Jumpstart Your Digital Transformation (DX)

C-Level Requirements for DX:

- Shorten the product-to-market lifecycle
- Don't tell me something is wrong, tell me what to do
- Predict it, before it happens
- Give me the digital plant on my mobile device

Where Are You In Your Digital Transformation Journey?

Digital Transformation, Smart Factory, Industry 4.0, Big Data, Analytics, Machine Learning and AI. These topics are generating incredible buzz and interest. They are fueling the next industrial revolution. Surveying across engineering, production, and executive management shows that over 60% have active pilots in Digital Transformation and are considering how they might bring these concepts to bear as part of their corporate strategies. Most organizations are still in the early stages of implementation and are challenged by a clear lack of business strategy and roadblocks from corporate culture. Only 5% having a clear business case.[1]

Improvements Expected in Moving to Top Quartile Performance

60% - 90%	Downtime Reduction
10% - 20%	Availability Improvement
30% - 50%	PM workload Reduction
25% - 50%	Calibration Workload Reduction
25% - 50%	Scrap and Rework Reduction

One of the most promising areas for realizing gains from Digital Transformation is in operational excellence through process, energy, maintenance, and reliability. Most companies have vast volumes of information and data that can be tapped to boost performance. Our approach is designed to help you "use what you have". While the excitement and chatter around IIoT may be deafening...the potential benefits are real.

[1] http://www.industryweek.com/manufacturers-weigh-iiot

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Ensure Asset Health and Minimize Lost Production

One area of focus; Prescriptive Operations enables both the Operations and Maintenance teams to ensure asset health and minimize lost production by making data-driven decisions and taking early action.

Most plants today deploy a wide array of data collection techniques, feeding thousands of data points to either the control system, the PdM system, or the data historian.

The challenge is that people cannot make good decisions balancing more than 3 or 4 variables at a time (cognitive science). AI is essential to most Digital Transformation programs to analyze this data in a way that will help to predict not only a potential failure but also identify the root cause, thus enabling the maintenance and operations planning team to resolve the problem quickly and efficiently.

Pervasive Sensing

Corrective Action
Maintenance
Control
Adjust

Data
Historian
Data Lake
PdM System
Control System

Work Management
Planning
Scheduling
Parts

Analytics
Predictive
Prescriptive

Business Systems
Change
Request Generation
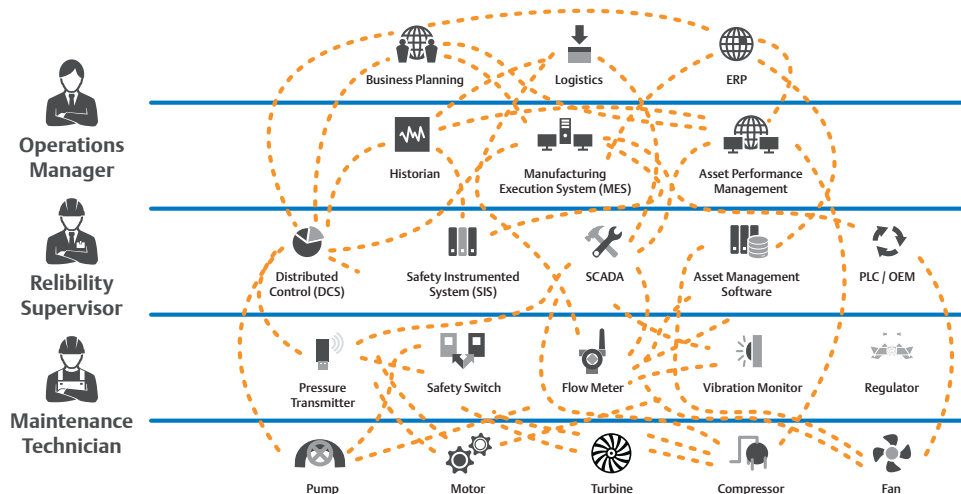CMMS, ERP, LIMS, Quality

Root Cause Identification

Prescriptive Operations: when you want to advise the what, how, and why to make a corrective action before it is needed through artificial intelligence (AI) and machine learning (ML) around reliability, energy, and production optimization.

Vision Strategy Proof-of Concept Deployment Value Realization

Our DX jumpstart methodology enables you to set a path towards Industry 4.0 transformation:

- Ensure integration of all systems so we can get the right data to the right people.
- Leverage engineering domain expertise and FMEA templates with advanced analytics and machine learning to convert big-data into insightful information.
- Connect people with technology by driving change management transformation and ensuring organizational readiness.
- Design a sustainable system that will not require dedicated data scientists.

Operations Manager

Relibility Supervisor

Maintenance Technician

Business Planning | Logistics | ERP
Historian | Manufacturing Execution System (MES) | Asset Performance Management
Distributed Control (DCS) | Safety Instrumented System (SIS) | SCADA | Asset Management Software | PLC / OEM
Pressure Transmitter | Safety Switch | Flow Meter | Vibration Monitor | Regulator
Pump | Motor | Turbine | Compressor | Fan

Need to eliminate layers and connect information based on business needs.
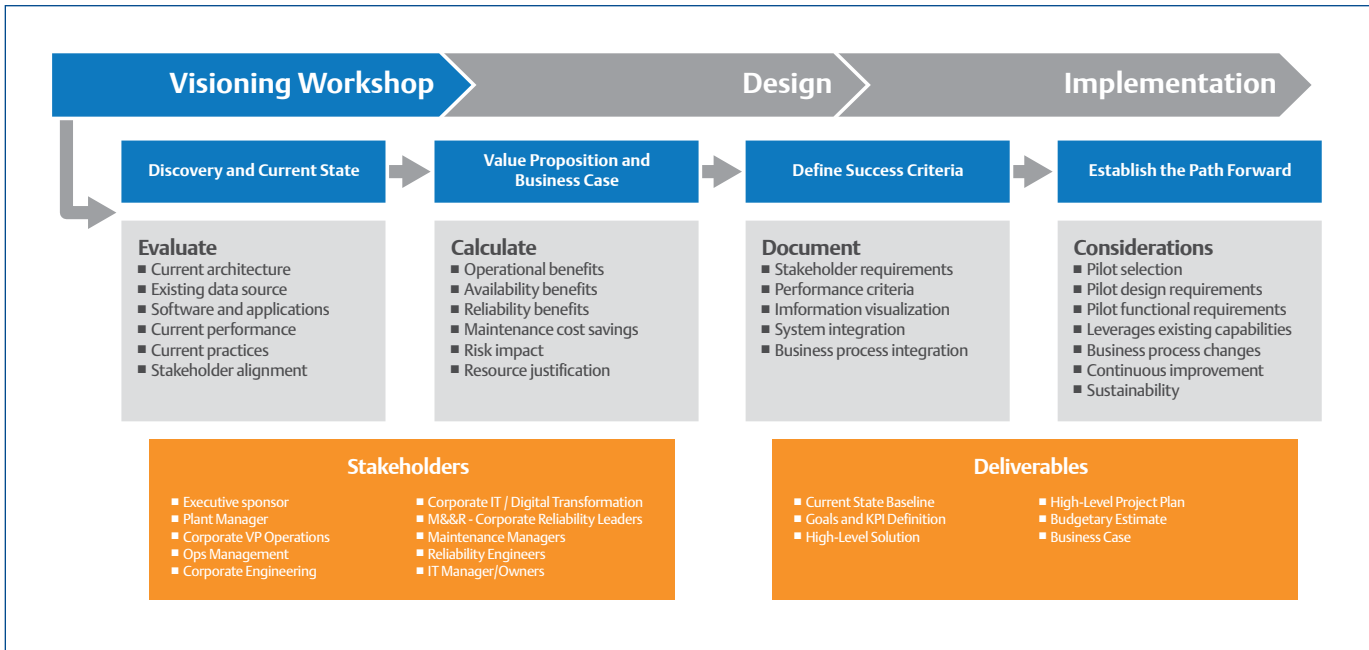
Why Operational Certainty Consulting Services?

Emerson's Operational Certainty Consulting team is uniquely positioned to help you get moving on your Digital Transformation Journey. We combine the knowledge and expertise of Emerson's Automation Solutions with more than 100 years experience across process industries, consulting and technology. We are

- Able to provide and deploy advanced analytics, ML and AI solutions including "deep learning" to address Operational Excellence challenges and problems across maintenance & reliability, process, performance and process reliability and energy optimization.

- Partners and resellers for several application providers and provide solutions with a full spectrum of approaches:

  - Turnkey service model: providing applications, domain expertise and data including long term remote monitoring services and enterprise level monitoring.

  - Client implement model: providing software, training and mentoring to develop your in-house capabilities.

  - Hybrid: combination of the two models supporting combination of services and support as well as in-house capability development.

- Coordinating Emerson and partner resources and tools to successfully execute projects.

  - To deliver quality solutions.

  - To leverage and obtain domain and subject matter expertise and technical skills as required.

  - This includes but is not limited to resources from: Emerson, Impact Partners, and Alliance Partners; including solution architects, data scientists and engineers.

At the plant level or at the corporate level, it starts with a facilitated workshop to jumpstart to lead you through developing a strategic vision for deploying your Digital Transformation into a pilot / proof-of-concept strategy and finishing with the production roll out. Our objective is to jointly build a viable and achievable strategy for your business strategy and corporate culture.

Visioning Workshop	Design	Implementation

Discovery and Current State	Value Proposition and Business Case	Define Success Criteria	Establish the Path Forward
Evaluate ■ Current architecture ■ Existing data source ■ Software and applications ■ Current performance ■ Current practices ■ Stakeholder alignment	**Calculate** ■ Operational benefits ■ Availability benefits ■ Reliability benefits ■ Maintenance cost savings ■ Risk impact ■ Resource justification	**Document** ■ Stakeholder requirements ■ Performance criteria ■ Imformation visualization ■ System integration ■ Business process integration	**Considerations** ■ Pilot selection ■ Pilot design requirements ■ Pilot functional requirements ■ Leverages existing capabilities ■ Business process changes ■ Continuous improvement ■ Sustainability

Stakeholders

■ Executive sponsor
■ Plant Manager
■ Corporate VP Operations
■ Ops Management
■ Corporate Engineering

■ Corporate IT / Digital Transformation
■ M&&R - Corporate Reliability Leaders
■ Maintenance Managers
■ Reliability Engineers
■ IT Manager/Owners

Deliverables

■ Current State Baseline
■ Goals and KPI Definition
■ High-Level Solution

■ High-Level Project Plan
■ Budgetary Estimate
■ Business Case

Take The First Step

Engage Emerson Operational Certainty Consulting to conduct a Digital Transformation Jumpstart Workshop with your team. Create the foundation and roadmap for deploying IIoT for process, energy and asset availability and reliability improvement.

Learn more at **www.emerson.com/opcertainty**

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