• tetrascience

Solution Brief

Advance Scientific AI with Tetra Sciborgs

TetraScience combines deep scientific knowledge and the industry's only purpose-built, open, and collaborative scientific data and AI cloud to improve and extend human life. To help our customers maximize the value of the Tetra Scientific Data and AI Cloud[™], we offer a library of deployment-ready scientific AI use cases, supporting artifacts, and best practices—all derived from our industry-leading expertise—to accelerate and improve scientific discovery, development, and manufacturing.

This solution is delivered by Tetra Sciborgs, a team of experts who work at the nexus of science, scientific data, and AI/ML, with a laser focus on business outcomes. Our Sciborgs identify and prioritize high-impact use cases, identify new opportunities for Scientific AI, maximize a customer's return on investment (ROI), and provide a solid foundation for advanced analytics and AI/ML.

Overview

Tetra Sciborgs design an end-to-end, outcomes-based solution to fundamentally transform science. They apply a science-led approach that improves scientific workflows through close engagement with our customers. As part of the outcomes, customers will improve lab productivity through data automation, derive new insights from visualization and analytics, form the data substrate needed for AI/ML, and identify how to use Scientific AI in scientists' daily work.

Within the engagement, customers can leverage:

- A growing **library of pre-built scientific use cases** developed for implementations of common data workflows across our customer base. They support specific scientific processes that are highly repeatable and impactful for organizations, enabling scientists to work faster and use their data with analytics and AI for better insights and innovation.
- A knowledge base with **learnings and best practices** from our extensive experience with technology vendors, including instrumentation and lab informatics software, and lessons learned from customers across the biopharma industry. This knowledge speeds up implementation and increases value generation.
- Tetra Sciborgs—scientific business analysts (SBAs) and scientific data architects (SDAs) who uniquely combine scientific and technology expertise. They deeply understand the needs of scientists and work closely with a customer's scientific and data/AI teams, translating those needs into cloud-based data solutions that support scientific workflows and Scientific AI.

- Example activities and deliverables include but are not limited to:
 - Solution design documentation templates detailing use case requirements, discovery, and design
 - Templates and diagrams to implement common scientific use cases
 - Process, as-is, and to-be diagrams
 - Visualization and dashboard templates from our scientific use case library (can be tailored to customer requirements)
 - Recommended file attributes

- Configuration scripting (idea to code to reality)
- Demonstrations or use cases and/or creation of prototypes using customer data for AI to improve lab productivity
- Requirements trackers
- Adoption plan and easy-to-follow tutorials
- Reports and/or presentations qualifying value of proposed and implemented solutions
- Monthly executive reports



Tetra Sciborgs help biopharma organizations:

- Identify suitable use cases to uncover new, high-impact insights.
- Leverage a higher number of common scientific workflows to further accelerate scientific outcomes.
- Uncover new opportunities for Scientific AI use cases that will improve scientists' everyday work.
- Drive faster and wider adoption of the deployment by the end users (scientists and data scientists).
- Facilitate change management (sometimes referred to as "process engineering") that might be needed to replatform scientific data to the cloud and leverage it for advanced data analytics and Scientific Al.

Tetra Sciborgs

Some companies already have experts like SBAs and SDAs (i.e., Sciborgs) as internal resources. What makes Tetra Sciborgs different?

Tetra Sciborgs are the "batteries" that power the Scientific Data and Al Cloud. They deeply understand the science performed in biopharma, the associated scientific data and its complexity, and the Tetra Scientific Data and Al Cloud. They know how our solution has been implemented across the industry, and how it is used by scientists to achieve better scientific outcomes faster. Even well-versed Sciborgs from our customers have struggled to design and implement the solution in a timely manner, slowing down value realization. Tetra Sciborgs help customer teams gain value from the platform faster and support them with "process engineering" or change management needed to ensure these changes are adopted, take hold, and deliver the intended value.

Tetra Sciborgs map out the end-to-end "as-is" workflows and the desired "to-be" workflows, ensuring value is maximized through the deployment of the Tetra Scientific Data and Al Cloud. In an engagement, they are deeply embedded in a customer's organization, serving as the "connective tissue" between TetraScience and customer teams.

More specifically, Tetra SBAs translate scientists' needs into technical requirements. They ask probing questions to understand scientists' workflows and pain points, a skill often lacking in customer teams.

"I really like the approach that you ask what and why we do certain things. It often helps to discuss the workflows with someone external. We are so used to our processes that we don't question certain steps and miss opportunities for improvement."

 Björn Michel, Scientist, Solid Formulations R&D, Merck Life Science KGaA

Typical pain points that customers encounter and where Tetra Sciborgs can help:

- "Where do we start?"
- "We don't have the (right) resources."
- "Our data and science teams don't collaborate enough."
- "We are missing an objective view on our current processes."
- "We need to enable teams to become more "dataconscious."
- "How can we use AI to improve our daily scientific workflows?"

With deep expertise in the science, SBAs can converse with customer scientists at a deep level to uncover requirements which, in turn, the Tetra SDAs can use to design the optimal solution.

Tetra SDAs serve as the primary contact point for customer data/AI teams due to their knowledge of data engineering, computer programming, and the technical capabilities of the Scientific Data and AI Cloud.

Tetra Sciborgs have a fresh, unbiased, and "industry-trained" view on scientific workflows. This expertise allows them to ask the right questions about each step in the workflow and to identify opportunities where the Tetra Scientific Data and AI Cloud can improve the current scientific data workflow.

Tetra Sciborgs can help transform the way your scientists are working today. They can uncover new opportunities for Scientific AI to improve your daily work, identify the required data, and define the path to achieve it. To optimize user adoption, our Sciborgs will guide scientists and data scientists through any workflow changes needed with a well-documented adoption plan and easy-to-follow tutorials. The Tetra Sciborgs are bringing key learnings from across the industry. Although individual scientific data workflows can vary, many follow recognizable patterns, such as those involving chromatography and lead optimization. Tetra Sciborgs excel in identifying and documenting these patterns to address common pain points across those workflows. They relentlessly seek high-value use cases and untapped opportunities for Scientific AI, guiding customers toward efficiency gains and risk reduction, for example, in chemistry, manufacturing, and control (CMC) workflows.

"Our engagement with TetraScience has been very productive and the team assigned to us is very knowledgeable, proactive, and great to work with. Their prior experience with lab work is an asset when interfacing with our scientists and helps guide the system's deployment and configuration. Looking forward to our continued partnership as we deploy and expand our TDP [Tetra Data Platform] footprint."

 Sr Director, Digital Platforms, Biomanufacturing Organization

The Value of Tetra Sciborg Engagements

To gain value quickly from their initiatives, companies need to deploy the right solution fast and leverage it quickly across the whole enterprise. Tetra Sciborgs allow biopharma customers to maximize the value of the Tetra Scientific Data and Al Cloud and to do so in as little time as possible. The engagement helps customers gain a better understanding of:

- 1. Where they are (i.e., define their current state in the scientific data and Al journey)
- 2. Where they can go (i.e., identify opportunities for improvement beyond their initial scope)
- 3. How best to get there (i.e., optimize and speed up the deployment for specific scientific outcomes, based on best practices and industry trends)

Customers that leverage Tetra Sciborgs will:

- Onboard end-to-end use cases 5-10× faster
- Realize 100% of the value from the deployment
- Optimize user adoption with support for workflow changes
- · Enable users to become more "data conscious"
- Develop a well-defined metadata strategy for secondary data reuse
- Get meaningful insights and process improvements through Scientific AI
- · Help push the limits of scientific outcomes

The Process

Tetra Sciborg engagements span the entire value chain, from identifying high-impact use cases to designing architectures and ensuring successful implementation and adoption. Throughout discovery, design, development, and deployment, Sciborgs work closely with end users to drive successful outcomes for all scientific use cases.

Accelerating Scientific Outcomes with Tetra Sciborgs



Summary

With Tetra Sciborgs, life sciences organizations can rapidly maximize the value of their scientific data in an unprecedented way. We deliver a unique science-based approach that combines the capabilities of a scientific data and AI cloud; deep domain expertise in science, scientific data, and AI; and a laser focus on high-ROI scientific and business outcomes. We are dedicated to ensuring the success of your data transformation journey, improving lab productivity through data automation, enabling visualization and analytics for new insights, and leveraging the transformative power of Scientific AI.

Learn how Tetra Sciborgs bridge science, data, and AI to deliver business outcomes. Get Started