



KVALIKON

VEZETÉSI TANÁCSADÓ ÉS
RENDSZERFEJLESZTŐ KFT.



1125 BUDAPEST, ISTENHEGYI ÚT 63/B.

LEAN BLACK BELT TRAINING

6 DAY TRAINING

The aim of the training:

Advanced lean management training for advanced lean professionals who have already completed the Lean Master Program Kaizen Manager and Lean Management training. During the training, participants will learn advanced and new lean methods and developments related to Industry 4.0 that build on and complement their previous lean knowledge, enabling them to support the lean implementation in their organisation more broadly. During the training, participants will apply lean management elements in a pilot project in their own working environment and present this to the other participants in the final session

Recommended for:

Lean managers, Kaizen managers, production managers, technical managers, quality managers, logistics managers, foremen, process engineers

1. day

LEAN STRATEGY, HOSHIN KANRI

- Strategic approach, vision
- Strategic vision, strategic management
- Vision, mission Defining the future
- "True North"
- Critical success factors, key performance indicators

HOSHIN KANRI - STRATEGIC GOAL SETTING PROCESS

- Hoshin Kanri meaning and operation
- Goal Setting Process
- Catch-ball method
- Hoshin planning steps and timing
- Strategic PDCA cycle
- Linking Hoshin Kanri and Gemba Kanri

HOSHIN PLANNING, X MATRIX

- Break down strategy into concrete measurable objectives
- Planning future value stream(s)
- Definition of Kaizen Action Plan
- Break down strategy into concrete action plans

- Consultation with stakeholders

- Resource allocation plan
- **Preparation of X matrix**
- Definition of key performance indicators (KPIs)
- Performance measurement, definition of KPIs
- Development of dashboard and PDCA based evaluation system
- Measurement and evaluation of strategy performance
- Quarterly Hoshin meetings (review)

2. day

VALUE STREAM MANAGEMENT

Value stream mapping

- What is value, adding value?
- What is value stream? How can we create value streams?
- Value stream mapping (material and information flows)
- Responsibilities and competences in the value stream
- Value added (VA)
- Creating a value stream map
- Value stream mapping steps



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- Identifying product families and value streams
- PQ-PR analysis
- Process walkthrough
- Data collection, validation
- Analysis and evaluation of current value streams (system)
- Report preparation, formulation of improvement proposals
- Joint review of the results of the value stream mapping exercise

VALUE STREAM DEVELOPMENT

- Value stream mapping analysis
- Planning future value stream
- Kaizen action programme, definition of a development concept for future higher performance value streams

3. day

VALUE STREAM APPROACH TO MANAGEMENT

- Future value stream planning
- Exercise
- Creating value loops
- Create an executable, high-level plan for the future
- Principles of value stream organisation
- Creating a detailed intervention plan
- Kaizen workshops (development of value streams)
- Kaizen workshop steps

DEVELOPING A VALUE STREAM MANAGEMENT SYSTEM

- Value stream approach organisation
- Value Stream Manager
- Operational mechanisms
- Relationship between value stream control and financial results
- Difference between value stream and downstream development, avoidable failures of development initiatives
- Value stream mapping with software support

- Value stream simulation, Development scenario testing
- Steps for implementing value stream management
- Conditions for implementing value stream management

4. day

PRODUCTION LINE AND CELL DESIGN

- Cycle time calculation
- Cycle time measurements, loss hunting
- Balancing
- Cell system production
- Elements of cell design
- Standard job combination sheet
- Yamazumi chart, Line Balancing
- Determination and resolution of bottleneck cross-section

WORKSTATION DESIGN

- Workstation design aspects
- Spaghetti chart
- 7 MUDA, 3MU
- Ergonomics, EHS
- Safety, safety tests

MATERIAL FLOW OPTIMISATION

- Material flow optimisation, standard work design
- Spaghetti diagrams, analysis of lead times
- Material flow paths and process design
- Design of material flow routes, design of floor markings (point of use, point of supply..)
- Design of tools for standardised material storage and handling methods
- Design and implementation of standardised material handling work
- Workstation design
- Ergonomic aspects, Best Point, Card Board Engineering
- Use of simulation



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5. day

SHOP FLOOR MANAGEMENT

- Transparency, accountability, involvement
- Effective and efficient operational communication
- The role of team leaders
- The standard work of the manager
- Management walkthroughs
- Workplace audits
- Layered Process Audits
- Definition of key metrics and evaluation parameters by area (operator, cell, area, segment) and by management level
- Visual workplace
- Definition of visual standards (floor markings, colour codes, bin colours)
- Development of an indicator system, evaluation and monitoring system per area
- Design of information boards
- Design of shop floor management processes and alignment with existing management systems
- Problem escalation and resolution process

6. day

LEAN 4.0

- Industry 4.0 basics and trends
- Smart Factory, Kiber Physical Systems
- Real time online data collection and analysis
- Industry 4.0 and Lean management
- Industry 4.0 tools for Lean management system implementation
 - Digitalisation
 - Automation, RPA (Robotic Process Automation)

- Robots
- Sensors
- RFID, barcode
- Business Intelligence,
- Data Science, Data Mining
- Mobile devices and technology
- 3D printing, rapid prototyping
- Virtual Reality
- Simulation
- CAD, CAM, CIM, MES systems

- New directions for Lean implementation based on Industry 4.0
- TPM 4.0, data analysis
- Six Sigma and Industry 4.0 TPM relationship
- Visualization, Digital Dashboards info boards, Visual Boards
- Digital Transformation, Lean Office
- Application of Virtual Reality
- TWI and the application of Industry 4.0 tools
- Digital Shop Floor Management
- Supporting problem solving and maintenance with Industry 4.0 tools

Exam

Presentation of individual pilot projects and written exam