WCM Academy approach

Vision

WCM Academy is the training center dedicated to develop WCM competencies, both for Technical and Managerial pillars, by realizing training activities in a friendly learning environment.

Create a training offer focused to develop:

- WCM innovative and advanced steps, tools and methodologies
- Soft Skills for new resources in managerial roles, strategic skills for high performing people
- WCM Technical pillars skills with a hands-on approach
- Managerial pillars and WCM roles (such as WCM Coordinator, Pillar Leader, etc.)

Mission

- Realize practical activities in training dedicated labs
- Experiment a practical approach in a friendly learning environment
- Learning by doing approach
- Develop manufacturing managerial skills
Five principles for a dynamic learning

1. **Create** organizational basis for WCM
   - Support Plant and Supplier in the definition of the organizational processes and roles necessary to apply correctly improvement methodologies of WCM

2. **Apply** method of each pillar
   - Hands on training on pillars methods and tools, testing and managing follow-up of operative activities to nurture continuous improvement process

3. **Develop** technical skills related to WCM roles
   - Realize technical training dedicated to the roles (both plant and central staff) using hands-on approach (together with the Plant Academy)

4. **Integrate** innovation and improvement
   - Use of simulation, virtual reality and benchmark to integrate research inside Manufacturing

5. **Apply** Soft Managerial Skills to Manufacturing
   - Training/Facilitator skills
   - Managerial pillars
   - Team Management
   - Project Management

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**TRAINING OFFER**

- Classroom
- Workshop
- Simulations
- Dojo room
- Assembly line
- Immersive reality
- Lean Games
- Gamification
- LCA corner

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Course Objectives

Upon course completion the learner will be able to:

- Understand WCM logics and principles
- Apply 7 WCM tools
- Apply Problem Solving methodology
- Apply WCM logics in friendly learning environment

Expected Benefits

- Understanding the general concept of process flow optimization
- Understanding the PDCA approach
- Use of 7 WCM tools

Course Timeline

50% hands-on

1 days Training
1 days Simulation

Target Audience

- All departments/Functions and related roles

Prerequisites

- No prerequisites required
Managerial pillars workshop

Course Objectives
Upon course completion the learner will be able to:

- Identify Roadblock/Enabler factors
- Define a specific Action Plan referred to Managerial pillars
- Define a Route Map for Managerial pillars

Expected Benefits
- Ability to understand each cluster of Managerial pillars
- Ability to define a clear Route Map
- Work on prioritization
- Improved comprehension how to get speed in WCM program

Course Timeline

Target Audience
- Plant Manager
- Unit Manager/Shift Manager
- WCM Coordinator
- Pillar Leader

Prerequisites
- WCM Technical pillars
- WCM Audit Criteria
- Production processes

WCM for Management Team

Course Objectives
Upon course completion the learner will be able to:

- Identify activities necessary to manage WCM program
- Have a general overview on WCM Technical pillars and Audit System
- Understand the overall of the main Technical pillars objectives and the interdependence with other pillars
- Understand Managerial pillars, define specific Action Plan for each pillar and related Route Map

Expected Benefits
- Comprehension of the logical approach of WCM
- Improved comprehension on how to guide the development of WCM
- Work on prioritization

Course Timeline

Target Audience
- Plant Manager
- Unit Manager/Production Manager
- Pillar Leader/WCM Coordinator

Prerequisites
- Basic knowledge on WCM
- Data management
- Production processes
- Team management
Course Objectives
Upon course completion the learner will be able to:

- Understand Safety pillar principles
- Know the pillar activities
- Understand the principles to realize Risk Analysis
- Apply Safety approach/tools inside learning environment

Expected Benefits
- Safety Root Cause Analysis
- Effective use of Safety pillar tools
- Recognition of Unsafe Conditions and Acts

Course Timeline

<table>
<thead>
<tr>
<th>Training</th>
<th>Dojo room</th>
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<tbody>
<tr>
<td>0.75 days</td>
<td>0.25 days</td>
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25% hands-on

Target Audience
- All departments/Functions and related roles
- Safety pillar members
- New hired and training update
- Production people
- WCM pillars/members

Prerequisites
- No prerequisites required

CD Matrices calculation

Course Objectives
Upon course completion the learner will be able to:

- Build a complete picture of the CD pillar
- Use a common and shared language about CD
- Work in a simulated environment in order to practice the real application (Matrices)
- Understand the logics to create a data collection system

Expected Benefits
- Understanding which benefits may derive from the application of a structured CD
- Understanding the meaning of CD Matrices and their application with practical tools
- Identification of activities to be done in order to activate a Cost Deployment

Course Timeline

<table>
<thead>
<tr>
<th>Training</th>
<th>Simulation</th>
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<tbody>
<tr>
<td>1 day</td>
<td>0.5 day</td>
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</tbody>
</table>

33% hands-on

Target Audience
- Finance Managers and specialists
- All plant staff departments Managers and specialists and/or WCM Management Team
- All Manufacturing Managers and supervisors

Prerequisites
- Loss & waste concept
- CD pillar overview
Compass Room Development

Course Objectives
Upon course completion the learner will be able to:
- Understand the working logic of a Compass Room
- Understand the importance of the cooperation between CD, FI and PD
- Create a Compass Room in a friendly learning environment

Expected Benefits
- Work on prioritization
- Right projects choosing and managing of the resources saturation
- Competencies development according to plant needs

Course Timeline
- 0.5 days Training
- 0.5 days Examples & Exercises

50% hands-on

Target Audience
- CD, FI, PD Pillar Leader/Team Members
- Production people

Prerequisites
- CD, FI, PD principles and logics

Problem Solving tools

Course Objectives
Upon course completion the learner will be able to:
- Understand FI pillar logic and related PDCA approach
- Apply Problem Solving tools in the development of a kaizen project
- Apply Problem Solving approach in a learning environment

Expected Benefits
- Availability of floor people able to develop kaizen projects using properly the PDCA approach and tools

Course Timeline
- 0.5 days Training
- 0.5 days Simulation

50% hands-on

Target Audience
- FI pillar teams
- Production people involved in kaizen activities

Prerequisites
- No prerequisites required
**Course Objectives**

Upon course completion the learner will be able to:

- Understand logics and principles of the AM pillar
- Understand the relationship between failure and lack of basic conditions of equipment
- Understand the model and the application principles of CILR (Cleaning Inspecting Lubricating Refastening) standard procedures

**Expected Benefits**

- Approach to a logic of maintaining machinery proper working conditions through inspection procedures
- Approach to the reduction of failures due to equipment lack of basic conditions, resulting in increased efficiency of machinery

**Course Timeline**

- 0.5 days Training
- 0.5 days Maintenance area

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**Course Objectives**

Upon course completion the learner will be able to:

- Identify, understand and analyze the losses of OEE
- Undertake improvement solutions focused on the improvement of OEE
- Practice a simulated case in a friendly learning environment

**Expected Benefits**

- Increased knowledge to evaluate actions to improve equipment effectiveness (OEE)
- Improved data collection of OEE losses

**Course Timeline**

- 0.5 days Training
- 0.5 days Simulation

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**Target Audience**

- Department and Production Managers
- Drivers and operators of production lines
- Maintenance Managers and operators

**Prerequisites**

- No prerequisites required

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**Target Audience**

- Shop floor and production line supervisors
- Production line conductors and operators
- Maintenance supervisors and technicians
- Process specialists

**Prerequisites**

- Knowledge on proper application of first 3 steps of AM
WO & LCS simulation

Course Objectives
Upon course completion the learner will be able to:
- Understand concepts of WO and LCS
- Understand interactions between WO and LCS
- Apply WO and LCS logics and tools in a friendly learning environment

Expected Benefits
- Increased capability in analyzing production areas using the 3M logic
- Increased capability in analyzing production areas using Yamazumi logic

Course Timeline
- 0.5 days: Training
- 1.5 days: Assembly line

75% hands-on

Target Audience
- Manufacturing engineers
- Logistic engineers
- Supervisor/Team Leader
- Production people

Prerequisites
- Knowledge of basic WCM principles

Low Cost Automation

Course Objectives
Upon course completion the learner will be able to:
- Understand principles and logics to design and create Low Cost Automation
- Design Low Cost Automation with a Lean approach
- Design Low Cost Automation in a friendly learning environment

Expected Benefits
- Design of Low Cost Automation customized for specific needs
- Improved Minimal Material Handling
- Optimization of production processes

Course Timeline
- 0.5 days: Training
- 0.5 days: Examples & Exercises

50% hands-on

Target Audience
- WO and LOG pillar team
- Manufacturing and logistic engineers
- Production specialists
- Safety specialists

Prerequisites
- Knowledge of WCM and WO pillar

Target Audience
- Manufacturing engineers
- Logistic engineers
- Supervisor/Team Leader
- Production people

Prerequisites
- Knowledge of basic WCM principles
**PM overview and system approach**

**Course Objectives**

Upon course completion the learner will be able to:

- Fully understand logics and principles of PM pillar
- Understand application logics of the typologies of maintenance
- Understand the model and the application of the principles of machine structure deployment, the components classification and the implementation of SMP (Standard Maintenance Procedures)

**Expected Benefits**

- Application of the logic of maintaining machinery proper working conditions through inspection procedures
- Reduction of failures due to lack of maintenance, resulting in increased efficiency of machinery

**Course Timeline**

- Training: 0.5 days
- Maintenance area: 0.5 days

50% hands-on

**Target Audience**

- Maintenance Managers
- Electrical maintenance technicians
- Mechanical maintenance technicians

**Prerequisites**

- Knowledge on proper application of first 3 steps of AM

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**QC tools application**

**Course Objectives**

Upon course completion the learner will be able to:

- Understand QC pillar working logics
- Understand QC pillar main tools (QA matrix, QA network, O&R)
- Apply QC tools in a friendly learning environment

**Expected Benefits**

- Availability of resources with knowledge on tools to reduce quality defects
- Availability of resources able to use QC tools in the floor

**Course Timeline**

- Training: 0.5 days
- Assembly line: 0.5 days

50% hands-on

**Target Audience**

- Specialists
- QC Pillar leaders/Team Members
- QC Pillar leaders/Production people

**Prerequisites**

- Knowledge of FI basic tools and QC pillar
**Basic Statistics & ANOVA**

**Course Objectives**
Upon course completion the learner will be able to:
- Analyze a data distribution and make statistical sampling
- Estimate the trend of a process using samples
- Compare process performances using hypothesis testing
- Estimate influence of process factors on process performance and rank them using regression and correlation

**Expected Benefits**
- Availability of resources with knowledge on data collection and analysis
- Availability of resources able to support improvement programs with robust data management

**Course Timeline**
- Training: 1 day
- Examples & Exercises: 1 day

**Target Audience**
- Quality engineers / specialists
- QC Pillar leaders/Team Members
- QC Pillar leaders/Production people
- FI Pillar team members

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**SPC & Measurement System Analysis**

**Course Objectives**
Upon course completion the learner will be able to:
- Understand the concept of “Process Capability” and its indicators (Cp, Cpk)
- Run capability studies
- Understand the importance of Measurement System robustness to assure reliability of capability studies in supporting decision making
- Run Gage R&R studies (by variables and attributes)

**Expected Benefits**
- Availability of resources with knowledge on process capability assessment
- Availability of resources able to support quality projects with strong knowledge of process control methods

**Course Timeline**
- Training: 1.5 days
- Examples & Exercises: 1.5 days

**Target Audience**
- Quality engineers / specialists
- QC Pillar leaders/Team Members
- FI Pillar team members

**Prerequisites**
- Basic statistics knowledge
DOE & Taguchi

Course Objectives
Upon course completion the learner will be able to:
- Develop and consolidate knowledge on basic tools of statistical analysis and DOE techniques
- Identify the most suitable statistical techniques to analyze problems
- Apply DOE techniques in a friendly learning environment

Expected Benefits
- Availability of resources with knowledge on Advanced Variance & Covariance analysis, Multivariate Analysis, DOE and Taguchi approach

Course Timeline
- 1 day Training
- 1 day Simulation
- 1 day Follow-Up

50% hands-on

Target Audience
- Quality engineers / specialists
- QC Pillar leaders/Team Members
- FI Pillar leaders/Team Members

Prerequisites
- Basic Statistics and ANOVA
- Measurement System Analysis (MSA)

EXPECTED BENEFITS
- Availability of resources with knowledge on Advanced Variance & Covariance analysis, Multivariate Analysis, DOE and Taguchi approach

Bullwhip effect on supply chain

Course Objectives
Upon course completion the learner will be able to:
- Understand principles of LCS
- Understand principles of Production Levelling
- Understand how to manage Bullwhip effect

Expected Benefits
- Ability to manage stocks
- Ability to manage production
- Logistics cost reduction
- Increased ability in plant bottleneck identification
- Improved material delivery efficiency

Course Timeline
- 0.25 day Training
- 0.75 day Simulation

75% hands-on

Target Audience
- LCS pillar Leader
- Logistics specialists
- Unit/Shift Managers
- Production Planning & Controls

Prerequisites
- LCS Step 1-3
- Excel basic level
- Logistics basic concepts
- Production processes knowledge

LOGISTICS / CUSTOMER SERVICE
Immersive Virtual Reality

Course Objectives
Upon course completion the learner will be able to:

- Understand how to use and implement Immersive Virtual Reality tool
- Use Immersive Virtual Reality during design phase of new lines
- Realize process verification
- Realize ergonomics analysis

Expected Benefits
- Optimized process according to ergonomics and WO principles
- Reduction of Muri
- Design of lines/processes compliant with WO requirements

Course Timeline
Training 0.5 days
Immersive Reality 0.5 days

PD Workshop

Course Objectives
Upon course completion the learner will be able to:

- Understand logics and principles of the PD pillar
- Understand linkages with other pillars
- Routemap and Action plan according to score requirements

Expected Benefits
- Use of PD logics and tools to reduce Human Error

Course Timeline
Training 0.5 days
Assembly line 0.5 days

Target Audience
- Manufacturing Engineering
- Plant Ergonomics specialists

Prerequisites
- WPI principles
- 3D mathematics available

Target Audience
- PD pillar team
- Production Leaders
- QC/WO pillar members

Prerequisites
- WO basic concepts
- QC tools for Man issues
Environment overview and approach

Course Objectives
Upon course completion the learner will be able to:

- Understand Environment pillar priority
- Identify criteria to select improvement activities
- Identify steps activities
- Define an action plan to start up pillar activities
- Apply Environment logics in a friendly learning environment

Expected Benefits
- Pillar Action Plan
- Pillar team definition
- Setting of preliminary activities

Course Timeline
1 day

Target Audience
- EHS/Safety Managers & specialists
- SAF/ENV Pillar Leaders/Team Members
- Maintenance Managers
- WCM Coordinators

Prerequisites
- No prerequisites required

WPI overview

Course Objectives
Upon course completion the learner will be able to:

- Understand the principles of Work Place Integration (WPI)
- Recognize activities related to the WPI loops
- Share basic techniques for a new line simulation and optimization

Expected Benefits
- Knowledge on requirements for WPI approach in terms of skills, team composition, methods and tools
- Knowledge on basic elements needed for the construction and effective working of the Control Room
- Knowledge on the basic elements for the construction of a Pilot Process

Course Timeline
0.75 days

Target Audience
- Production Managers
- WCM Coordinator
- Pillar Leaders and WO, LOG, SAFETY, ENV, EPM, QC, AM specialists

Prerequisites
- Step 1-3 of AM, PM, LOG, SAFETY, ENV effectively implemented
- Reactive approach on QC mastered
WCM Academy
Corso L. Settembrini 167, 10135 Turin – Italy
Gate 19 – Loft A
email: turin_wcm_academy@fcagroup.com

Massone Luciano
EMEA Region -
Head of World Class Manufacturing & Projects V.P.
luciano.massone@fcagroup.com

Lorenzin Emanuele
EMEA Region -
Head of EMEA Powertrain Manufacturing
emanuele.lorenzin@fcagroup.com

Gobetto Marco
WCM T&C Manager
Mobile +39 3351248697
marco.gobetto@fcagroup.com

Ragusa Attilio
WCM Academy Manager
Mobile +393343490774
attilio.ragusa@fcagroup.com

Valentina Ferrari
WCM Academy Leader
Mobile +39 3371103346
valentina.ferrari@fcagroup.com

Autino Alberto
WCM Academy Team
Mobile +39 3371579605
alberto.autino@fcagroup.com

Riccardo Ristori
WCM Academy Team
Mobile +39 3351080729
riccardo.ristori@fcagroup.com

Elena Viano
WCM Academy Team
Mobile +39 3666285106
elena.viano@fcagroup.com

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Note
LEARNING TODAY LEADING TOMORROW