



Self-Service Go-to Solution for Visualizing and Analyzing R&D, Clinical Trial Supply Chain, Even Financial Data.

A decade after its initial implementation for a small group of R&D users, PerkinElmer's TIBCO Spotfire® visual analytics and discovery platform is now the go-to solution for more than 6,000 users from across R&D, clinical trial supply chain and distribution, and even finance at a major global pharmaceutical company. It is being deployed – in the last few years at an annual growth rate of 30 percent – to new users for its ability to help researchers, technicians, business analysts, and financial analysts visualize and interpret vast and diverse datasets to develop actionable insights, make decisions, and move their science and business forward.

TIBCO Spotfire® is an enterprise-class visualization and analytics platform for building and using interactive dashboards, visualizations, and predictive and event-driven analytics to quickly uncover insights. It can be implemented on-premises, via the cloud as a Platform-as-a-Service (PaaS), or a hybrid to enable data wrangling, machine learning, and hyper-rich visualizations and analytics on any device, without IT intervention.

How TIBCO Spotfire® Helps

Data Wrangling

Data often is dirty or not shaped ideally for visualization and analysis. TIBCO Spotfire® offers a number of tools and predesigned workflows and templates to help users clean, shape, and merge data without requiring assistance from IT.

Predictive Analytics

End users can take advantage of high powered algorithms for regression, classification, and clustering without needing a Statistician.

Visual Collaboration

Users can publish their visuals and analyses to the web without needing a web development team.

TIBCO Spotfire® Spreads

The pharmaceutical company first deployed TIBCO Spotfire® for a small group of R&D users for analyzing research data. These early users exploited an array of functionality, from chemical structure analysis to statistical modeling, to build dashboards and visualizations that maximize understanding of R&D data. Over time, TIBCO Spotfire®'s use was expanded to approximately 5,000 current R&D users across foundational research, early clinical trials, clinical trial development, safety, regulatory, and more.

With the aid of the organization's technology team, TIBCO Spotfire® users build dashboards, data visualizations, and, using a formal software design lifecycle process (SDLC), specialized applications to meet specific business requirements within R&D. Currently there are approximately 15 such enterprise applications built using TIBCO Spotfire® as the visualization tool.

In 2017, when the organization rolled out TIBCO Spotfire® 7, IT and scientific leaders noticed an even greater ability for self-service exploration by end users who were creating visualizations of their own. "We've seen a lot of citizen data scientists and data analysts using TIBCO Spotfire® day-to-day for analyzing their own data and sharing it between their team members," the lead business technologist said. "As a result of them being able to do it themselves, we've seen the use of the visual analytics concept for decision-making – and hence the use of TIBCO Spotfire® – grow very rapidly. People now realize they don't have to use Excel, or email PDFs and PowerPoint presentations. Using a modern tool like TIBCO Spotfire® is much more efficient, much more repeatable, and we get to insights much more quickly."

By 2015-2016, TIBCO Spotfire® was also being used for analyzing clinical trial supply chain and distribution data, and later a finance group applied the solution to analyze financial risk. The finance group needed a business intelligence (BI) solution that provided ongoing results from compliance metrics and dashboards for approximately 1,000 users to analyze datasets from enterprise systems such as SAP. A BI analyst said TIBCO Spotfire® was selected for the finance application based on its capabilities, financial considerations like ROI and TCO, and reputation within the organization.

Clinical trial supply chain users are among the newest to TIBCO Spotfire®, but are rapidly expanding their use of the platform. Among numerous tasks, it has enabled them to visualize the entire supply chain and, using a multilayer mapping capability, evaluate the performance of clinical trial sites and predict how disrupting events, such as a hurricane, or pro forma rules in certain countries might affect a clinical trial site.

Shared Learning

The spread of TIBCO Spotfire® across the organization has been organic, not mandated. Since 2014, BI leaders have hosted monthly "community practice" webinars among TIBCO Spotfire® users to share ideas and success for its use and to identify new needs. One BI analyst said, "We're teaching them how to fish, and they're loving it." The approach has been to understand TIBCO Spotfire®'s strengths and limitations, and maximize

its capabilities for everyone from novice users to advanced analysts, and for both those who author new visualizations and dashboards and end users who use these dynamic tools to analyze their data. With each update, they explore more intuitive ways of pulling in data and visualizing, analyzing, and presenting it in meaningful and relevant ways for the intended audience. Users can ask questions and learn from each other, for example, how to customize a scatter plot to achieve a Gantt view, or how to interact with data in a traceable way so others can tell who has done what to the data.

Entrenched Application

TIBCO Spotfire® has been used to build more than a dozen enterprise tools used throughout R&D. When the clinical trial supply chain group wanted to be able to analyze the future health of its trial sites based on past data, predictive analytics were created and visualized in TIBCO Spotfire®. The result is an operational tool to detect quality issues before they become a major issue.

TIBCO Spotfire® is entrenched in the R&D community, and large IT services companies have helped bring fresh perspective and creative solutions to analytics challenges and building proof of concepts. By combining external IT service providers with the pharmaceutical company's internal resources, the organization has been able to both maximize TIBCO Spotfire®'s capabilities and provide technical assistance coverage across the organization.

Impact on the Organization

To measure TIBCO Spotfire®'s impact on the organization, business and scientific leaders look first to its usage. The activity log reveals quite a bit about how TIBCO Spotfire® is used and where it is making a contribution. "We've grown our TIBCO Spotfire® production cluster pretty significantly over the course of the year based on increased usage," said the IT lead.

Additionally, stakeholders leverage dashboards on usage to determine TIBCO Spotfire®'s impact on specific projects. "They come to understand, 'I built this dashboard – who's been using it and why? Or why not?' Or, 'I built this great frontend that's getting a lot of use; what else can I do with it?' They can drill down from a high-level summary to individual sessions," the IT lead said. "That's been great from a measurement perspective."

TIBCO Spotfire® is also being used to track quality, through the measurement of significant quality events or SQEs. "We have a team that uses TIBCO Spotfire® to understand, in a number of different ways, where there are discrepancies in quality, which events are significant, and how to expose those quickly to be rectified, and how to prevent it going forward," the BI analyst said. "This team went a step further and created what they call a question bank – a number of questions that routinely pop up that can be analyzed against their data."

Another team is developing a TIBCO Spotfire® application for modeling staffing capacity. Data will be visualized to help with allocating resources.

Next Steps

With fewer than three-fourths of the R&D organization using TIBCO Spotfire®, there are plans to roll the solution out to more users. "I'm expecting growth at the current clip for at least the next year or two," the IT lead said. "Tools like TIBCO Spotfire® will continue to grow rapidly, as there's a recognition that we have a lot of data, it's hard to get insights from it if you're just looking at reports, and having visual, interactive capabilities, adding the human interface into seeing what's going on with your data, is really critical."

The IT lead said there are other teams within the organization "looking around and saying, 'Everybody else has these great tools with this great information at their fingertips; how come we don't?'" The organization is working to leverage its data in solutions like TIBCO Spotfire® so that more insights can be gained. In addition, as the organization deploys other enterprise reporting solutions, often they lack a visualization component, or it's insufficient, and TIBCO Spotfire® is being investigated for visualizing those outputs.

About TIBCO Spotfire®

PerkinElmer is the exclusive reseller of TIBCO Spotfire® for scientific and clinical R&D applications. The enterprise-class visual analytics and discovery platform offers unparalleled business intelligence in science to seize opportunities and reduce risk. Using interactive dashboards, visualizations, and predictive and event-driven analytics, TIBCO Spotfire® delivers:

- Fast actionable insight
- Visibility into the unknown
- Self-service discovery
- Universal adaptability and scalability

About PerkinElmer

PerkinElmer, Inc. is a global leader committed to innovating for a healthier world. Our dedicated team of over 9,000 employees worldwide is passionate about providing customers with an unmatched experience as they help solve critical issues especially impacting the diagnostics, discovery and analytical solutions markets. Our innovative detection, imaging, informatics and service capabilities, combined with deep market knowledge and expertise, help customers gain earlier and more accurate insights to improve lives and the world around us.

At PerkinElmer, our Informatics focus is on redefining how labs at major universities, large pharma and biotech embrace electronic data capture, cloud-based applications and collaborative tools to modernize their research environments. This includes the TIBCO Spotfire® data analysis and visualization platform and the life science-specific workflows and solutions it powers. As a result, thousands of scientists, clinical researchers, clinical operations professionals, and business operations professionals can easily and quickly turn their data into insights.

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