



Ageing Assets: Helping South America's Onshore Energy Industry Plan with Confidence

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Executive Summary

Energy operators across South America are being asked to do more than ever before. They need to keep people safe, maintain reliable production, reduce emissions, control costs, and often do it all with fewer people on site. Turnarounds (TARs) and shutdowns are some of the most critical and challenging moments in an asset's lifecycle. Yet many teams are still relying on disconnected systems, outdated drawings, and repeated site visits to answer everyday questions. This can slow decisions, increase risk, and take valuable time away from the work that matters most.

Visual digital twins, such as R2S, help teams work differently. By bringing engineering information, asset data and real-world site conditions together in a single visual environment, R2S makes it easier to understand what's happening and where. Teams can plan with confidence, collaborate more effectively, and access the information they need without travelling to site for every query.

The result is safer operations, shorter turnarounds, fewer site visits, and better-informed decisions.

Why Digital Twins Matter in South America

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.

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

Ecuador

Remote, logistically challenging sites such as Esmeraldas make routine inspections and planning activities more time-consuming and costly, increasing the value of accurate visual asset data.

Peru

The newly modernised Talara refinery (2022) operates alongside older infrastructure like La Pampilla, creating a need for consistent, digital-first integrity practices across the full asset base.

Chile

Strong environmental and regulatory ESG expectations are driving demand for more transparent, auditable approaches to asset integrity and maintenance planning.

Argentina

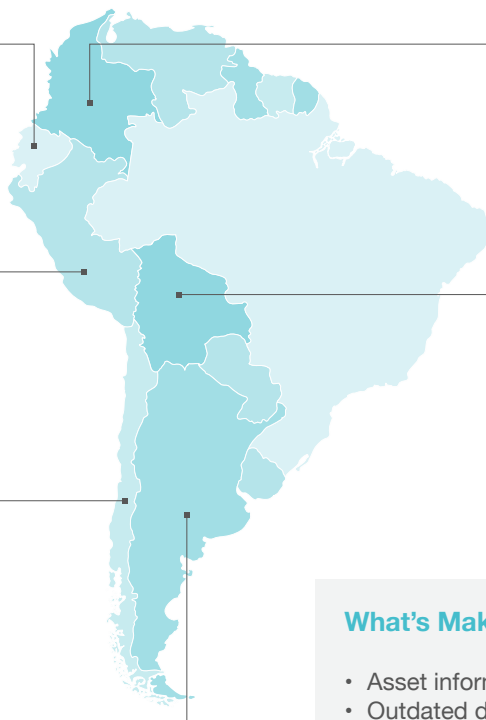
Ageing refining infrastructure, including assets that have been operating for more than a century, like La Plata, combined with rising Vaca Muerta-driven throughput, is placing greater focus on integrity management and turnaround planning.

Colombia

Operators are managing a mix of long-established infrastructure, like Barrancabermeja, alongside modern facilities, like Cartagena refinery (2015), creating a need for consistent integrity strategies that scale across both legacy and modern infrastructure.

Bolivia

Remote locations and complex logistics mean that every site visit comes with added cost and effort, making remote access to asset information and visual-first planning particularly valuable.



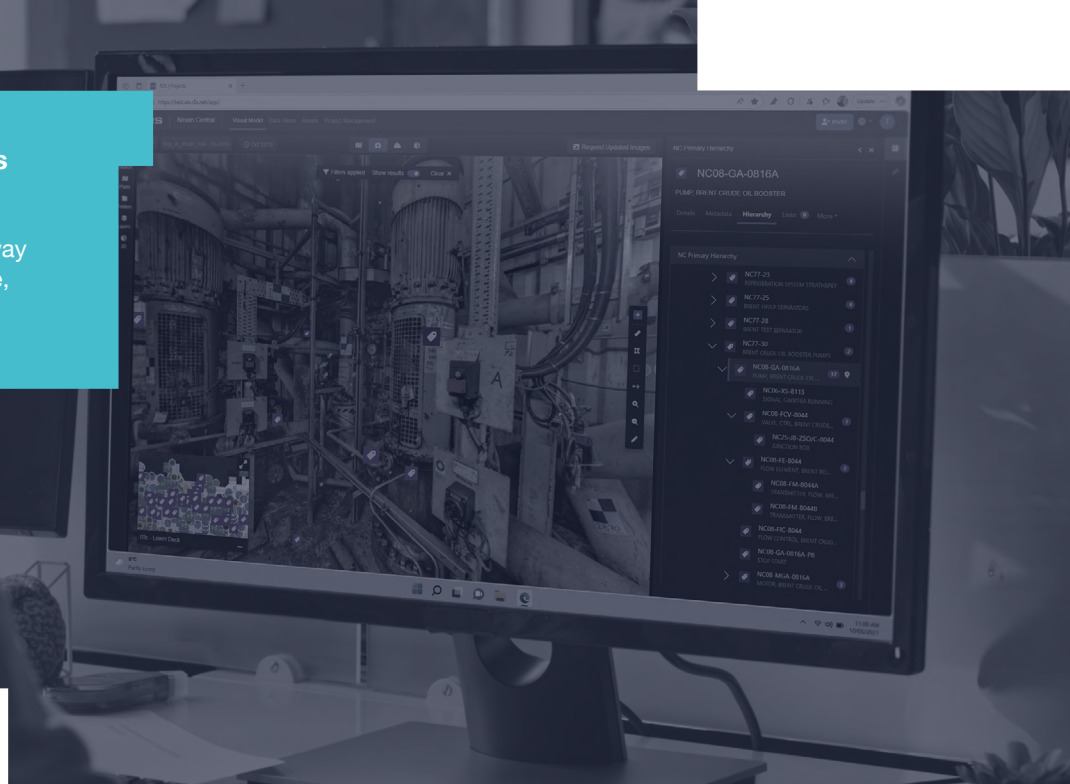
What's Making TARs More Difficult?

- Asset information spread across multiple systems
- Outdated drawings and documentation
- Repeated site visits to gather information
- Workforce mobilisation, logistics and scheduling challenges
- Large integrity backlogs requiring scaffolding and access equipment
- Increased risk of rework, delays and missed hazards

These challenges don't just impact schedules and budgets—they can also affect safety, productivity and decision-making.

Delivering Measurable Results

Organisations around the world are already using R2S to improve the way they plan and execute maintenance, turnaround and integrity activities.



25%

**TAR duration reduction and
~US\$10M earlier return to production**

By helping teams define scope accurately from the outset, identify clashes earlier, and coordinate contractors through a shared visual model, operators have reduced turnaround schedules and achieved earlier returns to production.



>1,000

field man-days saved

Engineers and contractors can familiarise themselves with assets virtually before arriving on site, reducing unnecessary mobilisation and allowing teams to spend more time on higher-value work.



70%

fewer site visits

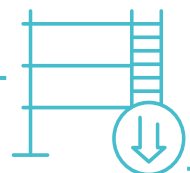
High-resolution visualisation and easy access to asset information reduce the need for repeated walkdowns, cutting travel time and minimising exposure to operational environments.



35%

**fewer scaffolding hours
and 27% less fabric maintenance**

By visually locating and grouping anomalies, integrity teams can plan remediation activities more efficiently, reducing rework, lowering costs and improving productivity.

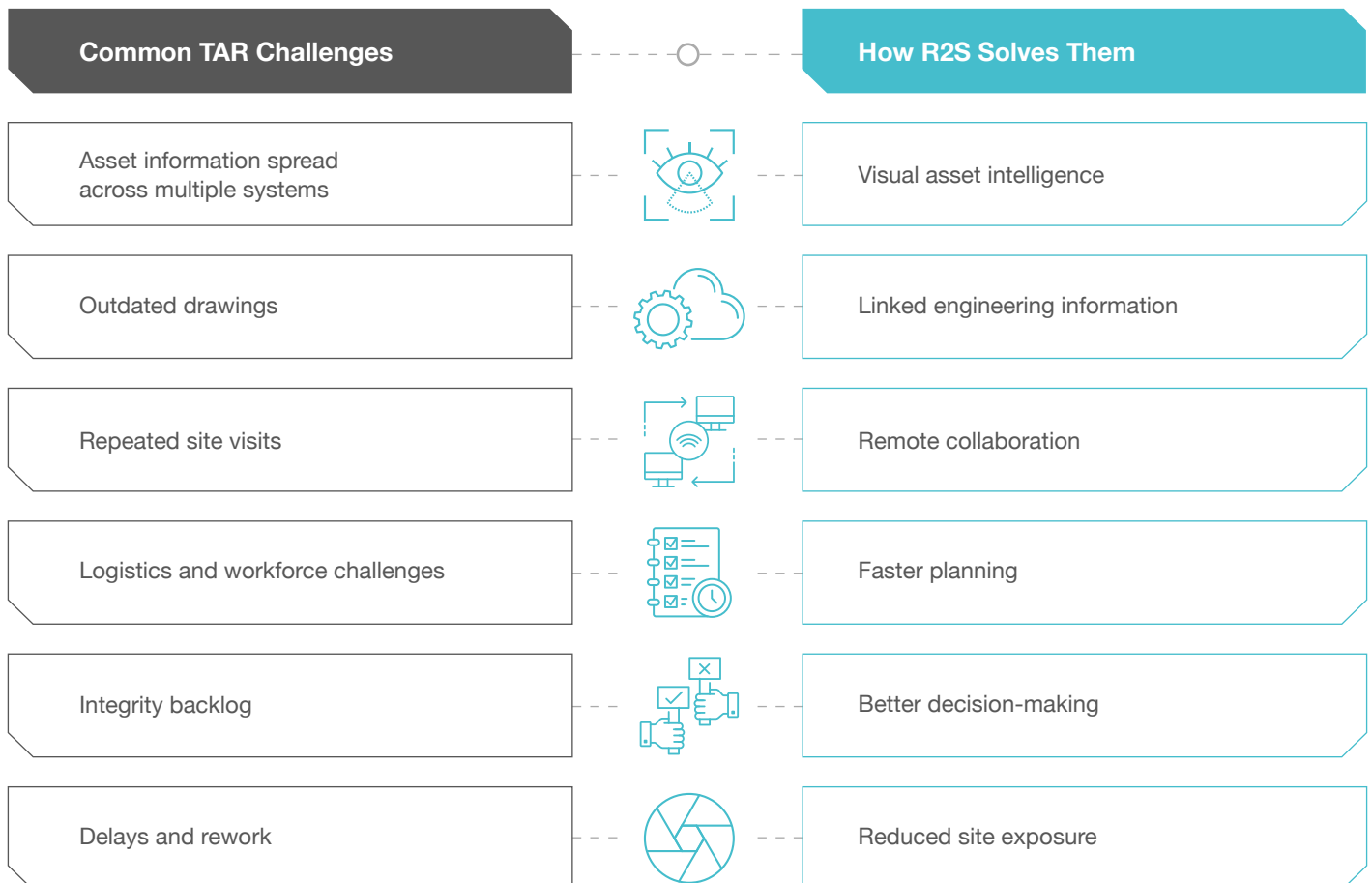




How R2S Helps

R2S creates a single visual view of your asset 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 site exposure, and measurable savings.



Proven value across the globe



Gulf TAR

A 10% improvement in schedule performance contributed to an estimated US\$10 million earlier return to production.

North Sea Integrity Campaign

A 35% reduction in scaffolding requirements enabled teams to locate and assess anomalies in seconds rather than hours.

APAC (Indonesia)

A complete asset model was captured in approximately 20 days, demonstrating how quickly operators can establish a digital foundation for future integrity and turnaround campaigns.



Supporting ESG and Safer Operations

By reducing the need for travel, improving planning and helping teams collaborate more effectively, R2S can also support wider sustainability and safety objectives.



Fewer site visits and vehicle journeys



Reduced carbon emissions associated with travel and rework



Improved contractor collaboration and lessons-learned capture



More predictable, safer TAR environments



Conclusion

For operators across South America, the shift to visual digital twins is about more than technology. It's about giving people the information they need to work safely, improve production reliability, and meet the region's sustainability commitments. R2S has already proven that TARs can be shorter, safer, and far more predictable.

If you're exploring ways to reduce risk, accelerate TAR delivery, or make better use of the information, we'd be happy to show you how organisations around the world are using R2S to achieve exactly that.

Ready to Make Your Next Turnaround More Predictable?

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