KNOWAGE

IT’S TIME TO KNOW

ENGINEERING

GENERAL OVERVIEW

ENGINEERING

KNOWAGE

ENGINEERING

The **Engineering Group** is the Italian leader in the information technology sector with over **50 offices** in Italy, Spain, Belgium, Germany, Republic of Serbia, Latin America and the United States.

With approximately **9,000 employees**, the group manages IT initiatives in over **20 countries worldwide** with projects in various business areas: Finance, Public Administration and Healthcare, Industry and Service, Telecommunication and Utilities.

It operates in the outsourcing and cloud computing market via an integrated network of 4 data centers located in Italy, equipped with infrastructure aligned to the best technological, quality and security standards.

The Group plays a leadership role in software research, coordinating various national and international projects through a network of scientific and university partners throughout Europe.

www.eng.it

Open source player

KNOWAGE

2004

Spago (J2EE framework) release

2005

SpagoBI v1 release with OW2

2013

Leader of OW2 BD Initiative; member of BD Value Association; founder of HUG Italy

2014

Joined FIWARE project

2015

First collaboration with Red Hat and Canonical Foundation to improve efficency on big data tasks

2016

KNOWAGE new model

2017

SpagoBI joined Knowage. Knowage joins OW2 and FIWARE communites

ENGINEERING

Knowage insights

KNOWAGE

- **Open** source and open standard
- Community edition & **enterprise** edition
- Responsive GUI, ready for **mobile**
- **OEM** enabler
- **Modular** offering, single solution

ENGINEERING

Open source analytical suite

KNOWAGE

Pixel-perfect

Mash-up

Data mining

Hadoop

Static report

Real-time

DWH

Geography

Forecasting

SDK

NoSQL

Interactive cockpits

Integration

BD SI ER LI PM PA EI

Advanced analytics

Self-service

Maps

Scorecards

APIs

What-if

KPI

Distribution

GIS

REST Services

Multistructured data

OLAP

Simulation model

Off-line production

Alert

ENGINEERING

Big Data Analytics

KNOWAGE

COMBINE STRUCTURED HISTORICAL ENTERPRISE DATA WITH EXTERNAL MULTISTRUCTURED ONES

- Big data & NoSQL datasources + traditional sources
- Reporting with BIRT
- Self-service in-memory cockpit with mash-up capabilities
- Advanced visualization (dataviz, network, spatial)
- Data federation
- Data/text mining
- Scheduling & process management

ENGINEERING

Smart Intelligence

KNOWAGE

SI

SMART INTELLIGENCE

USABILITY, AD-HOC REPORTING, FREE INQUIRING, SELF-MANAGEMENT FOR END USER

- Self-service in-memory cockpit with mash-up capabilities
- Self-service data and free inquiry
- Multidimensional analysis (OLAP)
- Data federation
- Multitenant
- Glossary & data lineage
- Metamodel with lifecycle & profiling

ENGINEERING

Enterprise Reporting

KNOWAGE

ENTERPRISE REPORTING

CERTIFIED DATA, CERTIFIED PROCESSES,
CERTIFIED REPORTS, CERTIFIED USERS

- Traditional data source
- Reporting with BIRT & Jasper
- Accessible reporting
- Advanced scheduler
- Event monitor
- Metamodel with lifecycle & profiling
- Distribution list

ENGINEERING

Location Intelligence

KNOWAGE

LI

LOCATION INTELLIGENCE

COMBINE BUSINESS MEASURES
AND SPATIAL DATA AT RUN TIME

- Traditional data source
- WMS/WFS interface
- Static map/picture
- Dynamic map
- Spatial dimension
- Spatial operator
- Zoom & drill down

ENGINEERING

Performance Management

KNOWAGE

PM

PERFORMANCE MANAGEMENT

COMBINE HISTORICAL DATA WITH
RT MEASURES, DETECT&REACT

- Traditional data source
- Enterprise & self service KPI
- KPI widgets
- Scorecards
- Real-time console
- Alerting system
- FI-core enabler

ENGINEERING

Predictive Analysis

PA

PREDICTIVE ANALYSIS

MAKE HYPOTHESIS AND EVALUATE THEIR IMPACTS IN AN INTERACTIVE WAY

- Traditional data source
- Data mining
- Text mining
- Function catalogue
- Multidimensional what-if base on OLAP
- Simulation over measures and dimensions
- Workflow

Embedded Intelligence

KNOWAGE

EI

EMBEDDED INTELLIGENCE

DISTRIBUTE BI CAPABILITIES AND RESULTS TO EXTERNAL APPLICATIONS

- Standard APIs
- General & specific REST services
- LDAP connector
- SSO support
- Publishers
- Taglibs
- FI-WARE enabler

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Use cases

KNOWAGE

CLIENT

NEED OF ANALYTICAL TOOL

To analyse his own (BIG) data

NEED OF ANALYTICAL SERVICE

To get value from his own (BIG) data

PROVIDER

STRONG KNOWLEDGE OF SPECIFIC DOMAIN

To build ready-to-use analytical solution

PRODUCT FARMS

To provide valuable add-on to the core product

ENGINEERING

Use cases

KNOWAGE

CLIENT

Download & discover Knowage

↓

Ask for a subscription

↓

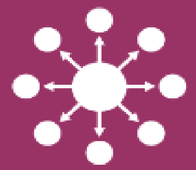
Build your enterprise solution

Activate your own Knowage instance on the cloud

↓

Build your enterprise solution

PROVIDER



STRONG KNOWLEDGE OF SPECIFIC DOMAIN

To build ready-to-use analytical solution

PRODUCT FARMS

To provide valuable add-on to the core product

ENGINEERING

Use cases

KNOWAGE

CLIENT

NEED OF ANALYTICAL TOOL

To analyse his own (BIG) data

NEED OF ANALYTICAL SERVICE

To get value from his own (BIG) data

PROVIDER

Build an analytical model using Knowage

↓

Sign an OEM agreement for rebranding

↓

Offer it repeatedly

↓

Offer it as a service/on-cloud

Integrate Knowage into your product

↓

Sign an OEM agreement for integration

↓

Offer your new empowered product

ENGINEERING

DEMO OVERVIEW

ENGINEERING

BD / cloud environment

KNOWAGE

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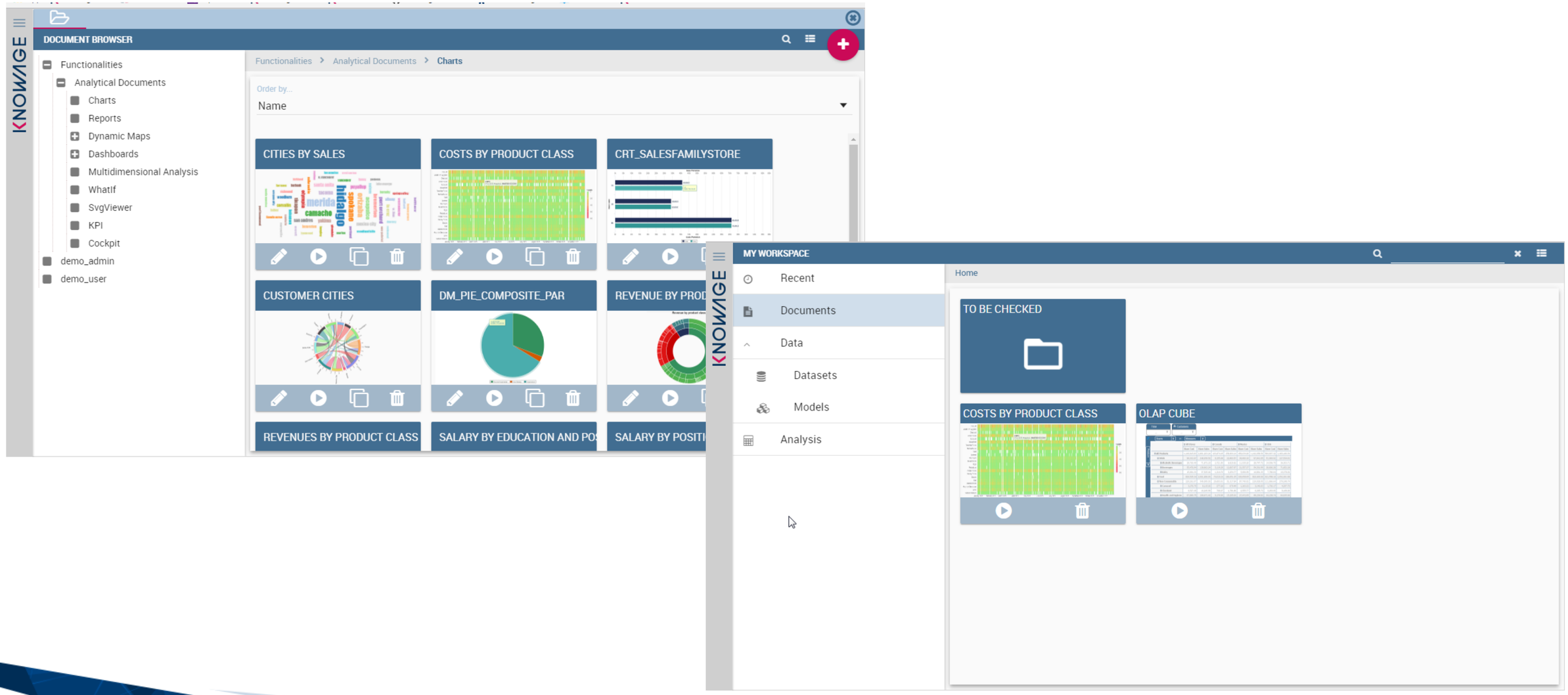
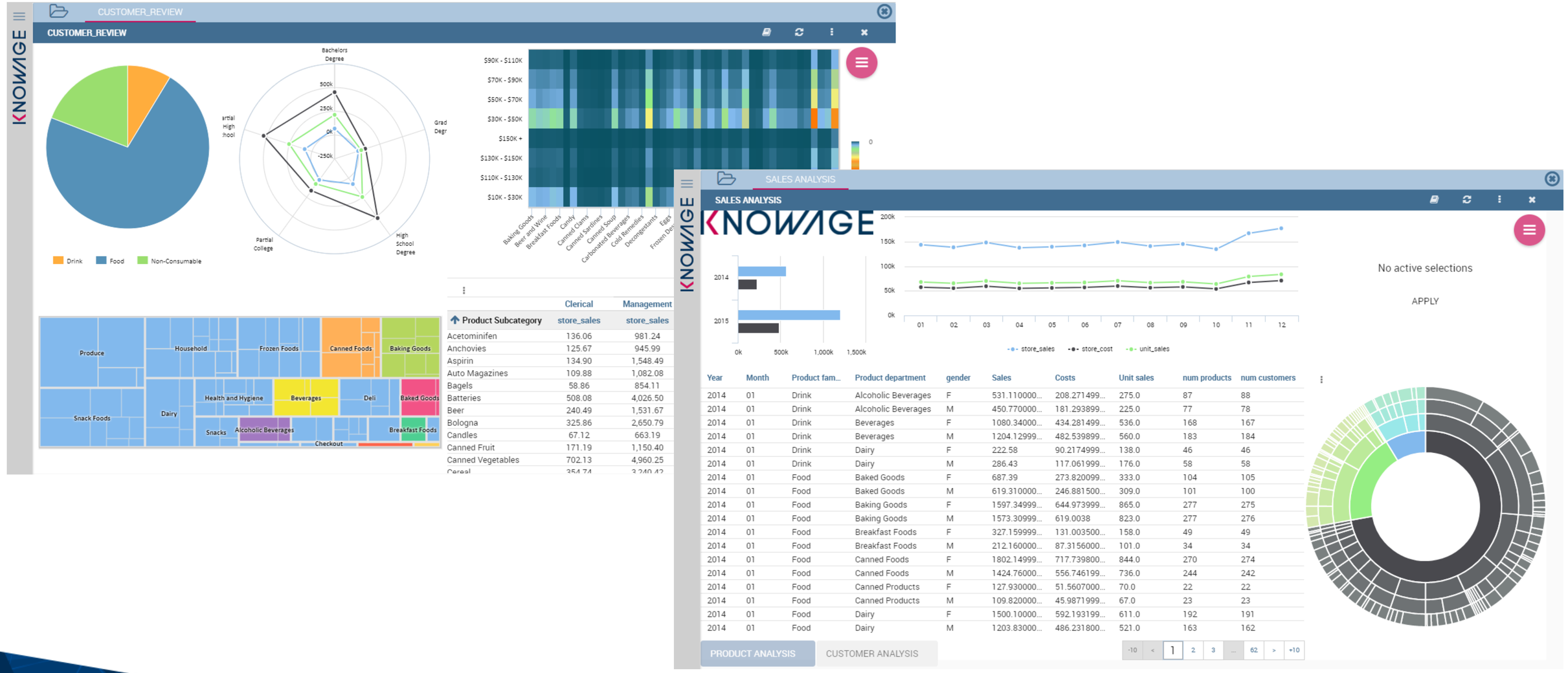
General environment



Interactive cockpit

KNOWAGE



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Interactive cockpit- build by yourself

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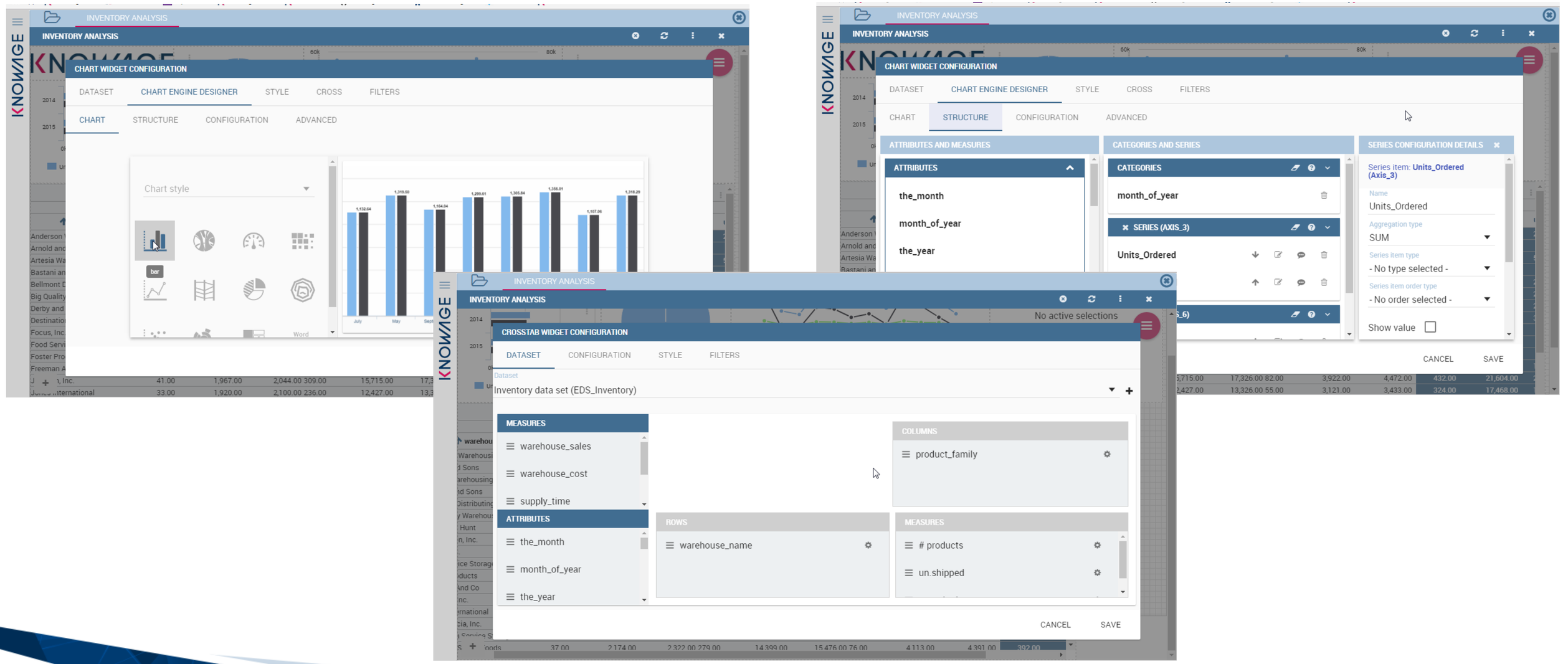

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Charts

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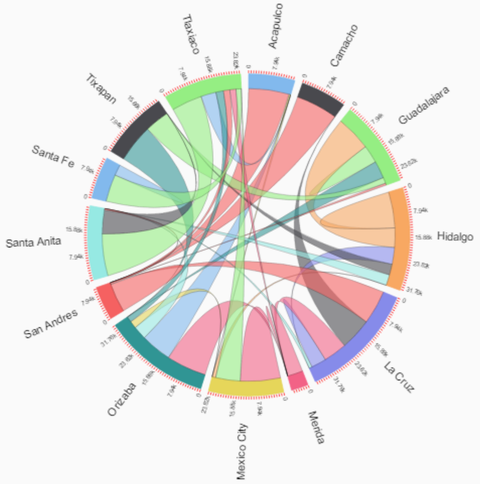
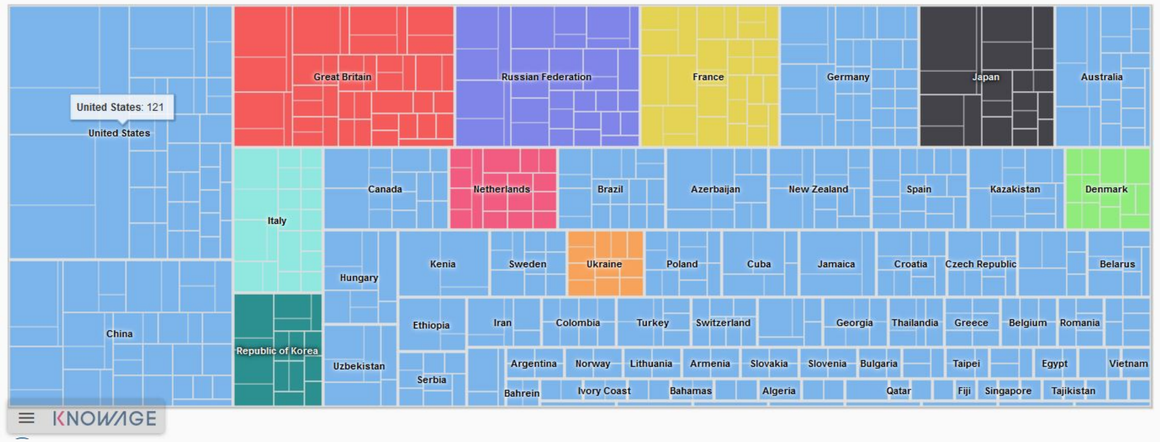
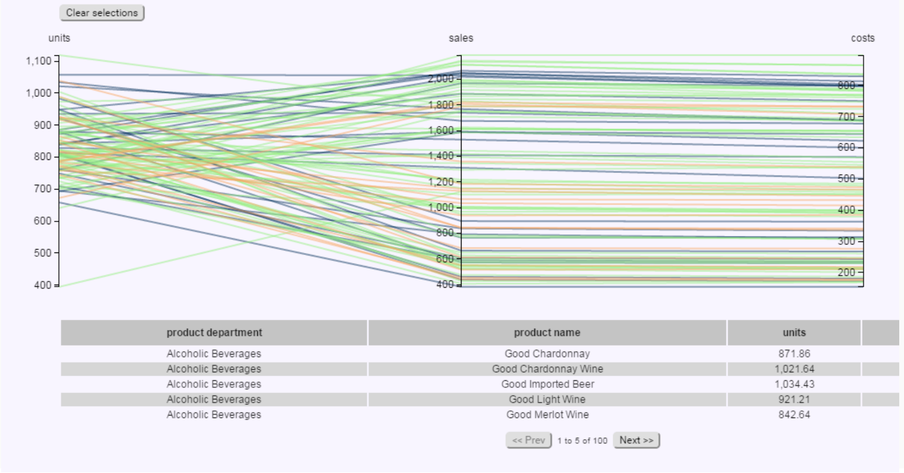
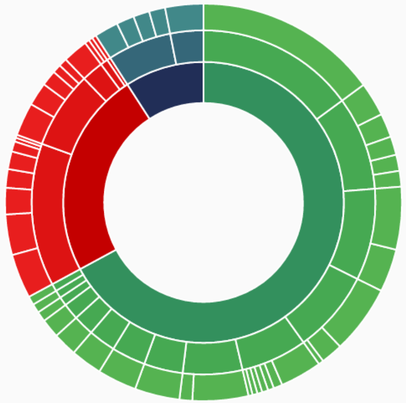


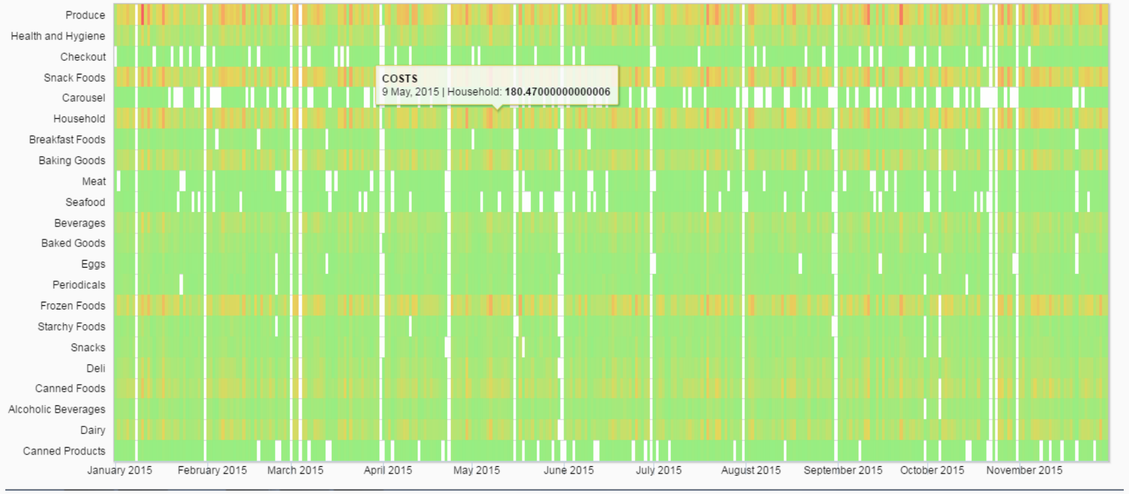




product department	product name	units
Alcoholic Beverages	Good Chardonnay	871.86
Alcoholic Beverages	Good Chardonnay Wine	1,021.64
Alcoholic Beverages	Good Imported Beer	1,034.43
Alcoholic Beverages	Good Light Wine	921.21
Alcoholic Beverages	Good Merlot Wine	842.64

<< Prev 1 to 5 of 100 Next >>





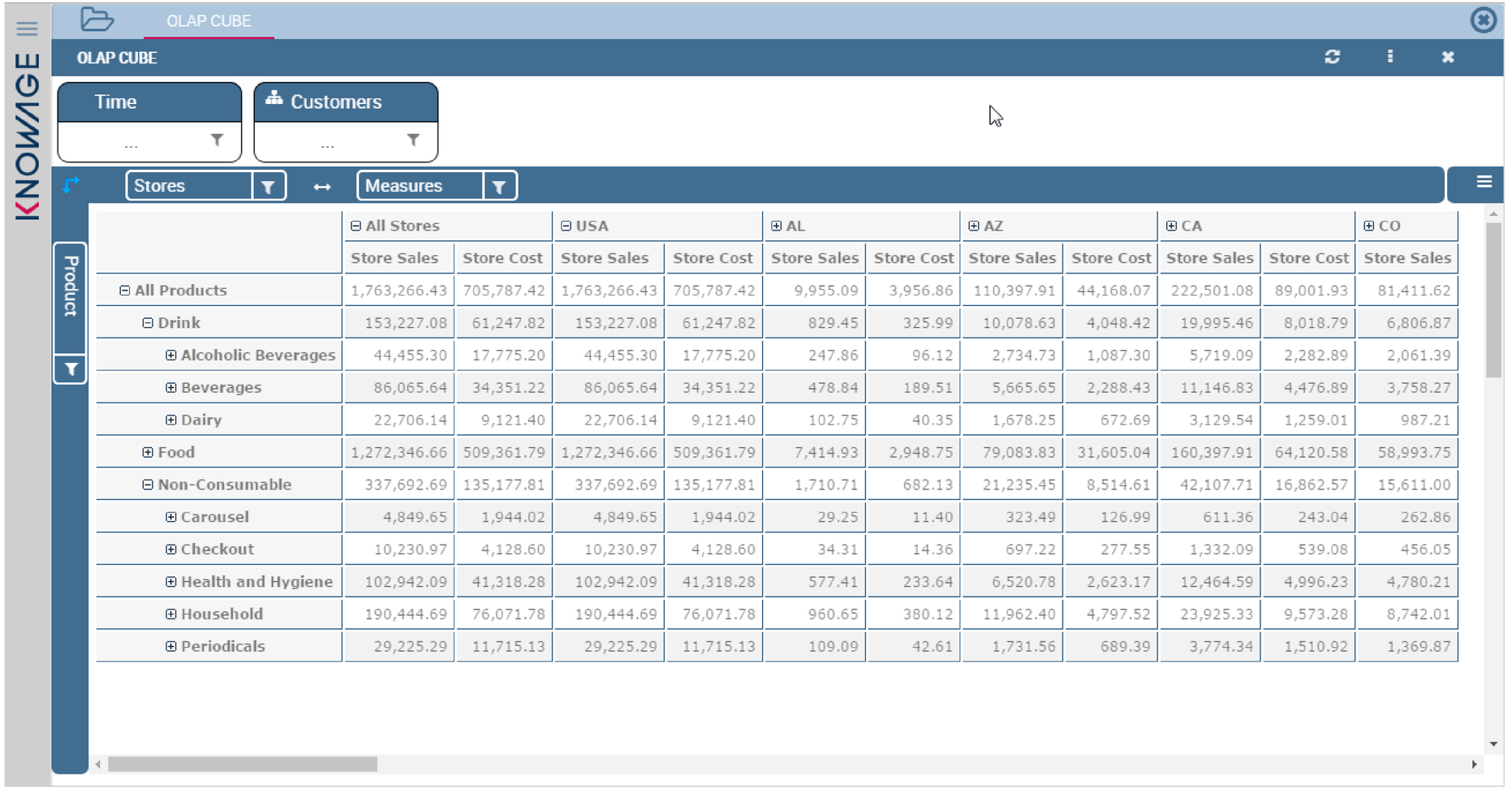
ENGINEERING

Report

CUSTOMERS BY OCCUPATION
CUSTOMERS BY OCCUPATION
CUSTOMER DETAILS
Bought Products By Occupation
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
27
86
169
517
268
824
360
1,140
224
682
Clerical
Management
Manual
Professional
Skilled Manual
Customer Occupations
Number of Customers
Units of products Bought in a year
PRODUCT DEPARTMENT: Alcoholic Beverages
AGE GROUP: 30-40
Member Card
Occupation
N. Customers
Bought Units
Bronze
Clerical
11
39
Management
80
234

Olap

KNOWAGE



	All Stores		USA		AL		AZ		CA		CO
	Store Sales	Store Cost	Store Sales	Store Cost	Store Sales	Store Cost	Store Sales	Store Cost	Store Sales	Store Cost	Store Sales
All Products	1,763,266.43	705,787.42	1,763,266.43	705,787.42	9,955.09	3,956.86	110,397.91	44,168.07	222,501.08	89,001.93	81,411.62
Drink	153,227.08	61,247.82	153,227.08	61,247.82	829.45	325.99	10,078.63	4,048.42	19,995.46	8,018.79	6,806.87
Alcoholic Beverages	44,455.30	17,775.20	44,455.30	17,775.20	247.86	96.12	2,734.73	1,087.30	5,719.09	2,282.89	2,061.39
Beverages	86,065.64	34,351.22	86,065.64	34,351.22	478.84	189.51	5,665.65	2,288.43	11,146.83	4,476.89	3,758.27
Dairy	22,706.14	9,121.40	22,706.14	9,121.40	102.75	40.35	1,678.25	672.69	3,129.54	1,259.01	987.21
Food	1,272,346.66	509,361.79	1,272,346.66	509,361.79	7,414.93	2,948.75	79,083.83	31,605.04	160,397.91	64,120.58	58,993.75
Non-Consumable	337,692.69	135,177.81	337,692.69	135,177.81	1,710.71	682.13	21,235.45	8,514.61	42,107.71	16,862.57	15,611.00
Carousel	4,849.65	1,944.02	4,849.65	1,944.02	29.25	11.40	323.49	126.99	611.36	243.04	262.86
Checkout	10,230.97	4,128.60	10,230.97	4,128.60	34.31	14.36	697.22	277.55	1,332.09	539.08	456.05
Health and Hygiene	102,942.09	41,318.28	102,942.09	41,318.28	577.41	233.64	6,520.78	2,623.17	12,464.59	4,996.23	4,780.21
Household	190,444.69	76,071.78	190,444.69	76,071.78	960.65	380.12	11,962.40	4,797.52	23,925.33	9,573.28	8,742.01
Periodicals	29,225.29	11,715.13	29,225.29	11,715.13	109.09	42.61	1,731.56	689.39	3,774.34	1,510.92	1,369.87

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What-if

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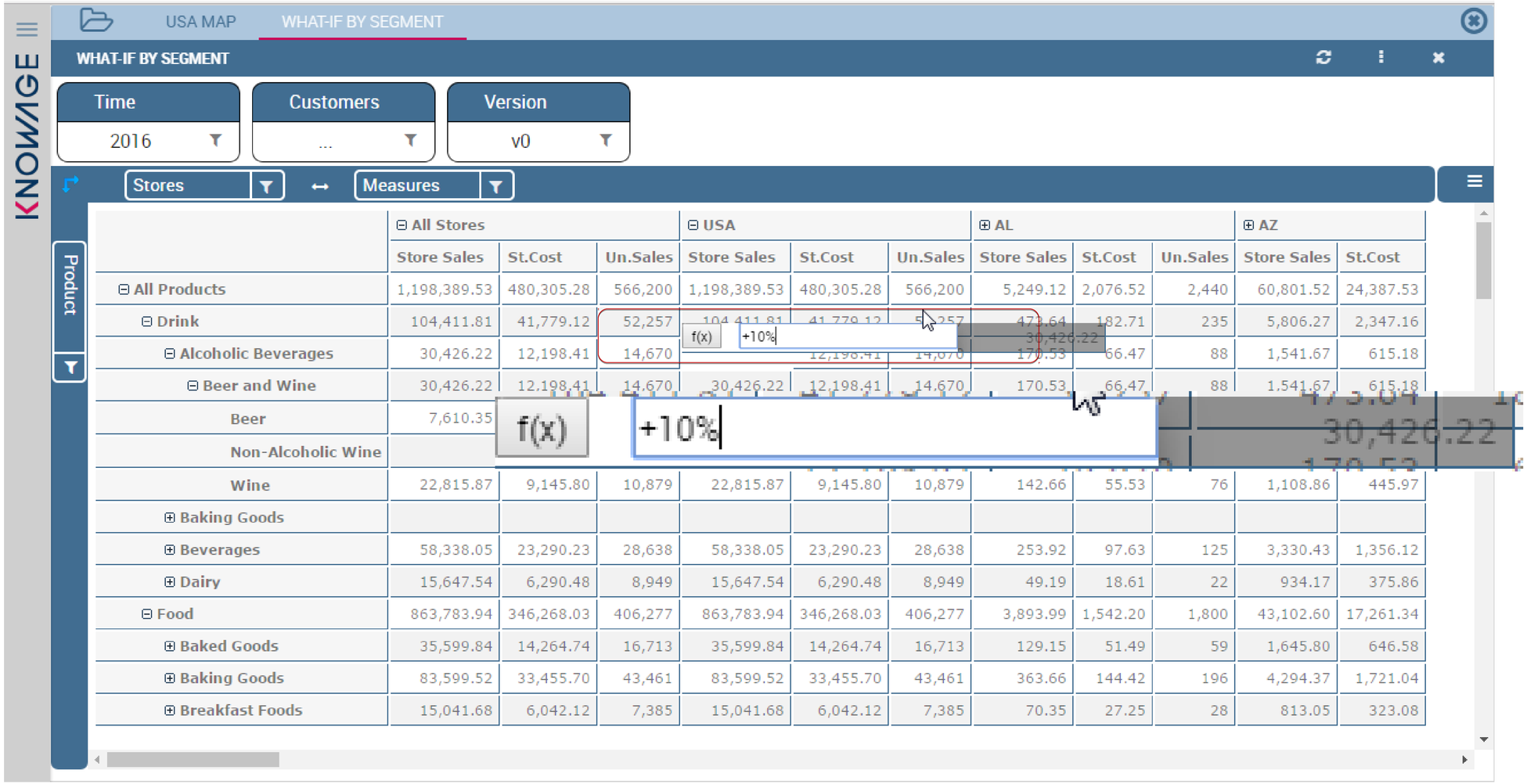

	All Stores			USA			AL			AZ	
	Store Sales	St.Cost	Un.Sales	Store Sales	St.Cost	Un.Sales	Store Sales	St.Cost	Un.Sales	Store Sales	St.Cost
All Products	1,198,389.53	480,305.28	566,200	1,198,389.53	480,305.28	566,200	5,249.12	2,076.52	2,440	60,801.52	24,387.53
Drink	104,411.81	41,779.12	52,257	104,411.81	41,779.12	52,257	473.64	182.71	235	5,806.27	2,347.16
Alcoholic Beverages	30,426.22	12,198.41	14,670	30,426.22	12,198.41	14,670	170.53	66.47	88	1,541.67	615.18
Beer and Wine	30,426.22	12,198.41	14,670	30,426.22	12,198.41	14,670	170.53	66.47	88	1,541.67	615.18
Beer	7,610.35										
Non-Alcoholic Wine											
Wine	22,815.87	9,145.80	10,879	22,815.87	9,145.80	10,879	142.66	55.53	76	1,108.86	445.97
Baking Goods											
Beverages	58,338.05	23,290.23	28,638	58,338.05	23,290.23	28,638	253.92	97.63	125	3,330.43	1,356.12
Dairy	15,647.54	6,290.48	8,949	15,647.54	6,290.48	8,949	49.19	18.61	22	934.17	375.86
Food	863,783.94	346,268.03	406,277	863,783.94	346,268.03	406,277	3,893.99	1,542.20	1,800	43,102.60	17,261.34
Baked Goods	35,599.84	14,264.74	16,713	35,599.84	14,264.74	16,713	129.15	51.49	59	1,645.80	646.58
Baking Goods	83,599.52	33,455.70	43,461	83,599.52	33,455.70	43,461	363.66	144.42	196	4,294.37	1,721.04
Breakfast Foods	15,041.68	6,042.12	7,385	15,041.68	6,042.12	7,385	70.35	27.25	28	813.05	323.08

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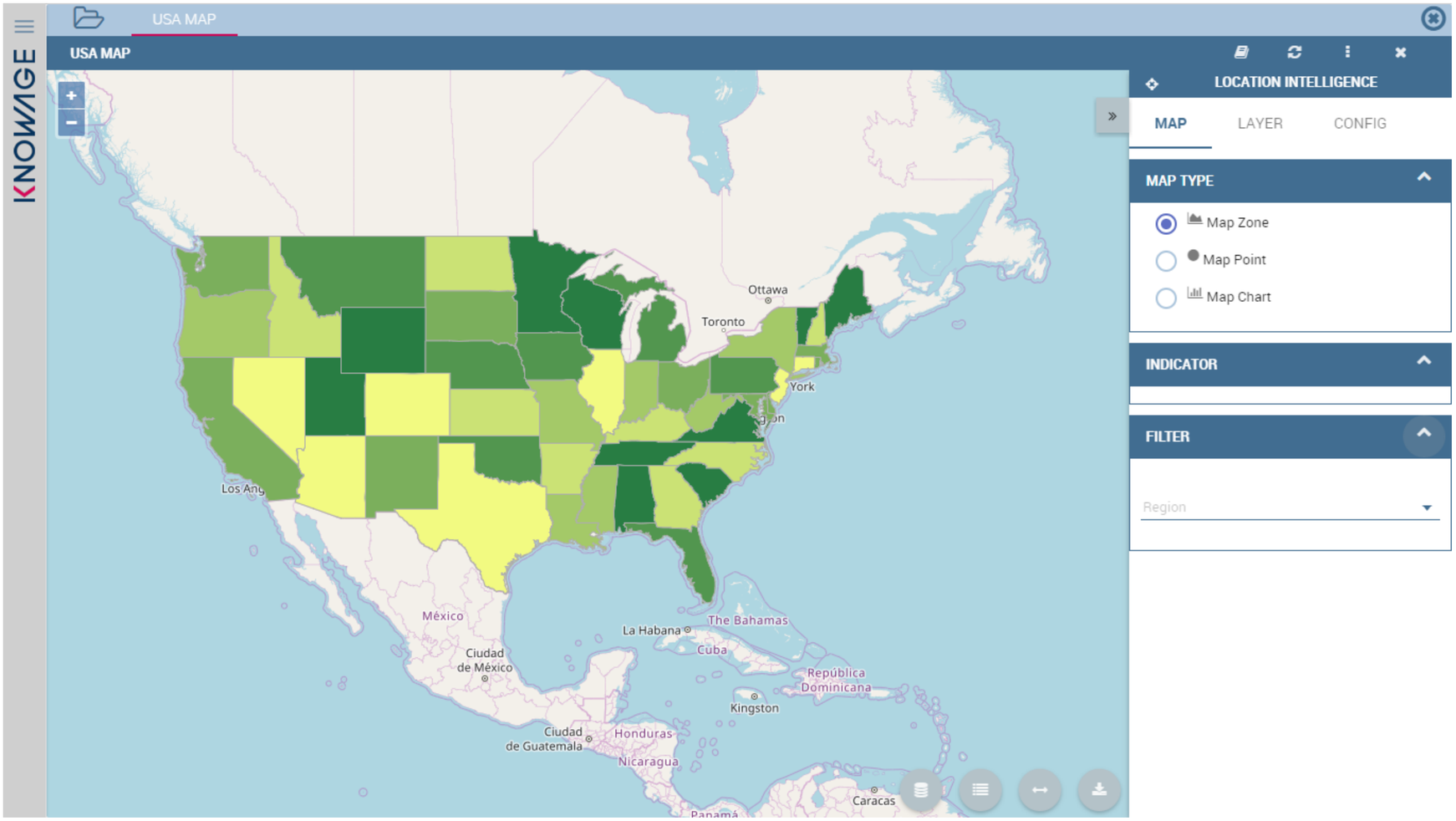
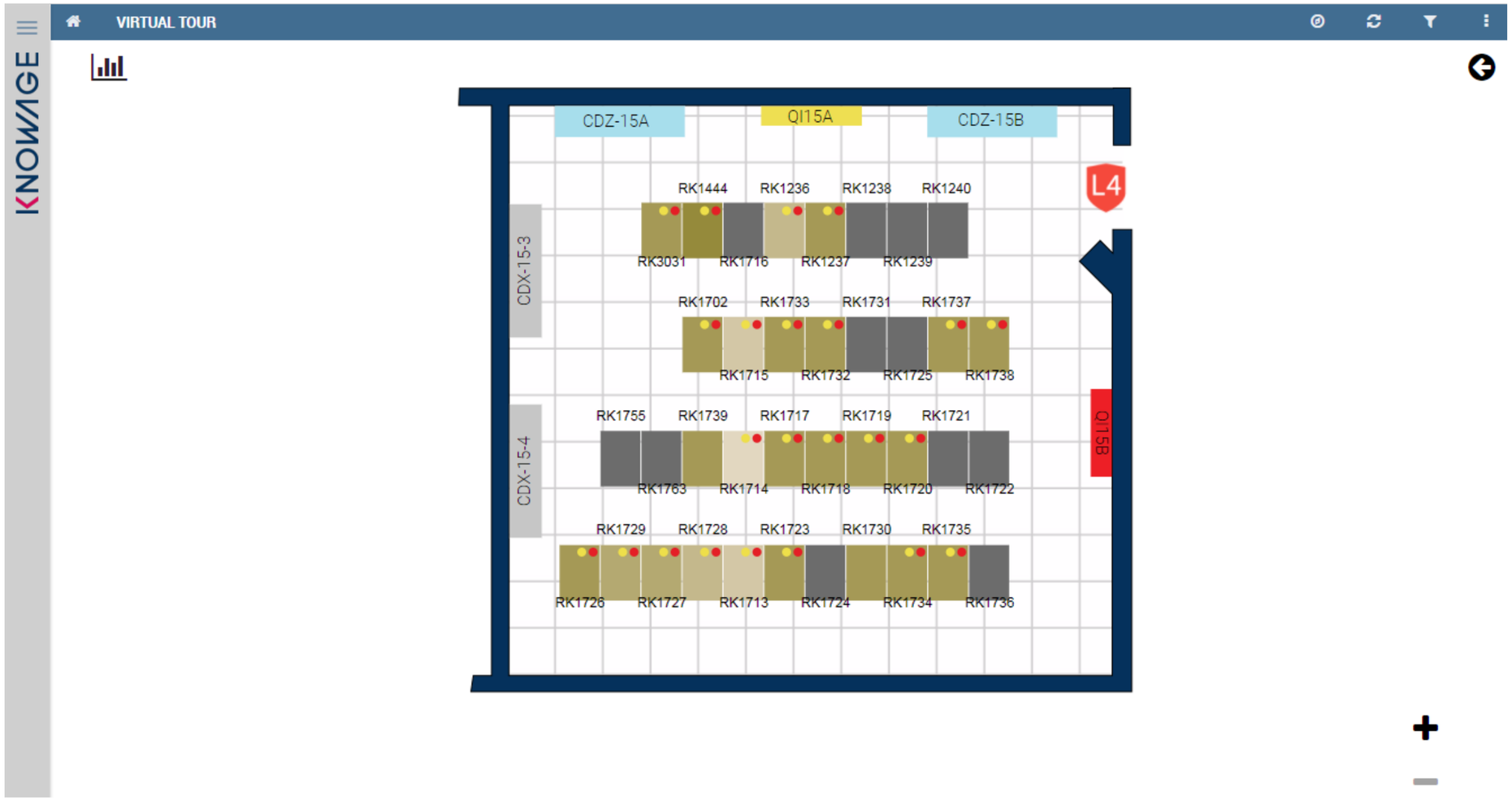
GIS

KNOWAGE



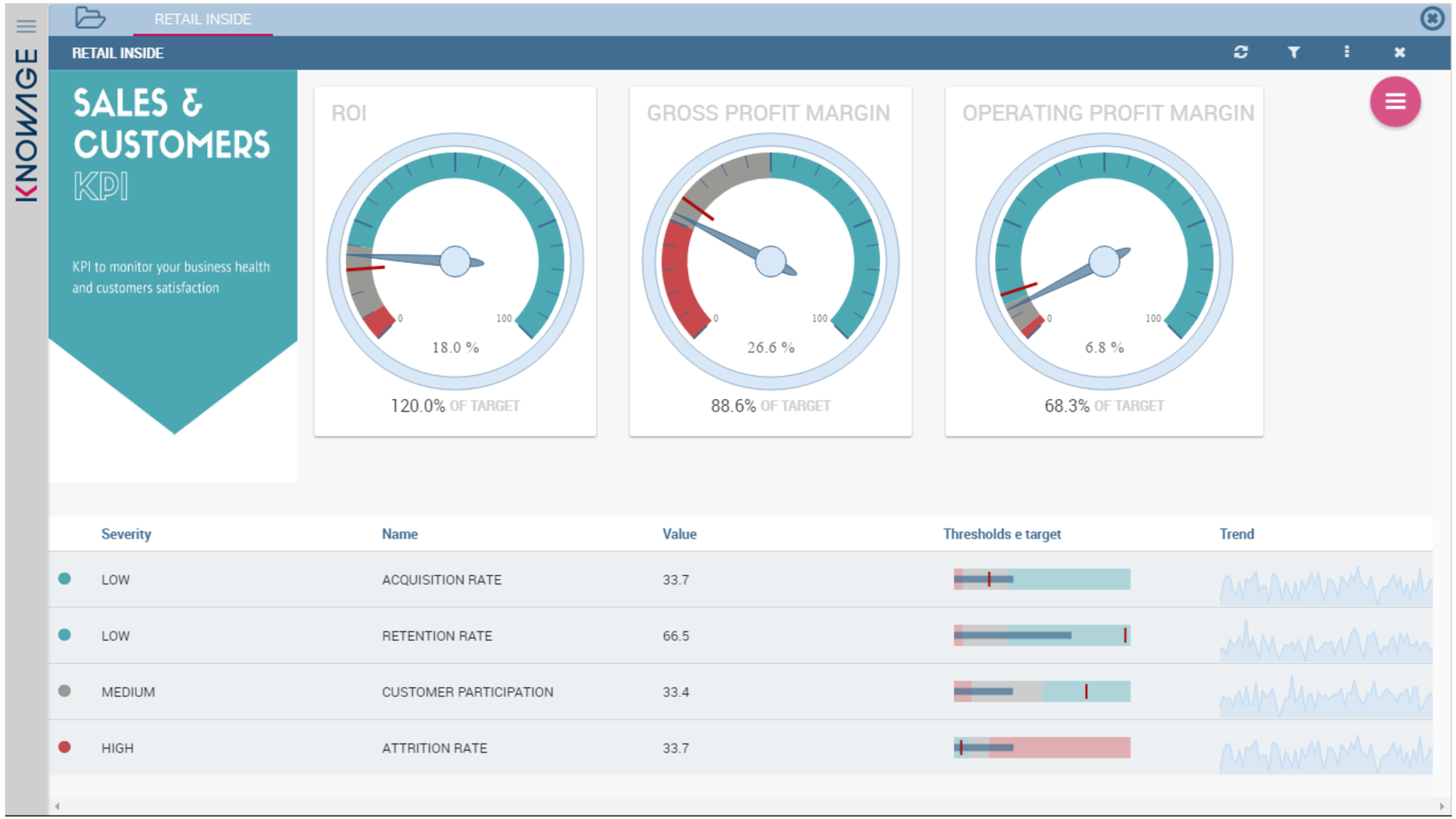
ENGINEERING

SVG map


KNOWAGE
VIRTUAL TOUR
CDZ-15A
QI15A
CDZ-15B
L4
CDX-15-3
CDX-15-4
QI15B
RK1444
RK1236
RK1238
RK1240
RK3031
RK1716
RK1237
RK1239
RK1702
RK1733
RK1731
RK1737
RK1715
RK1732
RK1725
RK1738
RK1755
RK1739
RK1717
RK1719
RK1721
RK1763
RK1714
RK1718
RK1720
RK1722
RK1729
RK1728
RK1723
RK1730
RK1735
RK1726
RK1727
RK1713
RK1724
RK1734
RK1736

KPI

KNOWAGE



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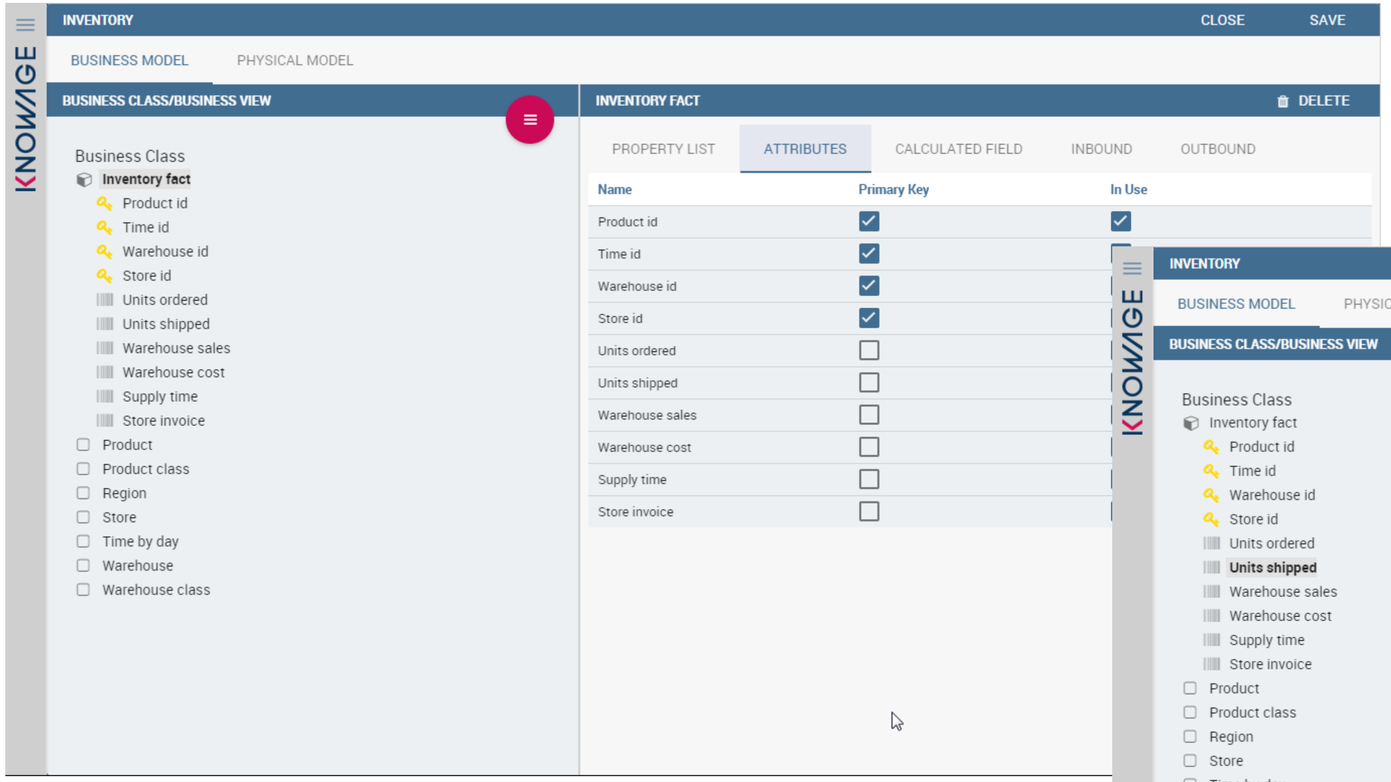
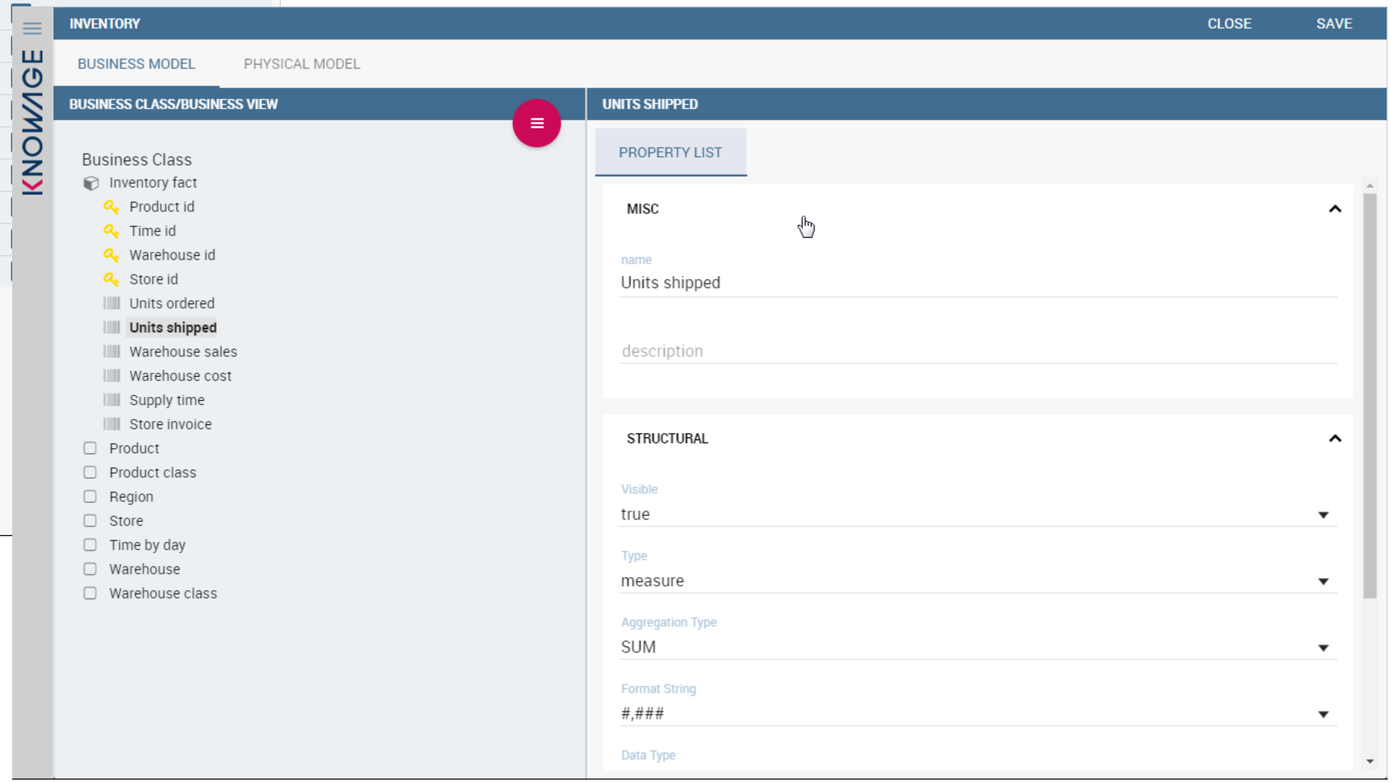
Metamodel


INVENTORY
CLOSE
SAVE
BUSINESS MODEL
PHYSICAL MODEL
BUSINESS CLASS/BUSINESS VIEW
INVENTORY FACT
DELETE
PROPERTY LIST
ATTRIBUTES
CALCULATED FIELD
INBOUND
OUTBOUND
Business Class
Inventory fact
Product id
Time id
Warehouse id
Store id
Units ordered
Units shipped
Warehouse sales
Warehouse cost
Supply time
Store invoice
Product
Product class
Region
Store
Time by day
Warehouse
Warehouse class
Name
Primary Key
In Use


INVENTORY
CLOSE
SAVE
BUSINESS MODEL
PHYSICAL MODEL
BUSINESS CLASS/BUSINESS VIEW
UNITS SHIPPED
PROPERTY LIST
MISC
name
Units shipped
description
STRUCTURAL
Visible
true
Type
measure
Aggregation Type
SUM
Format String
#,###
Data Type

Business models on different data sources

KNOWAGE

Foodmart_Sales

Sales on RDBMS

Inventory_SparkSQL

Inventory from SparkSQL

Expense_Hive

Expense_Hive

ENGINEERING

Any data via universal dataset

KNOWAGE

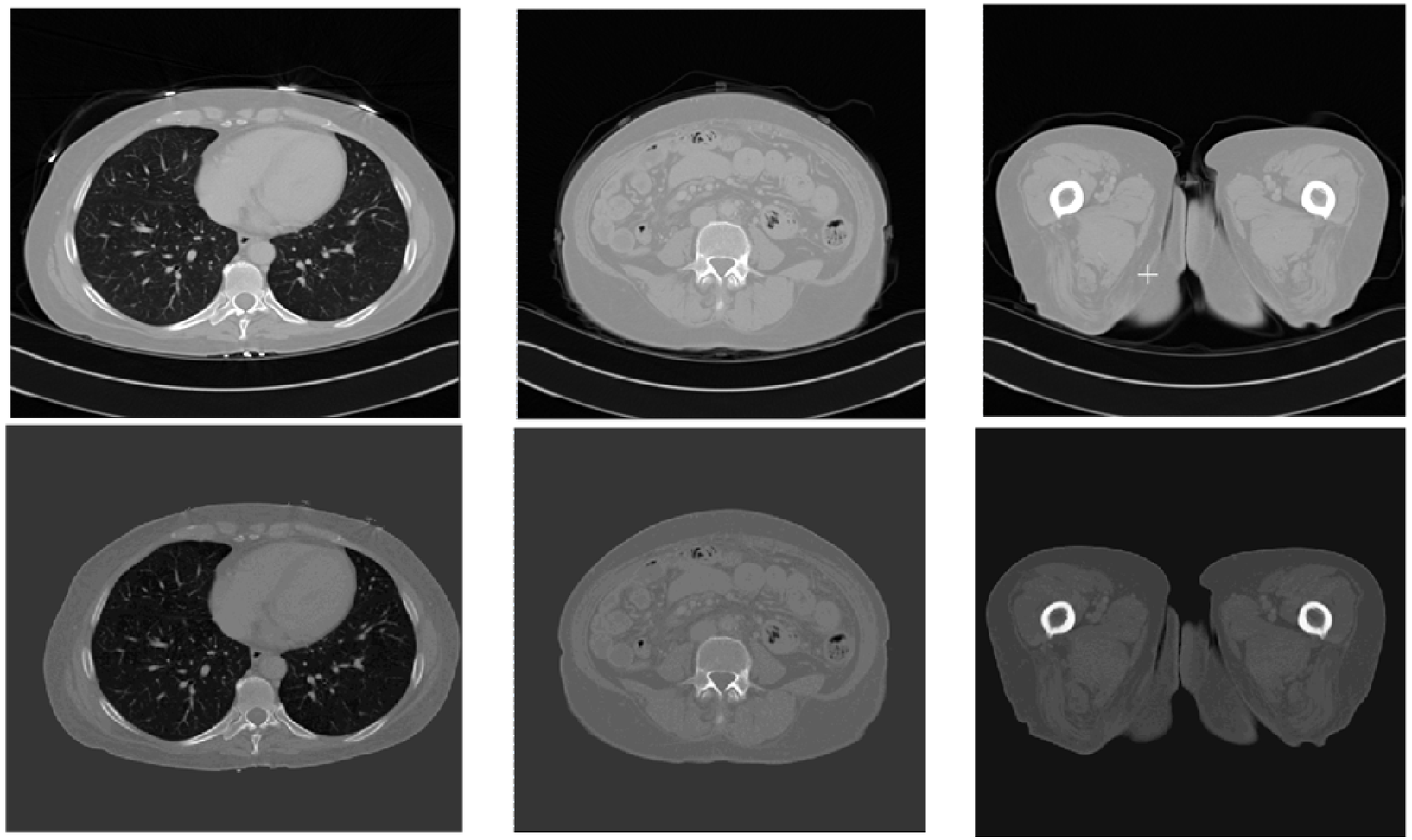
Direct access

Metamodel

ENGINEERING

Advanced analytics

KNOWAGE



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Highlights

KNOWAGE

- Entirely web-based & portable
- **Security** by IT
- **Data integration**
- **Agile** for users
- **Self-service** capabilities
- Self-organization of the **working space**
- Sharing **notes** & comments
- **Sharing** data
- From ready-to-use up to **build-by-yourself**
- All-in-one, with **tailored size**

ENGINEERING

BUSINESS MODEL

ENGINEERING

Two editions

KNOWAGE

COMMUNITY EDITION

- Available for free
- Open repository
- Usable under the AGPL license
- OEM result must be open source (AGPL)
- Full usability for end-users
- Not guaranteed third-part libraries rights
- Community-based support
- **No professional services**
- General documentation

ENTERPRISE EDITION

- Available for fee, under **annual subscription**
- Private repository
- Usable with **AGPL exceptions** (no constraints)
- OEM for commercial products
- Facilities for admin, advanced features for end-users
- Guaranteed **third-part rights**
- Maintenance and **professional services**
- Professional support with SLA
- Professional documentation

ENGINEERING

Knowage – CE vs EE

KNOWAGE

KNOWAGE

Product Licensing Services Resources About Us Private Area

END-USER DEVELOPER ADMIN

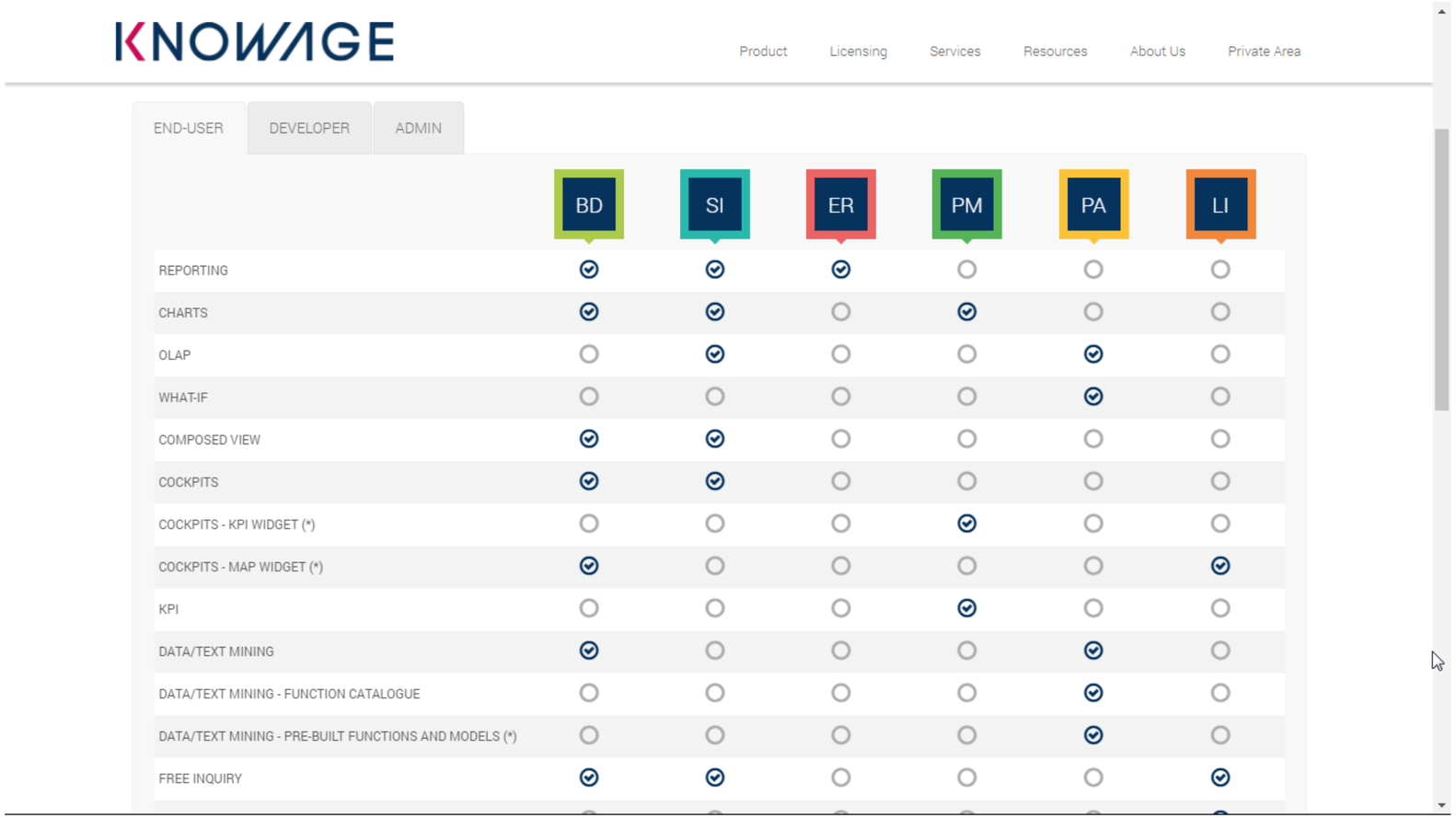
		COMMUNITY EDITION	ENTERPRISE EDITION
REPORTING	Static, pixel-perfect reports	✓	✓
CHARTS - STANDARD CAPABILITIES	Common charts (bar, line, pie, radar, etc.) based on free libraries	✓	✓
CHARTS - ADVANCED CAPABILITIES	Interactive and zoomable charts based on advanced libraries with commercial licence	○	✓
OLAP - STANDARD CAPABILITIES	Olap engine with drill-down, slice&dice, drill-trough capabilities. Web designer for OLAP documents	✓	✓
OLAP - ADVANCED FEATURES	Charts (*), calculated fields, time series, MDX functions	○	✓
WHAT-IF - STANDARD CAPABILITIES	What-if engine for scenario simulation over hierarchical models, with versioning. Simulation on facts, basic propagation alghoritms. On-line usage with ROLAP technology	✓	✓
WHAT-IF - ADVANCED FEATURES	Simulation on dimensions; sequential workflow to manage concurrent usage; advanced propagation algorithms(*). Off-line usage with synchronizing methods and MOLAP strategy(*)	○	✓
COMPOSED VIEW	Composed view to combine different analytical documents in a single view	✓	✓
COCKPITS - STANDARD CAPABILITIES	Interactive cockpits with associative logic; multi sheet. Widgets for text, image, chart, table, cross table, external document (report, etc). Additional widgets for KPI, map and SVG design	✓	✓
COCKPITS - ADVANCED FEATURES	Near real-time with refresh time; associations discovery	○	✓
KPI - STANDARD CAPABILITIES	Measures, KPIs, thresholds and targets. Schedule the KPIs evaluation and centralized alerting system. Integration with context-broker GE in FI-WARE ecosystem	✓	✓

www.knowage-suite.com/site/licensing/editions-comparison

ENGINEERING

KNOWAGE – Modular offering

KNOWAGE



www.knowage-suite.com/site/licensing/product-comparison

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www.knowage-suite.com

knowage@eng.it

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