PALANTIR HEALTH

Silicon Valley Technology for Pharmaceutical Challenges

INTRODUCTION

"Big Data is only going to be as good as the questions that are being asked of it. It's the human element in the loop that's able to interrogate that data."

— John Reyners, R&D Informatics VP at AstraZeneca

How Will Your Pharmaceutical Organization Evolve?

The pharmaceutical industry has faced extensive challenges over the past decade: patent cliffs, R&D outsourcing to start-up companies, a defective funding model for biotech companies, competition from generic drugs, and price compression from payors in the wake of new health care legislation. The drug development cycle is broken and must evolve.

One of the most critical challenges is the lack of a common access point to data. Scientists cultivate deep expertise in specific subfields, while competing teams are incentivized to protect their data until they can publish or patent their findings. Meanwhile, companies lose data through frequent mergers and acquisitions and a bias against negative results. Although deep structural and behavioral shifts are required to fix the pharmaceutical discovery system, the industry has already begun to embrace the need for change. Pharmaceutical organizations require a technological infrastructure to support this evolution.

Palantir: A New Kind of Software

Palantir is a proven data fusion and analysis platform that allows pharmaceutic harness your data, analyze your information, and make better decisions throughout the enterprise. Initially developed for the U.S. intelligence community, Palantir arms pharmaceutical organizations with a new kind of software. We remove the friction between complex information and human insight by letting computers do the things they do best so you are free to ask complex questions at the speed of human thought.

With Palantir, pharmaceutical organizations can make sense of their entire universe of data—academic articles, agent and reagent information, and experimental results—in one unified analytical environment. Palantir also facilitates collaboration across analysts, teams, and agencies while providing strict privacy and civil liberties protections on all data assets.

In contrast to inflexible custom IT projects, Palantir is a dynamic, productized solution that harnesses your existing enterprise investments. In the past, organizations have endeavored to build from scratch what Palantir is able to do out of the box, resulting in massive overruns of time and money. As a proven product offering clear returns on investment, Palantir succeeds where countless other software projects fail. Palantir is deployed on the battlefield, across U.S. and allied government agencies, and behind the scenes at some of the world's largest banks.

PALANTIR: CULTIVATING PHARMACEUTICAL R&D INTELLIGENCE

Rapidly integrate structured and unstructured data to harness research:
Palantir provides scientists a single point of access to the data sources relevant to their work, including publicly available data. By quickly fusing data from internal and external sources such as experimental results, clinical trial reporting, biomedical literature, adverse event data, bioactive small molecule properties, and protein structures, Palantir empowers users to rapidly find answers to their most complex questions.

Enable secure sharing of data:
Sensitive information should be shared only if it is appropriately secured. Palantir allows organizations to implement flexible and granular access control policies. By protecting information at levels as broad as the data source and as focused as a single data property, Palantir empowers scientists, analysts, and other users to collaborate without compromising data security.

Manage knowledge and empower collaboration within and external to your organization:
Palantir enables researchers, investigators, and other users to capture their investigative processes, not just their results. By sharing expertise and actionable insights from previous development pipelines across the enterprise, Palantir allows scientists to interpret past evidence in a new context. Palantir's access control model provides a full history of processes, results, and findings.

WHAT'S REVOLUTIONARY? PALANTIR'S CAPABILITIES

Data Integration
Integrate any data—structured, unstructured, and semi-structured—into a single environment for search and analysis

Algorithmic Engine
Sift through petabyte scale data sets using algorithms and business rules, made possible by Palantir's Hercules technology

Secure Collaboration
Share intelligence securely across teams and research areas with fine-grained access controls and multi-level security

Advanced Search, Discovery & Analtyics
Conduct relational, temporal, geospatial, statistical, behavioral, predictive, and network analysis to turn raw data into actionable intelligence

Knowledge Management
Use Palantir's Revisioning Database to see where data comes from, how it has changed, and how reliable a source has been historically

PALANTIR IN ACTION: TARGET SELECTION

Target validation and selection form a critical point in the pharmaceutical pipeline. Researchers must reduce thousands of potential targets to a single molecule for drug development. Data siloes often prevent decision makers from drawing on the full array of data available within their organization.
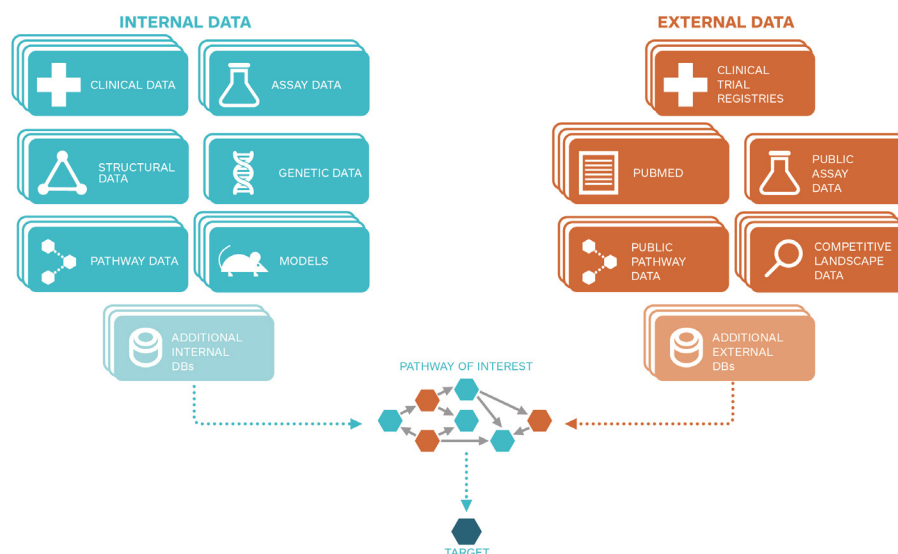
The Problem

Without access to the full spectrum of an enterprise's data, a pharmaceutical team may build a very effective inhibitor for a target and then discover that inhibiting the target in vivo will not have the desired therapeutic effect or will have a significant unexpected toxicity. These unforeseen consequences are expensive if they are not discovered until early testing, and even costlier if they go undetected until the clinical trial stage. Pharmaceutical organizations need to harness existing data sets and past experimental results to drive experimental design and identify consequences as early as possible. To decide how to proceed, organizations must sort through and assign different levels of credibility to the massive amounts of evidence in public and private data, build an interaction network for the protein target, and predict the results of altering the target.

Palantir's Solution

With Palantir, pharmaceutical organizations integrate relevant public and private data sets into a common analytic environment. Once integrated, users can rapidly search, analyze, categorize, and share evidence from unstructured and structured sources.

In addition to harnessing insights contained in literature, analysts can visualize and evaluate protein-protein interaction networks alongside drug interaction data, driving informed decisions about reliability and leveraging the work of other teammates. Researchers can share research in progress using Palantir's Discovery functionality. Palantir's Access Control Model allows other investigators to see that a peer is researching a shared pathway without exposing any raw or unpublished data.

With access to a comprehensive data picture, researchers amplify their strength of signal on critical pipeline decisions, increasing the overall success rate of drug development programs.
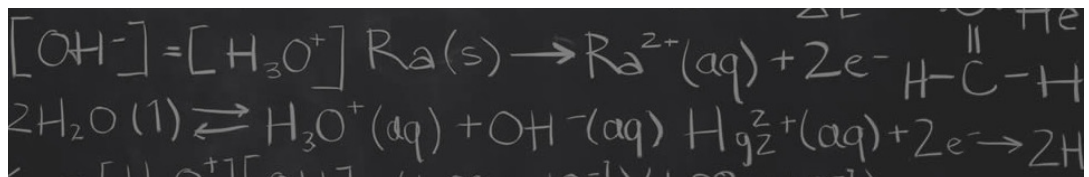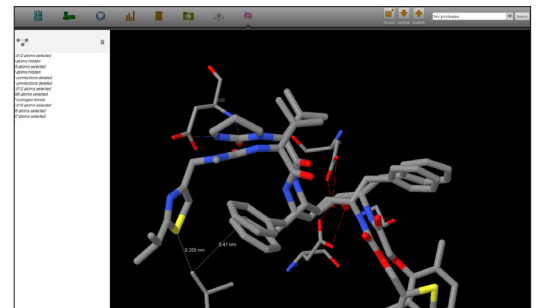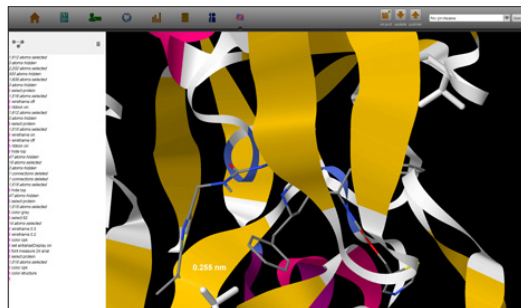
PALANTIR FOR R&D AND BEYOND

Pharmaceutical Discovery and New Applications: *Increase pipeline throughput*
Bring together previously siloed internal and external data sources to provide scientists with convenient, unified access to all compounds, targets, relationships, and assays. Palantir integrates structured and unstructured data in a single environment, allowing scientists to access articles, protocols, and notes directly linked to structured data along the investigation continuum.

Clinical Trial Management: *Decrease drug development costs*
Decide whether to continue or discontinue trials based on all available clinical trial data, from design and recruitment to monitoring and analysis. Palantir accelerates the production of trial summaries so organizations can quickly determine which products and pharmaceuticals should advance to the next phase of testing.

Product and Drug Safety: *Expedite the regulatory process and increase safety*
Provide seamless, fully integrated access to relevant data sources to monitor product and drug safety data. Run relevant statistical models on integrated data sets. Conduct investigations into aberrations or spikes in adverse events and capture all relevant data in Palantir's unified case management platform. Palantir provides unfettered access to historical data, allowing organizations to expedite NDA and ANDA submissions. After the drug is launched, organizations can monitor post-market adverse events by harnessing public data sources, as well as internal tip lines and detection programs.

Supply Chain Management: *Empower market intelligence*
Monitor and analyze demand by using Palantir to integrate internal ERP systems with external shipment tracking data. Palantir empowers organizations to discover actionable insights in real time across the supply chain spectrum, from investigational product management to global demand forecasting.

PALANTIR AT YOUR ORGANIZATION

Historically, Palantir delivers the highest return on investment when we establish a true partnership with a customer. For us, this means gaining access to the hardest problems, the relevant data sources, and the business end users who care deeply about the issues. For you, this means gaining access to our forward deployed engineers and working directly with them to apply Palantir against your most challenging problems.

Our platform is flexible and our engineers are among the best in the world. By partnering, we can operate quickly and iteratively in an unconstrained environment toward the same goals.

How Much Does Palantir Cost?

Palantir is a productized solution that we developed on our own dime. For this reason, organizations can implement Palantir with a fraction of the time, money, and risk inherent in a customized solution. While the exact cost of a Palantir deployment depends on the use case and scale, our deployments carry predictable costs and we never run over budget.

How Quickly Can Palantir Be Deployed?

We can set up a Palantir deployment in a matter of weeks. Everywhere we go, we bring Silicon Valley's standard of execution and culture of agility with us. Typically, we can have Palantir up and running for a customer within one month of contract signing.

PALANTIR TECHNOLOGIES

Palantir Technologies is a Silicon Valley technology company dedicated to providing next-generation software in support of critical missions. Our purpose is to solve extremely difficult, high-stakes technological problems using our advanced software products. The Palantir software is the world's leading platform for adaptive intelligence, data integration, next generation search and analysis, investigative algorithms, global knowledge management, and secure collaboration.

For more information about Palantir Health, please contact us at helix@palantir.com or visit:

- Palantir for Pharmaceutical Organizations: http://www.palantir.com/solutions/pharma/
- Mitigating R&D Risk through Data Fusion: http://www.palantir.com/2013/02/palantir-pharma-mitigating-rd-risk-through-data-fusion/
- Using Palantir to Explore Prescription Drug Safety: http://www.palantir.com/2012/03/using-palantir-to-explore-prescription-drug-safety/