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Smart Supply Chain Automation

Leverage data to simplify inventory management

01 Vekia, genesis of an expert solution

Our genesis.

2009

Creation of Vekia

Realization of consulting missions and recommendations to the CODIR around ML & AI technologies

2011

Vekia becomes an *on-premise* **software publisher**

Forecasting & Replenishment Automation Modules

2017

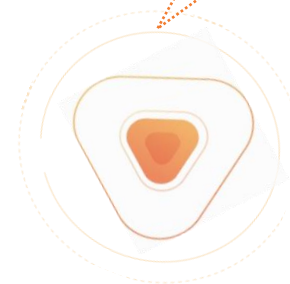Launch of Vekia's **SaaS offering** around the Azure platform

Forecasting & Replenishment Automation Modules

Probabilistic forecasts

Today

Deploying the Azure platform for a growing number of sites and users

ARS
APS

4th generation

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Smart Supply Chain Automation

Highlight : Manuel Davy.

CENTRALE NANTES
Studied engineering
PhD In Signal Processing

Leader at Cité de l'IA
70 compagnies

UNIVERSITY OF CAMBRIDGE
cnrs
Researcher in
Machine Learning
Bayesian statistics
Signal Processing

Manuel Davy
CEO - Founder

Author of
1 book
6 book chapters
100+ scientific papers

Anssi Klapuri
Manuel Davy
Editors

SIGNAL PROCESSING
METHODS FOR MUSIC
TRANSCRIPTION

Springer

Teacher

Founder & CEO
Cloud software platform for
demand forecasting and
replenishment

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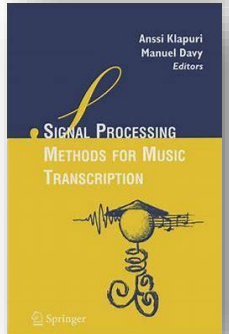
Enterprise Artificial
AI in Industry, companies a

Manuel DAVY, Ph.D.,

Lecture at ESILV
March 2022

Global vision.

Fabien Fouissard
Chief Customer Success
Officer & Alliances

Vincent Knab
Delivery & Services
Director

Noel Charpentier
Customer Success Manager

Thibault Devred
Dev Ops Director

Manuel Davy
Founder & CEO

Julien Maillard
Chief Technical Officer

Johann Robette
Customer Success Manager

Alexandre Gerussi
Lab Director

Charlotte Lesage
Chief Marketing Officer

Benoit Raoult
PreSales Specialist

Et tous nos experts

Our customers.

02

Vekia, a fast and efficient solution

Vekia, a fast and efficient solution

Description

A big data solution.

7 800 billion
calculations of forecasts and replenishment action per year

150 billion
inventory management decisions

€ 100 billion
turnover generated by our customers via our forecast calculations and inventory replenishment

+100 To data integrated

+11 billion
lines per day

A 100% SaaS solution.

Security & reliability

- Secured environments, hosted in Europe
- Multi-Authentication & Dedicated tenant
- Duplication & Redundancy / data backups
- Blue-Green Deployment

Performance & Infrastructure

- 24/7 availability
- Worldwide availability
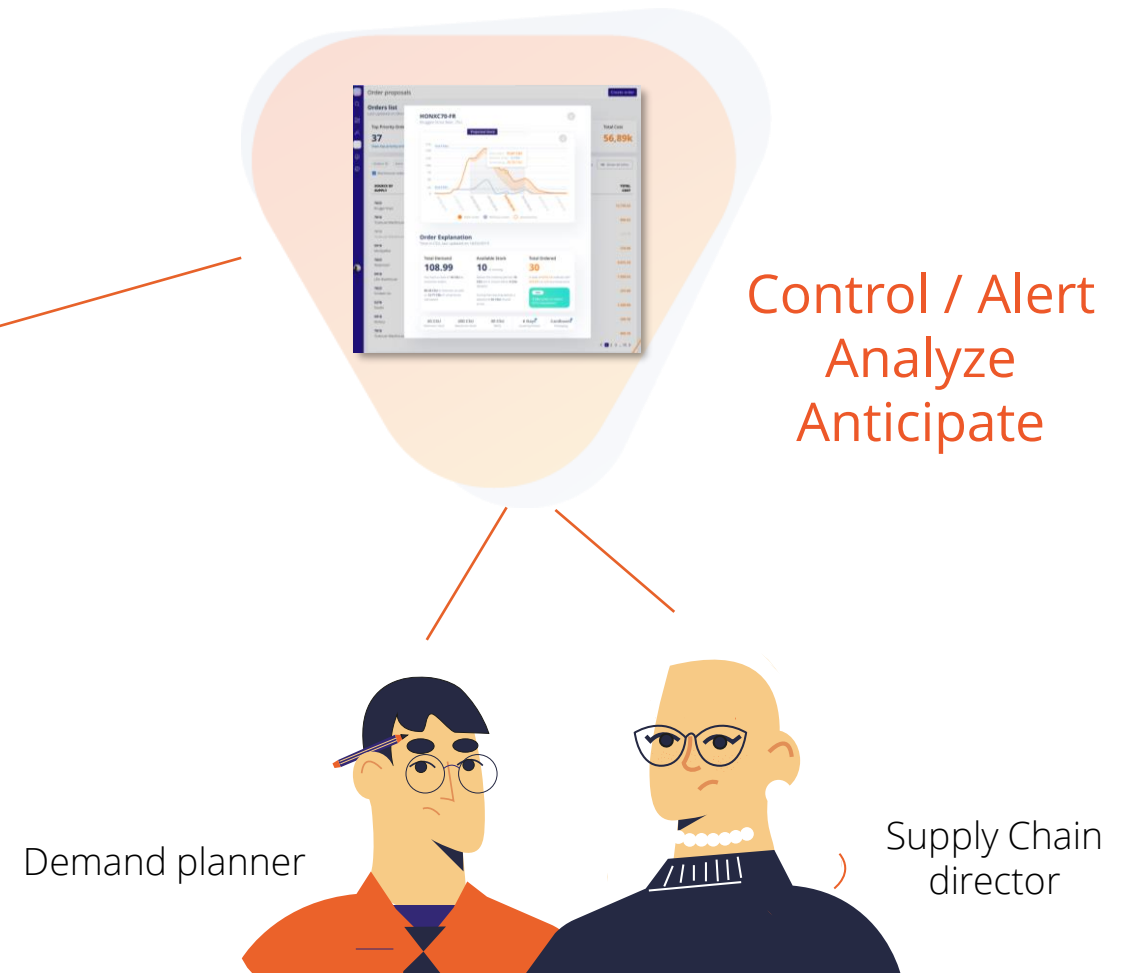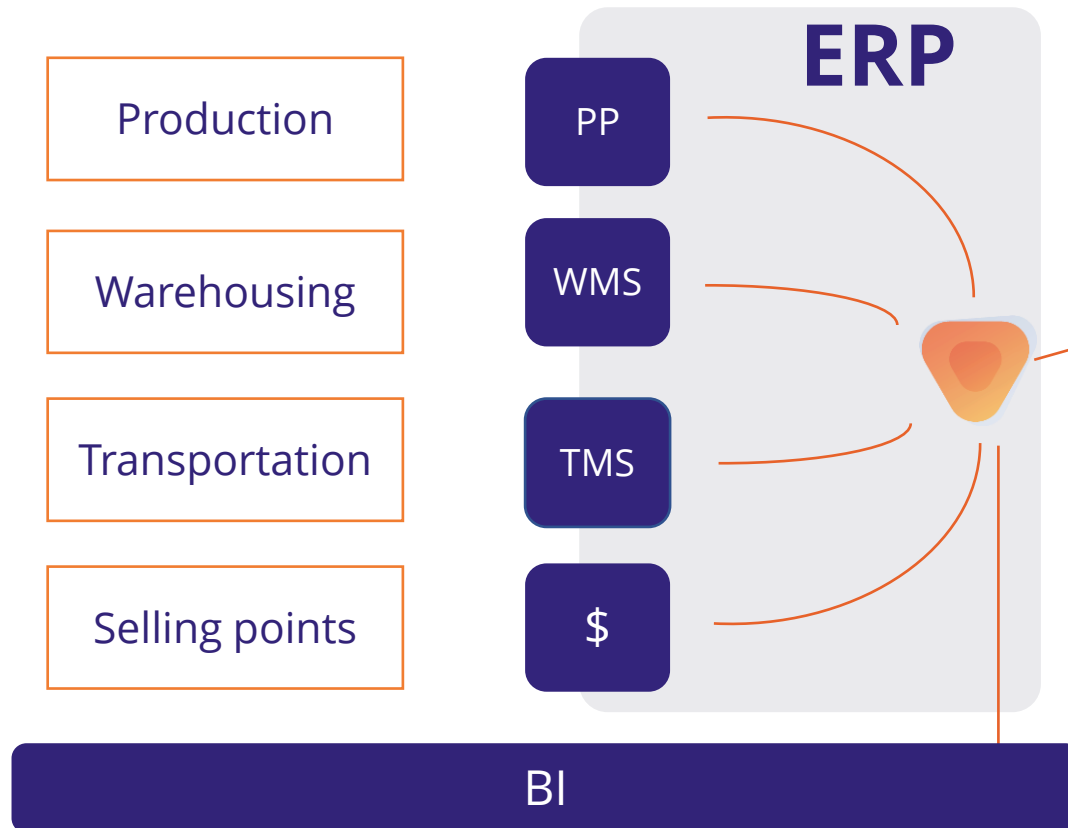- Horizontal scalability
- SaaS with Microsoft Azure ecosystem

Services

- Dedicated support team & Customer Success
- Continuous improvement of performance
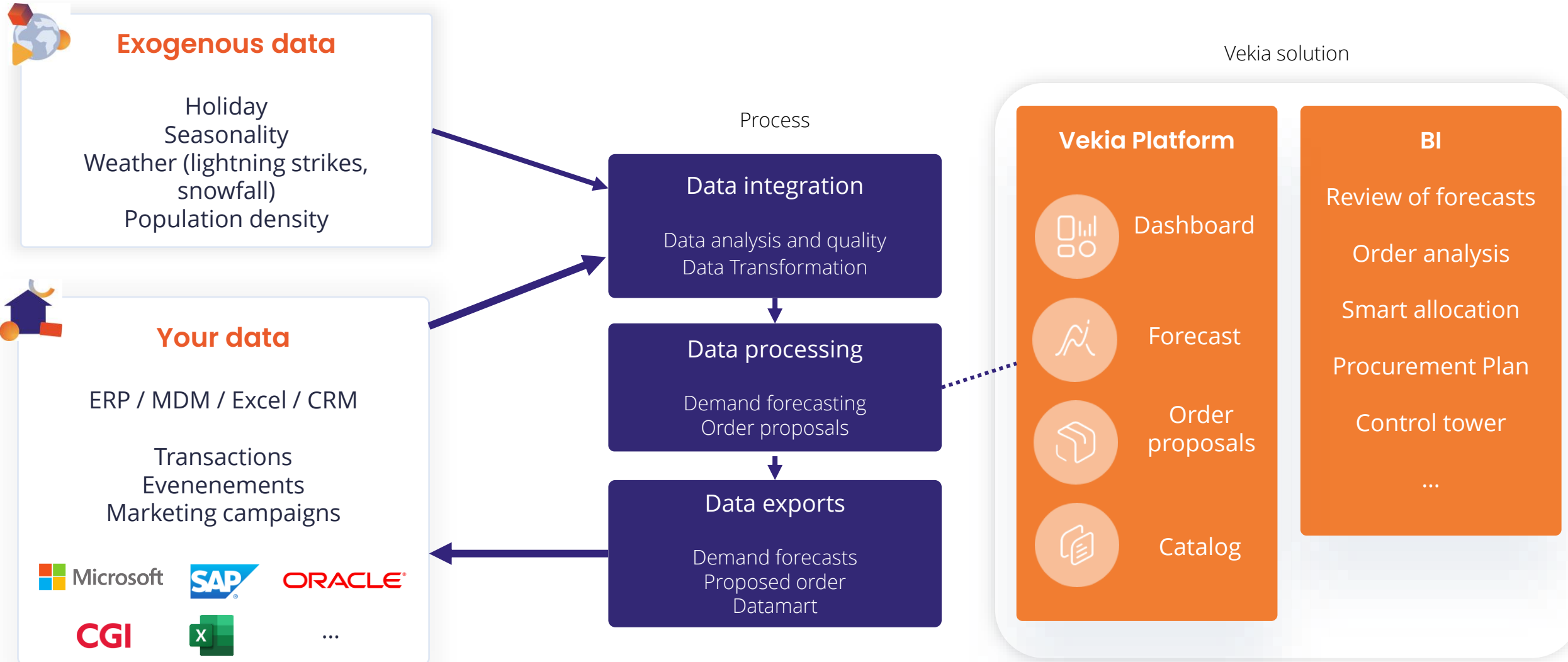- Software updates
- Supervision

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Smart Supply Chain Automation

Where Vekia makes the difference.

"Classic" IT system of a Supply Chain

APS powered by VEKIA

Production

Warehousing

Transportation

Selling points

ERP

PP

WMS

TMS

$

BI

Control / Alert
Analyze
Anticipate

Demand planner

Supply Chain director

Principles of integration.

Exogenous data

Holiday
Seasonality
Weather (lightning strikes, snowfall)
Population density

Your data

ERP / MDM / Excel / CRM

Transactions
Evenenements
Marketing campaigns

Microsoft   SAP   ORACLE

CGI   X   ...

Process

Data integration

Data analysis and quality
Data Transformation

Data processing

Demand forecasting
Order proposals

Data exports

Demand forecasts
Proposed order
Datamart

Vekia solution

Vekia Platform

Dashboard

Forecast

Order proposals

Catalog

BI

Review of forecasts

Order analysis

Smart allocation

Procurement Plan

Control tower

...

A "best of breed" approach.

Easy configuration and maintenance, high performance dashboards with
tableau   Power BI

Long term, high volume data storage with
snowflake

High performance, easy to maintain data I/O connectors with
talend

Vekia ETK   Vekia ROBOT

Horizontal scalability, in-memory computations with Databricks

Azure Databricks

Fast access UIs with data-storage through
Azure Cosmos DB   Postgres   snowflake

Easy deployment with
kubernetes

Micro-services & APIs architecture

ETK (Engine toolkit) and ROBOT (Robust Optimal Best Order Toolkit) are core software component engineered by Vekia to support the supply chain-dedicated data processing algorithms for forecasting and constrained order optimization

Vekia, a fast and efficient solution

Use-case
& UI / UX

1. Data integration: automated history cleaning
2. Multi-level and multi-horizon forecast aggregation
3. High performance automatic replenishment
4. Control tower: the cockpit of your supply chain
5. Anticipated management of stock shortages
6. Reduce and optimize inventory levels globally
7. Manage multiple orders in advance and optimize truck/container filling
8. Anticipate and manage marketing campaigns and cannibalization effects
9. Identify and manage stock transfers and exchanges between sites
10. Prepare the launch stock of a new article (coldstart)
11. Forecast and adjust the logistics workforce
12. Detect stock data errors; suspect stocks
13. Optimize upstream supply performance
14. Forecast load and associated resources: transportation / packaging / etc.
15. Manage and utilize repackaged product inventory
16. Improve S&OP process performance
17. Manage end-to-end inventory on multiple levels
18. Optimize procurement of perishable products
19. Convert sell-in sell-out sales

Order proposals.

Your order proposals

- Order management
- Order creation
- Explanation of the order
- Dynamic safety stock

Consideration of constraint

- Logistics
- Physical
- Ecological
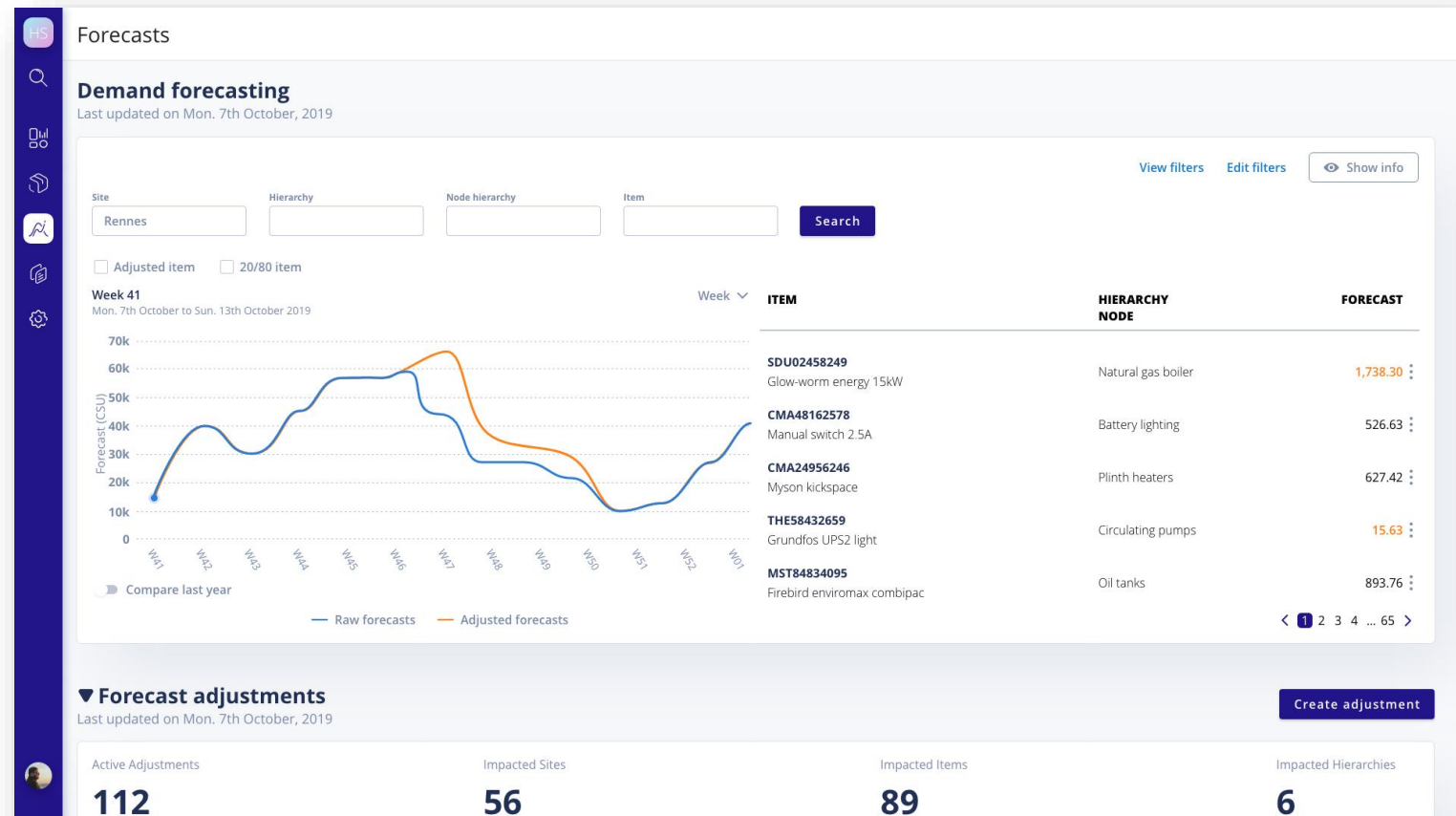- Monetary

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Demand forecasts.

- Machine Learning / Deep Learning Algorithms

- Data quality and analysis

- Daily forecasts

- Adjusted forecasts

Taking into account

- Sales history

- Exogenous data

- Out of stock

Catalog.

- Article sheet

- Entity sheet

- Delivery schedule

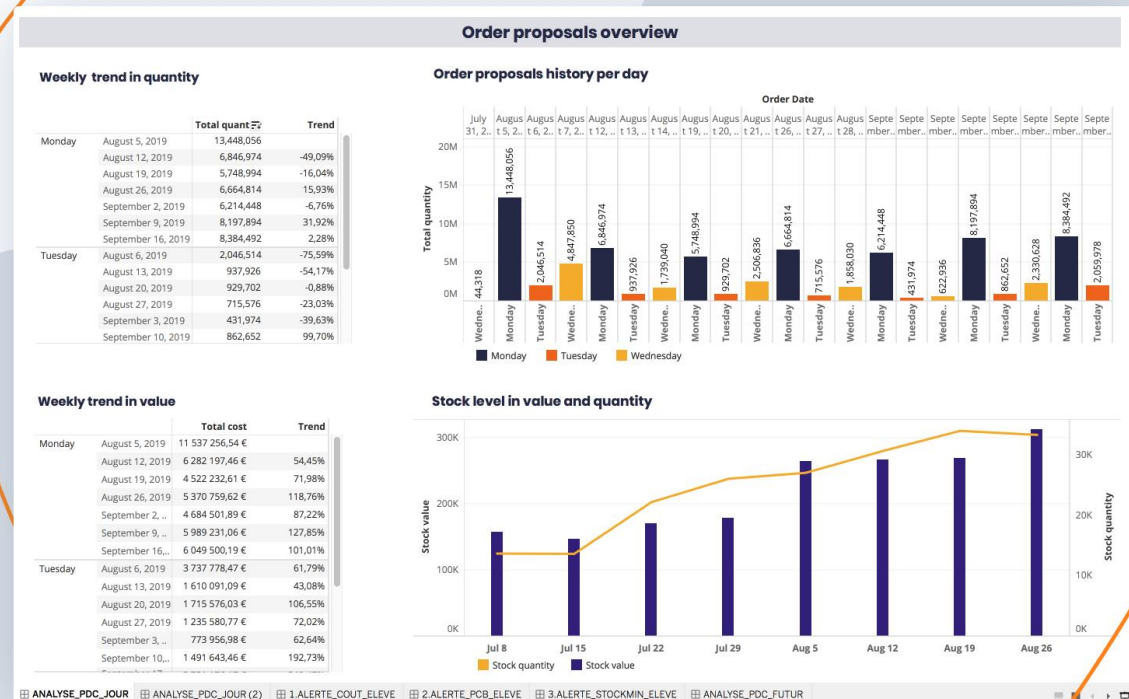- Stock & deliveries

- Conditions of purchase

Business Intelligence.

The cockpit of your supply chain with an overview of

- Your supplies

- Performance of the Vekia solution

- Stock level by entity

- Production projection

Focus on alerts and exceptions

- Quantity or value of orders

- Out-of-stock items

- Safety Stock Levels

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