

CASE STUDY

# UNIFIED MANAGEMENT & CONTROL OF SAFETY

IN MULTI-CONTRACTOR JV



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## Overview

Golden Pass LNG is a prominent player in the **oil and gas sector**, particularly renowned for its liquefied natural gas (LNG) operations. Established as a joint venture between ExxonMobil and Qatar Petroleum, Golden Pass LNG operates **one of the largest LNG import terminals** in the United States.

In the pursuit of operational excellence and efficiency, Golden Pass LNG sought Teknobuilt's expertise **to enhance safety management**. Turning to Teknobuilt for a digital solution, the leading technology provider implemented PACE HSE+, **an innovative platform tailored to optimize and streamline** various aspects of Golden Pass LNG's operations. This digital transformation, integrating advanced technologies such as **data analytics, cloud computing, and automation**, not only reinforced safety measures but also contributed to the overall performance and sustainability of Golden Pass LNG's facilities. Teknobuilt played **a pivotal role in fortifying** Golden Pass LNG's standing as a key player in the dynamic and evolving landscape of the oil and gas industry, particularly in the realm of safety management.



**CCZJV**  
GOLDEN PASS LNG



**Golden Pass LNG**



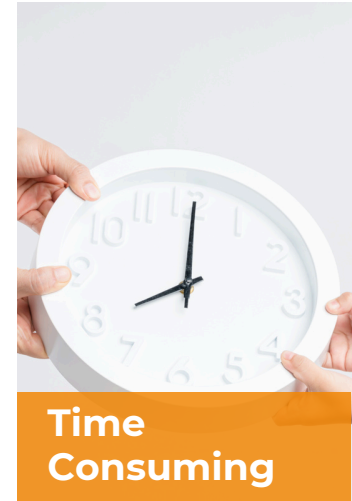
## Challenges



Large site safety for 5000+ workers raised costs



Observation program delays hindered corrective actions

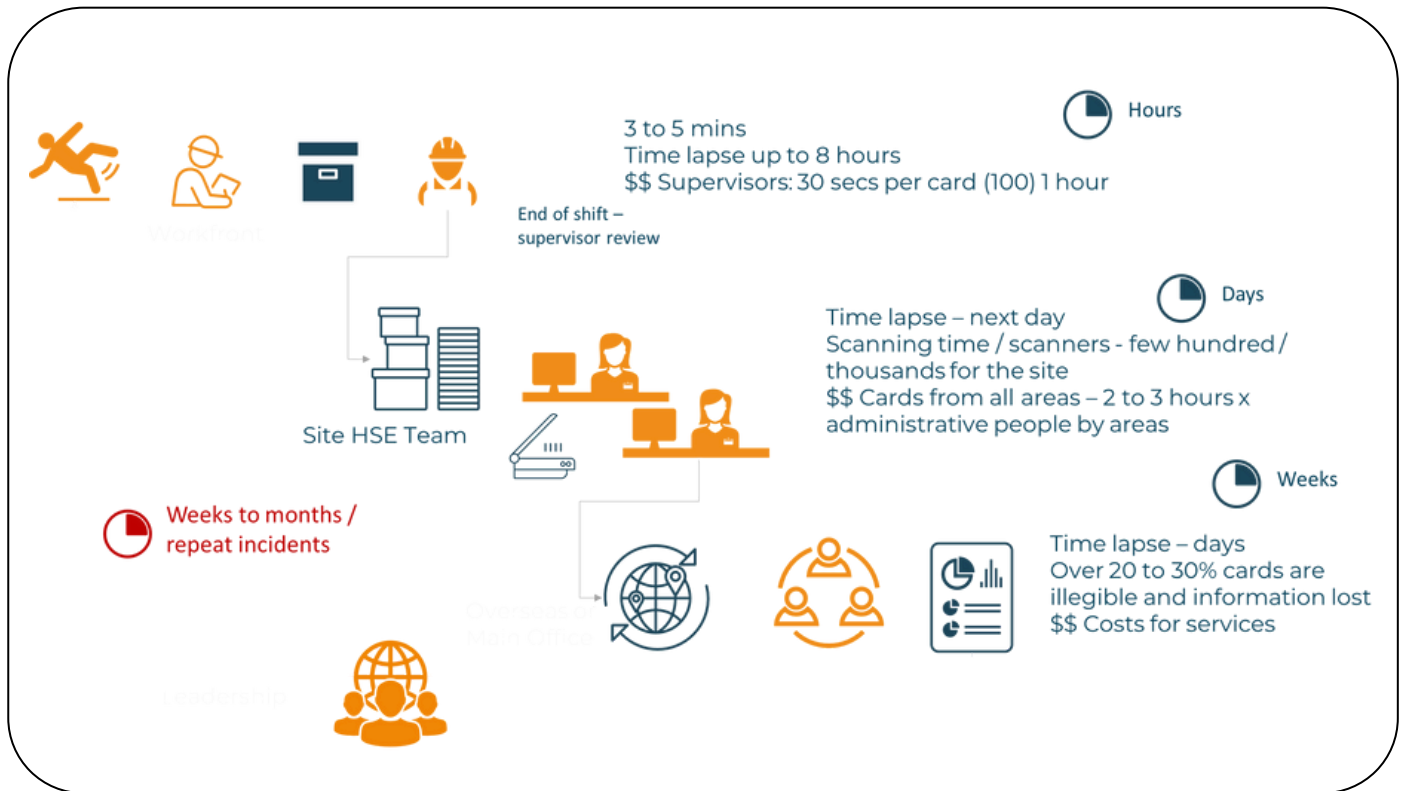


Manual tasks prolonged processes, demanding automation

The safety observation program encountered substantial delays, **with observations taking 6-8 weeks for processing**, leading to tardy corrective actions. This significant lag compromised the overall efficacy of the program, underscoring the critical necessity for a **more streamlined and efficient system**. The implementation of costly safety programs for a sizable site, accommodating over 5000 workers, resulted in a notable increase in expenses, thereby accentuating the urgency for the adoption of **cost-effective safety measures**. The absence of automation in various processes proved excessively time-consuming, reinforcing the pressing need for the **establishment of streamlined, efficient automated processes** to enhance overall operational efficiency.



## Business as usual - wasted time & manpower



In the Golden Pass LNG construction project, what should have taken a mere 3 to 5 minutes turned into an **hours of delay, eventually stretching over weeks and months**. Real-time monitoring unveiled the ripple effect: not only did the prolonged timeline disrupt progress, but it also **inflated project costs** significantly and **ineffective safety management**.

Timely response and decision making is crucial in construction. The extended delays underscore the need for proactive measures to prevent such setbacks. By addressing issues promptly, projects can stay on track, avoiding unnecessary costs and maintaining overall efficiency.

# PACE HSE+ A Paradigm Change in Safety Management

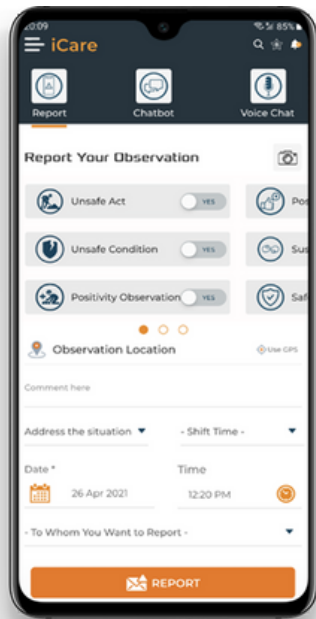
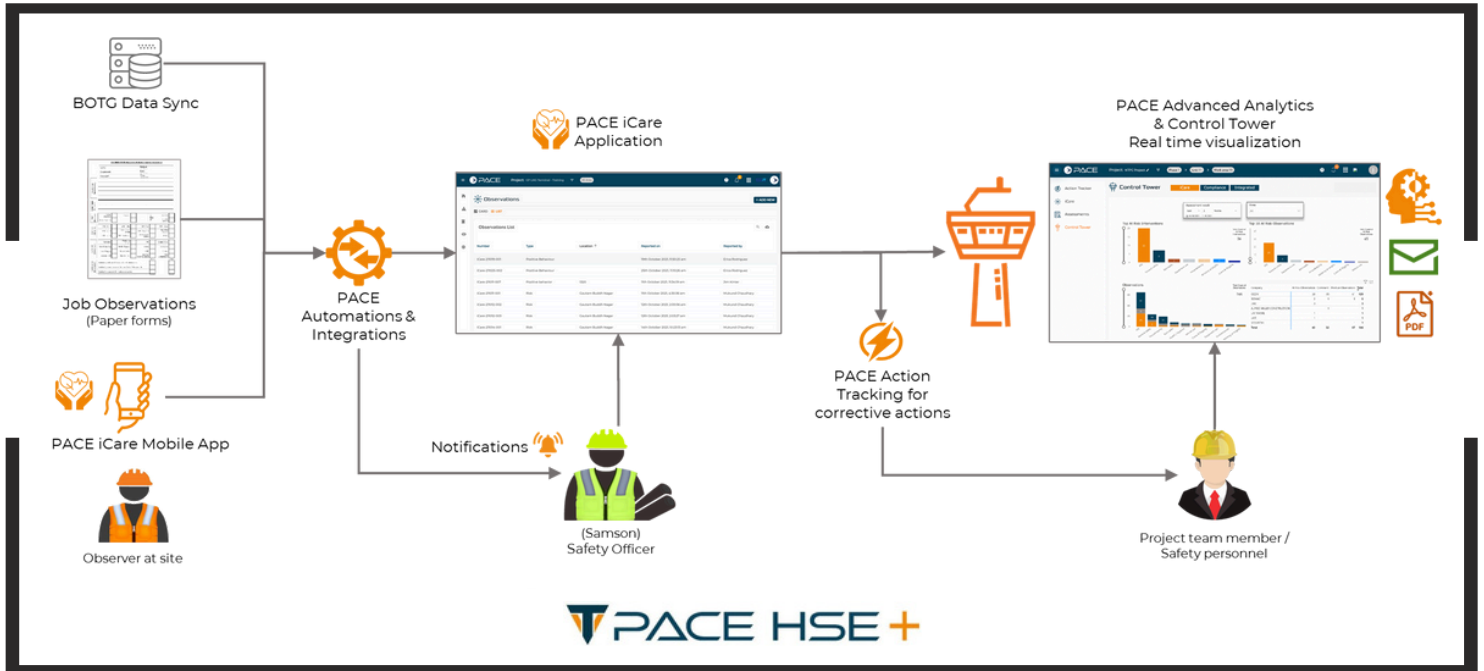
Teknobuilt's PACE HSE+ played a crucial role in addressing challenges at Golden Pass LNG. Offering **real-time monitoring and proactive issue identification**, PACE HSE+ empowered **efficient time management** within the project. This solution facilitated **swift responses to potential delays**, preventing 8-hour setbacks from extending over weeks. Consequently, Golden Pass LNG achieved heightened **project efficiency, better cost control, and overall progress** by leveraging Teknobuilt's innovative PACE HSE+ platform, showcasing the platform's significance in navigating and resolving complexities in the construction project.



 **PACE HSE+**

Solution

# PACE HSE+: Solution Overview



## iCare: PACE Mobile App driven Engagement

Enables to digitize the field engineers and workers as part of daily working

- Digital field level and job level safety assessments
- Quick and easy incident reporting & Automated capture of geo-location
- Consists of offline functionality – synched with the real time dashboards once online
- Digital permits to work
- Digital audit & compliance



# iTALK, NLP based Next Stage Evolution

Connecting teams across language barriers through a fast, accurate and intuitive approach



iTalk stands as a versatile platform engineered to streamline various facets of project management and safety protocols. A pivotal feature lies in its capability **to expedite incident reporting**, guaranteeing that safety concerns receive prompt attention and resolution. Moreover, iTalk empowers users **to report defects and quality issues**, nurturing a culture of accountability and perpetual enhancement within the project framework.

Beyond its incident reporting functionalities, iTalk furnishes users with seamless access to indispensable resources and materials. This encompasses permits, pivotal for ensuring adherence to regulations and project prerequisites. Additionally, iTalk acts as a repository for informative materials like procedures, standards, and guidelines. Through centralizing these resources, iTalk ensures that **all team members possess the requisite information to execute their tasks** with efficacy and efficiency.

iTalk furnishes comprehensive checklists to guide users in meeting all project steps and requirements. Additionally, it provides **interactive training modules** aimed at augmenting team members' skills and knowledge, keeping them abreast of pertinent subjects.

# Solution

## PACE HSE+ Control Tower Features

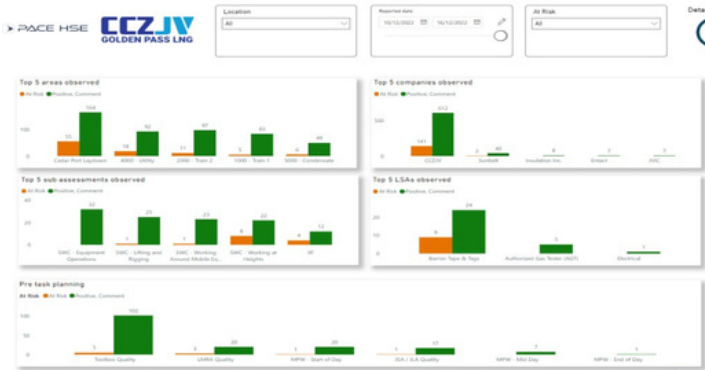
### Advanced Analytics

High level interactive dashboards that enable granular insight to projects for informed decision making



### Digital Control Tower

Integration of BOTG and iCare in one-stop platform for comprehensive, real time visibility



### Trend KPIs

Customized trends generated in Control Tower module to help upper management take the right decision at the right time



### Export Feature for Action Tracker and Control Tower

Generate reports in seconds with the export feature to download all KPIs and actions cards in PDF and CSV

Category: All | Assessment week: 16/01/2022 - 16/12/2022 | Area: All | Source: All

**Export**

Observation Number	Entered date	Type	Attribute	Name	Intervention	Description	Action Item
Care-220528-647	05-18-2022	Risk	Health / Hygiene, Housekeeping	Hector Collazo	No	... La Pasa De Verdes For Favor dalar Rai Sul X Seneca Sta...	Location 105 Batis S, V
Care-220507-079	29-06-2022	Comments	Health / Hygiene	Eduardo	No	... La Pasa De Verdes For Favor dalar Rai Sul X Seneca Sta...	Location 105 Batis S, V
Care-220521-748	03-10-2022	Risk	Walking / marking surfaces, Working at heights	Jose Demontion	Yes	# 2011 Empl Dvce Crossing Road while Water Truck... Use S...	BD Mon To Work That I...
Care-220607-325	05-23-2022	Positive behavior	Crane & Rigging, Human Machine Interface (HMI)	Kath Nix	No	- / Good Team work, Rigging Up To Hinge, Landing and Unloading Tractors, Proper Pacing and Use Of Tractor...	Clear communication and proper...
Care-220701-182	06-26-2022	Risk	Housekeeping	Eduardo Garcia	Yes	- 1 Saw Piles Of (Cobur On The Grounds)	take the (Cobur to the m...
Care-220507-435	05-07-2022	Positive behavior	HSE	Gabriel Flores	No	- 15 Hire A Uno Que Venen En Lentos Sin Guardes	La take que Se puziera
Care-220724-484	07-20-2022	Positive behavior	Health / Hygiene	Eduard	Yes	- 100 Employee (Cobur) Breaks As Needed	Great Communication
Care-220228-727	02-28-2022	Positive behavior	Health / Hygiene	Eduard	Yes	- 100 Employee (Cobur) Breaks As Needed	Great Communication
Care-220228-461	02-28-2022	Positive behavior	Health / Hygiene	Eduard	Yes	- 100 Employee (Cobur) Breaks As Needed	Great Communication
Care-220224-625	02-24-2022	Positive behavior	Health / Hygiene	Eduard	Yes	- 100 Employee (Cobur) Breaks As Needed	Great Communication
Care-220713-073	07-13-2022	Positive behavior	Health / Hygiene	Eduard	Yes	- 100 Employee (Cobur) Breaks As Needed	Great Communication
Care-220411-043	04-11-2022	Positive behavior	Health / Hygiene	Eduard	Yes	- 100 Employee (Cobur) Breaks As Needed	Great Communication
Care-220521-1476	05-21-2022	Positive behavior	Health / Hygiene	Eduard	Yes	- 100 Employee (Cobur) Breaks As Needed	Great Communication
Care-220507-963	05-07-2022	Positive behavior	Health / Hygiene	Eduard	Yes	- 100 Employee (Cobur) Breaks As Needed	Great Communication
Care-220407-034	04-07-2022	Positive behavior	Health / Hygiene	Eduard	Yes	- 100 Employee (Cobur) Breaks As Needed	Great Communication
Care-220710-378	07-10-2022	Positive behavior	Health / Hygiene	Eduard	Yes	- 100 Employee (Cobur) Breaks As Needed	Great Communication
Care-220507-966	05-07-2022	Positive behavior	Health / Hygiene	Eduard	Yes	- 100 Employee (Cobur) Breaks As Needed	Great Communication
Care-220720-325	07-20-2022	Positive behavior	Health / Hygiene	Eduard	Yes	- 100 Employee (Cobur) Breaks As Needed	Great Communication
<b>Total</b>							

# Solution

## Safe Work Checks Analytics

Detailed report with 13 new KPIs for the SWC assessment in BOTG



**PACE Users**

- Total users: 325
- Active users: 311
- Mobile app. users: 11
- Unsubscribed users: 10

Name	Email	Mobile	Device	Department	Last Login	Status	Actions
Kimberly Alaniz	alaniz@zachrygroup.com			Safety	24-Mar-2022	Active	
Demarco Walton	walton@zachrygroup.com			NA	07-Sep-2022	Inactive	
Blake D Pettis	pettis@zachrygroup.com			NA	11-Jan-2022	Inactive	
Bryan Moreno	moreno@zachrygroup.com			Safety	18-Dec-2022	Active	
George Arredondo	arredondg@zachrygroup.com			Safety	18-Nov-2022	Active	

## Administrative Control

Full access to edit and control the users' roles, emails, IDs, etc.

## Crafts and Departments

Configure employees to assign Actions based on specified departments.

**Departments**

Department Name	Department Description	Actions
Admin	Admin	[Add] [Edit] [Delete]
Case Management	Case Management	[Add] [Edit] [Delete]
CCZJV	CCZJV	[Add] [Edit] [Delete]

**Control Tower**

Observation Number	Entered date	Type	Attribute	Name	Intervention	Description	Action Taken	Flag Reason
iCare-221214-426	12-14-2022	Positive	Housekeeping	Juan Ch	No	All Crew Que Deben He Poner Uniforme He Ponerle Yotito Paramedica 4 Seguro Apto Encore	L/D Crew Que Es Infortunate Ese	
iCare-221214-083	12-14-2022	Positive	Housekeeping	Juan Ch	No	All Crew Bus Deben He Poner Uniforme No Pone Yotito Paramedica 4 Seguro Apto Encore	L/D Crew Que Es Infortunate Ese	
iCare-221214-045	12-14-2022	Housekeeping	Lavande	and	Yes	4200 Head A Hat Stodon Out Of Wood 1	Task The Hat Out	No type selected
iCare-221130-046	11-30-2022	Risk	General safety	William LUNA	Yes	All White Pipe Setting Was Lip Up Through A Fit On To He A Situation That There Was Flaming Materials Below The Scaffold That Could Not Be Relocated	To Utilize Fabric Fire Blanket On The Floor Of The Scaffold To Ensure Spark Containment.	

## Flagging JOs Feature

Heads-up flagging feature for the JOs that have more than three categories selected or unidentified observation type, and/or unidentified dates



# Results

Golden Pass LNG is implemented Teknobuilt's PACE HSE, an end-to-end digital HSE management, assessment, compliance, and engagement platform.

Benefits were as below:

## Enhance the Job Observation Reporting System

**OBSERVATION**  
Please write clearly.

Name: John Smith    ID: 34989  
 Department: Mechanical    Date: 06-09-2021  
 Location: Hamilton    Time: 08:23 PM

Observation: Observation was that the dirt crew had a clean location. Barricades are up. Good Job team!!

Action Taken: Told them all to keep up the good work.

TYPE	Positive observation	Comment	# Associated	Near Miss
All risk observation				<input checked="" type="checkbox"/>

LOCATION	1000 - Train 1	4000 - Utility	5000 - Fire	8000 - Marine
		<input checked="" type="checkbox"/>		

**READ**

Read the content of the paper-based forms  
HWR & Computer Vision

**ANALYZE**

Analyze the data to identify trends  
Machine Learning

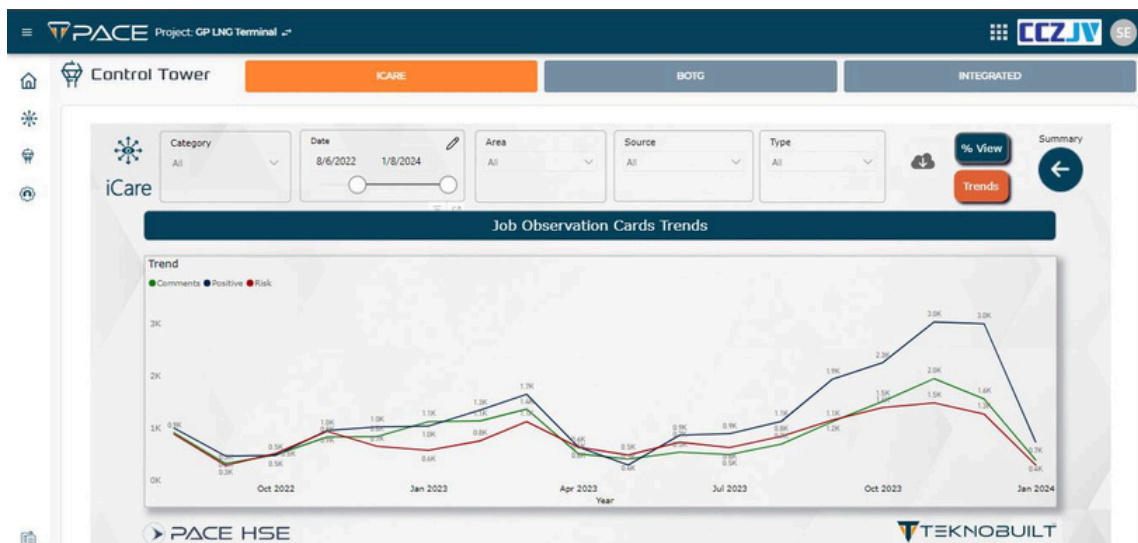
**CONSUME**

Consume data for informed and timely decision making  
Notifications and dashboards

Quasi-real-time process

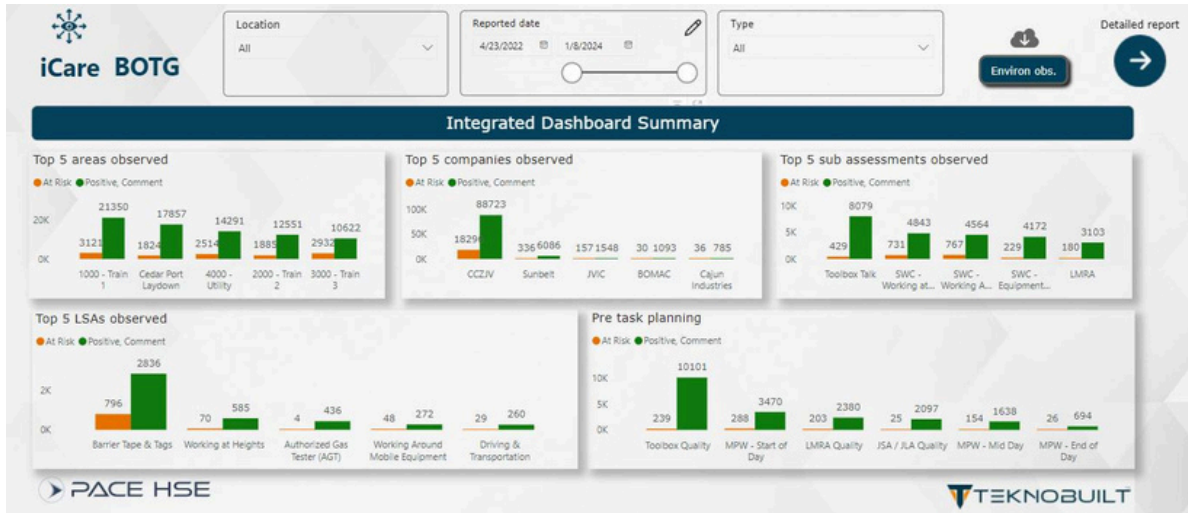
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PACE iCare Module enables digitizing the forms and providing a system for scanned paper-based observations to be tied into the automated analytics system offered by PACE HSE.



# Results

## Integrated Automated Analytics System



PACE HSE+ offers one window view and dashboards for intelligence and integration measurements. It has the drill-down capability that allows for immediate connection to the problem zones, with auto-generated built-in notifications for information or for action. PACE Digital Control Tower enables upper management to have a bird's eye view and dive into a quick real-time pulse check of their site narrowing down issues or concerns to an area, activity, or person.

## Potential safety incident prevented by using PACE HSE+ - iCare

The process starts with a handwritten safety report: "There is a cement wheel too close to walking. It may cause an accident." This report is entered into the iCare system, creating an iCare record with the following details:

- iCare Number:** iCare-i
- Status & stage:** iCare, Action Tracking
- iCare Type:** Risk
- iCare Title:** [Redacted]
- iCare Description:** There is a cement wheel too close to walkway. It may cause an accident.

The system then generates an **Observation Notification** email:

A new Job Observation of type Risk has been reported by PACEOS Project Admin. Here are the details:

Observation number: [Redacted]  
 Work Area: [Redacted]  
 Categories: [Redacted]  
 Description: There is a cement wheel too close to the walkway. It may cause an accident.

Click on the link below to find more details.

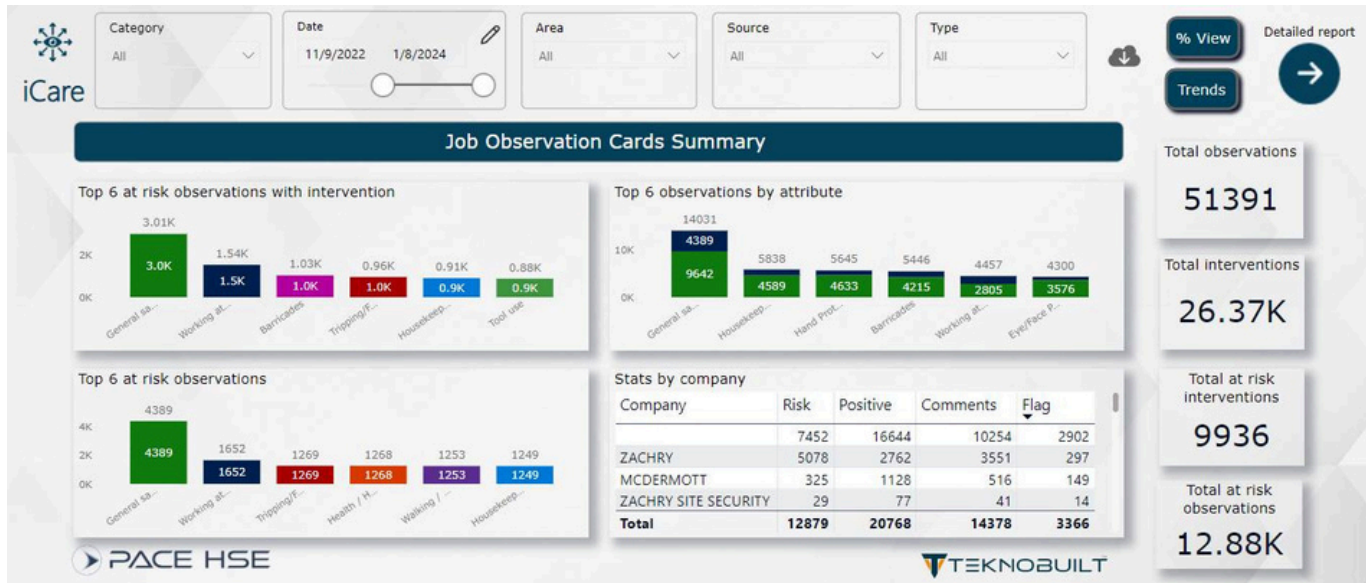
Thank you,  
 PACE Support

Disclaimer:  
 You are receiving this email as an automated notification from PACE OS platform. Please do not reply to this email, this is sent from an unattended mailbox.

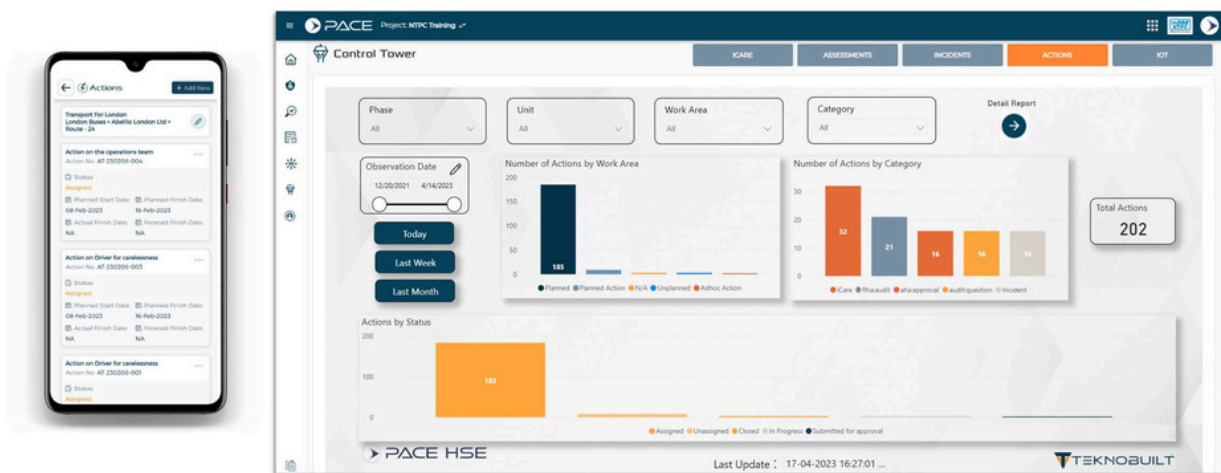
\*Some information have been intentionally blurred for confidentiality reasons

# Results

## Real-Time Notifications Based on Job Observations Received On-Site:



PACE iCare Mobile App enables every individual at the site to easily record any observation and submit it instantaneously for stakeholders and responsible members at the site to assess and act.

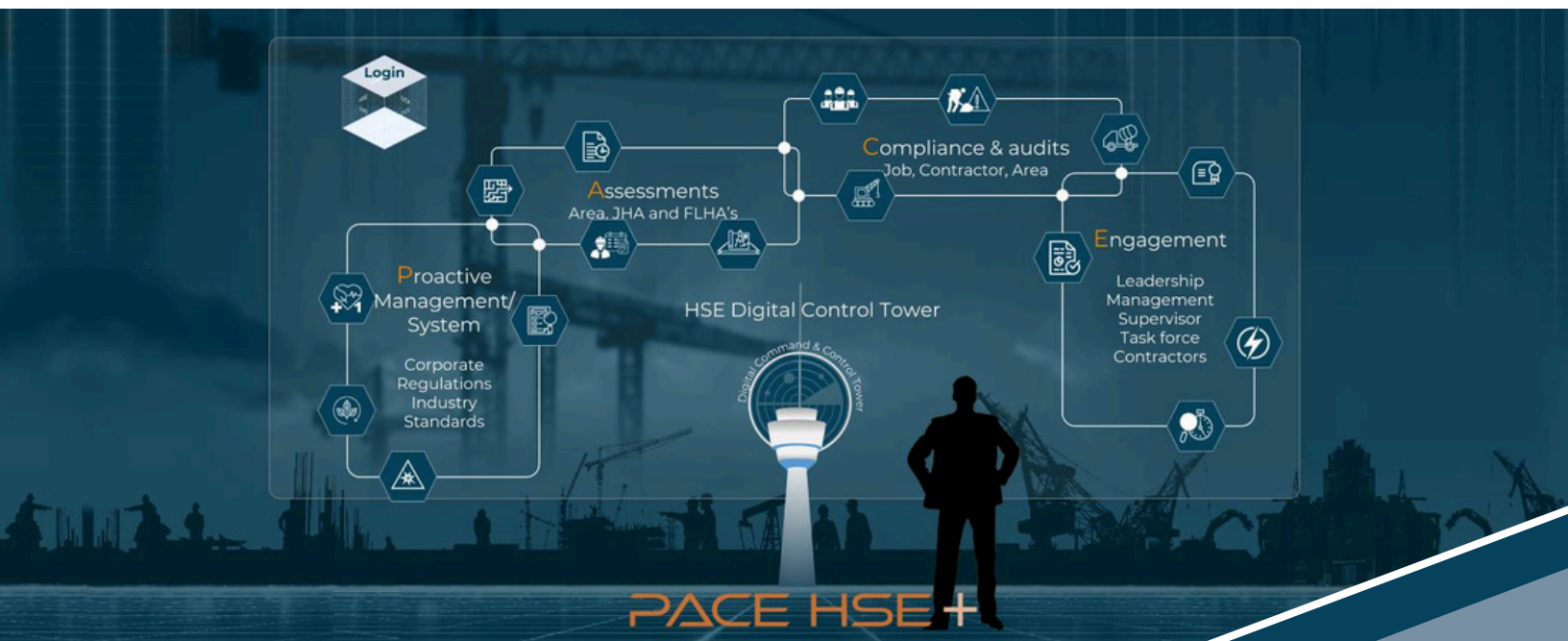




# Results

## The Gain for the Project

Enhancements in safety procedures have bolstered security without disrupting existing processes. Decision-makers now receive information more swiftly, thanks to the implementation of ML algorithms and predictive analysis. This has also led to increased overall intelligence. Furthermore, supervisors now have more time to focus on high-risk areas and activities, contributing to a more robust safety framework.





## Expert Transformers

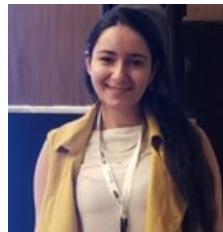
Teknobuilt's skilled team adeptly tackled and mitigated challenges encountered during the Golden Pass LNG Project. Their collaborative spirit and diverse skill sets turned challenges into opportunities, showcasing Teknobuilt's commitment to excellence and ability to navigate intricate projects. This success further solidifies our position as industry leaders, setting a high standard for future projects and highlighting our team's proficiency in overcoming obstacles.



Consuelo  
Granata

**Manager - Business & Digital Transformation**

Understanding client needs; System integration & digital transformation



Sara El  
Gamal

**Associate Productivity Engineer**

Ensuring smooth project execution; timely delivery of project objectives



Manudeep  
Pendurthi

**Software Development Engineer**

Facilitating coordination with client; monitoring outcome



## Client Feedback

“Teknobuilt constructed a platform facilitating the tracking and documentation of our safety assessments, delivering **real-time metrics through daily reports**. Establishing a strong partnership, their accommodating representatives navigated evolving project requirements seamlessly. Despite dynamic requests and project changes, Teknobuilt consistently rose to the challenge, fostering open communication.

Together, we crafted a professional, visually intuitive platform. Their flexibility and prompt responses, even outside scheduled times, haven't gone unnoticed. Grateful for their cooperation and professionalism, we look forward to continued collaboration and learning in future projects. Teknobuilt's **dedication to accommodating our needs** has been instrumental, and we appreciate their commitment to excellence.”



## 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.



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

TEKNOBUILT



[www.teknobuilt.com](http://www.teknobuilt.com)

Inspired by Golden Pass  
LNG's success story?



[info@teknobuilt.com](mailto:info@teknobuilt.com)

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



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