Deliver essential data to the right place at the right time when lives are literally on the line

MARKET TRENDS: The healthcare industry is the most impactful economic sector of a nation. To illustrate, not only does healthcare account for 11% of American employment and 24% of government spending, healthcare outcomes directly affect the physical health and well-being of a population. The healthcare sector is also one of the most heavily regulated industries, and the large roles nonprofit providers and third parties play contribute to unique industry challenges.

Despite being in the fastest-growing sector and having so much to gain, healthcare companies are historically slow to adopt new data technologies due in large part to compatibility issues with legacy systems and strict regulation compliance requirements. Many of the current data systems in use by the healthcare industries fall short of delivering data at the scale and speed required to stay competitive and make breakthroughs. Most data systems necessitate moving, federating, or pre-aggregating distributed data to make it accessible, wasting valuable hours, days or weeks. By definition, this lengthy process nullifies the ability to make decisions using real-time information. The delays sustained in accessing data often render AI and machine learning applications useless.

It goes without saying that the amount of data produced and managed in healthcare is mind-boggling. Between patient electronic records, hospital records, IoT device data, clinical data, environmental data, and research data, there is a patchwork of data formats, a vast array of data silos, and a relentless stream of new data coming in. A major challenge facing healthcare organizations of all types, including hospitals, manufacturers, and group practices today is how to harness important data and turn it into more efficient emergency rooms, better patient outcomes, more secure records, predictive medicine, and more.
Molecula for Healthcare—

The sheer amount of data, strict compliance requirements, and ever-growing collection of disparate data silos can be overwhelming. Molecula’s big data solution is different in that it doesn’t apply yet another bandaid to the problem but gets to the root of the Data Death Spiral—the cumulative result of uncoordinated data projects that are too narrowly focused and cause further fragmentation as data gets copied and moved from system to system, rendering the data effectively useless.

Molecula is an enterprise feature store that simplifies, accelerates, and controls big data access to power machine-scale analytics and AI so organizations and companies can achieve their goals. With Molecula, healthcare-related businesses are able to securely access and perform computations on any and all data at unprecedented speeds, with incredibly low latency, and with a fraction of the hardware.

Molecula Empowers Companies in the Healthcare Industry to:

- **PREDICT** outcomes in real-time by leveraging 100% of distributed data
- **DELIGHT** users and drive adoption with zero latency
- **ENABLE** continuous analysis and machine learning with millisecond performance
- **MINIMIZE** security and privacy risks with anonymized-ready data
- **REDUCE** time and cost to get value from AI and machine learning
Use Cases—
Below are just some of the ways the healthcare industry is leveraging data access. What will you do with continuous, real-time analysis of your most important data?

<table>
<thead>
<tr>
<th>Use Case</th>
<th>Description</th>
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<tbody>
<tr>
<td>Telemedicine</td>
<td>Being able to access more patient data in real time across locations allows doctors to meaningfully oversee more patients and make better-informed decisions before it is too late. This is especially important during the time of infectious pandemics such as COVID-19.</td>
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<tr>
<td>Detect EarlyWARNINGS OF DISEASE CONDITIONS</td>
<td>Leveraging impossibly vast and complex datasets with machine learning and AI applications to predict whether a disease is likely to present itself before traditional detection methods would discover its occurrence literally saves lives.</td>
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<tr>
<td>Epidemic Prevention</td>
<td>Big data access at scale empowers scientists to combine demographic, geographic, and socio-economic data along with disease trends and health strategies to prevent unnecessary illness in populations.</td>
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<tr>
<td>Reduce Costs</td>
<td>Integrating financial and clinical data reveals inefficiencies and provides insight into the effectiveness of treatment plans. This aids in everything from equipment planning to staffing to overall management.</td>
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<tr>
<td>Reduce Prescription Errors</td>
<td>Prescription errors cost some $21 billion per year, affecting more than 7 million U.S. patients and leading to 7,000 deaths. Leveraging data to reduce these errors makes a huge impact on lives.</td>
</tr>
<tr>
<td>Precision Medicine for Hyper-Personalized Care</td>
<td>Use biological, medical, behavioral, and environmental data to predict health risks and tailor more successful treatments to the individual level.</td>
</tr>
</tbody>
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Why Healthcare Companies Love Molecula—

- Continuous ad-hoc analytics across unlimited patient, epidemiological, IoT and other relevant data
- Millisecond data updates allow instant hospital and patient feedback to make real-time decisions
- High concurrency analytics across massive sets of users provides a flexible data system that allows for acquisition and growth
- 50-90% lower TCO from a reduced data footprint and infrastructure improvements
- Secure data format to share data across ecosystem and reduce compliance risk

How Molecula Will Help You—

Molecula’s feature store is an overlay to conventional big data systems that centralizes an organization’s most important entities and their attributes across various source systems, while maintaining up-to-the-second updates. The Molecula feature store continuously extracts and updates features to provide data engineers, data scientists, and application developers a single access point to graduate from reporting and explaining with human-scale data to predicting and prescribing real-time business outcomes with all data.

FEATURE STORE HIGHLIGHTS:

- Extracts Features from Data
  ‘AI Ready’ feature store that continuously extracts and updates features in real time

- Reduces Footprint
  Lossless reduction in data footprint, up to 85%, without copying or moving data

- Offers Single Point of Access
  Centralized, ultra low latency access to all of your data

- Enables Time-Oriented Filtering
  Track and filter time at a feature level

- Supports ML Workloads
  High concurrency queries for machine-scale analytics and ML

- Delivers Secure, Cell-Level Control
  Granular access control of feature sharing down to the cell level

- Eliminates Pre-Processing
  Performant Joins at query time, with no pre-aggregation or pre-processing

- Easily-Adoptable Overlay Implementation
  Extension framework enabling seamless integration into existing environments

WHAT ARE FEATURES?

Feature extraction is the process of reducing the dimensionality of data to more efficiently represent its values. A feature, or column, represents a measurable piece of data that can be used for analysis: Name, Age, Sex, Fare, and so on. Features are also sometimes referred to as “variables” or “attributes.” This technique was pioneered by data scientists who needed to prepare data for demanding machine learning and AI workloads.
**Customer Highlight—**

Elligo, a leading clinical research platform has selected Molecula to enable their accelerated development of new pharmaceutical, biotechnology, medical device, and diagnostic products. As the ultimate healthcare-enabling research organization, Elligo maintains the integrity of the trusted patient and healthcare physician relationship, building local healthcare communities, and leveraging electronic health records to bring clinical research as a healthcare option to more patients.

“As the leader in bringing healthcare to clinical research, Elligo is leveraging the power of data to directly improve the execution of clinical trials. True data readiness creates the ability to instantly provide synthetic data, novel data access and streamlined analytics. Molecula accelerates our ability to provide those capabilities and insights to our customers, and this partnership begins to fundamentally change the way clinical trials are executed.”

- MICHAEL IBARA; VICE PRESIDENT, DATA SCIENCE

**Get Started: Unlock Your Data Opportunity—**

To effectively compete in today’s economy, hospitals, doctors, and medical companies must leverage their information assets to comprehensively understand and take action on their most important data including: patient, epidemiological, IoT, insurance, billing, regulation, supplier, competitor, and hospital data.

Contact us today to learn more about how Molecula’s feature store will transform your business. Ask us how you can **unlock real-time value and actualize use cases never possible before**.

CONTACT US