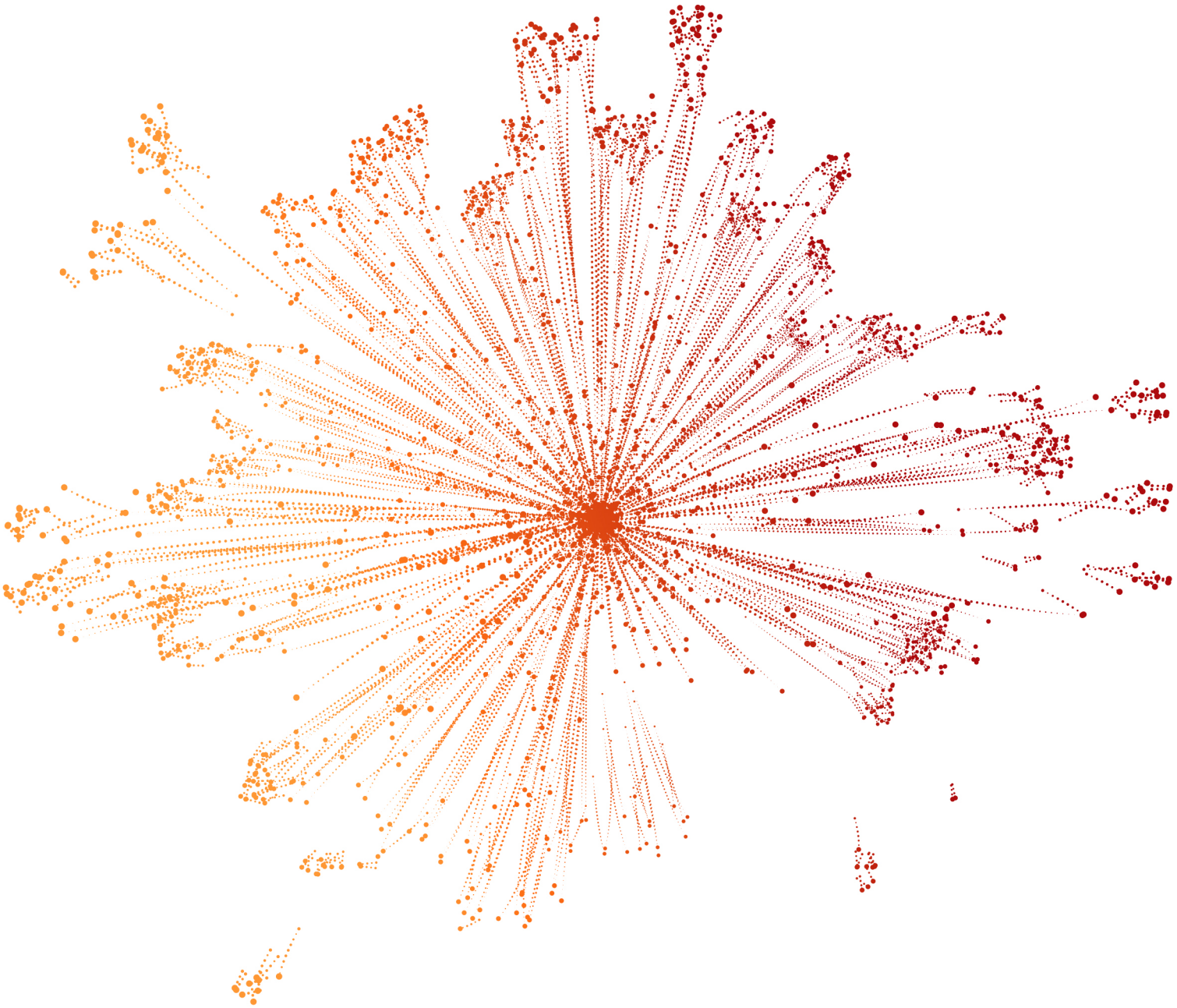


Connecting the Dots:

Building Data Applications for Life-saving Research

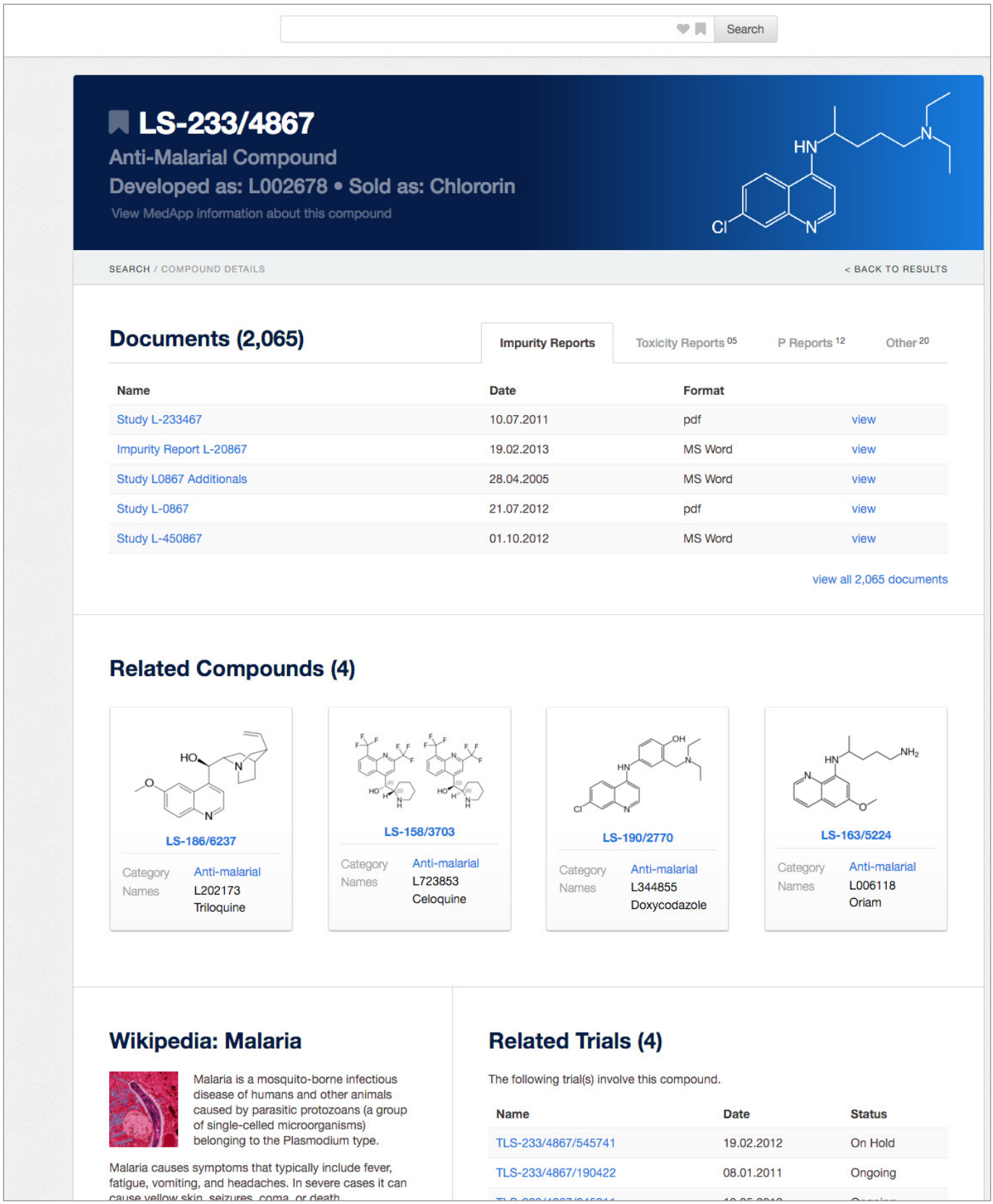
Lucidworks

Pharmaceutical companies are in the business of research, development, production, and marketing of life-saving medications and procedures. Each of these activities generate and use vast amounts of data that is subject to intense rigor. Many times, different views of the same data are required for different parts of the drug discovery, development, and commercialization lifecycle.

Pharma companies have invested a lot of time, talent, and money in data warehousing or so-called "data lakes." Despite these significant investments, the ability to locate and efficiently work with the data continues to limit organizational effectiveness and slow down product development. This is where Lucidworks can help. Our Fusion platform provides intelligent research and discovery applications for some of the world's largest and most data-reliant organizations.

The lifecycle for any attempt at drug development is long and fraught with uncertainties, with costs compounding at each stage. Pharmaceutical companies need to make it easier to analyze and predict viability and therapeutic effectiveness. Better analysis is necessary to optimize production processes and speed up clinical trials. Finally, analytics that allow companies to optimize and manage the supply chain can have significant financial benefits. Each of these stages are a risk and opportunity and each produce a significant amount of data.

This all adds up to wrangling a lot of platforms, schemas, formats, and data. This includes data from multiple labs, which often arrives in varied formats. And just like in other organizations, scientists, researchers, and other knowledge-workers dream of the proverbial 'single-pane-of-glass' that combines and makes sense of all this — leaving them to focus on discovery as opposed to endlessly switching contexts, systems, logins, and query languages only to be met by information rabbit holes and innumerable dead ends.



Searching for information on compounds.

Single Pane of Glass

Our Fusion platform enables you to create applications that can reach inside any data provider and efficiently merge together data from different sources. This makes it possible for scientists and researchers to pose their questions without having to worry about which system might be the most appropriate place to look for answers.

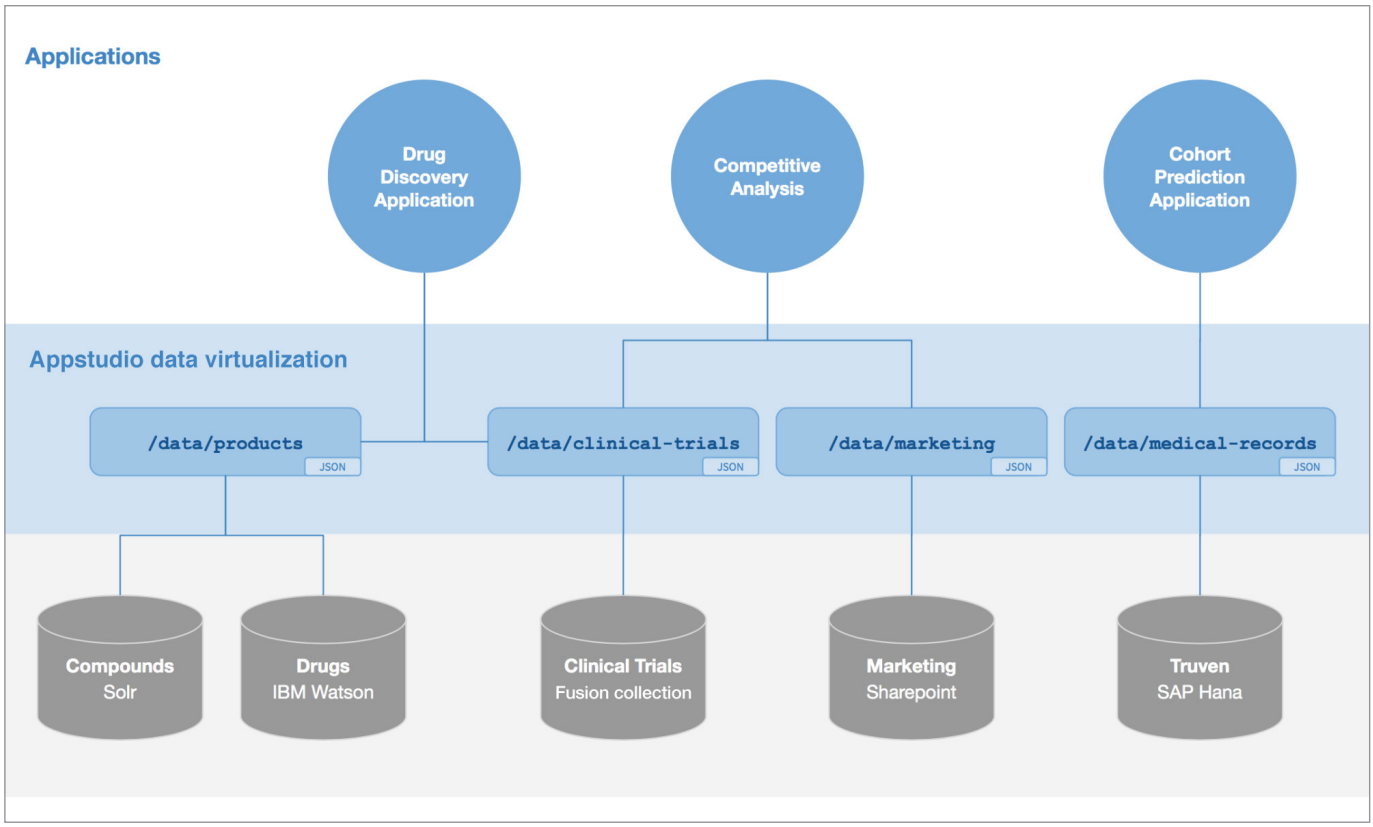
Take a clinical trial for example. The amount of data a trial generates is too vast to enumerate here. But considering just the key moving parts, we're still looking at a complex combination of substances, people (both scientists, healthcare providers, and patients), diseases, competitive or related trials with potentially different acceptance criteria, and limits. The list goes on, making the overall picture complex to say the least.

Up to the minute information that not only stays current but builds a corpus of knowledge as a trial progresses through phases is an invaluable resource. And when this data, and other information generated throughout the organization, is linked back to its authors and related scientists, a valuable picture of expertise emerges.

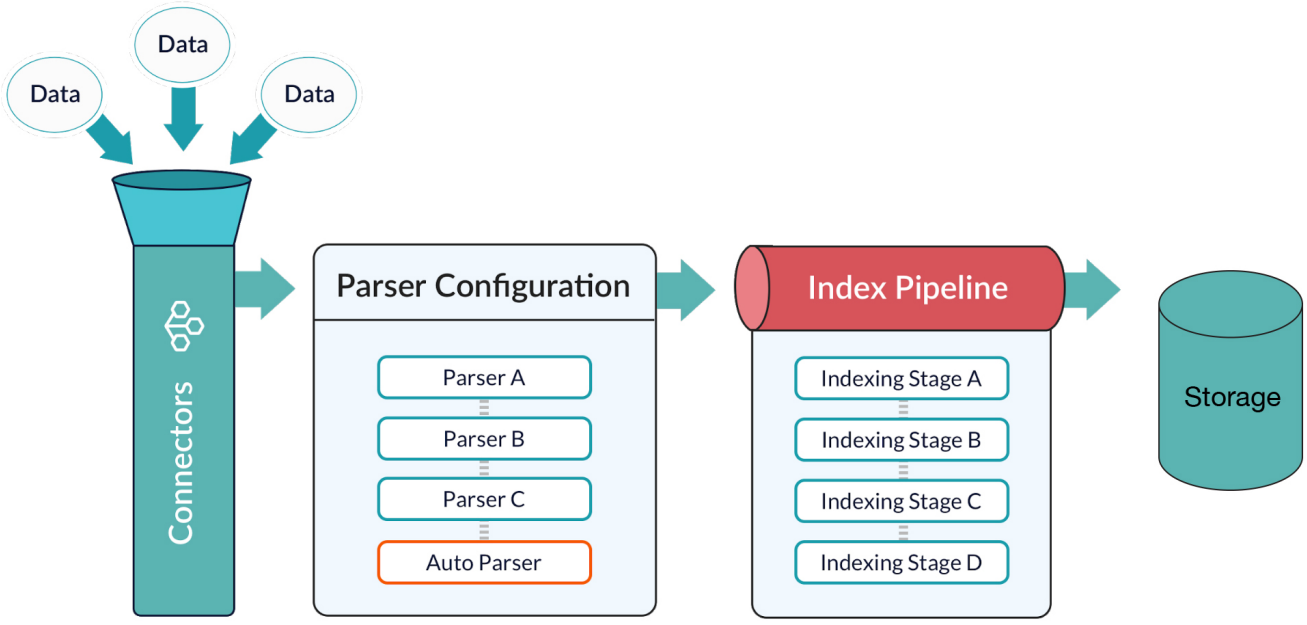
Under the Hood: Data Virtualization, Pipelines, and AI

The key to making this possible is a single language, one voice for all data no matter where it resides. Data virtualization, or unified information access across silos, allows you to stitch together information from different parts of the organization in order to paint the picture needed to support a use case like the one described above, and to surface the information through a modern, elegant application.

It doesn't matter whether it's a database, a cloud application, a search engine, data lake, or a web resource, it's whether it can all be accessed using a single system with a single API into the data that matters.



Our Fusion platform includes pipelines for applying transformations to data and normalizing it into document structures. Modern pharmacological data is too dynamic to depend on manual processes to manage and match data. Using transformation pipelines and AI techniques like classification and clustering, Fusion can help automatically manage, categorize, and find likely matches for existing data.



Two Way Street

Making this one view a collaborative space — a dialogue — completes the picture. Scientists can also enrich the data themselves, contributing additional, anecdotal information to topics. This may surface previously unknown information, linkages and connections that only a human can establish.

Away from Prying Eyes

But finally, how do our most security conscious customers protect sensitive information and guard their valuable intellectual property?

Fusion comes with a fully-tested security module with fine-grained authorization controls, authentication options, and encrypted communications that integrates with common systems like LDAP, Active Directory, Kerberos, and more. Fusion can handle not only the authentication of users but also the authorization that controls what data each user is allowed to see, passing the necessary information back to the source for bulletproof security trimming and pre-filtering. A completely secure search experience is created by simply configuring the appropriate security settings and dependencies in the application.

Get in Touch

When building these applications, the focus should be on their functionality and user interaction, ensuring access to all relevant information. Our Fusion platform comes standard with many of the features and capabilities these applications need and is designed for rapid development of data applications. This extends to the front-end user experience so you can create compelling data experiences that meet the expectations of your users and help them do their jobs better and faster. All of this is built to your specific project's requirements using the fastest, most robust, and secure technologies available.

Get Started or Learn More

For more information or to start using Fusion, contact us today at **lucidworks.com/contact** or give us a call at **415-329-6515**.