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PRESS RELEASE

AI Circular Economy Conference 2026 Fuels Innovation at the Intersection of AI and Circular Economy

Industry, research and AI development experts explore how digital intelligence accelerates the transition to renewable carbon and circular materials

Hürth, 11 March 2026: The AI Circular Economy Conference 2026, organised by nova-Institute, brought together 116 participants from 15 countries in Cologne and online to explore the transformation of the chemical and materials industry supported and accelerated by artificial intelligence. During the two-day event, leading experts from industry, research, start-ups and the investment community discussed how AI can maximise the potential of renewable carbon creating efficient circular value chains. The conference featured 24 presentations and multiple panel discussions, highlighting the growing convergence of digital technologies and circular material systems. It demonstrated how artificial intelligence is progressing from the experimental stage to real industrial implementation within the circular economy.

Where Two Worlds Meet: Artificial Intelligence and the Circular Economy

As Lars Börger, CEO of nova-Institute, put it, the conference motto can be summarised as follows: “When two bubbles meet, they collide. In that moment of collision, something new can emerge, often something bigger and more powerful than either bubble on its own.”

Artificial intelligence and the circular economy are two rapidly evolving fields. When they intersect, they create opportunities for innovation, efficiency and systemic change. Therefore, the conference focused not only on technological progress, but also on new forms of collaboration, open data ecosystems, and interdisciplinary exchange between software developers, materials scientists, industrial practitioners, and policy experts.

Five Thematic Blocks Show the Breadth of AI Applications

The conference programme was divided into five sections, each of which focused on a different aspect of AI applications within the circular economy. Across the event, speakers from industry, start-ups, academia and investment illustrated how AI is increasingly being applied along the entire circular value chain — from production and materials development to recycling, resource management and market decision-making.

Examples from companies, start-ups and research institutions such as Covestro, Schneider Electric, ExoMatter, Volkswagen, RWTH Aachen University and the European Circular Bioeconomy Fund (ECBF) showed how AI-driven tools are already supporting industrial transformation. Applications ranged from digital twins, predictive maintenance and real-time process optimisation in manufacturing to machine learning approaches that accelerate the discovery of new catalysts, polymers and bio-based materials. At the same time, AI-powered sorting technologies, hyperspectral imaging and advanced data platforms are helping industries better understand complex waste streams, improve feedstock quality and enable higher-value recycling pathways.

Across many presentations, one message became clear: AI alone is not the solution. Its real potential emerges when high-quality data, industrial expertise and digital capabilities come together — enabling companies to make better decisions, optimise processes and gradually build more efficient and circular material systems.

AI as a Catalyst for the Renewable Carbon Economy?

One message emerged clearly from across all sessions: artificial intelligence is rapidly becoming a key enabler of the renewable carbon economy.

AI has the potential to significantly improve productivity, sustainability and competitiveness in the chemical and materials industries by accelerating material discovery and digital twins, advancing recycling and optimising supply chains.

By facilitating faster innovation cycles, improving resource efficiency and enabling smarter decision-making, AI can assist in the transition from fossil-based value chains to circular systems centred on biomass, captured CO₂ and recycled materials.

Partners and Media Partners

The AI Circular Economy Conference 2026 is supported by a strong network of partners and media organisations committed to advancing innovation at the intersection of artificial intelligence and the circular economy.

Strategic partners of the conference include organisations and industry networks closely connected to the transformation towards renewable carbon and circular material systems, such as CLIB – Cluster Industrial Biotechnology, IBB Netzwerk GmbH, Chemie-Cluster Bayern, C.A.R.M.E.N. e.V., the Renewable Carbon Initiative (RCI), kunststoffland NRW, the Institute for Textile Technology (ITA) of RWTH Aachen University, the German AI Association (KI Bundesverband), and CO₂ Value Europe.

In addition, the event is supported by a broad group of international media partners, helping to disseminate insights from the conference to the global community of researchers, innovators and industry leaders. Media partners include Renewable Carbon News, Renewable Carbon Plastics Magazine, Plasticker, PETplanet, PIE – Plastics Information Europe, K-Zeitung, CHEManager, European Biotechnology Magazine, Circular Economy, Brazilian Plastics – Blog do Plástico, Plattform Life Sciences, Circular Rubber Platform, GermanTechJobs, and forum future economy.

Continuing the Dialogue on AI and Circular Innovation

The discussion on artificial intelligence and circular economy will continue at several upcoming nova-Institute conferences. The topic of AI as an enabler for circular and renewable carbon value chains will also play an important role at the Carbon Capture & Utilisation Conference (CCU Conference) from 28–29 April 2026 in Cologne, the Renewable Materials Conference (RMC), 22–24 September 2026 in Siegburg/Cologne, and the Advanced Recycling Conference (ARC), 17–18 November in Cologne.

Across these events, experts from industry, research and technology will continue exploring how digital intelligence, data infrastructures and AI-driven tools can accelerate innovation, improve resource efficiency and support the transition towards a circular and renewable carbon economy.

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Since the mid-1990s, the nova-Institute has been dedicated to sustainability and today focuses primarily on renewable carbon cycles. As an independent research institute, it supports companies – particularly from the chemical, plastics, and materials industries – in the use of renewable carbon derived from biomass, direct CO₂ utilisation (CCU), and recycling.

With a multidisciplinary team of scientists, the nova-Institute participates in international innovation projects and provides science-based management consulting. The institute follows a holistic approach: its experts analyse which technologies and raw materials are suitable for specific products, in which markets their application is feasible, which regulatory frameworks apply, how sustainable the solutions are, and how they can be successfully positioned in the market.

Based on these analyses, the team develops tailored strategies to support the transformation from fossil to renewable carbon. Around 50 experts from various disciplines work together to drive the defossilisation of industry – for a climate-neutral future.

More information: www.nova-institute.eu – www.renewable-carbon.eu

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