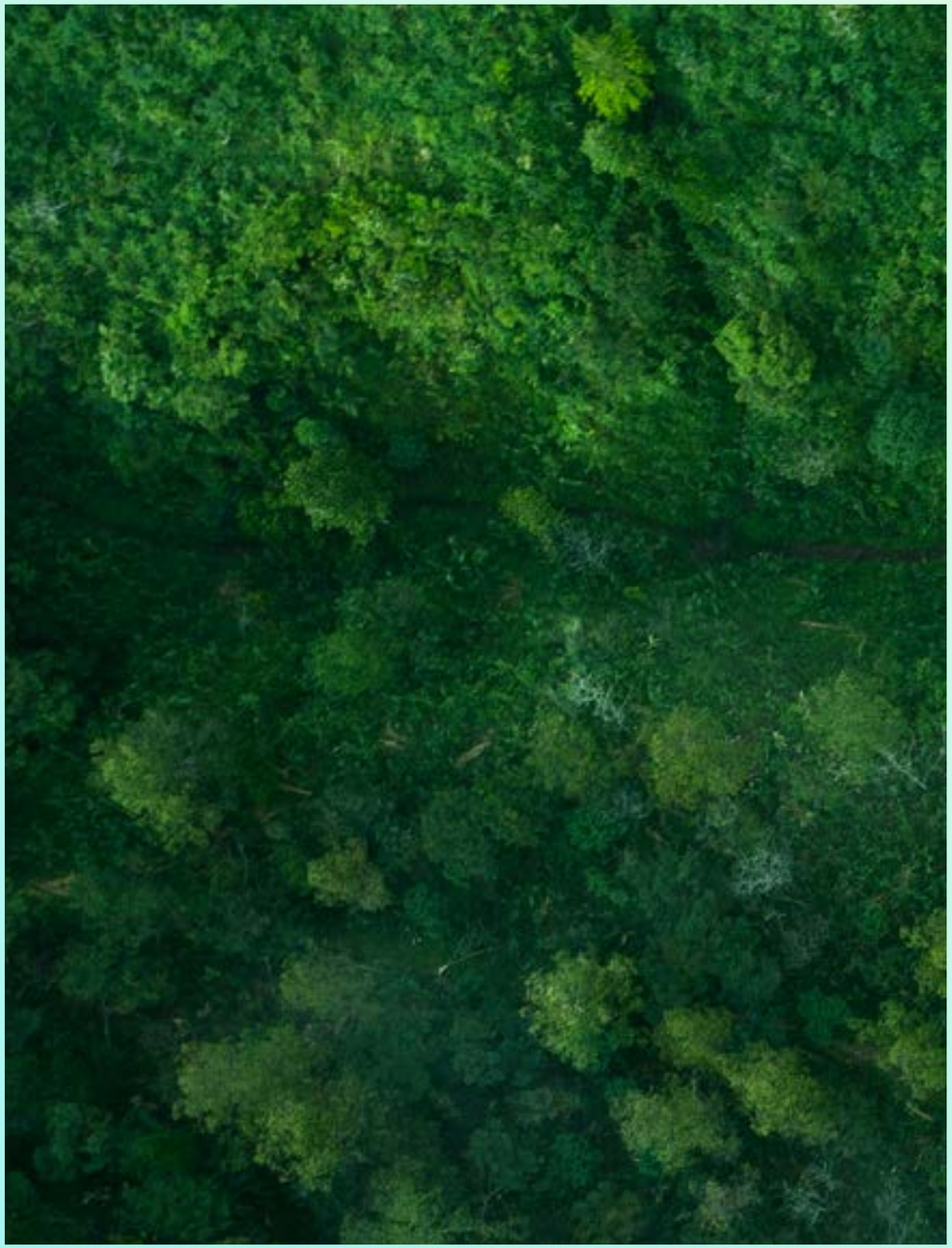
EQUINIX | Nanyang Biologics

Nanyang Biologics harnesses AI to unlock therapeutic potential in natural compounds

AI-driven analyses speed drug discovery by 68% at a fraction of the cost

Case Study



Singapore-based Nanyang Biologics harnesses AI to analyze molecules derived from natural compounds and discover their effects on the human body. Equinix AI-ready data centers power the complex, high-density AI workloads for the healthcare company's Drug-Target Interaction Graph Neural Network (DTIGN) platform, which is reducing the time and cost to discover new drugs by unlocking the therapeutic potential of plant-derived, bioactive compounds.

Challenge

Only a fraction of the 300,000+ species of plants discovered around the world have been studied for their medicinal potential, as each plant's natural compounds could potentially contain thousands of unique molecules. Analyzing hundreds of thousands of these compounds to identify an ideal target for further drug development is more complex and time-consuming than searching for the proverbial needle in a haystack.

Aiming to address this challenge, Nanyang Biologics built its AI-driven DTIGN platform to efficiently screen these plant-derived compounds and accurately predict their bioactivities to accelerate drug discovery. But this resource-intensive platform requires powerful GPUs and high-performance connectivity.

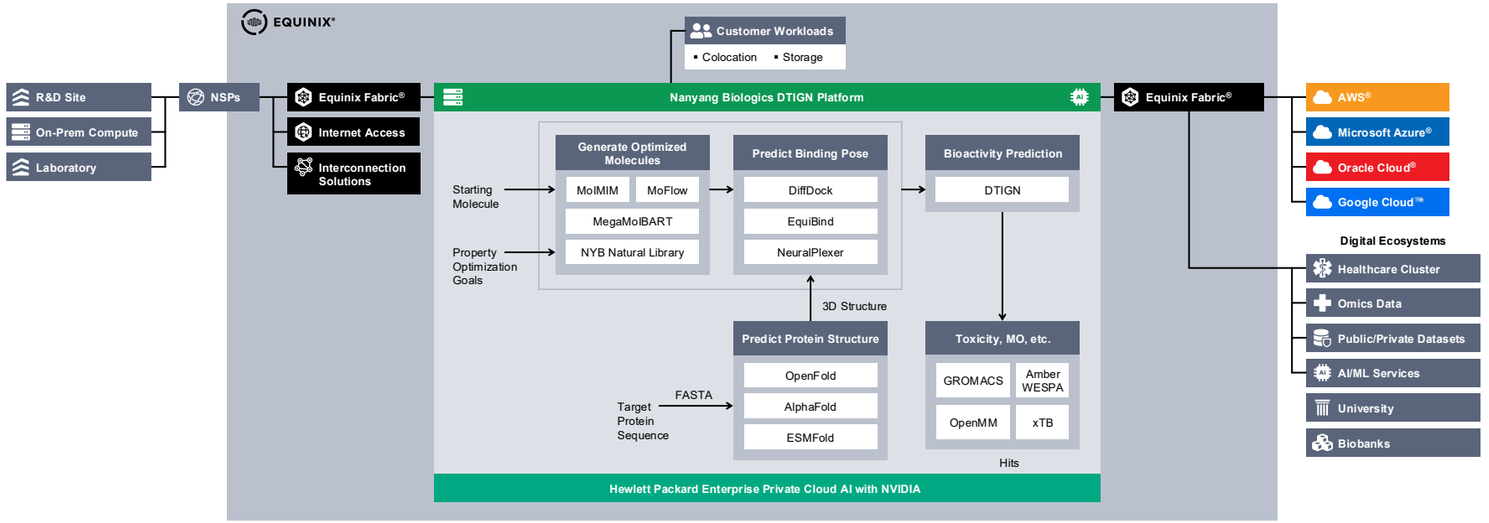
Solution

DTIGN required a high-performance, scalable computing environment to analyze the Nanyang Biologics library of two billion natural compounds.

The company turned to Equinix for its AI-ready data centers and global digital ecosystem to future-proof its AI with predictable performance and scalability.

Equinix's high-performance computing environment allows DTIGN to screen vast volumes of natural compound data efficiently, predict compound bioactivities accurately and scale with the increasing complexity of the analyzed molecules.

Low-latency, high-speed connections to the Equinix global partner ecosystem empower collaboration between Nanyang Biologics and its research partners in the pharmaceutical industry and beyond.



Equinix AI-ready data centers provide computing power and advanced cooling technology alongside HPE Private Cloud AI with NVIDIA to support Nanyang Biologics' resource-intensive AI workloads for compound discovery.

Solution components

Equinix AI-ready data centers

Providing high-performance computing power with access to space, power and advanced cooling technology, Equinix data centers support DTIGN in running complex, high-density AI workloads.

Equinix Internet Access

Through low-latency, direct fast-path connections to major data sources globally, Nanyang Biologics keeps its extensive and ever-expanding compound library up to date with the latest information and insights.

Benefits

With Equinix AI-ready data centers and high-speed interconnectivity, Nanyang Biologics achieves exceptional speed, precision and significant cost savings as DTIGN unlocks nature's insights with AI.

68% acceleration in drug discovery

Equinix's high-performance computing environment allows Nanyang Biologics to run complex, resource-intensive AI workloads that increase DTIGN's speed and precision in analyzing natural compounds. DTIGN is expected to accelerate drug discovery by 68% and improve bioactivity prediction accuracy by 27%.

90% reduction in R&D costs

Flexible digital infrastructure enables Nanyang Biologics to utilize AI for multiple tests, overcoming the scalability limitations of wet labs that require humans and animals. The company expects this AI-enabled, future-ready infrastructure to reduce its typical R&D costs by 90%.

Data gravity

Significantly enhancing data transfer speeds, Equinix's low-latency networks enable data gravity for DTIGN to perform natural compound analysis.

Gateway to a global AI ecosystem

Equinix's global digital ecosystem provides a gateway for Nanyang Biologics to interconnect with cloud and service providers and global pharmaceutical, genomics, food and medical R&D communities, expanding the opportunities for innovative research and product development in the future.

"We aim to be the platform of choice for people looking to discover compounds for drugs and other uses. Scanning natural compound data requires powerful GPUs that consume a lot of energy. That's why we want to collaborate with organizations like HPE, NVIDIA and Equinix, who have extensive experience in developing and running data centers, scaling GPUs and managing IT operations."

Giang Nguyen, CTO, Nanyang Biologics

About Equinix

Equinix (Nasdaq: EQIX) is the world's digital infrastructure company®. Digital leaders harness Equinix's trusted platform to bring together and interconnect foundational infrastructure at software speed. Equinix enables organizations to access all the right places, partners and possibilities to scale with agility, speed the launch of digital services, deliver world-class experiences and multiply their value, while supporting their sustainability goals.

Equinix.com

About Nanyang Biologics

Nanyang Biologics is an AI-driven biotech company dedicated to advancing drug discovery. By combining machine learning, high-performance computing and pharmaceutical expertise, the company accelerates research in cancer, metabolic disorders and neurodegenerative diseases. Through strategic partnerships, Nanyang Biologics continues to push the limits of AI-driven pharmaceutical innovation, optimizing drug development and reducing discovery timelines.

Nanyangbiologics.com

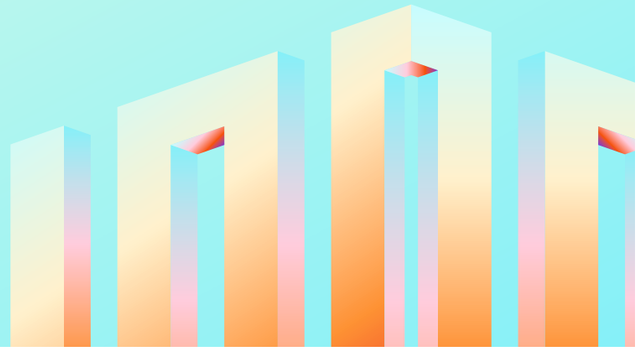
Ready to get started?

Discover how Equinix AI-ready data centers and high-performance connectivity can accelerate your AI solutions.

Learn more

Drive your future forward on Platform Equinix®

Platform Equinix is where digital businesses bring together all the right places, partners and possibilities to create the digital infrastructure they need to succeed. It's the trusted foundation for digital infrastructure, enabling businesses to innovate and create value through our digital ecosystem of tools, technologies and capabilities from the most valuable partners and communities in the world.



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