



ARYAVRAT INFOTECH INC.  
THINK TECHNOLOGY, THINK US

## BI & DW Profile



ISO 9001:2008  
Quality Management System



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Segment	Tools/ Suites & Frameworks	Solutions
<ul style="list-style-type: none"> <li>Business Intelligence</li> </ul>	<ul style="list-style-type: none"> <li>Microsoft - BI</li> </ul>	<ul style="list-style-type: none"> <li>Implemented customized-BI on Microsoft Project Server.</li> <li>MS-BI solution designed for a global e-tailer in jewelry industry</li> <li>Solutions created and implemented using SSIS (SQL Server Integration services), SSRS(SQL Server Reporting Services), and SSAS (SQL Server Analysis Services)</li> </ul>
	<ul style="list-style-type: none"> <li>Tableau</li> </ul>	<ul style="list-style-type: none"> <li>Developed a BI Dashboard for Retail Industry.</li> </ul>
	<ul style="list-style-type: none"> <li>Custom BI</li> </ul>	<ul style="list-style-type: none"> <li>Aryavrat has custom developed operational business intelligence software product which addresses the need for immediate action on business events in real time. Product comprises of self service dashboards. Work included developing high performance event correlation and analytics engine that produces real time metrics, real time alerts. KPI's, etc.</li> </ul>

Segment	Tools/ Suites & Frameworks	Solutions
<ul style="list-style-type: none"> <li>DWH</li> </ul>	<ul style="list-style-type: none"> <li>OWB</li> <li>SSIS/SSAS</li> <li>Oracle Data Integrator</li> <li>Pervasive Data Integrator</li> </ul>	<ul style="list-style-type: none"> <li>Major DWH developed and being maintained for a US Client.</li> </ul>
<ul style="list-style-type: none"> <li>High Volume Data</li> </ul>	<ul style="list-style-type: none"> <li>Lucene</li> <li>Centera</li> <li>Data Synchronization Framework (DSF)</li> <li>Data Loading Memory Management Framework (MMF)</li> </ul>	<ul style="list-style-type: none"> <li>Email archival product. Aryavrat designed and architected the solution on top of Lucene and Derby to handle terabytes of data (emails) adding value to this product by enabling high performance large volume data storage/ indexing/ information retrieval.</li> </ul>
<ul style="list-style-type: none"> <li>Data Administration</li> </ul>		<ul style="list-style-type: none"> <li>Extensive experience</li> </ul>

### **Client Description:**

Amongst the major BPO services providers in USA servicing Fortune 500 clients. It has more than 40,000 committed professionals around the world. Aryavrat continuously working with them since last five years.

### **Professional Services Rendered:**

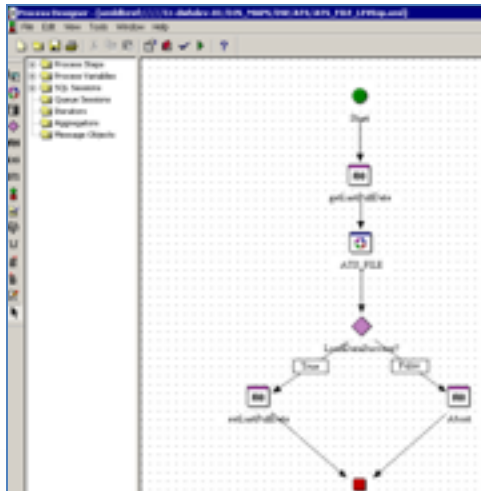
Requirement Analysis.  
Functional and Technical Documentation.  
Complete ETL Services using Pervasive, OWB and PLSQL.  
Process configuration for the chain and the individual process.  
Post development, monitoring of process and data validation.  
Development of audit process.  
24x7 production support for the critical chains  
Collaborative Research activities over the new tools and technologies for the client.

### **Tools and Technology:**

PLSQL, Pervasive, OWB and SSIS.

### **Benefits:**

Significant efficiencies. (As per client Aryavrat team consistently delivering before time.)  
Developed Generic solutions (Tools) for the clients to manage multiple concurrent ETL processes and PLSQL Packages to convert OWB to PLSQL Code, etc.



**Process Control:**  
Defining control flow of package

**Source**

Source Field Name	Description	Type	Size	Content(Proc. %)
1. PVD_RECORD_ID		DOUBLE		crub
2. PVD_SRC_DATE_TIME		DATE TIME		crub
3. PVD_LANGUAGE_ID		VARCHAR2	9	crub
4. PVD_SRC_START_DATE		DATE TIME		crub
5. PVD_SRC_STOP_TIME		DATE TIME		crub
6. PVD_VALUE		NUMBER		crub
7. PVD_SHIFT		VARCHAR2	2	crub
8. PVD_CENTER		VARCHAR2	10	crub
9. PVD_EVENT_CODE		VARCHAR2	2	crub
10. PVD_DIVISION		VARCHAR2	9	crub
11. PVD_PROGRAM		VARCHAR2	12	crub
12. PVD_CAMP_ID		VARCHAR2	2	crub
13. PVD_RECORD_TYPE		VARCHAR2	1	crub
14. PVD_SRC_PROD_DATE		DATE TIME		crub
15. PVD_SRC_ADD_DATE		DATE TIME		crub

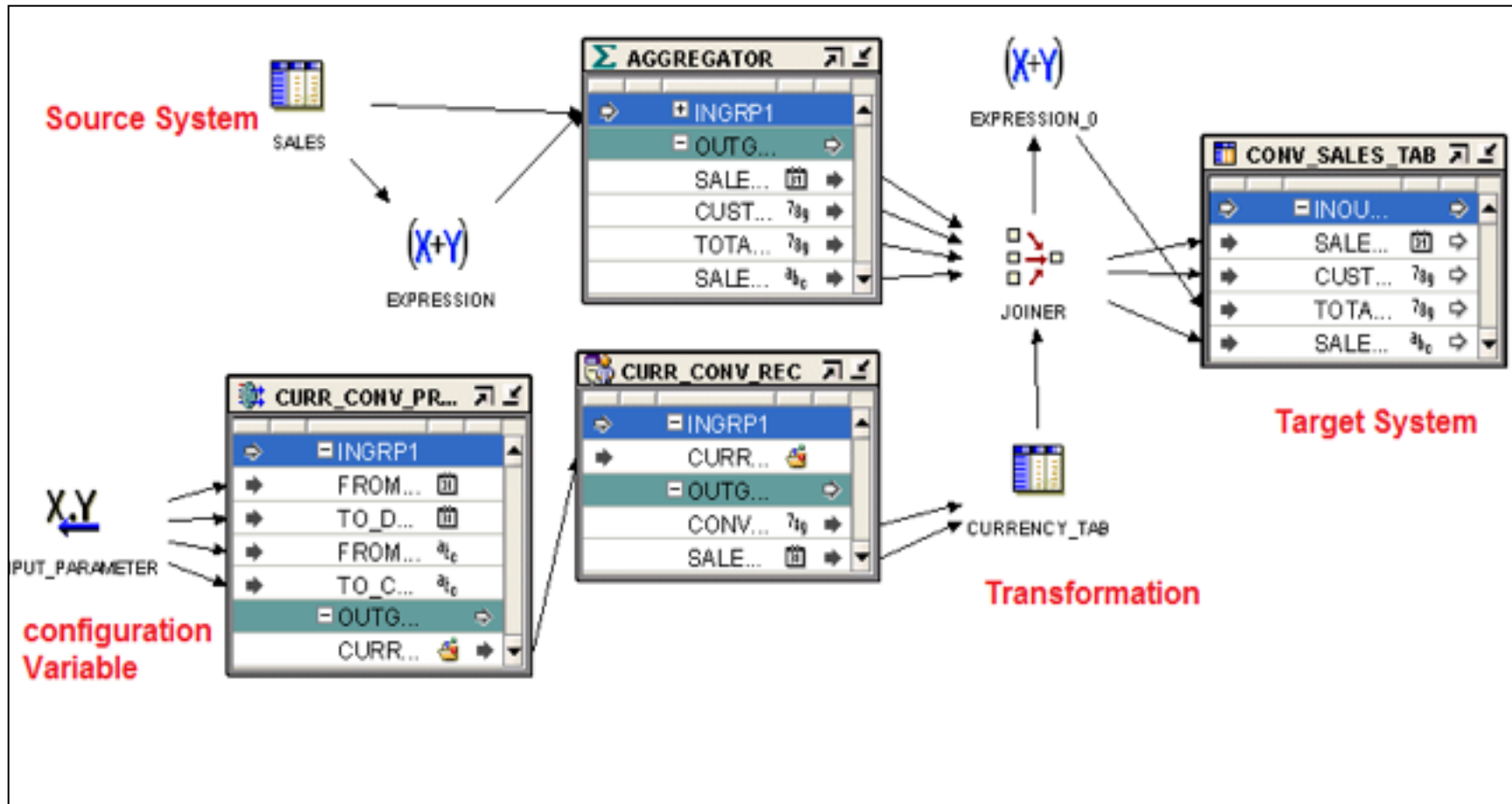
**Target**

Target Field Name	Target Field Expression	Description	Type	Size	Results
1. PVD_RECORD_ID	Field(PVD_RECORD_ID)		Integer		crub
2. PVD_SRC_DATE_TIME	Field(PVD_SRC_DATE_TIME)		Date/Time		crub
3. PVD_LANGUAGE_ID	Field(PVD_LANGUAGE_ID)		Integer		crub
4. PVD_SRC_START_DATE	Field(PVD_SRC_START_DATE)		Date/Time		crub
5. PVD_SRC_STOP_TIME	Field(PVD_SRC_STOP_TIME)		Date/Time		crub
6. PVD_VALUE	Field(PVD_VALUE)		Integer		crub
7. PVD_SHIFT	Field(PVD_SHIFT)		Text	2	crub
8. PVD_CENTER	Field(PVD_CENTER)		Text	10	crub
9. PVD_EVENT_CODE	Field(PVD_EVENT_CODE)		Text	2	crub

**Map:**  
Defining Source, Target, Events and VB Scripts codes

# Tool: Oracle Warehouse Builder

**OWB Map: Loading data from source to target using different transformation.**



The screenshot displays the Oracle SQL Developer environment. The top toolbar contains various icons for file operations and development tools. The top status bar shows the current user as 'USER\$15@IDDB02D' and the current database as 'APPLSYS@CTDB01D'.

The left pane shows the database schema tree. The 'UTL\_DIM\_IDDB02\_PKG' package is selected, and its 'Body' is expanded, showing a list of procedures including 'apac\_dim', 'cenagt\_dim', 'get\_vdin\_info', 'apac\_dim\_vdin', 'get\_ref\_source\_types', 'populate\_mref\_ctr\_table', 'mref\_center\_dim', 'sms\_cenagt\_dim', 'cenagt\_dim', 'validate\_cen\_dim', 'validate\_emp\_dim', 'sms\_map\_agentid', 'get\_center\_dim', and 'sdjdateime: date'.

The right pane shows the SQL script for creating the package body. The script is as follows:

```

CREATE OR REPLACE PACKAGE BODY APPLSYS."UTL_DIM_IDDB02_PKG"
AS
  PROCEDURE apac_dim (
    activity_date IN DATE,
    key_name IN VARCHAR2,
    reference_id IN NUMBER,
    channel IN NUMBER,
    er_code OUT NOCOPY NUMBER,
    apd OUT NOCOPY NUMBER
  ) IS
    /* Note:- User activity date and key name .while pupulating apac dim */
    keystring VARCHAR2 (100) := TO_CHAR (TRUNC (activity_date), 'YYYYMMDD')
    || key_name;

  BEGIN
    er_code := 0;

    IF caslookuptable EXISTS (keystring)
    THEN
      apd := caslookuptable (keystring);
      -- DMS OUTPUT.PUT_LINE('FOUND IN LOOKUP TABLE');
    ELSE
      BEGIN
        -- DMS OUTPUT.PUT_LINE('FOUND IN CTDB01');
        SELECT
          apd_id "value"
        INTO
          apd
        FROM
          master_reference@ctdb01,
          master_reference_details@ctdb01,
          config_programs@ctdb01;
      END;
    END IF;
  END;
END;

```

[illegible]

The screenshot displays the Microsoft Visual Studio (Administrator) interface for an SSIS package named 'dw\_sales\_mssql.dtsx'. The package is in the 'Development' state. The main canvas shows a sequence of three tasks: 'Update Max seq and aud date', 'Getting MetaData Values', and 'ETL\_Package\_Status\_Insert', connected by green arrows indicating the flow. The left sidebar shows the 'SSIS Toolbox' with various tasks like 'Data Flow Task', 'Execute SQL Task', etc. The right sidebar shows the 'Solution Explorer' with the project structure, including 'Project.params', 'Connection Managers', and 'SSIS Packages'.

The screenshot displays the SSIS Design View for a Data Flow Task. The control flow includes an OLE DB Source, a Lookup component, a Row Count component, a Script Component, and three additional Lookup components. The data flow involves connecting these components to a 'sales update' target. The bottom pane shows the Variables window with several variables defined.

Name	Scope	Data type	Value	Expression
Archive_Location	ODS_Sales_msql	String		
BatchSize	ODS_Sales_msql	Int32	1000	
CurrentCounter	ODS_Sales_msql	Int32	0	



## Case 2: Fashion Retail Merchandiser

### **Client Description:**

- Delivers next-generation People-Process-Technology solutions & services to complex supply chain organisations.
- Delivers measurable improvements in Plan-to-Purchase, Purchase-to-Pay and Order-to-Cash enterprise business processes affecting merchandising, supply chain, sales & operations and IT.
- Aryavrat developed a BI Solution for them using Tableau Tool to highlight Retail Fashion Industry.

### **Professional Services Rendered:**

- Mapped data into Tableau tool.
- Designed calculated functions.
- Designed sheets and Dashboards.
- Implemented global & local filters and dynamic parameters.
- Configured KPIs.

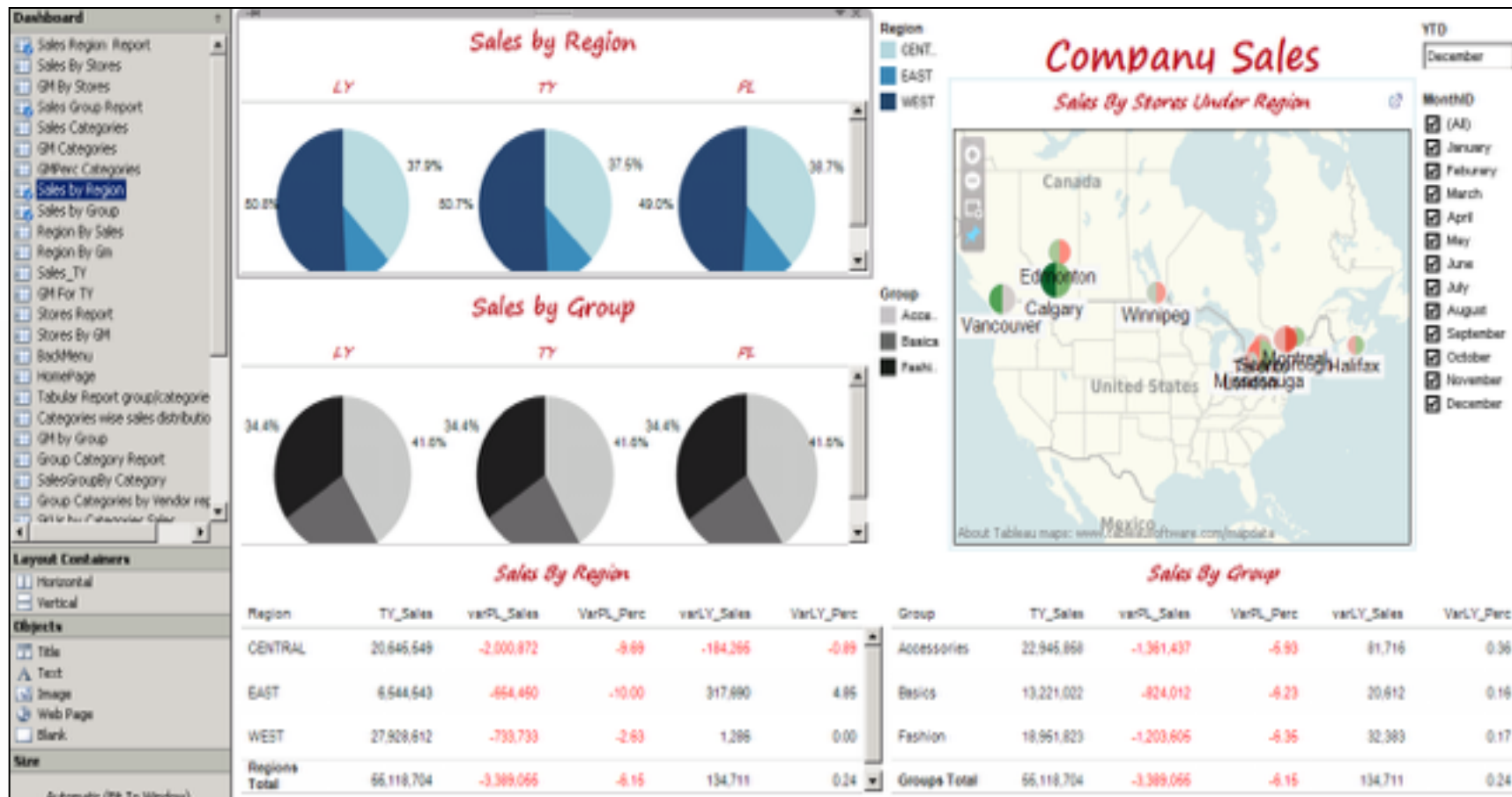
### **Tools and Technology:**

Tableau and MySQL.

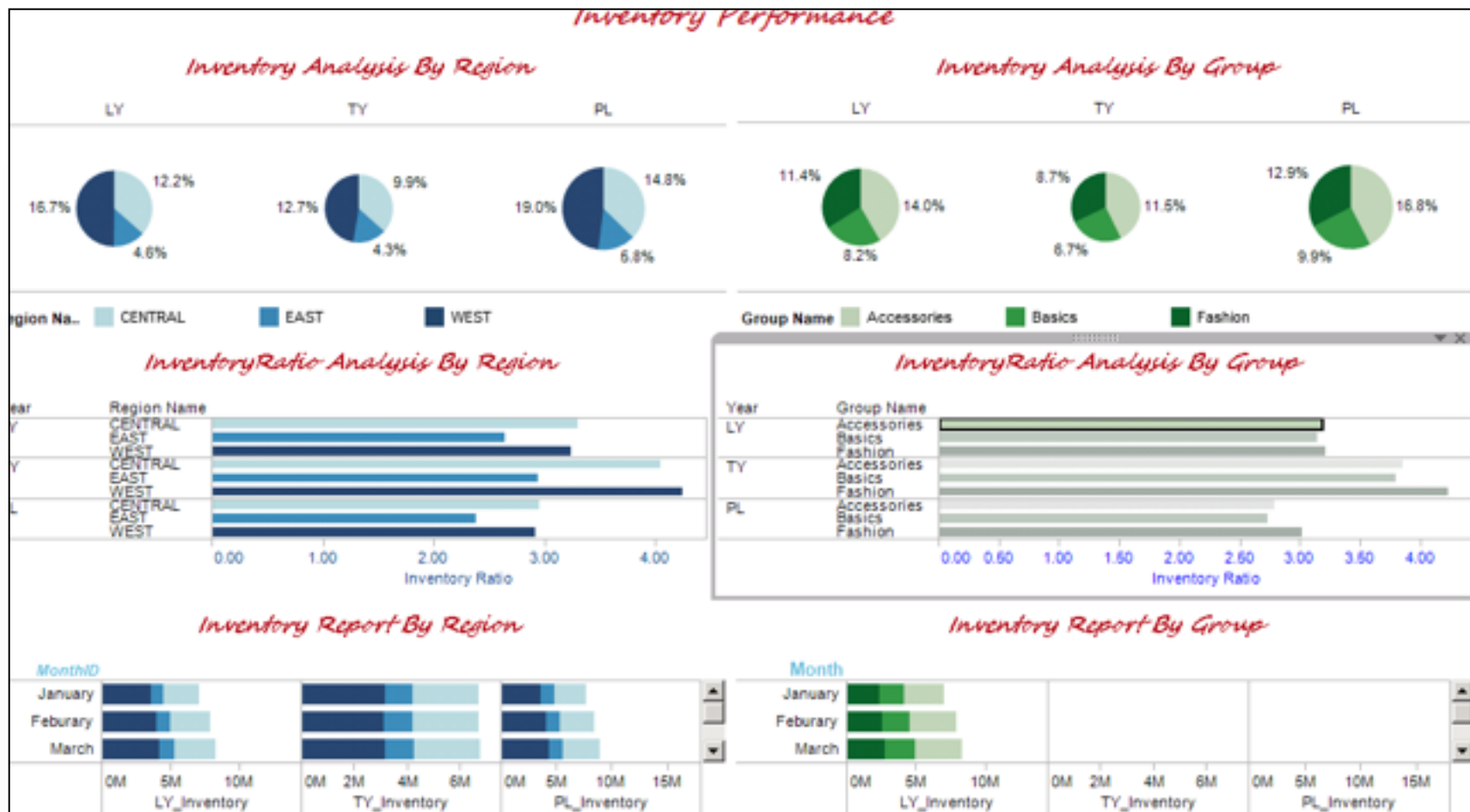
### **Benefits:**

- Aryavrat designed impressive dashboards with minimum client inputs.
- Improved the performance of data by implementing aggregate tables and indexes to support Tableau.
- Developed visually appealing and meaningful reports depicting various graphs, trending and blending.

## Sales Dashboard on Company Performance:



## Inventory Dashboard by Group and Region:



## Sales and GM Report with Conditional Formatting:



HomePage

<<

BackMenu

<<

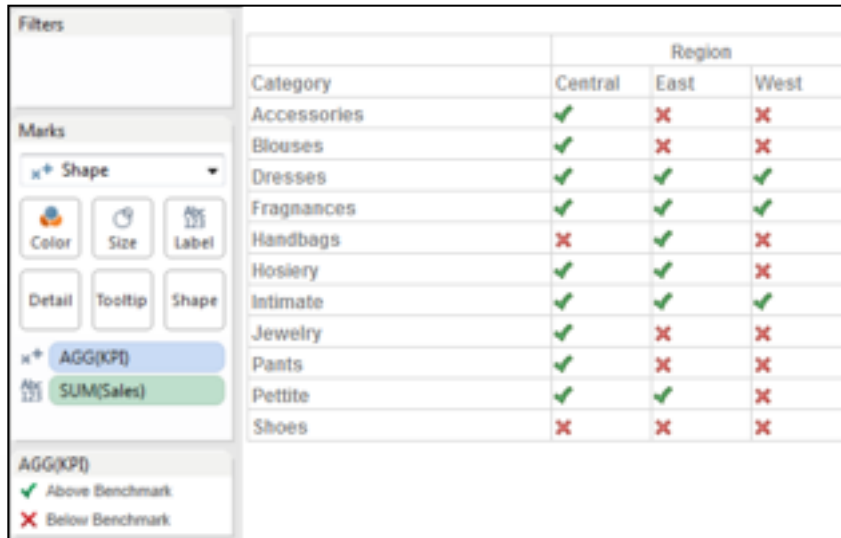
YTD

By Month

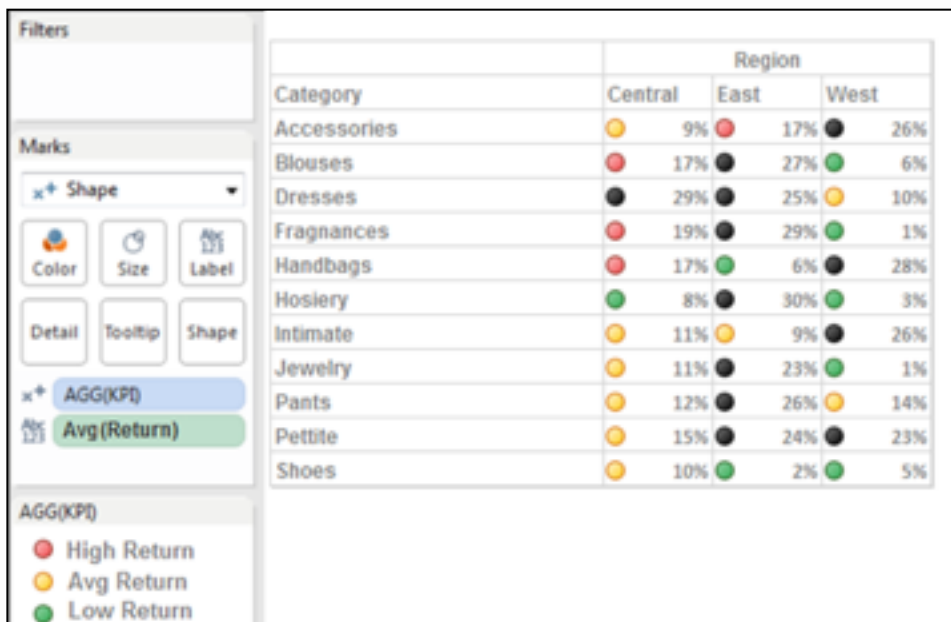
MonthID

☒ (All)
 ☒ January
 ☒ February
 ☒ March
 ☒ April
 ☒ May
 ☒ June
 ☒ July
 ☒ August
 ☒ September
 ☒ October
 ☒ November
 ☒ December

## Tableau: Screen 4 (Implemented KPIs)



Sales KPI  
Above Expectation  
Below Expectation



Sales Return KPI  
High Returns  
Average Returns

## Case 3: Real Time Business Intelligence

### **Client Description:**

- Provides real-time business intelligence and business activity monitoring solutions.
- Software enables users to continuously monitor key performance indicators(KPIs) for business results, such as profit and loss; external conditions, which include client behavior, market movements; internal business processes and operations; get instant alerts on out-of-boundary KPIs; and identify root cause and trends immediately; and analyze and determine corrective action swiftly.
- Aryavrat developed product to design BI solutions in partnership with USA based development company.

### **Professional Services Rendered:**

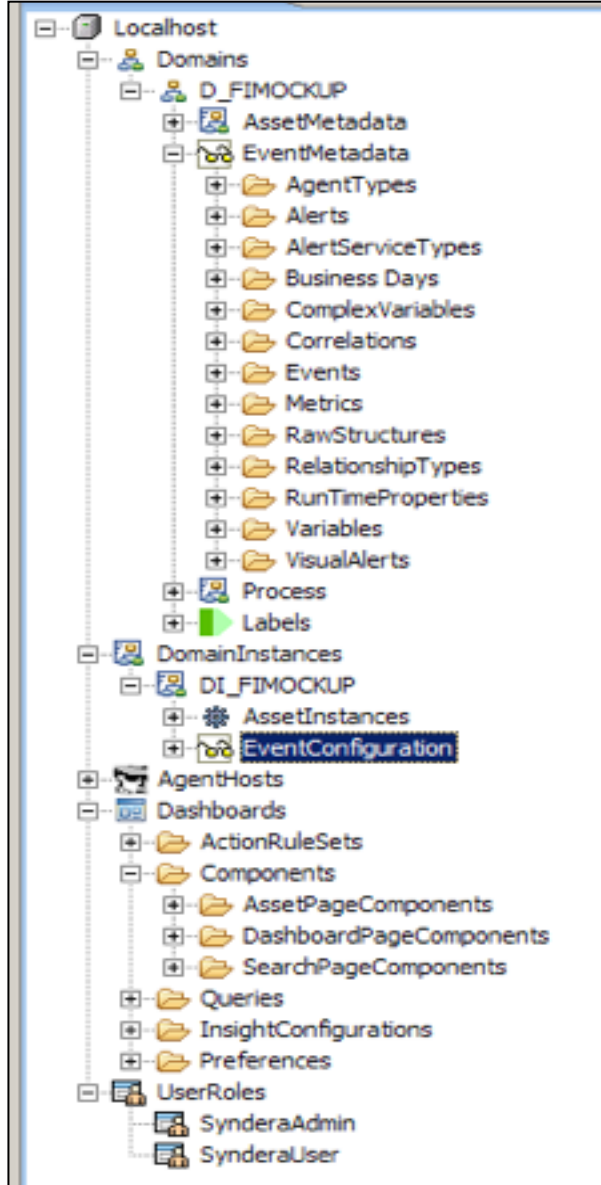
- Wrote various modules.
- Tested the whole application.
- Deployed with customizations at various end client locations.

### **Tools and Technology:**

- Eclipse, Java and Flex.

### **Benefits:**

- Provided end to end solution.
- Fully customizable with any database / file types like flat files, etc.
- Facility for the customizable events.
- Real-time generation of metrics over the dashboard.
- Provide various graphs and charts for the end users to create dashboard.



## Design Objects

### • Raw Structures

- Represents the native event source (e.g. message, xml, delimited string, etc.)

### • Syndera Events

- Basic (canonical) visibility object for processing by the Syndera Correlation Engine

### • Business Days

- Ability to define a metric business day for metric rollover purposes

### • Correlations and Event Relations

- A set of event relations that define the conditional correlation between sets of events

### • Metrics

- An aggregation object that can compute metrics on a scheduled, windowed or realtime basis (e.g. count, avg, std dev, custom, etc.)

### • Alerts

- Content and channel of an alert message

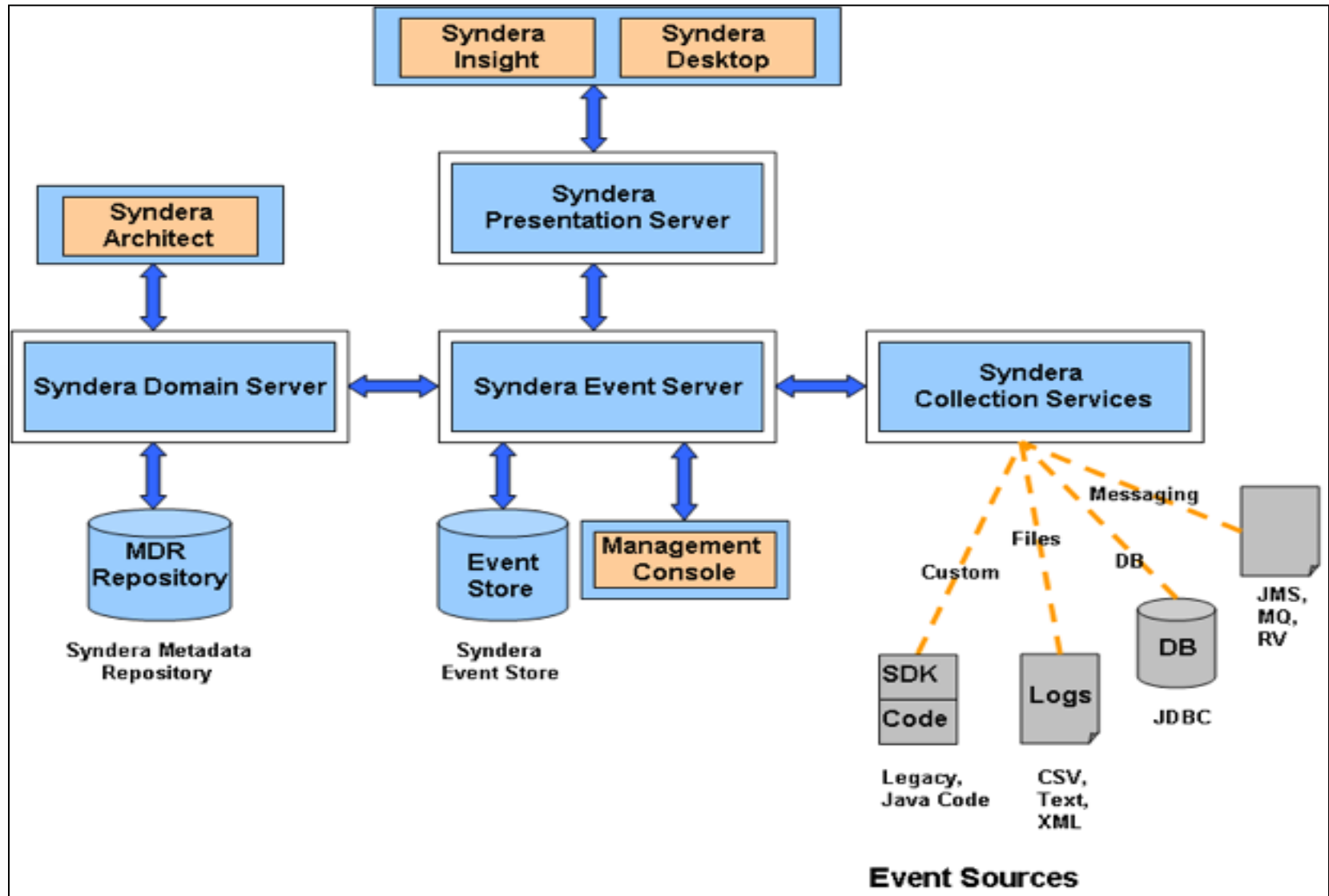
### • Dashboards

- Metadata management of metrics and alerts to configure visualizations

### • Derivation Spec

- Used to express the condition, mapping and transformation between visibility objects

# Real Time Business Intelligence - Architecture





## Customization of Chart:

**Chart Wizard**

**Select a chart type**  
 Select the chart type and enter a description

**Properties**  
 Name :   
 Description :

**Chart Type**

Column  
 Bar  
 Line  
 Pie  
 Horizontal RangePlot  
 Vertical RangePlot  
 Area  
 Scatter  
 Table  
 Column, Line and Scatter

**Column Chart sub-type:**  

Cluster Columns
 Stacked Columns

?

< Back

Next >

Finish

Cancel

## Customization of Chart:

CC\_HitRatioByMarket

### Chart Options

**Title(s)**

Chart Title: Hit-Ratio By Market

Category axis:

Value axis: BUYER - SELLER

**Chart Size**

Width: 3x

Height: 2x

**Color Scheme**

Chart Area: intComponentColorScheme1

Data Series: CSLColor1

**Data Layout**

Bar Overlap: 0

Bar Width: 10

Top Cap Thickness: 0.0

**Gridlines**

☒ Category axis gridlines

☒ Value axis gridlines

**Category Axis Font**

Axis Title

Size: 10

Font Style: Normal

Axis Value

Size: 10

Font Style: Normal

**Value Axis Font**

Axis Title

Size: 10

Font Style: Normal

Axis Value

Size: 10

Font Style: Normal

Divisions: 5

Display Units: None

**Legend**

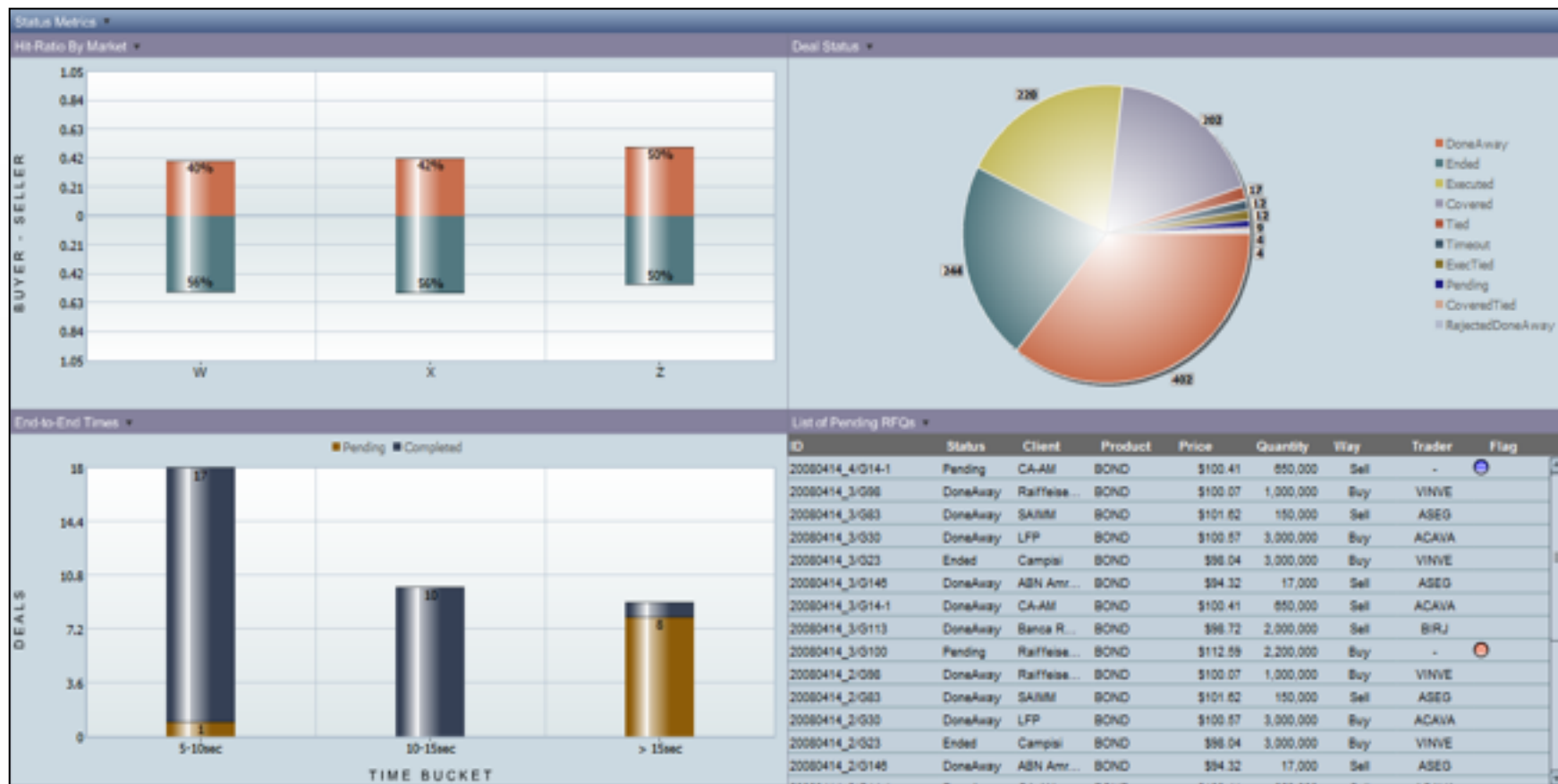
☐ Show Legend

Placement

Chart Type | Chart Options | Data Options | Filter and Alerts | Related

Category	Hit Ratio
category1	2,500%
category2	6,200%
category3	4,300%

## Dashboard Developed through Tool:



## Case 4: Business Intelligence System

### **Client Description:**

- Reputed for their various internationally acknowledged products.
- Web based BI application to cater application users providing their data in different formats.
- Perform analysis on the data and generates different reports & charts.
- Aim was to provide a common platform for different sectors uploading & analyzing market trends.

### **Professional Services Rendered:**

- Developed a website using different tools and technologies to cater BI.

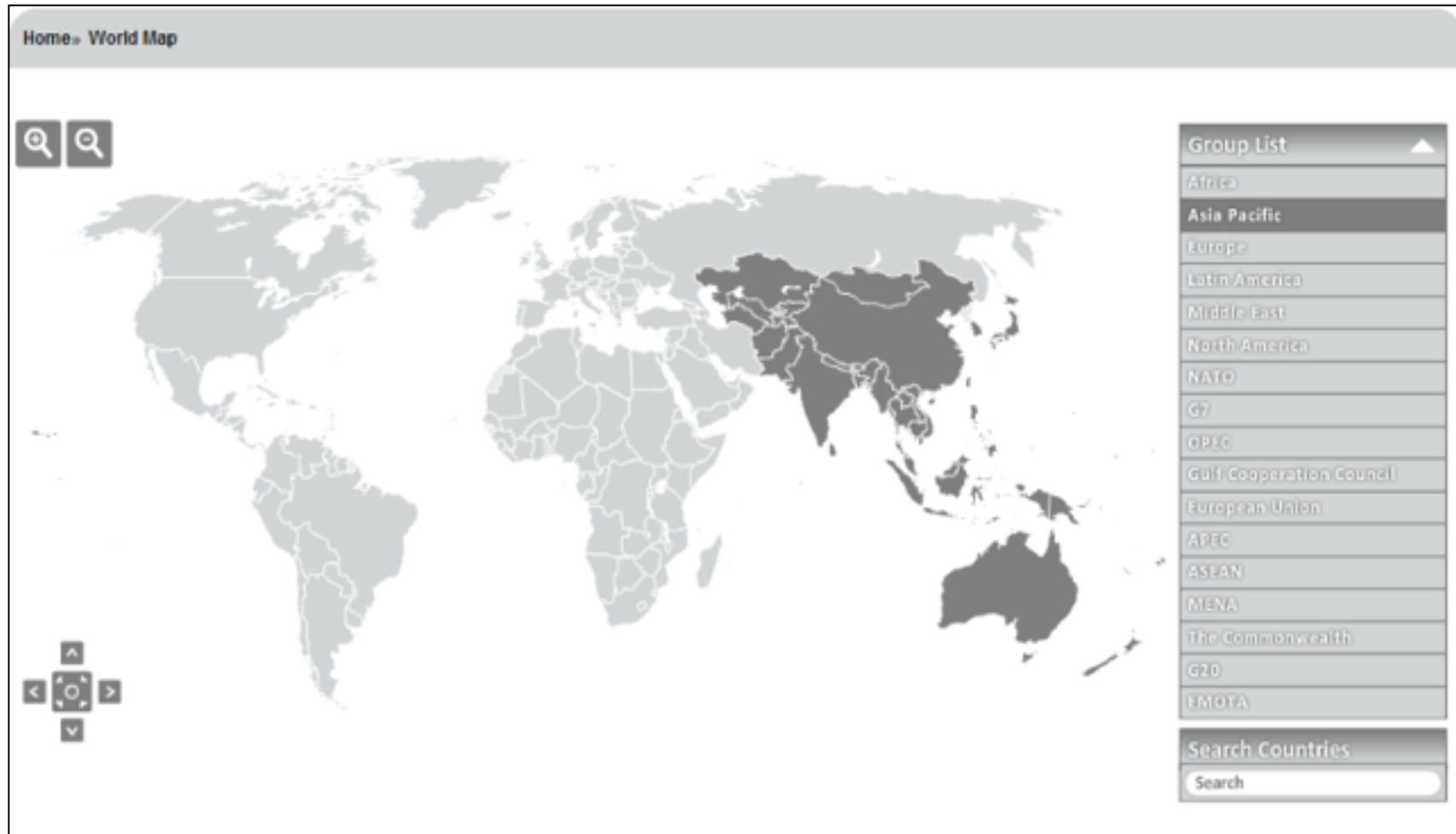
### **Tools and Technology:**

- Windows, Apache, MS-SQL, PHP, Zend Framework, Doctrine ORM, AJAX, JQuery and Eclipse.

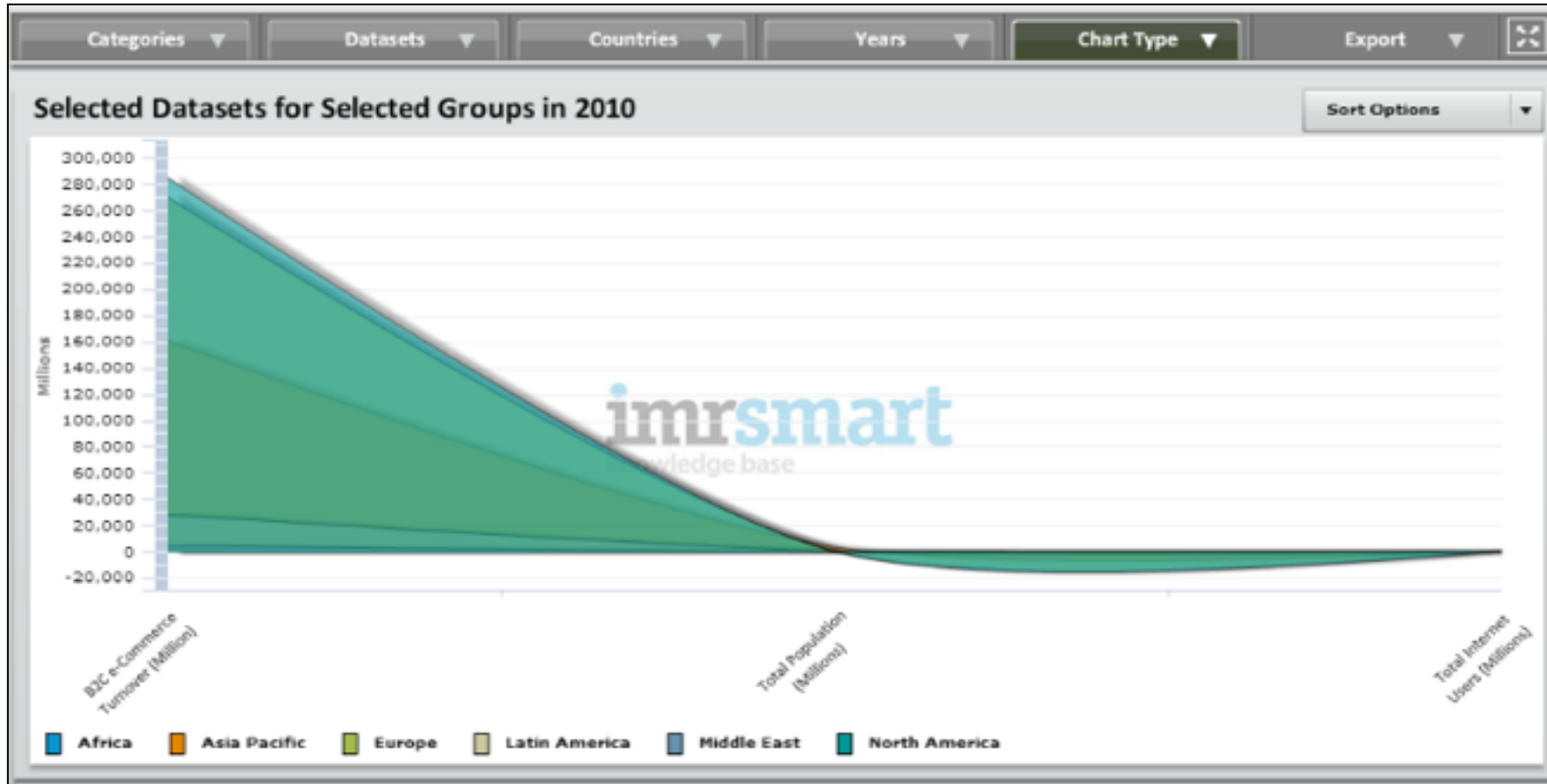
### **Benefits:**

- User can input data and analyze the information.
- Runtime graph analysis.
- Analysis of the information on geographical graphs.
- Application supports multiple currencies.
- Export feature in different formats like PDF, JPG, CSV, XML, etc.

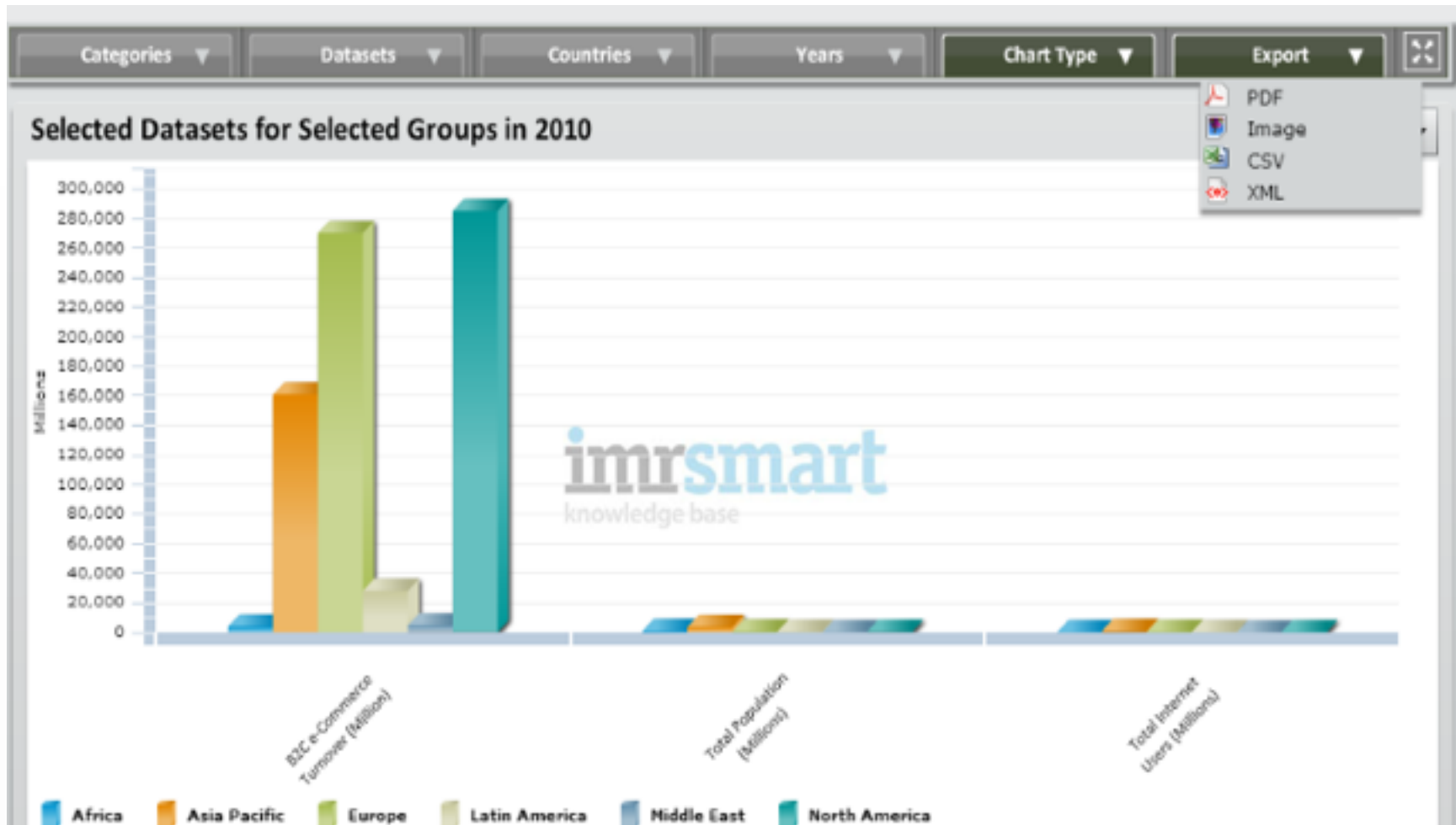
## GUI based graphs



Can select different chart type to analyze information



## Export Functionality



### **Client Description:**

- Client is a reputed USA based firm dealing in the market research in the pharmaceutical domain.

### **Professional Services Rendered:**

- Developed web based solution for the market research before introducing new or enhanced drug.
- It involved segmentation, equations, share analysis, volume conversion, sensitivity analysis & forecasting.
- 100% Encryption / DE encryption of Data using Public and Private Keys.

### **Tools and Technology:**

- Java/J2EE, Jasper Reports and MySQL.

### **Benefits:**

- Project creation for setting up project in terms of indications / geographies / scenarios.
- Definition of indication / geography / scenarios, forecast horizon.
- Determination of building forecast, valuation or both.
- Segmentation for defining the patient flow or segmentation within context of EPI and/or target patients.
- Determination of epidemiology structure and segmentation.
- Definition of target patient pool. Product share for estimation of product share and uptake by product / class / regimen.
- Definition of competitive environment.
- Estimation of product / class / regimen shares via share analysis methodologies, etc.



# Screen 1: Data Extrapolation

**ASSUMPTIONS**

**PREVALENCE**

**Segment: Group 0**
Equation
Code: I

Data Source: As a % of some Parameters

Population: 30 %

Select Parameter: Population, Incidence, Prevalence, Parameter 1

Base Year: 2006

CAGR: 2 %

2006 2010

2011 2014

End Year: 2014

CAGR: 2 %

Linear, Logarithmic, Exponential

Preview

Save

	Mar-06	Mar-07	Mar-08	Mar-09	Mar-10	Mar-11	Mar-12	Mar-13	Mar-14
Adult Group ('000s)	32,000	32,000	32,000	32,000	32,000	32,000	32,000	32,000	32,000
Prevalence ('000s)	3,200	3,200	3,264	3,328	3,238	3,251	3,264	3,277	3,290

Chart Type: Column



■ Prevalence ('000s)

Result are only applicable if the user clicks on "Calculate" instead of "Save Inputs"

Flexibility to incorporate dynamics of different input assumptions for different forecast years

# Implementing CAGR on Child Nodes

Segment: Group 2

Apply Assumption from Select Box

Code: I

PREVALENCE | DIAGNOSIS

Prevalence Source L1G1

60 %

2006

2014

Diagnosed: Group 2

70 %

CAGR

2 %

2006

2014

80 %

CAGR

0 %

2006

2014

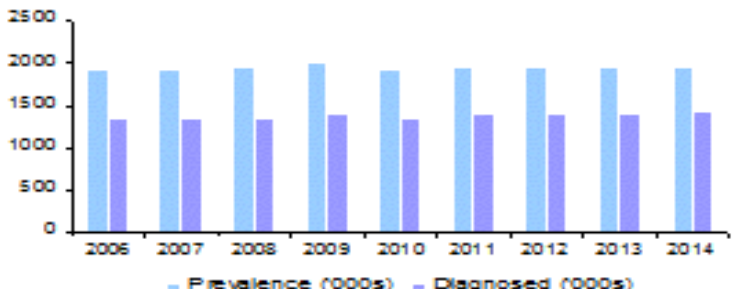
Preview

Save

PREVIEW RESULT

Column

	Mar-06	Mar-07	Mar-08	Mar-09	Mar-10	Mar-11	Mar-12	Mar-13	Mar-14
Prevalence ('000s)	1,920	1,920	1,958	1,997	1,943	1,951	1,958	1,986	1,974
Diagnosed ('000s)	1,344	1,344	1,371	1,398	1,380	1,405	1,410	1,416	1,421



— Prevalence ('000s) — Diagnosed ('000s)

Result are only applicable if the clicks on "Calculate" instead of "Save".  
OK

# Share Analysis

Share Analysis Name:  ☐ Create Copy

---

Regimen Share:

Regimen	Regimen A	Regimen B	Regimen C
Products	Class A <input checked="" type="checkbox"/> Product A <input checked="" type="checkbox"/> Product B	Class B <input checked="" type="checkbox"/> Product A <input type="checkbox"/> Product B	Class C <input type="checkbox"/> Product A <input checked="" type="checkbox"/> Product B

☒ Manual
☐ Attribute Analysis
☐ Share theft for peak share
☐ Apply order of entry

Regimen Share	50%	50%	20%
Product Share	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Product Share: ☐ Manual
☒ Attribute Analysis
☐ Share theft for peak share
☐ Apply order of entry









	Product	Weight	Product A	Product B
<input type="checkbox"/>	<input type="text"/>	<input type="text"/> %		<input type="button" value="Up"/>
	<input type="text"/>	<input type="text"/> %	<input type="text"/>	<input type="button" value="Down"/>

# Implemented Monte Carlo Simulation

Product Revenue

Monte Carlo Simulation

Product X

Segment 1 - Prevalence	12.4		15.4	Normal	✗
Segment 1 - Prevalence	12.4		15.4	Normal	✗
Segment 1 - Prevalence	12.4		15.4	Uniform	✗
Segment 1 - Prevalence	12.4		15.4	Triangular	✗
Segment 1 - Prevalence	12.4		15.4	Custom	✗
Segment 1 - Prevalence	12.4		15.4	Normal	✗
Segment 1 - Prevalence	12.4		15.4	Uniform	✗
Segment 1 - Prevalence	12.4		15.4	Triangular	✗

**Therapeutic Area**

**Test**

**Name of Drug**

SMARTPRODUCT\_C

**Indication / Geography**

TESTINDI- EU 5

**Revenue**

**Volume**

**Patients**

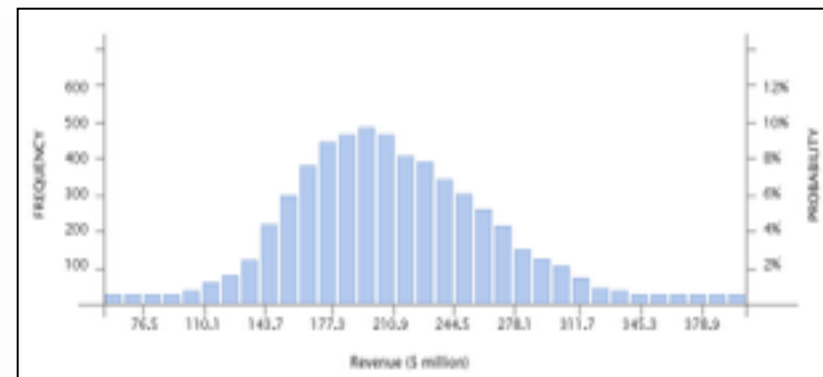
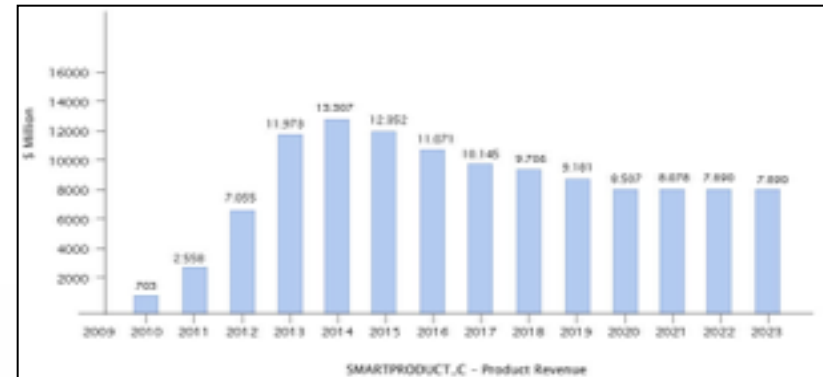
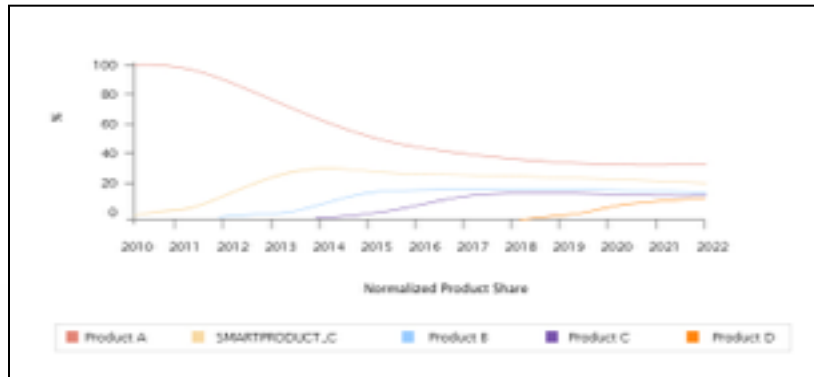


SMARTPRODUCT\_C - Product Revenue

**Product Peak Revenue (\$ million):** 13,307.04

**Year of Product Peak Revenue:** 2014





# Contact Us



**Aryavrat Infotech**



ISO 9001:2008  
Quality Management System

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