SUMMARY
Customers use TIBCO Spotfire® for warranty analytics to:

- Monitor claims rates. An early warning system can detect deviations from historical baseline claim rates as soon as they start to occur.
- Predict future claim rates.
- Analyze root causes of major claim categories.
- Analyze warranty repair and call center activity.

At their best, warranties let everyone—customer and the manufacturer—sleep at night. But balancing the need to set aside safe levels of warranty reserves against the probability of future claims can seem more like an art than a science, undermining the manufacturer’s confidence.

This datasheet describes why many of the world’s largest manufacturers use TIBCO Spotfire as an early warning system for future warranty claim issues: The runaway cost of a widespread future product fault may be lurking in your data. Spotfire can help you surface that data, develop new insights, and share them across the organization.

CHALLENGES TO MANUFACTURERS
Warranties affect many different groups within a manufacturing company: product quality, reliability, CAPA, sales, manufacturing, repair, call centers, finance, and even social media. Each group can contribute important data needed for a thorough analysis of warranty claim rates and future risk. Each group will also need results of that analysis to answer important operational questions:

- What is an acceptable level of repair orders?
- How can we discover the root causes behind warranty claims? What trends can we see across multiple markets, components, and products?
- What can we see coming through from dealers, resellers, and call centers regarding new and important warranty issues?
- What are people saying about the performance of our products in the field?
- Do we have an issue with fraudulent claims?
- How can risks to the P&L be mitigated? Are we putting aside the right amount to meet future claims?
WHY SPOTFIRE?
Spotfire is an integrated analytic platform that allows users to easily identify trends in their data and share critical insights into warranty claim issues. Manufacturers use Spotfire to draw all the relevant data together, rapidly discover the underlying issues, and provide an early warning system through the use of sophisticated predictive tools.

Spotfire will help you mash together the data you need to manage warranty costs effectively. That may include warranty claim, sales, financial, maintenance, supplier, manufacturing, and unstructured/structured call center and social media data. Having brought the information together, users can rapidly gain insight into their data using Spotfire’s wide range of visualizations. Each time a new insight is discovered it can be easily shared across the organization—to a desktop, a tablet, or even a smartphone—promoting collaborative problem-solving across the many groups that have inputs to the warranty process.

Using Spotfire’s in-built predictive and statistical capabilities, an early warning system can monitor changes from baseline historical trends, apply commonly accepted models of failure rates to the warranty claim trend, and predict future claim rates of both current and future products based on the analysis of common components and assemblies.

WARRANTY CLAIMS EARLY WARNING SYSTEM
It is key to detect any deviations in claim rates from the historical baseline as soon as they start to manifest. In Spotfire this is often done with control charts that trend data and compare it to statistical limits derived from a historical data sample.

Spotfire customers also move beyond control charts to use more sophisticated models of claim data to detect deviations earlier.

Automotive claim early warning system: Future forecast and confidence limits.
**ROOT CAUSE ANALYSIS**
Spotfire can be used to assist root cause analysis to understand sources of warranty fails and take action to minimize future claims. A common starting point is to classify claims by symptom or cause codes, then analyze by usage factors (age, location), production factors (manufacturing plant, batch number), incoming supplies (raw materials or components), or external factors (demographics, weather) for a group of related fails.

Drill down to mileage distribution, components involved, and service location for automotive claims for specified symptom codes.

**MODEL AND PREDICT FUTURE CLAIMS**
It is important to be able to accurately predict claims rates to set aside the right amount for future claims. This can be done by fitting a Weibull or similar model to the existing claim data and using the model to predict future claims.

Spotfire's embedded advanced analytical capabilities allow for sophisticated mode-based predictions of failures by product and individual part.
REPAIR AND CALL CENTER ANALYTICS

Warranty repair and call center analytics provide an opportunity to improve customer satisfaction and repair outcomes and collect data on customer problems. Spotfire can be used to monitor metrics such as repair and warranty case volumes, turnaround times, costs, and component inventory levels. Root cause analysis may be used to determine how to improve these metrics over time. Access to customer data in visual forms and a historical knowledge base can be used to help call reps more accurately diagnose problems and more quickly close cases.

Visualization of all interactions with a customer allows call center reps to more quickly understand and address customer problems.