

Bridging the Gap: Solving Construction and Engineering Industry Challenges

12 Ways to Achieve Digital
Transformation ROI



Contents

The **construction and engineering industry**, known for its complexity and multitude of stakeholders, has historically faced a range of challenges, from **cost overruns** to **project delays**. However, in an age of rapid technological advancement, digital construction ERP software holds the key.

Yet, business leaders may hesitate to upgrade legacy systems because previous technology implementations have failed to produce ROI. Why didn't they hit the mark? Often, it's a combination of factors:



Failure to build the right operating environment and a data-centric culture.



Generic ERP software not designed specifically for industry needs.



An inability to centralize and operationalize data for effective decisionmaking.



A complex business system landscape comprised of multiple best-of-breed solutions that require manual integrations.

Let us explore **12 ways that modern ERP platforms** which are designed by construction and engineering industry experts can **achieve software investment KPIs**.

Only a third of the owner-operators and EPCs improved their KPIs with data-driven digital transformation¹

According to IDC, IFS Cloud customers achieve 414% three-year ROI and 11-month payback on investment, including deployment time²

#1 Project Management and Collaboration

Challenge

Coordinating various project stakeholders, managing timelines, and ensuring effective communication can be daunting.

Solution

Digital tools and project management platforms provide a centralized hub for real-time collaboration, document sharing, and task tracking. Features like Building Information Modeling (BIM) and cloud-based project management software enable efficient communication, reducing errors and delays.

IFS Cloud ERP spotlight

Our platform integrates the project plan with the ability to hold sub plans such as engineering, procurement, manufacturing, labor plans, equipment rental, and construction site plans. It also supports additional areas such as **Risk and Opportunity management, estimating** and **pre-contract support**. Project progress tracking and the ability to measure earned value are also key capabilities.

“IFS gives us confidence because all the materials, sub-contracts, costs and labor are all captured by the solution.”

- **Barry Logan, ERP Solutions Manager, Babcock International**

#2 Cost Overruns and Budget Management

Challenge

Cost overruns are common in construction projects, often due to unexpected expenses and inaccurate budget estimates.

Solution

Digital transformation allows for accurate cost forecasting and tracking. Advanced analytics can analyze historical data to identify potential budget risks, while real-time monitoring helps in managing costs effectively throughout the project lifecycle.

IFS Cloud ERP spotlight

Our solution delivers complete **project financial control** that is fully integrated with all the cost and revenue transactions. IFS Cloud also has a comprehensive **Budgeting & Forecasting** capability to manage budget versions and produce periodic forecasts. IFS can significantly automate this process.

Additionally, it offers **project milestone achievements** that can be tied to applications for payment. **Forecast more reliably** and prevent the need for corrective action by using real-time metrics like estimate-to-complete, pending, approved, and posted transactions.

“On average*, over 2 in 5 (41%) construction and engineering projects overrun their budgets and schedules.³”

Learn More with
“Top Construction Trends
and Technology eBook”

#3 Safety Concerns

Challenge

Ensuring the safety of workers and visitors is a top priority as accidents can occur due to hazardous construction sites and tasks.

Solution

Wearable technology, IoT sensors, robots, and augmented reality (AR) can enhance safety protocols. Drones and 3D scanning technology can perform detailed safety inspections. Workers can wear smart helmets and vests that monitor their vital signs and alert them to potential dangers. AR can provide on-site training and guide workers through complex tasks safely.

IFS Cloud ERP spotlight

IFS Cloud offers an embedded **Quality, Health & Safety Management** module which provides the framework to define and implement effective safety procedures and risk management policies. It provides **improved analytics** for better decision making, **simplified incident reporting** and expiration dates for safety certificates and medical checks.

IFS Cloud also offers seamless integration to AR within our **user-friendly mobile app** and delivers out-of-the-box support for connected asset, IoT and EDI (Electronic Data Interchange). With IFS, companies can **improve safety** and **reduce incidents**.

More than half of the **top 11 safety hazards** in construction can be avoided by technology innovations.⁴

#4 Project Delays

Challenge

Delays can be costly and frustrating, often caused by unforeseen issues or miscommunication.

Solution

Predictive analytics and machine learning can identify potential delays by analyzing historical data, weather patterns, and other variables. This allows project managers to address issues and adjust schedules proactively.

IFS Cloud ERP spotlight

With our solution, you are empowered to predict better. Our platform is future-focused, providing tools that allow **faster decision-making based** on real-time data and predictive outcomes. Our use of tools like **machine learning** and **AI** throughout the platform aids in better return on investment.

Learn More with
“Harnessing AI in Construction
Operations eBook”

“Only **37%** of construction and engineering companies are accurate in their project estimating on **75%** or more of their projects.³”

#5 Standardizing processes and workflows

Challenge

Many construction and engineering companies are comprised of many separate operating units or divisions without a single enterprise-wide digital platform to connect them all. Forced to use various legacy systems in combination with static spreadsheets, this prevents scalability, efficiency, project performance improvements and ultimately, it hinders growth.

Solution

Digital ERP platforms enable complex organizations to adopt one standard way of working across companies, divisions, departments, and systems.

IFS Cloud ERP spotlight

Whether you have multiple companies, divisions, regions, or locations, IFS Cloud offers built-in **intercompany transactions** for ease of sharing employees and equipment. We also have **financial consolidation** and **dimensional GL structures** that allow you to view your data in a way that helps you make faster and better business decisions.

In the next 1 – 2 years, 80% of companies are looking to adopt standardized, industry best practice processes that are repeatable and improve project and business performance.

Learn More with
“Designing and Building
the Future: 2025
Predictions

#6 Sustainability and Environmental Compliance

Challenge

Meeting environmental regulations and reducing the carbon footprint of construction projects is increasingly important. Sustainable construction practices are now a benchmark for industry standards, influencing everything from material and vendor selection to waste management. Plus, offering sustainability in your business practices provides a significant competitive edge.

Solution

Digital tools can help optimize construction processes to reduce waste and emissions. Sustainable materials, energy-efficient designs, and renewable energy sources can be incorporated using data-driven decisions.

IFS Cloud ERP spotlight

IFS Cloud provides a **single digital platform** for data management, helping companies measure their carbon footprint throughout the project lifecycle, from procuring materials to ongoing asset performance. It also provides **operational efficiencies** and cost savings; sustainability applications for **simplified ESG reporting**; an emissions tracker; support for **offsite/prefab manufacturing**; and much more.

Learn More with
“Driving sustainable innovation
in construction”

Demand for low-carbon buildings could be **3 times higher** than supply, thereby driving the circular transition⁶

#7 Improving Supply Chain, Inventory & Materials

Challenge

Supply chain disruptions can delay projects and increase costs. In fact, the #4 top challenge impacting construction and engineering businesses today is “Overcoming supply chain issues including shortages of construction materials and price increases.”³

Solution

Efficient procurement, inventory management, and cost control are critical in ensuring a steady supply of high quality materials whilst minimizing waste. Digital ERP solutions offer improved supply chain visibility through blockchain technology

and real-time tracking. Contractors can monitor shipments and inventory levels, enabling better risk management and contingency planning.

IFS Cloud ERP spotlight

IFS Cloud provides full support for **Procurement, Materials, Inventory, Supply Chain Management**. No other ERP software system handles procurement as well, especially if your business does prefab, offsite or modular manufacturing. It enables you to **control procurement suppliers**, materials committed costs and **optimizes how you bill suppliers** for total project financial control.

Since 2020, more than 80% of construction materials have gone up in price, averaging increases of 19%.⁵

Learn More with
“Top Construction Trends and Technology eBook”

#8 Attracting New Skilled Workers

Challenge

The number two most strategic long term goal of companies is “Attracting and training the next generation of skilled construction and engineering workers.”

Solution

Offering modern technology that is designed for better UX/UI (user experience and user interface), goes a long way in attracting and retaining younger workers. In a generation that grew up with smartphones, the idea of regressing in terms of technology maturity prevents more skilled workers from entering the industry.

IFS Cloud ERP spotlight

IFS Cloud offers a **user-friendly mobile app** that helps accelerate the learning curve of new employees, improving their effectiveness and quality of work. It also integrates to the latest technologies, such as **Augmented Reality**, to help new employees get instant help from offsite experts and **digitized data, blueprints, and work task lists**.

Since it offers **evergreen updates**, the technology never becomes outdated. New functionality that is in line with consumer technology look and feel means that **younger workers feel confident** that they can leverage the IFS Cloud systems and apps instantly.

80% of construction firms struggle to find qualified hourly craft workers, leading to higher costs and project delays.⁷

#9 Controlling and improving profit margins

Challenge

Most construction or engineering businesses have an accounting system. But where these systems fail is that we need to manage all elements that influence the current and future position of the project, including revenue and cost transactions, risks, cash, and contract changes. They also only provide *historic* analysis of operations and financials but fail to control or influence *future* project forecasts.

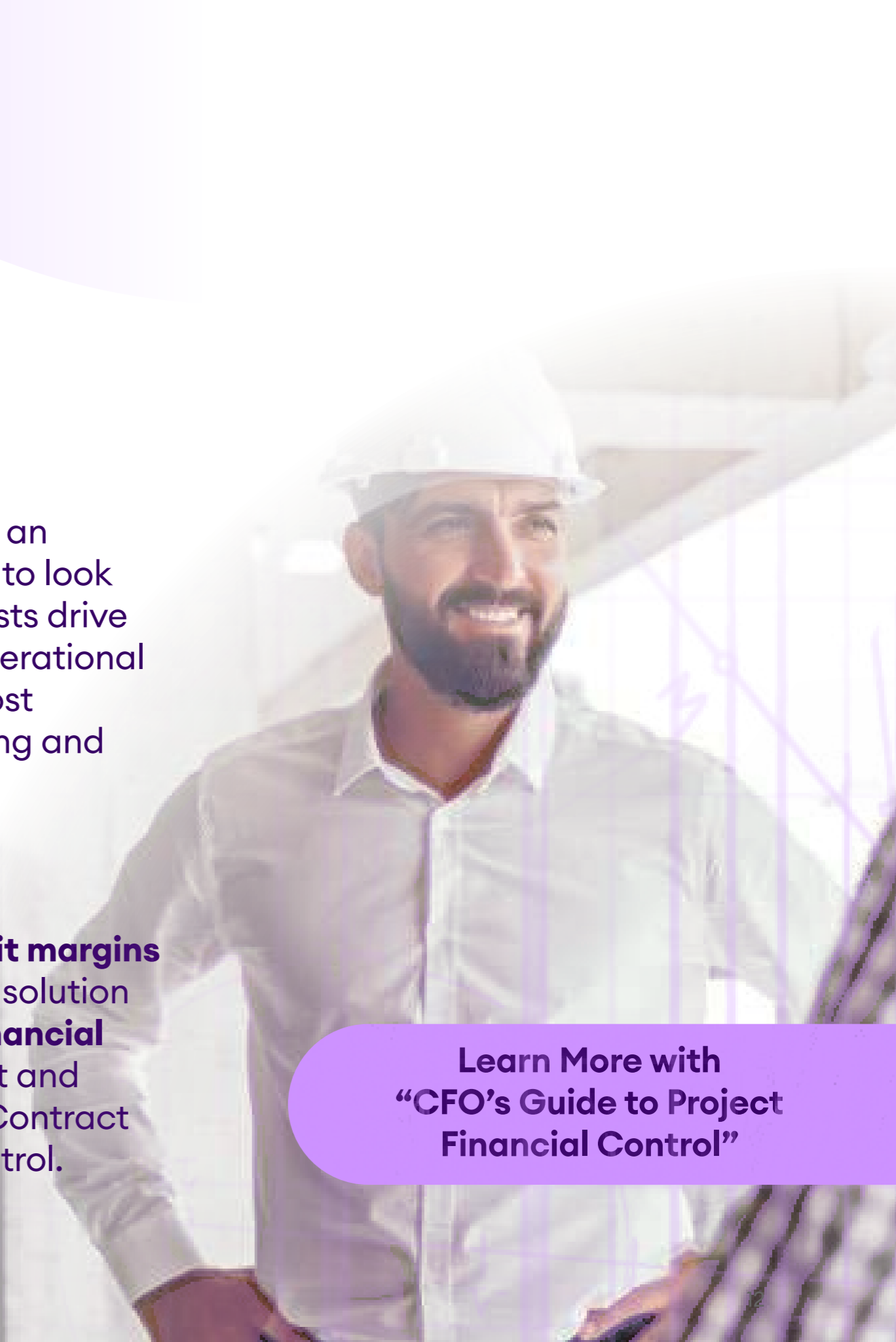
Solution

Total project financial control within an ERP digital backbone enables CFOs to look forward, not just back. And since costs drive revenue, you need a direct link to operational activity, with timely and accurate cost reporting to control and predict billing and directly manage cashflow.

IFS Cloud ERP spotlight

Our platform helps you **protect profit margins** on every project by offering a single solution that tightly **integrates all project financial controls**: Financial Accounting; Cost and Revenue Transactions; Project and Contract Management; and Project Cost Control.

Learn More with
“CFO’s Guide to Project
Financial Control”



#10 Improving resource optimization

Challenge



Labor is at the forefront of resource management, particularly when using a self-perform model.



Where **large** subcontract packages must be managed, it is critical to ensure that the subcontractors deliver work on time and to a high quality.



From raw to finishing elements, the quality, availability, and cost of materials significantly impact operations.



Equipment such as cranes, excavators, and scaffolding is needed on all projects, requiring asset management capabilities whether you own or rent.

Solution

Digital ERP platforms like IFS Cloud enable better planning by synchronizing all resources to improve productivity.

IFS Cloud ERP Spotlight

IFS Cloud's **Subcontractor Management** Module provides a platform with one source

of truth, where the **data is real-world, live, accurate** and protected from manipulation IFS Cloud links the project material plan to the project plan so that the materials arrive when they are needed. This will also help to reduce material wastage. IFS Cloud supports strong **asset tracking and rental capabilities, and accurate equipment planning** linked to the project plan.

Learn More with
"Optimizing
Resources eBook"



#11 – Mitigating risk, automating compliance

Challenge

Your business system landscape must empower leaders and users to mitigate risk. Business automation reduces risk, but most companies run their business in static spreadsheets and bolt-on systems. Companies must simplify and de-risk their IT system landscape.

Solution

Digital ERP platforms can provide all the capabilities you want in a smaller number of systems. It gives you a digital backbone with out-of-the-box integrations that are workflow centric, so you can feed operational activity into accounting and ultimately into PowerBI so you have accurate, real-time reporting and data analytics.

IFS Cloud ERP spotlight

With our single solution, companies can gain an integrated software and application ecosystem. In addition, our platform's embedded **Compliance module** tracks and monitors complex requirements like insurance and bonding, invoice processing, subcontract compliance, and safety.

In IFS Cloud, **everything that influences risk is linked**: forecasting drives your WIP (work in progress), your WIP drives your cash flow, your bonding, which drives your bidding ability, and ultimately allows your business to grow. With our **total project control**, you significantly reduce financial risk.

Learn More with
“CFO’s Guide to Project
Financial Control”

#12 – Driving innovation, agility, and AI adoption

Challenge

The #1 top short-term goal of construction and engineering companies is to grow the business by diversification. This move is driven by the high risk of relying on unpredictable revenues from a small, highly competitive number of large contracts to build assets.

Solution

Digital immaturity poses significant barriers to growth and business agility. With a modern ERP backbone, companies can expand, diversify, and embrace innovation.

IFS Cloud ERP spotlight

IFS Cloud is built on a composable architecture so that companies can easily add, remove and configure new capabilities as needed. Be it creating new joint ventures or adding new service offerings, the solution provides agility and flexibility, enabling new business opportunities.

IFS Cloud also delivers evergreen software updates and a digital platform for adopting innovations such as Industrial AI.

**Learn More with
“Harnessing AI” eBook**

One of the top five benefits of adopting a new ERP platform is “Improved agility to make it easier to grow and/or diversify the business.”³

Achieve Digital Transformation ROI with IFS.

The key to profitable revenue growth lies in embracing technological advancements, investing in workforce training, and fostering a culture of innovation. As the construction and engineering industry continues to evolve, digital transformation will be the cornerstone of its success.

The **IFS Cloud ERP platform accelerates digital transformation** by providing a **single, future-proof platform** that gives you complete control, helping companies to **maximize profitability** and **productivity** while driving business growth.

SOURCES:

- 1 – “BUILDING MORE VALUE WITH CAPITAL PROJECTS”. Accenture, 2020.
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- 4 – <https://www.eclcivils.co.uk/top-eleven-safety-hazards-in-construction/>
- 5 – <https://morrisingarritano.com/resource/rising-material-costs-in-the-construction-industry-and-how-it-affects-insurance-rates/>
- 6 – <https://www.mckinsey.com/industries/engineering-construction-and-building-materials/our-insights/from-trials-to-triumphs-in-building-materials-circularity-takeaways-from-davos>
- 7 – “EIGHTY PERCENT OF CONTRACTORS REPORT DIFFICULTY FINDING QUALIFIED CRAFT WORKERS TO HIRE AS ASSOCIATION CALLS FOR MEASURES TO REBUILD WORKFORCE.” Associated General Contractors of America (AGC) and Autodesk, August 2018.

About IFS

Visit [IFS.com](https://www.ifs.com)

IFS develops and delivers cloud enterprise software for companies around the world who manufacture and distribute goods, build, and maintain assets, and manage service-focused operations. 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 over 6,000 employees every day live our values of agility, trustworthiness, and collaboration in how we support our 6,500+ customers. Learn more about how our enterprise software solutions can help your business today at [ifs.com](https://www.ifs.com).

