

Applications on top of PI Infrastructure

Sigmafine and 3D Data Centers



OSIsoft Regional Seminar
Milan, May 24, 2012

Agenda

- Company Profile
- Added-value applications on PI infrastructure
- Sigmafine
- 3D Data Centers
- Conclusions

Company Profile

PIMSOFT - OVERVIEW

- Longstanding OSISOFT partner since 1996 and qualified as OSISOFT Sigmafine VAR
- Pimsoft acquired Sigmafine from OSISOFT end 2009
- Pimsoft Inc. has been created to manage the Sigmafine business with offices in Houston, Milan, and Turin
- Sigmafine team of experts and developers joined the new company
- Larger Offering: core software, industry specific solutions, consulting and project implementations

Added-value solutions on PI Infrastructure

Sigmafine and 3D Data Navigator

- Based on OSIsoft PI System technology:
 - Extends rich benefits of OSIsoft PI Server
 - Leverage OSIsoft PI Asset Framework
 - Same administrative tools and management procedures
 - Native built-in integration with PI System (no interfaces needed)
 - Less applications islands
 - Easier system maintenance

Architecture

General Overview



PI-DataLink



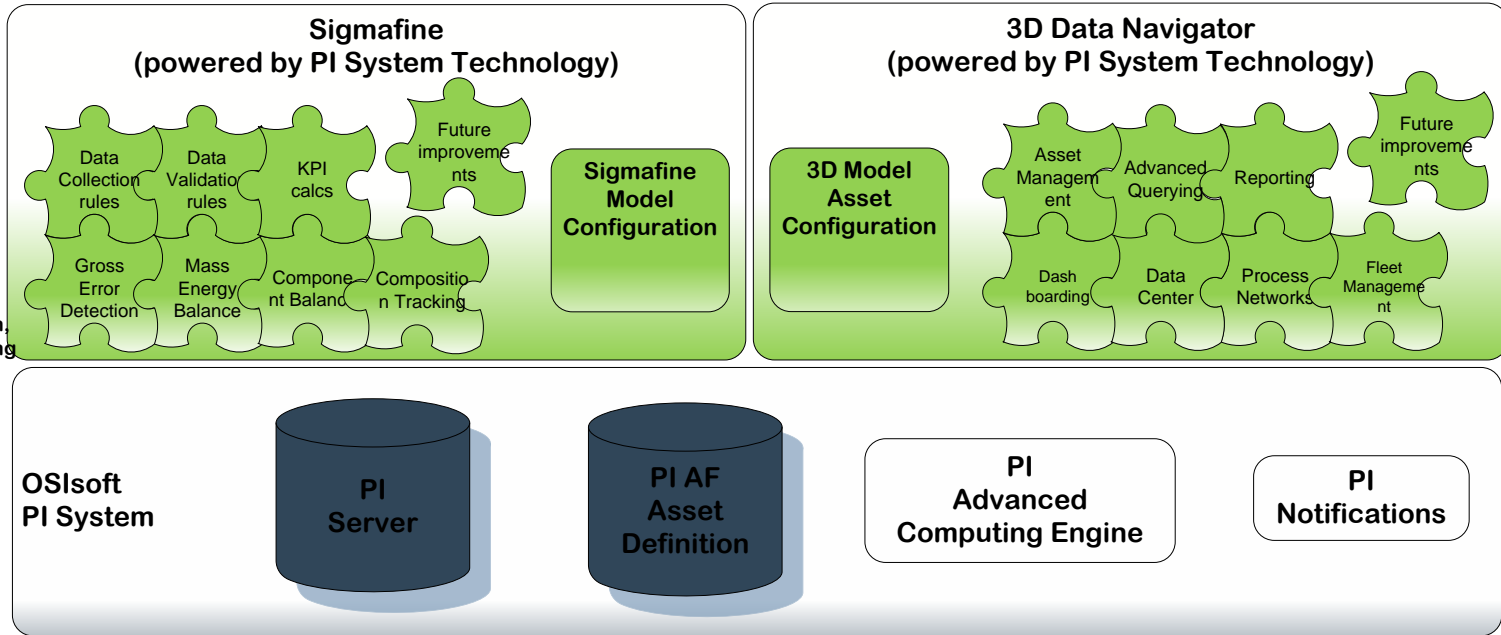
PI-ProcessBook



PI System Explorer



Modeling, graphical representation, ad-hoc reporting and analysis, system management



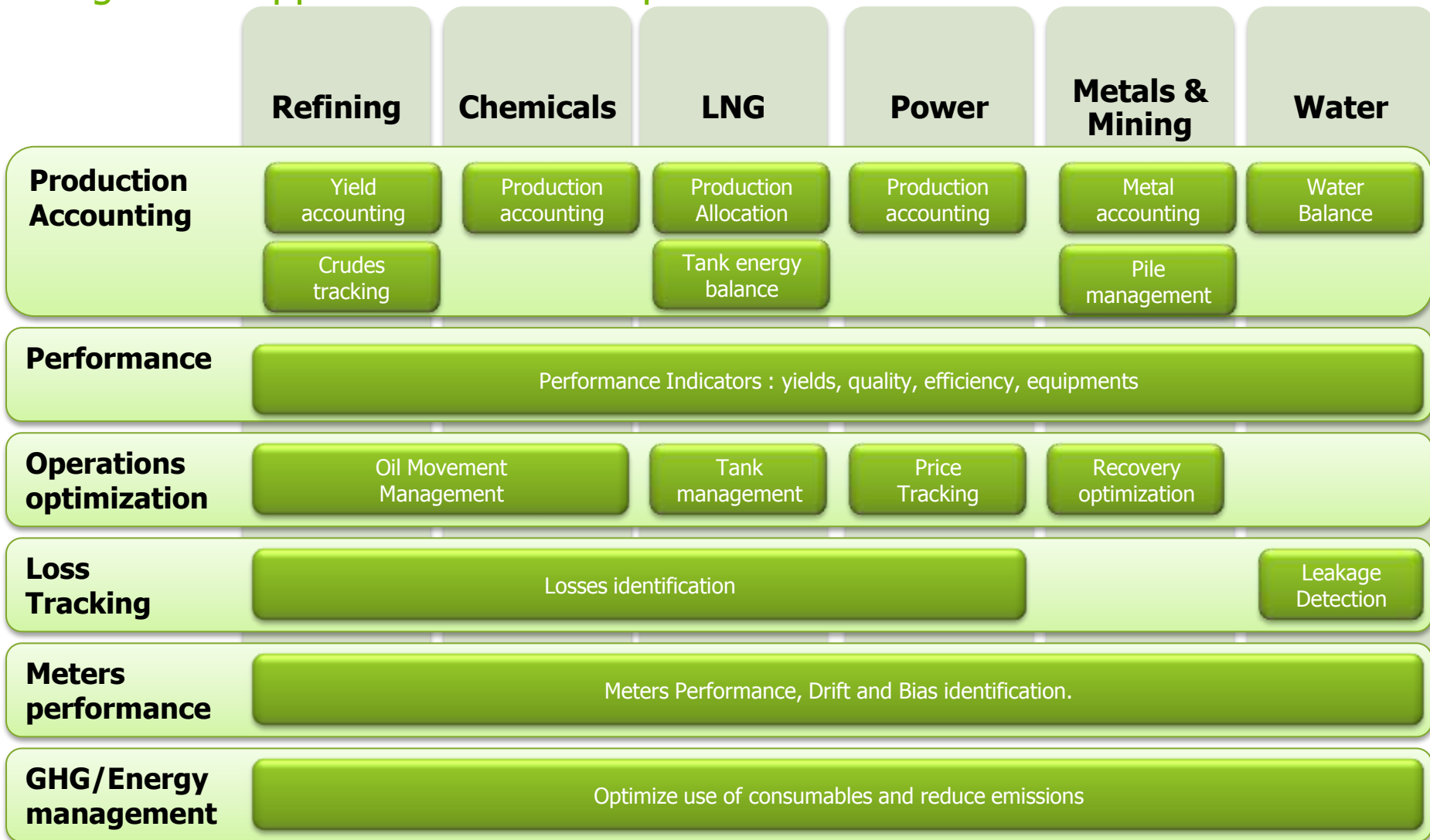
Sigmafine

Overview

- Sigmafine
 - Data validation and reconciliation platform
 - Improve consistency, quality and traceability of production data
 - Provide “one version of the truth” across all company levels
 - Enable well-informed business decisions
- Support several types of balances and analyses
 - Mass
 - Energy
 - Volume
 - Component
 - Crude Composition Tracking
- Sigmafine capabilities are
 - Expandible plugging-in of new intelligence
 - Scalable (from single units to large process networks)
 - Reusable for different analysis
 - Compliant to international standards (e.g., API and ASTM)

Sigmafine industries

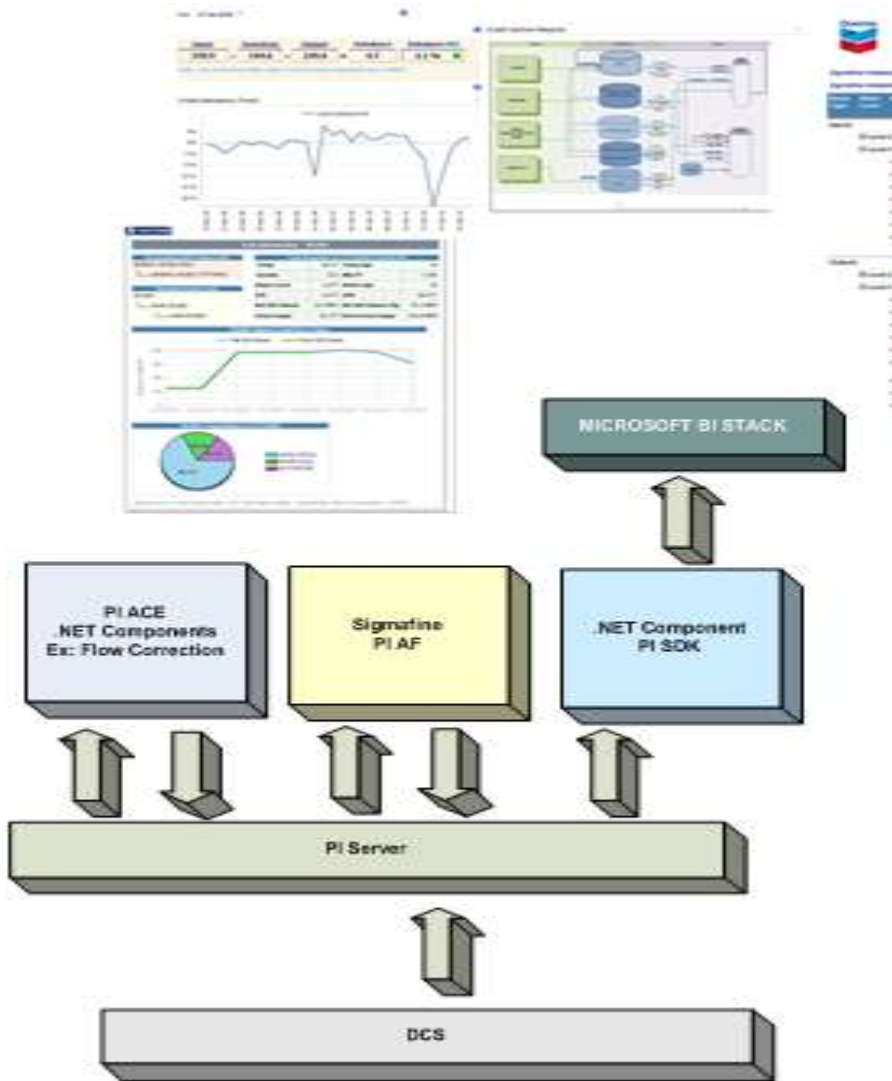
Sigmafine applications value map



Benefits of Sigmafine

- Provide consistent balanced data to accounting systems in a timely manner
- Reduce time for site-wide balancing
- Improve plant yields
- Verify custody transfer
- Monitor plant performance
- Monitor and reduce plant losses
- Identify faulty measurements
- Prioritize and reduce meter maintenance

Business Solution

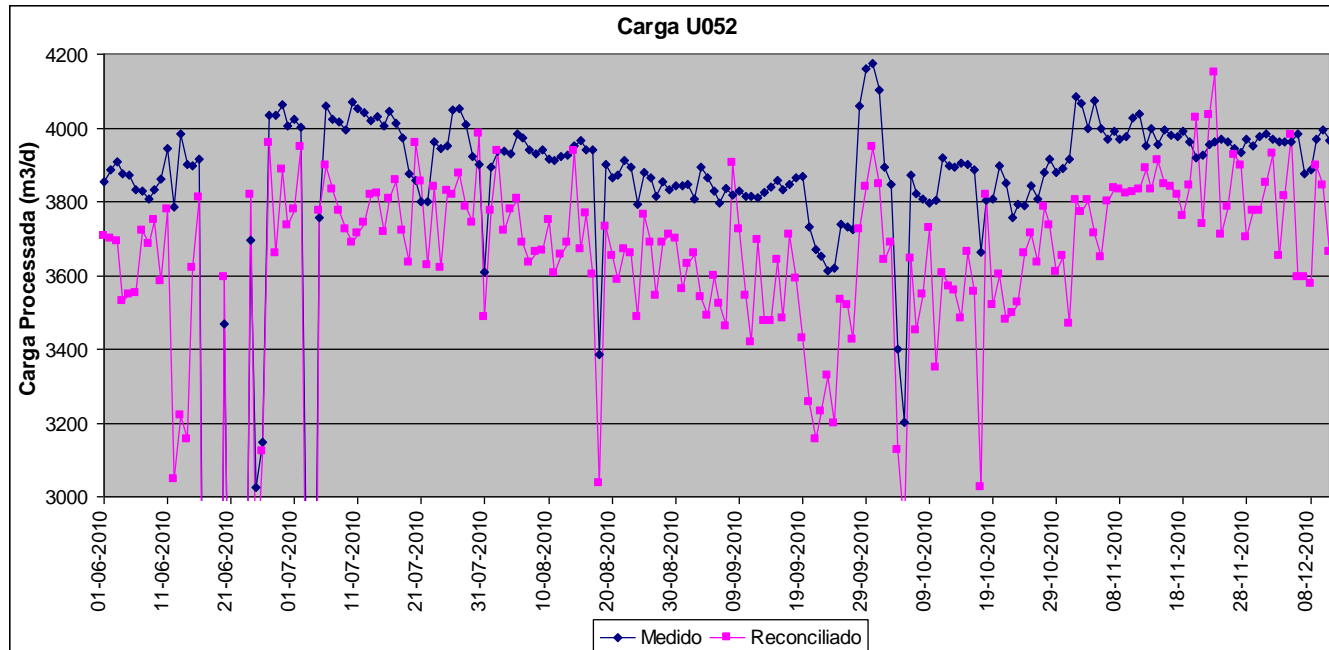


- Accurate & Timely information about how the business is performing.
- Ability to monitor meter, unit & overall refinery performance on a daily basis.
- Automated aggregation of data into meaningful business information.
- Signafine/Mass Balance rigor has increased data precision & accuracy.
- Reduce data silos and implemented a one-version of the truth.
- Improved workflows and collaboration.
- Reduction of stock losses and improved accounting.



Identify faulty measurements

Analysis of nominal feed of Coke Unit - U052



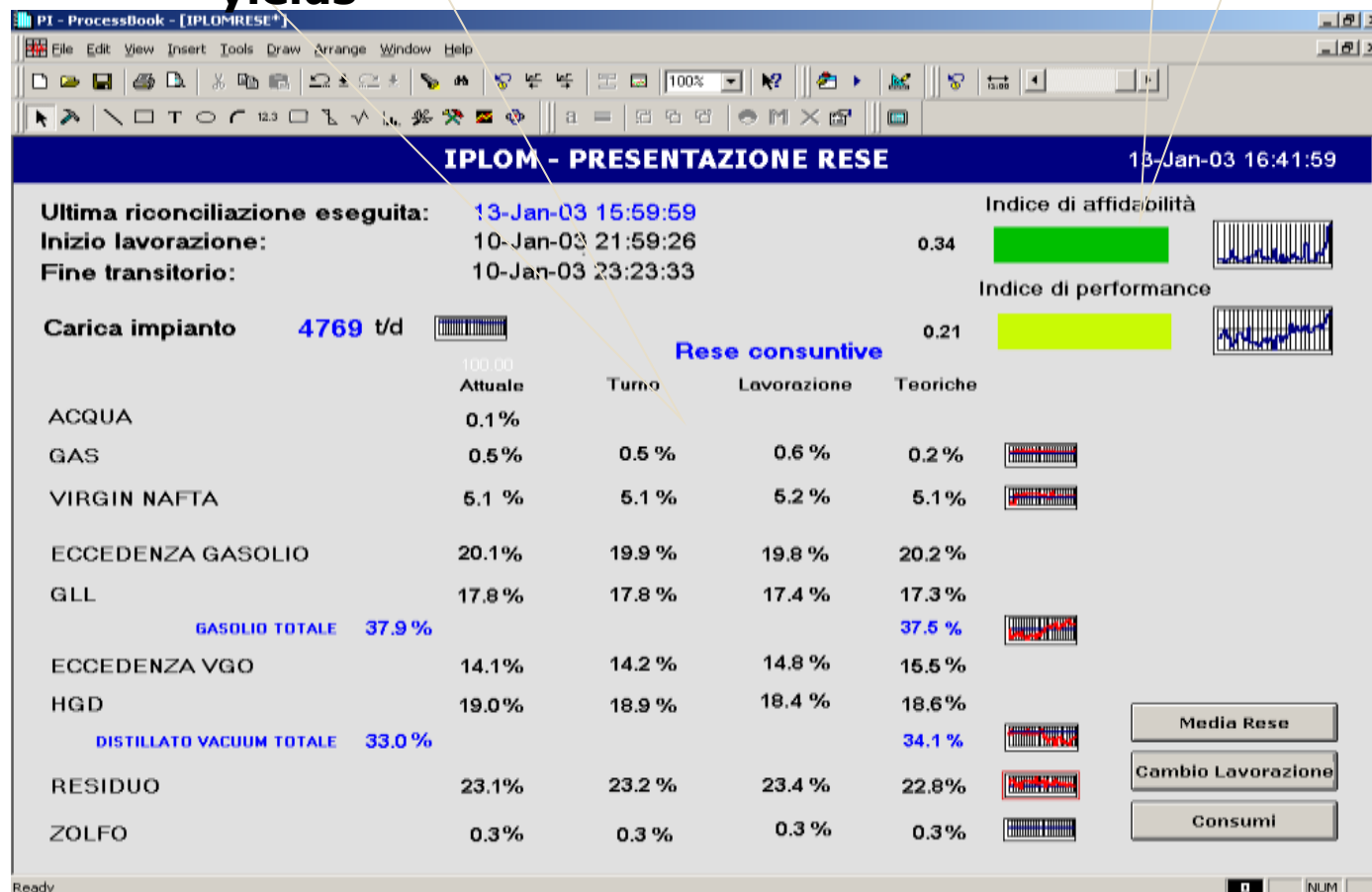
- After the testing, flow meter values showed that the Coker unit was processing a volume smaller than the programmed value.
- Daily loss in processed capacity was around 220 m³, while an increase in monthly profits of US\$ 990,000.00 was achieved.

Monitoring Refinery Performance

Validation of KPIs

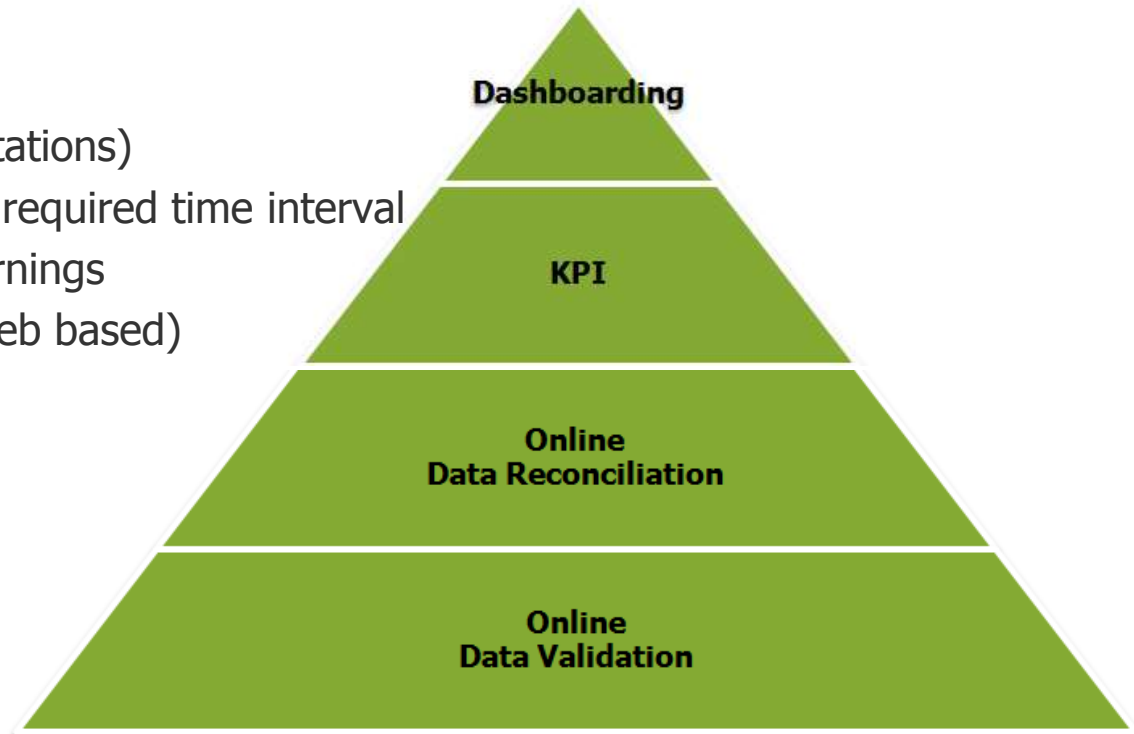
current/shift/running plan
reconciled vs. theoretical
yields

Running
Plan KPIs



Sigmafine for Power

- Extend the principles of Sigmafine to Power context
- Specific modules:
 - Validation rules (Freeze, Spike...)
 - Steady State Detection
 - Data replacement logics
- Write results back (tags / annotations)
- Scheduling of analysis with the required time interval
- Notify critical problems and warnings
- Reporting (Excel / Displays / Web based)



Sigmafine for Power

Data Validation

The screenshot displays the PI ProcessBook software interface for data validation. The main window is titled "Elemento : SP31.3RH016TA".

AF Navigator (Left Panel): Shows a hierarchical tree structure of the plant. The selected element is "SP31.3RH016TA" under the "T_metalloRH" category.

Trend Chart (Center): Displays a green trend line for "Trend1" over a 24-hour period on August 29, 2011. The y-axis ranges from -150 to 350. A current value of 24.480 °C is indicated.

Details Table (Right Panel): Shows the current value and various attributes for the selected element.

Attribute Name	Value	UoM	Tag Name
BiasNotification	<null>		
DriftNotification	<null>		
dx_Bias	0		
FreezeLimit	0.001		
FreezeNotification	<null>		
MaxLimit	580		
MeasuredValue	24.4797248840332		\\ENEMLM370\SP31....
MinLimit	400		
o_BiasIndicator	0		
o_DriftIndicator	0		
o_GlobalIndicatorStatus_toPI	24.47972		\\ENEMLM370\SP31....
o_MultipleTrendFlag	0		
OperationalLimitNotification	<null>		
ReconciledValue	0		

Pimsoft 3D Data Navigator

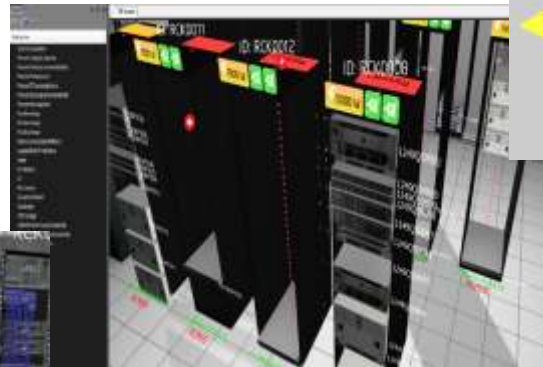
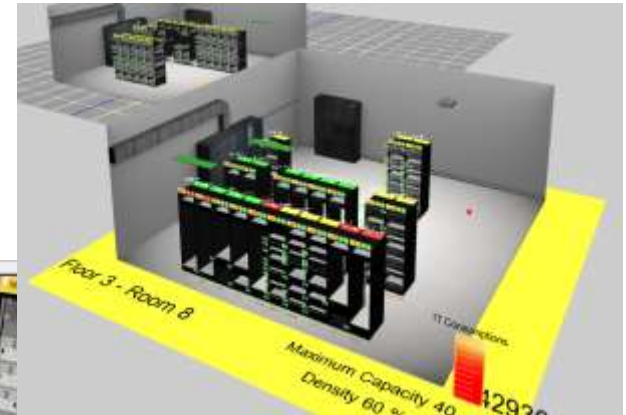
Overview

- Innovative solution for holistic 3D visualization of real-time data, assets, logics and events of your process
- Advanced graphical engine leveraging traditional visualization paradigm
 - Speed up data analysis
 - Identification, ranking and visualization of issues by priority and relevance
 - Context- and role- based aggregation of information
- Advanced functionalities
 - Search / Query system
 - Diagnostics and notifications
 - Industry-oriented plug-ins
- Applicative domains
 - Data Centers
 - Process Plants
 - Process Networks
 - Fleet Management

Pimsoft 3D Data Navigator

Data Center

- Additional module deployed for Data Centers Infrastructure Management (DCIM) scope
- Set of specific advanced features and functionalities:
 - Capacity Planning
 - Logistics / Simulation
 - Power & Energy Management
 - Network & Connectivity Analysis



3D Data Navigator

Demonstration



Thank you.
Questions?

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