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Press

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Siemens and Ucaneo partner to scale direct air capture

- **Siemens becomes preferred automation and digitalization partner for Ucaneo**
- **Partnership spans Siemens Xcelerator portfolio from first-of-a-kind plant through to commercial scale-up**
- **Germany's largest Direct Air Capture facility to be inaugurated in Berlin on July 2, 2026**
- **Standardized automation platform designed for global rollout through licensed DAC operators**

Siemens and German climate technology company Ucaneo have partnered to scale electrochemical Direct Air Capture (DAC) technology from industrial pilot to commercial scale – with Siemens deploying the Siemens Xcelerator portfolio as Ucaneo's preferred automation and digitalization partner. Together, the companies are creating a standardized and globally replicable automation platform that will enable rapid deployment by Ucaneo and its licensed operators worldwide. By 2035, Ucaneo targets the annual capture of half a gigaton of CO_2 from the atmosphere, which is roughly equivalent to cancelling out the entire annual CO_2 emissions of Canada.

The partnership addresses a growing industrial challenge: sectors from aviation to chemicals increasingly require access to sustainably sourced CO_2 as a feedstock – and large-scale Direct Air Capture offers a scalable solution, replacing fossil-derived carbon with CO_2 captured directly from the atmosphere.

First-of-a-kind DAC plant

Ucaneo has developed an electrochemical DAC process, inspired by the human lung, that removes CO_2 directly from ambient air and delivers high-purity CO_2 at over 99.9 percent purity. The resulting CO_2 can be permanently stored to generate certified negative emissions or used as a feedstock for climate-neutral products including sustainable aviation fuel (SAF), methanol and food and beverage applications. The fully electrified process integrates directly with renewable energy sources and responds flexibly to grid conditions and power market prices.

Ucaneo's first-of-a-kind industrial plant in Berlin (Germany), with a nameplate capacity of 150 metric tons of CO_2 per year, is set to become Germany's largest DAC facility upon commissioning in July 2026. The facility will be officially inaugured on July 2 in Berlin. Part of the captured CO_2 will be permanently stored in geological formations, making the facility Germany's first verified Direct Air Capture project combined with geological storage. This makes Ucaneo the first company in Germany — and one of few globally — to permanently store CO_2 captured through Direct Air Capture. A follow-on commercial plant with approximately ten times the capacity is already in the development stages starting construction next year.

Automation and digital technology from the Siemens Xcelerator portfolio

Under the partnership, Siemens provides comprehensive support across process automation, instrumentation and analytics, drive technology and digitalization. Siemens' process simulation software and controllers are already deployed at Ucaneo’s pilot plant, complemented by automation consulting services from Siemens.

For subsequent project phases, Siemens' advanced distributed control system Simatic PCS neo and additional simulation software are planned. These solutions will enable full process validation in a virtual environment before physical commissioning, thereby reducing technical risk during scale-up. The strategic objective is a standardized, modularly scalable automation template that can be replicated across future Ucaneo plants and those of licensed operators worldwide.

This will help to accelerate global rollout while safeguarding capital efficiency at each deployment stage.

“What Ucaneo has built is exactly what the energy transition needs: a Direct Air Capture process that is efficient, fully electrified, and ready for industrial scale,” said Christian Gückel, Head of Vertical Chemicals at Siemens Digital Industries. “Our role is to take that innovation from first plant to global rollout – through a standardized automation template that accelerates every subsequent deployment.”

Florian Tiller, Co-founder & CEO of Ucaneo said: “Building the carbon economy requires scalable and reliable infrastructure. Siemens is a key partner in helping us standardize and automate DAC systems, enabling cost-effective deployment at industrial scale. Together, we are building the robust carbon removal infrastructure needed to scale from Germany’s first verified DAC and geological storage project to future deployments around the world."

Growing demand for industrial CO_2

The need for CO_2 as an input is growing across multiple industrial sectors – from sustainable aviation fuel and methanol production to food and beverage applications. Regulatory requirements are accelerating that trend: under the ReFuelEU initiative, e-kerosene must account for 1.2 percent of all jet fuel supplied at EU airports by 2030, rising to 35 percent by 2050. The EU Carbon Removal Certification Framework (CRCF) is establishing a certification system for permanent carbon removal credits. For DAC operators, this establishes a second commercial pathway alongside direct CO_2 sales.

Ucaneo's first industrial facility based in Berlin, Germany (Credits: Leonhard Kupsch)

For more information about Siemens' portfolio for the chemical industry, please visit: https://www.siemens.com/en-us/industries/chemicals/

This press release can be found at: https://press.siemens.com/global/en/pressrelease/siemens-and-ucaneo-partner-scale-direct-air-capture

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Siemens Digital Industries (DI) empowers companies of all sizes within the process and discrete manufacturing industries to accelerate their digital and sustainability transformation across the entire value chain. Siemens' cutting-edge automation and software portfolio revolutionizes the design, realization and optimization of products and production. And with Siemens Xcelerator – the open digital business platform – this process is made even easier, faster, and scalable. Together with our partners and ecosystem, Siemens Digital Industries enables customers to become a sustainable Digital Enterprise. Siemens Digital Industries has a workforce of around 70,000 people worldwide.

Siemens AG (Berlin and Munich) is a leading technology company focused on industry, infrastructure, mobility, and healthcare. The company's purpose is to create technology to transform the everyday, for everyone. By combining the real and the digital worlds, Siemens empowers customers to accelerate their digital and sustainability transformations, making factories more efficient, cities more livable, and transportation more sustainable. A leader in industrial AI, Siemens leverages its deep domain know-how to apply AI – including generative AI – to real-world applications, making AI accessible and impactful for customers across diverse industries. Siemens also owns a majority stake in the publicly listed company Siemens Healthineers, a leading global medical technology provider pioneering breakthroughs in healthcare. For everyone. Everywhere. Sustainably.
In fiscal 2025, which ended on September 30, 2025, the Siemens Group generated revenue of €78.9 billion and net income of €10.4 billion. As of September 30, 2025, the company employed around 318,000 people worldwide on the basis of continuing operations. Further information is available on the Internet at www.siemens.com

About Ucaneo
Ucaneo is building the next generation of carbon removal infrastructure. The company's electrochemical Direct Air Capture (DAC) technology removes CO_2 directly from ambient air and produces high-purity carbon for permanent storage and the production of sustainable products such as fuels, chemicals, and materials, helping strengthen future supply chains. Founded in Berlin in 2022 by Carla Glassl and Florian Tiller, Ucaneo brings together engineers, scientists, operators, and builders from around the world to scale industrial carbon removal. The company employs around 30 people representing more than ten nationalities. Backed by investors including Aramco Ventures, the Grantham Foundation, Nucleus Capital, and public funding from the German federal government, Ucaneo has raised approximately €17 million to date. In 2025, the company commissioned its industrial pilot plant, followed by Germany's largest DAC plant in Berlin-Marzahn in June 2026. By building and deploying carbon removal infrastructure in Germany, Ucaneo contributes to regional industrial development while helping establish the foundation of the future carbon economy.