

A CASE STUDY

UNIFIED MANAGEMENT & CONTROL OF SAFETY

IN MULTI-CONTRACTOR JV



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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.



Challenges



Large site safety for 5000+ workers raised costs



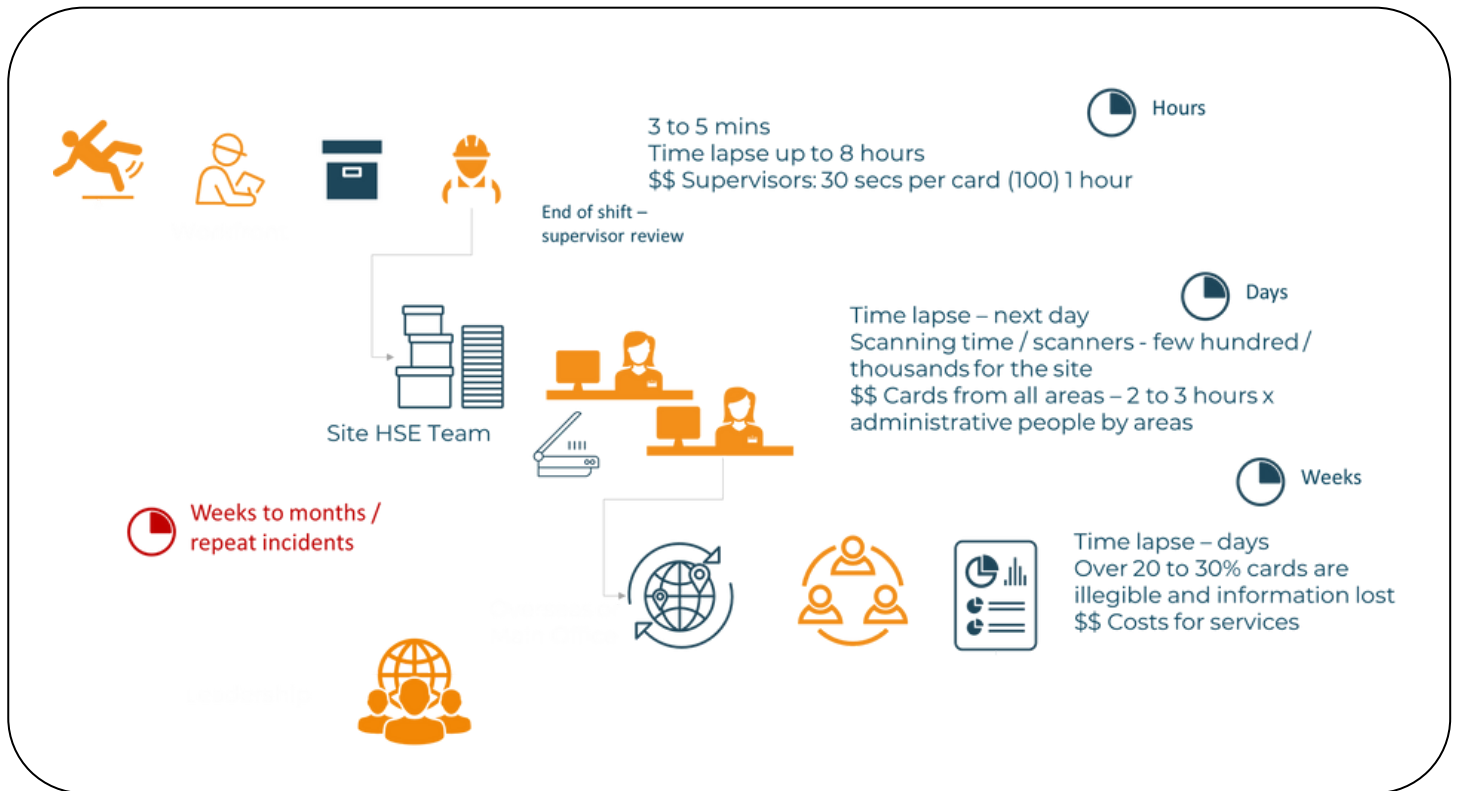
Observation program delays hindered corrective actions



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.

Solution

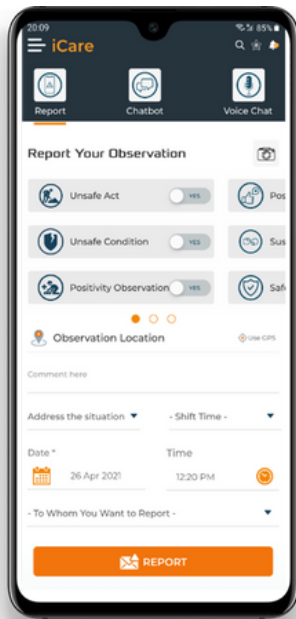
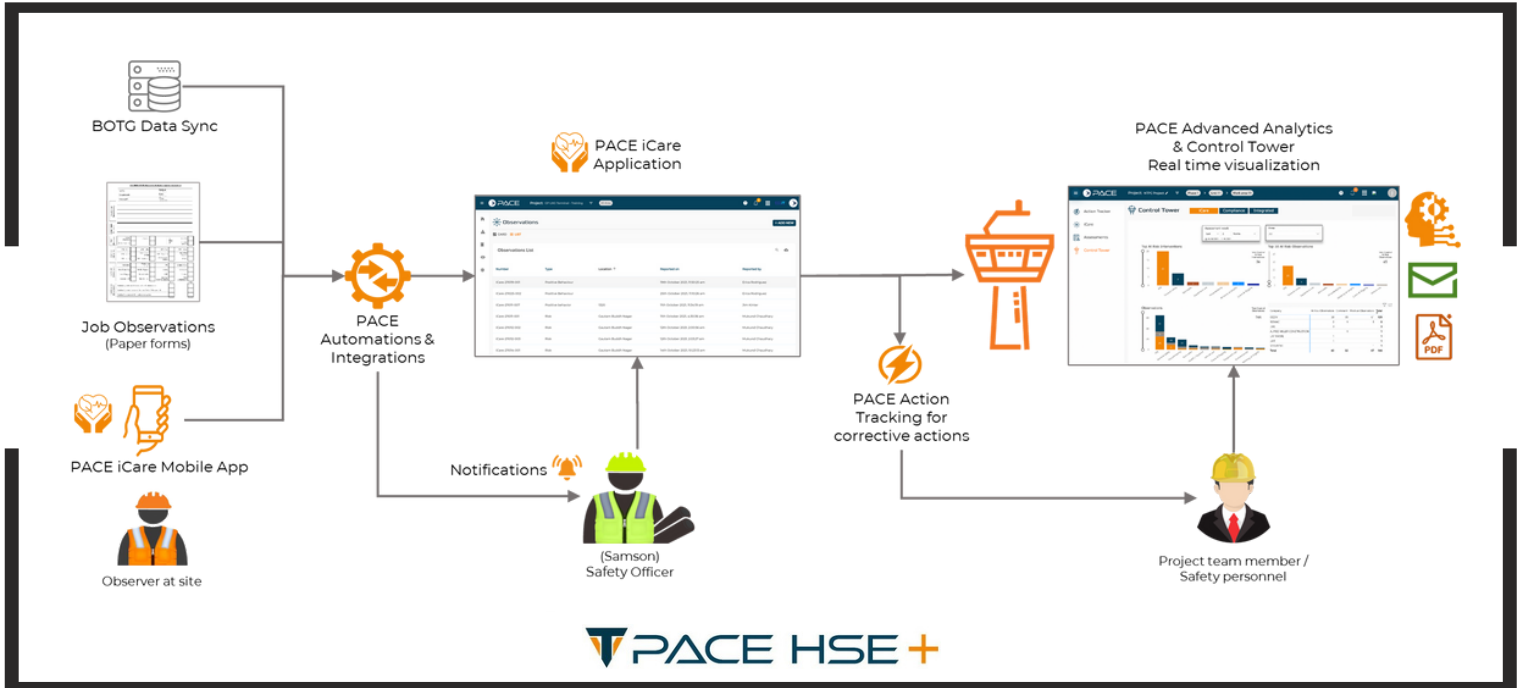
PACE HSE Plus - A Paradigm Change in Safety Management

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 Plus: Solution Overview



iCARE: PACE Mobile App driven Engagement

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

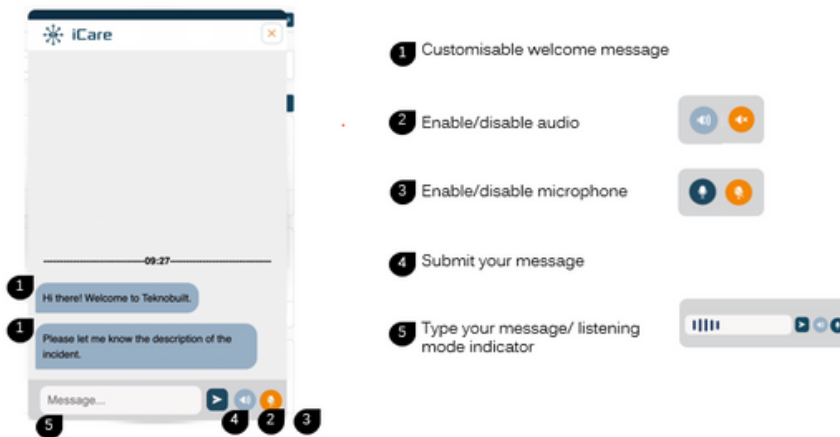
- Digital field level and job level safety assessments
- Quick and easy incident reporting & Automated capture of geo-location
- Consists of offline functionality – synched with the real time dashboards once online
- Digital permits to work
- Digital audit & compliance

iTALK, NLP based Next Stage Evolution

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



Welcome message and buttons



Solution

PACE HSE Plus 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

Export Feature:

Buttons: PDF, CSV

Observation Number	Enter date	Type	Attribute	Name	Intervention	Description	Action
iCare-220528-647	05-28-2022	Risk	Health / Hygiene, Housekeeping	Marcos Collazo	No	...	...
iCare-220601-076	09-06-2022	Comments	Health / Hygiene	Eduardo	No	...	...
iCare-220621-748	09-30-2022	Risk	Walking / Working surfaces, Working at heights	Jose Demetrio	Yes	...	...
iCare-220607-325	05-23-2022	Positive behavior	Clean & Tidy, Human Machine Interface (HMI)	Xaiah Nix	No	...	...
iCare-220701-182	06-28-2022	Risk	Housekeeping	Eduardo Garcia	Yes	...	...
iCare-220507-635	05-07-2022	Positive behavior	PPE	Gabriel Flores	No	...	...
iCare-220720-484	07-20-2022	Positive behavior	Health / Hygiene	Eduan	Yes	...	...
iCare-220528-727							
iCare-220528-465							
iCare-220504-038							
iCare-220725-073							
iCare-220411-143							
iCare-220521-1476							
iCare-220507-963							
iCare-220607-054							
iCare-220718-373							
iCare-220507-966							
iCare-220720-325							
Total							

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 Alanz	alanz@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 Amedondo	amedondo@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	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Case Management	Case Management	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
CCZV	CCZV	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>

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

Control Tower

Observation Number	Entered date	Type	Attributes	Name	Intervention	Description	Action Taken	Flag Reason
iCare-221214-126	12-14-2022	Housekeeping	Jean Oh	No	40' Crew Que Detain Ho Rotor Underride Ho Pallets/ho Perms/dense & Secure Aqr Enclose	1/0 Crew Que Is Infrante Ee		
iCare-221214-083	12-14-2022	Housekeeping	Jean Oh	No	40' Crew Que Detain Ho Rotor Underride Ho Pqr Hoq/ho Perms/dense & Secure Aqr Enclose	1/0 Crew Que Is Infrante Ee		
iCare-221214-045	12-14-2022	Housekeeping	Leyvande	Yes	4250 Hqt & Hqt Dsdin Out Of Wood 1 Took The Fall Out			No type selected
iCare-221130-246	11-30-2022	Risk	General safety, Working at heights	William Lutz	Yes	40' White Pipe Setting Hqs Up-Up Straight & Ho On To Ho & Inflation That There Hqs Paunting Materials Below The Scaffold That Could Not Be Removed	To Utilize Fabric Fire Blanket On The Floor Of The Hoop To Ensure Spark Containment.	

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.

ACTION TAKEN
Write clearly.

THE TOP
One only

LOCATION
One only

NAME: John Smith ID: 34989

DEPARTMENT: Mechanical DATE: 06-09-2021

LOCATION: Hamilton TIME: 08:23 PM

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

old them all to keep up the good work.

1000 - Train 1	4000 - Lifting	5000 - Fire	8000 - Marine
2000 - Train 2	5000 - Critical Control	6000 - Greenfield	Off site
3000 - Common			

READ

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

ANALYZE

Analyze the data to identify trends
Machine Learning

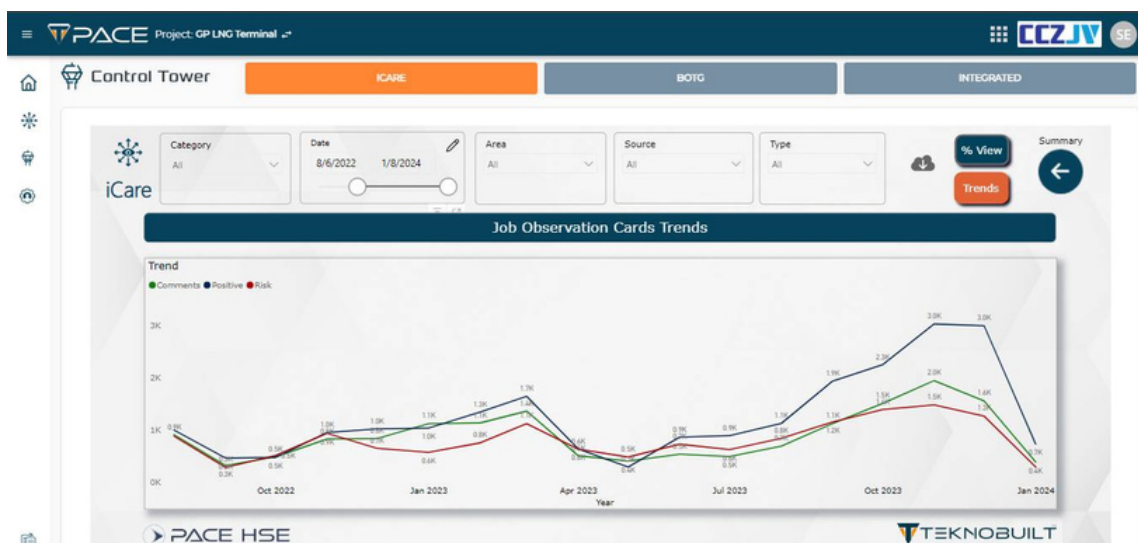
CONSUME

Consume data for informed and timely decision making
Notifications and dashboards

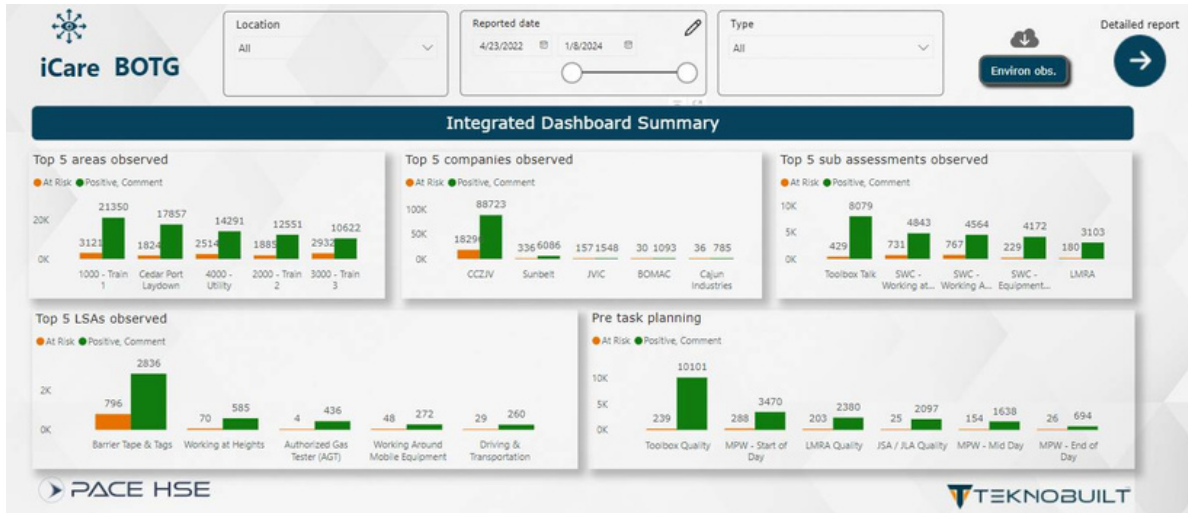
Quasi-real-time process

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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.



Integrated Automated Analytics System



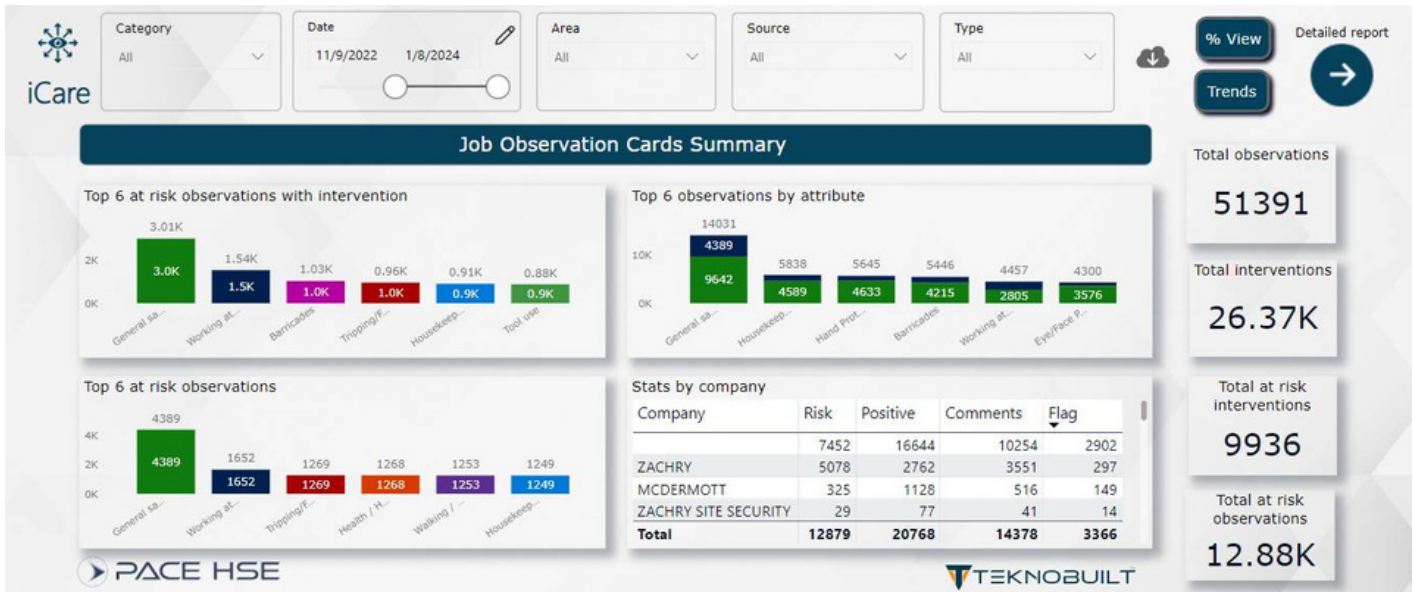
PACE HSE offers one window view and dashboards for intelligence and integration measurements. It has the drill-down capability that allows for immediate connection to the problem zones, with auto-generated built-in notifications for information or for action. PACE Digital Control Tower enables upper 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 observation: "There is a cement wheel too close to walking. It may cause an accident." This is entered into the iCare system, which generates an iCare Number (iCare-i) and tracks its status. The system then automatically sends an "Observation Notification" to the user, detailing the risk and providing a link to find more details.

*Some information have been intentionally blurred for confidentiality reasons

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.



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.



PACE HSE+



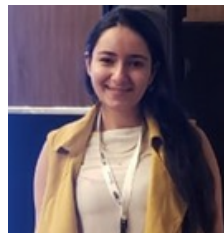
Transformers

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



Sara El
Gamal

Associate Productivity Engineer



Manudeep
Pendurthi

Software Development Engineer

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.”



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

TEKNOBUILT



www.teknobuilt.com

Inspired by Golden Pass
LNG's success story?



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



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