

PRODUCTIVITY- Focused Capacity Planning & Line Optimization



HYBRID TRAINING
5 & 6 May 2026 (Tue & Wed)



**Remote Online Training (Zoom) &
Dorsett Grand Subang Hotel,
Selangor (Physical)**

**** Choose either Zoom OR Physical Session**

COURSE OBJECTIVES

By the end of this program, participants will be able to:

- Understand the link between **capacity planning, line balance, and productivity**
- Calculate **true available capacity** vs theoretical capacity
- Identify productivity losses caused by **bottlenecks and imbalance**
- Apply **line optimization techniques** to improve flow and output
- Use capacity data to support **better production decisions**
- Develop a **practical capacity improvement action plan**

LEARNING OUTCOMES

Participants will be able to:

- Build a **basic capacity model** for their process or line
- Identify **constraints and non-value-added capacity losses**
- Perform **line balancing calculations**
- Improve productivity without additional manpower or equipment
- Align capacity with **customer demand and takt time**
- Present a **clear productivity improvement roadmap**



14 Hours ZOOM & PHYSICAL Program

COURSE OVERVIEW

INTRODUCTION

In today's operations, low productivity is rarely caused by lack of demand—it is caused by **poor visibility of capacity, imbalance across processes, and hidden losses in flow**. This program equips participants with **practical methods to calculate true capacity, identify constraints, balance lines, and optimize productivity using real data**.

The course emphasizes **hands-on capacity analysis, line balancing, and bottleneck optimization**, enabling participants to translate planning into **measurable productivity gains**.

LEARNING METHODOLOGY (WORKSHOP-BASED)

- Interactive concepts & discussions
- Real-life manufacturing / service examples
- Group exercises & simulations
- Capacity and line balancing calculations
- Case studies (shopfloor-focused)
- Action plan development

TARGET AUDIENCE

- Production & Operations Managers
- Industrial / Process Engineers
- Supervisors & Line Leaders
- Planning & Scheduling Teams
- Continuous Improvement / Lean Teams

COURSE CONTENT

DAY 1: Establishing Capacity Visibility & Productivity Baseline

Module 1: Productivity & Capacity – The Strategic Connection

- Shift mindset from output chasing to capacity intelligence
- What productivity really means (Output vs Effort vs Flow)
- Why productivity problems are capacity problems
- Common myths in capacity planning
- Relationship between demand, takt time, and capacity
- Productivity losses hidden in planning assumptions
- Identify productivity symptoms vs true capacity issues in operations

Module 2: Understanding Capacity – Theory vs Reality

- Reveal the gap between planned and actual capacity
- Types of capacity:
 - Installed capacity
 - Available capacity
 - Effective capacity
 - Utilized capacity
- Planned vs unplanned losses
- Impact of downtime, changeover, quality, and absenteeism
- OEE as a capacity input (not just a KPI)
- Calculate effective capacity using a sample production line

Module 3: Capacity Calculation for Productivity Improvement

- Enable participants to compute true line capacity
- Capacity calculation formulas
- Cycle time vs takt time
- Manpower-based vs machine-based capacity
- Shift pattern and calendar impact
- Identifying capacity constraints using data

Module 4: Identifying Bottlenecks & Productivity Losses

- Make constraints visible
- What is a bottleneck (and what is not)
- Signs of hidden bottlenecks
- Work-in-process (WIP) as a bottleneck signal
- Constraint vs non-constraint process behavior
- Impact of imbalance on productivity
- Bottleneck identification using process flow data

COURSE CONTENT

DAY 2: Line Optimization & Capacity-Driven Productivity Gains

Module 5: Line Balancing for Productivity

- Improve output without adding resources
- Principles of line balancing
- Balancing vs leveling
- Task distribution and workload variation
- Balancing manpower-intensive lines
- Impact of balance loss on productivity

Module 6: Line Optimization Techniques

- Convert analysis into improvement actions
- Bottleneck exploitation techniques
- Non-bottleneck optimization (avoid overproduction)
- Changeover reduction impact on capacity
- Man-machine separation
- Parallelization and task redesign
- Simple layout improvements for flow

Module 7: Capacity Planning for Demand Variability

- Sustain productivity under changing demand
- Capacity buffers vs inventory buffers
- Flexible manpower planning
- Skill matrix and multi-skilling impact
- Scenario planning for demand changes
- Short-term vs medium-term capacity decisions

Module 8: Productivity Improvement Action Plan

- Translating analysis into action
- Prioritizing productivity improvement initiatives
- KPI alignment (Output, Utilization, Flow)
- Roles & responsibilities
- Monitoring and review cadence