

EBOOK

closing the loop in ANZ: purpose-built ERP as the engine of a circular economy



the current state of circularity in ANZ

ERP as a catalyst for circularity across ANZ

Resource scarcity and volatile input costs for oil, metal ores, sand, water, copper, and lithium are shaping a century-defining challenge for businesses across Australia and New Zealand. The long-standing “take, make, waste” paradigm creates three pressures:

- Production practices rapidly drain finite resources
- Excess waste strips out embedded material value
- Inefficient energy and resource use accelerates the climate crisis

Across manufacturing, construction, logistics, utilities, and resources & recycling (R&R), companies can no longer depend on cheap, abundant virgin materials. The way forward lies in secondary resource streams and circular models – recycling, repair, remanufacturing, and product-as-a-service models that keep product ownership, and the value within materials, with the provider.

These sectors already hold deep expertise in materials, supported by wide-ranging collection and production capabilities that can anchor true circular systems. Yet many organisations still rely on legacy enterprise resource planning (ERP) platforms to stretch into circular use cases. Designed for linear processes, most traditional ERPs slow the progress of emerging circular supply chains – from sourcing and logistics to assessment, pricing, cost, transformation, and trading – and they often lack built-in sustainability reporting and workflows.

Each organisation will move at its own pace. The leaders in ANZ will strengthen that transition with supply-chain automation built for circularity. With ERP systems engineered for reverse flows and secondary materials, companies can move faster toward low-waste, low-carbon, resource-efficient products and services.

Rethinking value flows: why circular outperforms linear

Despite the circular economy’s rise to megatrend status, most inputs are still virgin materials; the share of secondary materials has slipped from 7.2% to 6.9% in the latest analysis¹. Our linear “make, take, break, throw away” model drives pollution and adds social costs, from environmental damage to waste-related health impacts.

Circularity changes the narrative by extending product life and ensuring material recovery at high value. Reuse, repair, remanufacturing, recycling, and repurposing – along with “product-as-a-service” models – reduce environmental harm and help safeguard communities from excess waste.

The principles are already emerging in the market. For example, Rolls-Royce’s “Power by the Hour”² program delivers comprehensive engine support billed per flight hour while the manufacturer retains ownership.

ANZ opportunity lens: creating value through circular systems

A circular economy strengthens efficiency and sustainability while opening new value streams. Australia's Circular Economy Framework aims to double circularity and recover 80% of resources by 2035, setting a clear national direction for policy and industry³. New Zealand's Waste and Resource Efficiency Strategy works in parallel, targeting lower per-capita waste and responsible management of resource recovery facilities to protect the environment and keep materials circulating in the economy⁴.

Advancing circularity in ANZ supports several key outcomes:

10%

Reduce material footprint per person by 10%

30%

Lift material productivity by 30%

80%

Safely recover 80% of resources

Illustrative avenues for value creation include:

- **More durable, better-designed products:** Built for disassembly, reuse, and high-quality recycling
- **As-a-service models:** Rental, leasing, and subscriptions that limit overconsumption and strengthen maintenance and repair

- **Resale and remanufacturing ecosystems:** Leaders like IKEA⁵, Levi's⁶, and Patagonia⁷ show how scalable take-back and second-life programs work – approaches that apply to equipment, appliances, and components through strong supply partnerships
- **Forward and reverse logistics agility:** Coordinating delivery, collection, sorting, redistribution, and returns on demand underpins core circular functions
- **Demand-led fulfilment:** Two-way forecasting and bi-lateral trading help build future “demand chains” alongside optimised supply chains
- **Secondary material standards:** As manufacturers increase secondary inputs, shared and transparent quality benchmarks become essential – positioning R&R firms as strategic partners in defining and upholding standards across mining and refining analogues

Beyond economics, rising sustainability expectations are reshaping supply chains. Companies are now expected to track and report resource efficiency, workforce safety performance, and safeguards for community health and the environment.

sustainability alignment

How circularity advances long-term goals

Circular economy principles directly support sustainable development⁸, meeting today's needs without limiting what future generations can access. The Ellen MacArthur Foundation frames circularity around three pillars:

- Eliminate waste and pollution
- Keep products and materials in use at their highest value
- Regenerate ecosystems and resources

By protecting natural assets and reducing waste, we secure long-term access to clean air, water, soil, biodiversity, and essential resources. Yet today's consumption still outpaces the planet's ability to regenerate. "Earth Overshoot Day"⁹ illustrates this imbalance each year – landing on July 24 in 2025 compared with mid-December in 1971. If current trends continue, by 2050 we may need the equivalent of three planets to meet annual material demand.

When sustainability meets the value chain: expectations are rising

Investors, regulators, and customers increasingly expect transparent sustainability metrics across entire value chains. Embedding sustainability into supply-chain processes helps close gaps in corporate strategies.

Even supply-chain businesses without a long sustainability track record are now urged¹⁰ to show progress while staying cost-competitive – creating both pressure and opportunity for new operating models.

Reporting obligations in focus for ANZ

Australia's Sustainability Reporting Standards (ASRS) – AASB S1 and AASB S2 – require comprehensive disclosures across the full value chain. AASB S1 mandates that entities explain how their business model and strategy address material sustainability risks and opportunities across upstream, operational, and downstream activities, with periodic reassessment.

AASB S2 introduces mandatory climate-related disclosures for large entities from January 1, 2025, aligned with ISSB. It covers climate risks and opportunities, resilience strategies, Scope 1, 2, and 3 emissions (including methodologies and assumptions), and targets for emissions reduction, financed emissions, and carbon-credit use, as well as transition plans. Mandatory reporting applies when entities meet two of three thresholds (500+ employees, A\$1b+ assets, or A\$500m+ revenue), with phased assurance.

In Europe, the CSRD will extend sustainability reporting to roughly 50,000 companies through 2028, requiring disclosure of material, environmental, and social impacts across value chains. The CSDDD goes further, expecting the largest companies to conduct due diligence to uphold human rights and environmental protections – driving preference for suppliers aligned with these standards.

Clothing manufacturers are also under more pressure to improve circular policies as new measures from the European Commission adopted in February 2026 under the Ecodesign for Sustainable Products Regulation (ESPR)¹¹, will prevent the destruction of unsold apparel, clothing, accessories and footwear.

sustainability alignment

Continued

Net-zero + Scope 3 ripple effects

Net-zero remains a mature area for target setting. By October 2023, 1,003 of the largest companies in the Forbes Global 2000 had set net-zero targets – a 40% increase since June 2022, according to Net Zero Tracker¹². With ISSB adoption or consultation underway in jurisdictions including Australia, Brazil, Canada, India, Japan, Singapore, South Africa, Turkey, and Hong Kong¹³, Scope 3 expectations continue to expand data demands on suppliers.

In the US, the SEC Climate Disclosure Rules are currently stayed pending court proceedings and position Scope 3 as recommended rather than mandatory¹⁴. California's SB 253, however, will require large companies operating in the state to report Scope 3 emissions from 2026 onward¹⁵.

Procuring for impact

EcoVadis' 2024 Business Sustainability Index shows the strongest gains in "sustainable procurement," signalling real momentum across value chains¹⁶ – yet, on average, only around 10% of procurement processes are digitally integrated for ESG today. For ANZ supply chains, this highlights procurement's central role in advancing circular and sustainability outcomes.

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Purpose-built ERP as the engine of a circular economy



where ANZ supply chains already have an advantage

Supply-chain businesses – manufacturers, logistics providers, and R&R operators – can use their existing strengths to drive circularity¹⁷:

- Recapture material value while minimising waste
- Elevate safety outcomes
- Improve resource efficiency and manage cost
- Deepen partnerships and collaboration

R&R companies¹⁸ excel at collection, sorting, and returning materials as feedstock. Their logistics footprints and cross-sector networks create strong upstream and downstream pathways from end users.

Manufacturers contribute materials science and processing expertise. By partnering with R&R operators to organise reverse logistics, they can channel downstream discards back into production. The circular economy introduces loops into what have traditionally been one-directional chains; integrating reverse flows requires agility, connectivity, and systems built for purpose. Too many organisations underuse these strengths because their ERPs were never designed for circular operations.



why linear-era ERP falls short – and what ANZ needs instead

Generic ERP platforms connect core enterprise processes and can improve efficiency under linear operating assumptions. But they lack built-in capabilities for circular transactions, granular material and data-flow tracking, and sustainability delivery at scale. Customising legacy systems to support secondary-material recovery often runs into rigidity that limits agility across variable inputs, reverse logistics, and bi-directional trading. One-size-fits-all ERPs rarely reflect the distinct circular requirements of R&R¹⁹, manufacturing, and logistics.

WHAT A CIRCULAR-READY ERP SHOULD ENABLE			
CIRCULAR ECONOMY THEME	HOW IT IMPACTS	PURPOSE-BUILT ERP CAPABILITIES	WHY IT MATTERS FOR ORGANISATIONS
End-to-end operational visibility	Improves flow of operational data, reduces errors, and ensures jobs convert to revenue efficiently	• Dynamic route optimisation • Weighbridge-native data capture • Mobile driver app with futile capture	More efficient operations, fewer missed billables, stronger business performance
Resource and material value optimisation	Enhances recovery rates, protects margins, and enables profitable trading of secondary materials	• Commodity-based material master • Chain-of-custody tracking • Yield and recovery reporting	Supports circular revenue models and material traceability
Automated compliance and sustainability Intelligence	Reduces manual reporting, regulatory risk, and supports ESG requirements	• Automated reporting (tonnage, levy, manifests) • Permit and licence lifecycle management • Immutable audit trails	Ensures compliance and simplifies audits
Customer, council, and contract transparency	Builds accountability, improves contract performance, and enhances customer experience	• Advanced contract management • SLA tracking • Customer portals for resident engagement	Improves retention and contract outcomes
Weighbridge-native, circular-economy billing	Ensures accurate, timely billing tied to operational and material data	• Automated job-to-invoice • Multi-entity finance • Subcontractor billing	Improves cash flow and reduces disputes
Analytics and business intelligence	Optimises performance, pricing, and capacity through real-time insights	• Executive dashboards and role-based insights • AI and datadriven decision-making built into routing and operational forecasting • GLS/GPSbased job visibility and integrated workflow intelligence	Enables better decisions and growth
Open, future-proof integration architecture	Ensures scalability and connection to the broader digital ecosystem	• Open API layer • IoT-ready integrations • Document management	Future-proofs operations

scaling circularity: automation as a force multiplier

As material and data flows grow, manual processes collapse under their own weight. Automation becomes non-negotiable to:

- Scale circular operations
- Collect and share logistics, material tracing and composition, and workforce data
- Extend product and asset life through predictive maintenance
- Evidence sustainability improvements driven by circular practices

There are four priority capability domains:

1) Data backbone + analytics

Effective recovery relies on strong data models that track movement, recovery status, and reprocessing transformations. To validate progress, organisations must measure financial outcomes, product specifications, activity metrics, and bi-lateral trade. Robust data governance strengthens partner connectivity and information sharing that aligns with evolving disclosure requirements.

2) Optimisation engines

To scale collection and redistribution without raising emissions, operations must be optimised. Cost-effective, lower-carbon logistics are enabled by connected IoT and sensors that capture real-time mileage and emissions while improving route and driver planning. When paired with AI/ML for forecasting, planning, execution, and continuous review across resource management, these optimisation loops expand rapidly.

3) MRF 4.0 (next-gen recovery)

Industry 4.0 advances are transforming metals, batteries, e-waste, fibre, packaging, plastics, and C&D recycling. MRF 4.0 treats recovery as a data-rich system with end-to-end visibility, tight hardware – software integration, and analytics-driven decisions across logistics, operations, finance, and sales.

Key features include:

- Real-time inventory and demand forecasting
- AI/ML-enabled quality assessment
- Dynamic, data-driven valuation
- Operational agility driven by quality-control feedback

4) Market connectivity + engagement

Secondary materials retain value only when they stay connected to demand. E-commerce marketplaces that flexibly match buyers and sellers based on real inventory and grades are essential. Unlike traditional markets, circular exchanges contend with variable types, quantities, and quality. Growing demand therefore depends on shifting perceptions and standards – and on agile platforms that broker trust.

Circular-economy ERPs built to link resource-focused R&R operators with manufacturers and logistics providers create the "two-way connection" ANZ needs. They provide collaborative workspaces for sharing information, aligning on quality, and transacting secondary materials efficiently.

conclusion: an ANZ blueprint for action

For Australia and New Zealand, circularity is both an environmental imperative and a driver of competitiveness. The capabilities already embedded in R&R, logistics, and manufacturing can carry the region forward – provided they're paired with ERP systems built for reverse flows, variable material inputs, and rigorous sustainability reporting. Organisations that modernise now will be best positioned to capture value, meet regulatory expectations, and lead ANZ's shift from linear to circular growth.

[Contact us](#) to learn how AMCS can support your ERP modernisation.



sources

- ¹<https://circularity-gap.world/2025>
- ²<https://www.rolls-royce.com/media/our-stories/discover/2017/totalcare.aspx>
- ³<https://www.dcceew.gov.au/environment/protection/circular-economy/framework>
- ⁴<https://environment.govt.nz/what-government-is-doing/areas-of-work/waste/waste-strategy/>
- ⁵<https://www.ikea.com/us/en/ideas/home-furnishings/reuse-repair-recycle-reimagine-living-more-sustainably-with-ikea-pubd32b6ba0/>
- ⁶<https://www.secondhand.levi.com>
- ⁷<https://www.patagonia.com/stories/planet/our-footprint/our-quest-for-circularity/story-96496.html>
- ⁸<https://www.chathamhouse.org/2024/09/how-circular-economy-can-revive-sustainable-development-goals>
- ⁹<https://overshoot.footprintnetwork.org/about/>
- ¹⁰ https://environment.ec.europa.eu/news/new-eu-rules-stop-destruction-unsold-clothes-and-shoes-2026-02-09_en#:~:text=Clarifying%20derogations:%20The%20Delegated%20Act,show%20the%20need%20to%20act
- ¹¹<https://www.csiro.au/en/about/strategy/sustainability/Sustainability-report>
- ¹²<https://zerotracker.net/analysis/new-analysis-half-of-worlds-largest-companies-are-committed-to-net-zero>
- ¹³<https://www.ifrs.org/ifrs-sustainability-disclosure-standards-around-the-world/jurisdiction-consultations-on-sustainability-related-disclosures/>
- ¹⁴<https://corpgov.law.harvard.edu/2024/04/20/the-case-against-the-secs-final-climate-rules-begins-in-earnest-and-what-it-means/>
- ¹⁵https://digitaldemocracy.calmatters.org/bills/ca_202320240sb253
- ¹⁶<https://www.esgtoday.com/supply-chain-sustainability-gaining-momentum-ecovadis/>
- ¹⁷<https://www.amcsgroup.com/blogs/adopting-a-circular-economy-future-of-corporate-sustainability/>
- ¹⁸<https://www.amcsgroup.com/blogs/how-will-the-role-of-waste-and-recycling-companies-change-as-we-head-towards-a-circular-economy/>
- ¹⁹<https://www.amcsgroup.com/blogs/the-circular-economy-needs-you-why-waste-and-recycling-providers-are-pivotal/>

