

CYIENT

# 3D ENCORE - THE TRANSFORMATIVE SOLUTION



# CONTENTS

|              |   |
|--------------|---|
| Introduction | 1 |
|--------------|---|

|                   |   |
|-------------------|---|
| Problem Statement | 2 |
|-------------------|---|

|                    |   |
|--------------------|---|
| 3D Encore Solution | 3 |
|--------------------|---|

|          |   |
|----------|---|
| Benefits | 5 |
|----------|---|

|            |   |
|------------|---|
| Conclusion | 6 |
|------------|---|

|              |   |
|--------------|---|
| About Cyient | 7 |
|--------------|---|

## Introduction

In the field of engineering and construction, projects often encounter an alarming opponent: data deficiency. The absence of critical initial data, combined with challenges like limited site survey opportunities, hazardous environments, and the unavailability of contact surveys, has been a persistent hurdle for project stakeholders. These circumstances can disrupt project timelines, compromise safety, and hinder the pursuit of quality and efficiency.

But, in the face of these challenges, there emerges a transformative force - 3D Encore. This remarkable technology, founded on the base of cutting-edge 3D scanning and modeling, stands as an innovative solution that empowers project professionals to turn the flow against data deficits. It enables the creation of highly accurate as-built representations and designs, even when faced with the most adverse conditions.

This is not merely a tool; it is a paradigm shift, a game-changer. 3D Encore seamlessly integrates into a compilation of industries, from construction to infrastructure development, oil, and gas, and more. This white paper embarks on a journey of exploration, uncovering the core features and benefits of 3D Encore. Through real-world case studies, it demonstrates how this revolutionary technology has been used to scale the most challenging of project scenarios.

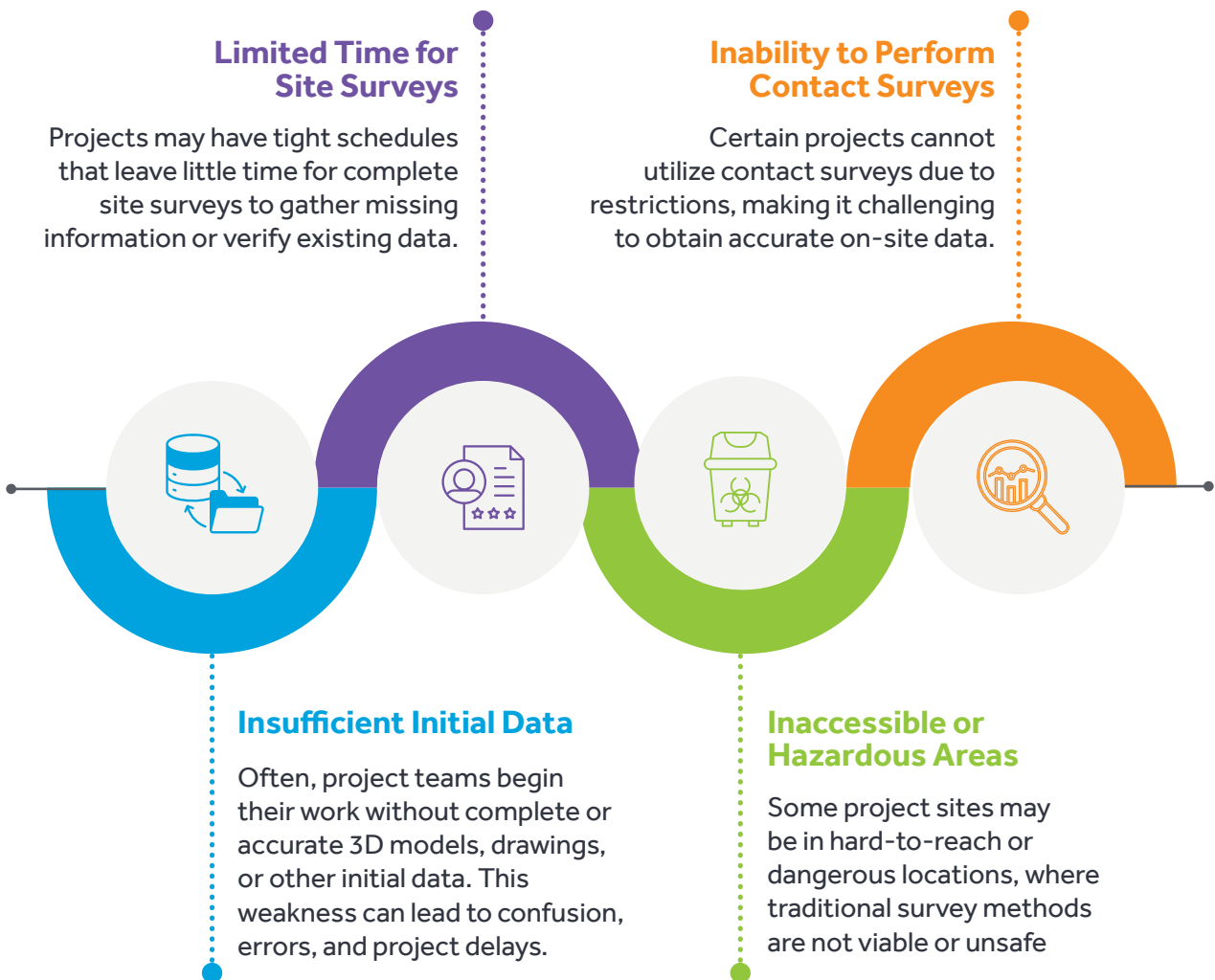
Join us as we navigate the terrain of 3D Encore, unveiling its transformative capabilities. Witness how this technology addresses the critical issues of data absence and elevates project outcomes with a level of precision and efficiency that was once thought unattainable. As you dive into the pages that follow, see a future where the constraints of yesterday become the opportunities of tomorrow, all thanks to 3D Encore solution.



## The Problem Statement

### Addressing Data Absence Challenges in Project Execution

The problem at hand is a common one in engineering and construction projects: a significant lack of essential data and information required for project planning and execution. This data deficiency manifests in several ways:



The combined impact of these challenges can lead to project delays, increased costs, and even compromises in safety and quality.



Solution

Turning Data Deficits into Project Wins: How 3D Encore Exceeds Data Challenges

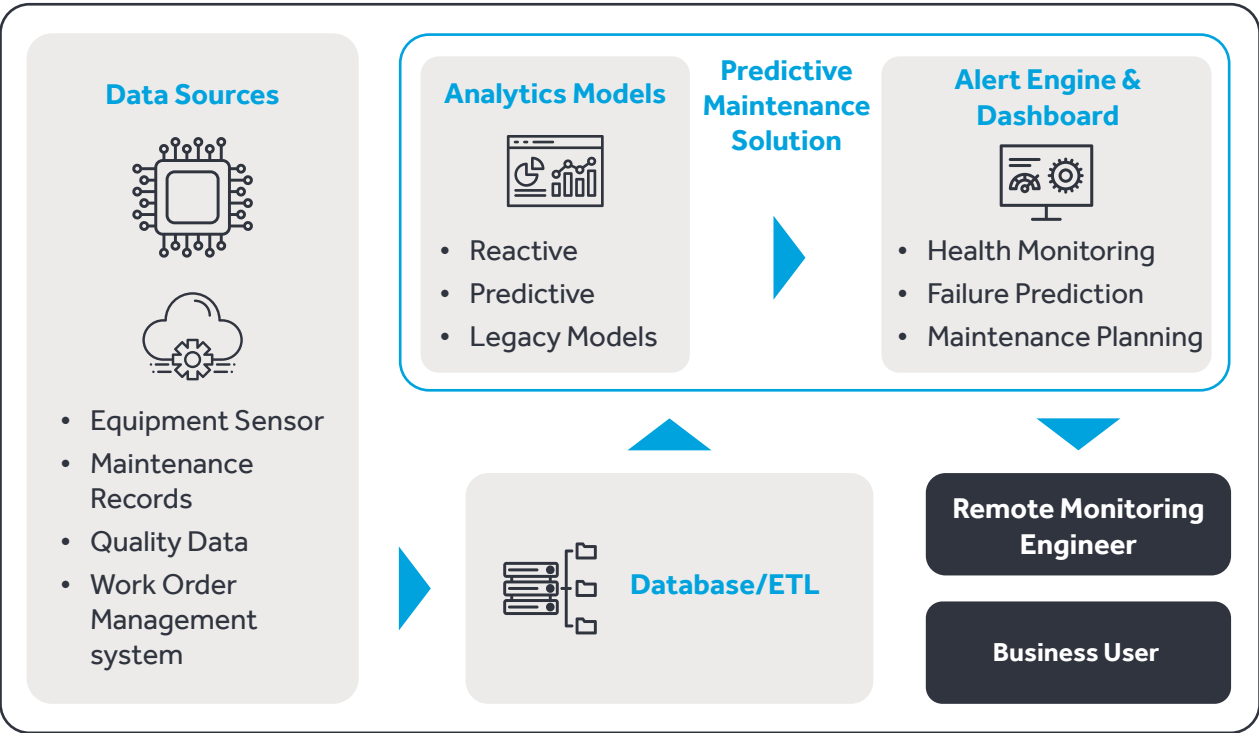
In a broader context, 3D scanning is a methodical process used to precisely capture data from the surface of physical objects, creating a precise three-dimensional digital representation. This digital model empowers technicians, mechanics, and engineers to conduct full digital examinations of objects, significantly enhancing the accuracy and efficiency of their work. Whether for replication (reverse engineering) or detailed dimensional analysis (inspection), the availability of this digital model ensures a new level of precision and speed across various industries.

The latest addition to 3D Encore introduces an innovative approach.

This new feature involves conducting on-site laser scanning, eliminating the necessity for designers to make physical visits to project sites, a practice generally known as "retrofit" design. Instead, designers can conduct their inspections digitally, complete with comprehensive measurements, and consequently visualize their designs alongside the actual site.

This advancement makes the traditional practice of on-site designer visits outdated. Designers no longer need accurate measurements and data.

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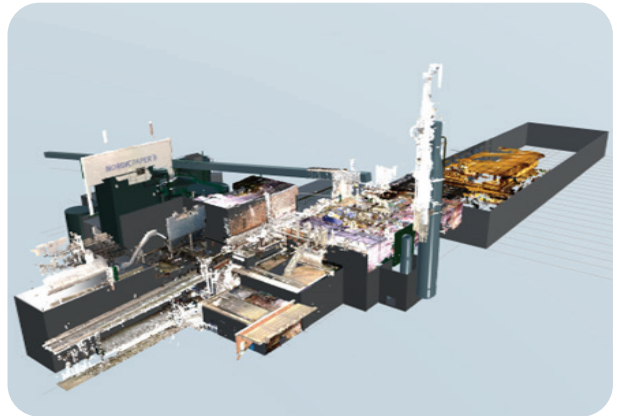
Predictive Maintenance solution Technical Architecture High-Level Representation

The advantages of this feature are multiple. First and foremost, it facilitates real-time, parallels between the 'as-built' data and the 3D design data, enabling the accurate detection of any disparities. During the scanning process, the technology captures immersive 360-degree

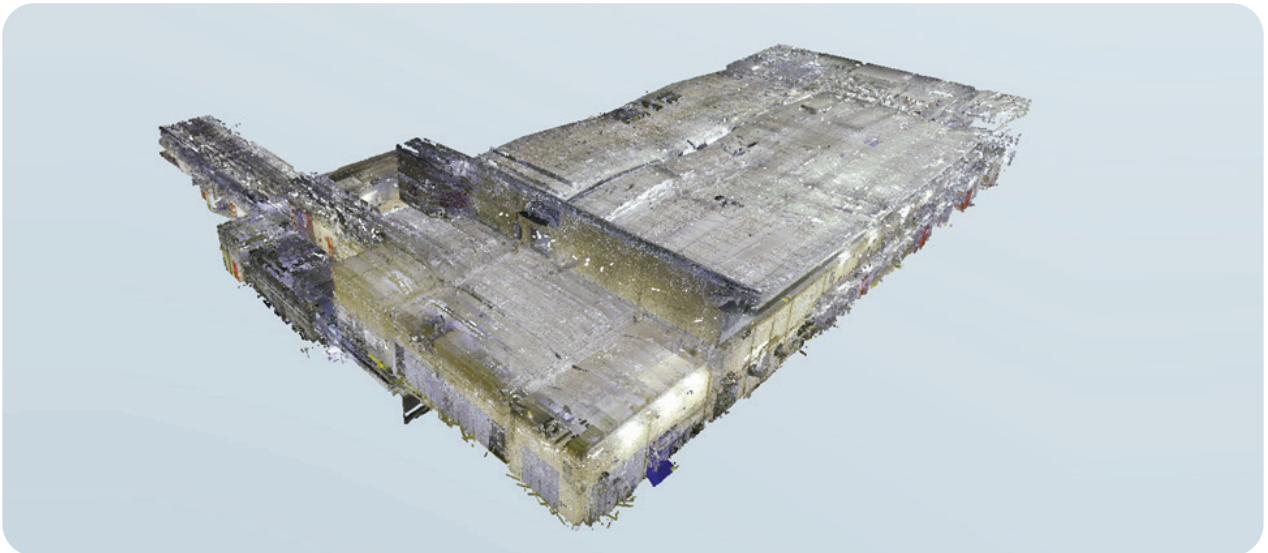
panoramic photos (generally referred to as bubble views), offering an immersive view of the site. Moreover, it empowers users to effortlessly compare a multitude of projects, whether they are part of a series or involve copying existing designs.



Factory image



3D model



Large building with many windows

This cutting-edge 3D scanning feature is now seamlessly integrated into 3DEncore, Cyient digital platform. This integration provides the

flexibility to virtually explore the plants with maximum precision and efficiency.

## The Benefits of 3D Encore Solution

3D Encore offers a range of substantial benefits for project execution. One of its primary advantages is efficiency by the cloud-based system solution. By enabling digital site visits and eliminating the need for physical on-site visits, it significantly streamlines project processes. This not only saves valuable time but also reduces the consumption of resources, ultimately leading to more cost-effective projects.

Another key benefit is the enhancement of data accuracy. With on-site laser scanning, the technology ensures precise data capture, reducing errors and discrepancies in project execution. This accuracy is essential for maintaining the quality and integrity of projects, ensuring they meet the required standards.

Furthermore, 3D Encore promotes enhanced collaboration among project stakeholders. Designers and team members can collaborate more effectively by visualizing their designs in the context of the actual site. This real-world perspective aids in communication and decision-making, resulting in projects that better align with the intended vision.

Safety is also a vital concern in many projects, particularly those involving hazardous areas.

3D Encore addresses this issue by reducing the need for on-site visits. This contributes to a safer work environment, minimizing risks for project personnel and enhancing overall safety.

Cost savings are another significant benefit of 3D Encore. By reducing travel and site survey costs and minimizing design errors, the solution leads to substantial cost savings throughout the project's lifecycle. These financial benefits are particularly appealing for project managers and stakeholders.

Additionally, 3D Encore enables comprehensive similarities between 'as-built' data and 3D design data. This feature aids in quality control and ensures that the project aligns with its original specifications.

The solution is versatile, with the capability for multi-project comparisons, making it a valuable tool for projects involving series or replicated designs. Finally, it provides comprehensive digital documentation of the site, facilitating record-keeping and future reference.

Collectively, these benefits contribute to more precise, efficient, and cost-effective project execution while enhancing safety, quality, and collaboration.





## Conclusion

In conclusion, 3D Encore is a game-changing solution that addresses the challenges of data-deficient projects. It enhances efficiency, data accuracy, and safety while offering substantial cost savings. Its versatility and the ability to facilitate comprehensive project

documentation make it an invaluable asset for project stakeholders. 3D Encore redefines project execution, making it more precise, efficient, and cost-effective, ultimately setting new standards for success in diverse industries.





## About Cyient

Cyient (Estd: 1991, NSE: CYIENT) is a global Engineering and Technology solutions company. We collaborate with our customers to design digital enterprises, build intelligent products and platforms and solve sustainability challenges. We are committed to designing tomorrow together with our stakeholders and being a culturally inclusive, socially responsible, and environmentally sustainable organization.

For more information, please visit  
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