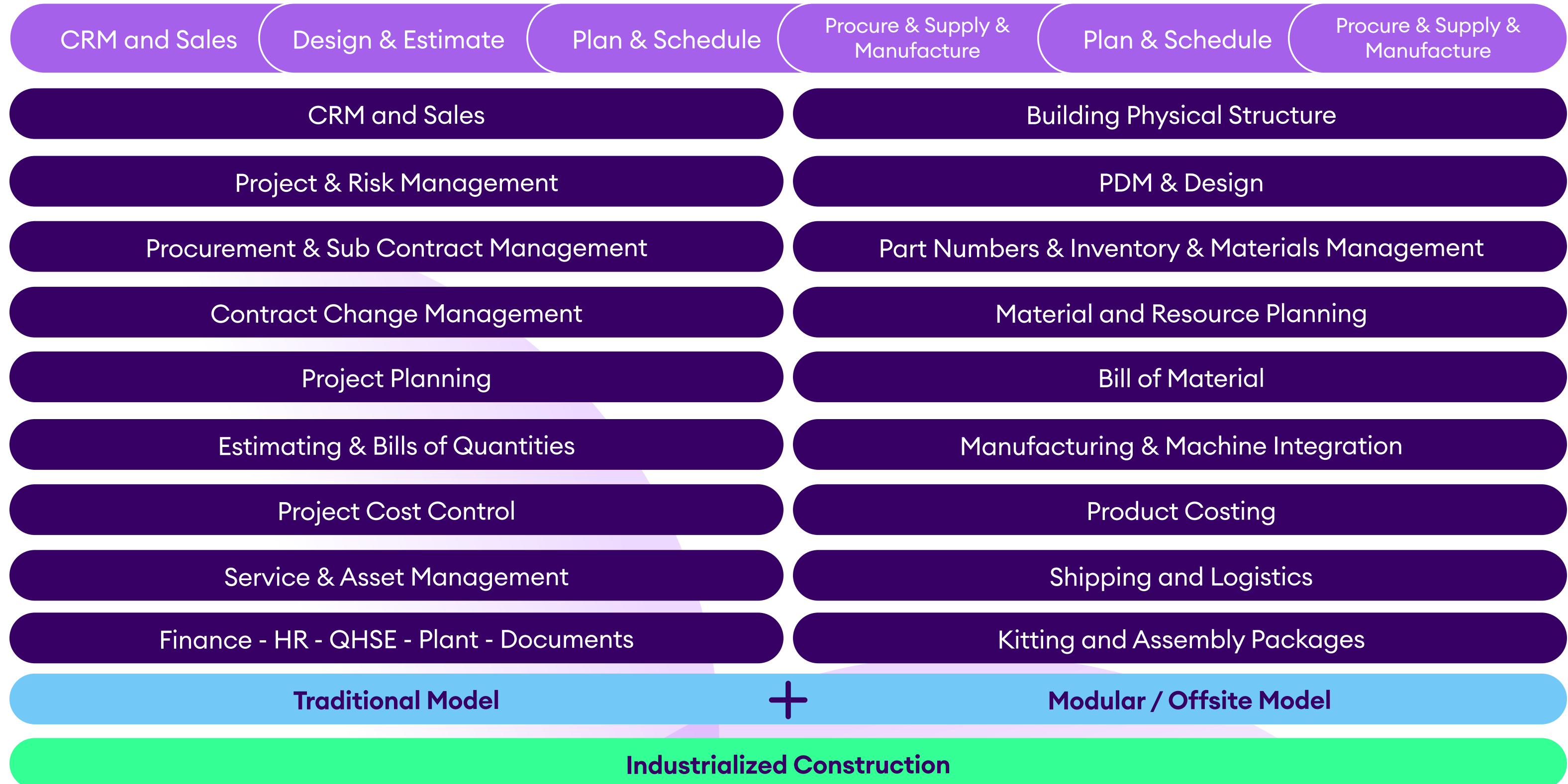
- 1 **Traditional construction processes**
- 2 **More structured work package approach to construction execution**
- 3 **Improved logistics support for handling structured materials management, such as when manufacturing or assembly is required in a remote facility**



This is where the IFS Cloud ERP business system delivers real value. It gives companies the flexibility to transition to an industrialized construction model while still performing their core business processes on the same platform.

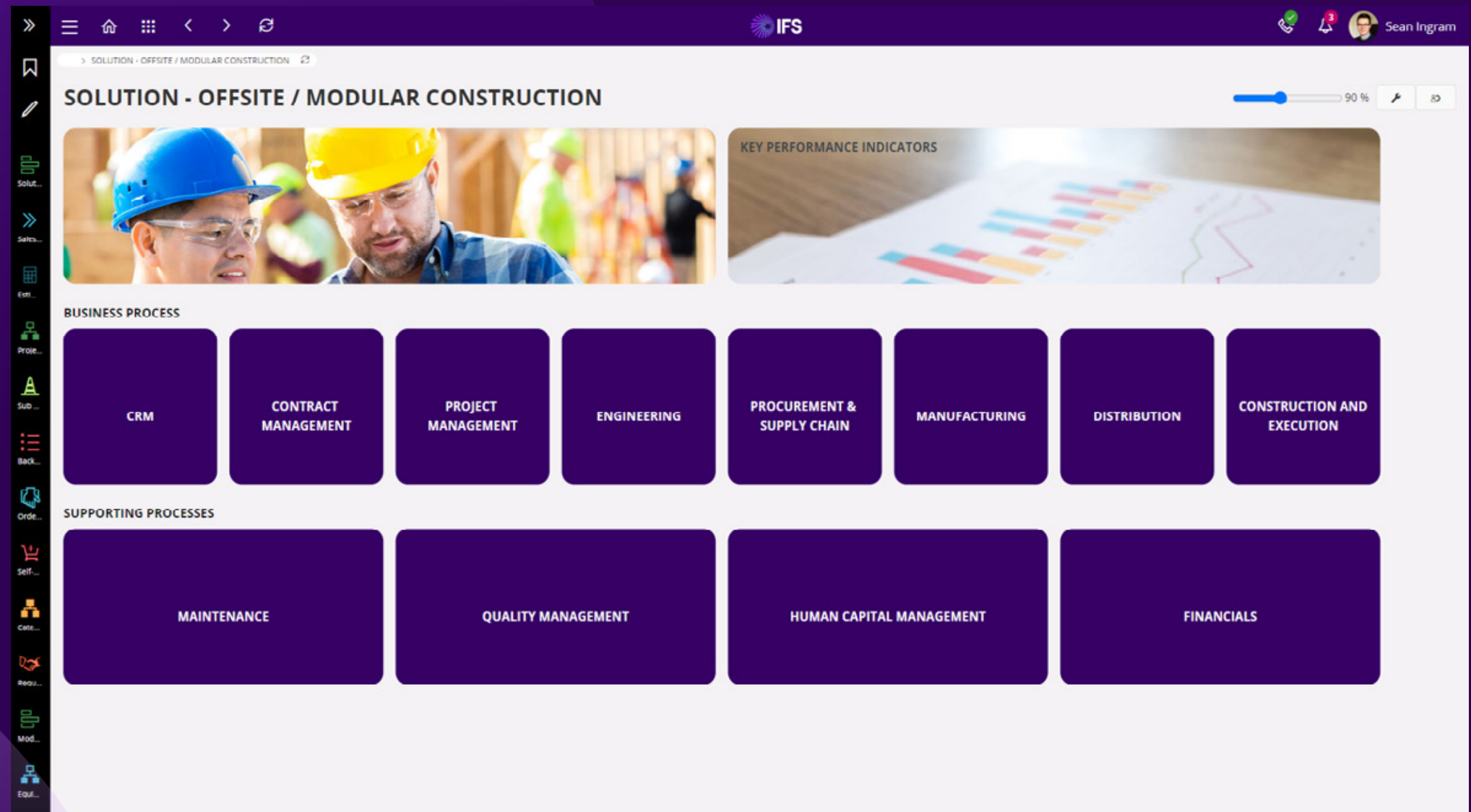


IFS Cloud for Industrialized Construction



Example of the IFS Cloud End to End Solution for an Offsite, Modular or Prefabricated Manufacturing business

IFS Cloud is unique in being able to blend traditional construction and modular or prefabricated manufacturing in a single integrated product. With built-in best practices from both the construction and manufacturing industries, it delivers faster time to value and greater return on your technology investment.



Embrace Industrialized Construction and Build a Better Tomorrow with IFS

Start your digital transformation journey today

IFS develops and delivers cloud enterprise software for companies around the world who design, build, operate and maintain assets. Within our single platform, our industry specific products are innately connected to a single data model and use embedded digital innovation so that our customers can be their best when it really matters to their customers - at the Moment of Service™.

The industry expertise of our people and of our growing ecosystem, together with a commitment to deliver value at every single step, has made IFS a recognized leader and the most recommended supplier in our sector. Our team of more than 5,500 employees every day live our values of agility, trustworthiness, and collaboration in how we support our thousands of customers.

[Learn more](#)

