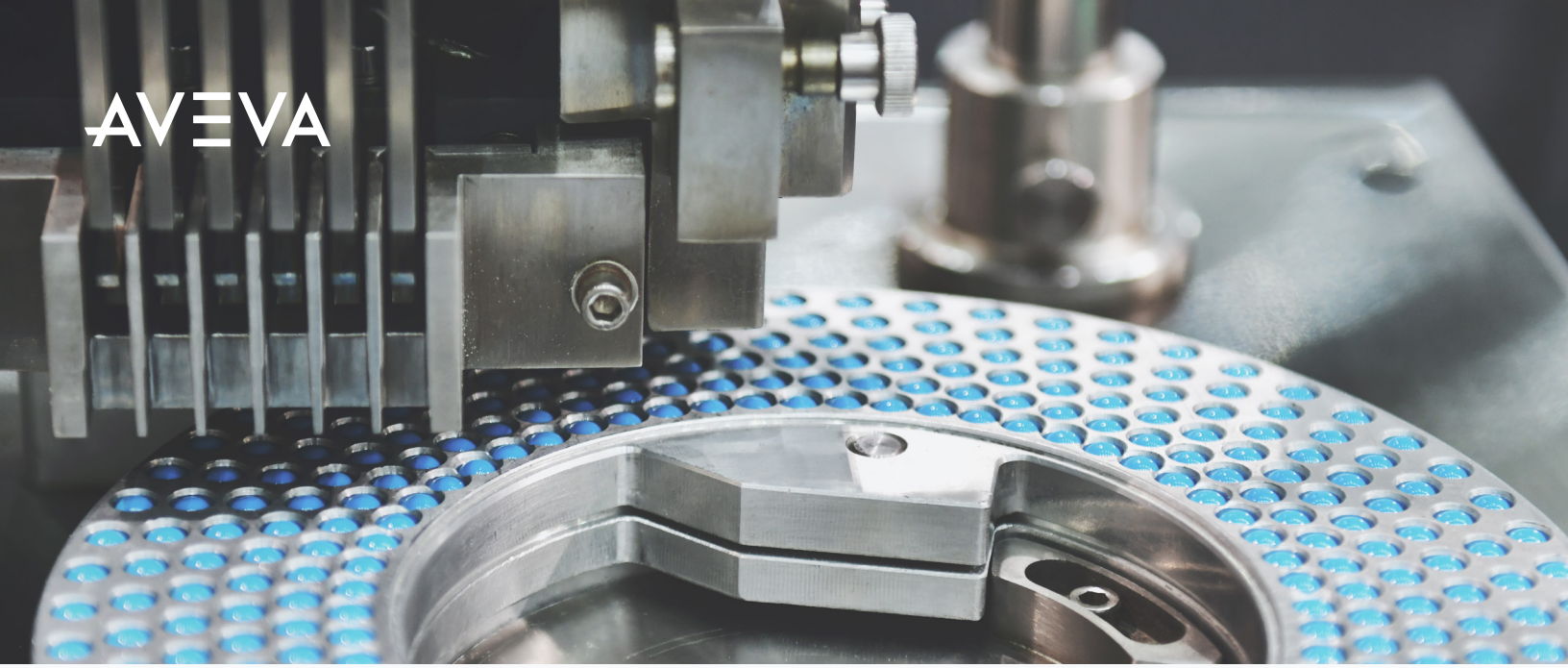

CUSTOMER CASE STUDY

AVEVA™ PI System™ helps Shire find the single source of truth in R&D

Shire - www.shire.com
Industry - Pharmaceutical and life sciences

Challenge

- R&D scientists need data to quickly analyze experiments

Solution

- Bring data from more than 300 sources into a single location and eliminate redundancies

Benefits

- 50% increase in research programs from 2013 to 2015 without any changes in staffing

In the pharmaceutical world, R&D can sometimes mean "redundancy and duplication" instead of "research and development." Shire (now Takeda), a biopharmaceutical company that focuses on rare diseases and specialty conditions, used AVEVA PI System to increase efficiency and improve the bottom line by eliminating the need for researchers to keep data in individual spreadsheets. As a result, the company was able to conduct more research without increasing staffing – putting it one step closer to cures that could help people around the world. "You have these highly trained, highly educated employees that you're paying hundreds of thousands of dollars, and they're sitting at their computer wondering what the pH value for a reactor was," said Brad Ebel, manager of pilot plant operations at Shire. "It's ludicrous to be doing that." Thanks to AVEVA PI System, these workers can now put their time to better use.

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Brad Ebel

Manager of pilot plant operations, Shire

Clearing a path through the data jungle

More than 300 data sources feed into Shire's data architecture, each with its own life span. New sources come in as old sources are phased out. The plant's data-management system must be robust enough to handle a diverse array of existing data sources from different vendors, each with its own operating software. It also needs to integrate with future sources that will replace equipment as it becomes obsolete. AVEVA PI System helped Shire tame this jungle of data so the research and development (R&D) team could get the information it needed quickly and efficiently. "We want to enable any scientist to analyze an experiment in 10 minutes or less," said Paul Turvey, Shire's associate director of laboratory operations.

AVEVA™ PI Vision™ allows plant operators to pull up a rich and easy-to-read information screen showing the data output of a bioreactor over a full 24-hour time period. By looking at a full day's worth of data at once – rather than, for instance, spot-checking to see what the pH of the reactor was at one point in time – an operator can spot potential problems or unusual variations even if they don't rise to the level of triggering a system alarm. The interface also allows plant operators to explore data without worrying about interfering with plant operations. "This was a very happy moment for me when I realized I no longer had to worry about people making changes to my reactor," Ebel said.

Learning to drive a Ferrari

When Turvey introduced Ebel to AVEVA PI System in 2008, he described it as receiving a Ferrari when he didn't know how to drive a car. However, he found the system to be very user-friendly, and he quickly saw the potential it could have for his unit. Ebel also appreciates how easy AVEVA PI System is to understand for everyone in the organization, regardless of technical experience. "I could send this all the way up to the CEO and he would be able to understand it without any additional explanation," Ebel said.

In addition to giving operators a holistic view of their work, AVEVA PI System allowed Shire to remove human error from batch processes. Event frames, an AVEVA™ PI Server capability, tracked each batch's movement from one phase to the next, taking operators out of the equation. However, just because operators aren't responsible for controlling the data around the clock doesn't mean that they can't see it.

AVEVA PI Vision dashboards are available through mobile apps, and notifications, another AVEVA PI Server capability, proved to be more effective than Shire's previous alert system for tracking activity at bioreactors. AVEVA PI System also helped operators escalate issues quickly without having to first go into the lab to investigate.

"We want to enable any scientist to analyze an experiment in 10 minutes or less."

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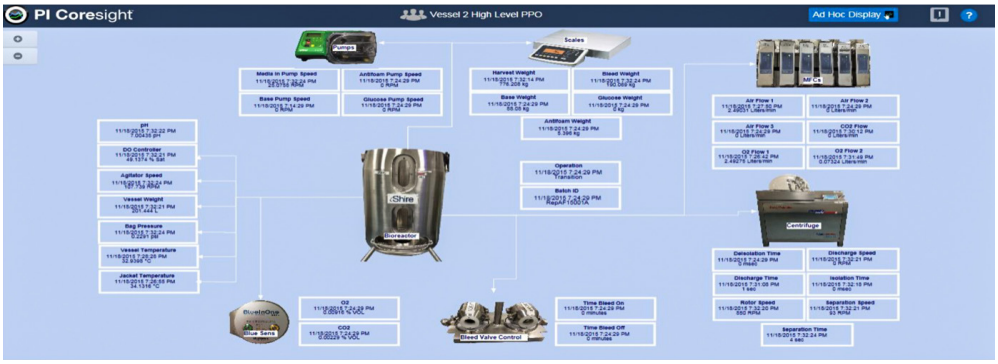
Paul Turvey

Associate Director of Laboratory Operations, Shire



AVEVA PI System gives Shire's R&D team the information it needs to see what's happening across multiple systems and ensure that batch processes are not disrupted by human error

Putting more options on the table

It didn't take long for the changes Shire made with AVEVA PI System to begin having an impact at the company. In 2013, the plant was completing an average of four research programs per year. By 2015, that number increased to six programs completed from start to finish with no change in staffing.

"Every drug has a low probability of making it all the way to a success, but you've got to get shots on the goal. Going from four to six in a few years. I think that's a reflection of the investment in AVEVA PI System."

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Paul Turvey
Associate Director of Laboratory Operations, Shire

The more programs Shire completes, the more chances it has of seeing a drug make it all the way through to production and helping in the fight to treat rare diseases and conditions. With the added capabilities AVEVA PI System has delivered, its researchers now have the data they need at their fingertips to produce potentially lifesaving treatments.

For more information about AVEVA PI System, please **click here.**