

A Roadmap Needs a Destination: The Goals of Digital Transformation



ENERGY & ENVIRONMENTAL SUSTAINABILITY

Recognized sustainability leader.



PRODUCTION MANAGEMENT

Production optimized to market conditions.



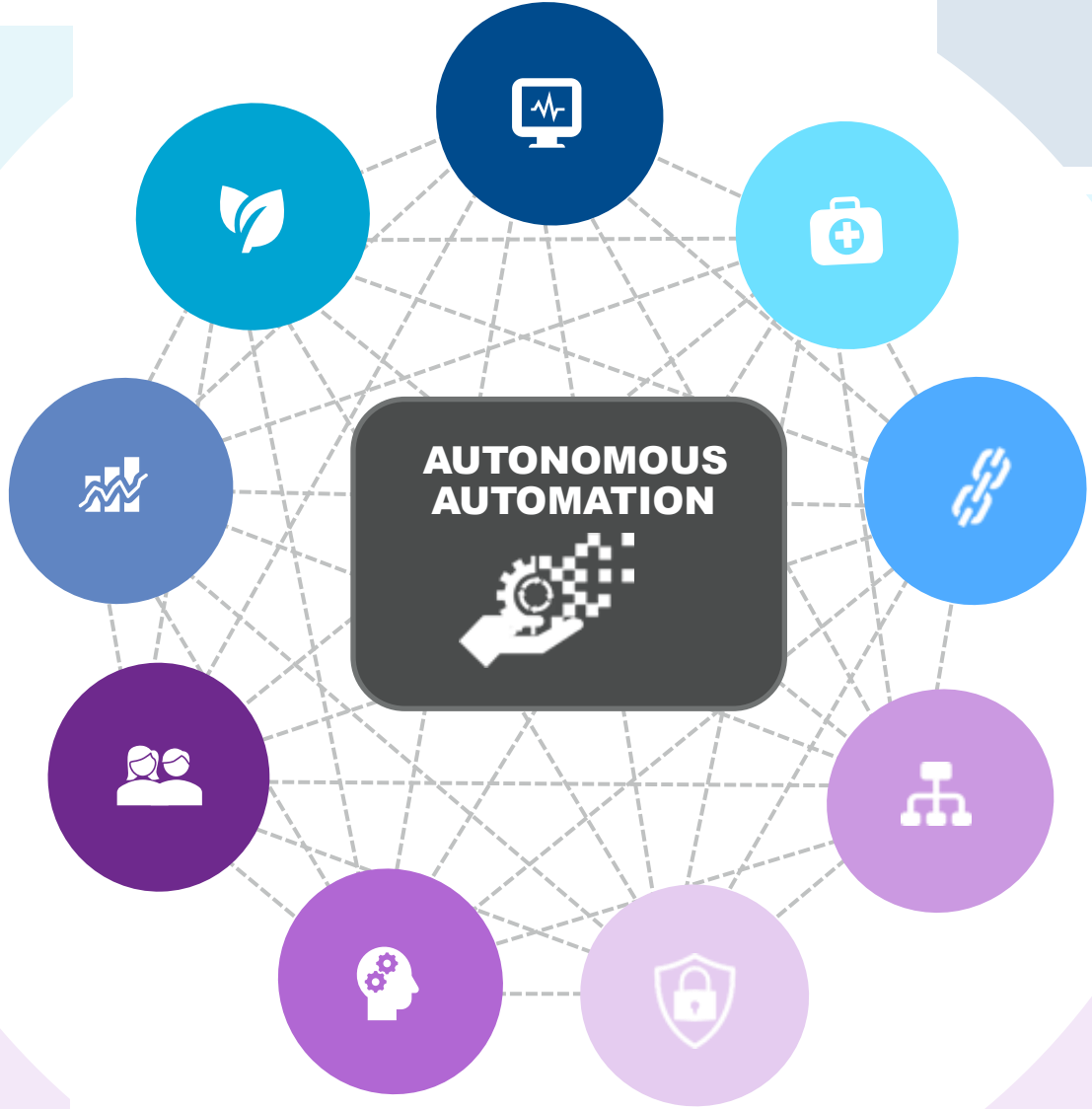
PEOPLE & CULTURE

Empowered workers drive even more value.



BUSINESS INSIGHTS & ANALYTICS

Prescriptive actions that continuously self-improve. Live performance indicators.



RELIABILITY & MAINTENANCE

No unplanned downtime at minimal cost.



SAFETY & RISK MANAGEMENT

Zero injuries. Zero incidents.



SUPPLY CHAIN MANAGEMENT

Continuous real-time guidance supports commercial decision making.



SYSTEMS INTEROPERABILITY & GOVERNANCE

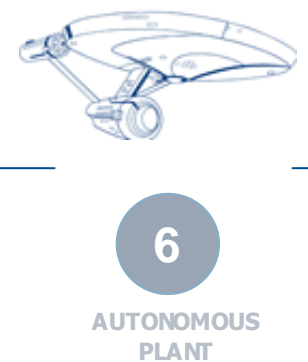
Right Information to the Right Person at the Right Time.



IT SECURITY & OPERATIONS

Infrastructure auto-responds to threats, is self healing, and updates without production outages.

The Six Levels of Digital Plant Maturity



Primarily paper-based processes

Run-To-Failure w/ limited documentation

Reactive Supply Chain

Low level of automation.

Basic PLC controls.

Personnel are left to their own devices to solve problems and make improvements.

Trial & Error

Applications are stand-alone with minimal or no integration. Excel is the primary analysis tool.

Islands of automation.

PM Based maintenance with PdM rounds on a few critical assets

Batch and process records are semi-electronic, spreadsheets.

Basic control of energy usage. Over-consumption discovered after the fact.

Site-specific ad-hoc systems with limited integration across functional silos. No Risk analysis.

Data is only available to and used by SMEs and doesn't generate value for operators and maintainers

Analytics on demand, "why did it happen?" high manual effort.

Plants operate independently with little "real-time" integration and monitoring

Vertical Integration.

RCM / FMEA based strategies with broad use of PdM technologies

Full Electronic Reporting and documentation with review by exception.

Industry standards such as ISO 14224 (reliability) ISA 95 (material, equipment and personnel) have been adopted.

Standard application platform adopted across plant network. Extensive compliance audits.

Analytics semiautomated; "where else can it happen?". More data is readily available.

Easy to use tools allow wider use of data.

Islands of real-time Process Analytics.

Highly integrated processes in the plant.

Comprehensive asset management strategies with continuous improvement.

Integrated supply chain, product and recipe management.

Active management of energy and environmental compliance

Known issues addressed in a timely manner. SIL systems in place.

Integrated Real-time Process and Reliability Analytics. Applications are easily scaled.

Simulation used for process modeling and improvements

Enterprise Integration –Work processes and business systems fully integrated. Advanced production technologies used as standard.

Extensive on-line monitoring and use of ML / AI and Advanced Analytics to provide corrective actions

End-to-end supply chain visibility with limited external collaborations (suppliers / CMOs).

Abnormal energy & environmental conditions managed automatically.

Standards in place and compliance is audited. Virtual Training. SIL systems standard.

Expert Decision Support technology is expected and used by plant floor personnel. Scaling up deployment of applications is required and expected.

Extensive online continuous monitoring for asset and system health and performance drives behaviors and actions

Extensive use of analytics Machine Learning and Artificial Intelligence across value chain.

Comprehensive DX manufacturing strategies. Collaborative Manufacturing Environment.

"Plug-n-play everything" instruments, sensors etc.

Advanced digital and environmental sustainability. Approaching "zero emissions" footprint.

In-line, real-time, continuous, closed loop, process verification and control with automated real-time quality corrective actions.

Self-aware, continuously adaptive, "Autonomous" plant; exception conditions handled by remote experts.

Advanced simulation used across value chain for modeling, testing and improvement of manufacturing and supporting business processes.

Pervasive use of adaptive analytics, Machine Learning and Artificial Intelligence across value chain.

Most companies operate predominately at Level 2 with some approaching Level 3

What are the Important Factors in Your Digital Transformation?

Empower your ...

CONFIDENCE TO ACT

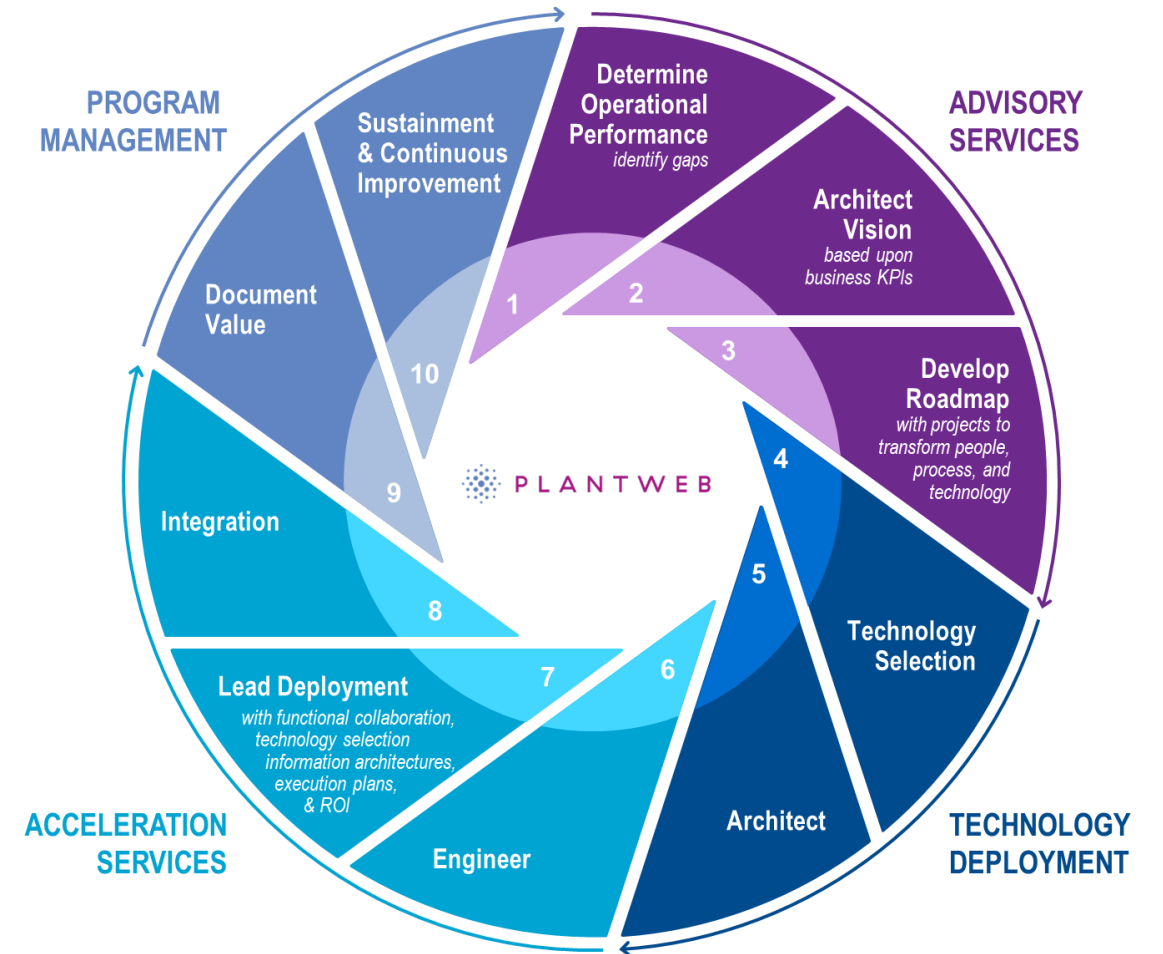
Ensure Your Technology Investments are Tied to Your Desired Business Outcomes

SPEED TO RESULTS

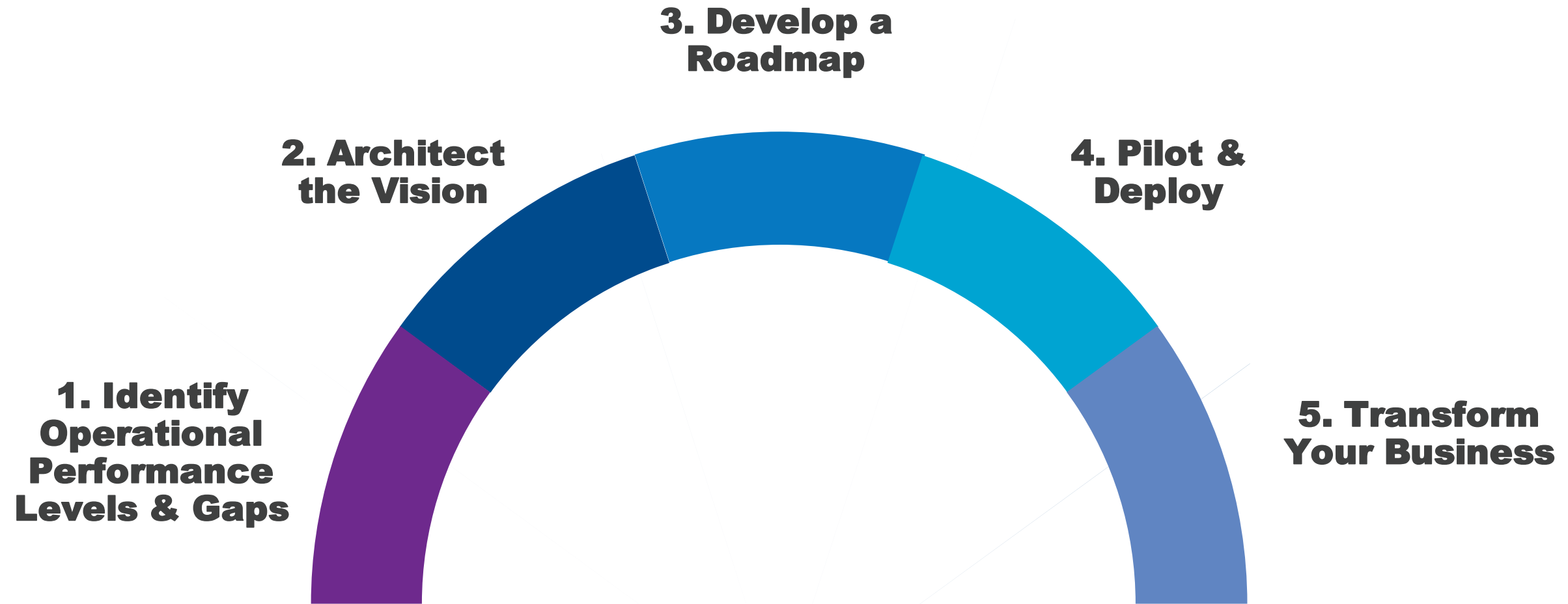
Deploy Focused Solutions that Scale and Don't Require Overhauling Infrastructure

EASE OF IMPLEMENTATION

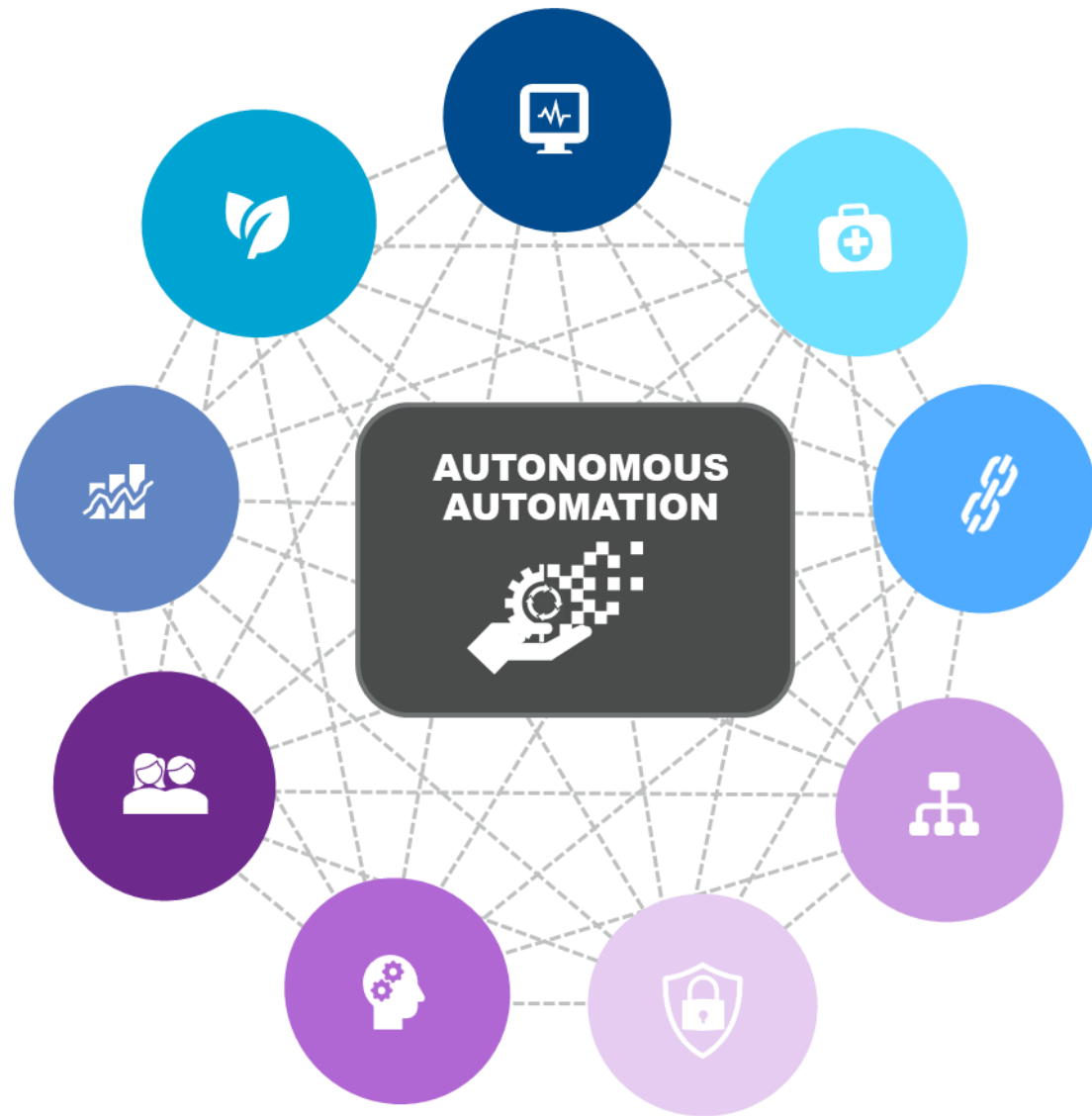
Overcome Your Operational Challenges with Solutions that Quickly Generate ROI



The Comprehensive Five Easy Steps to Navigate Towards Your Goals



Emerson's Digital Maturity Model Quick Index



How do you choose which Digital Transformation technologies to bring about change and where to start?

Now you can evaluate your operations against others in your industry with Emerson's Digital Maturity Model Quick Index. Determine what operational areas are likely to yield the largest ROI and discover what digital transformation projects will tie to your business KPIs.

GET STARTED

www.Emerson.com/dmm

The Digital Maturity Model Quick Index is an indicator of where you are today in your digital transformation journey in comparison to others in your industry.