

Introduction

Working with globally extended teams can make research and production collaboration very challenging, impacting time to market. To streamline processes and enhance communications, agrichemicals specialist PI Industries deployed lifecycle management and design solutions from Revvity Signals Notebook and Lead Discovery, helping to accelerate development and reach the market more quickly.

- Reduces development and cuts time to market
- Accelerates data transfer from field to lab
- Increases productivity and reduces errors

About the company

PI Industries is a fast-growing agrichemicals specialist known for its technological capabilities in chemistry and engineering. Based in Gurugram, Haryana, India, PI maintains operational locations in Japan, Germany, and China, employing more than 3,600 people. In 2023, PI achieved revenue of over \$900 million.

Challenges of reaching a global market

The worldwide market for innovative agrichemicals and bio-based chemicals is booming, driven in part by demand for more-sustainable agricultural practices. To take advantage of the opportunity, companies such as PI Industries are investing in research and development, building global development teams, and creating extended supply chains. In this highly competitive environment, PI looked for ways to accelerate its time to market. With a complex mix of specialist partners, managers at PI knew that to avoid process delays it was critically important to ensure effective collaboration and communication at every level.



Missed Innovation Opportunities

Without collaboration, ideas remain siloed, hindering the generation of innovative solutions and products. Lack of diverse

expertise limits the notential for



Duplication of Effort

Researchers may unknowingly duplicate experiments or efforts due to lack of communication. This leads to wasted

time, resources, and budget allocations.



Slow Time-to-Market

Inefficient communication and coordination prolong the research and development process. Competitors may seize market opportunities faster, resulting in lost market share and



Reduced Productivity

Without streamlined collaboration tools, researchers spend more time searching for information and coordinating tasks. Productivity suffers as a result, impacting project timelines and overall

Inadequate communication and coordination increase the likelihood of missed project deadlines and targets.

> This can lead to penalties, contractual breaches, and damage to the company's reputation.

Missed Deadlines

and Targets



Poor Decision-Making

Limited information sharing and lack of cross-functional collaboration result in suboptimal decis making.

Decisions may be based on incomplete or outdated data, leading to costly mistakes

Challenges faced at PI Industries that drove need for adoption of Signals Notebook.

Atanu Roy, President and Group CIO at PI, explains, "We deal with clinical research organizations, farmers, startups and regulatory authorities, and a lack of communication can lead to missed innovation opportunities and duplication of effort. If one person made a mistake, how can others learn from it to avoid wasting time making the same mistake? When we all come together, that is where the magic happens."

For PI's extended research, development, manufacturing and distribution chain, with operations in multiple countries, change management becomes a significant challenge, too. Modifications, no matter how small, can impact many points, often delaying time to market.

Atanu Roy continues, "The impact assessment of change has to happen almost in real time, and with partners working in other cities, complexity is increased significantly."



"There is an opportunity to integrate many different technologies in a lab, to increase the speed of execution. When the equipment systems, the physical value chain, and the information value chain are integrated, the power of solutions and platforms increase exponentially."

- Ankit Aggarwal

Director of R&D Information Technology at PI



Selecting Signals Notebook and Lead Discovery from Revvity Signals

PI selected a Signals Notebook and Lead Discovery from Revvity Signals as its core solution to enable collaboration within the company and with external partners. The software provides what amounts to a shared language and resource, able to extend to third parties under full control of the PI team.

For example, the Molecular Modelling Simulations team communicates internally, and collaborates and interacts with external chemists and biologists – and even farmers when field-testing – by using the Signals Notebook feature.

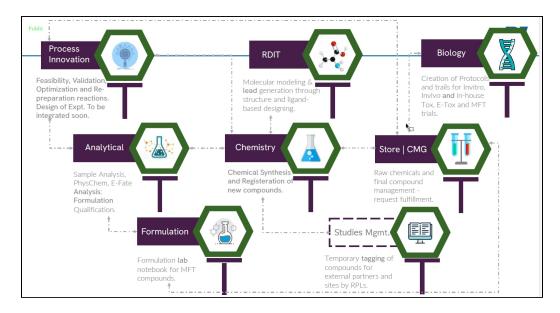
77

"All that third party data has to come on a common platform so that you can derive data analytics from it in the future. Data is the new oil, but without analytics, the oil doesn't have value. PI uses Signals Notebook and Lead Discovery to derive analytics and predictions in combination with actual test results, enabling us to gain insights into which aspects of a chemical or process could potentially be improved, and make the data selectively available to our partners."

- Ankit Aggarwal

Director of R&D Information Technology at PI





Roll out of Signal Notebook expanded to integrate across multiple departments and functions.

Combined, Signals Notebook and Lead Discovery help PI to decide which molecules will move to the development stage. "We look at these solutions as collaborative platforms for our data aggregation", continues Ankit Aggarwal. "Ideas during development no longer come from the brain of a single scientist -- they can come from molecular biologists, modeling and simulation tools, and from chemists at different stages of R&D. Signals Notebook transforms these collaborations by enabling everyone in that value chain to see, learn from and respond to accurate data."

For example, when an experiment design has been selected, the chemistry team uses Signals Inventory to check if the chemicals are available, or procures new stock. When the biology team tests a new molecule, they create protocols in Signals Notebook, and data from in vitro, in vivo, toxicity and micro-field tests are collected automatically. Subsequently, experiments and data from molecule formulations are also captured in Signals Notebook.

Ankit Aggarwal explains, "By this point, PI has filtered the investigational molecules down maybe from 500 or 5000 to 50 or so. At this stage, we need to optimize the processes for the best yield and investigate whether there is a better route to synthesis, or we may be ready to take a molecule to the lab or pilot plant phase, and this is where PI puts Revvity Signals Notebook and Lead Discovery into good use."

Accelerated productivity and time to market

PI enjoys multiple benefits from its Signals Notebook and Lead Discovery, as Atanu Roy confirms: "With Signals Notebook we notice how quickly we can bring field data back to the lab and tweak our product. This is where having an integrated platform really helps, and that's where I see the collaborative product lifecycle management solutions and design solutions making a huge impact. Using the same solution across functions is helping us considerably in terms of time to market."

From collaboration to data capture, PI now runs integrated operations, helping the company towards its expansion goals.

Atanu Roy concludes, "PI also connects Signals Notebook with its SAP business management systems, and when we bring these together the power of the solution goes up exponentially; productivity increases, and the process becomes almost mistake-proof. The combination helps us achieve faster time to market, and size our share of the global agrochemicals opportunity."

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