

Broad Institute and Verily partner with Microsoft to accelerate the next generation of the Terra platform for health and life science research

Multiyear partnership brings together advanced technology, industry expertise and scale to help researchers interpret an unprecedented amount of biomedical data and derive insights to advance the treatment of human diseases

CAMBRIDGE, Mass., SOUTH SAN FRANCISCO, Calif., and REDMOND, Wash.

— **Jan. 11, 2021** — On Monday, Broad Institute of MIT and Harvard, Verily, an Alphabet company, and Microsoft Corp. announced a strategic partnership to accelerate new innovations in biomedicine through the Terra platform. Terra, originally developed by Verily and the Broad Institute, is a secure, scalable, open-source platform for biomedical researchers to access data, run analysis tools and collaborate. Terra is actively used by thousands of researchers every month to analyze data from millions of participants in important scientific research projects.

Biomedical data are being generated and digitized at a historic rate and are expected to reach dozens of exabytes by 2025 — including data from genomics, medical imaging, biometric signals and electronic health records. Coupled with powerful research and analysis tools, these datasets can provide lifesaving insights into some of the world's most pressing health issues. But making use of these important datasets remains difficult for researchers who face huge, siloed data estates, disparate tools, fragmented systems and data standards, and varying governance and security policies.

The new partnership aims to break through those barriers by bringing together Microsoft's cloud, data and AI technologies, and global network of more than 168,000 health and life sciences partners to accelerate development of global biomedical research through the Terra platform, provide greater access and empower the open-source community. Building on the open-source foundation of Terra, the new collaboration will advance the ability of data

scientists, biomedical researchers and clinicians around the world to collaborate in tackling some of the most complex and widespread diseases facing society today.

The Broad-Verily-Microsoft partnership brings together leading genomics and computer science researchers, data scientists and technology experts to jointly deliver on the vision of the Terra platform. Through the collaboration with Microsoft, the companies will accelerate Terra's vision for health and life sciences research by:

- Expanding on Terra's open, modular and interoperable research platform, with the addition of the Microsoft Azure cloud, data and AI technologies, and global capabilities
- Increasing Terra's accessibility to the more than 168,000 health and life sciences organizations partnering with Microsoft around the world
- Enabling secure and authenticated access to distributed data stores via collaborative workspaces
- Allowing access to a rapidly growing portfolio of open and proprietary standards-based tools, best practices workflows and APIs
- Enabling federated data analysis to uncover insights and build novel analytical and predictive models while ensuring patient privacy
- Creating a seamless and secure flow to speed the delivery of data and insights between research and clinical domains
- Using open APIs and modular components to advance the standards-based biomedical data ecosystem in line with the open, compatible and secure approach to data developed by the [Data Biosphere](#) and the responsible policies and technical standards established by the [Global Alliance for Genomics and Health](#)

Commentary

Verily

“We're pleased to be working with Microsoft and Broad on this initiative. Our three organizations share the goals of improving patient care, driving innovation in biomedical research, and lowering costs across healthcare and life sciences,” said Stephen Gillett, chief operating officer at Verily. “This partnership combines multimodal data, secure analytics and

scalable cloud computing to improve insight and evidence generation, allowing us to ultimately impact more patients' lives.”

Microsoft

“The opportunity to partner with the Broad Institute and Verily in helping researchers around the world understand and treat our toughest human diseases is an honor,” said Gregory Moore, M.D., Ph.D., corporate vice president of Microsoft Health Next. “Through this partnership, we will apply the power of Microsoft Azure and its enterprise-grade capabilities in security and privacy, along with cutting-edge data and AI solutions like Azure Synapse Analytics, Azure Machine Learning and Azure Cognitive Services, to deliver on the vision of the Terra platform at a new level of scale.”

Broad Institute of MIT and Harvard

“Terra simplifies the process so researchers can analyze and share data they have generated, and access and analyze data others have made available without needing to duplicate datasets,” said Eric S. Lander, president and founding director of the Broad Institute of MIT and Harvard. “As an interoperable, open-source system, Terra is designed to work across many different types of biomedical information — moving aside barriers to storage, permissions and computing to enable collaboration and generate insights. We are thrilled that Microsoft has joined the Terra community and, through this collaboration, we will reduce many more barriers to advancing science and medicine.”

“Both Microsoft and Verily share our vision for Terra as an open and collaborative ecosystem for the sharing and analysis of biomedical data,” said Clare Bernard, senior director of the Broad Institute Data Sciences Platform and product manager of the Terra platform. “This

partnership will allow us to make Terra even more useful and accessible across a broader set of researchers and industries.”

European Bioinformatics Institute

“Terra’s adoption of GA4GH standards is an important step forward,” said Helen Parkinson, head of Molecular Archival Resources at the European Bioinformatics Institute (EMBL-EBI). “By following these standards, Terra supports modularity and interoperability, which are key to creating a global and federated data ecosystem.”

About Terra

For more information about Terra, please visit <https://terra.bio>. To learn more about the enterprise offering, please go [here](#).

About Verily

Launched in 2015, Verily is a subsidiary of Alphabet focused on life sciences and healthcare. The mission is to make the world’s health data useful so that people enjoy healthier lives. Verily develops tools and devices to collect, organize and activate health data, and creates interventions to prevent and manage disease. The organization partners with leading life sciences, medical device and government organizations, using deep hardware, software, scientific, and healthcare expertise to enable faster development, meaningful advances, and deployment at scale.

About Broad Institute of MIT and Harvard

Broad Institute of MIT and Harvard was launched in 2004 to empower this generation of creative scientists to transform medicine. The Broad Institute seeks to describe the molecular components of life and their connections; discover the molecular basis of major human diseases;

develop effective new approaches to diagnostics and therapeutics; and disseminate discoveries, tools, methods, and data openly to the entire scientific community.

Founded by MIT, Harvard, Harvard-affiliated hospitals, and the visionary Los Angeles philanthropists Eli and Edythe L. Broad, the Broad Institute includes faculty, professional staff, and students from throughout the MIT and Harvard biomedical research communities and beyond, with collaborations spanning over a hundred private and public institutions in more than 40 countries worldwide. For further information about the Broad Institute, go to <http://www.broadinstitute.org>.

About Microsoft

Microsoft (Nasdaq “MSFT” @microsoft) enables digital transformation for the era of an intelligent cloud and an intelligent edge. Its mission is to empower every person and every organization on the planet to achieve more.

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