

Qualità a supporto della Trasformazione Digitale

Webinar

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SIEMENS



Siemens

Leading position in
Electrification, Automation
and Digitalization

Employees

377,000+

Revenue

€82.9 billion

Net Income¹

€6.1 billion

Profit margin Ind. Business

11.2%

Key figures as of Oct 2017 1 Strategic Unit

SIEMENS

Siemens Digital Industries Software

Siemens AG

Digital Industries



Smart Infrastructure



Mobility



Siemens Advanta



Portfolio Companies



Siemens Healthineers



Siemens Software



#1 market position
in industrial software

Factory Automation



Motion Control



Process Automation



Customer Services



Leader in digitalization, automation and electrification

Siemens Software continues to expand its portfolio with huge investment to combine the real world with the virtual world





Catalyst for the Digital Enterprise

An integrated portfolio of software, services and an application development platform that speeds the digital transformation cycle and unlocks a powerful industrial network effect. Blurs the boundaries between traditional stand-alone engineering domains such as electrical, mechanical and software.

**Comprehensive
Digital Twin**

**Personalized
Adaptable/ Modern**

**Flexible
Open Ecosystem**

Where today meets tomorrow.

Quality is key driver in Industry 4.0

The future of Quality Management

How Quality 4.0 is affecting Industry context



**Challenging
Market &
Globalization**



**Increasing
Complexity
and Integration**

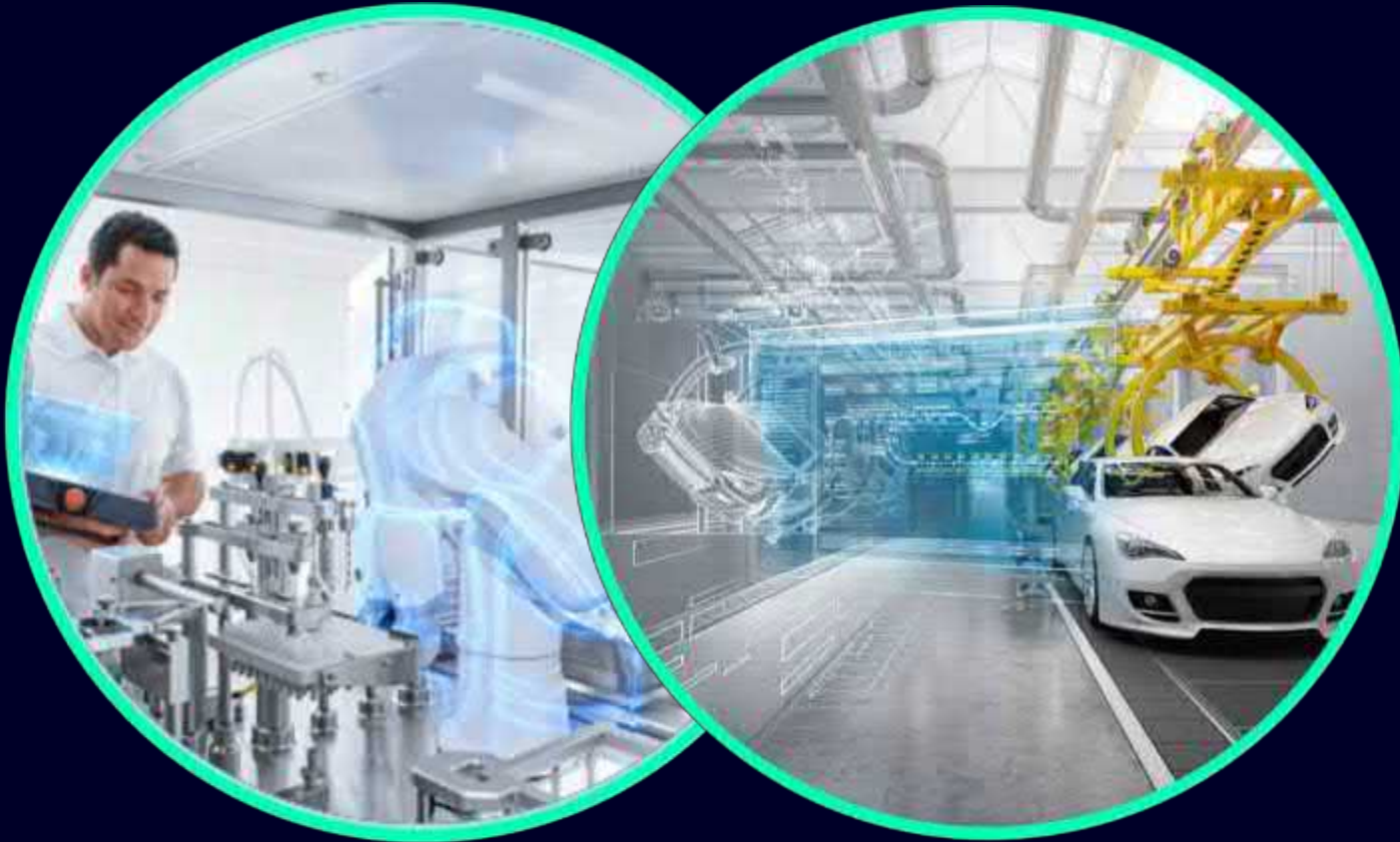


**Customer
Demand to exceed
expectations**



**Analytics
From prevention
to prediction**

Manufacturers feel pressure to follow the new stream



... To improve quality

... To deliver faster

... To reduce costs

Market research indicate that customers demand a better PLM and Quality Management system interoperability

Reduction internal & external failure costs

- ↓ Scrap/rework
- ↓ Engineering change requests
- ↓ Delayed launch costs
- ↓ Warranty & recall costs
- ↓ Loss of good will

Reduction Total Cost of Quality for product programs

- ↑ Higher product compliance rates
- ↑ Higher OEE
- ↑ More successful NPIs

Teamcenter Quality

**Importance of
Quality** increases
in perception of
customers by
major analysts

**Integration of
ERP, PLM, MES
and Quality System**
is seen as big lever
to gain efficiency

**Closed Loop
Manufacturing /
Closed loop Quality**
is the Siemens
answer to address
this integration



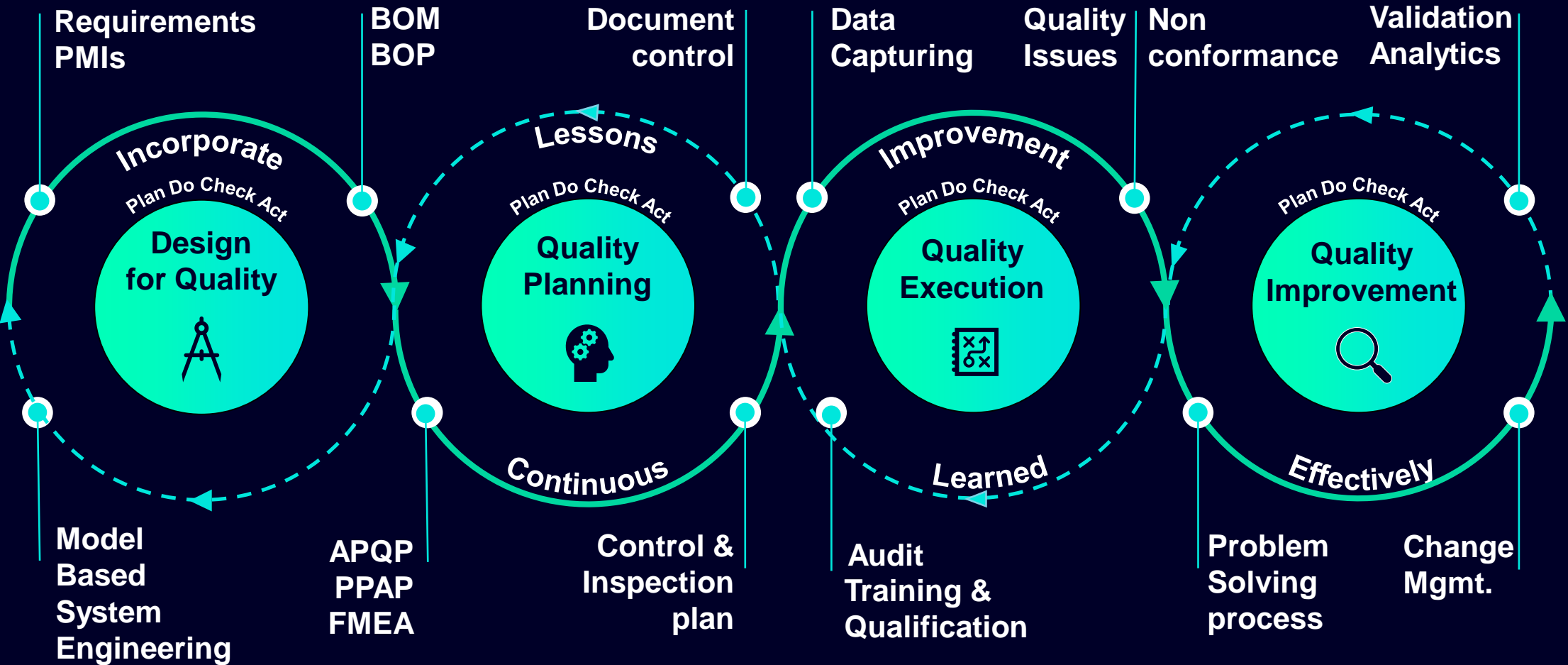
*Source: Aberdeen Group

From the traditional Quality paradigm ...

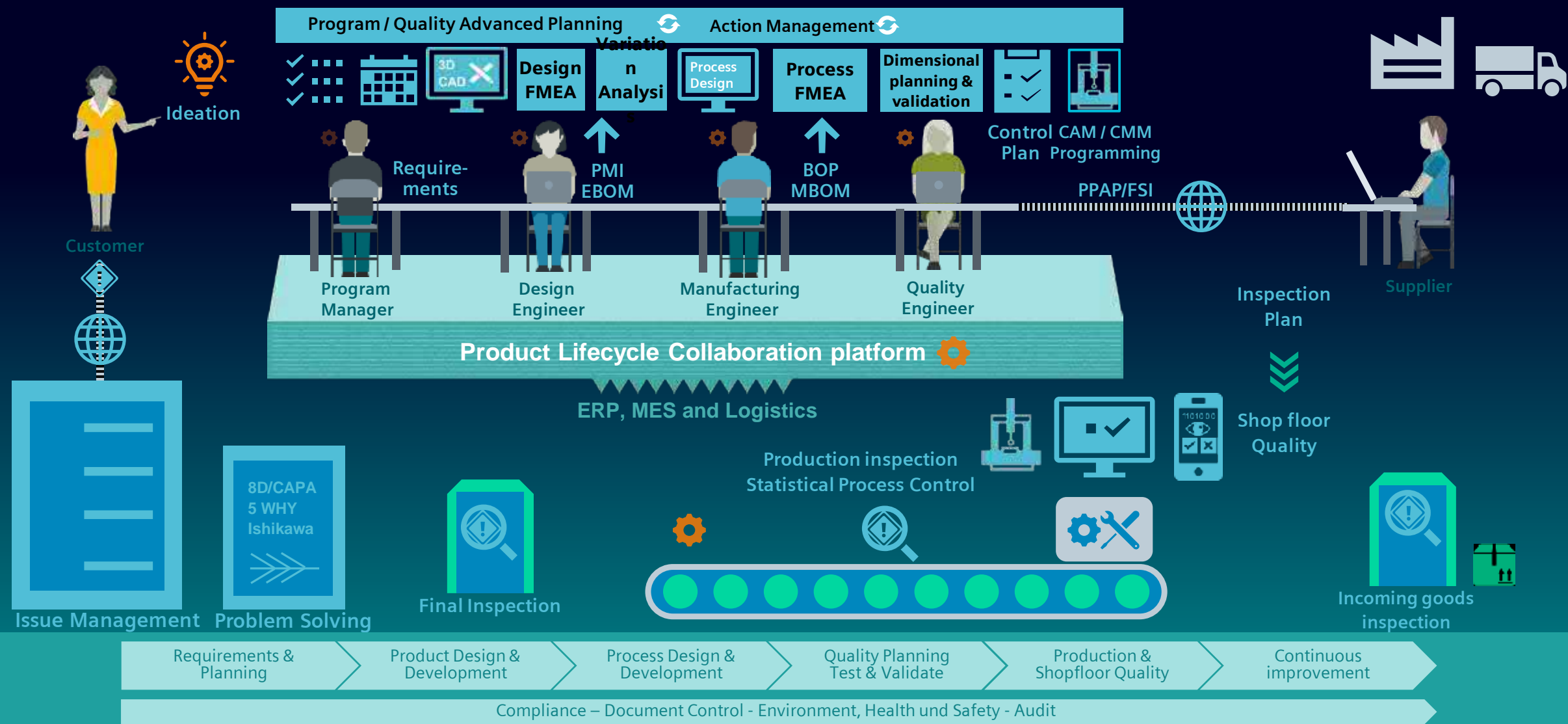


The Deming “Plan, Do, Check, Act” cycle supports the entire product value chain with interconnected continuous improvement processes.

... Siemens extends the conventional PDCA cycle in Quality Management to Engineering and Manufacturing domains

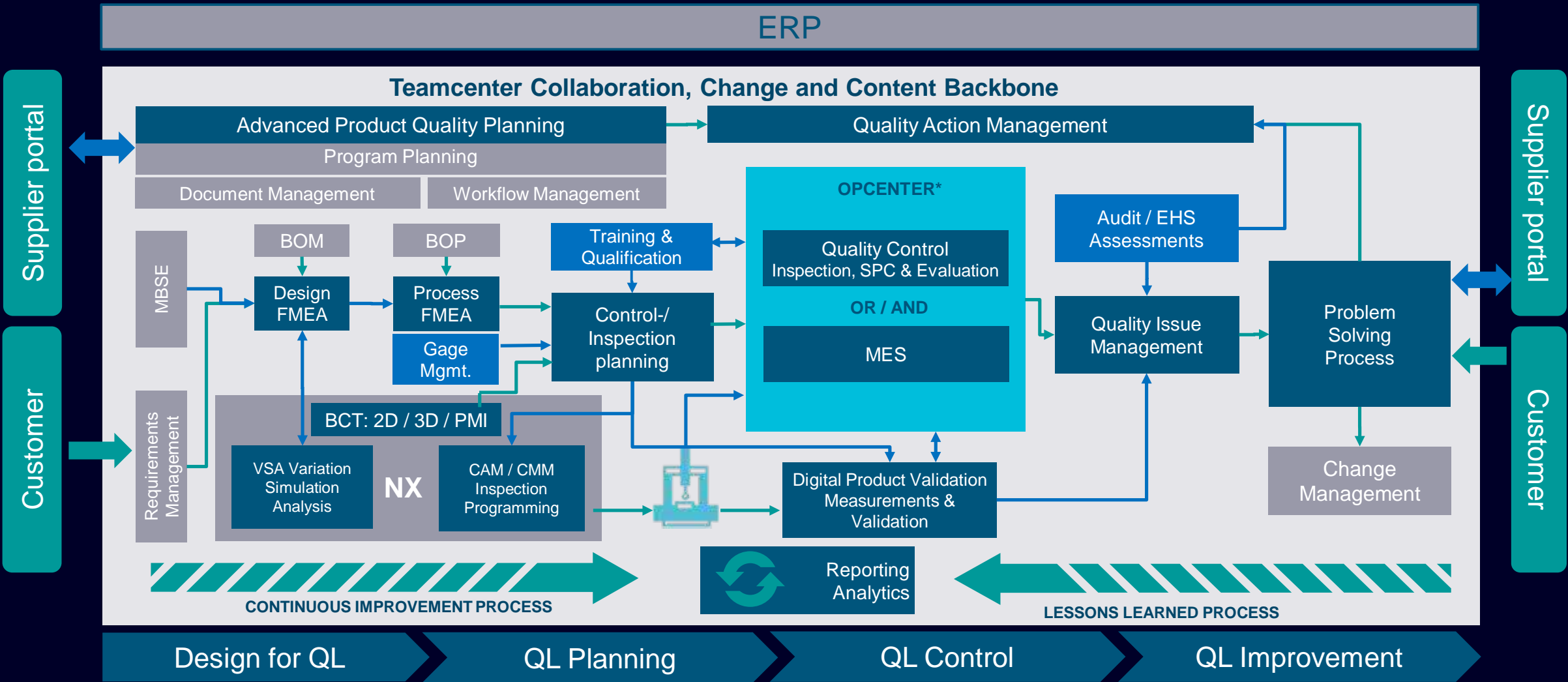


Siemens vision for Closed Loop Quality from design to manufacturing

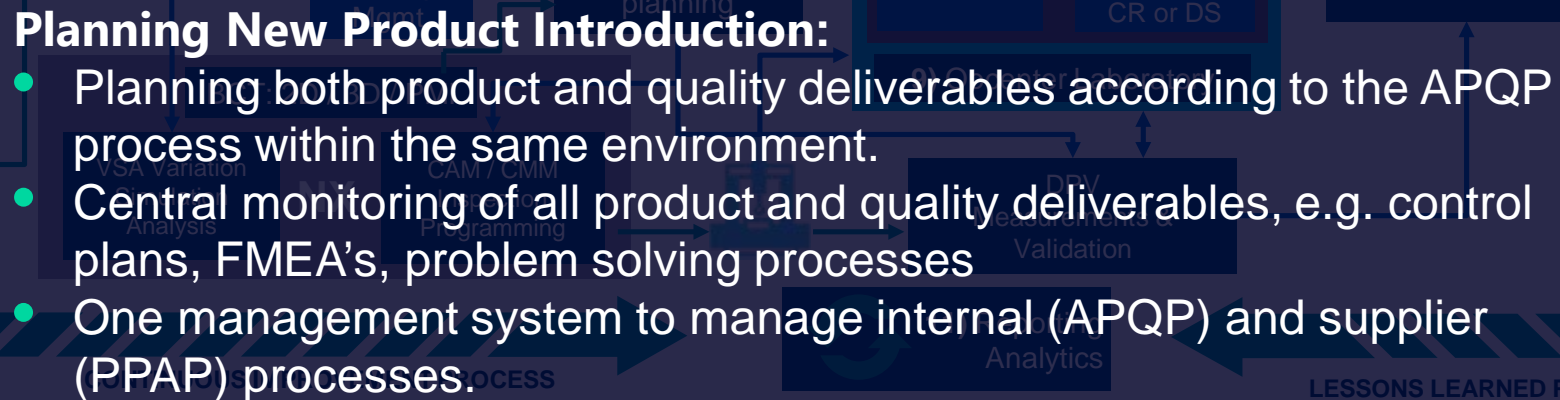


Solution Outline

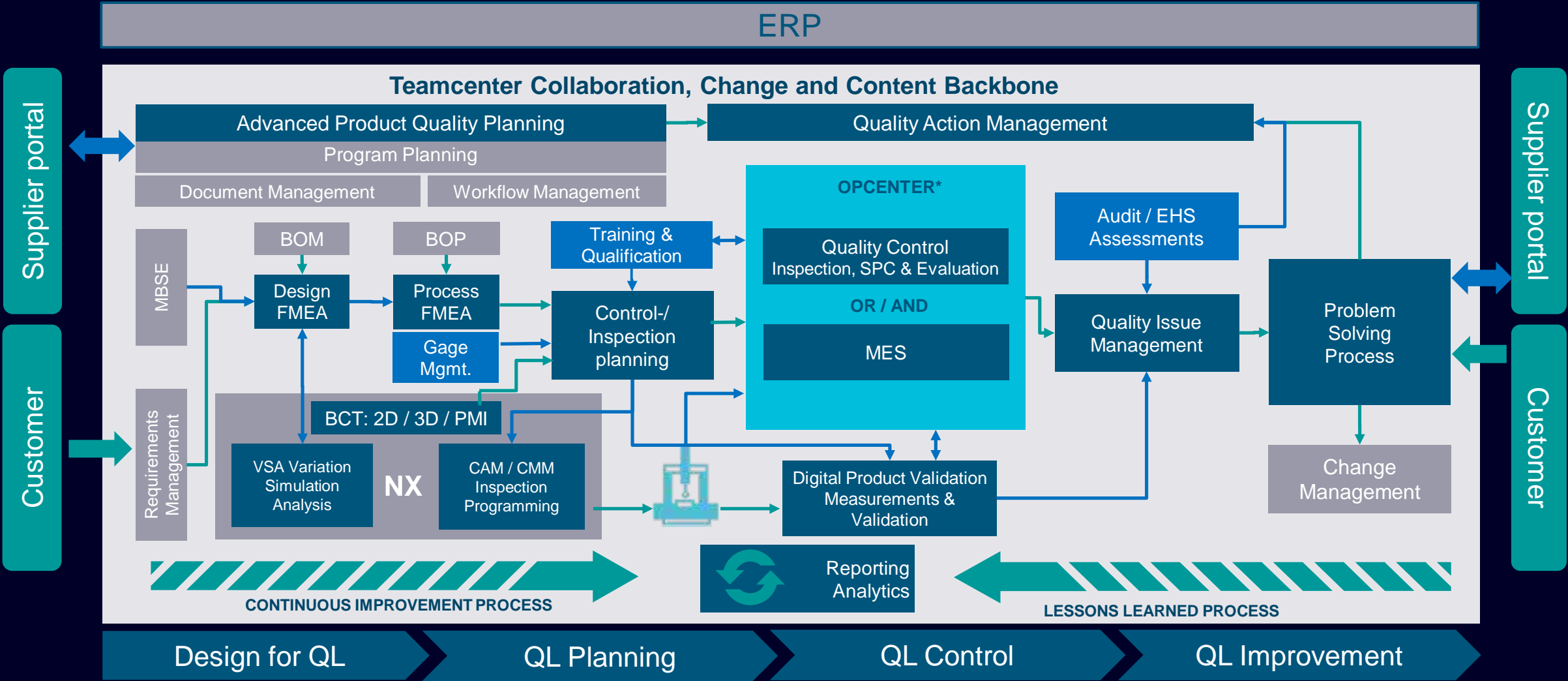
35 years of experience and all the capabilities of Teamcenter



Supplier Homologation through APQP & PPAP

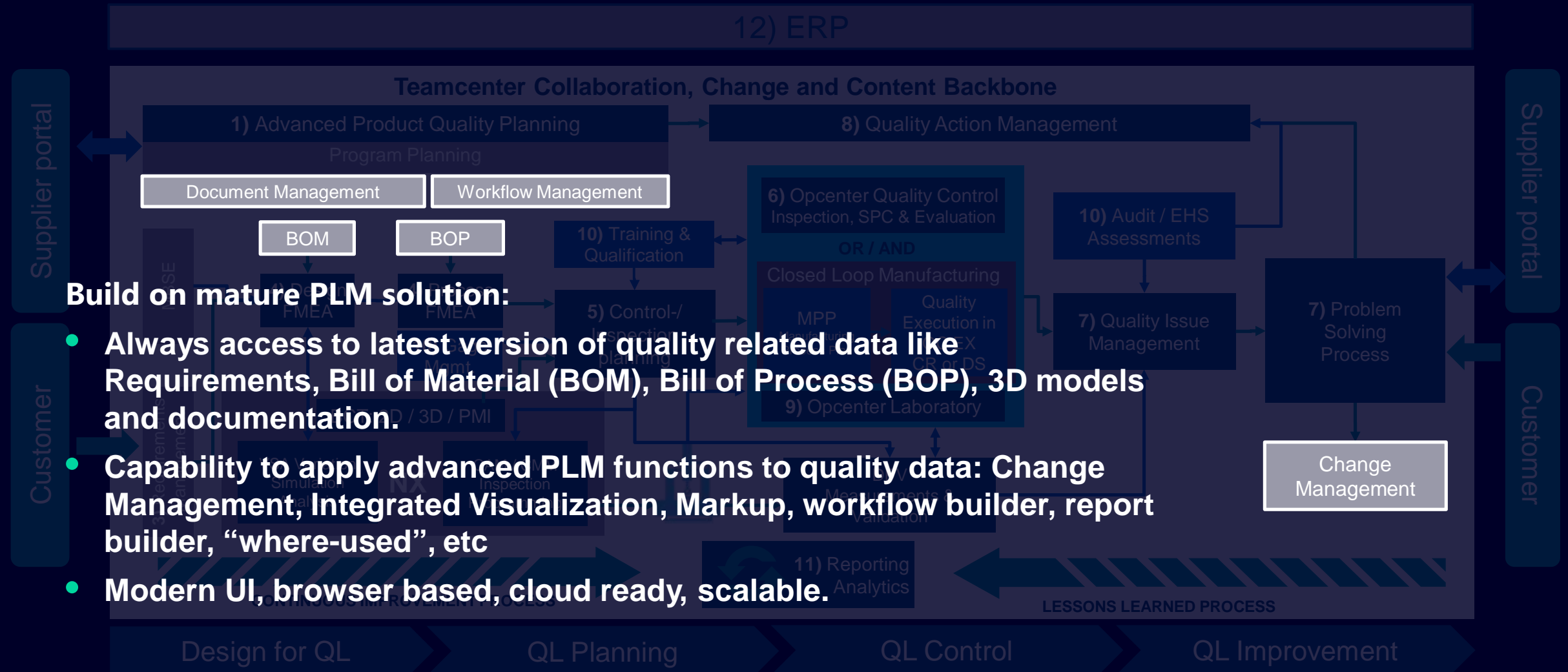


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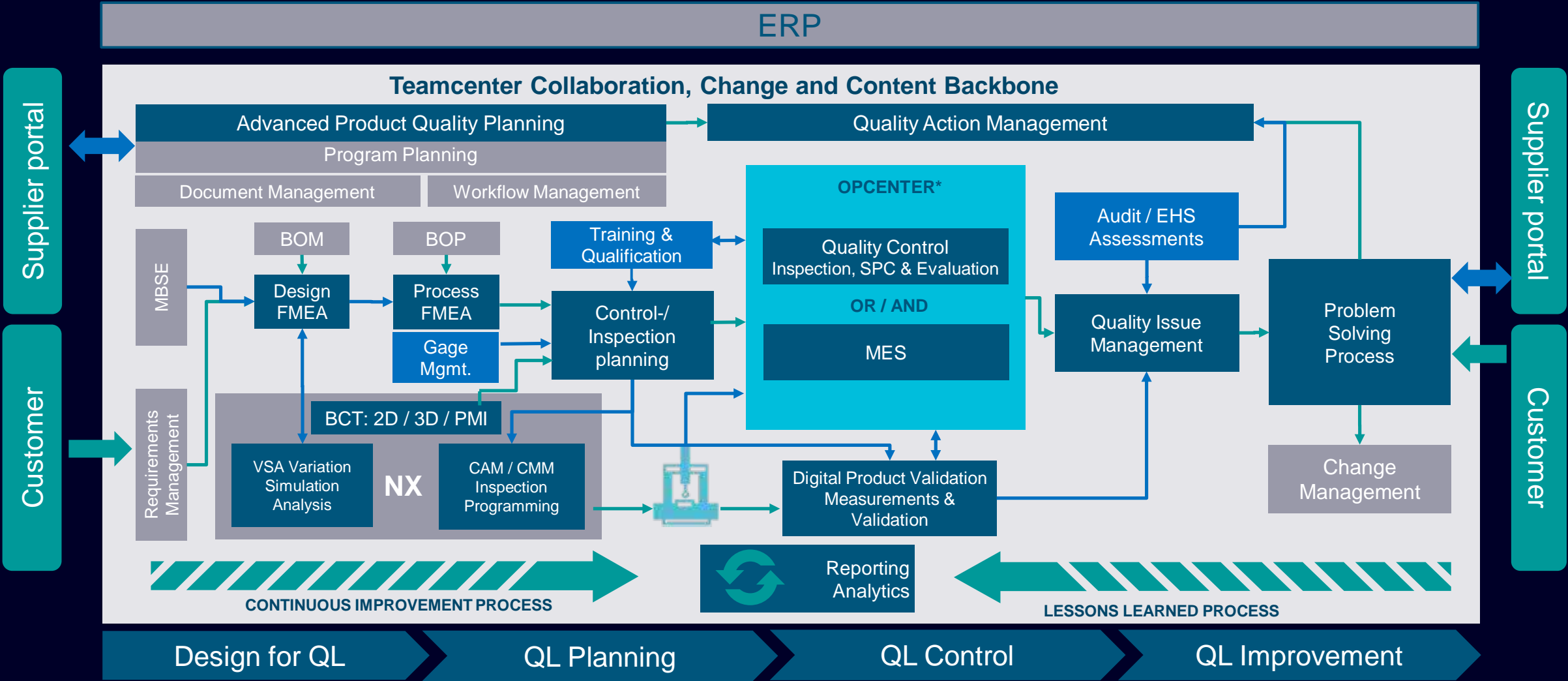


Solution Outline

Native PLM capabilities: BOM, Document, Workflow and Change Management

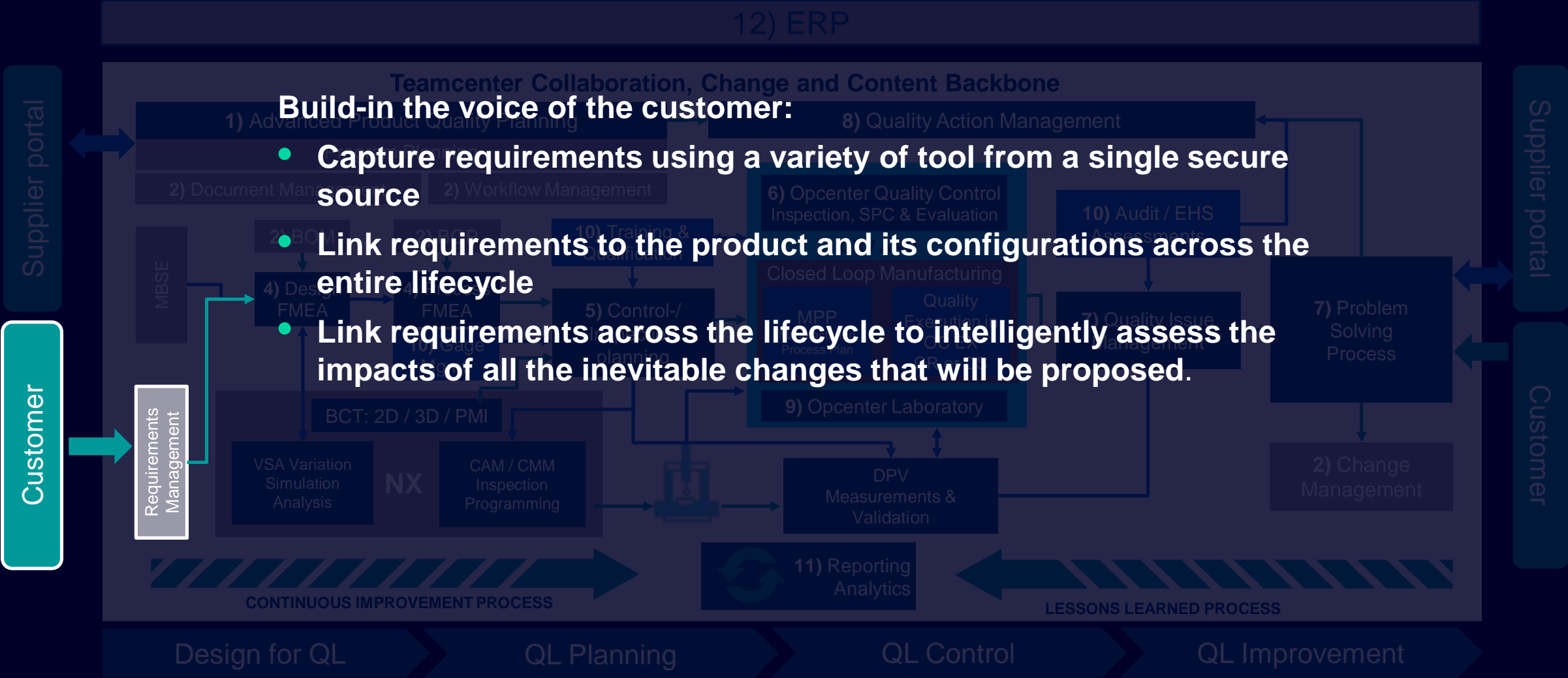


Solution Outline

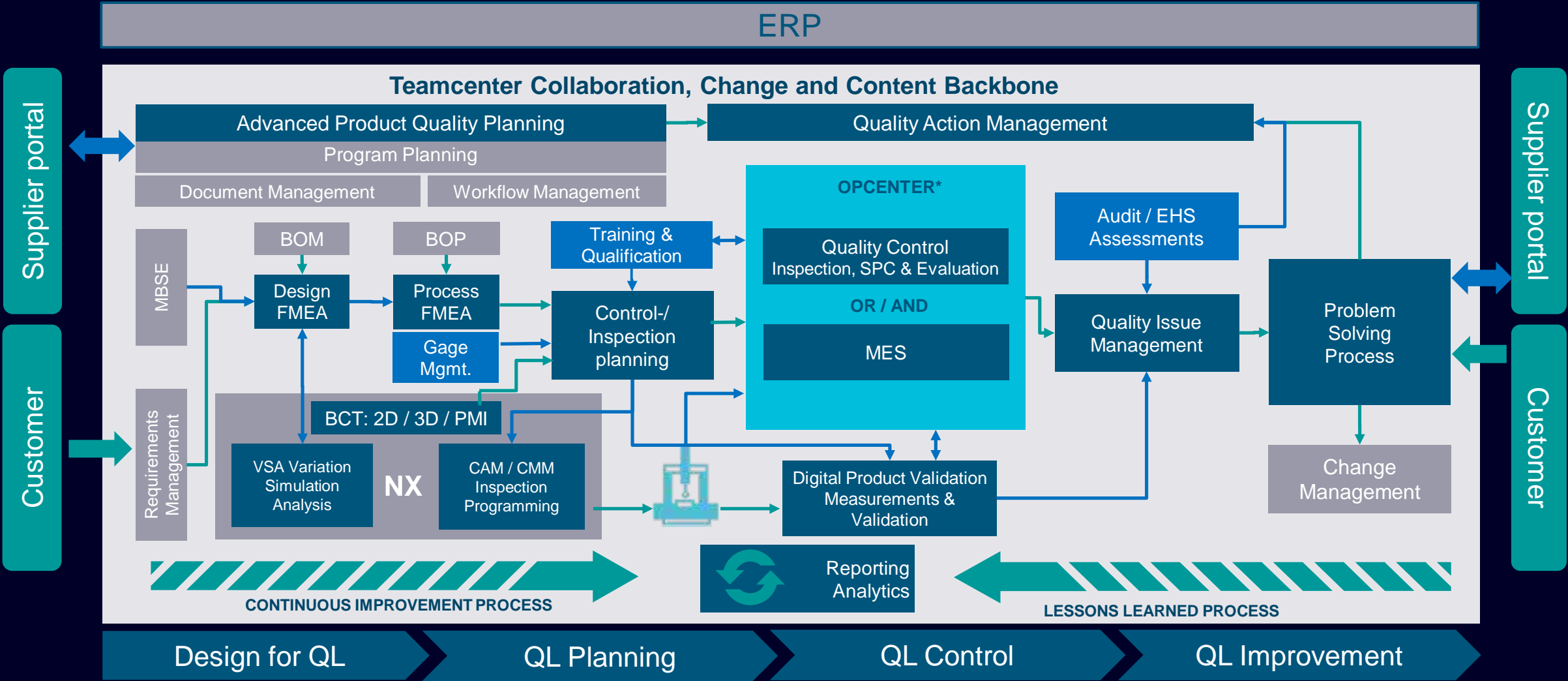


Solution Outline

Requirements Management

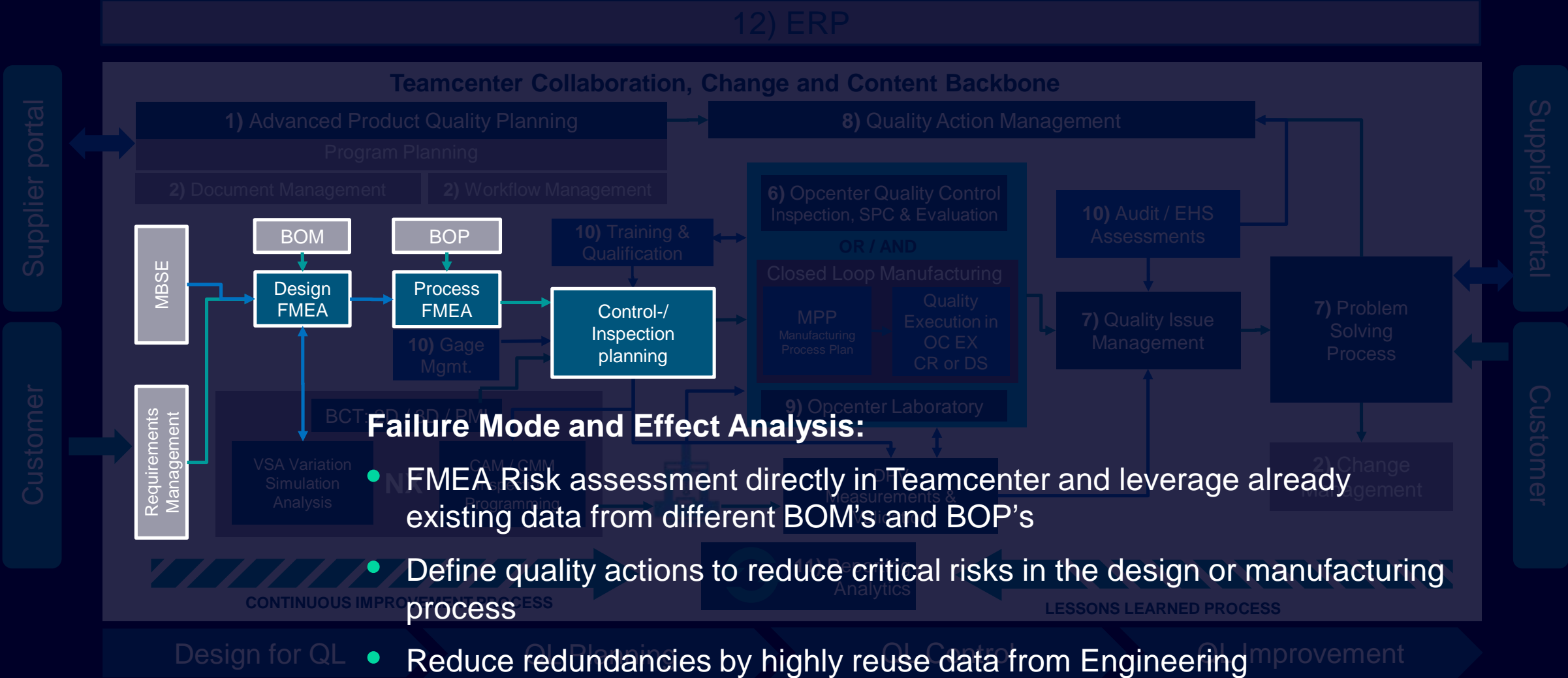


Solution Outline

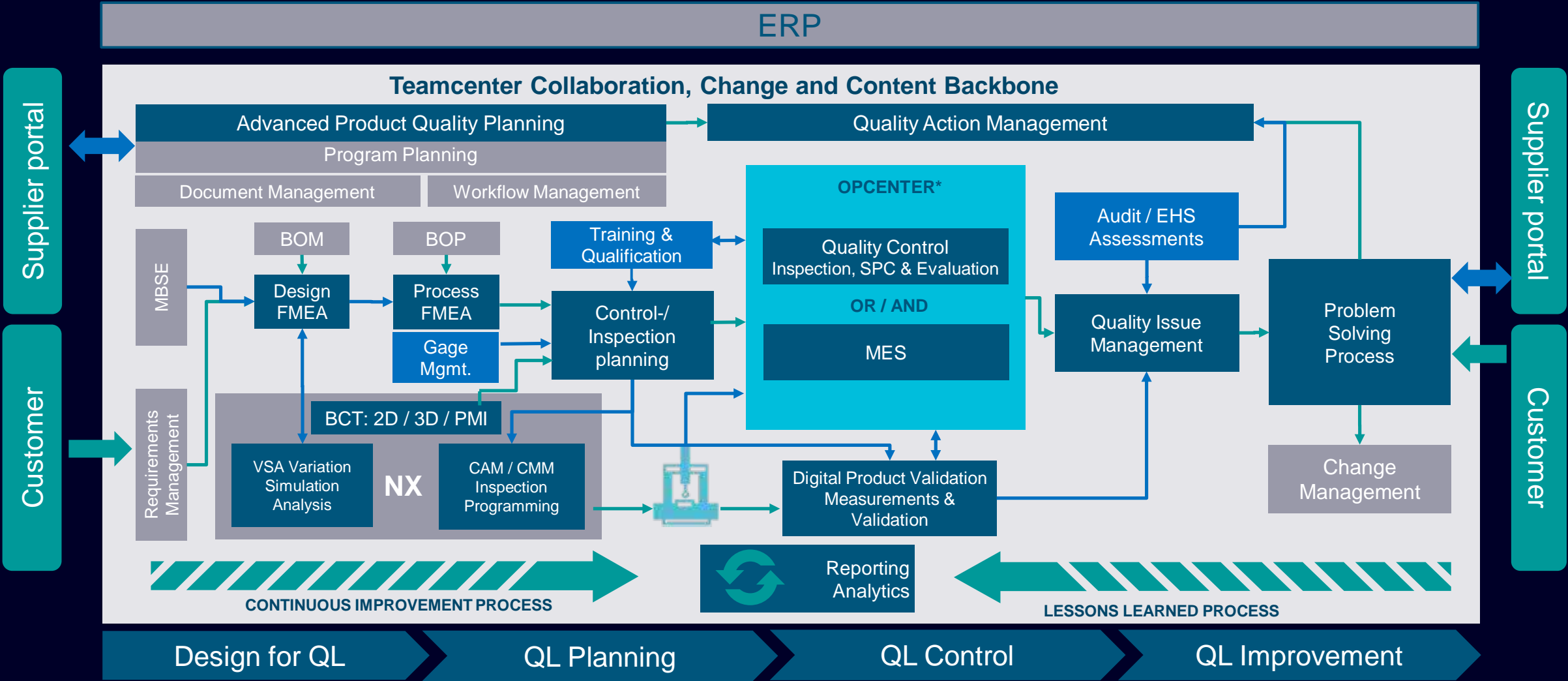


Solution Outline

Design & Process FMEA

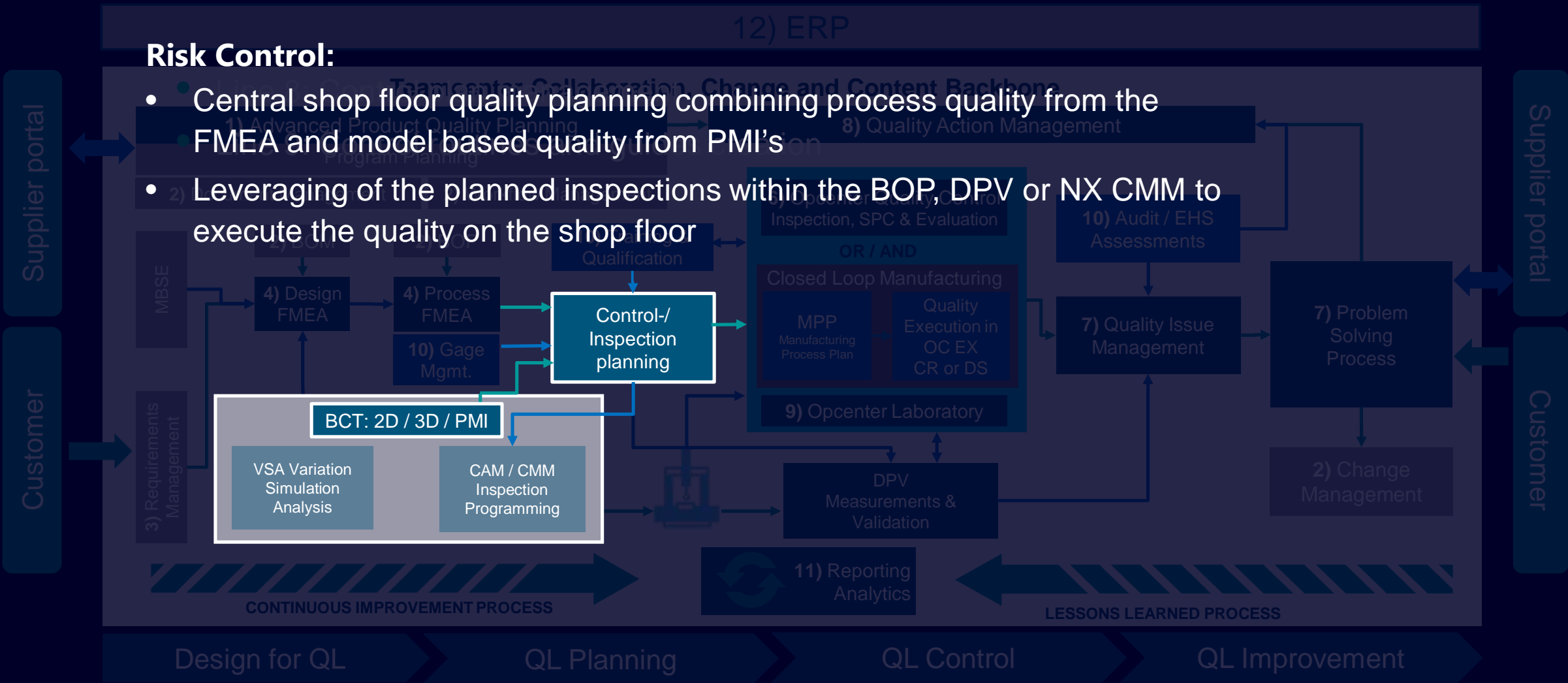


Solution Outline

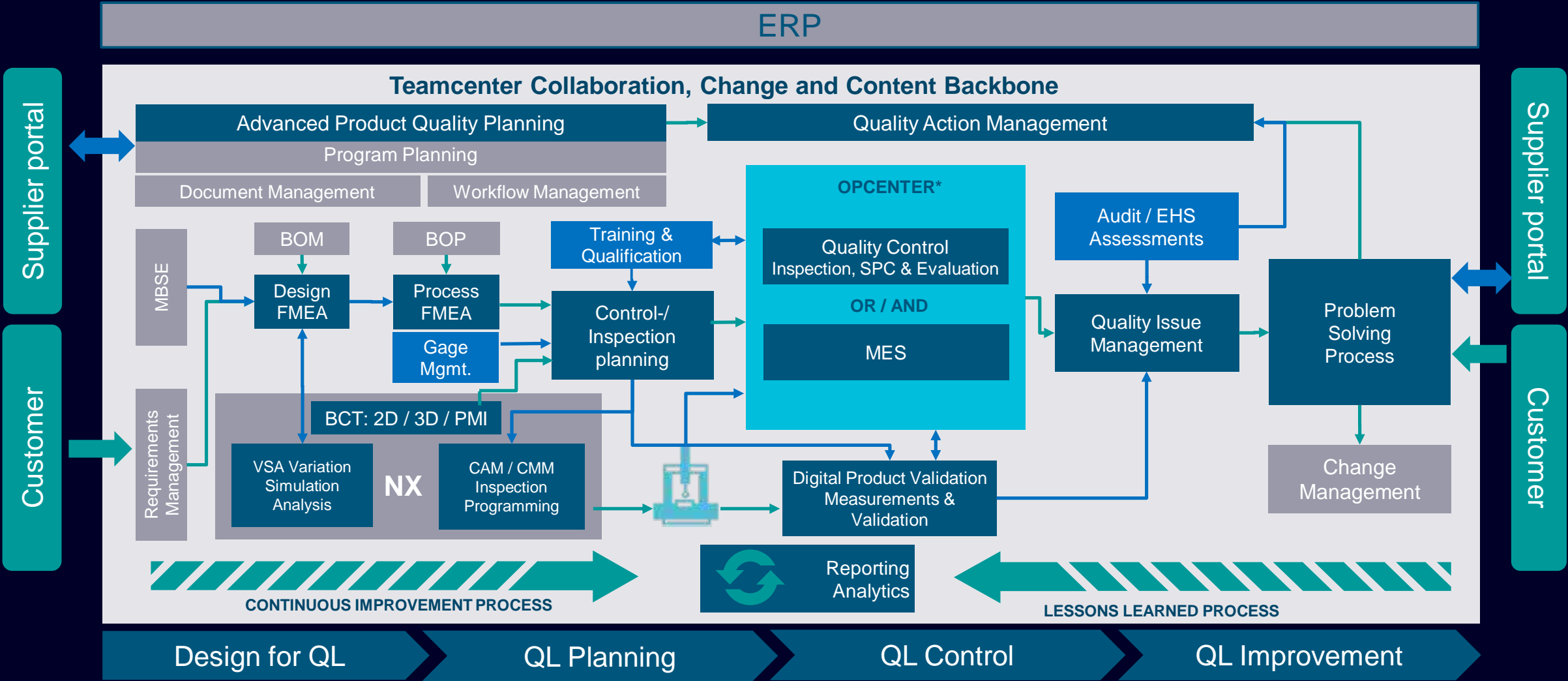


Requirement and Use Case Overview

Ballooning & Control Plan Management



Solution Outline

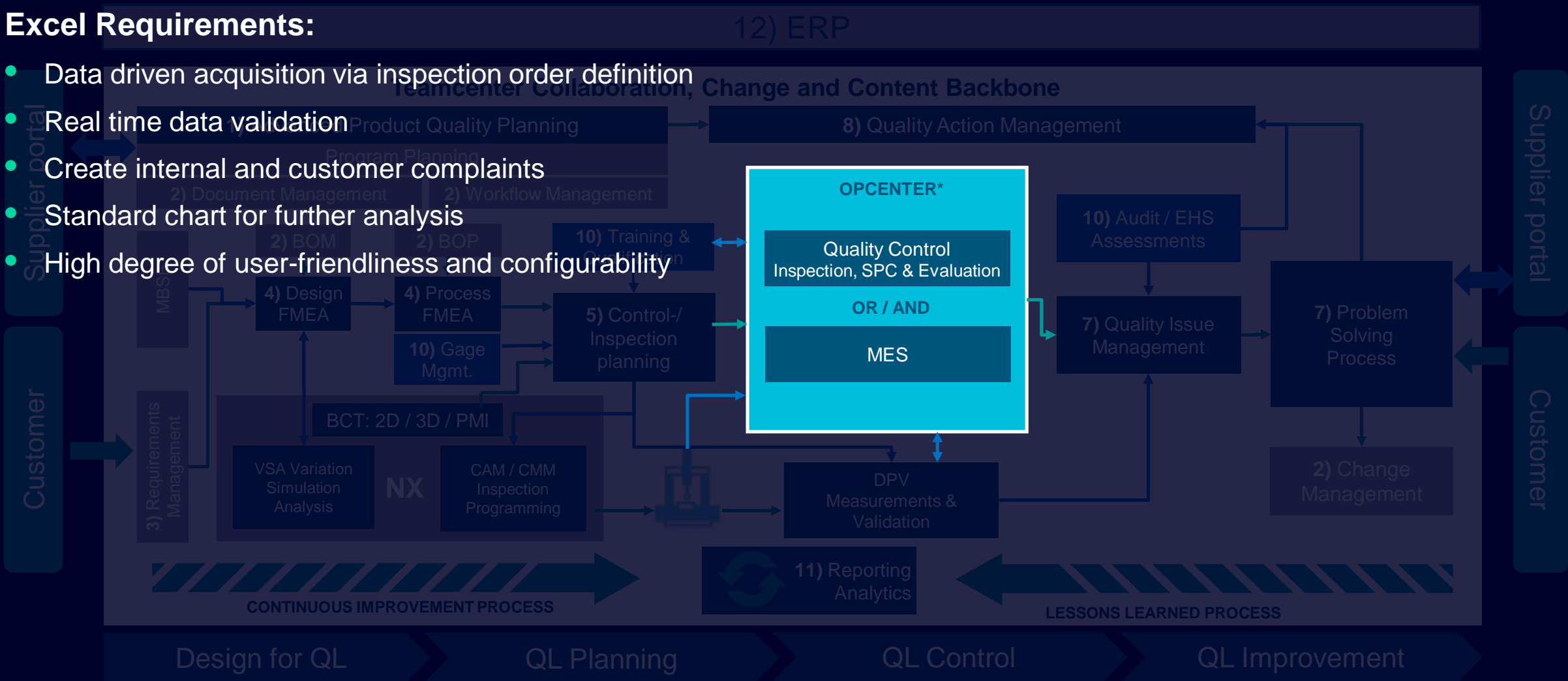


Solution Outline

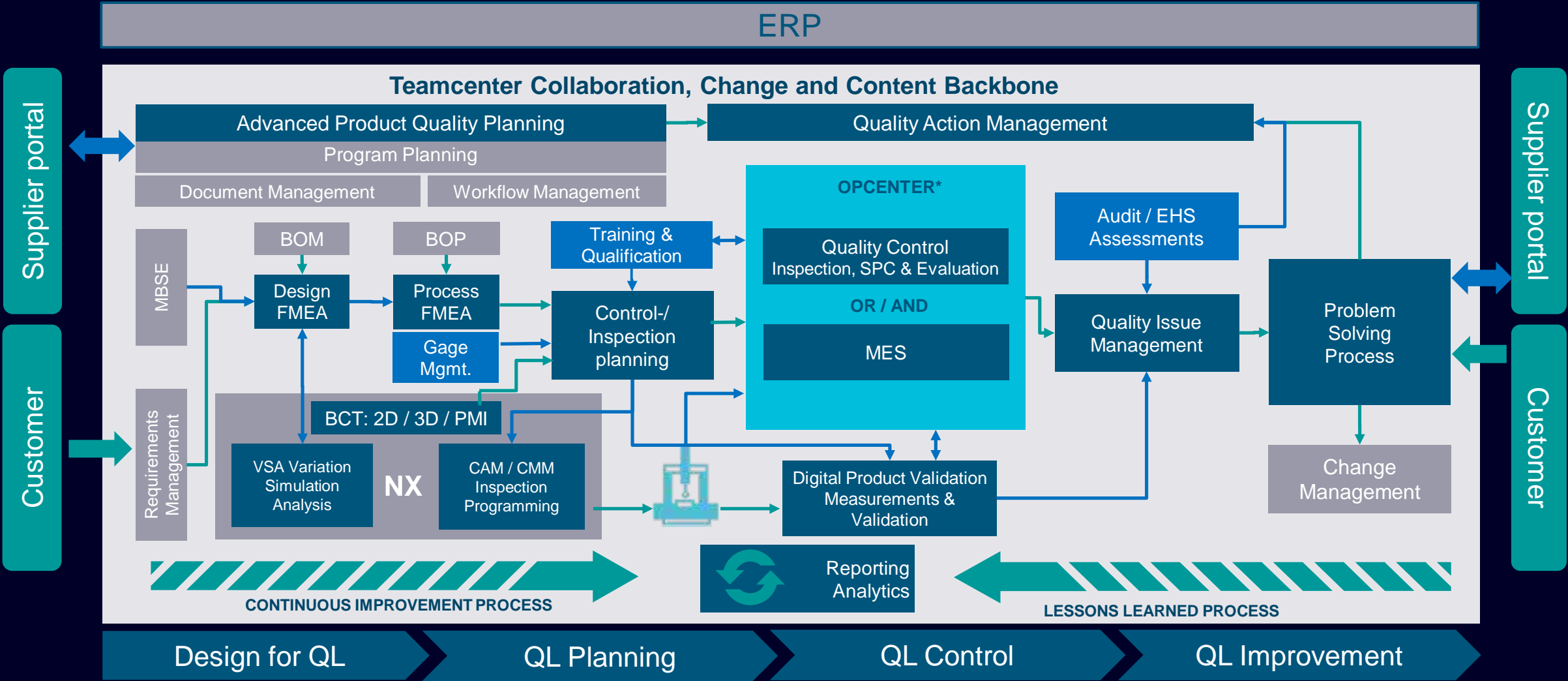
Quality Control; Inspection, SPC & Evaluation

Excel Requirements:

- Data driven acquisition via inspection order definition
- Real time data validation
- Create internal and customer complaints
- Standard chart for further analysis
- High degree of user-friendliness and configurability

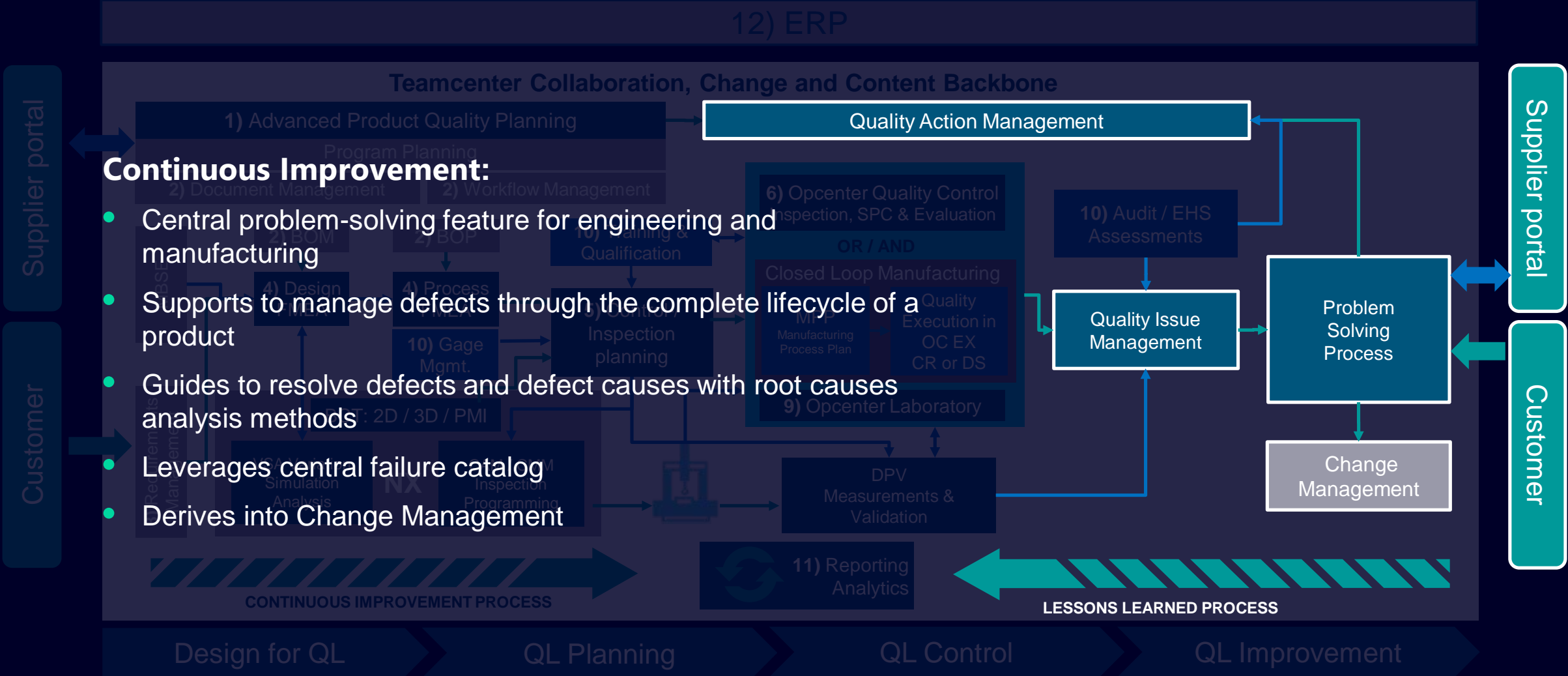


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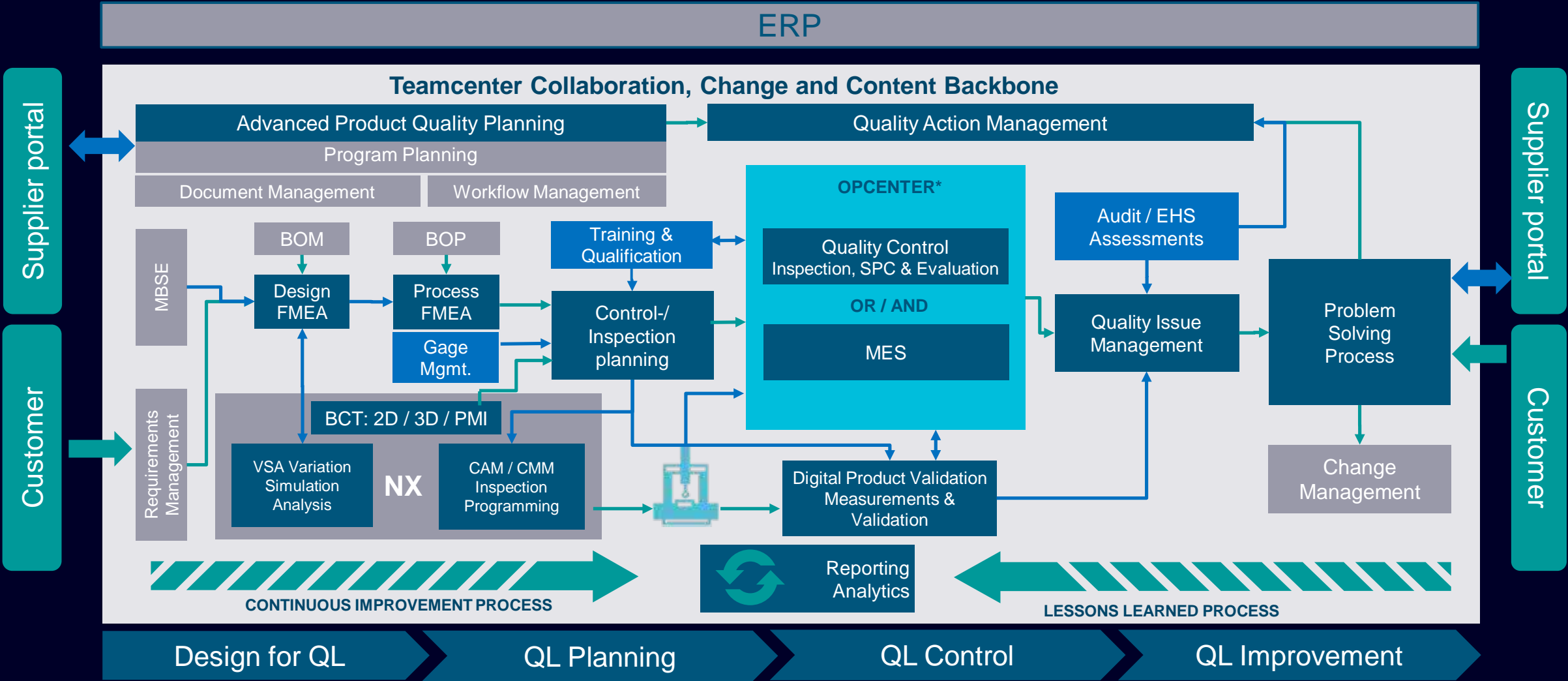


Solution Outline

Creation & Management of Issues and the Problem-Solving Process

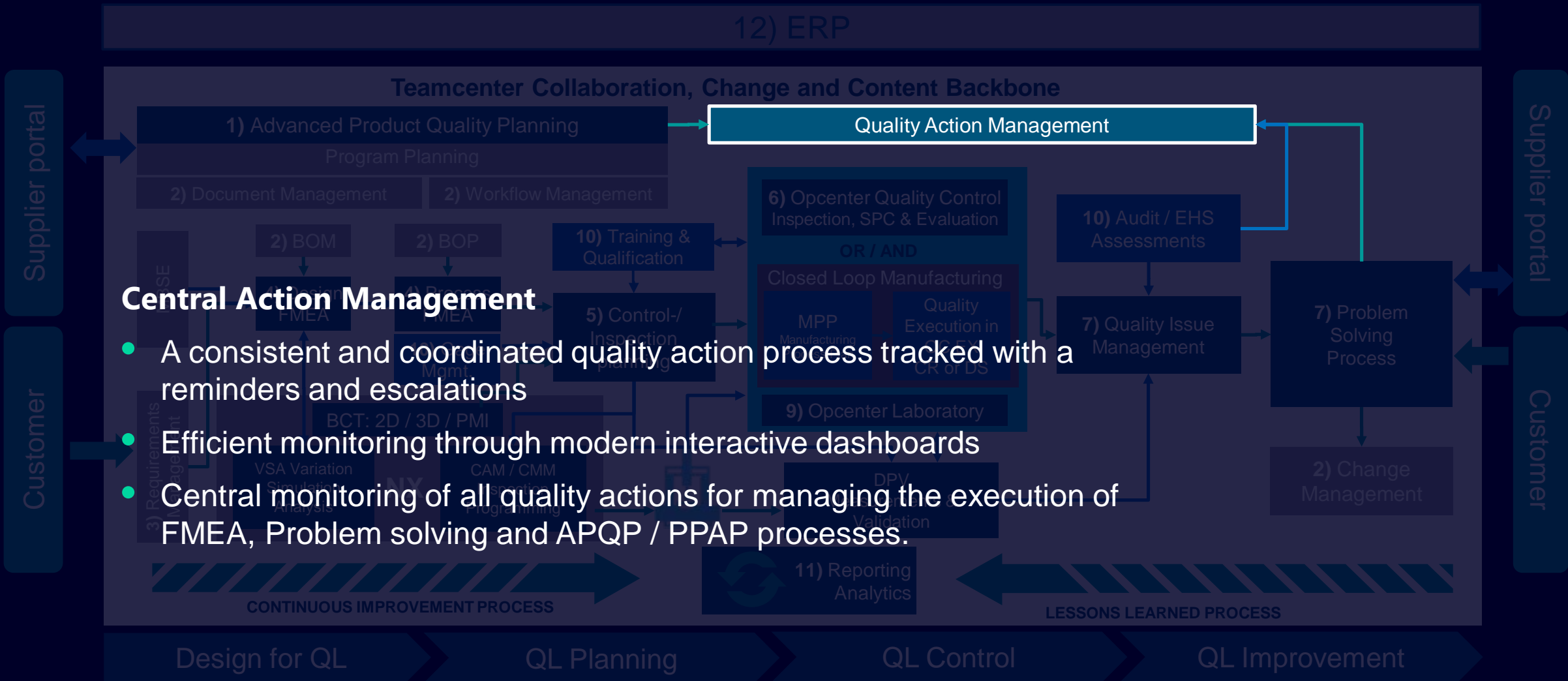


Solution Outline

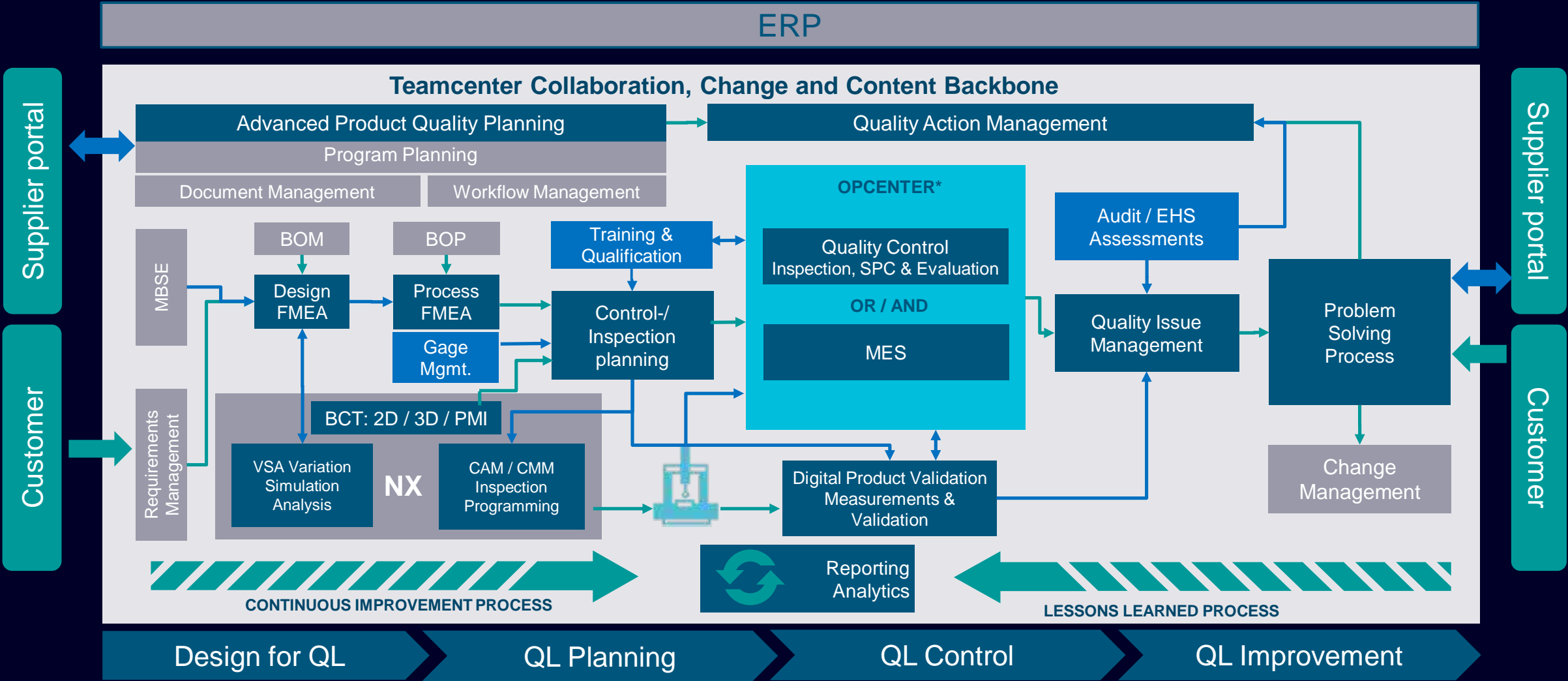


Solution Outline

Action Manager and Escalation

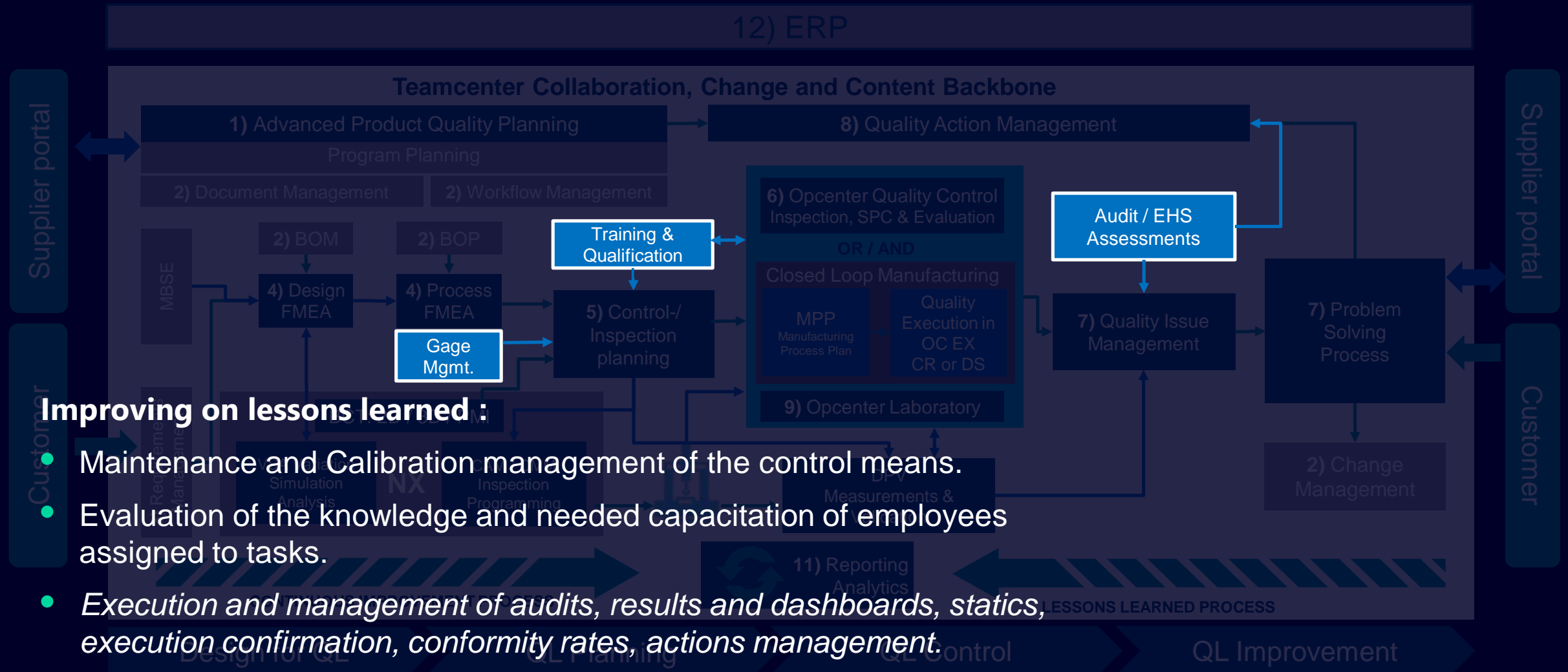


Solution Outline

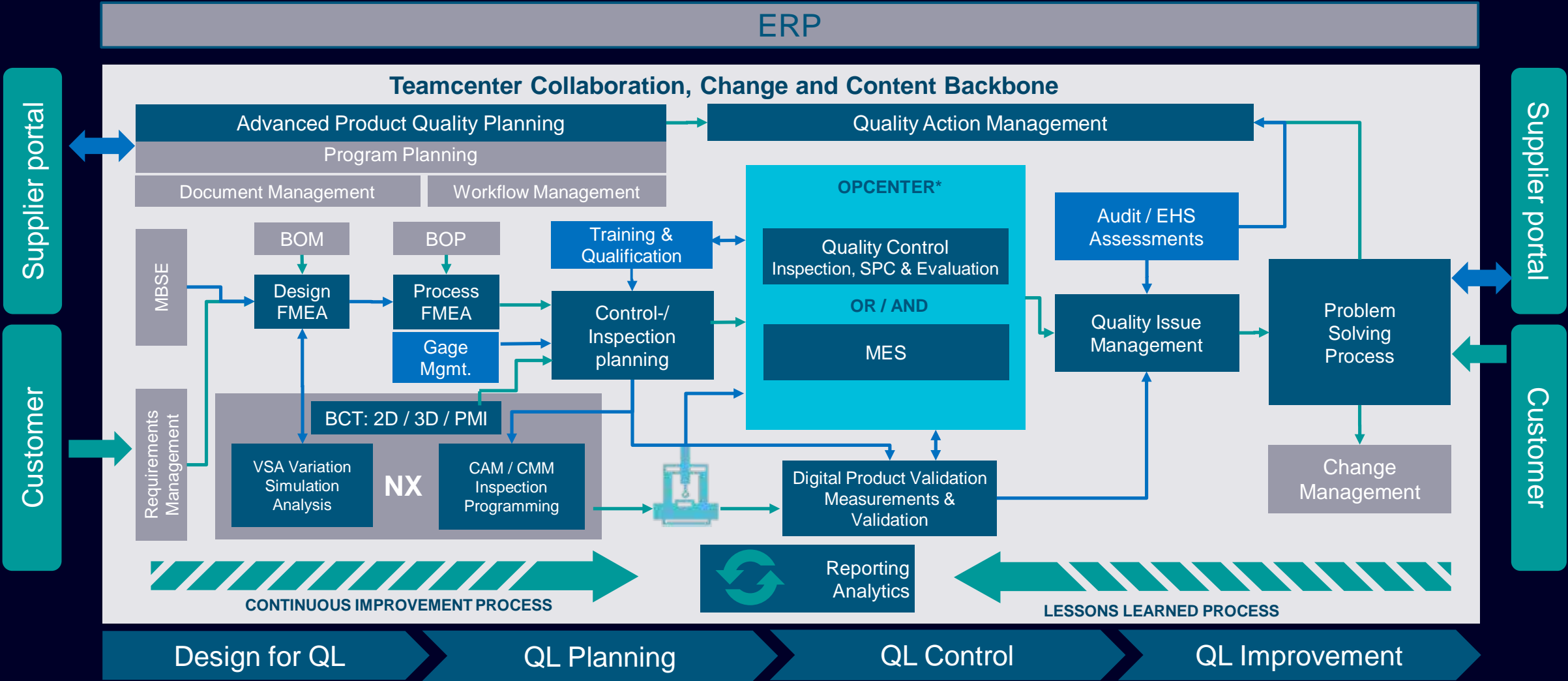


Solution Outline

Gage, Training and Advanced Audit Management

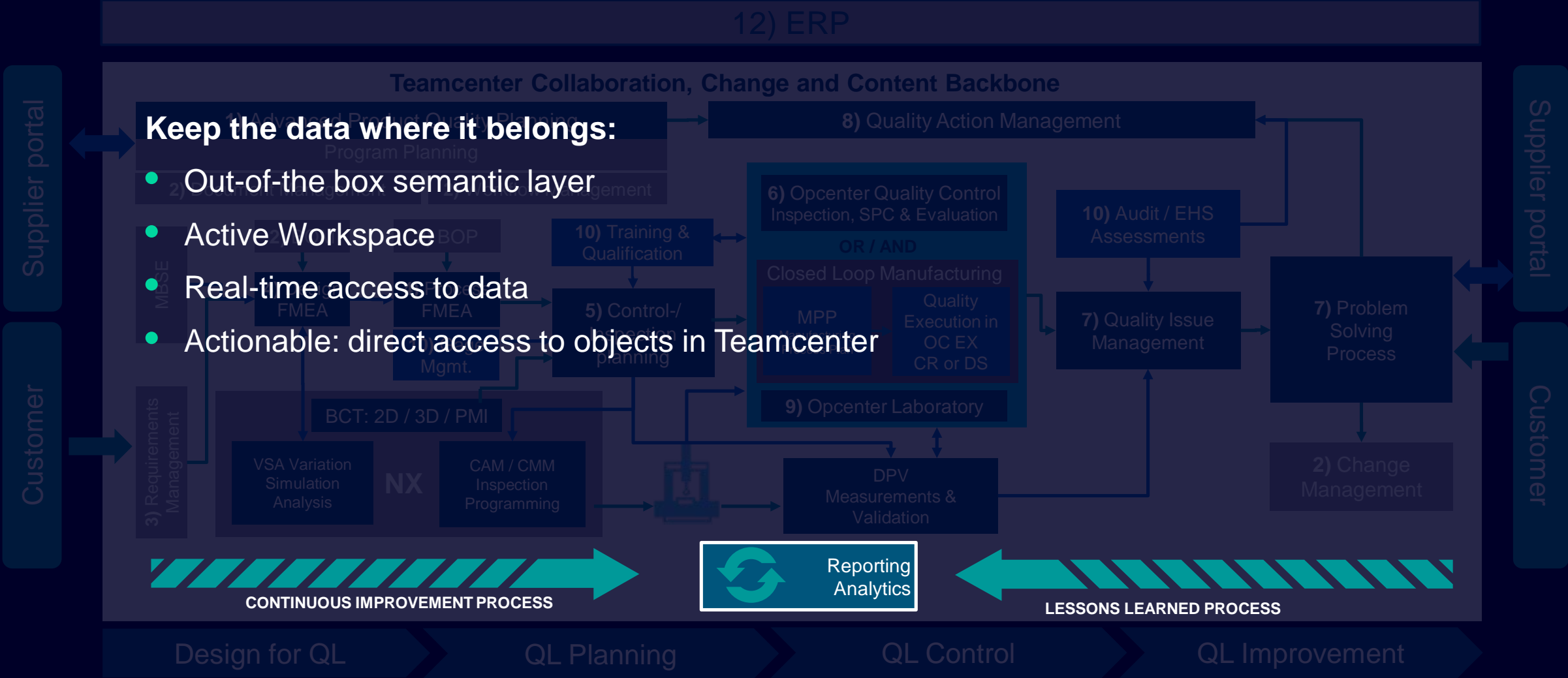


Solution Outline

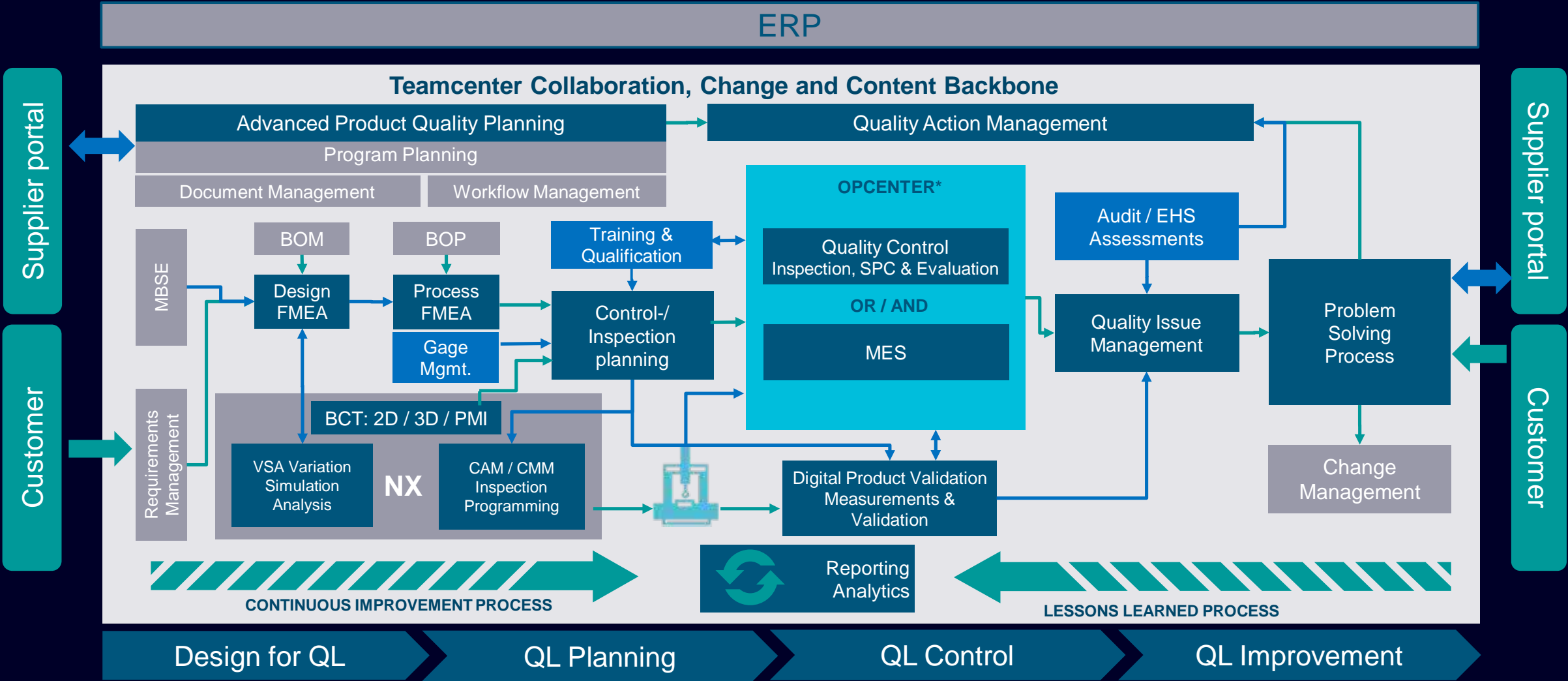


Solution Outline

Dashboard, Reports and Analytics

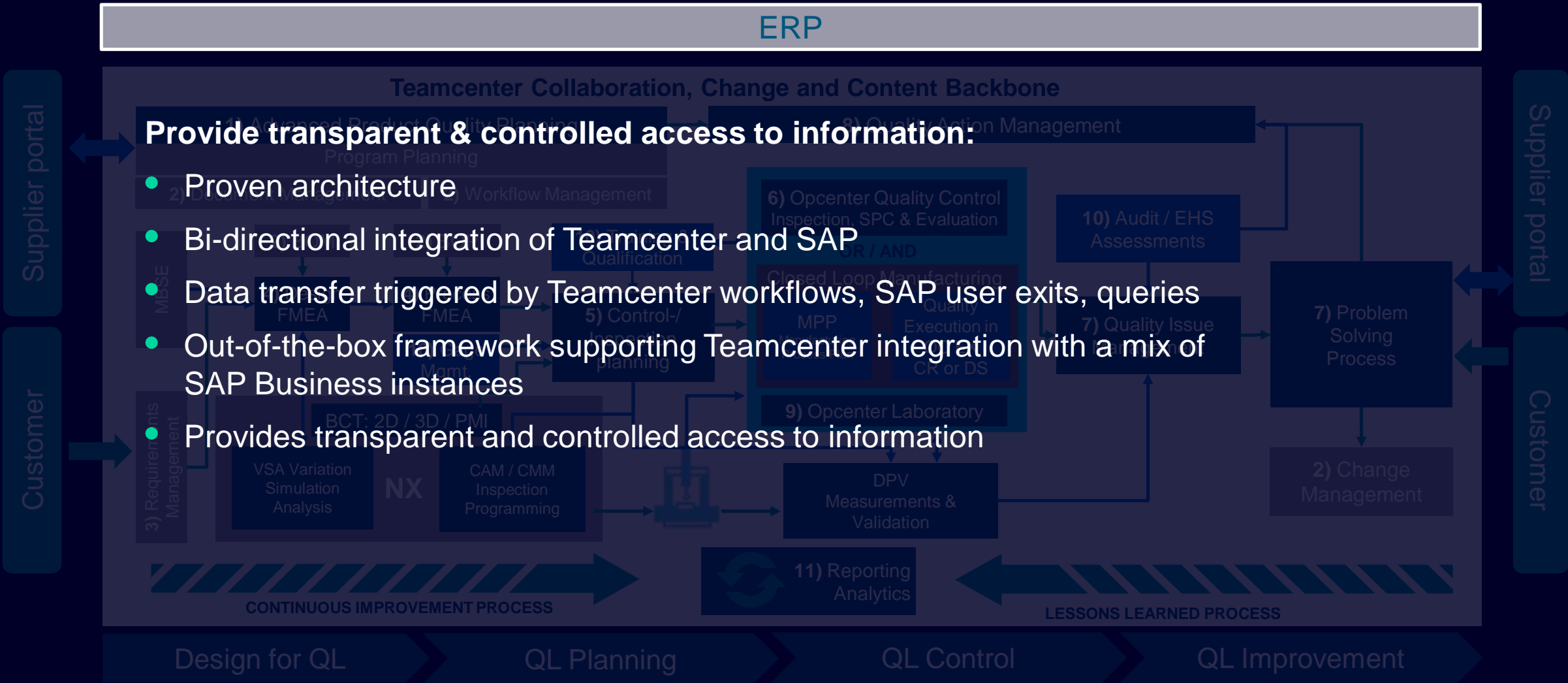


Solution Outline



Solution Outline

ERP Integration

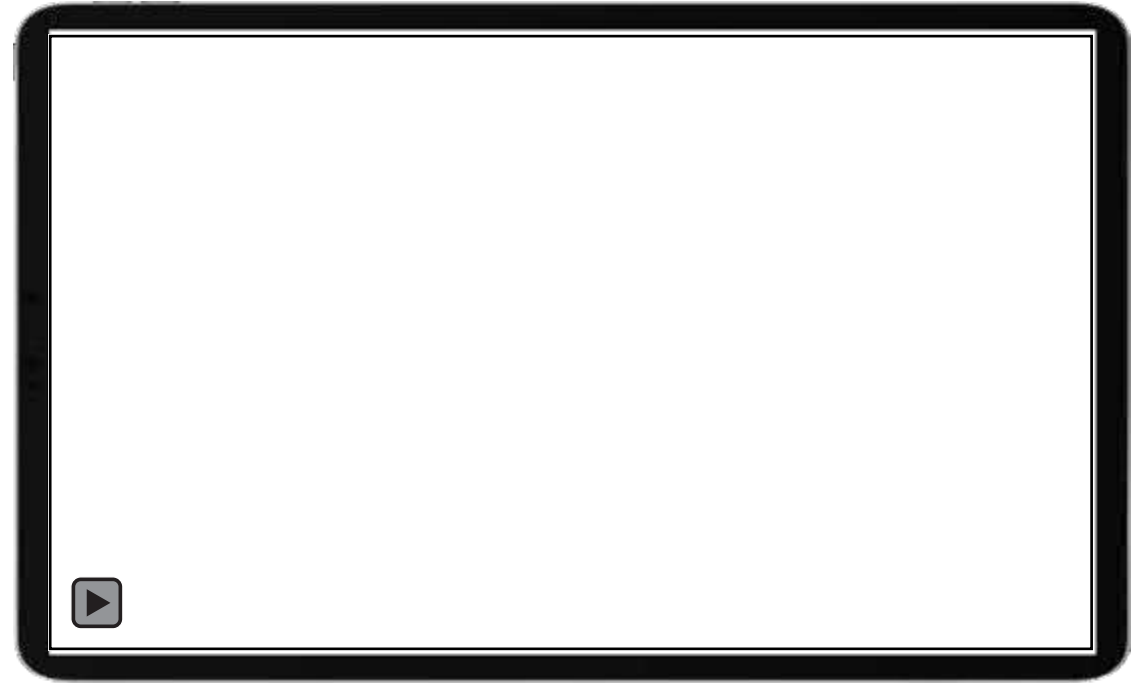


Solution Outline

Supplier Homologation through APQP & PPAP

Standardized quality project management

- Use of template project plans
- Milestones and Checklists
- Key deliverables, open issues, changes, documents and specific schedules can all be managed centrally.
- Manage internal projects as well as supplier PPAP projects



Benefits

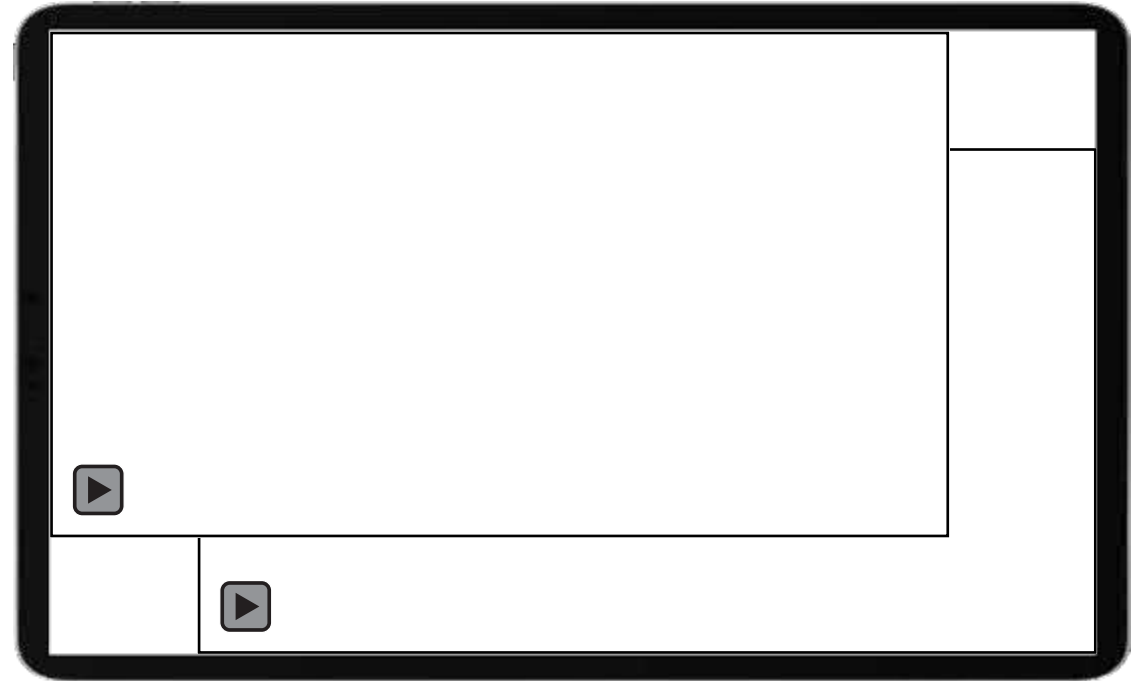
- Efficient visualization and control of all planning phases with clear visibility of customer deadlines
- Advanced Product Quality Planning with continuous documentation of relevant quality data in one system

Solution Outline

Native PLM capabilities: BOM, Document, Workflow and Change Management

Use PLM functions for quality

- With more enterprise systems it is increasingly difficult to:
 - manage overlapping functions
 - Explain the differences between systems
 - Exchange data
- When Quality and PLM are one system, none of the above problems exist.
- All PLM data and capabilities are now also available for quality responsible.



Benefits

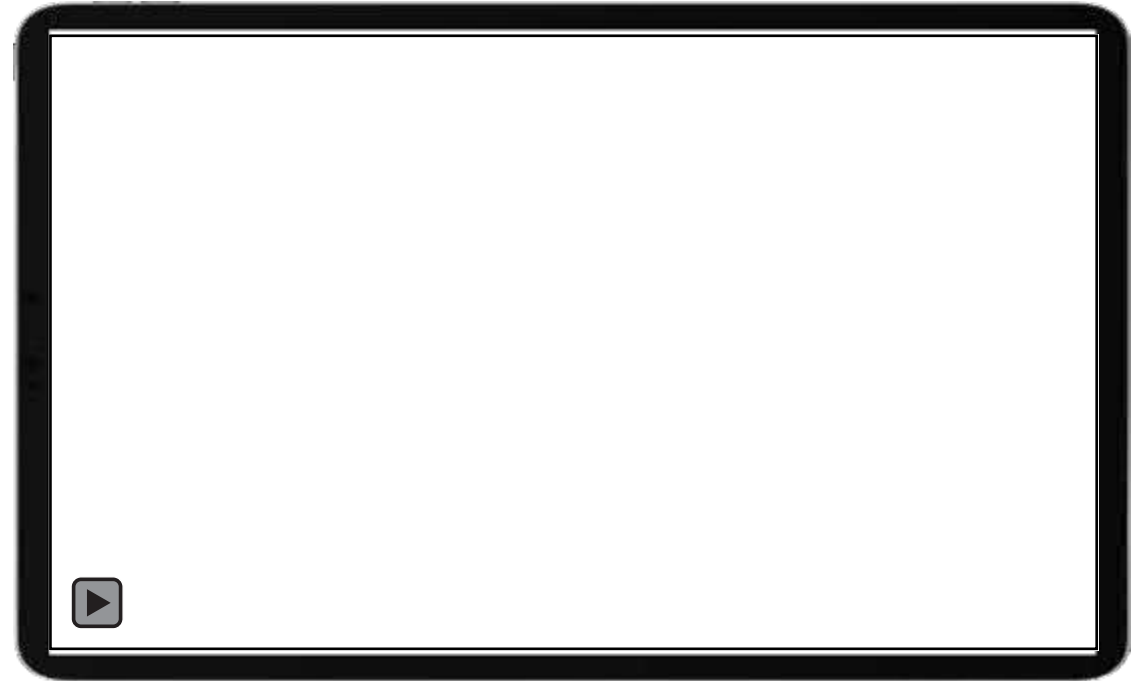
- Open separated quality data and users to all data and advanced functions which are typically only available to engineering and manufacturing users.
- Close the loop from engineering, to quality, to manufacturing and back again through lessons learned.

Solution Outline

Requirements Management

Centrally manage Project requirements

- Simplify the process of capturing and maintaining requirements
- Ensure downstream efforts and decisions meet requirements
- Link requirements to FMEA
- MBSE Enablement starts with Requirements



Benefits

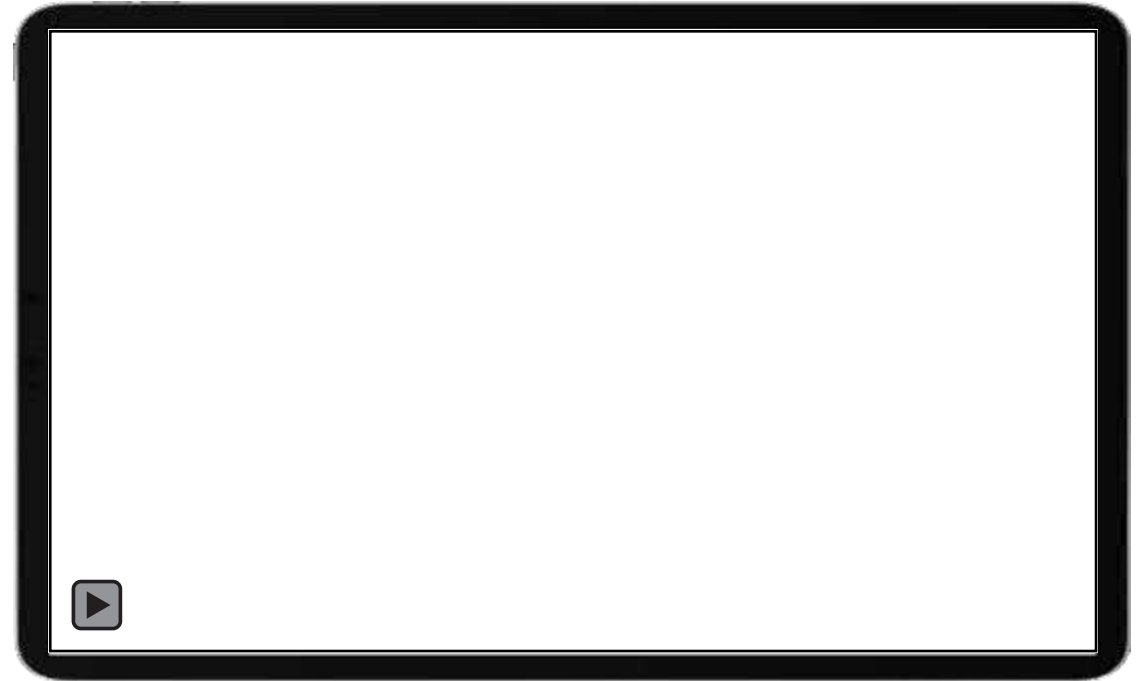
- Ensure everyone is working from the same set of trusted requirements with history, change mgt, etc.
- Ensure requirements are met by linking & tracing requirements across the entire product lifecycle.
- Reduce risk by understanding the impact of change on the implementation, schedule, cost and resources

Solution Outline

Design & Process FMEA

In accordance with the new VDA AIAG, AS 9145 standard

- Design Engineering link via BOM/Variant Management to FMEA
- Requirements Management linked to FMEA functional analysis
- Integrated PLM capabilities for change management, workflows, “where used” etc.



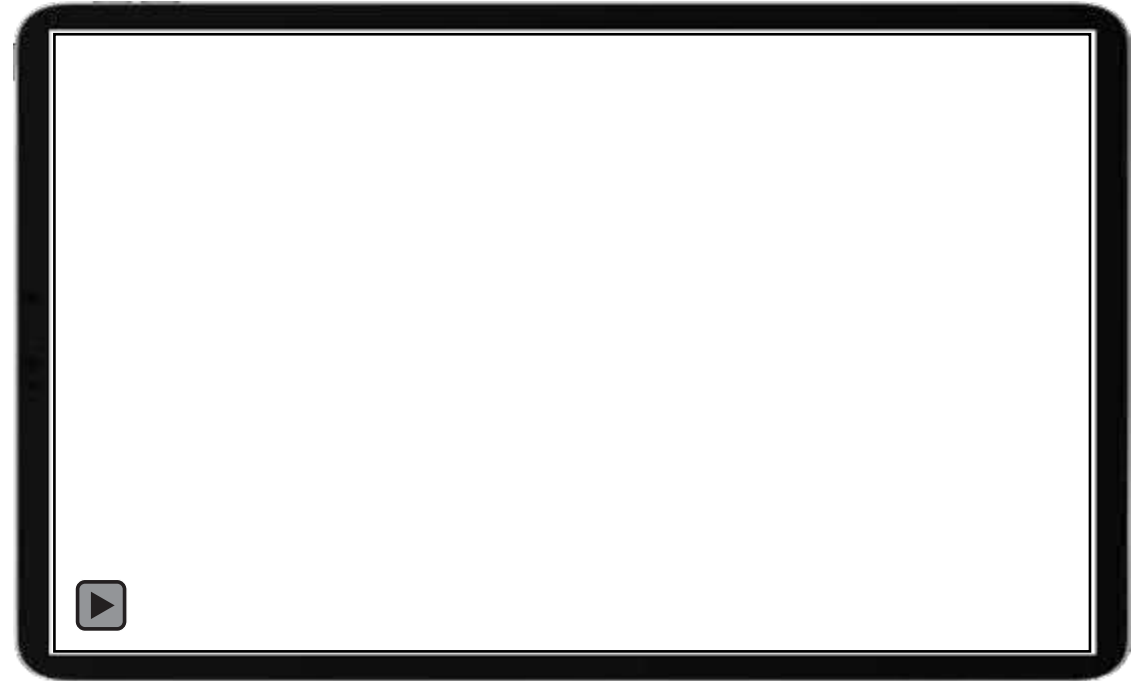
Benefits

- Risk analysis directly connected to the design and process definition to react faster to changes
- Detect failures earlier in the product lifecycle to prevent rework in a later stage and keep the costs low

Requirement and Use Case Overview Ballooning & Control Plan Management

Centrally manage Functions, Failures and characteristics.

- Automated characteristic identification and ballooning for 3D, 2D and Paper process
- Revision comparison and change management
- Create Failure specifications and Containment actions that can be assigned to actions.

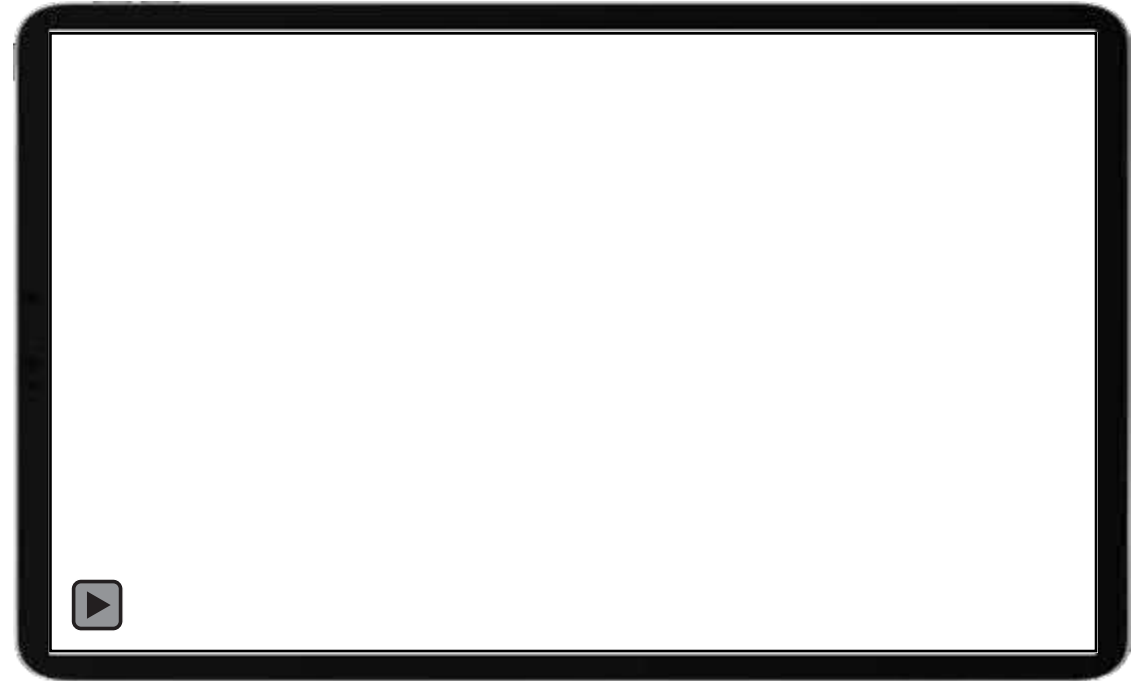


Requirement and Use Case Overview

Ballooning & Control Plan Management

Central characteristic data and documentation

- Direct use of PMIs within Teamcenter
- Direct Usage of Inspection Definitions and Inspection Plans within the BOP



Benefits

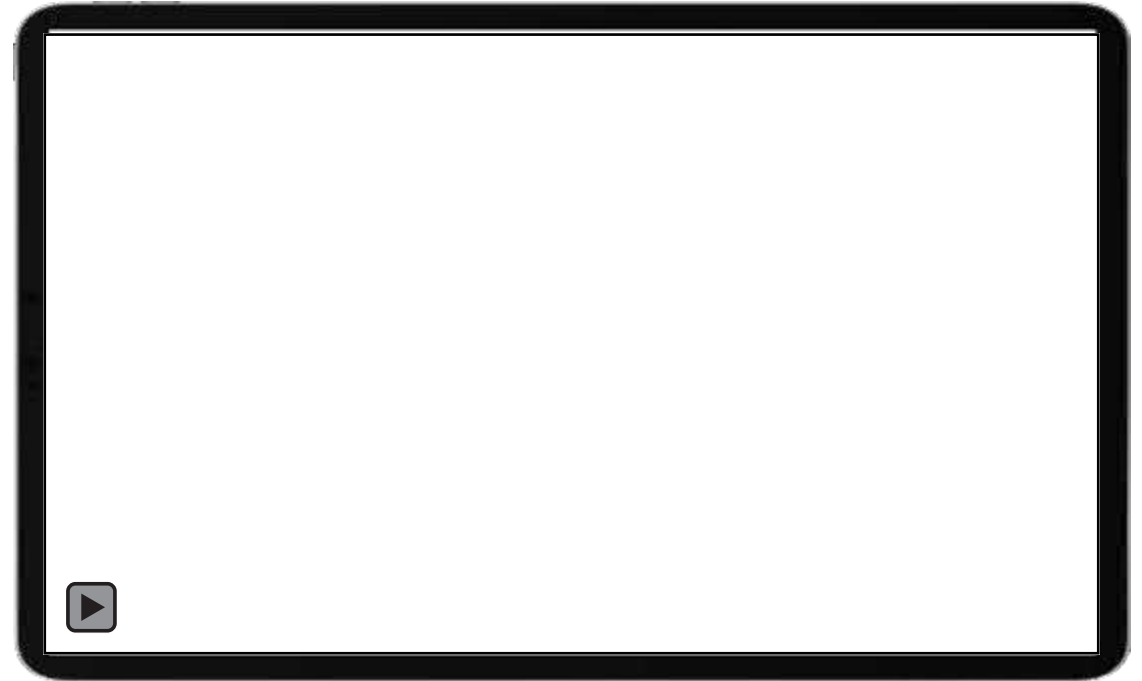
- Increased transparency over all the inspections performed on the shop floor
- Standardize the inspections with the help of the Characteristic library to reduce costs
- Included in Bill of Process as a single point of truth

Solution Outline

Quality Control; Inspection, SPC & Evaluation

Data collection and real time analysis

- Proactively adapt the production process before a single bad part is produced when a negative trend is detected



Benefits

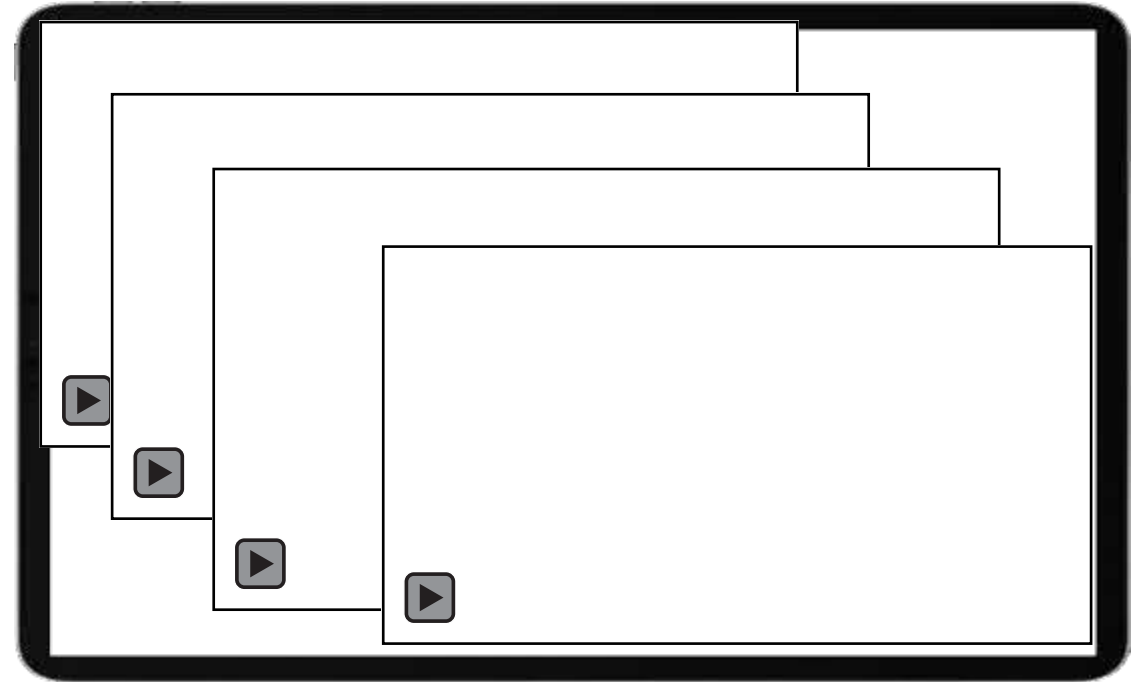
- Enable Paperless Production
- Reduction in inspection and defect costs
- Dynamic weak point analysis

Requirement and Use Case analysis

Creation & Management of Issues and the Problem-Solving Process

8D Methodology

- Manage defects through the complete product lifecycle
- Central problem-solving application for engineering and manufacturing
- Resolve defects and root causes analysis methods (e.g. 8D, 5Why,...)
- Leverage a central failure catalogue



Benefits

- Reduce the time to resolve a problem and mitigate costly rework caused by repeating issues
- Root Cause Analysis methods based on engineering data
- Traceability from planning through execution with central failure catalog and trigger change

Solution Outline

Action Manager and Escalation

Advanced filtering of actions

- Drill down into specific user tasks and create template criteria to oversee actions.
- Full traceability of actions based on responsible user, status, due dates, targets and any other quality action properties.



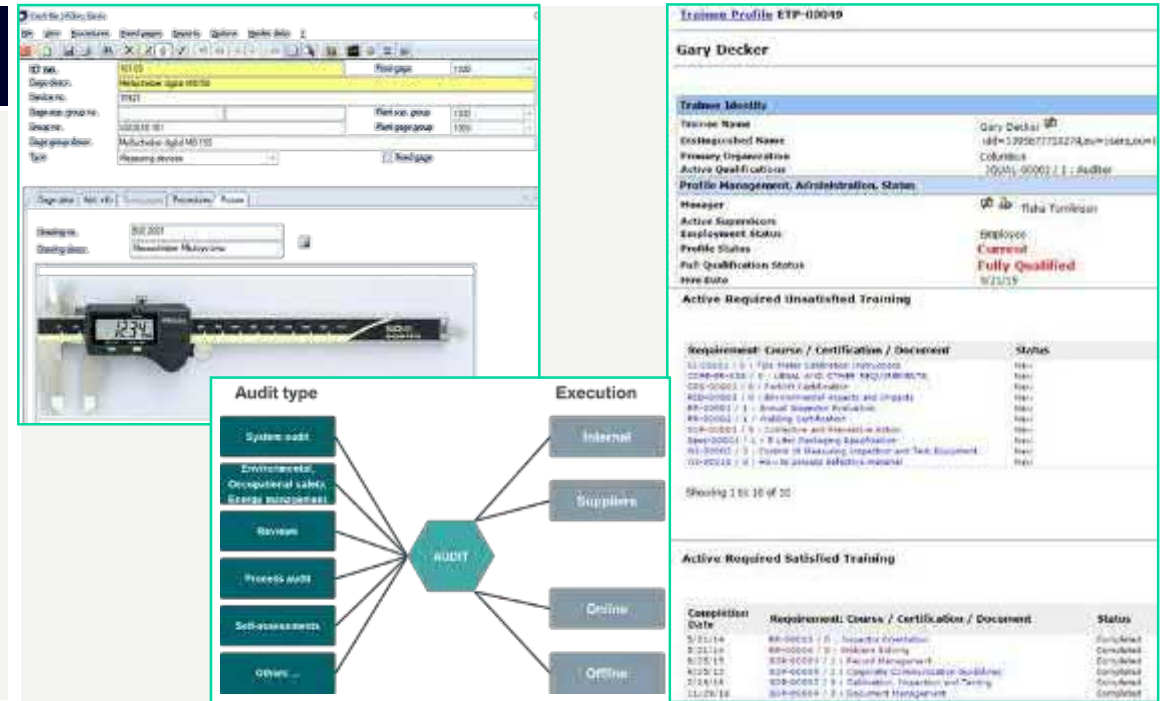
Benefits

- Efficient management of quality actions with reminder and escalation profiles supports on time delivery of quality processes in your company.
- Enhanced traceability and consistency across modules.

Solution Outline

Improving on lessons learned

- Track job qualifications and training requirements
- Employee and non-employee training information
- Certification and renewal course reminders
- Internal, external, offline and online Audits
- Manage standardized question catalogs
- Evaluation criteria, Deviation identification and
- Management of measurement devices and gages
- Gage classification, history, calibration, protocols and evaluation.



Benefits

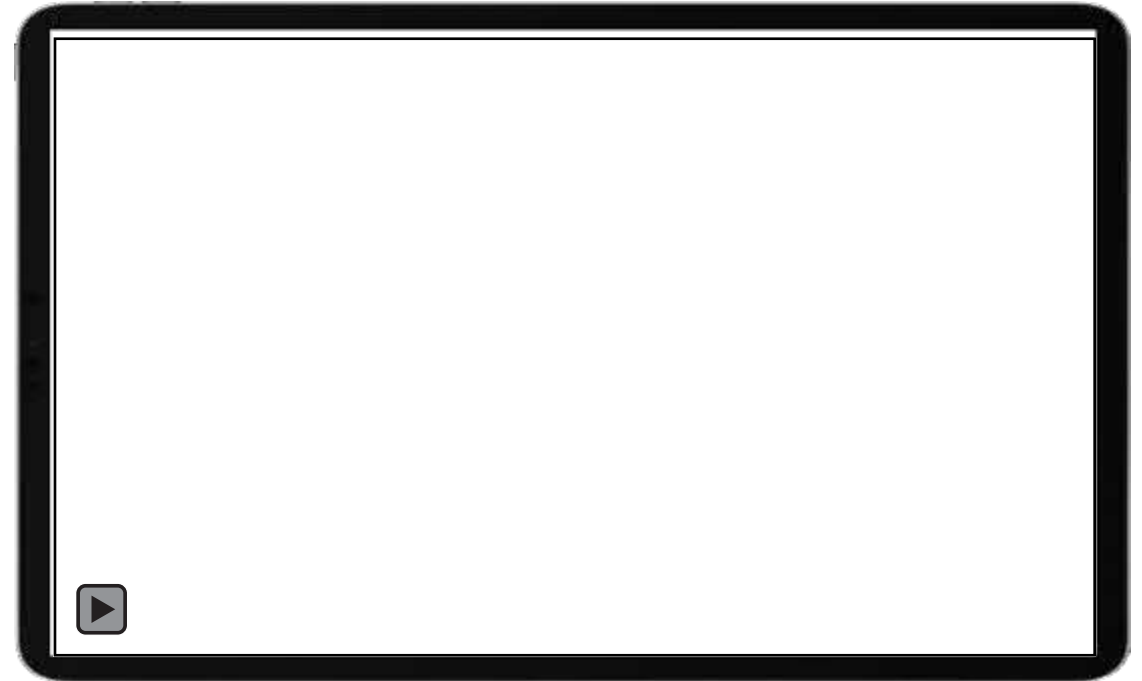
- Training and Qualifications - Who can perform what assignment
- Gage management and calibration - Manage calibration status and define usability limits of gages
- Audits - Investigative procedures for the evaluation of processes in terms of requirements and guidelines

Solution Outline

Dashboard, Reports and Analytics

Dashboards inside Active

- Run reports, view snapshots
- Drill down, drill up, Slice and dice
- Click to object
- Modify reports, add charts
- Export to PDF, PPT, Excel, and email
- Self serve reports
- Report scheduler



Benefits

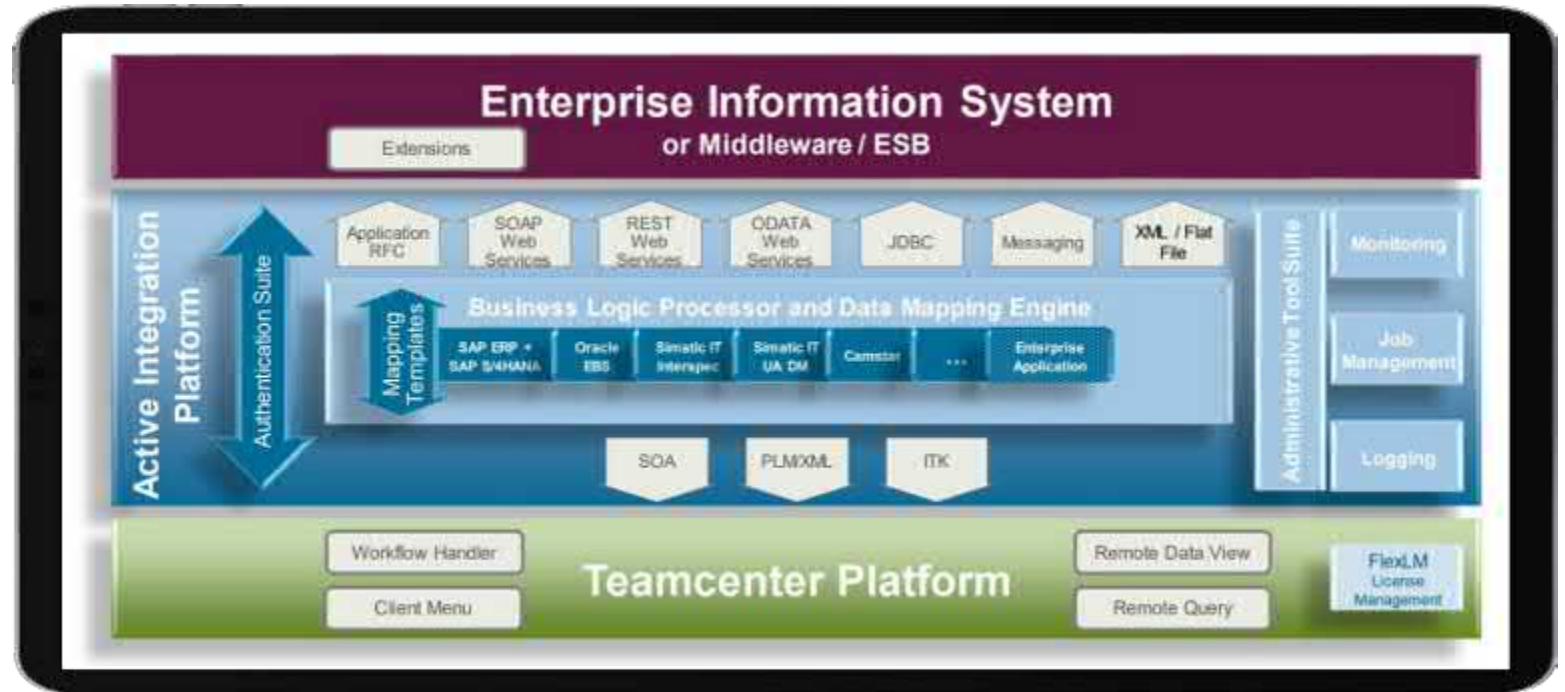
- Start with pre-configured reports and enable custom reports for your business
- Enable the full enterprise to easily understand the information required to make better decisions
- Provide data discovery through self service analytics designed for Teamcenter and optimized for you

Solution Outline

ERP Integration

Active Integration Gateway

- Teamcenter Gateway provides a web-based administration environment that allows you to get detailed information about transaction status wherever you are:



Benefits

- Providing transparent and controlled access to information while shortening innovation cycles

| Contacts

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