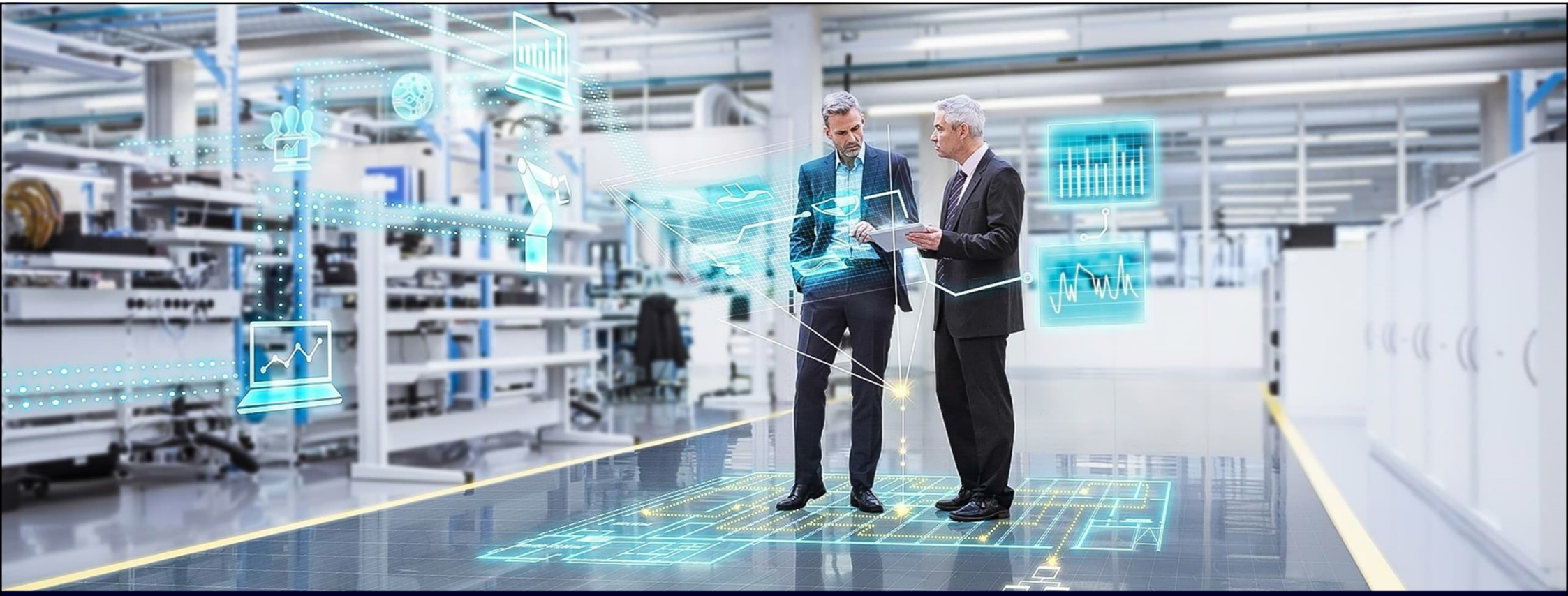

Manufacturing Information System in F&B Industry

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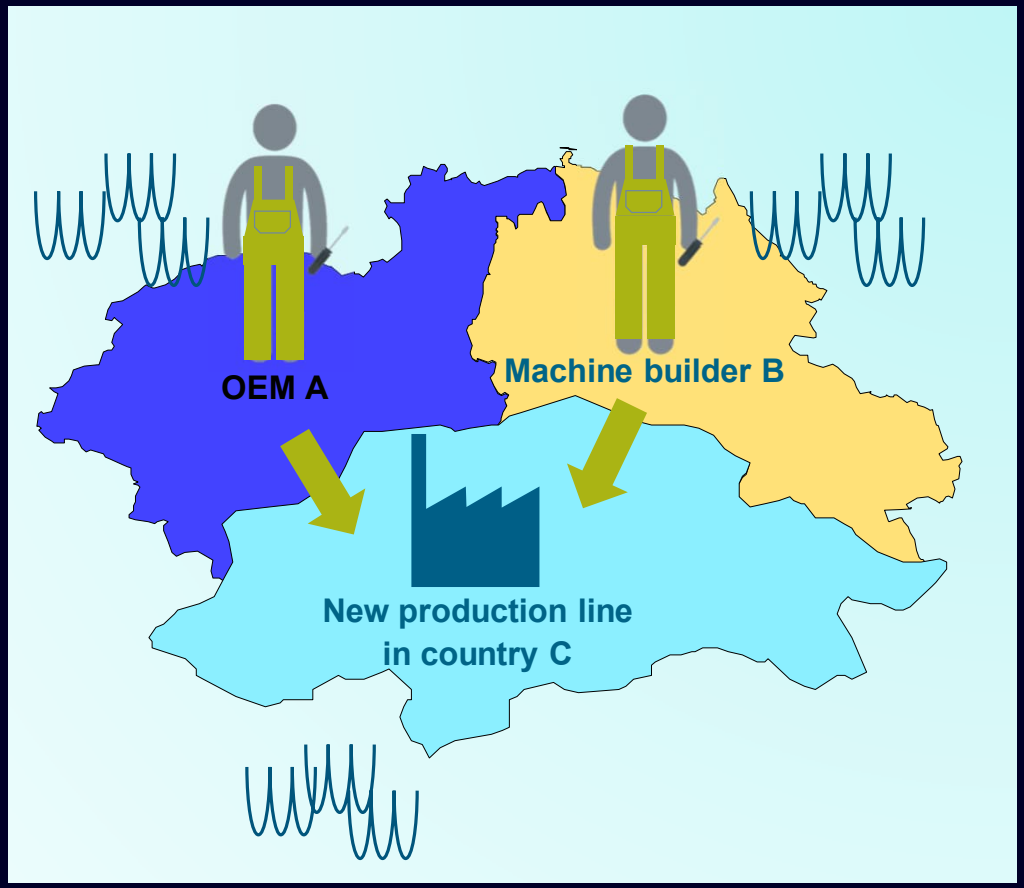
The challenge:
Implementation of a global technology standardization in the production area

End customer:
International food and beverage manufacturer

What was it about?

- Reduce the **time-to-market**
- Easy in line integration of various machines from **different machine builders**
- Compliance with current **technical standards**
- **Future-proof** investment



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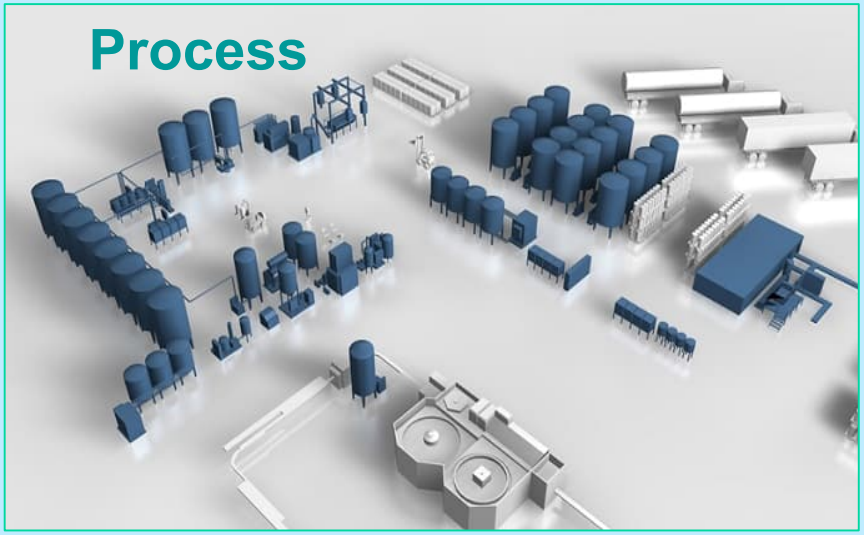
Example of a Foods & Beverages Plant :
Process + Filling & Packaging + Auxiliary Services + Intralogistics

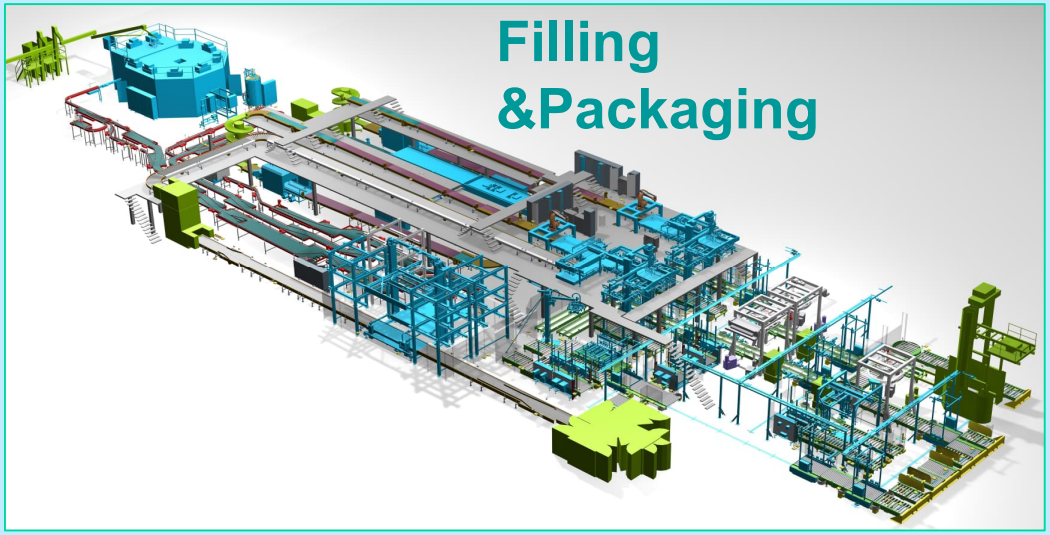
Auxiliary

Warehouse Logistics

Process



Filling &Packaging



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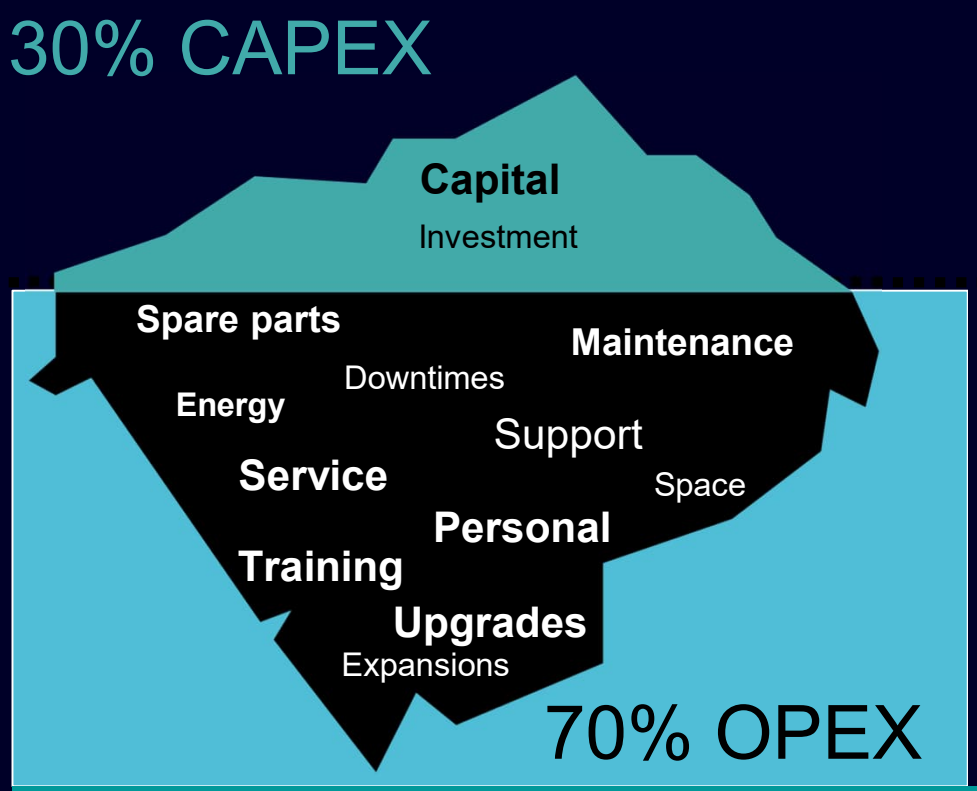
The initial investment represent only a small portion of the total "Life Cycle Cost“



Initial investment
in Production Lines

Focus on standardization for this phase!

Operating cost occurring by

- Downtime for complex service
- Spare parts
- Elevated training costs
- Poor integration
- Non-optimized energy comsumption
- Line extensions etc.

Reduce costs - Via standardization and integration concepts from Siemens

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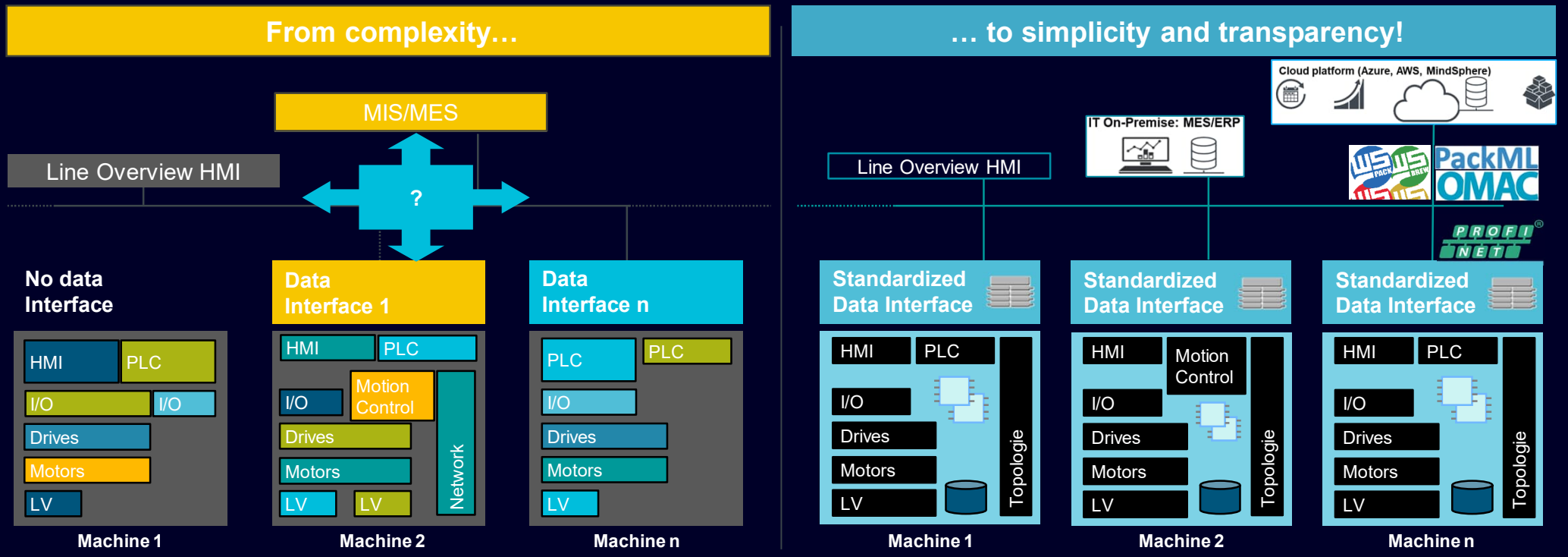
Fundamental challenges of our clients that we help to address – Standardization and integration… and digitalization



Benefits

Project development efficiency

Operation improvement

Optimizing total cost of ownership

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MIS: Manufacturing Information System
MES: Manufacturing Execution System
MOM: Manufacturing Operation Management

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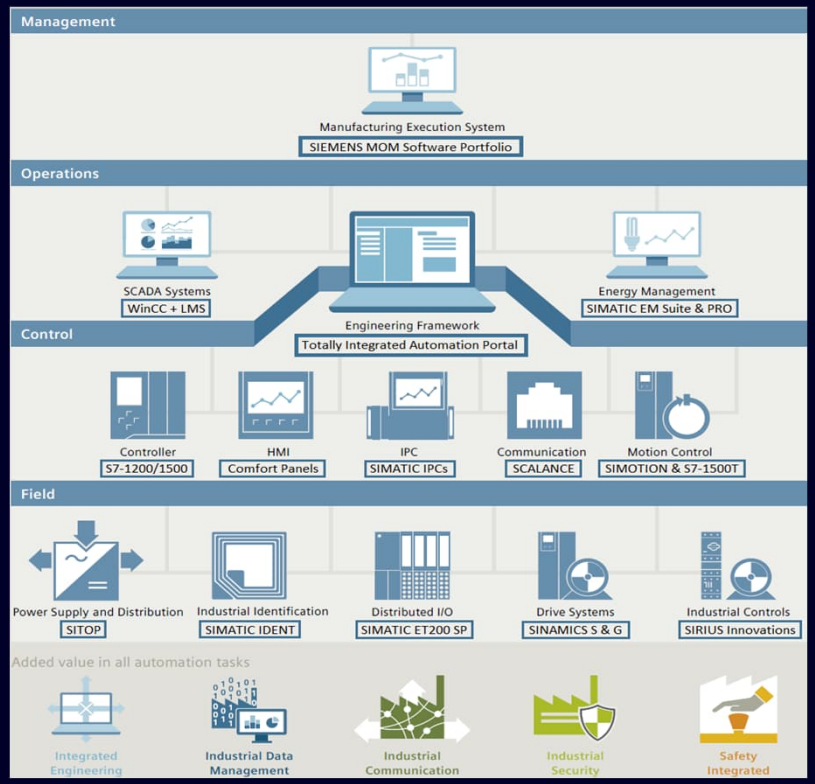
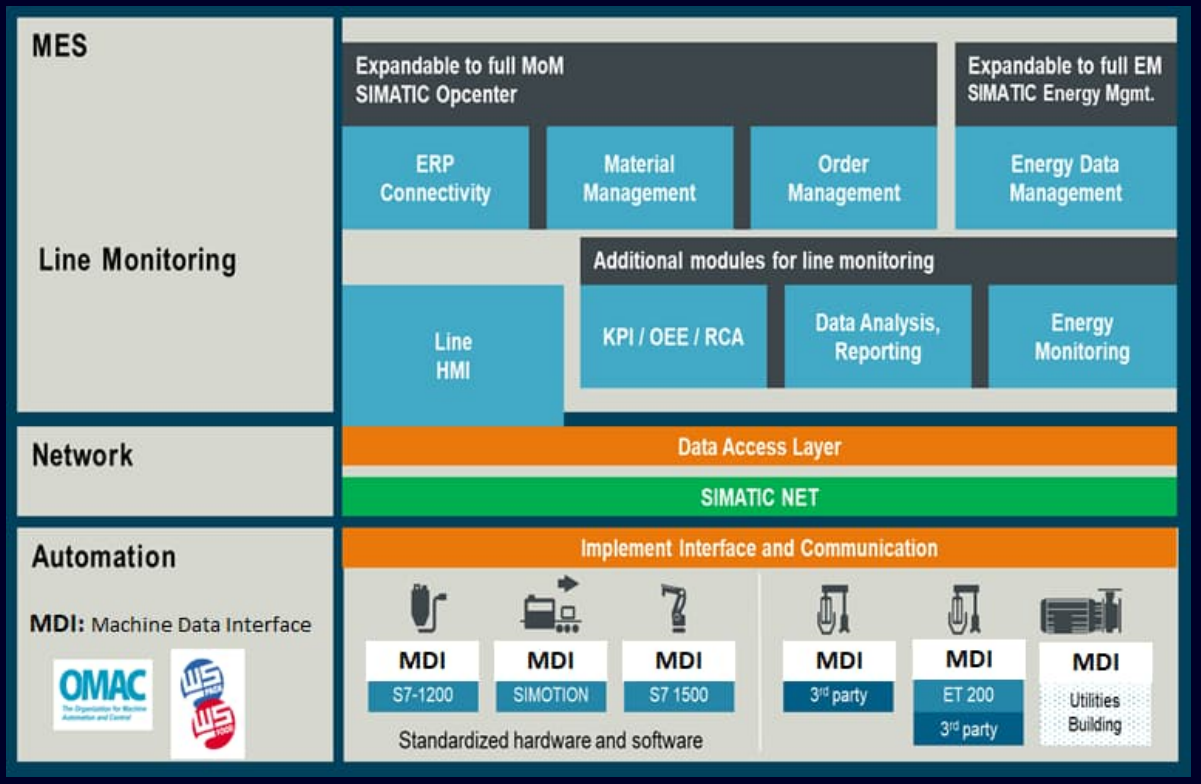
F&B Standardization & Digitalization Concept
Totally Integrated Automation as Basis





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Integration of existing IT Systems

Market Expectation

Transparent data in IT systems

- **Process optimization**
- **Higher productivity**

Global overview about running plants

- **Central management**

Standard interfaces

- **Integrate with existing IT landscape**

Complex holistic portfolio

- **The Best for new implementations**

Siemens MIS Integration

Open ERP API to allow access to any 3rd ERP system

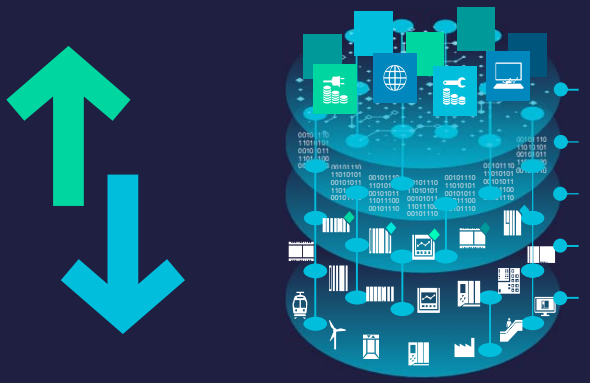
Central data collection of all servers using a SQL database

Line Integration

Advanced Reporting

Information Technology (IT)

Operational Technology (OT)



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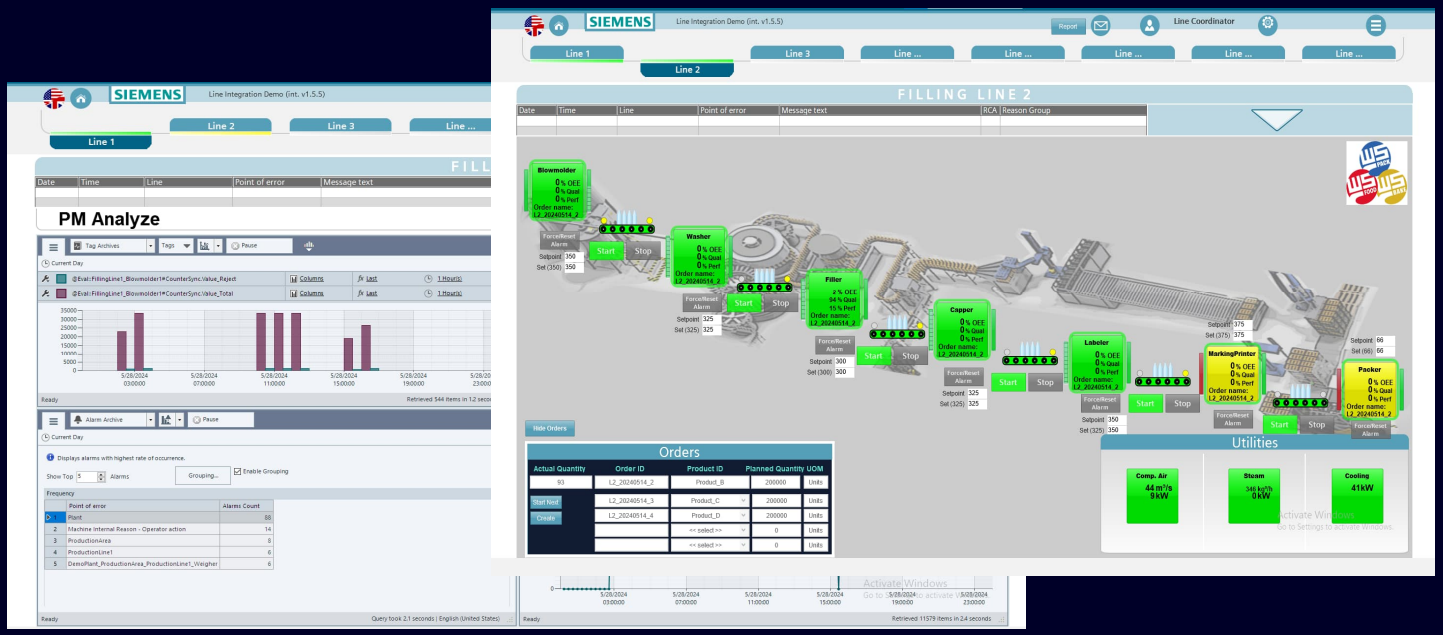
MIS system for F&B Industry (use case)

Enhancing Efficiency and Productivity through Advanced Automation

The goal of MIS project is to enhance the efficiency and productivity of production and packaging lines. It involves the seamless connection of process areas, and in F&P lines with various standalone machines, such as fillers, packers, and labellers, into a cohesive system that can communicate and operate harmoniously.
It addresses several key challenges:

- Reduction of Downtime
- Efficient Diagnostics
- Increased Output
- Energy Efficiency
- Data Analysis and Visualization
- Performance report



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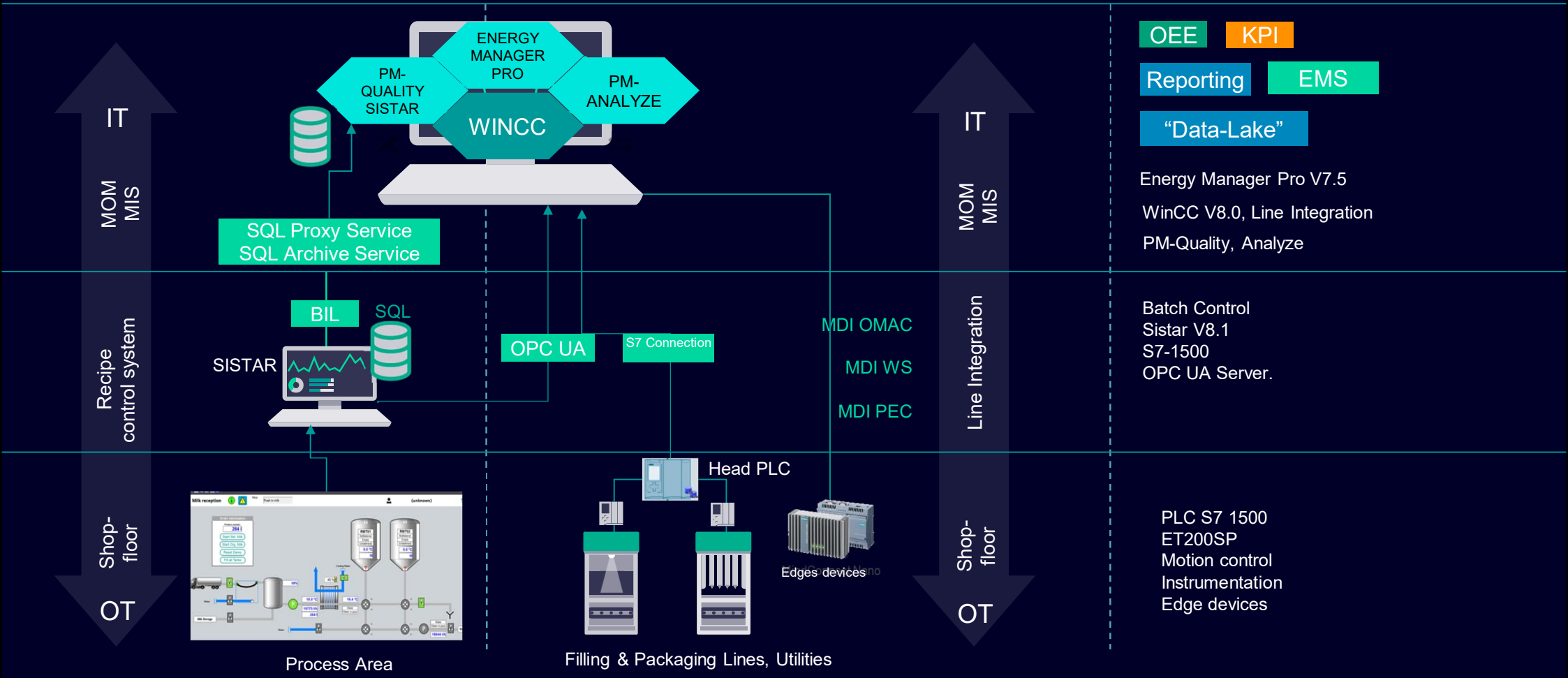
MIS
System Layout



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Line Monitoring System (LMS)

Tích hợp các Filling & Packaging lines, thu thập các dữ liệu như:

- Trạng thái máy
- Thông tin cảnh báo
- Tốc độ…

vào một hệ thống Line Intergration nhằm:

- ✓ Tính toán hiệu suất tổng OEE
- ✓ Tính toán KPI…

→ Tăng hiệu quả sản xuất

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Energy Management System (EMS)

Reduce your energy cost

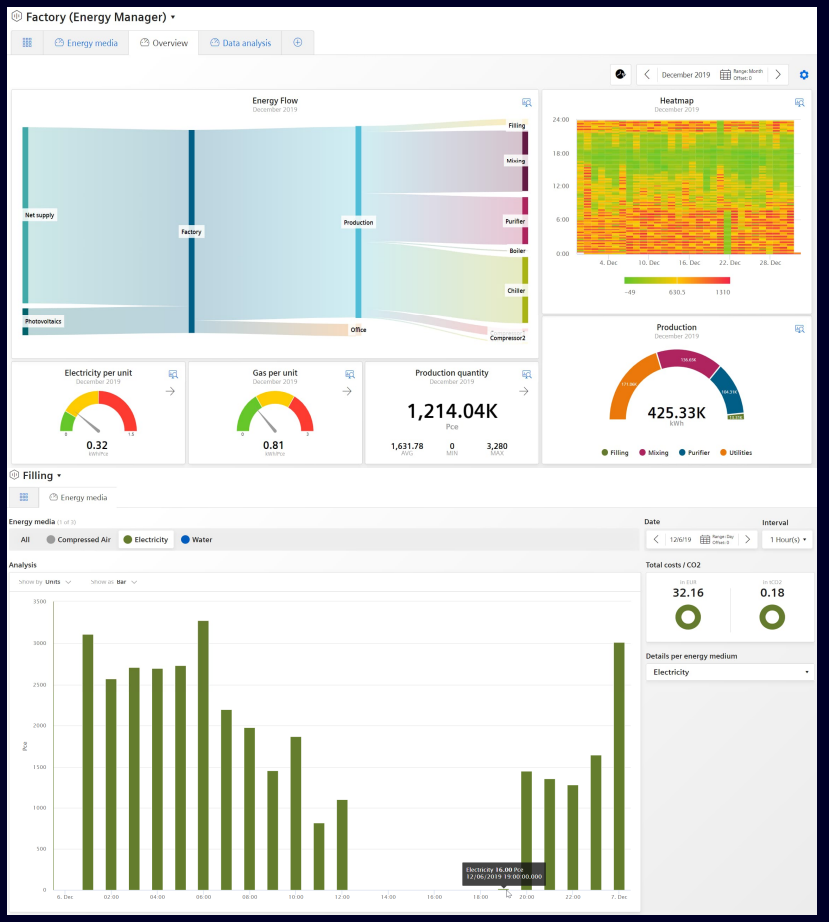
- Collect and visualize where and when energy is consumed per line, plant, or enterprise wide

Discover your energy saving potential

- Analyze your energy data over time, create statistics and correlations to identify peaks, losses and anomalies

Meet national efficiency standards

- Track, optimize and report your energy consumption to follow Energy Efficiency Laws based on ISO 50001



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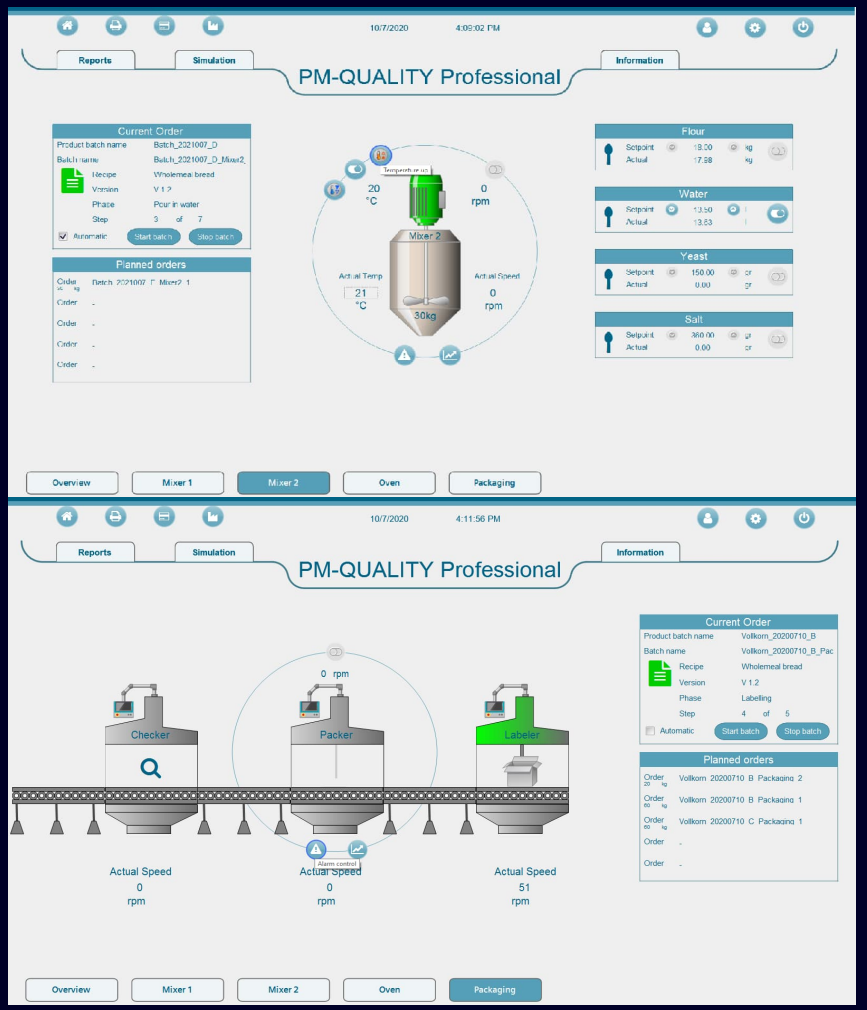
Advanced reporting with PM- Quality

- Batch based data recording of
  - Trends
  - Alarm messages / audit trail messages
  - Event triggered readings (Snapshots)
  - Manual input values
- Display of trends, alarms, snapshots and comments from current and historical trends in <u>one</u> diagram
- Comfortable creation of report-layouts
- Long term archiving



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Your Benefits

Complete solution for shopfloor automation, shopfloor connection, network diagnose and Line Integration from one single vendor based on best practices and customer feedback

- ✓Parallel integration of existing and new machines into one MIS system
- ✓Faster rollout of projects to other filling/packaging lines due to standardized machine data interface and reuse of the existing Line Integration application example as a template due to easy configuration / engineering
- ✓Utilizing the OEE key performance indicator to measure and increase the performance of production lines.
- ✓Reduce the energy cost, discover the energy saving potential, certified energy monitoring system with ISO500001 for energy audits and decarbonization proven.
- ✓Advanced reporting system to help the customer optimize the production for more efficiency and productivity

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