

Press Release



Leverkusen,
July 07, 2020

Covestro and Google cooperate on research for novel computer technology

How Quantum Computing can benefit chemistry

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- **Milestone in digital research and development**
- **Expand innovation leadership with quantum computing**

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Significantly less time, less use of resources, more efficient and environmentally friendly processes, completely new materials - this is the future potential of the novel technology Quantum Computing in research and development for the chemical industry. In order to achieve long-term innovation leadership in this still developing field of digital chemistry, Covestro builds up resources and expands partnerships. With so-called quantum computing, the materials manufacturer is going one step further to investigate new possibilities in the field of chemical simulations. Therefore, Covestro and Google have signed a research partnership agreement. The current research focuses on the development of fundamental algorithms, while the future vision is to solve certain complex simulations in a fraction of the time compared to classical computers.

“Quantum computing opens up groundbreaking new perspectives for our industry. We therefore want to invest specifically in the further development of this technology and build up expertise”, said Dr. Markus Steilemann, CEO of Covestro. “The partnership with Google gives us the opportunity to do so and is so far unique in the chemical industry.”

Quantum Computing opens up new dimensions

Covestro has already been investing extensively in digital research and development for around three years. The novel quantum computing is another important milestone in the search for new, digitized research processes. This forward-looking computer technology is the key to knowledge that is needed, for example, to successfully advance the circular economy. With the help of



quantum computing, details of highly complex chemical reaction processes can be digitally simulated and evaluated in a very short time.

Hartmut Neven, head of the Google AI Quantum group states: “We are advancing quantum computing by developing quantum processors and novel quantum algorithms to help industry researcher partners solve problems. We are looking forward to the collaboration with the very strong team of scientists at Covestro.”

Quantum computing will help Google to develop the innovations of tomorrow, including AI. That’s why the company is committed to building dedicated quantum hardware and software today.

Quantum computing is a new paradigm that will play a big role in accelerating tasks for new computing capabilities. Google wants to offer researchers and developers access to open source frameworks and computing power that can operate beyond classical capabilities.

With quantum computing, Covestro intends to build on the success of previous investments and further deepen its global competencies in computational chemistry. In the long term, the technology can go far beyond the possibilities of high-performance computing. With the expansion of a classic high-performance computer at the Leverkusen site for computer simulations and a new, global platform for research data for more than a year, Covestro has been tapping into the value-added potential that the digital transformation of the chemical industry is opening up.

Access to technology and know-how

The partnership on quantum computing between Google and Covestro forms the basis for joint scientific cooperation. The main goal is the further development of quantum computing technology and how it can be used to solve chemical problems in the future. Google provides the hardware and access to its technology experts. Thus, Covestro takes a pioneering role in digital research and development to test and further develop the new methods of quantum computing for the chemical industry.

About Covestro:

With 2019 sales of EUR 12.4 billion, Covestro is among the world’s largest polymer companies. Business activities are focused on the manufacture of high-tech polymer materials and the development of innovative solutions for products used in many areas of daily life. The main segments served are the automotive,



construction, wood processing and furniture, and electrical and electronics industries. Other sectors include sports and leisure, cosmetics, health and the chemical industry itself. Covestro has 30 production sites worldwide and employs approximately 17,200 people (calculated as full-time equivalents) at the end of 2019.

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