

CASE STUDY

AN END TO END DIGITAL TRANSFORMATION IN A MEGA OIL AND GAS FOR SCD JV CONSORTIUM



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Overview

Since August 2019, Teknobuilt has been actively collaborating with the consortium SCD JV, comprised of Saipem, Chiyoda, and Daewoo, for the Bonny NLNG Train 7 project. This initiative aims to enhance the existing 6 LNG trains by incorporating an additional 8 MTPAs of liquefaction capacity through the implementation of a new Complete Train (CT) and a shared Liquefaction Unit (CLU), each contributing 4 MTPA.

Nigeria LNG Ltd. is spearheading the project, with significant participation from Shell and other stakeholders, including Total, Eni, and the Nigeria National Petroleum Company (NNPC).

Teknobuilt is playing a key role in comprehensive digital project management utilizing the PACE OS platform and providing consulting services. The inclusion of Teknobuilt's team, along with their Subject Matter Experts, has been crucial in seamlessly integrating the digital platform into the project.



Challenges



At the beginning of the project, there was a limited understanding or accessibility to the project-related data. Key information may not have been readily available, hindering effective decision-making and planning.



The project was characterized by practices that were not optimal or effective. This included disorganized workflows, unclear responsibilities, or outdated methods, leading to inefficiencies in time, resource utilization, and overall project progress.



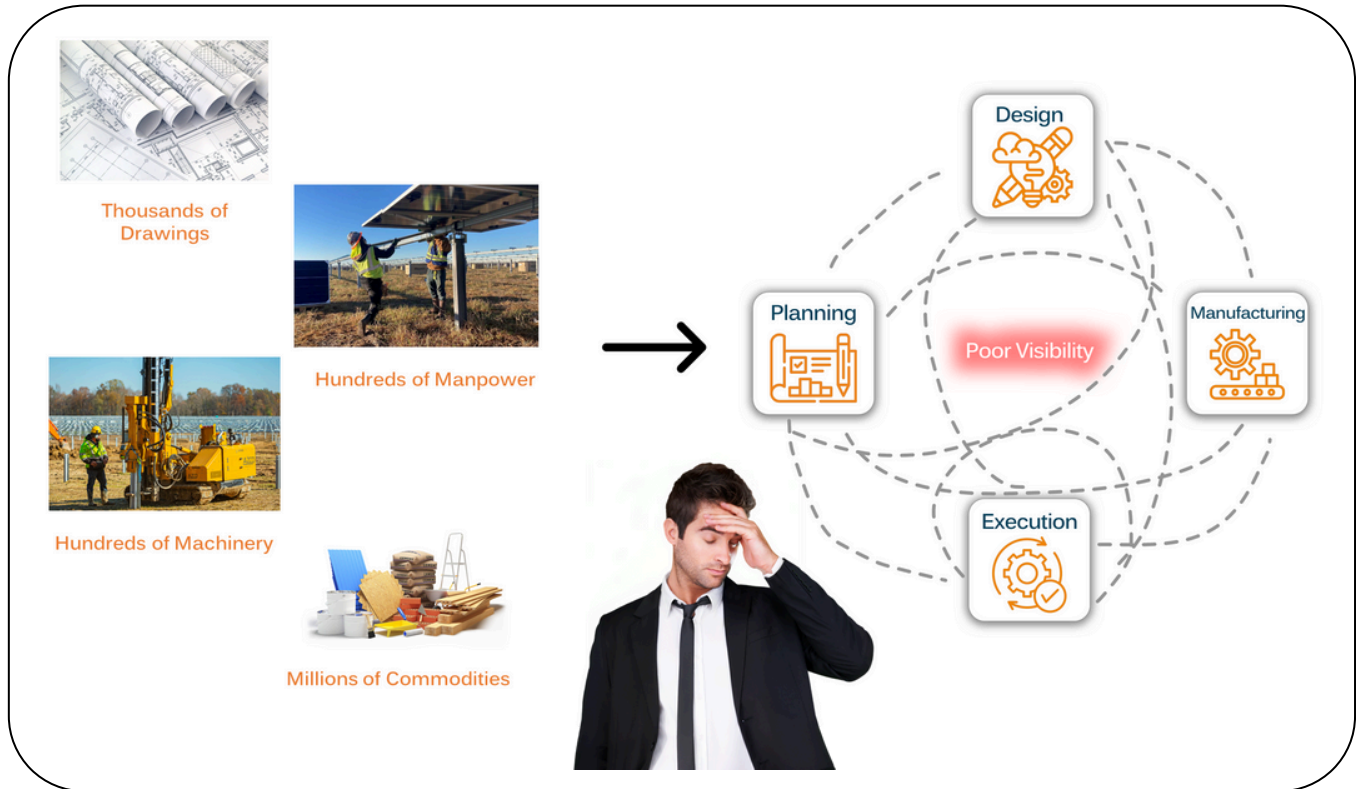
Challenges arose in coordinating and managing teams spread across different geographical locations, such as Italy, Korea, and Nigeria. This involved difficulties in communication, collaboration, and synchronization of efforts among team members due to time zone differences or other logistical challenges.



The project faced challenges due to the use of different technologies, software, and systems by various partners involved. This diversity have resulted in compatibility issues, data integration challenges, and hindered the smooth flow of information and collaboration across the project ecosystem.

Challenges

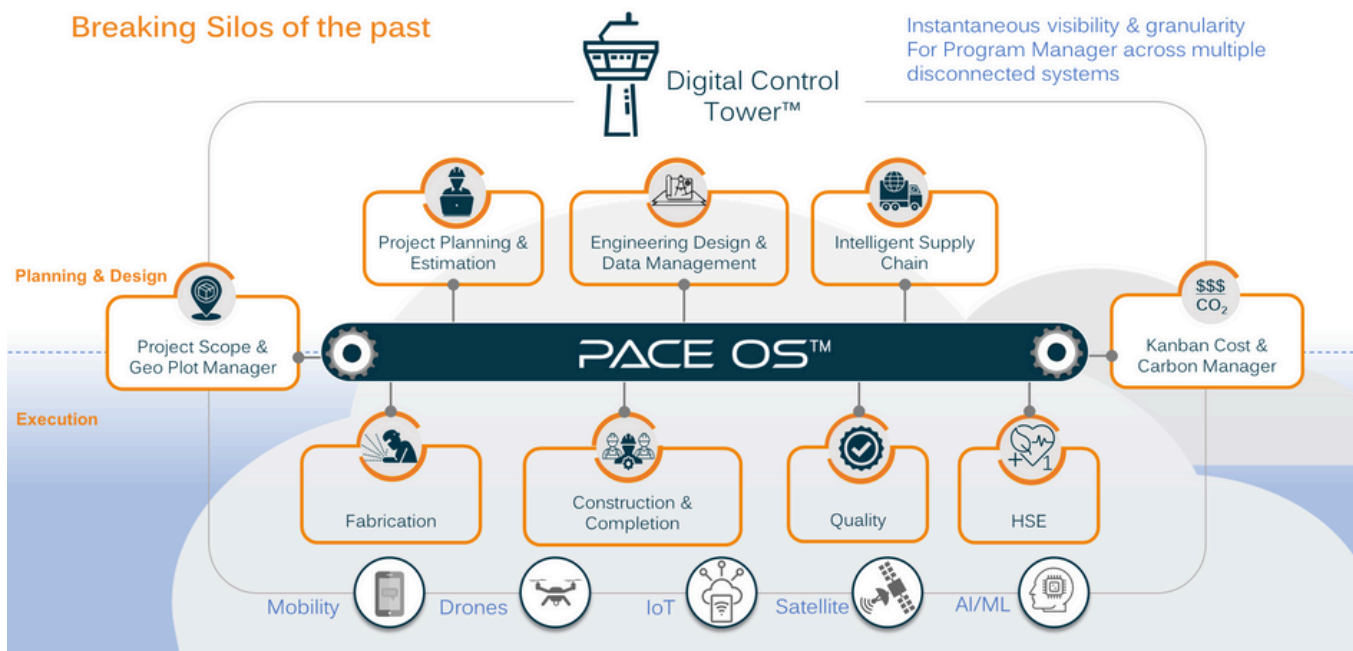
Navigating Complexity with Unified Data



The NLNG project faced challenges of data fragmentation, missing or outdated drawings, unclear manpower allocation, and antiquated communication methods creating a tangled mess. What should be a quick task morphs into hours of frantic searching, missed deadlines, and frustrated teams. This domino effect ripples across the project, causing weeks-long delays and significant cost overruns. Safety management, reliant on clear communication and accurate information, becomes murky at best, posing potential risks.

PACE OS, Single Unified Platform

Teknobuilt's revolutionary **digital block-based unified platform** and products drive enhanced predictability, expedite workflow, and establish effective project execution control. The PACE OS platform heightens the efficiency and effectiveness of digital transformation through compatibility and flawless connectivity.



Enhancing Plan Confidence

The Teknobuilt implementation team, featuring **Subject Matter Experts (SMEs)** and **Productivity Engineers**, conducts a thorough analysis of early construction intelligence, alignment with disciplines and functions, and the path of construction. This strategic evaluation serves as the foundation for developing a robust and actionable roadmap for effective onboarding onto the platform. Teknobuilt's SMEs **actively collaborate** with the Project Management (PM) team, **scrutinizing schedules and activities** to formulate a streamlined and containerized plan. This collaborative effort proves instrumental in optimizing and aligning the engineering, procurement, and construction sequences with digital blocks, thereby reducing the likelihood of delays in execution.

Solution

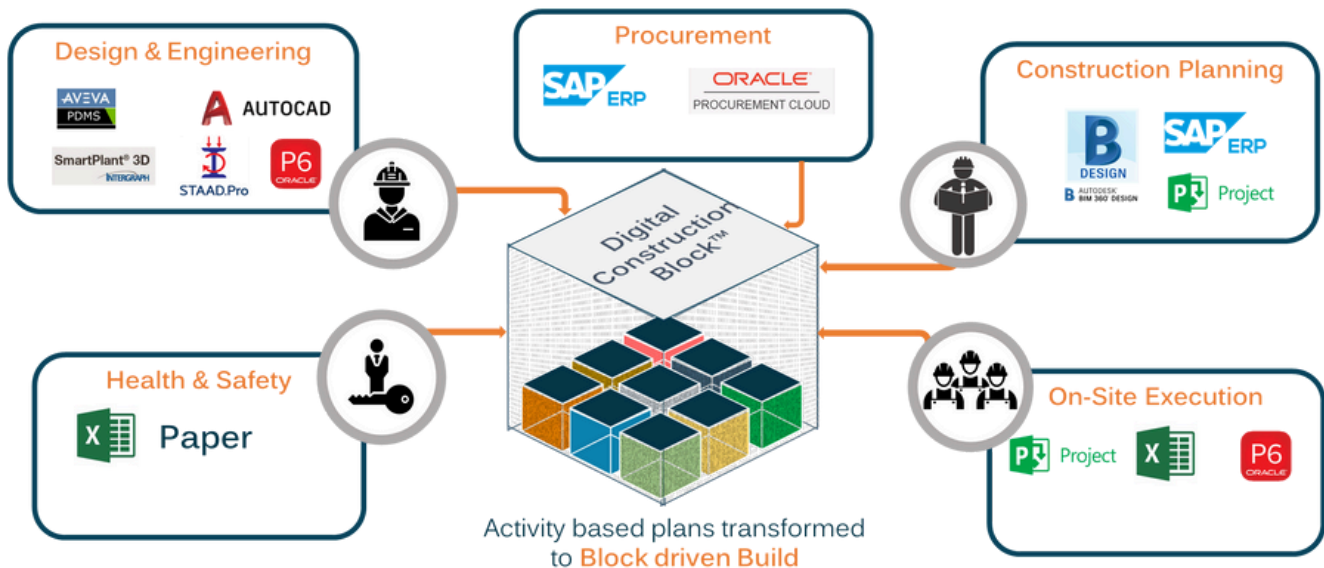
Connecting Siloed Workflows

The workflows of various departments, including engineering disciplines (civil, mechanical), as well as functions like supply chain and commissioning, were containerized and interconnected end to end. This integration adhered to global best practices of Advanced Work Packaging (AWP) and lean methodologies. By following this approach, **the implementation ensured the elimination of information gaps** during the transition of project delivery from the design office to on-site trailers. Focus group sessions facilitated gap analysis, conducted individually with each department and project discipline during their onboarding process, contributing to the adoption of enhanced workflows.

Overcoming Fragmentation of Systems and Tools

Various departments with fragmented data across systems (Document management, 3D model, material info, supply chain status) faced challenges due to manual Excel and Word documents. Teknobuilt's technical team developed a comprehensive roadmap, identifying **over 15 legacy systems** that required integration. Through APIs and a **data information exchange plan**, bringing these systems online, and aligning information with departmental workflows. This multi-month effort, coupled with regular updates with the IT team, successfully overcame fragmentation, providing real-time project information to the client.

Fragmented Systems & Organizations consolidated and connected



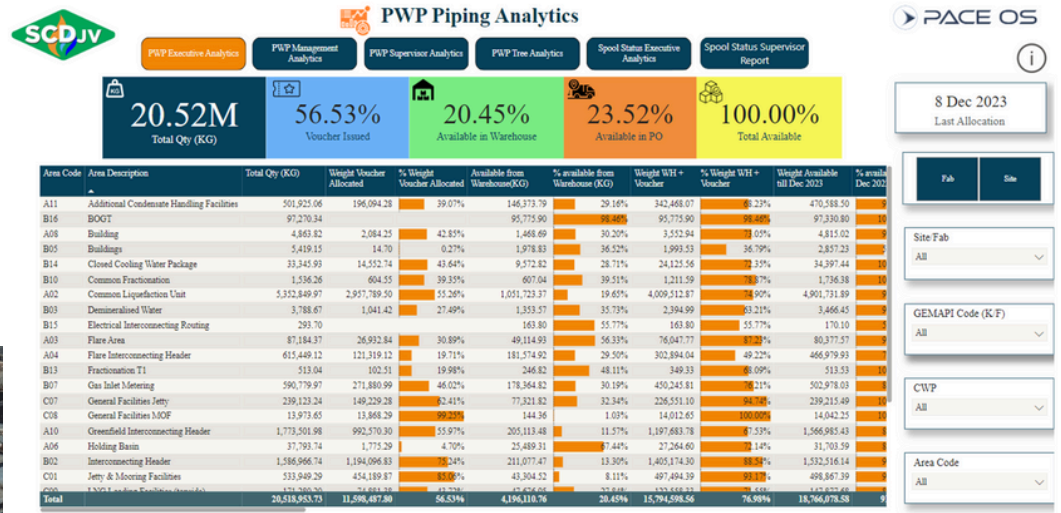
Solution

Proactive Intelligence

Managers from various departments and the project management team took swift action to understand the project status and address potential issues that could lead to delays or rework. An engineering manager having a clear view of upcoming deliverables, ensuring direct oversight at the site where executions were to take place. The establishment and configuration of the Path platform enabled relevant, measurable, and **actionable real-time status updates** that could be drilled down to the activity level, **facilitating daily and weekly meetings for effective project performance.**

Supply Chain Enablement

Teknobuilt achieved a milestone in project management by enabling the supply chain for the first time in a project of this scale. Engineered commodities and bulk items were **streamlined and tracked**, ensuring visibility from vendor supply to warehouse. This visibility greatly **enhanced on-site execution speed**, assuring contractors and subcontractors regarding **material supplies for the upcoming six months.** The workforce planner confidently undertook optimal resource planning.



Implementation Services

Teknobuilt played a crucial role in supporting the **project management team** and all departments through a **live channel**.

Regular meetings, quick responses to queries, and weekly identification of milestones for user onboarding contributed to the success of the comprehensive transformation initiative.

Impact

The impact on the project is characterized by **unprecedented real-time visibility** into the site for all stakeholders.

Reduction in Request for Information (RFI) instances and prevention of out-of-sequence work and material wastage have been significant achievements.

The optimal approach to design information and 3D modeling by a globally dispersed team **ensures seamless coordination between leads, highlighting clashes and unfeasible changes early in the plan.**

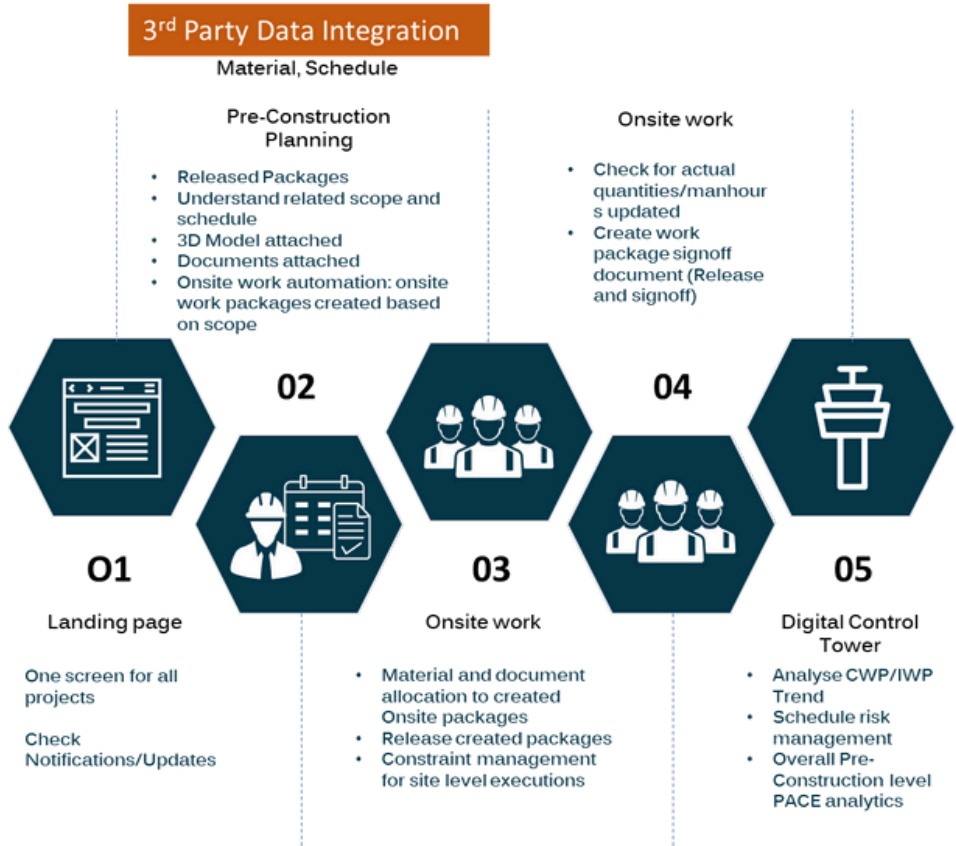


User Journey

Project Manager



Workface planner/Site supervisor

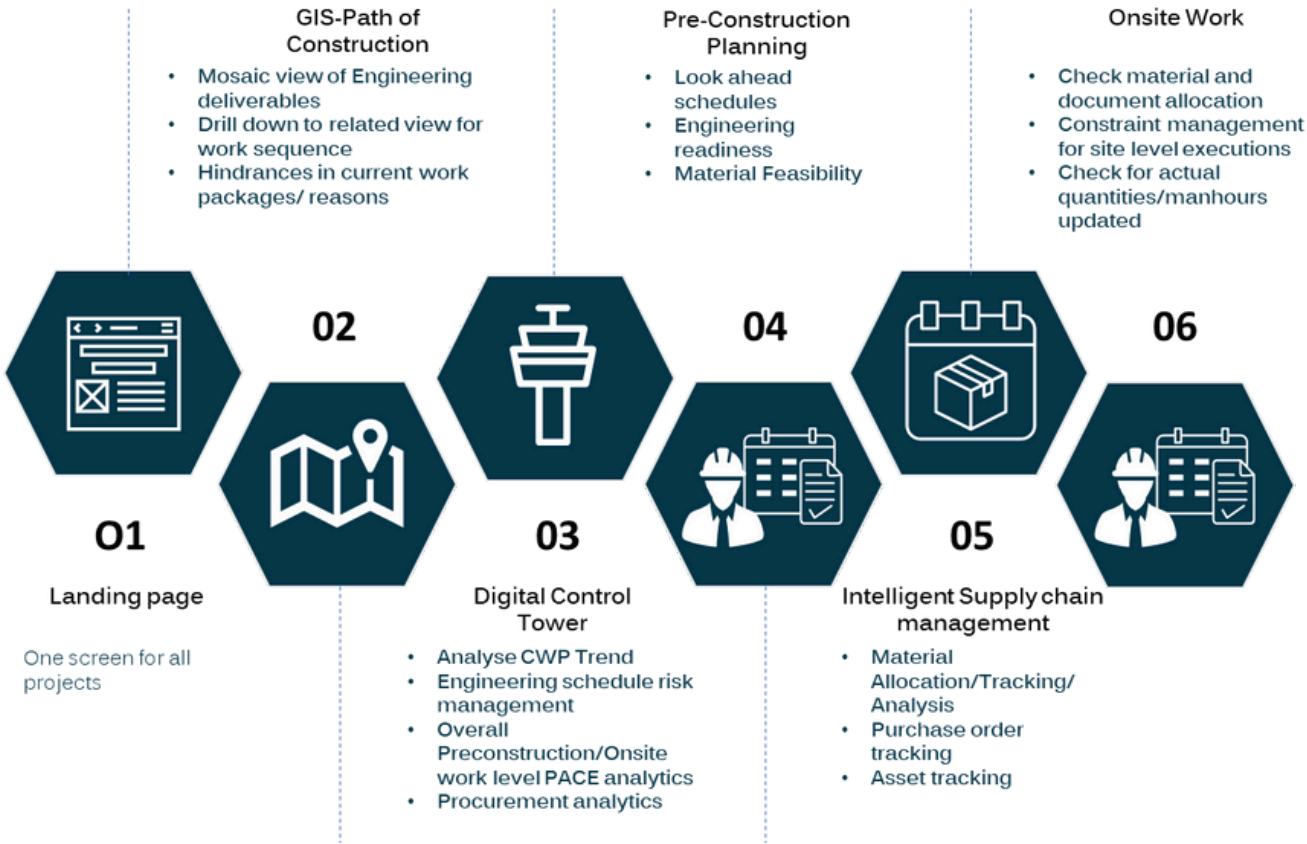


User Journey

Construction Manager

3rd Party Data Integration

Material, Schedule



Benefits

The positive outcomes resulting from the comprehensive transformation include:

- **Improved Schedule Confidence Through Workflow Automation:** Users now experience a heightened confidence in the accuracy and reliability of the project execution schedule. This confidence is substantiated by an **18.6% enhanced productivity** achieved through the reduction of man-hours. Moreover, the implementation has successfully **reduced delays from 3-4 months to 1-3 weeks**, demonstrating better alignment and faster sequencing.
- **Improved Collaboration through Cross-Functional Teams:** The implementation has fostered improved collaboration among different teams, creating a more cohesive and efficient working environment through cross-functional collaboration.
- **Early Identification of Bottlenecks and Issues:** The system has proven effective in identifying potential bottlenecks and issues at an early stage, empowering the project management team to proactively address and mitigate challenges.
- **Schedule Compression:** Successful in significantly compressing the schedule of piping and civil installation while decreasing manhours.
- **Easy Scope Management:** The project has successfully **converted 10000+ design deliverables into just 1400 engineering work packages**, demonstrating efficient scope management.



Subject Matter Experts

Teknobuilt's Subject Matter Experts excelled in partnering with SCD JV, thoroughly grasping their challenges. They provided clear guidance to the transformers, facilitating effective problem-solving. This collaborative effort underscores Teknobuilt's commitment to delivering tailored solutions and client satisfaction.



Yogesh
Srivastava

CEO & Founder

AWP & Consulting;
Aligning actions with strategic goals



Daniel
Canning

VP Project Assurance & Delivery

Delegating tasks to Transformers;
tracking project deliverables



Expert Transformers

Teknobuilt's Transformers have been instrumental in mitigating challenges for SCDJV. Their expertise and collaborative approach have turned obstacles into opportunities, showcasing Teknobuilt's commitment to excellence. This success underscores our industry leadership and sets a high standard for future projects, demonstrating our team's ability to navigate complexities efficiently.



Consuelo
Granata

Program Manager

Liaison with the client and understanding the requirement; system integration and digital transformation



Corrado
Algozino

Senior AWP Manager

Workforce planning; Analysis of the project scope for efficient execution



Athul
Krishnan

Senior Productivity Engineer

Day to day AWS team support with PACE requirements; project analysis

Client Feedback

“10% reduction of man hour, easy coordination of teams located all over the world and integration of 15 tools operating in silos has been particularly appreciated. It allowed deep insight, granular visibility, and constant consistency of data, with no switching costs and less resistance from people is adopting the new processes, making the journey to improvement easy and smooth”.

Nicola Pino
Project Manager
Saipem, Milano, Italy



“DEC can complete the mega projects in a successful way and lead plant industries by modernized change from inside caused by Advanced Work Packaging application with continuous support from Teknobuilt”

Tae Sang Cho
Project Director
Daewoo E&C



About Teknobuilt



Teknobuilt is transforming the way projects are built and operated with an unmatched digital assurance in meeting delivery timelines. With the vantage of Teknobuilt's unified digital platform - PACE OS products and services, the accelerated execution efficiency, standardization and predictability can help retrieve up to 8 to 20% as actual cost reduction from the estimate.

Owners and builders especially during the execution often end up where the information is delayed, or remain in the dark - not knowing the true project status. Not until additional funds are needed or delays become unmanageable.

Eliminating the siloed execution, overcoming organizational systems and data fragmentation; PACE works continually to de-risk the scope and the digital execution framework has an impact where "the sum is greater than the parts" across owners, engineering, suppliers, and contractors.

Empowering Decision Makers:

New projects or the ones already in design or even those where the construction has started, PACE platform features a unique block-based map to help navigate the entire ecosystem of a project from design to delivery. With the unprecedented power to look at the entire value chain using PACE Digital Control Tower™, decision makers have the instantaneous visibility, predictability, and proactive execution control with data-driven intelligence as never experienced before.

Teknobuilt's vision is to help the world build better - safely, smartly, and sustainably. Block by block, the transformative approach to deliver **speed, surety, and savings** is reshaping the landscapes of how projects are built and operated.

TEKNOBUILT



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Inspired by NLNG's success story?

Get in touch with us to start your journey toward outstanding results.

**We are committed...
Let's build better!**