

## Unified Digital Platform Accelerating Project Delivery

Powered by AI/ML and Digital Construction Block<sup>TM</sup>



# PACE OS



# The New Wave in Digital Execution of Engineering & Construction Projects

Execution is not just tactics - it is a **discipline** and a system. It must be built into a company's strategy, its goals, and its culture.

- Focus on optimizing the entire EPC\* digital journey
- Embedded advanced management system of AWP and operational discipline from Lean
- A people centric system for cultural transformation and capability building

# Built by Industry, for the Industry

- Onshore Projects
- Offshore Projects
- Industrial
- Infrastructure
- Commercial
- Yards & Fabrication Facilities
- Shutdowns & Turnarounds

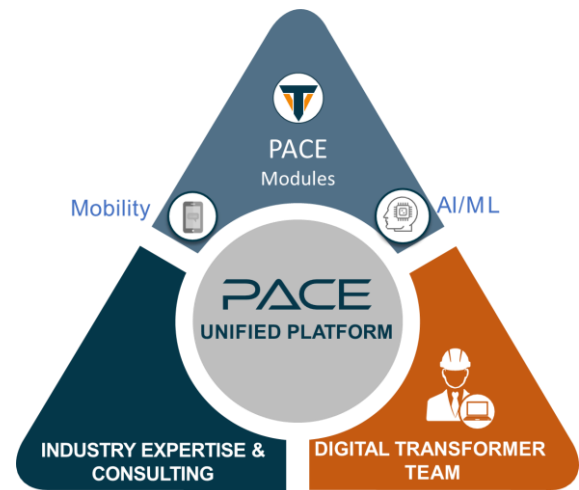
\*Engineering, Procurement and Construction

Teknobuilt brings speed, surety, and savings in execution of construction projects by use of an end-to-end digital project delivery platform, PACE OS 4.0, along with the built environment industry expertise.

PACE is a cloud-based modular platform that anyone can use – the owner, design teams or construction, for instantaneous visibility and granularity to precisely know what matters the most in getting things done. Ushering the Construction Revolution 4.0 – Teknobuilt helps achieve a digital transformation beyond software, fluidly integrating with existing systems and culture from the top floor to the shop floor.

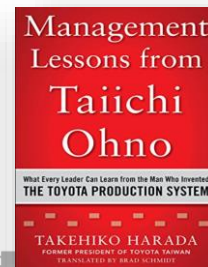
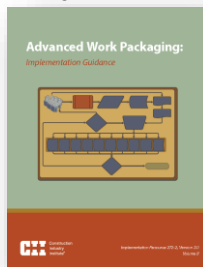
Providing multiple digital levers across stages of project delivery, PACE OS embedded management system is a digital fusion of **best practices from Construction and Manufacturing to EPC projects**. Introducing the Digital Blocks of Construction™, PACE de-risks execution by advanced control and decision driven system that enhance Surety, Speed and Savings in Project Delivery™.

The platform helps in standardization, scalability & operational discipline of “getting things done” digitally. The collaborative power in PACE augments human intelligence (AHI) & helps in timely and proactive decision making.



## The Best in Industry Expertise & Practices

- Advanced Work Packaging
- Lean Construction
- Modularization
- Health Safety & Environment
- Integrated Project Delivery
- Advanced Supply Chain
- Digital Transformation Projects
- Artificial Intelligence
- Machine Learning



The Trinity Impact Framework is Teknobuilt's implementation of **Lean principles with AWP** using our end-to-end digital system, PACE OS.

AWP is a Construction Industry Institute & Construction Owners' Association of Alberta published industry practice, published in 2013 and recognized globally as a best practice in 2015.

Fusion of Construction & Manufacturing





# PACE OS<sup>®</sup>

End to End Digital Project Delivery Platform with AI & GIS Technology

DATA ANALYTICS  
MACHINE LEARNING



PREDICTIONS  
ALGORITHMS



ARTIFICIAL  
INTELLIGENCE



INSIGHTS



**Rapid implementation**  
(~ 3 weeks)

**Easy UI - Intuitive for AWP or non-AWP methodologies**

**Field mobility for foremen and subcontractors**

**Intelligent Supply Chain & Materials Management solution for procurement and vendor data**

**Transparent constraint management and communication platform**

**Advanced cost & quantity visibility**

## Surety in Project Delivery through a Digitally Integrated Value Stream

### PACE Portfolios: Plug n Play Modules in an End-to-End Digital Platform

**Advanced Project Execution**  
Enabling proactive front-end value-based action through comprehensive digital insights of Engineering, Procurement and Construction deliverables. Built on CII/COAA\* AWP Best Practice

**Onsite Construction and Services**  
Enabling proactive front-end value-based action through comprehensive digital insights of Engineering, Procurement and Construction deliverables. Incorporates industry guidelines on reduction of indirect costs

**Health, Safety and Environment**  
A next generation, ISO 45001 aligned, integrated system with work packages, including permit and incident management. Moving beyond goal zero, introducing the "Plus One" collaborative approach to digitally manage HSE

**Cost, Quality and Completions**  
Digitally integrated quality, intelligent time sheet (labor, equipment, materials & services) and completions solution from field execution, work package closeout and handover



\*Construction Industry Institute / Construction Owners Association of Alberta



# Accelerating the Future of the Digital Built Environment



## Instantaneous visibility and granularity across project stages & stake holders

PACE offers cloud based integrated portfolios and a customizable digital control tower providing real time data metrics and analytics for expedient decision making. You get:

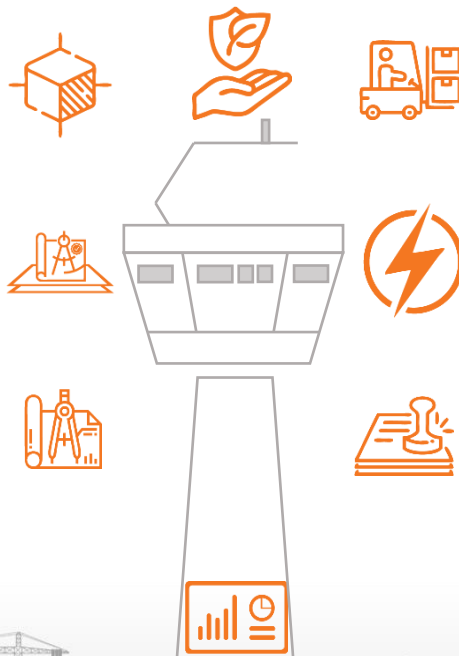
- ◆ Integration of Execution Planning with HSE, Quality, Services (scaffold, construction equipment, etc.) and Completions for Holistic Project Management
- ◆ Complete visibility, accountability and efficiency of resources for proactive constraint management
- ◆ Minimizing of rework through in-process verification and digital quality management
- ◆ On Schedule and In-Budget delivery on project milestones with better scope control and decision making based on real-time information “connecting the top floor to the shop floor”

## Cloud based Control Tower: Telescoping into the Future

### Cloud based Control Tower

PACE enables multiple stakeholders on a project to work together in removing hurdles for the ‘Build’ activity (i.e. execution). It helps in speeding up information sharing & flattens the organizational hierarchy to work as an agile team, turning insights into actions.

- ◆ Boost onsite productivity through digital collaborative execution
- ◆ Technology infusion and innovation taken to the frontline



### Collaboration: Connecting the Top Floor to the Shop Floor

Owners, design firms & contractors can now come on a common digital platform to create, share, and utilize documents, data and information across organizations.

Improve frontline workforce engagement with leadership in the planning process to enhance their skills.





# Advanced Project Execution

Enabling proactive front-end, value-based action through comprehensive digital insights of Engineering, Procurement and Construction deliverable



## Path of Construction

Create the optimal construction sequence between engineering, procurement, construction, and systems completion to arrive at AWP compliant, level 3, project schedule



## Kanban Supply Chain Manager



## Document & Deliverables Management



## Engineering Work Packages

Compile engineering work packages from documents in the document management system through use of automated links. Apply preset rules of credit for dynamic progress status against deliverables.



## Construction Work Packages

Validate plan, scope, and quantities to estimate construction resource requirements. Additionally, setup progress requirements and milestones required for work completion.



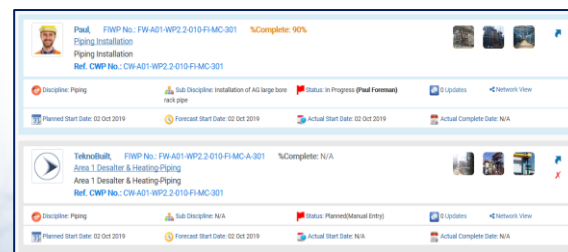
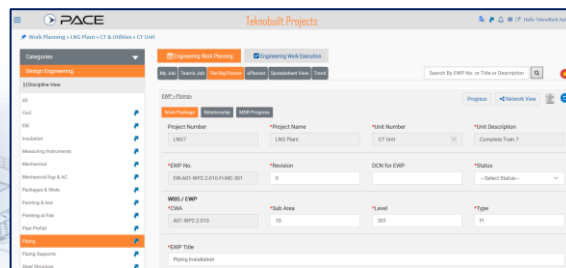
## Integrated 3D Model

Define foreman's scope of work for field execution through engineering drawings (from document management system) and material requirements (from material management system).

## Installation Work Packages



## Turnover Commissioning Packages





# Onsite Construction and Services

Mobile integrated platform for onsite installation and execution, including site services and construction management



## Construction Equipment Management

An equipment request and management system that has workflows for planning, approvals, and utilization of major equipment required on the project. The centralized repository holds planned and unplanned equipment deployment throughout the duration of the construction execution.



## Preservation & Maintenance



## Site Services Management

Common portal for the Requestor, Supplier, and Approver entities. This enables a break-through innovation for estimating, controlling, and managing site services (e.g. heavy lifts, scaffolds, hydro test water, aggregate or concrete requests).



## Onsite Installation & Execution

Compile installation work packages and active management of all constraints to IWP release plan. Monitor execution status including daily progress quantities (based on rules of credit) and manage any issues or delays supported digitally from end-to-end. Trigger notifications to quality, time sheets, and close-out work packages digitally.

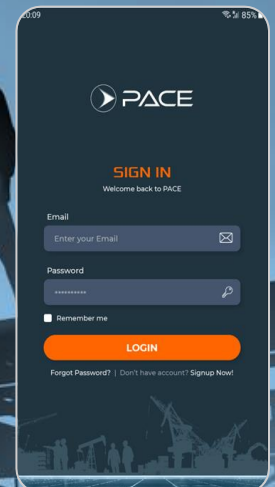


## Advanced Time on Tools

## App-Based Mobility Tools for Field Use



Remove Interruptions, Reduce Rework



PACE OS 4.0 integrates technology with industry best practice providing a road map to contractors looking for a route to higher productivity and lead in Safety. The digital process and data driven system ensures repeatable success, maintaining flexibility for the contractor & the trades.



## Costs, Quality and Completions

Digitally integrated quality, intelligent time sheet (labor, equipment, materials & services) and completions solution from field execution, work package closeout, and handover.



Time Tracker



Preservation & Maintenance

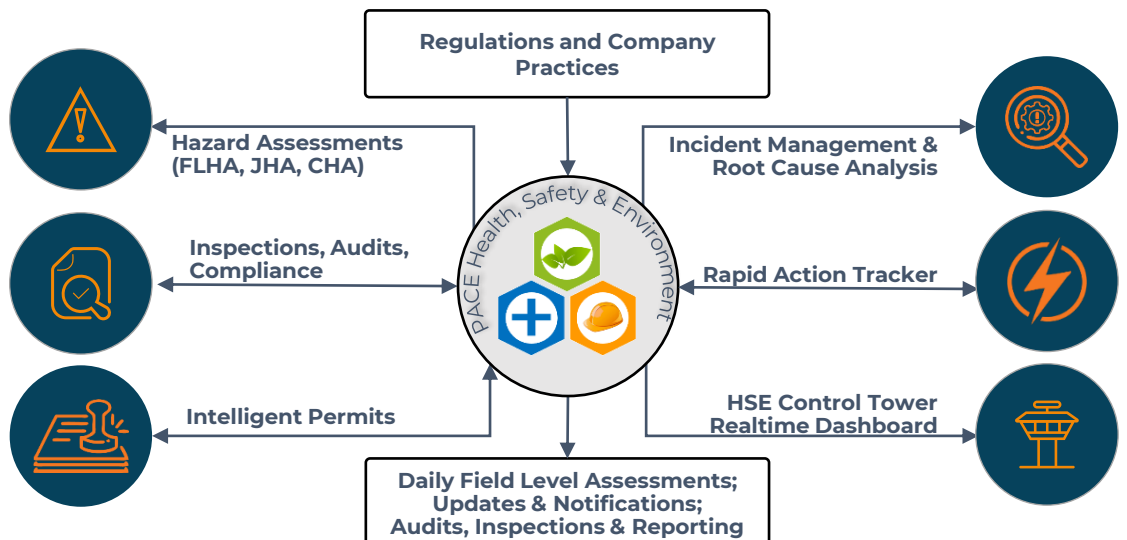


## Health, Safety and Environment

A next generation, ISO 45001 aligned, integrated system with work packages, including permit and incident management. Moving beyond goal zero, introducing the "Plus One" collaborative approach to digitally manage HSE



Training & Competency Management









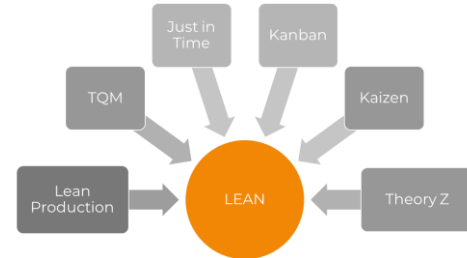
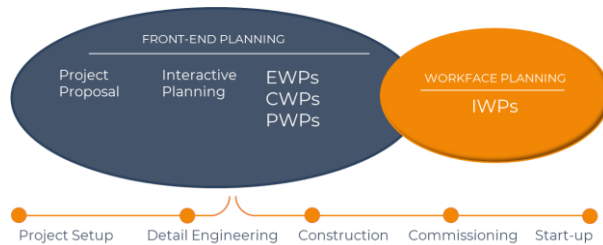
# The PACE Digital AWP System

## The Ultimate AWP Execution, Compliance & Management Platform

PACE brings you the digital tools to manage every step of the Advanced Work Packaging process, helping to standardize the process, operationalize planning and ensure repeatability and predictability of benefits. Starting with a digital path of construction, the PACE plug-in modules for Front-End Planning, On site Execution, HSE, and Quality, are supported by a 360-degree Control Tower that enables advanced metrics and analytics to enable optimal advancement of the project.



### Digital Fusion of AWP\* Construction & Lean Manufacturing



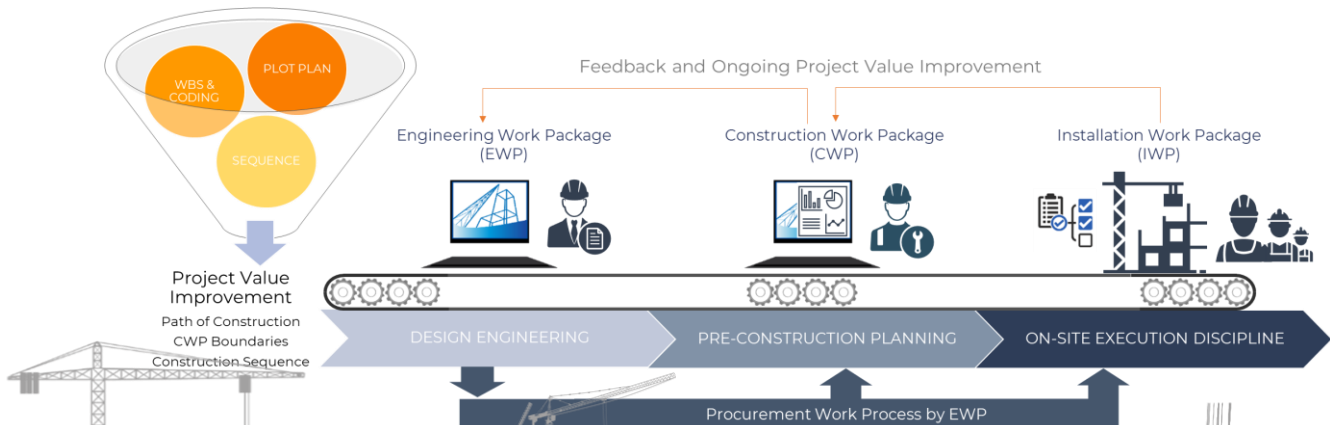
**Digital AWP-based better methods in design delivery & pre-construction planning**

**Lean operational principles for continuous improvement, visibility, and change management**

AWP implementation made easy and transparent through design, procurement, and construction. The modularized PACE platform provides flexibility, scalability, and instant adaptability for a phased or an end-to-end implementation across the range of projects.

- ◆ Integration of Execution Planning with HSE, Quality, Services (scaffold, construction equipment, etc.) and Completions for Holistic Project Management
- ◆ AWP processes integrated with business logic
- ◆ Easy UI and adaptability for large or small projects with a rapid start up program
- ◆ Transparent data flow across project phases and disciplines
- ◆ Integration and alignment across all stakeholders: Owner, EPC & Construction Contractor
- ◆ Deliverable centric management of Engineering and Procurement
- ◆ Digital integrated management of procurement, from bid phase to supply chain
- ◆ Requires fewer support staff and packaging personnel
- ◆ Backed by Teknobuilt's training and 24/7 support

**The only execution focused AWP software solution integrated across EWPs, CWPs, IWPs & Commissioning**  
**Create | Collaborate | Distribute | Track Progress | Close-out**



# PACE Shutdown and Turnaround

"Turnarounds are the cornerstone of any plant's maintenance strategy but getting them right is tough".

PACE helps managing the entire facility / plant Shutdown and Turnaround (STA) process in an end-to-end fashion. The various stakeholders involved, such as the maintenance teams, operations teams, safety teams and many more, are fully connected, from planning to execution. PACE facilitates communication, manages processes, acts as documents repository, and can effortlessly interface with other tools.

In shutdown projects, managing time is crucial, every minute can make a difference. PACE gives to the users the flexibility to add, change, remove, rethink, reorganize and prioritize till the last minute, thanks to its digital capability of unifying and connecting information.

With the help of the PACE, processes are streamlined, and the real-time information is transmitted among all the stakeholders to allow prompt decisions and actions.



## Scenario based Intuitive Planning

Scenario-based planning of shutdown work packages with its intuitive, interactive interface which enables automatization in planning of work scope precisely



## Maintenance Progress with Realtime Visibility

Real-time visibility into maintenance and operations work control areas highlighting leading and lagging indicators.



## APIs and Workflows, for flexible connection

Integrate PACE with in-house tools quickly, simply and flexibly and will identify bottlenecks and process inefficiencies.



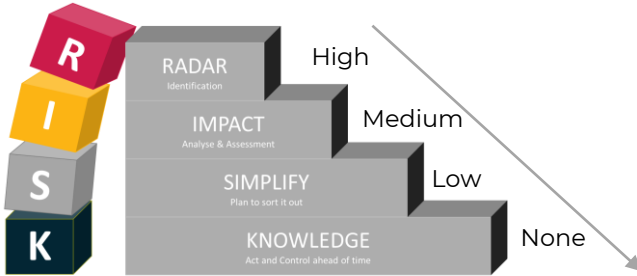
## Master Asset Management

Digital system based to integrated cross disciplinary approach that helps you to overcome daily logistical challenge to make your construction sites efficient, safe and productive. All tools and equipment can be easily monitored and tracked to avoid delays.



# PACE Productivity Services

Construction projects are becoming increasingly complex and expensive, putting managers under greater pressure to improve costs, timelines, and efficiency. Problems have dogged the E&C sector for decades. PACE productivity engineers work alongside your team to help in **implementation and reduce risks** by removing difficulties in identifying, compiling, analysing, and establishing the right controls. The system helps in timely decision making by sharing the right information from shop floor to the top floor through shortest route.



De-risking Execution



Advanced Process / Strong Framework

Our PACE engineers and advisors harness deep domain expertise, proven methodologies, and best practices from multiple projects to serve you best. Our implementation methodology ensures efficient and optimised execution.

Our flagship product offers 360-degree coverage, from design of the project to its execution, on a single platform. Information and data gathered directly from the source can be analysed through Artificial Intelligence for efficient decision making.

## Intelligent Dashboards, direct data from source

Strategic decision making by providing real time customizable dashboards and metrics across the entire project lifecycle



## Augmented Human Intelligence & Machine Learning

Streamline and capture the consumption of data from in-house systems to enable AI centric decision making



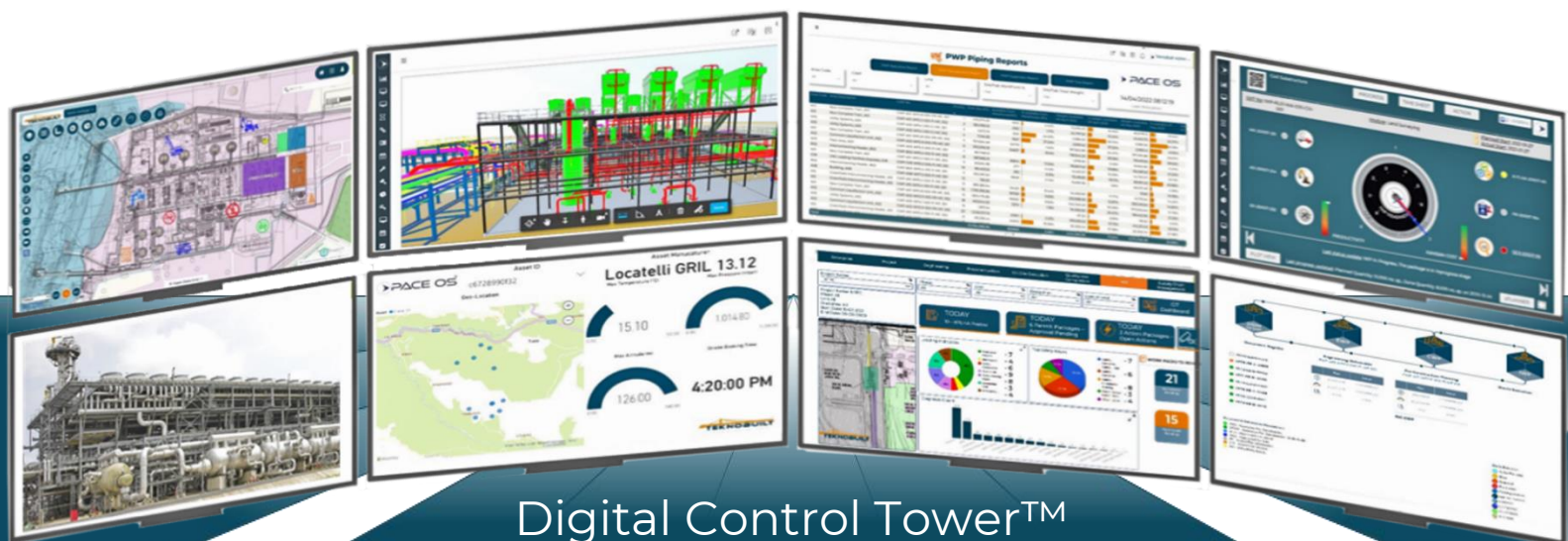
## APIs and Workflows, for flexible connection

Integrate PACE with in-house tools quickly, simply and flexibly and will identify bottlenecks and process inefficiencies



## Timely validation of work completed, right first time

Straightforward validation of work done, resulting in faster invoicing and payments



Digital Control Tower™





# PACE OS<sup>®</sup>

Build Anything...  
Safely  
Smartly  
Sustainably

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