

Waste not, want not: Transforming sustainability practices

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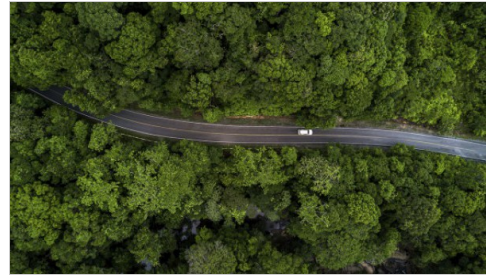
Matthew Beecham

S&P Global

Supply Chain and Technology, Automotive

Q&A with Cyclic Materials

The automotive industry is undergoing a bold transformation as sustainability takes the spotlight. Companies are stepping up, prioritizing sustainable materials and embracing circular economy principles that champion recycling and reuse. With consumers increasingly demanding transparency, businesses are compelled to implement robust traceability solutions to keep a close eye on material lifecycles and meet



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evolving regulations. This is not just about compliance; it is about accountability and building trust. Collaboration with tech providers is no longer optional; it is essential for tracking carbon emissions and refining sustainability metrics. Companies are harnessing data-driven strategies to assess environmental impacts and make smarter sourcing decisions. To learn more, we spoke with executives of Cyclic Materials, a specialist in rare-earth recycling solutions.

The following is an edited transcript of the conversation.

S&P Global Mobility: How does Cyclic Materials assess the environmental impact of your products? What key sustainability metrics do you track?

Cyclic Materials conducts ISO-compliant life cycle assessments (LCAs) to evaluate the environmental impact of our mixed rare earth oxide (MREO) product. We focus on sustainability metrics such as climate change impact and resource use. Since reaching commercial demonstration in 2024, we have partnered with MinViro for detailed life cycle analysis.

What innovative sustainability initiatives are you implementing in product development? How do these enhance resource efficiency?

Cyclic uses a data-driven approach to improve sustainability and traceability in rare earth recycling. Our assessments identify environmental impacts and guide sourcing decisions. Partnering with Circular, we track materials for transparency and responsible sourcing. The digital product passport meets customer compliance needs. Our products reduce greenhouse gas emissions by 61.2% and use 95% less water than traditional methods.

How do your products promote eco-friendly practices in automotive testing? Can you provide specific examples?

Our recycled MREO product is made from end-of-life materials containing rare earth magnets, supporting circularity in the automotive industry by reusing materials that would otherwise be discarded, thus reducing Scope 3 [greenhouse gas] emissions.

What recent partnerships have you formed to advance sustainability? What measurable impacts have these had?

Cyclic partners with MinViro for annual LCAs as we expand. We collaborate with Circular to implement a blockchain-based digital product passport for improved supply chain visibility, enabling us to track materials and ensure ethical sourcing. Our Kingston facility has achieved ISCC Plus and ISO certifications for 9001, 14001 and 45001.

What long-term sustainability objectives has Cyclic Materials set, and how do you plan to achieve them while managing costs?

Cyclic aims to help partners reduce the impact of their rare earth elements supply. By refining processes and studying suppliers, we seek to lower the carbon footprint of our products. As we expand our recycling infrastructure, we will set targets to ensure all by-products meet high standards and are reintegrated into the supply chain.

How do you evaluate the environmental impact of your testing solutions? What metrics inform your decisions?

Annual LCAs allow Cyclic to continually improve the sustainability of its operations. This process is key for developing solutions and achieving sustainability goals.

What initiatives are you implementing to improve sustainability in your testing solutions? How do they incorporate eco-friendly technologies?

Cyclic collaborates with technology providers for carbon tracking through traceability solutions. Annual assessments ensure our solutions are data-driven and verified. We use findings to improve impactful parts of our process and evaluate suppliers to prioritize sustainability in reagent sourcing.

How is increasing consumer awareness of environmental issues shaping your sustainability practices?

Our traceability solution informs consumers about a product's life cycle, usage, and end of life, enhancing compliance and accessibility of reporting information.

What challenges have you faced in adopting sustainable practices in your supply chain, and how have you addressed them?

The ISO-compliant LCA revealed that most emissions were Scope 3, mainly from reagent sources in our recovery process. In response, we adopted a rigorous vetting process for reagent suppliers to ensure they have not been involved in harmful practices.

How does Cyclic Materials ensure compliance with evolving environmental regulations? What proactive measures are in place?

We engage with the global sustainability and regulatory landscape, partnering with Venn Strategies for regulatory expertise. Our collaboration with Circular helps shape policy and sustainability standards. Our processes comply with regulations like the EU Critical Raw Materials Act and align with EU Battery Regulations. Our Kingston facility holds ISCC Plus, ISO 14001 and R2 certifications, maintaining compliance through a robust environmental management system and responsible recycling practices, including e-waste traceability and data security.

CONTACTS

The Americas

+1 877 863 1306

Europe, Middle East & Africa

+44 20 7176 1234

Asia-Pacific

+852 2533 3565

www.spglobal.com/mobility

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