



## News Release

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### **Bayer and Ginkgo Bioworks join forces for sustainable agriculture, forming new company with USD 100 million Series A**

- The novel company will focus on transformational beneficial microbes for plants to provide growers with next generation solutions to their biggest challenges
- Initial activities will focus on nitrogen fixation, minimizing agriculture's environmental impact
- The work combines the synthetic biology leadership of Ginkgo Bioworks with Bayer's deep knowledge and experience in agriculture and microbial products

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**Leverkusen/Boston, September 14, 2017** – Bayer and Ginkgo Bioworks will create a new company focused on the plant microbiome. Improving the microbes' ability to make nitrogen fertilizer available for plants, offers a major potential benefit to sustainable agriculture. The deal provides a Series A investment of USD 100 million by its parent companies and Viking Global Investors LP. The new company will be co-located with Ginkgo in Boston's thriving biotechnology community and in West Sacramento, California, home of Bayer's R&D activities around plant biologics.

The new company will focus on technologies to improve plant-associated microbes with a major focus on nitrogen fixation. While some crops such as soybeans, peas and other legumes can pair with specific microbes that live within the plant and fulfill their nitrogen needs, most other crops cannot. Nitrogen fertilizer is therefore an essential component in modern agriculture. It can however add cost to growers when used inefficiently. In addition, use of nitrogen fertilizer is a major environmental concern, driving greenhouse gas emissions and water pollution. The endophytic microbes to be developed by the company aim to provide a platform to flexibly deliver new agronomic advantages. This is expected to have a profound positive benefit to growers, agriculture and society alike.

The new biotech company is the fifth investment by the Bayer LifeScience Center (BLSC), which operates as a strategic innovation unit within Bayer and directly reports to Bayer's Board of Management. The BLSC has the mission to uncover, encourage and activate fundamental breakthroughs by creating and building new companies together with entrepreneurial best-in-class partners, such as Ginkgo Bioworks for synthetic biology. Along with the investment in this new company, previous investments in Casebia (CRISPR/Cas technology) and BlueRock (induced pluripotent stem cell technology), the BLSC has recently made some of the largest-ever Series A investments across the biotech and AgTech industries.

"Accessing the microbiome is part of Bayer's innovation strategy. We are launching this enterprise to develop transformative agricultural products based on the latest synthetic biology technology," said Kemal Malik, member of the Board of Management of Bayer AG and responsible for Innovation. "We have exclusively partnered with Ginkgo to build a leading player in this field."

In addition to the the initial USD 100 million Series A investment by Bayer, Ginkgo, and Viking Global Investors LP, Ginkgo will provide exclusive access to its technology, laboratory and office spaces, and will build a new facility exclusively for the new company. Bayer will also provide exclusive access to proprietary microbial strains and all necessary development know-how.

Dr. Mike Miille will be named interim CEO of the new company. He is a biotech veteran in the field of agricultural use of the microbiome, former CEO of AgraQuest and currently Vice President Strategy and Business Management Biologics at Crop Science, a division of Bayer. The Board of Directors of the new company will be composed of two representatives from Ginkgo Bioworks - Dr. Jason Kelly and Dr. Reshma Shetty - and two representatives from Bayer - Dr. Axel Bouchon and Dr. Juergen Eckhardt.

"Biology is changing industries as diverse as flavor and fragrance to consumer electronics. Agriculture is the original biological technology, and the more we can learn to work with the soil microbiome, the more we can discover new ways to add value to farmers and return to its biological, and more sustainable, roots," said Jason Kelly, co-founder and CEO of Ginkgo Bioworks. "We're thrilled to be working with Bayer to bring this transformational aspiration to life."

The new company will operate out of Ginkgo's Boston Seaport facility. Ginkgo is a rapidly growing biotech company building a versatile automated platform for engineering biology, with applications across industries such as consumer products and personal care, health and medicine, and food and agriculture. In the past 24 months, Ginkgo has raised USD 154M in venture capital, which has driven the growth of its platform technology. Ginkgo's third generation automated foundry, Bioworks3, is currently under construction and will be used by the newly formed company to develop technologies with applications in sustainable agriculture. The Sacramento area site is a global Crop Science R&D site, hosting the Biologics R&D team, focused on innovative biological pest and disease management solutions. The site houses Bayer's center of excellence for research and development in this area, making Bayer a leading company for research, development and production of microbial-based solutions.

"The plant microbiome is one of the next frontiers in sustainable agriculture," said Axel Bouchon, Head of the Bayer Life Science Center. "And it may enable us to take a major leap in plant physiology: producing nitrogen fertilizer directly in the plant. We are excited to combine state-of-the-art plant science and leading microbial technology to help tackle this challenge. With Ginkgo we have found the best-in-class partner to achieve this fundamental breakthrough."

Closing of the transaction is subject to customary conditions and expected to occur in the fall of 2017. Hiring for the new company is currently underway.

### **About Ginkgo Bioworks**

Headquartered in Boston, Ginkgo Bioworks uses the most advanced technology on the planet – biology - to grow products instead of manufacture them. The company's technology platform is bringing biotechnology into consumer goods markets, enabling fragrance, cosmetic, nutrition, and food companies to make better products. For more information, visit [www.ginkgobioworks.com](http://www.ginkgobioworks.com).

### **About Biological Crop Protection at Bayer:**

Bayer offers a broad portfolio of biological crop protection products to farmers based on microorganisms such as fungi and bacteria include VOTiVO™, TWO.O, Flocter™, Serenade™, Sonata™, Contans™, BioAct™ and Requiem™. For more information, go to [www.bayer.com](http://www.bayer.com).

## **Bayer: Science For A Better Life**

Bayer is a global enterprise with core competencies in the Life Science fields of health care and agriculture. Its products and services are designed to benefit people and improve their quality of life. At the same time, the Group aims to create value through innovation, growth and high earning power. Bayer is committed to the principles of sustainable development and to its social and ethical responsibilities as a corporate citizen. In fiscal 2016, the Group employed around 115,200 people and had sales of EUR 46.8 billion. Capital expenditures amounted to EUR 2.6 billion, R&D expenses to EUR 4.7 billion. These figures include those for the high-tech polymers business, which was floated on the stock market as an independent company named Covestro on October 6, 2015. For more information, go to [www.bayer.com](http://www.bayer.com).

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### **Forward-Looking Statements**

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