

Spotfire® Visual Data Science

A visual-first approach to analyze data, share insights, and take action

Spotfire is the visual data science platform that makes smart people even smarter by combining interactive visualizations and advanced analytics to solve the world's most complex challenges. Ask and answer questions of your data faster than the speed of thought. With Spotfire® visual data science, you gain an invaluable tool that combines advanced analytics and industry-specific visualizations.

Spotfire visual data science goes beyond basic dashboards, combining market-leading visual analytics, data science, and data wrangling in one platform. Experts can analyze data at-rest, streaming, and at-scale to solve problems the human mind, or computer, can't solve alone. With a unified approach to visual data science, Spotfire empowers users to uncover mission-critical insights for real-time decision-making.

Spotfire enables rapid and thorough data analysis, allowing users to quickly answer business questions and take action on insights. Its immersive analytics experience aligns with natural human interactions, offering features like AI-powered recommendations, real-time data integration, and intuitive visual manipulation.

What is visual data science?

Your business needs the ability to discover insights on a daily basis from large amounts of data. To solve your complex business challenges, you need actionable insights that can drive a competitive edge. Traditional approaches to data analysis aren't flexible or powerful enough for your needs. These approaches often involve separate tools for business intelligence (BI) and data science, with different users on each one and no synthesized analysis or actionable plan.

Visual data science solves problems traditional reporting cannot. It seamlessly integrates both BI and data science into a single, intuitive platform that works for everyone—domain experts, business users, and advanced statisticians alike.

A visual data science platform bridges the gap between data science and BI, offering a unified solution that empowers domain experts to leverage advanced analytical techniques without requiring extensive coding or technical

expertise.

Spotfire integrates data exploration, predictive analytics, and real-time data visualizations, allowing you to visually interact with data, use AI to uncover insights, and apply predictive models—all through an intuitive, no-code interface.

Notable benefits

What can your company do with visual data science? Check out our key capabilities:

Combine real-time data with historical data

Spotfire enables visual analytics on real-time data and historical data combined, in the same visualization, if desired. By viewing historical conditions, it's easier for users to understand what's happening in the moment and take appropriate action.

Direct manipulation with instant feedback

With consistent interaction and a tight action-response loop, pliable Spotfire visualizations give users a sense of shaping the data with their hands. Users focus on the analytical problems and interact directly with the visual representation of the data, molding it in ways that help spark insights.

Having an integrated experience with visual analytics requires a whole range of workflows: accessing and wrangling data to make it consistent and ready for analysis, using ad-hoc analysis and analysis design, applying predictive models, and sharing the results with others. Spotfire responds to the iterative nature of visual analytics and allows users to perform all these key tasks without losing their flow.

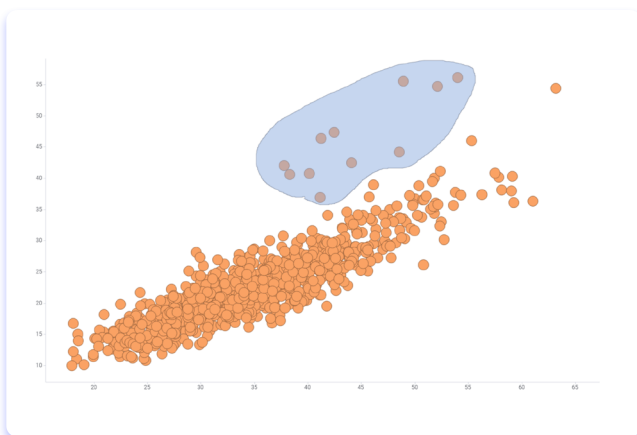


Figure 01: Use the lasso marking function to dive deeper into the selected data.

Smart suggestions, AI-powered insights

The Spotfire® Recommendations Engine leverages advanced analytic algorithms to unveil hidden data patterns through insightful visualizations. Leverage AI-driven insights to uncover meaningful connections between variables and further enhance data-driven decision-making. Spotfire makes it faster and easier to analyze your data through interactive AI.

When you select an aspect of the data that you are interested in (see Figure 01), Spotfire surfaces insights about the data, such as the relationships with other aspects of the data, how it compares with other parts of the data, and visualizations that you might choose to create to dig deeper into findings (see Figure 02).

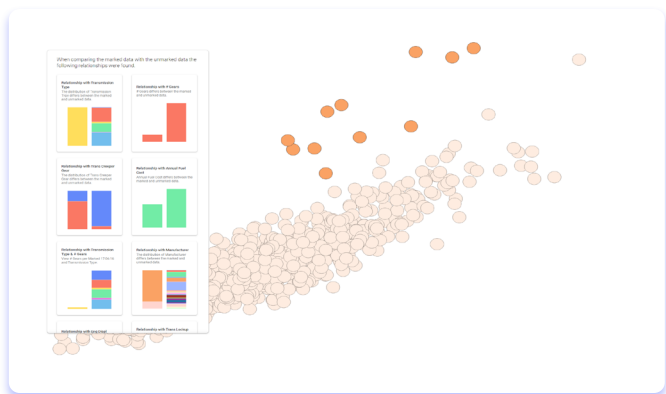


Figure 02: The native recommendation engine suggests visualizations based on the selected data to better understand the data and uncover useful insights.

Powerful location analytics with multi-layer maps

Spotfire offers a powerful and immersive experience for location-based analysis. Spotfire visual data science supports multiple map layers with completely customizable visibility to fit your use case (see Figure 03), such as progressively showing more detail when zooming in.

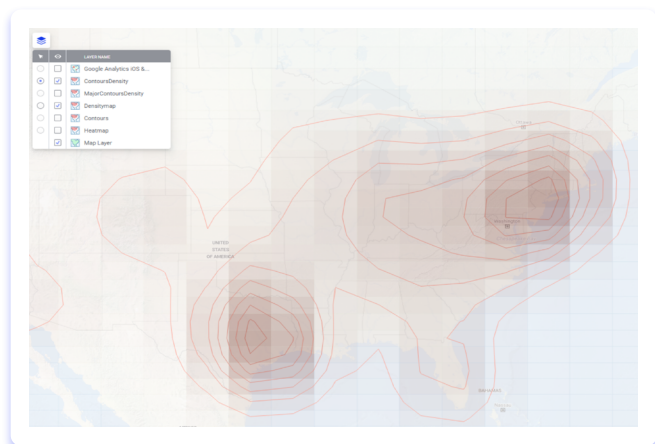


Figure 03: Easily create dynamic maps with multiple layers and drill down further into your data.

Spotfire lets you connect seamlessly to spatial data, GIS, and map services; it also maps coordinates to geographic entities like countries, cities, or custom regions.

From epidemiology to natural resource management, from real estate to retail, from defect detection on silicon wafers to production line monitoring, location analytics helps generate insights and make predictions that would not be possible using traditional tables and charts.

Visual data wrangling

Spotfire combines data visualization and data manipulation into one immersive user experience (see Figure 04). As users ingest and interact with data, Spotfire data wrangling helps fix data quality problems, inconsistencies, and deficiencies right from the visualizations. While most BI and other analytics tools separate data preparation from data visualization, Spotfire lets you choose what works for you. Some data prep tasks are easier done right from the visualization, and some are better handled in the Spotfire pipeline view, the Spotfire® Data Canvas. Users don't need to go outside the environment to prepare data before visualizing it. Combine, shape, clean, enrich, and transform data, all while doing data exploration.

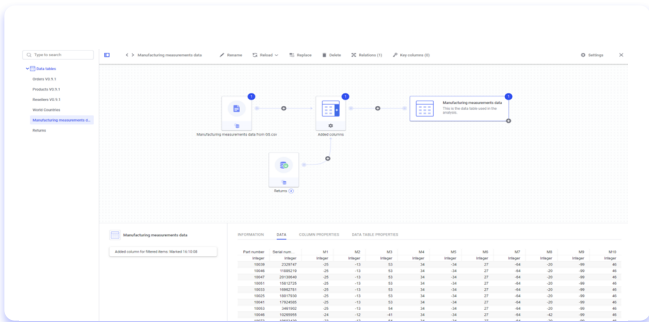


Figure 04: Address data quality issues in an engaging environment (aka the Data Canvas).

Predictive analytics

Spotfire analytics has many built-in, one-click predictive methods that are available to use for classification, clustering, and forecasting—making it very easy for anyone to get started with predictive analytics. Data and results can be visualized in Spotfire interactive dashboards, while the data science and underlying calculations can be done using the R and Python bundled engines.

Outcomes

With Spotfire, you can solve complex, industry-specific business problems, enhance operational efficiency, and drive continuous improvement through comprehensive

data analysis and visualization. Gain real-time situational awareness, predictive analytics, tailored analytics applications, and more—with Spotfire. Better operational outcomes and faster insights are just one click away.

Enhancing decision making

Spotfire enables data-driven decision-making through advanced analytics and interactive visualizations, allowing users to gain deep insights and make informed decisions.

Streamlining the discoverability of insights

Advanced predictive modeling techniques, such as decision trees, neural networks, and support vector machines, facilitate forecasting and classification tasks, allowing users to uncover patterns and trends in large datasets.

Scalability and performance

Designed to handle large volumes of data, Spotfire can scale to support enterprise-level deployments, ensuring that organizations can analyze extensive datasets efficiently.

Liberating integration resources

Spotfire can connect to a wide range of data sources, including databases, cloud services, and industry-specific applications, simplifying data access and analysis across multiple sources—without complex integration processes.

Customizability and extensibility

The platform's extensibility allows users to create custom visualizations, add new data sources, and integrate with other applications. Users can also incorporate R, Python, and Spotfire Statistica® algorithms, which Spotfire can seamlessly interface with, personalizing the platform experience to meet specific business needs in an efficient, visual representation.

Reducing the barrier to entry

Spotfire provides an easy-to-use interface with built-in data functions and templates, helping users get started quickly and perform analyses without needing extensive technical expertise.

Uncover patterns and relationships to improve processes and operations

Statistica® offers a comprehensive set of statistical analysis tools, including hypothesis testing, regression analysis, and cluster analysis, aiding in understanding complex data patterns and relationships.

Addressing industry-specific challenges

Spotfire addresses stringent industry requirements and regulations to ensure that you are accurately meeting

industry-specific challenges amid regulatory complexities.

Quality control and process improvement

Established as the standard for product traceability and manufacturing quality control, Spotfire enables users to monitor hundreds of process parameters and define process parameter rules for alarm-driven actions.

Insight discovery and trend analysis

Through advanced analytics and machine learning, users can discover patterns, trends, and relationships in large datasets, and bring these insights up directly within Spotfire for easy access and action.

Get started

Analyze data quicker and more thoroughly than before with a visual approach to data science. By making it fast and easy to answer questions about your business data, Spotfire allows you to take action on business insights. Ask more questions and get better answers—with Spotfire.

Ready to get smarter with Spotfire visual data science?
Talk to an expert today at spotfire.com/contact-us.



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Spotfire® is a visual data science platform that makes smart people smarter by combining interactive visualizations and advanced analytics to solve complex, industry-specific business problems.

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22Aug2024