

Which KPIs Should Crucially be Measured by EPC Contractors to Ensure Success?

Why Tracking the Right KPIs is Vital



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Tracking certain KPIs (Key Performance Indicators) is a proven way for businesses in any sector to ascertain performance targets, while encouraging the creation of key business objectives to help realize these goals.

Given the primary purpose of both construction and EPC (Engineering, Procurement, and Construction) companies is to design, construct, and sometimes operate and maintain an asset, many assume the ideal KPIs for these two types of contractors are aligned.

Compared to [traditional construction companies](#), EPC projects tend to be more complicated and require more specialist engineering and complex procurement of high-specification materials and systems. A good example of this is that building a house, or a block of flats is a lot simpler than building a nuclear power plant or oil refinery.

The Engineering and Procurement stages are, therefore, typically more demanding and require a wider set of KPIs to manage successfully. This means that EPC contractors need to track a more comprehensive list of KPIs than traditional construction contractors.

Experts at IFS have outlined a set of best practice KPIs which EPC contractors should measure to maximize their project and business performance. By calculating these specialized KPIs, EPC businesses can collect the data they need to keep projects on track and improve their overall efficiency, project delivery performance, and project and business profitability.

This can ensure that they're able to deliver superior Moments of Service for the major clients they're working with. IFS defines Moments of Service as the singular moment where everything in a business, particularly its relationship with both clients and subcontractors, works harmoniously together. In short, projects are delivered to a high quality, on time and on budget, and the asset delivers the intended outcome.

What are KPIs? Key Performance Indicators are individual data sets that measure performance. Some more sector-agnostic examples include revenue growth across a given period or client retention rates. Choosing the right KPIs can mean the difference between sustained business growth and catastrophic stagnation.

EPC Pre-Contract KPIs: Project Win Rate

KPI tracking for EPCs shouldn't begin when projects start. The process of winning new contracts is more important in this industry than many others, given the often-substantial size and scope of EPC projects and their infrastructural nature.

One of the most important KPIs for EPCs in the pre-contract stage is the project win rate. EPCs should be collecting data on all the proposals and bids they've submitted and then tallying what percentage of these submissions have resulted in a successful contract. This should then enable them to calculate an overall win rate percentage (%).

EPC companies should be targeting a 30% project win rate on average. However, this figure can fluctuate depending on the size of projects handled by a particular company and the segment that the project is in.

The project win rate provides an accurate assessment of how successful an EPC business is at the proposal side of the process. If a project win rate is particularly low, the company needs to be able to analyze bid data characteristics to establish why this is happening. There are many reasons why this could be the case, including – poor qualification, poor selling and bid team skills, lack of a professional consistent sales process, price, reputation, contacts and relationship, expertise and solution fit, among many others. By ascertaining which of these reasons relate to their company, business decisions can be made to address the clearest weaknesses and ultimately improve the project win rate.

In some cases, this could even result in major decisions like withdrawing from bidding for projects in a specific sector or region.

This is also the KPI that companies should be calculating first since the EPC sector is project-centric by design. If an EPC company has a low win rate, it needs to be a major focus of attention to ensure the business is still viable. Once a project is won, the attention then turns to the success of the projects themselves; that means making sure projects are profitable, cash positive, delivered on time, and always in keeping with client needs.



The Importance of Project Forecast Margin and Project Budget Control

KPIs that measure financial performance are often fundamental calculations, as they help managers ascertain a business's overall health and growth potential. [In EPCs, the profit centers are ultimately the projects.](#) If the projects are controlled and make good profits, then overall business performance will be strong, and vice versa. EPC project managers and cost controllers should therefore be calculating financial KPIs for every project they undertake.

Is it then simply a case of having a project P&L? Yes, this is important - but this is a backward-looking KPI. Often the most important financial control KPI is the project forecast margin as a percentage (%). After a project is won, the first process is to establish a project budget, including a budgeted or target margin for the project.

This should ideally be based on the project estimate used in the pre-contract phase so that management can eventually compare the actual estimated cost, revenue and margin with the actual cost, revenue, and margin achieved when the project is completed.

At the end of every period, typically every month, the forecast total cost, revenue and margin are re-forecasted and compared with the project budget or target. This allows management to keep control of the project and identify any issues as early as possible. EPC projects are typically very high value and often take many years to complete. This means many aspects can change as the project progresses, including inflation impacts, engineering changes, client and subcontractor variations, taxation and legislation, global or local events, subcontractors, or suppliers going out of business among others. Risk and Opportunity impacts should therefore also be measured every month so that corrective actions can be taken to mitigate these risks. Delays in projects are also very common, and every delay tends to lead to an increase in cost, which may not be recoverable from the client. By regularly forecasting the right KPIs, EPC projects can work to prevent these delays from occurring.



Tracking Construction and Subcontractor Performance

EPCs usually take responsibility for the construction phase of a project. There are two ways they can execute the construction process, using either a self-perform or subcontracting model or a combination of the two. Depending on which model is adopted will dictate what KPIs are most important. In a self-perform model, you are managing your own labor force on the construction site, which means that the KPIs will have a strong focus on labor management, including scheduling, health and safety, efficiency, time recording, skills and training, and other factors.

In a subcontracting model, specialty subcontractors are awarded large and complex subcontract packages to execute a section of the project scope (e.g. Demolition, Earthworks, Structural Steel, Mechanical, Electrical, Scaffolding, and others). In this situation, the KPIs need to focus on the successful delivery of subcontracts with a heavy focus on the financial and commercial aspects of each package of work. This should include variations, insurances, physical progress, applications and certification, cash forecasting, and other key information. There could be hundreds of subcontract packages in a large-scale project, so this is an essential task that needs tight controls to keep an overall project on time.

In addition to controlling the financial aspects of subcontracts, additional KPIs are also required to assess how well each subcontractor is performing. These KPIs can be more challenging to calculate as it involves collecting and evaluating both qualitative and quantitative data. Some of the primary subcontractor KPIs include:

1. Overall quality of work. This is one of the more qualitative data inputs and needs to be collected through an evaluation process during and after the completion of a particular task. To calculate this as a KPI, companies should factor in information gained from reporting, such as defects, punch lists, snags, failure rates, or performance review data.
2. Timeline and work completed. This is quantitative data that involves creating timely benchmarks for each subcontractor's delivery performance on a project. Typically, this will involve measuring physical quantities completed, project tasks, and milestone performance against the plan. If the construction plan goes off schedule, it can threaten to derail an entire project.
3. Sustainability of work. **EPCs today have an increased responsibility to evaluate sustainability factors** for each project they undertake. Therefore, it is also important to evaluate the project and business performance against key sustainability targets. When subcontractors are used, they also must be included in this evaluation.
4. Health and safety. Contractors have a duty to protect all employees and subcontractors working on-site and to ensure all work is completed safely. This KPI should factor in risk assessments, risk awareness, and injury and incident reports.

Having accurate and timely KPIs on how subcontractors are performing will allow the EPC to make informed decisions to improve the overall project performance for current and future projects.



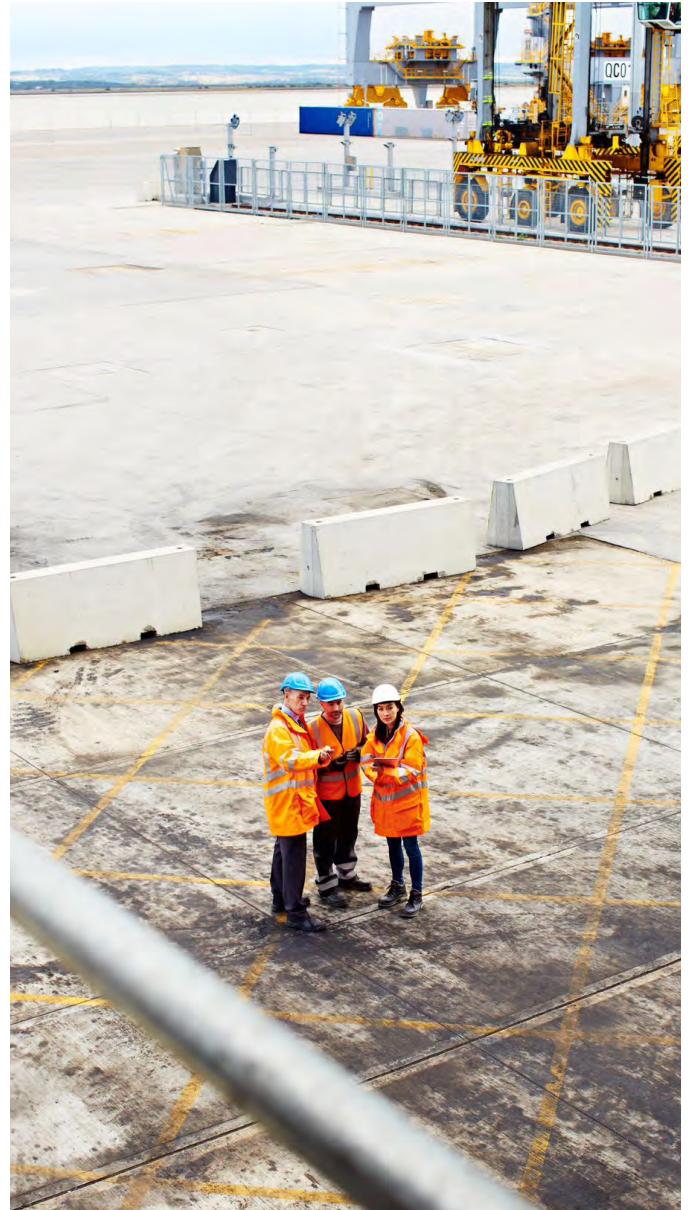
Labor Productivity

EPC contractors need different types of labor to execute projects. The main types are management labor (e.g. engineering, project management, commercial, cost control, construction management, finance, quality, health and safety, procurement) as well as construction site trades and sometimes maintenance trades if asset maintenance tasks are being offered.

It is common to use a combination of employees and subcontract labor which adds complexity to the management process. The most valuable KPI that should be measured is in relation to labor productivity and utilization. To log this KPI, it is necessary to have a planned and actual time for each task, and to measure the deliverables that have been completed. EPC companies incur a huge labor cost to ensure projects can be completed on time and to advanced specifications so any inefficiency will likely impact project margins.

Several factors like material delivery delays, weather conditions, employee skill and competence levels, bad planning, or worker shortages can impact labor utilization and productivity.

The higher this labor productivity and utilization rate is, the more likely it will be that the project will be delivered on time. This should result in satisfied clients, improved company reputation, and a higher win rate on future project opportunities. The [predictability of project KPIs is also very important](#) as this will allow realistic project and resource plans to be created with predictable project outcomes. It is always a wiser approach to focus on a smaller number of critical KPIs like labor productivity and utilization that drive true business value rather than trying to capture as much data as possible.



Asset and Equipment KPIs

Every construction project requires equipment or plants to execute the process. This equipment varies greatly depending on the given project but can include cranes, earthmoving equipment, generators, piling, tunnelling, trucks and vans, scaffolding, and even vessels and underwater equipment where the EPC is executing projects offshore.

There are two options available to EPC contractors: either deploy, hire or rent equipment from an external subcontractor, or buy the equipment and then hire or rent it to your internal projects, as well as your external customers. Most EPCs adopt a mix of both options, but it is important to note that the most relevant KPIs are different for the two scenarios.

If you are renting and hiring equipment from an external supplier, then you are not interested in the utilization of the asset itself. Instead, you should be tracking other factors based on the performance of the supplier you've rented from, such as whether the asset was delivered on time, whether it was in good working condition, and whether it was the right asset to do the required task. You should also consider how safe the asset was and how responsive the supplier has been overall. The final critical consideration is the cost per period (day, week, etc.) of renting/hiring the asset.

If the EPC organization decides to invest in buying the equipment and having a fixed asset, then the KPIs are very different. In this case, the company that owns the assets will normally be managed with its own P&L and balance sheet; the project-owning business unit, therefore, sees them as just another supplier. From their perspective, it is no different from renting an asset from an external supplier.

However, the business unit that owns the equipment has a very different set of KPIs as they are an asset-owning business inside the EPC. Their costs will be the capital costs of buying the equipment and the monthly depreciation cost. They should also be tracking the costs of maintaining the equipment, which can include technician labor maintenance and repair costs, the material spares cost, and transport costs of moving the asset from location to location.

From a revenue perspective, they should also be interested in asset utilization which refers to the percentage of time that an asset is earning money (i.e. on rental/hire with a customer). There are several situations where an asset may not be in use, such as there being no demand at that point in time or the need for it to undergo repairs.

In short, the most critical KPIs for the asset-owning business unit are:

- Asset Utilization (by type of asset, by asset id, by region, etc.)
- Asset Profitability (asset revenue minus asset cost over a period of time)

The monthly asset cost is typically made up of:

- Depreciation
- Material Spares consumed
- Technician labor required to repair and maintain the asset
- Transport costs
- Overheads that a business may want to allocate to an asset (space, management overheads, etc.)

Over time the costs of the asset will change - as the asset gets older, its maintenance costs will increase, and the reliability will reduce. In addition, the customer may not want an out-of-date piece of equipment. So, deciding when to dispose of an asset is an important decision that needs to be optimized.

Measuring and Visualizing EPC Industry KPIs With IFS Cloud

KPI measuring isn't an easy task for any business if they haven't implemented the right software solutions. By using IFS Cloud, management can access a centralized solution that provides specific support for KPI tracking for EPC contractors.

IFS Cloud can measure and visualize the above notable EPC KPIs in an easily accessible and readable dashboard, built into the wider IFS cloud system itself. From here, dashboard KPIs can be easily assembled, inputted, and modified as needs naturally change.

One very important capability offered by IFS Cloud is the ability to drill directly from the KPI to the source data to understand what is really happening on a particular project. This is possible because KPIs in [IFS Cloud are built into the core integrated business system](#) and enables management to obtain a comprehensive view of the performance of their projects, resources, and business.

If you'd like to find out more about how IFS Cloud benefits EPC contractors, you can **book a personal demonstration of IFS Cloud's KPI tracking capabilities today.**



About IFS

IFS develops and delivers 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 4,500 employees every day live our values of agility, trustworthiness and collaboration in how we support our 10,000+ customers.

Learn more about how our enterprise software solutions can help your business today at ifs.com.

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