



Large European Petrochemical Refinery

Full Site Visualisation | Case Study



The Challenge

A client at a petrochemical refinery had a collection of asset data that was siloed, unmanaged and sometimes difficult to access.

They identified the need for a scalable and sustainable solution where they could centralise, manage, and maintain historic and current data efficiently.

A digital solution that could support the MoC (Management of Change) process, providing robust operations planning and decision-making. Where their teams and approved vendors could easily access trusted, quality data within a simple to use platform.



The Solution

Using innovative reality capture technologies, ZynQ 360 created a sustainable visual twin of the entire facility delivered within their cloud-based, asset visualisation software, ZynQ.

- ✓ 360° photography capture
- ✓ 360° drone capture - (aerial imagery /detailed ortho maps/3D mesh models)
- ✓ 360° Pipe rack visualisation
- ✓ MoC feature development
- ✓ Quarterly MoC recaptures
- ✓ Focus Mode feature
- ✓ Asset plan creation
- ✓ Fire Zone overlays
- ✓ Bespoke training modules concept
- ✓ Bi-weekly meeting with asset product owner
- ✓ Upload of equipment register from SAP
- ✓ Two on-site training sessions completed
- ✓ Continuous on-site and VC training sessions
- ✓ On-site workshops and drop in sessions
- ✓ On-site usability surveys
- ✓ In-line training videos
- ✓ Dedicated ZynQ site expert



Holistic Adoption: Value, Proven by the Stats

Through successful adoption of the ZynQ asset visualisation software, and asset wide usage, the client continues to benefit from having a digital solution that provides access to trusted, quality data in an easy to use platform.

ZynQ users survey feedback

5,978 hours saved complex wide per month:

- Internal end-users saved 5,238 hours per month on average
- External end-users saved 740 hours per month on average

Site roles include:

- ✓ Engineering
- ✓ Technical
- ✓ Safety
- ✓ Training
- ✓ Maintenance
- ✓ Process
- ✓ Projects
- ✓ Turnaround

Estimated
hours saved
annually

71k +

Overall ZynQ hits
2 million +
Since inception

Estimated
savings since
adoption of ZynQ

\$10m +

Based on \$100 per hour
(industry standard used)

Active users
in May 2025

1,655

Annual
investment

\$765k*

*Initial capture cost and
software licensing spread
over a 3 year term

ROI in under
12 months



The Impact of ZynQ

Following a successful adoption and implementation of ZynQ, the team can perform the following tasks more efficiently, enhancing performance and continuously improving their operations.

With the trusted information they need at their fingertips they can collaborate in real-time, **reducing downtime, environmental impact** and most importantly, **improving safety on-site**.



Usage Stats

Results from usability tests and surveys

User numbers are based on survey responses within each department and are not representative of actual department numbers.

Maintenance

16 users

Hours saved
per month:

115

Maintenance common uses:

- ✓ Turnaround preparation
- ✓ Measuring distances
- ✓ Location checks of equipment
- ✓ View equipment and check machinery equipment details
- ✓ Photos for job packs
- ✓ Exploration and planning

Engineering Services

21 users

Hours saved
per month:

114

Engineering Services common uses:

- ✓ Inspect and review the situation in the relevant areas
- ✓ Piping and mechanical field check
- ✓ Verify and improve as built drawings in case of ambiguity
- ✓ Replacing site visits and enabling site familiarisation prior to visit
- ✓ High level risk assessments

Technical

15 users

Hours saved
per month:

80

Technical common uses:

- ✓ View plot space for projects and plant changes
- ✓ Measuring distances
- ✓ To look up field situations and take “pictures” without going on site
- ✓ Check line-ups and location of instruments and equipment
- ✓ Pipe tracking

Usage Stats

Results from usability tests and surveys

User numbers are based on survey responses within each department and are not representative of actual department numbers.

Process

13 users
Hours saved
per month:
41

Process common uses:

- ✓ Turnaround preparation
- ✓ To visualise the location without going to site
- ✓ Process planning and notifications
- ✓ Offers a lot of insight and helps in decision-making
- ✓ Remote training purposes

SSHE

10 users
Hours saved
per month:
29

SSHE common uses:

- ✓ Insight into the situation in the field
- ✓ Allows users to better explain difficult to communicate on-site observations
- ✓ Dangers can be better mapped out - including rescue data sheets and TRAs
- ✓ Check on systems to be able to mitigate fire equipment
- ✓ Inspection tests and maintenance work

Projects

6 users
Hours saved
per month:
19

Projects common uses:

- ✓ Plot plan checks during project development to determine location of new equipment/piping routes
- ✓ Check whether an existing structure is already equipped with fireproofing
- ✓ Site familiarisation to show site situation to remote engineers

Other

8 users
Hours saved
per month:
13

Other common uses:

- ✓ Adding photos to work descriptions
- ✓ Conduct a site walk-through with someone who is not located on site
- ✓ Identify specific locations where work needs to be done as there's no need to go into the field and take pictures
- ✓ Equipment checks

“We use the ZynQ tool on a daily basis.

It shows there are many different use cases that make our lives easier and enable us to work more effectively.

Project Manager of Large European Petrochemical Refinery

“I save around 40 hours a month since the team implemented ZynQ.

I’m able to efficiently plan turnarounds and create work packs from my desk, drastically reducing the number of trips to site.

It has streamlined our operations and reduces the risk of potential safety hazards.”

ZynQ User | Maintenance Team at an International O&G provider



zynq



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to Visualise your Asset**

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