



The Digital Twin in Process Industries

From Integrated Engineering
to Integrated Operations

SPACe Vietnam | Ho Chi Minh City | 6 May 2019

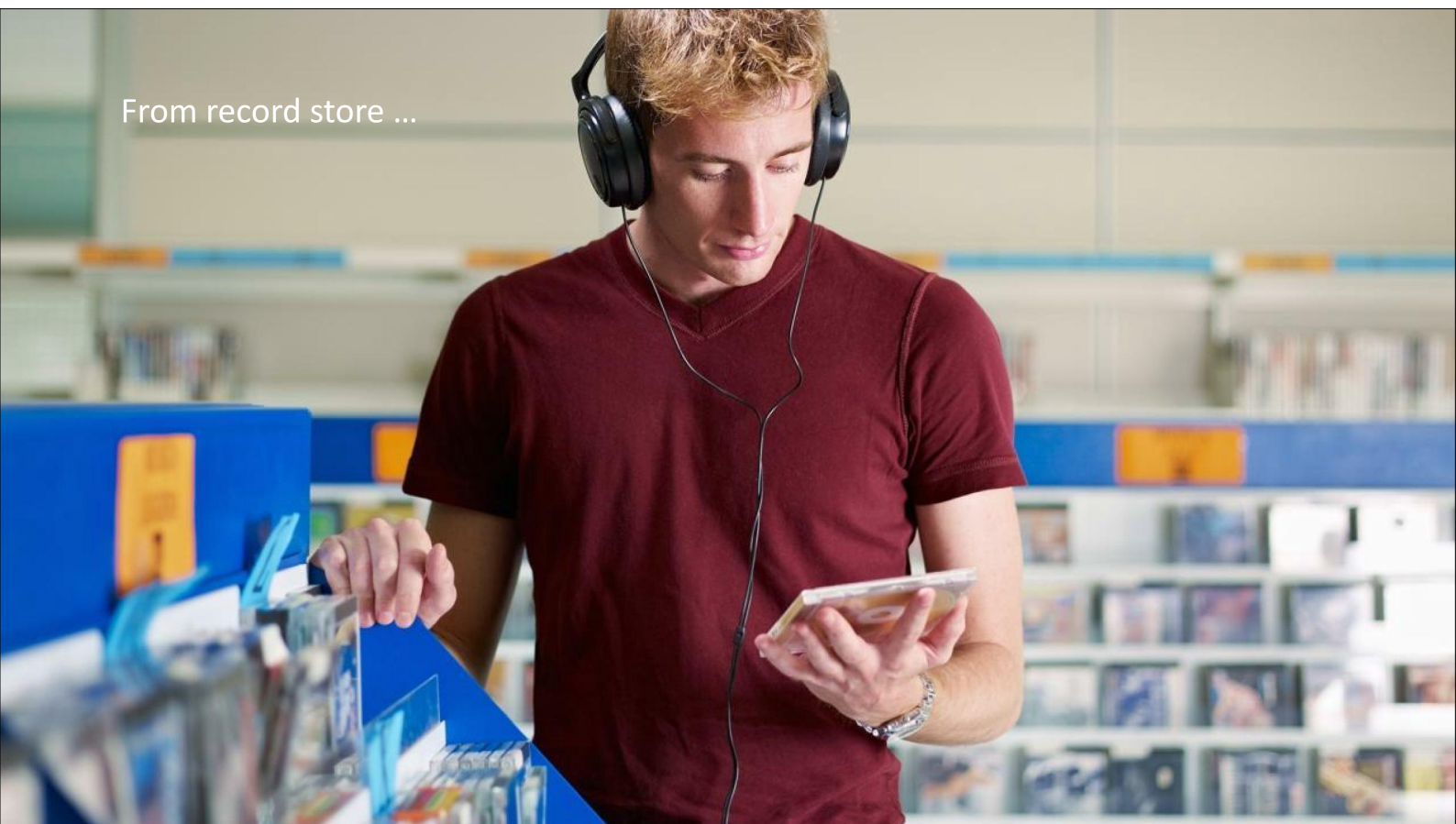
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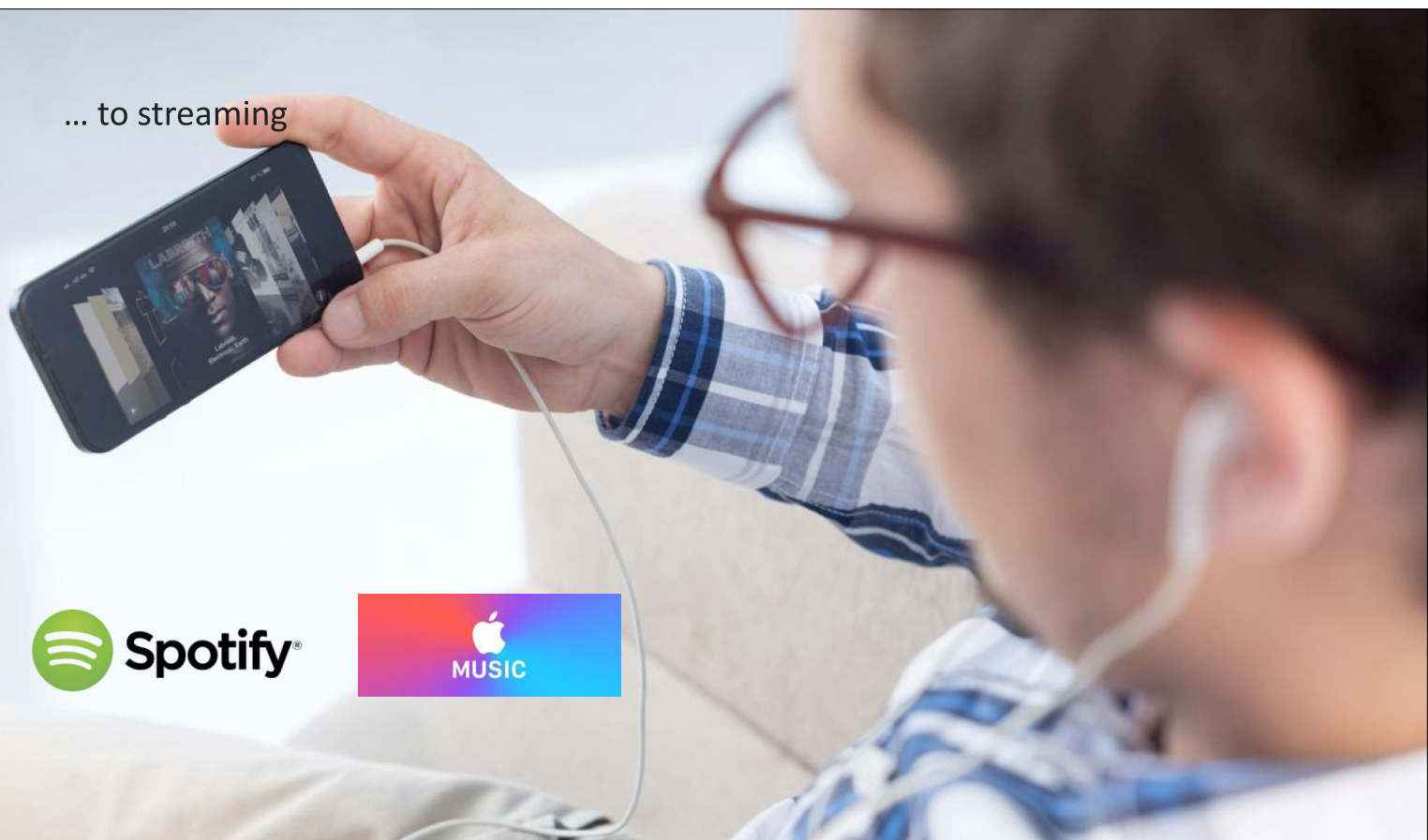


Digitalization changes everything

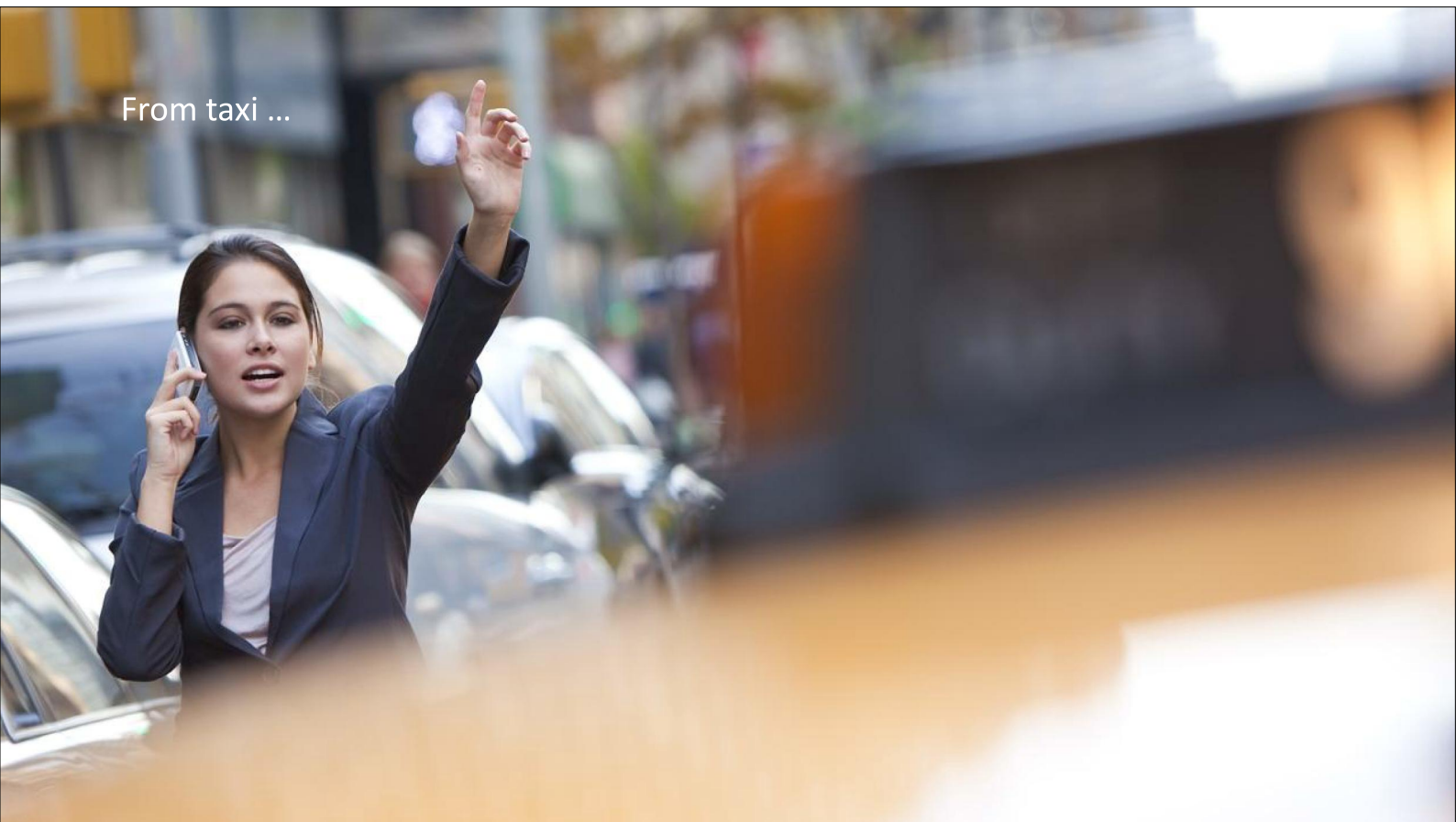
From record store ...



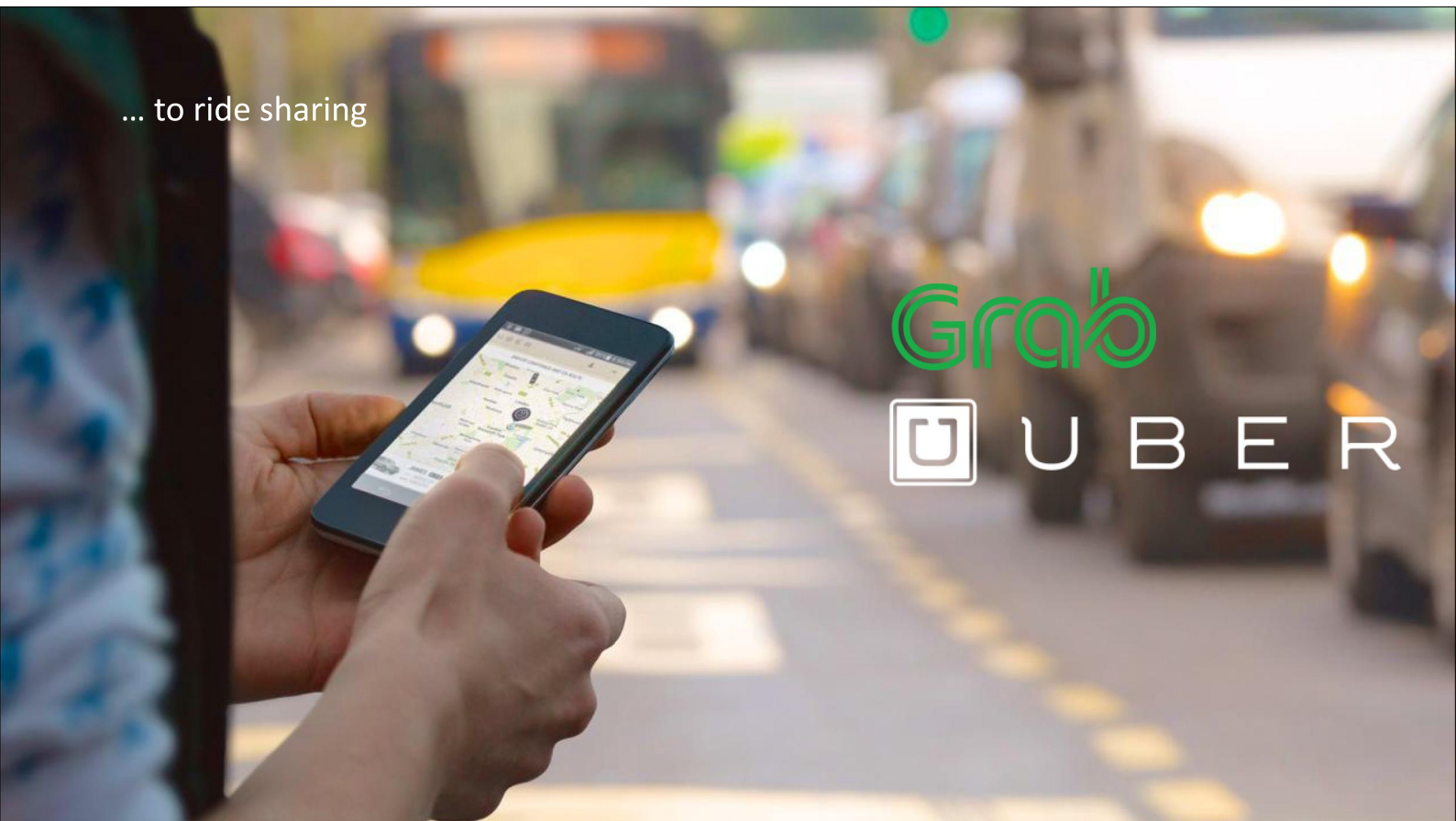
... to streaming



From taxi ...



... to ride sharing

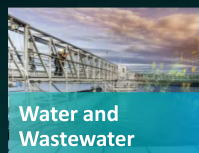
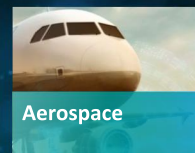


Siemens Digital Industries

Driving Digital Transformation
Leveraging Industrial DNA

Process Industries

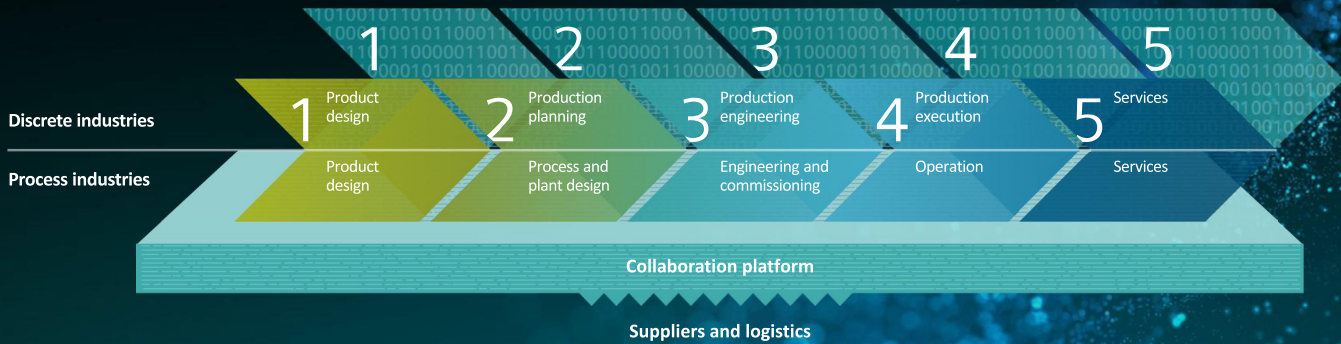
Discrete Industries



Integrating and Digitalizing the Entire Value Chain

Siemens' unique Approach

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End-to-end solutions
for all industries

Numerous starting
possibilities

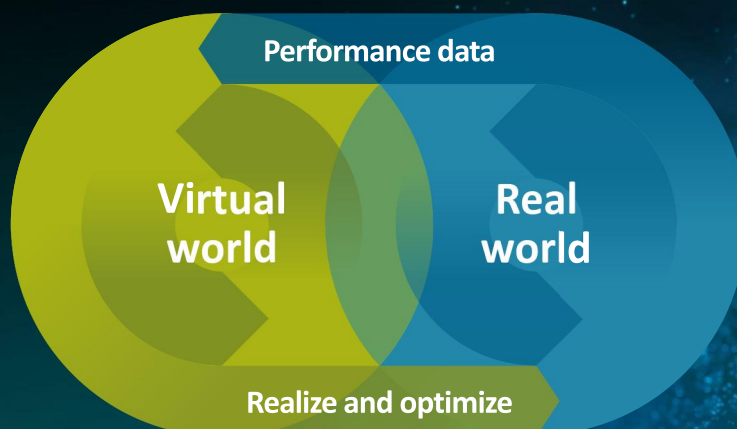
Brownfield or
greenfield

Standardized and
open interfaces

Creating a powerful Digital Twin

Merging the virtual with the real World

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Bridging the Virtual and Real Plant

Digital Enablement & Digital Reliability

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Digital Enablement



Digitalization

Brings these worlds of information together

- ✓ Quickly
- ✓ Reliably
- ✓ Consistently
- ✓ Seamlessly

Digital Reliability

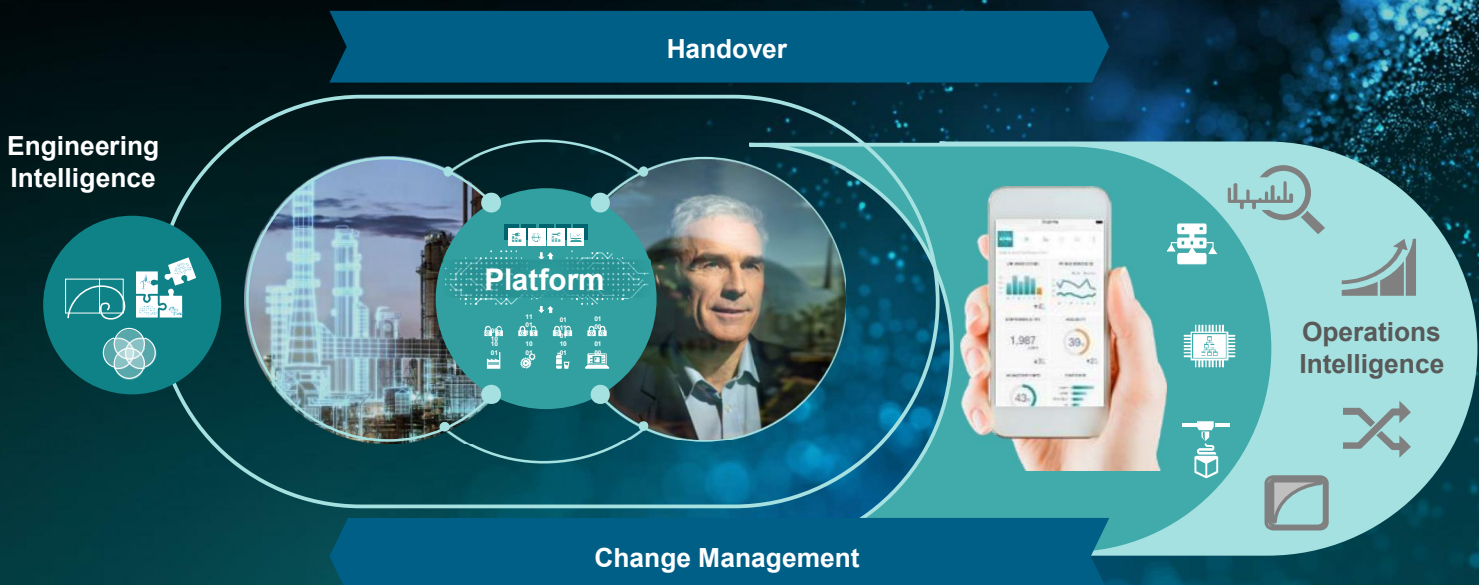


Engineering & Operations Intelligence

Value-add across the Plant Lifecycle

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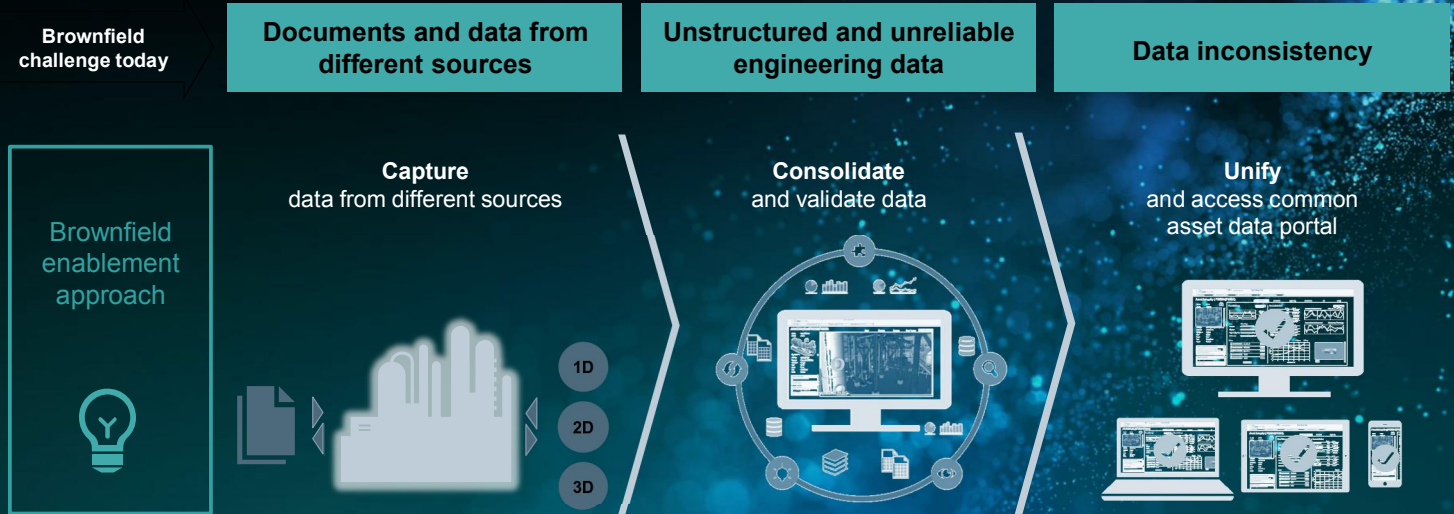
Handover



Brownfield Enablement

Managing your Asset Integrity

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Digital Twin enablement without disruption to existing physical or virtual environment

Horizontal & Vertical Data Integration

Holistic View on your Plant Assets' Performance

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Creating your Plant's Digital Twin

Business Priorities driving Digital Agenda Key Parameters



SPEED



FLEXIBILITY



EFFICIENCY



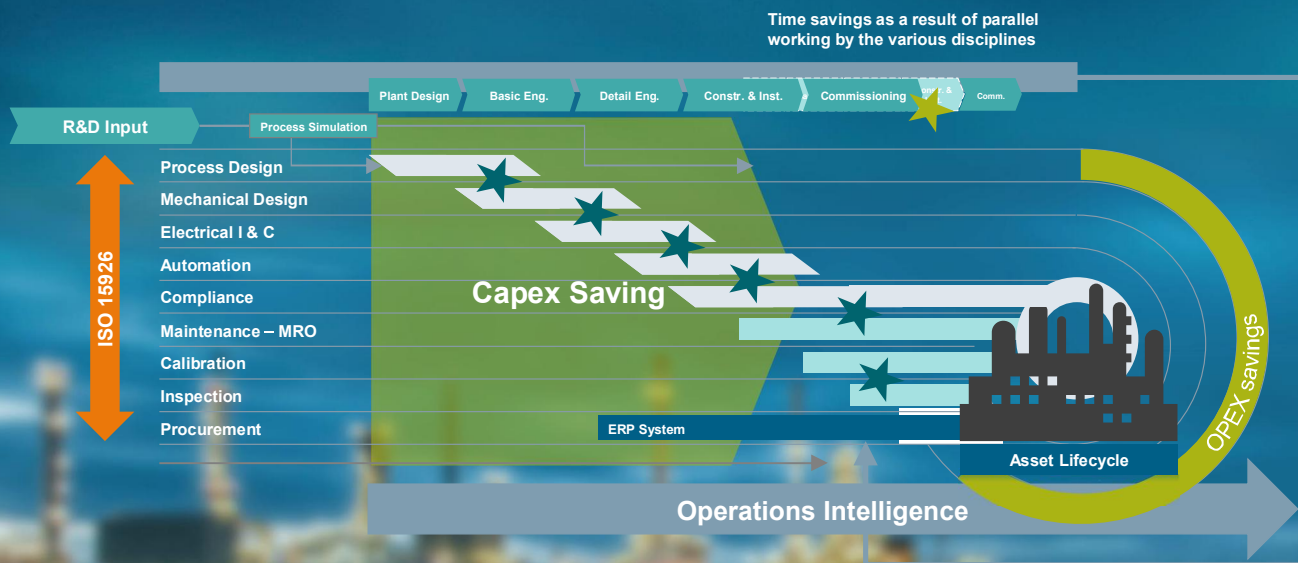
QUALITY



SECURITY

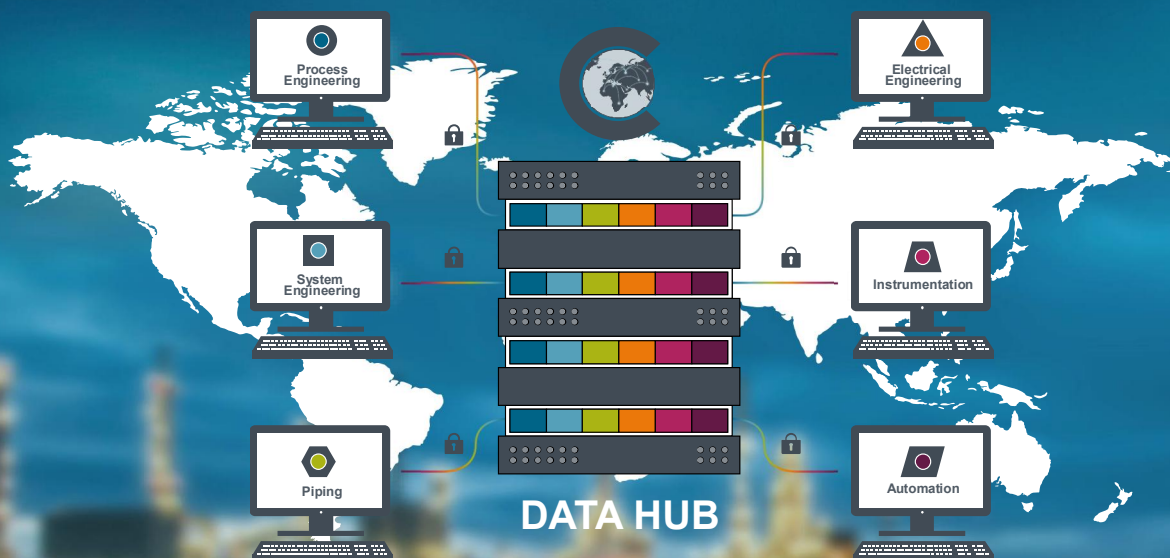
Accelerated Start-up & ROI Integrated Data Backbone

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COMOS Plant Life Cycle Engineering and Asset Management One Data Hub

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COMOS Plant Life Cycle Engineering and Asset Management One Data Hub

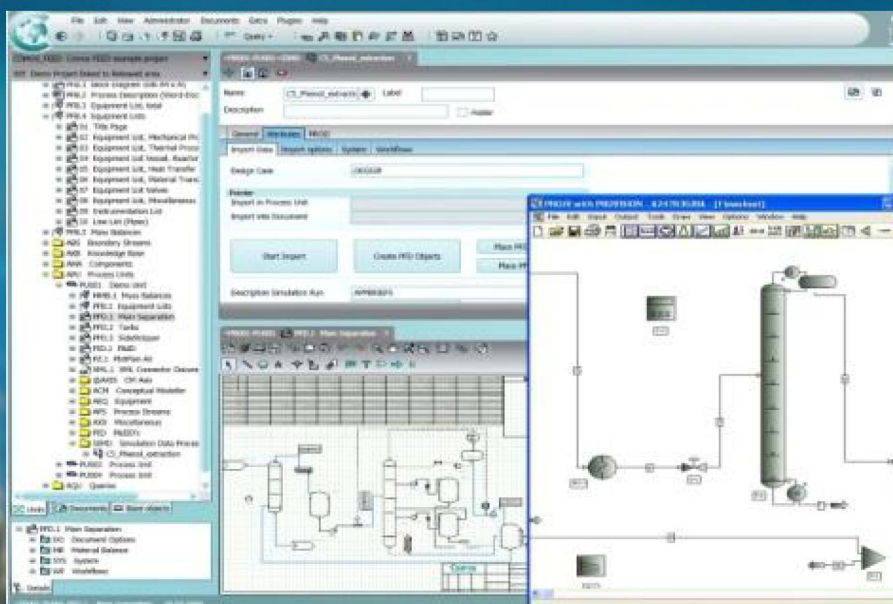
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COMOS – Making data work.



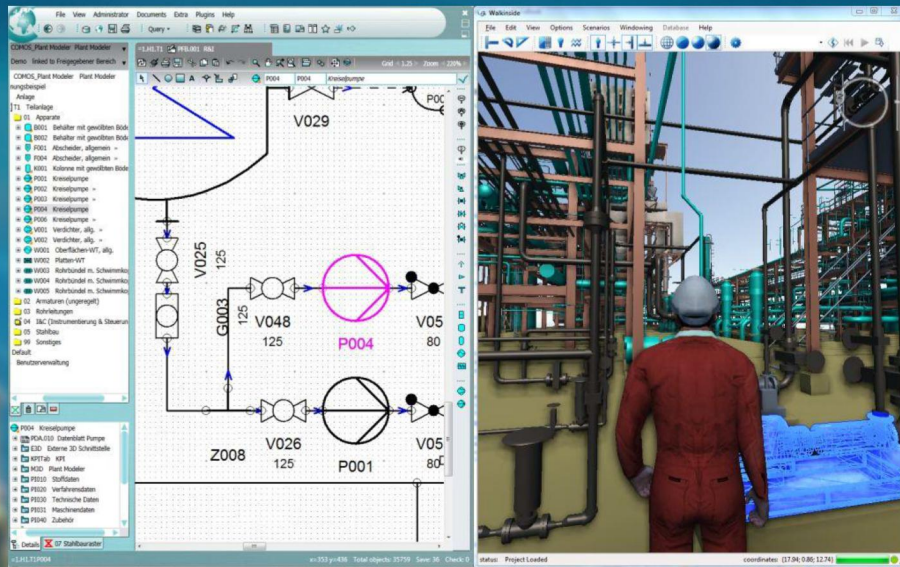
COMOS Plant Life Cycle Engineering and Asset Management One Data Hub

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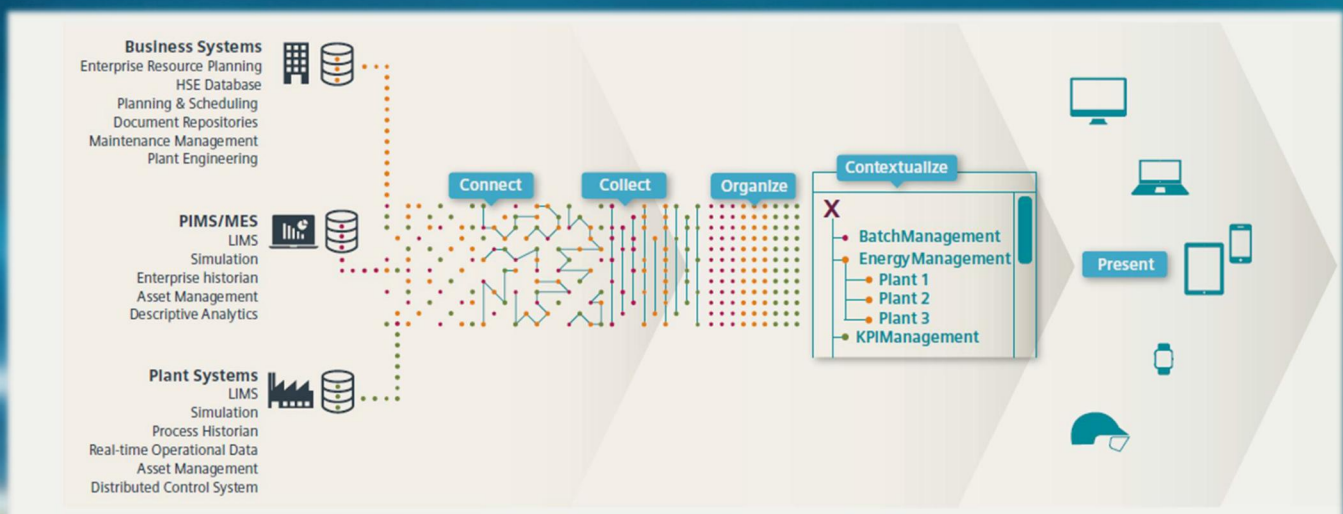
COMOS Plant Life Cycle Engineering and Asset Management One Data Hub

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XHQ Operations Intelligence Translating Disparate Data into Meaningful Information

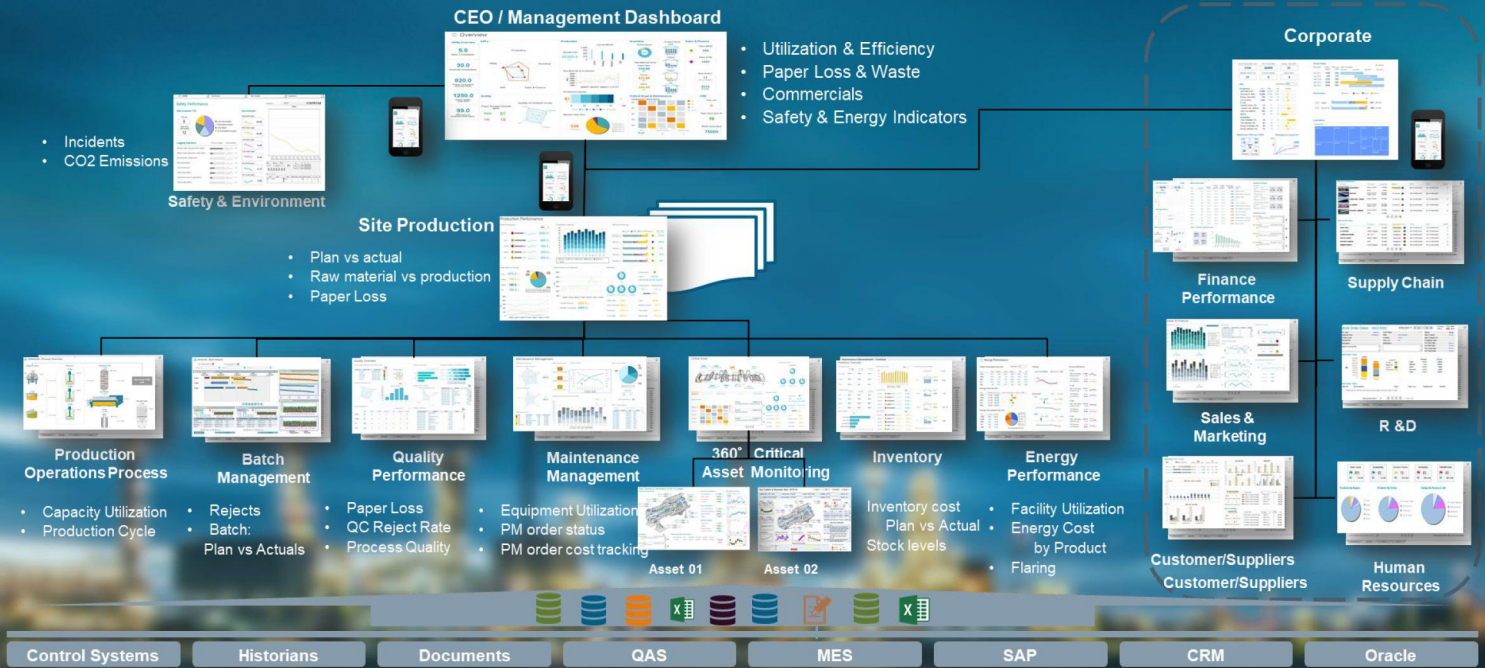
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XHQ Operations Intelligence

Translating Disparate Data into Meaningful Information

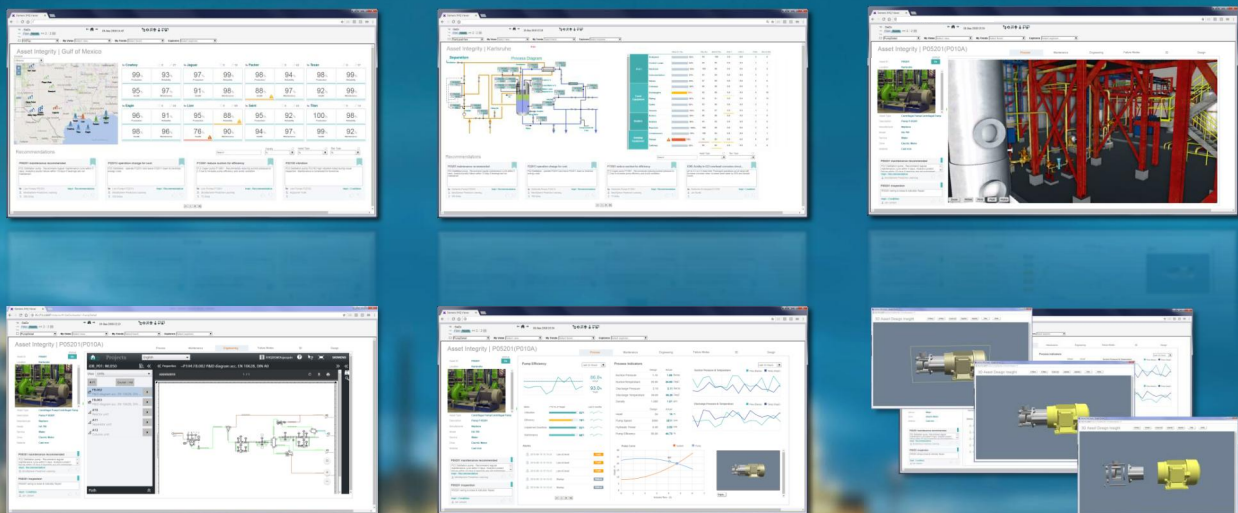
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Digital Twin

Engineering & Operations Intelligence

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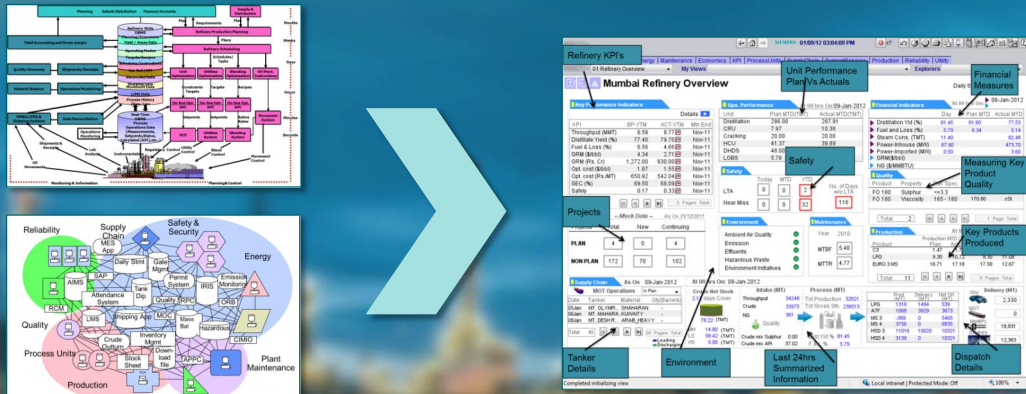


Customer Reference

Business Performance Management & Intelligence System

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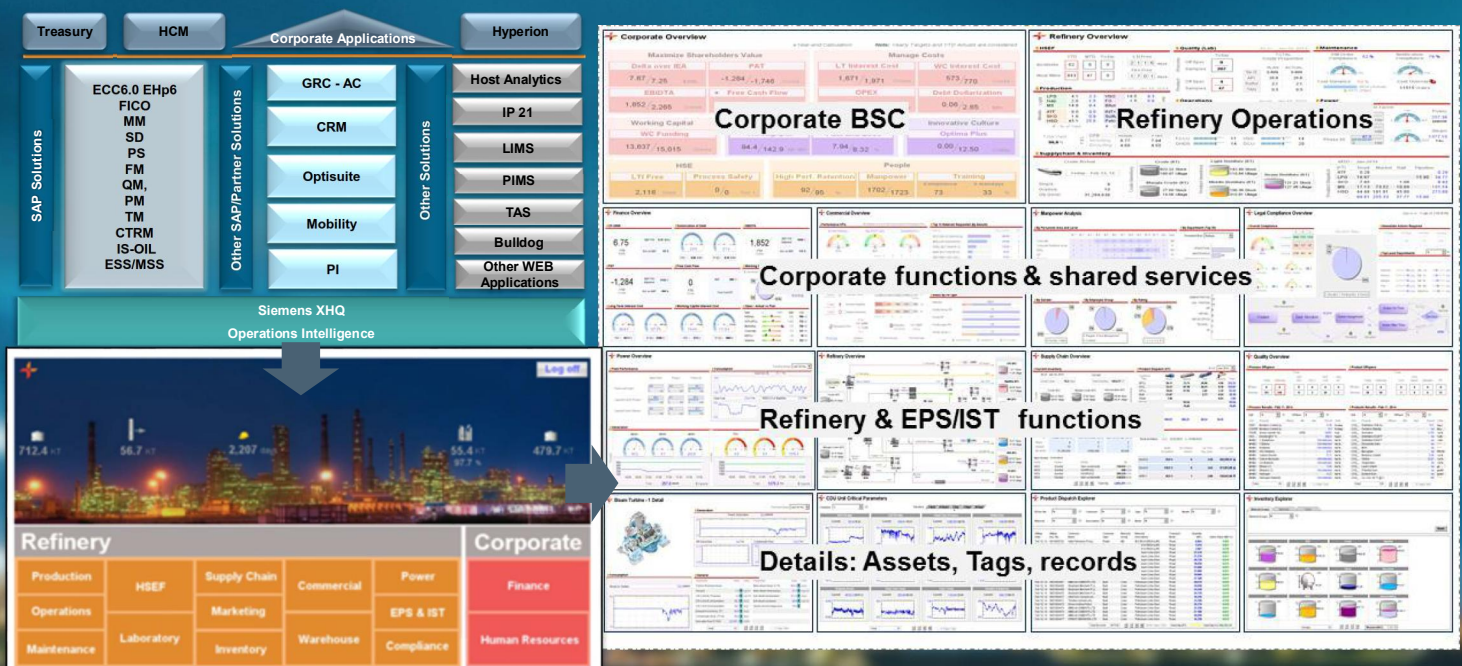
- Single view to monitor and manage all critical business processes and activities
- Data integration technology to be real-time and data source vendor agnostic
- Integration of refinery systems and business applications (DCS, IP21, MES, LIMS, SAP, In-House Apps)
- Annual savings of 13.5M USD



Customer Reference

Unleash Business & Operations Data

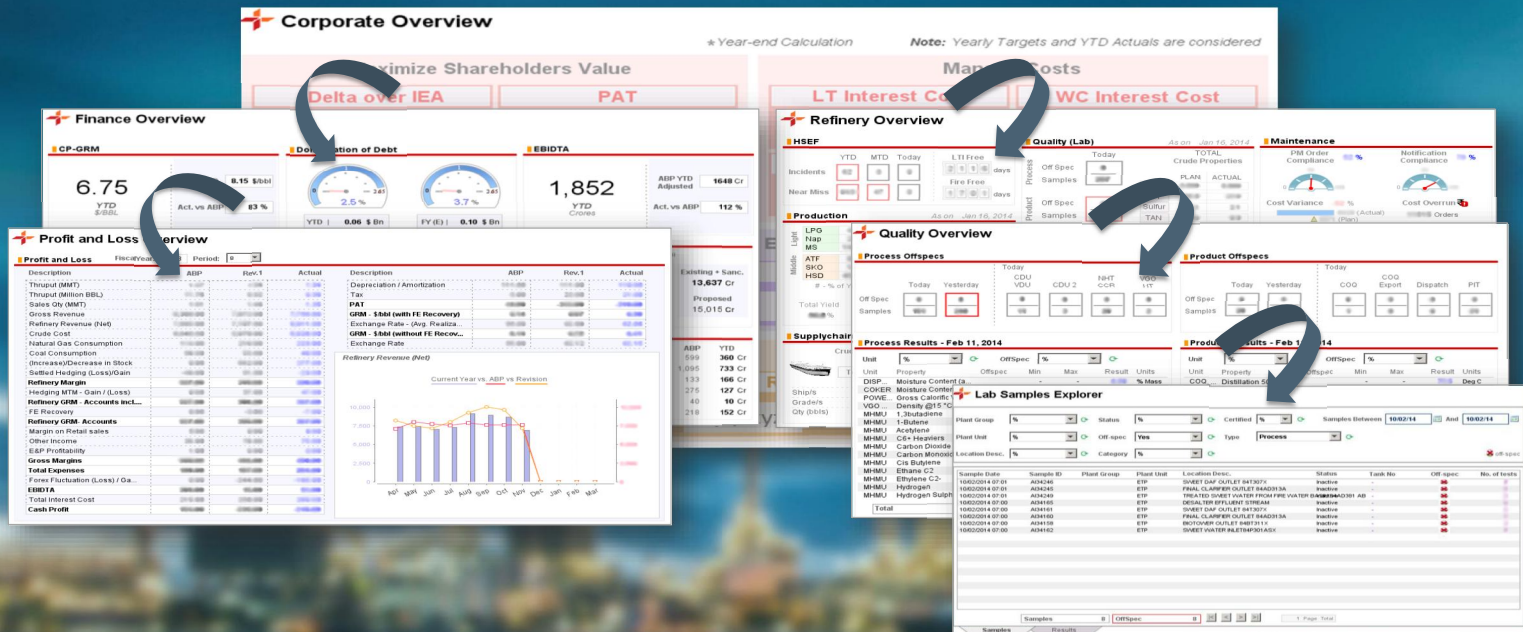
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Customer Reference

Unleash Business & Operations Data

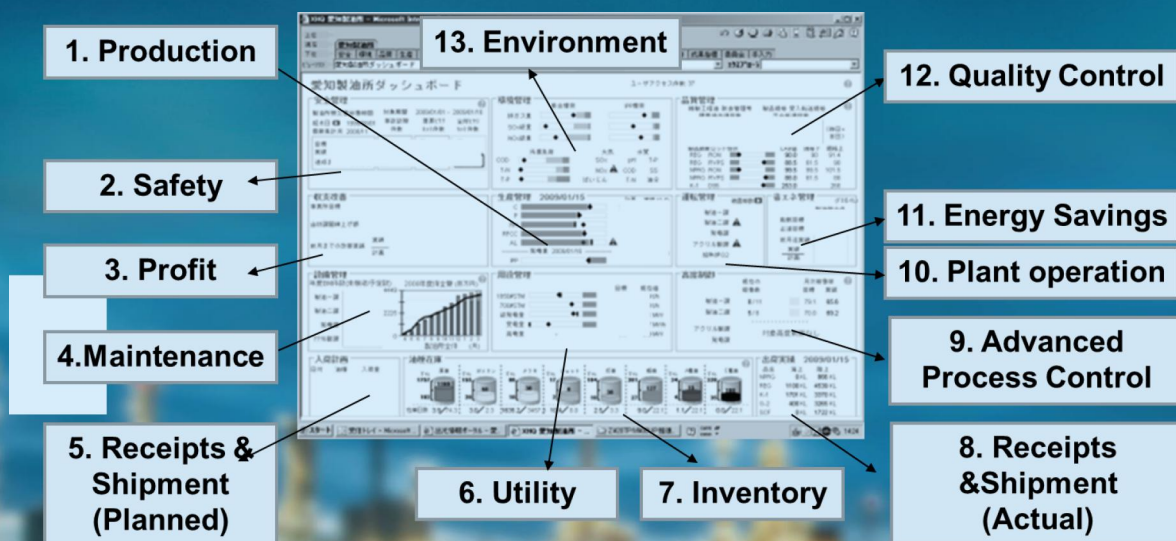
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Customer Reference

Unleash Business & Operations Data

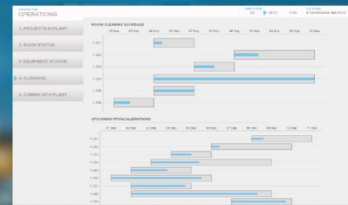
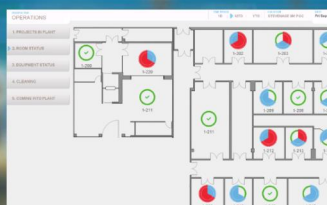
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Customer Reference

Production Monitoring in Pharmaceutical Batch Plant

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Business Impact

Operations Performance Improvement

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8%

Reduction in the
operating costs



9%

increase in
facility utilization



2.5%

increase in operational
availability



11%

increase in
production

Thank you



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