



Value Chain Competitiveness

Improvement Framework

Maturity Guide



© 2020 Rolls-Royce plc. Not Subject to Export Control. This information is provided by Rolls-Royce in good faith based upon the latest information available to it; no warranty or representation is given; no contractual or other binding commitment is implied.

Version: 2



Module: Leading Improvements

To ensure that we behave and lead in the right way to empower and engage people to focus on the continuous improvement of processes, products and services to the customer.

Theme: Goal Deployment

- Give a **common direction** and drive responsibilities
- System to enable **coaching** of principles, processes and tools
- **Leadership actions** enabling a continuous improve culture

'Capable, Engaged People'



Theme: Performance Management

- **Connect** business and local goals
- **Visually manage** performance
- **Measures that engage** and drive improvement thinking and problem solving

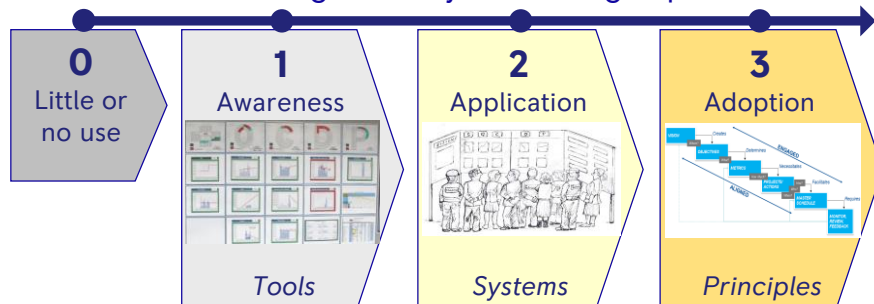
Theme: Continuous Improvement

- What is **value-added** and waste?
- See and eliminate **waste**
- How to **continuously improve**
- **Supportive leadership** approach necessary to help teams

Theme: Financial Awareness

- Basic understanding of traditional **accounting** statements
- How **Business Improvement** activities affect financial results and **impact** traditional accounting

Goal: Increasing Maturity in Leading Improvements



Module: Planning

Production Planning and Control delivers the desired level of customer service whilst optimising manufacturing, stock holding and system administration costs.

Theme: Planning and Control

- Taking the **customer demand** into a system of work through **production planning**
- Techniques to improve and **control** the material flow around the production facility
- Visualise, organise and track **inventory movement** through to delivery

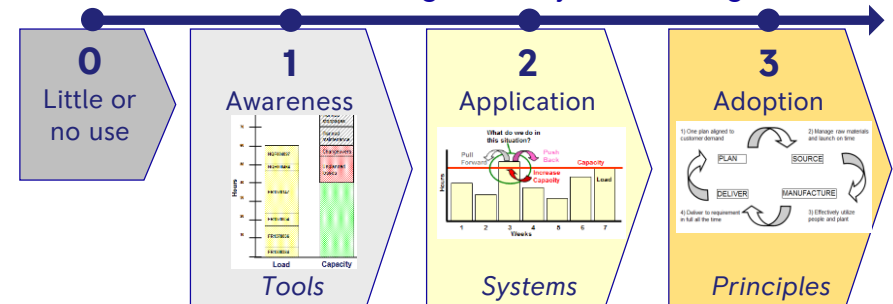
'Deliver Commitments'



Theme: Load and Capacity

- Understand the load & capacity **process**
- Determine **capacity constraints** considering equipment and labour resources
- **Manage** and deal with load vs capacity imbalances

Goal: Increasing Maturity in Planning



Module: Quality 'Built-in'

Ensuring robust process design, risk analysis and mitigation, and error prevention vs. defect detection as a goal.

Theme: Design

- **Design for Assembly** - to reduce the number of parts, easing handling and assembly operations
- **Design for Manufacturing** - to select the most cost effective material and process to ease manufacturing
- Apply Design for Manufacture and Assembly knowledge and experiences for idea generation and action implementation

'Right First Time'



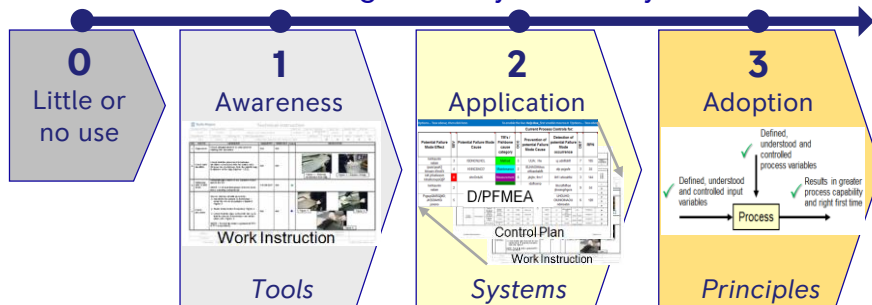
Theme: Build-in Quality

- To ensure that **process outputs** meet or exceed **customer requirements** 'Right-First-Time'
- Focus on **error prevention**
- Design, implement and continuously improve the 'Built-In' Quality Assurance System

Theme: Problem Solving

- A problem is a **deviation from standard** or ideal situation
- Techniques for **practical problem solving** and approach for applying it
- Apply a **structured problem solving** technique used to analyse and fix more in-depth issues

Goal: Increasing Maturity in Quality 'Built-in'



Module: Facility Design

Ensure that facilities are designed to align product and material flow, people and support infrastructure to customer and business needs.

Theme: Value Streams

- Define all of the **value stream steps** required to transform a product or service
- Use **Value State Mapping** to visually identify opportunities to improve and plan actions to achieve a future condition

'Flow and Flexibility'



Theme: Flow & Layout

- Arrangement of people, equipment, material and methods to create products in order of process in a **continuous flow**
- Focus on short lead times, low inventory and **flexibility to respond to changes** in mix and volume minimises the total cost of product

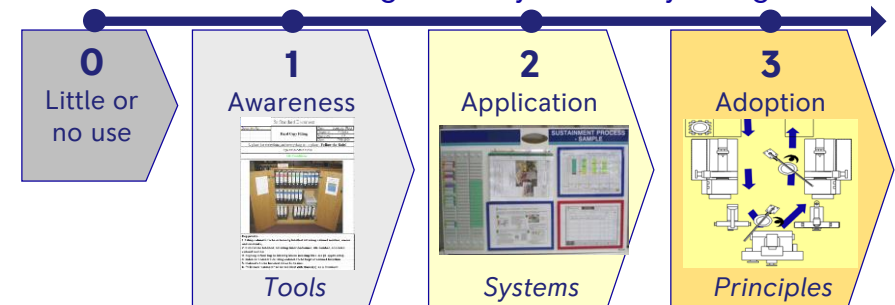
Theme: Visual Workplace

- A visual workplace environment is safe & welcoming and where **standards** are easily recognisable,
- Techniques for establishing a **visual workplace**

Theme: Sustainment

- Sustainment system giving "status at a glance" view of **compliance** to standards and **abnormality management**
- Define and operate a process **confirmation system** suitable to the process and environment

Goal: Increasing Maturity in Facility Design



Module: Industrial Engineering

To minimise variability and waste within the workplace in order to improve safety, quality and productivity.

Theme: Standard Work

- **Visual standards** to minimise variability & continuously improve
- Working processes that reflect the **safest, easiest and most productive method**
- Ensure **adherence** to current standards

'Standardisation'



Theme: Workstation Design

- Design an **optimal workplace** that is safe and comfortable
- Minimise waste of effort and movement for **repeatable, high quality, productive operations**
- Use appropriate analysis tools to identify and **remove waste**

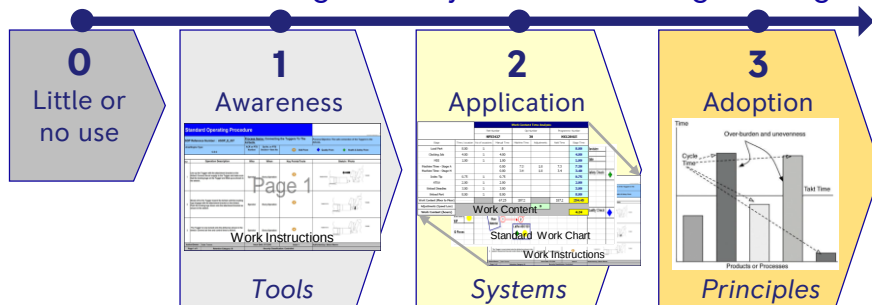
Theme: Work Content

- **Define work content** to enable accurate planning, monitoring and control of capacity and costs
- Use the appropriate work **measurement techniques** to capture accurate work content

Theme: Manning

- **Optimise manpower** utilisation and productivity levels
- Allocating work tasks to the correct number of people consistent with **demand and productivity targets**

Goal: Increasing Maturity in Industrial Engineering



Module: Total Productive Maintenance

To reduce and eliminate equipment related productivity issues – both to maximise return on investment of assets, and deliver value to customers.

Theme: Equipment Effectiveness

- Ensure equipment can operate at the **required effectiveness** to reduce operating costs, satisfy customer requirements and maximise return on capital
- Implement Overall Equipment Effectiveness to manage **improvements against losses**

'Reliable, Effective Assets'



Theme: Asset Care

- Implement asset care to keep equipment safe and reliable, gain **autonomous care** of equipment and **minimise losses & waste**
- To identify the appropriate strategies & **actions to improve plant performance**

Theme: Set-up Reduction

- **Reduce lost time** associated with setting up a machine or process
- Enable **smaller batches** / production runs of product, reducing stock levels and lead-time
- Increase **manufacturing responsiveness** and improve customer service

Goal: Increasing Maturity in Total Productive Maintenance

