

News Release

Your Contacts

Media Relations

gangolf.schrimpf@emdgroup.com

Phone: +49 6151 72-9591

Investor Relations

investor.relations@emdgroup.com

Phone: +49 6151 72-3321

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Merck KGaA, Darmstadt, Germany, Announces Collaboration with Iktos for Generative Artificial Intelligence (AI) Technology

- **Collaboration agreement enables Merck KGaA, Darmstadt, Germany, access to Iktos AI technology across three drug discovery projects**
- **Generative modelling AI technology enables rapid and cost-effective design of novel drugs**
- **Agreement is part of Merck KGaA, Darmstadt, Germany's R&D strategy to advance drug discovery with strategic technology-focused collaborations**

Darmstadt, Germany, March 14, 2019 – Merck KGaA, Darmstadt, Germany, a leading science and technology company, today announced a collaboration agreement with Iktos, for the use of its generative modelling artificial intelligence (AI) technology, in order to facilitate the rapid and cost-effective discovery and design of promising new compounds.

"This agreement is another illustration of how we aim to enrich our discovery engine with strategic technology-focused collaborations," said Belén Garijo, Member of the Executive Board and CEO Healthcare, Merck KGaA, Darmstadt, Germany. "Artificial intelligence is emerging as a pillar in the biopharmaceutical R&D model, giving us



exponential opportunity to complement our existing expertise with further speed and better precision. For patients, this could mean faster access to novel treatment options.”

Iktos’ AI technology, which is based on deep generative models, helps bring speed and efficiency to the drug discovery process, by automatically designing virtual novel molecules that have desired activities for treating a given disease. This tackles one of the key challenges in drug design: rapid identification of molecules which simultaneously satisfy multiple drug-like criteria for clinical testing. The technology is already successfully established in other fields, such as image processing and automatic translation, but has only recently been applied to chemistry.

“We are thrilled that Merck KGaA, Darmstadt, Germany, is collaborating with Iktos to further accelerate its drug discovery capabilities,” commented Yann Gaston-Mathé, President and CEO of Iktos. “In a short space of time, our technology has successfully enabled huge progress and we are eager to apply the enormous possibilities it holds to help Merck KGaA, Darmstadt, Germany, with the successful design of new therapeutic options.”

Merck KGaA, Darmstadt, Germany, continues to leverage machine learning and artificial intelligence to drive transformative approaches. This follows the announcement, in December 2018, of a year-long licencing agreement with Cyclica Inc. for the use of its AI-augmented proteome screening platform, Ligand Express®. Merck KGaA, Darmstadt, Germany, also recently announced that it has been granted a U.S. Patent for a novel combination of AI and Blockchain Technology, aimed at providing a solution for the secure integration of physical products into the digital world.

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About Iktos

Incorporated in October 2016, Iktos is a French start-up company specialized in the development of artificial intelligence solutions applied to chemical research, more specifically medicinal chemistry and new drug design. Iktos is developing a proprietary and innovative solution based on deep learning generative models, which enables, using existing data, to design molecules that are optimized in silico to meet all the success criteria of a small molecule discovery project. The use of Iktos technology enables

major productivity gains in upstream pharmaceutical R&D. Iktos offers its technology both as professional services and as a SaaS software platform, Makya™.

More information on: www.iktos.ai

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About Merck KGaA, Darmstadt, Germany

Merck KGaA, Darmstadt, Germany, a leading science and technology company, operates across healthcare, life science and performance materials. Around 52,000 employees work to make a positive difference to millions of people's lives every day by creating more joyful and sustainable ways to live. From advancing gene editing technologies and discovering unique ways to treat the most challenging diseases to enabling the intelligence of devices – the company is everywhere. In 2018, Merck KGaA, Darmstadt, Germany, generated sales of € 14.8 billion in 66 countries.

The company holds the global rights to the name and trademark "Merck" internationally. The only exceptions are the United States and Canada, where the business sectors of Merck KGaA, Darmstadt, Germany operate as EMD Serono in healthcare, MilliporeSigma in life science, and EMD Performance Materials. Since its founding 1668, scientific exploration and responsible entrepreneurship have been key to the company's technological and scientific advances. To this day, the founding family remains the majority owner of the publicly listed company.