ABB Ability™

ABB Ability™ History

Usecase - PIMS

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ABB Ability™ History

The Time Series Database (TSDB) and
industrial Low Code Application Platform (iLCAP)

Typical use cases

- Process Information Management Systems (PIMS)
- Manufacturing Operation Management (MOM)
- Asset performance Management systems (AM)
- Energy Management Systems (EMS)
- Control system embedded historians

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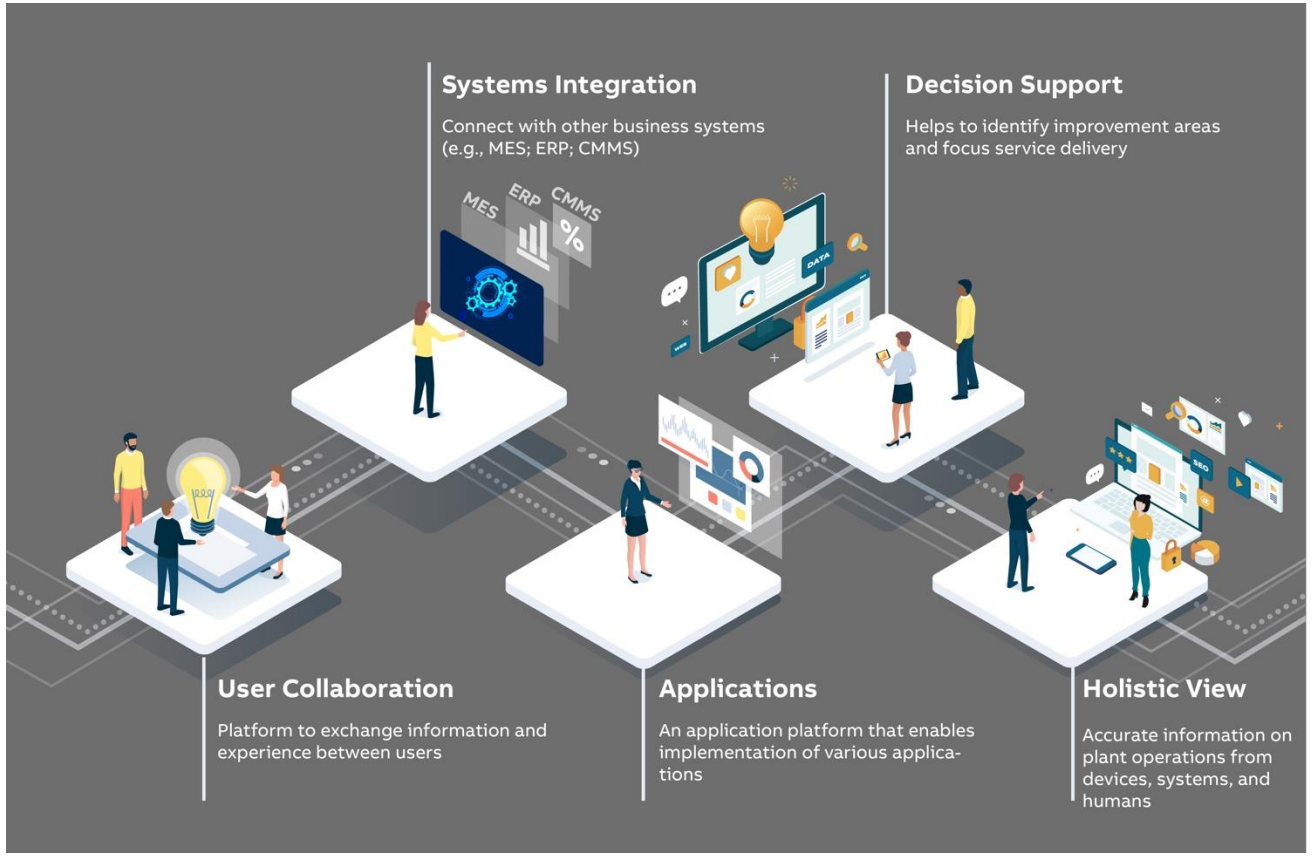
Process Information Management System

Helps improving industrial plant operations



PIMS

- Provides accurate comprehensive information on plant operations; long histories, current real-time state, future predictions
- Supports decision making at multiple levels from plant floor to top management
- Helps to identify improvement areas and focus service delivery
- Provides the platform and tooling for various applications
- Integrates other business systems and improves UX
- Facilitates collaboration and information sharing between users in various roles

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Process Information Management System

Data Platform Layers

Security

Data is secured all the way from acquisition to consumption, in transit as well as in rest. Data access is protected with a role based ACL (Acces Control List) definitions and checked in all access

Data Abstraction, open APIs

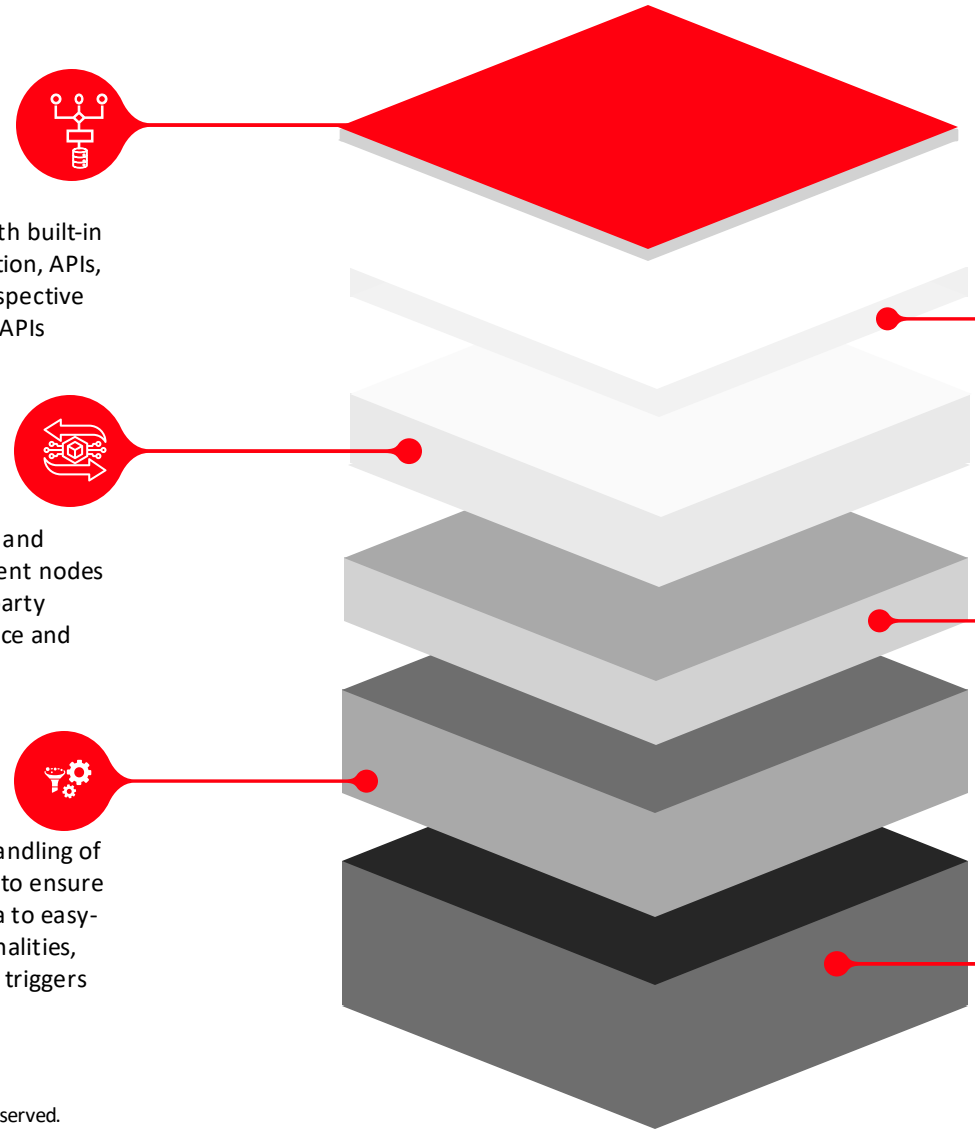
Uniform metainformation model with built-in functions enable analytics, visualization, APIs, and applications to handle data irrespective of source or format. Standard open APIs increase the value of the data

Data Transfer

Rule-based, bidirectional, real-time, and secure data transfer between different nodes in hierarchical, networked, and 3rd party systems gives the freedom to produce and consume data anywhere

Data Processing

Data processing is the automated handling of individual values in time series data to ensure its quality and to refine the raw data to easy-to-use aggregates, to detect abnormalities, and create alarms based on defined triggers



Information Modelling

The information model describes the semantics of the data, defines all the metadata needed when processing and presenting the data, and enables efficient engineering and automation of the engineering tasks

Data Storing

Plant-wide time series storing requires specialized database capabilities with efficient lossless data compression methods in the data ingestion, but even more in serving the consumers of the data

Data Acquisition

Automated real-time data acquisition from devices, PLCs, and control systems with the industry standard protocols such as OPC UA is the starting point of the PIMS data path

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Process Information Management System

Hierarchical system that supports whole plant operations

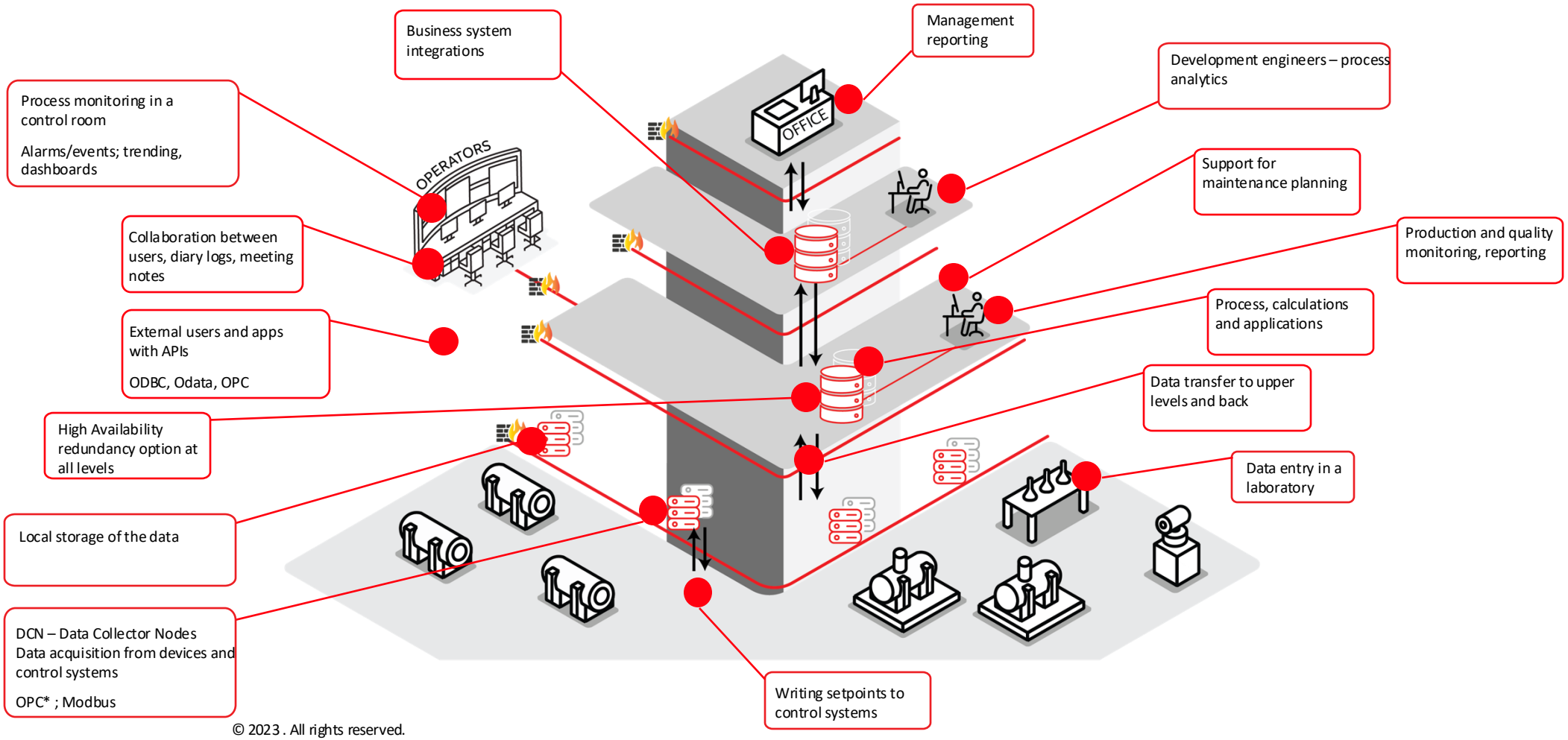

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ABB Ability™ History - PIMS

PIMS installations in multiple industries around the World

Pulp & Paper

Metal & Minning

Power Utilities

Oil and Gas

Other Manufacturing

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PIMS use case – Neste oil refinary

ABB Ability™ History at the core production

Single Plant View

Real-time process monitoring

Plant production optimization – setpoints to DCS

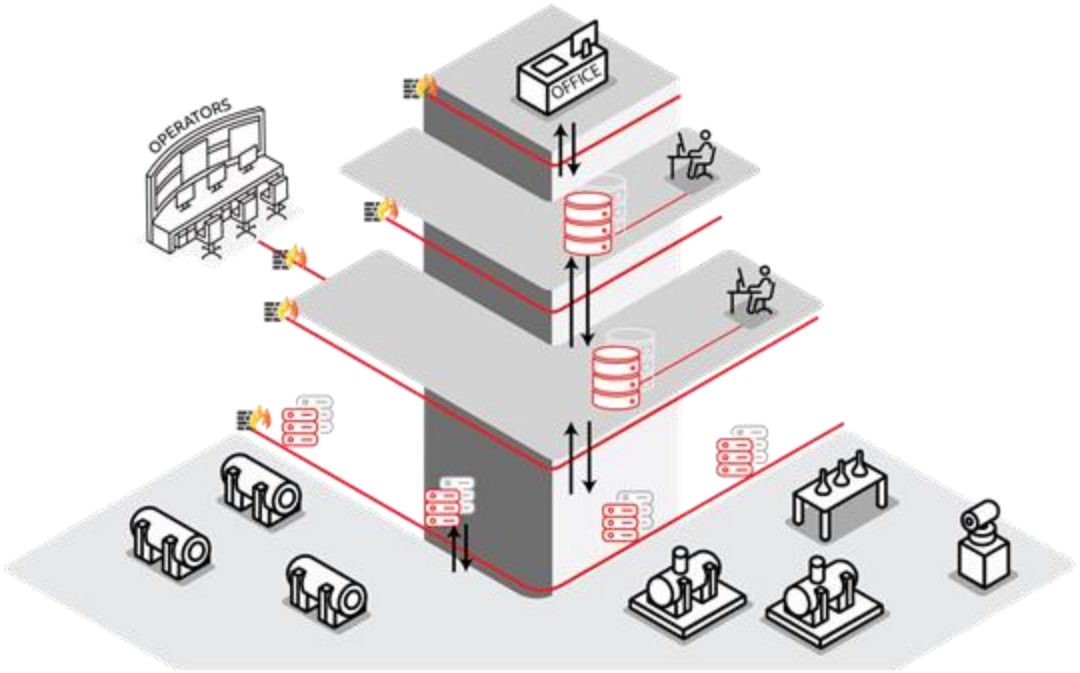
Multi-layered secure architecture

Hundreds of concurrent users

https://new.abb.com/news/detail/71313/neste-renews-process-information-system-for-major-oil-refinery-with-support-from-abb

Neste oil refinery – TOP

ABB Ability™ History at the core of production



3 System layers

System parameters

- HA configuration with agreed service level
- Data acquisition from 29 control systems
- 9 business system integrations
- 90 000 field measurements
- Lifetime storage of aggregated timeseries
- 3200 equipment instances
- 1500 calculation equations
- 18 applications, plant production optimization
- Setpoints calculated by applications, written down to control systems
- 330 process monitoring dashboards
- 1500 users

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