

James Fisher
Asset Information
Services



Visual Digital Twins: Driving Safer, Smarter Turnarounds and Integrity Management in East and Southeast Asia's Energy Sector

Executive Summary

Energy operators in East and Southeast Asia are under pressure to deliver safe, reliable operation while also cutting emissions, reducing costs, and doing more with fewer people onsite. Turnarounds (TARs) and shutdowns are some of the most demanding moments in the asset lifecycle, yet they're still often planned with fragmented data, outdated drawings, and repeated site visits that take time, money, and focus away from the work that really matters.

Visual digital twins, such as R2S, change that. By bringing all your engineering, work, and reality data together with clear visual and spatial context, R2S gives your teams clarity on what's happening and where, without needing to set foot offshore, reducing TAR durations by up to 25%, cutting site visits by 70%, and decreasing integrity backlogs all while lowering carbon emissions and improving workforce safety.

R2S pays for itself by helping you run safer, smarter, more predictable operations, keeping everyone aligned and your projects moving with clarity and control.



Safe



Reliable



Reduced cost

Proven Outcomes

25% TAR duration reduction (~US\$10M earlier return to production)

Achieved by enabling teams to scope work accurately the first time, identify clashes early, and coordinate contractors through a shared visual model.

>1,000 offshore man-days saved

Achieved by allowing engineers and contractors to familiarise themselves with the site virtually, eliminating unnecessary mobilisations.

70% fewer site visits

Achieved by replacing repeated walkdowns with a high-resolution digital twin, reducing helicopter flights and offshore exposure.

35% fewer scaffolding hours and 27% less fabric maintenance

Achieved by spatially mapping anomalies and planning remediation by zones, which streamlines integrity campaigns and reduces rework.

Why East and Southeast Asia Need Digital Twins

Given the high TAR cost and daily lost production risks, operators in this region stand to gain significantly from adopting digital twins. R2S directly addresses the region's dual priorities of energy security and decarbonisation, while delivering quantifiable financial and safety benefits.

Vietnam

Rapid offshore growth under increasing ESG expectations.

Japan

Ageing energy infrastructure driving demand for efficient digitalisation and lifecycle optimisation.

Thailand

Bedspace constraints and logistics challenges increase the cost of every site visit.

South Korea

Accelerating industrial digitalisation, creating demand for robust asset integrity and maintenance solutions.

Malaysia & Brunei

Mature, late-life assets needing efficient decommissioning and integrity planning.

Singapore

Highly congested refining and petrochemical complexes on Jurong Island require detailed visualisation to optimise TAR planning, reduce SIMOPS conflicts, and improve contractor coordination within tight shutdown windows

Across these markets, operators must balance energy security with carbon reduction targets, making digital-first TAR planning a strategic accelerator.

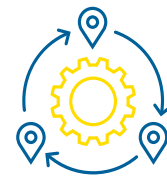
What's Holding TARs Back Today



Disconnected systems and outdated drawings



Multiple offshore visits to answer basic questions



POB, SIMOPS, and logistics bottlenecks



Scaffolding-heavy integrity backlogs



High risk of rework, delays, and missed hazards

How R2S Helps

R2S combines asset visualisation with data-driven integration to create a single visual workspace for planning, execution, and integrity management. By linking drawings, reports, tasks, and imagery directly to real-world locations, R2S helps you plan scopes accurately the first time, collaborate faster, and make confident decisions with the full picture in front of you.

The result?

Faster decisions, tighter coordination, reduced offshore exposure, and measurable savings.



Proven value across the globe

10%

Gulf of Mexico TAR
10% schedule improvement,
\$10M earlier production

35%

North Sea Integrity Campaign
35% scaffolding reduction,
anomaly location in seconds

~20

APAC (Indonesia)
Full asset model captured in
~20 days, demonstrating the
speed and scalability needed
to support future TAR planning
and integrity campaigns.

These outcomes directly reflect the pressures faced by operators in East and Southeast Asia.

ESG & HSSE Impact



Reduced helicopter flights and offshore mobilisations



Lower carbon emissions from rework logistics



Improved contractor collaboration and lessons-learned capture



More predictable, safer TAR environments



Conclusion

For operators in East and Southeast Asia, the shift to visual digital twins is about more than technology, it's about protecting people, improving production reliability, and meeting the region's sustainability commitments. R2S has already proven that TARs can be shorter, safer, and far more predictable.

If you're exploring how to reduce risk, accelerate TAR delivery, or improve integrity management, we'd be happy to show you what this looks like in practice.

James Fisher
Asset Information
Services



W: jf-ais.com
T: +44 (0) 1224 355 880
E: contact@jf-ais.com

A part of
James Fisher and Sons plc
Pioneering Sustainably

