

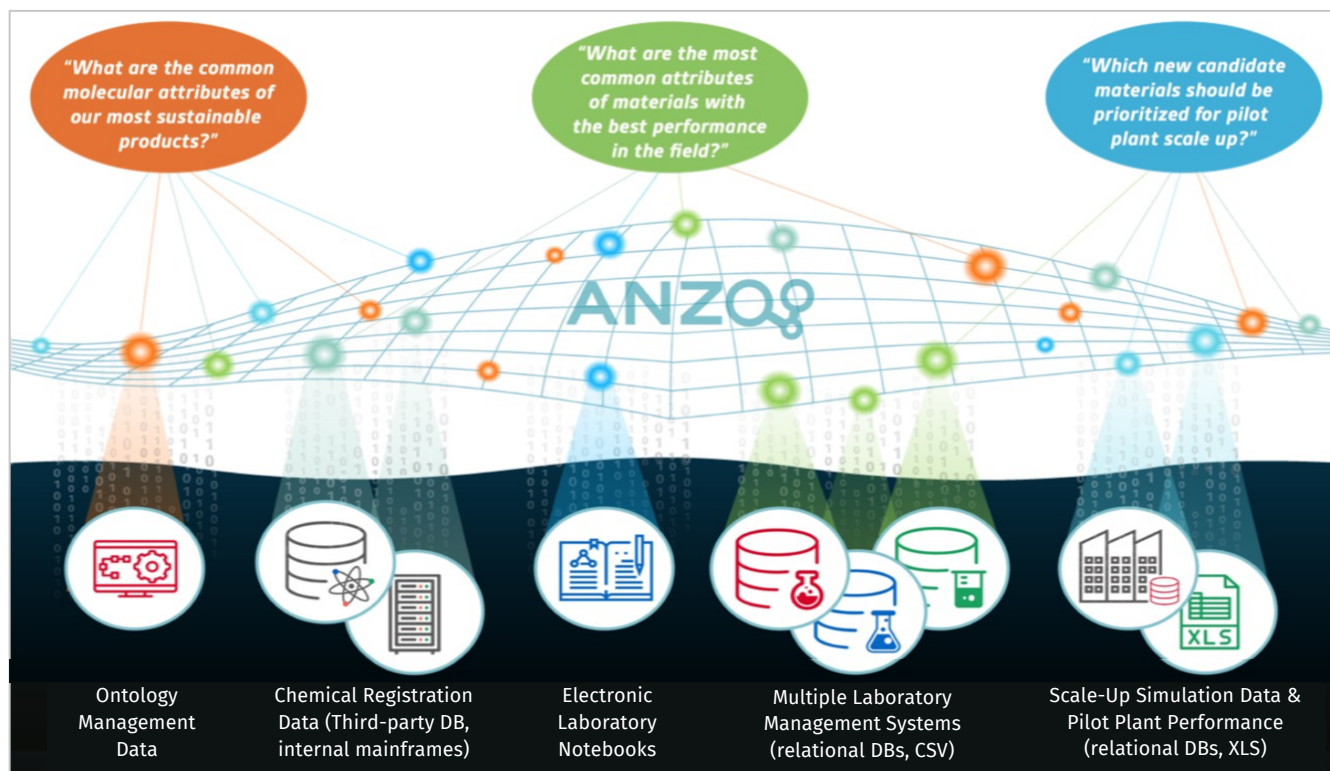
Global Chemical Producer Selects Anzo Data Integration Platform for Scientific Research and Innovation Portal

Challenge: Optimize the entire product innovation process by transforming data silos into a fully integrated, scientific research portal. A leading petrochemical manufacturer found it was taking too long to bring new products to market. A key root cause of project delays and research inefficiencies was incomplete access to critical product research data. With key data sources residing in silos, scientists, product developers and plant managers often had to make key decisions without a complete understanding of product research based on all relevant information.

The company had accumulated decades of invaluable product information, including experiments and outcomes, chemical and molecular attributes, and pilot plant data. However, these data assets were isolated across a vast tangle of data silos, including disparate Electronic Lab Notebooks (ELNs), Laboratory Information Management Systems (LIMS), chemical intelligence, molecular models and legacy systems.

A project team was convened to evaluate data discovery and integration technologies for supporting informed decision making throughout the product innovation process. “We needed a new data platform with integration capabilities beyond what our existing tools were capable of,” an IT executive on the project team said.

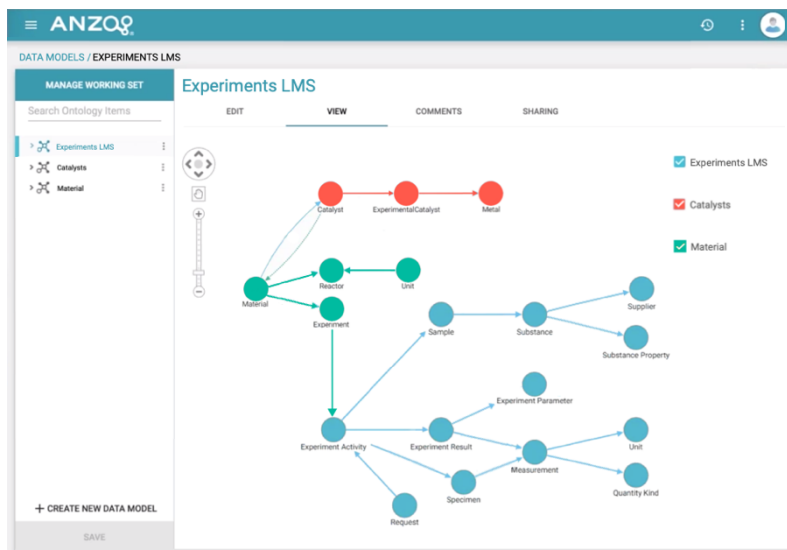
Solution: Anzo data discovery and integration platform to blend disparate data sources for unified scientific research. The company’s review process led to selecting the Anzo modern data discovery and integration platform. “Anzo will help us transform our data silos into a far more valuable whole: a *data fabric* for scientific research, discovery and informed decision making,” the IT executive said.



Anzo enables researchers and knowledge workers to ask any question of any enterprise data. Anzo applies a semantic, graph data model over your data infrastructure to connect and blend data for ad hoc queries and analytics on demand.

Data warehousing and other relational database systems require defining your data model in advance, using predefined SQL joins to connect data sources together. Unfortunately, the rigidity of this approach means end user data exploration is limited to answering only predefined questions.

In contrast, Anzo utilizes semantic and graph technology to blend disparate data sources based on common meaning and context. The new result is a future-proof data model (see example, right) that is easily expandable to integrate new data sources, while enabling end users to ask any question of your enterprise data.



Outcome: Research scientists freely access newly integrated data sources for informative scientific inquiry. Anzo semantically associated six siloed data sources including ELNs, pilot plant performance and multiple sources of laboratory, chemical and molecular data.

As a result of using a semantic data layer approach, users can now ask entirely new, deeper research questions requiring integrated, cross-departmental information to fully answer; for example:

- What previously developed new molecules were subsequently put into successful production? What attributes do those molecules have in common?
- Which new candidate materials are the most sustainable, and should therefore be prioritized for scientific evaluation?
- What are the most common attributes of chemical structures with the best performance in the field?
- How can we ensure that R&D output fulfills the needs of the manufacturing department so new materials can be put into production at scale?

“By enabling everyone involved in our product innovation process to freely ask cross-functional questions, we are facilitating a critical new level of knowledge transfer,” the IT executive said. “Workers will augment their own respective departmental knowledge with complimentary knowledge from other departments, for highly informed decision making.”

“We also look forward to Anzo helping us expedite bringing new products to market, as well as enabling us to more readily identify innovative new products most likely to be sustainable at full manufacturing scale.”