bista
SPECTRA

Supply Chain Intelligence software

Leverges Predictive Analytics, Automate Decision Making and Increase Sales While Reducing Cost

bista
Solutions that amplify your business.
And Add Value.
Control every aspect of your business, effortlessly.

Supply Chain
Challenges and Solution

Organizations are facing internal and external supply chain challenges with rising customer expectations. Intense competition combined with insufficient insights on demand, supply, pricing strategy, product mix and the market, may further impact business growth. In manufacturing or retail, information has replaced real assets as the pivot for decision-making and the insightful action. It is imperative for the organizations to use internal and external data in order to gain in-depth knowledge of the market and evolving customer needs. With the gained knowledge organizations can streamline their operations accordingly.

Typical challenges in managing efficient supply chain are

Lack of real time data visibility

Lack of synchronization between inventory planning & demand planning

Frequent stock-outs or excess inventory

Lack of flexibility in network & distribution to prioritize service levels or cost to serve

To overcome these challenges organizations have been applying analytics to their complex supply chain processes. For example

EOQ — To apply Economic Order Quantity (EOQ) for replenishment of inventory

Try optimizing the network design to facilitate inventory movement

Define safety stock parameters

Try to accurately forecast the demand for their Parts

"However such analytics have been typically ad-hoc in nature and catering to a specific situation.

In recent years the advancements in IT and software with high speed computing, a complex supply chain model can be easily built, executed and delivered much faster than before."

Bista's SPECTRA software is a combination of business rules, machine learning technology, data management, statistical models and visualization techniques to give you powerful insights into your supply chain.

SPECTRA can be categorized into three phases:
Strategic Planning, Tactical Planning and Demand Sensing

- "**Strategic Planning**" involves the high-level analytics process in Hadoop to baseline the data. In this, SPECTRA automatically calculate the various parameters which impact the supply chain decision process

- The next phase involves "**tactical**" decisions making, where various decisions regarding procurement and transfers are made based on the parameters and demand forecast. In this phase decisions related to what to buy, when and from which vendor are made.

- The next phase involves continuous evaluation of the performance of the supply chain and making tweaks to the inventory placement, the price at which to sell etc. These techniques of near real-time decisions are also referred to as "**Demand Sensing**"
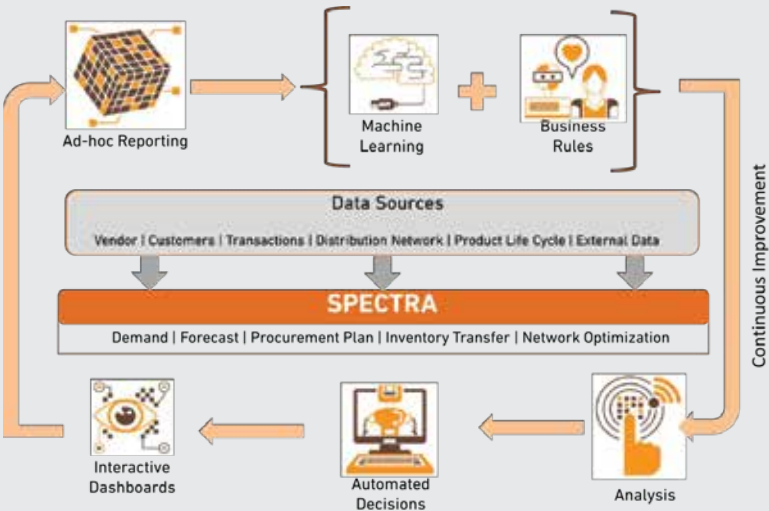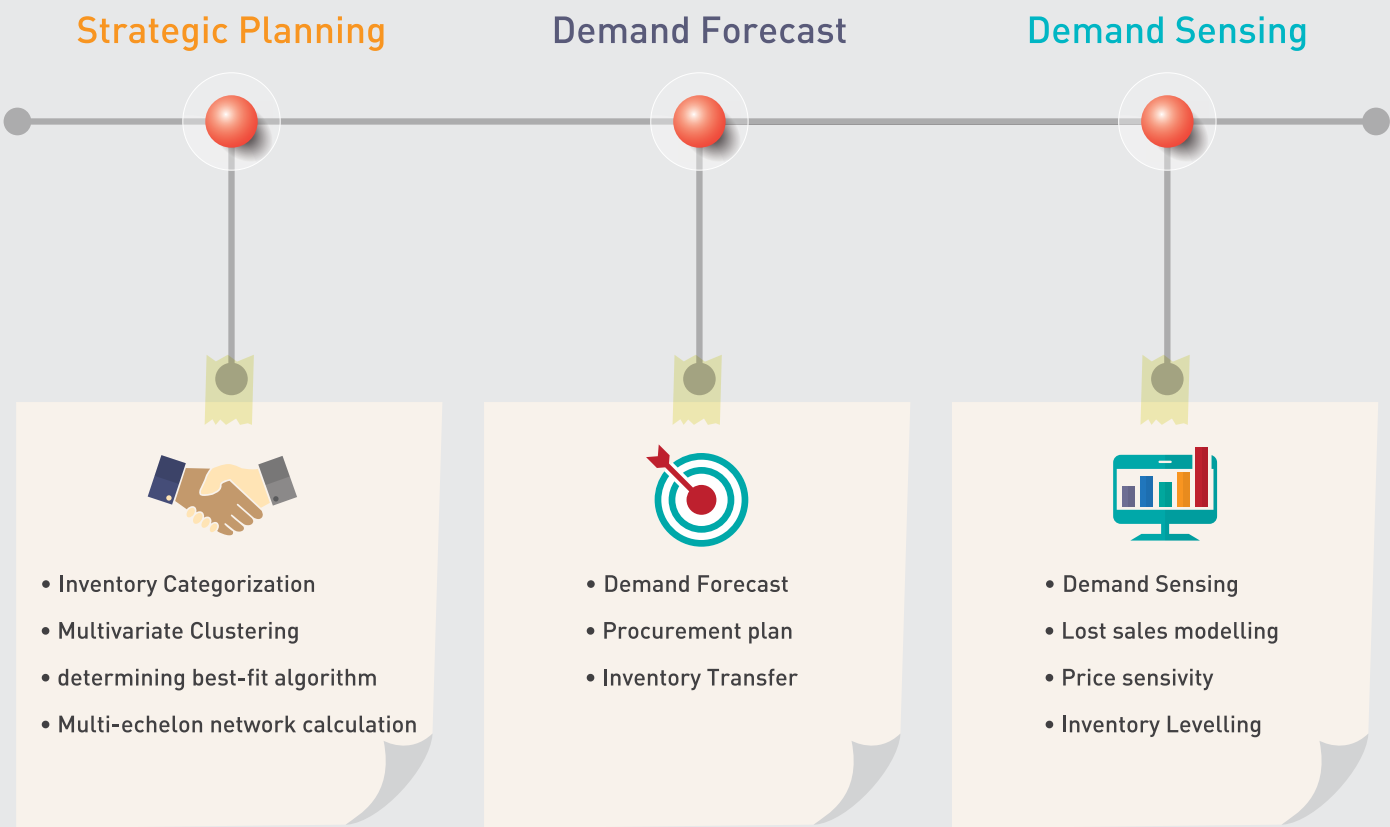

Figure 1 - SPECTRA components

Strategic Planning

- Inventory Categorization
- Multivariate Clustering
- determining best-fit algorithm
- Multi-echelon network calculation

Demand Forecast

- Demand Forecast
- Procurement plan
- Inventory Transfer

Demand Sensing

- Demand Sensing
- Lost sales modelling
- Price sensivity
- Inventory Levelling

Technology

- SPECTRA's platform is built on Apache Hadoop® which is easy scalable to store millions of records of transactional data.

- This data is then aggregated or summarized at specific product attributes on which the statistical methodologies are performed to get advance demand forecast model.

- SPECTRA has machine learning and statistical algorithm which are programmed in Scala that leverages in-memory engine of Apache Spark™ to run fast and large scale data processing.
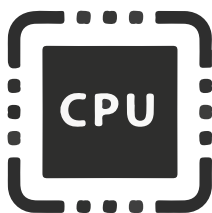
Benefits

- Optimized Supply Chain – Optimum inventory distribution within multi-echelon network

- Demand Planning and Inventory – Advanced demand forecasting, reduce overstocking and inventory cost

- Loss Sales Reduction – With accurate forecasting method and safety stock consideration, reduce loss sales

- Customer Insights – Improved customer visibility, reduce customer acquisition cost, identify opportunities to up-sell and cross-sell

- Controlled Procurement– Improve sourcing and identify opportunities to save cost on procurement

Who is it for ?

Auto Parts   Electronic Manufacturing   Multi-Channel Retail   Discrete Manufacturing

Case **Study**

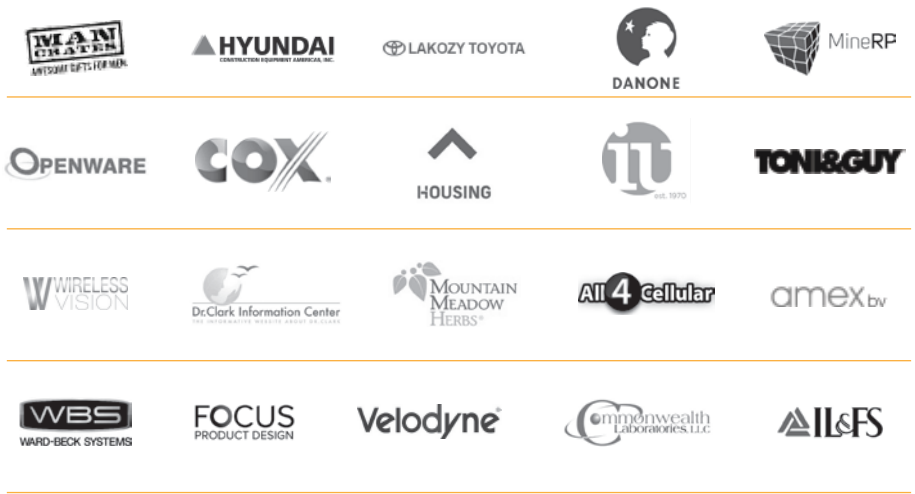Our Client — One of the key distributors of auto parts in United States

Business Challenge — Our client had several challenges managing their inventory, especially for slow moving auto parts. These parts were contributing to 80% of total inventory and contributing to only 20% of revenue. Client was also facing challenges with stock out situations for few of the products causing lost sales and low service level

Solution — With Bista's SPECTRA we came up with an analytics framework that accurately predicted forecasts for each of the auto parts based on their trend, seasonality and selling location. For slow moving parts we came up with recommendations like in which "period" they needs to be stocked along with in which location they need to be stocked to reduce redundancy. Real time tracking and performance was setup in SPECTRA to give clear visibility to the decision makers

Business Impact — Client realized savings within two months afte the implementation of SPECTRA. Slow moving inventory was rationalized and client saw increase in revenue with the help of accurate forecast

Our **Clientele**

SPECTRA Product Portfolio

Spectra – A standalone business analytics solution aimed at optimizing your supply chain with automated decision making and increase sale while reducing cost

• Optimized supply chain visibility
• Advanced demand planning and forecast
• Inventory optimization
• Controlled procurement
• Improved customer insights
• Highly customizable with enterprise systems

bista | SPECTRA

SpectraPlus - Spectra Plus is a complete enterprise solution which ERP like capabilities with business analytics (Spectra) at its core

• Comprehensive procurement planning system
• Automated procurement propositions
• Manage price revisions
• Manage vendor quotations and tenders
• Purchase and inventory planning integrated with Spectra capabilities
• Purchase analysis reports/dashboards

bista | SPECTRA PLUS

Spectra Advantage–A cloud version of Spectra with low cost of ownership and pay as you go model

• A stand-alone cloud service with prebuild Spectra solution platform
• Connect to your enterprise data and gain new insights on your supply chain
• Low cost of ownership with incredibly fast data processing and analytics
• Out of the box interactive reports/dashboards

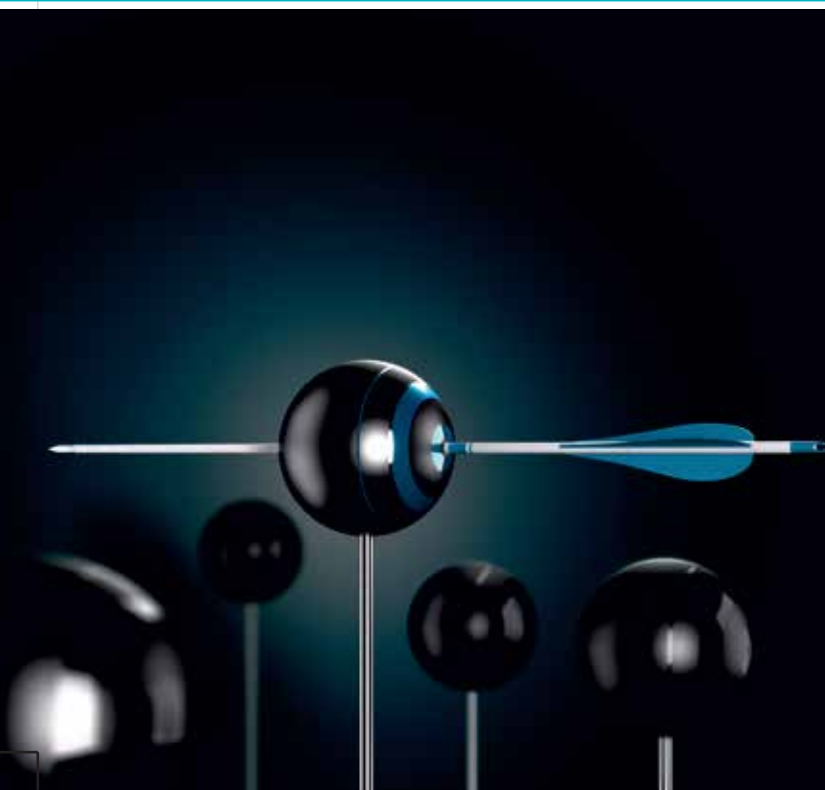bista | SPECTRA ADVANTAGE

About Bista Solutions

Bista Solutions Inc. is a world class software solutions company providing ingenious business solutions to a wide range of enterprises.

With our offices in USA, UAE & Canada with global delivery centers in India, we cater to the businesses in emerged and emerging markets. Our expertise in developing enterprise-grade business applications and customer-focus service has helped numerous businesses by saving their time, reducing costs and ultimately increasing business efficiency

Our Vision

Bista Solutions' vision is to connect people & technology together to deliver amazing user experience & to support your business by providing best software solutions as per your need

Our Solutions

Bista Solutions provides world class leading services that solve business problems and helps you achieve your business objectives.

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