IPEC AI Enabled LSS Green Belt Brochure

December 2025

AI Enabled Lean Six Sigma Green Belt Body of Knowledge

Your complete roadmap to AI-enabled process excellence and continuous improvement mastery

Duration : 30 hrs

Mode: Classroom/Online

iPEC
Process Excellence
Beyond Boundaries

Foundations of Continuous Improvement

Core Philosophy

- Evolution of Lean + Six Sigma methodologies
- Customer Value meets Business Value
- Data-driven problem solving

Roles & Governance

- Yellow, Green, Black Belt certification paths
- Project sponsorship structure
- Ethics, data integrity, responsible AI

Voice of Customer

What customers need and expect

Voice of Business

Strategic goals and metrics

Voice of Process

Current capability and performance

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REDUCED WASTE FLOW

Lean Thinking: Eliminate Waste, Maximize Value

01

Lean Principles

Value stream thinking, flow optimization, pull systems, Kaizen culture

02

Waste Identification

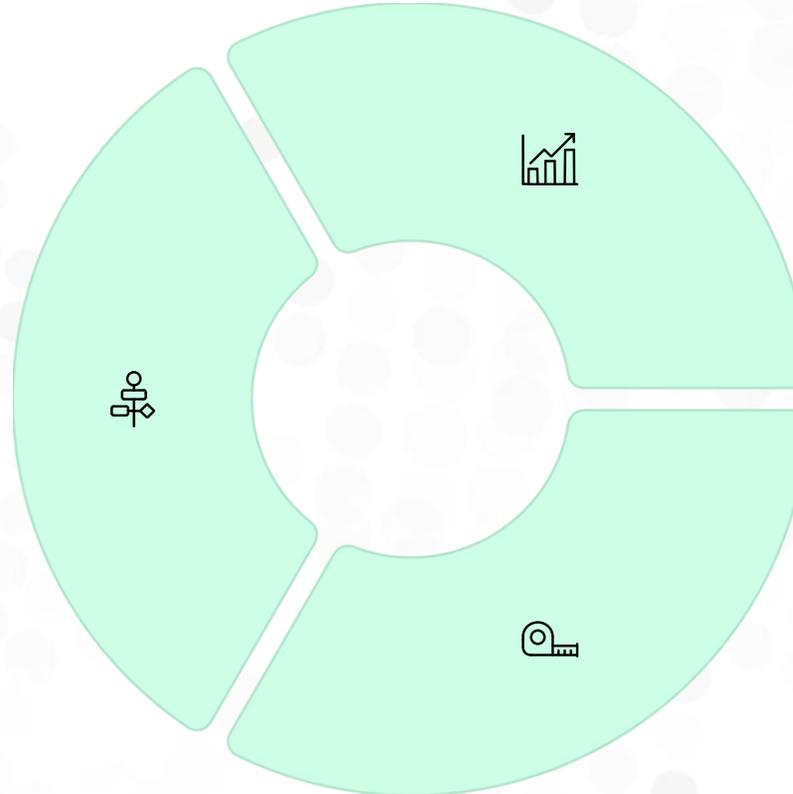8 wastes (DOWNTIME), digital waste patterns, AI-assisted detection

03

Lean Tools

5S methodology, Kaizen events, standard work, Kanban systems

Digital 5S: Sort, Set in Order, Shine, Standardize, Sustain—now applied to digital workspaces, files, and workflows

Six Sigma Fundamentals

Statistics Essentials

Descriptive stats, Probability Distributions, Hypothesis Testing, Correlation Analysis

Process & Variation

SIPOC mapping, Common vs Special cause variation, defects and sigma levels

Measurement Systems

Data Quality, MSA techniques, Sampling strategies, AI-based validation

$Y = f(X)$ **Critical-to-Quality** outputs driven by controllable inputs

DMAIC Methodology: AI-Enabled Excellence

Define

Problem statements, Project Charter, SIPOC, NLP based VoC Sentiment Analysis

Measure

AI powered Process maps and VSMs, Baseline Metrics, Automated Data Extraction, Live Dashboards

Analyze

AI enabled Root Cause Analysis, Pareto charts, Digital FMEA, Pattern Mining, Predictive Drivers

Improve

Solution Generation, FMEA, what-if simulations, Generative Ideation

Control

Control Plans, SPC charts, Automated alerts, Drift Detection

Data Analytics & Digital Tools

Excel Mastery

Statistical functions, pivot tables, data validation for Green Belt analysis

Control Charts

X-bar, R, P, U charts for process monitoring and stability detection

Visualization

Power BI dashboards, Low-Code Analytics, AI-assisted insight narration

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Generative AI in Lean Six Sigma

AI Fundamentals

LLMs, Machine Learning vs Automation, Predictive Analytics

Practical Use Cases

Defect classification, SLA prediction, cycle time forecasting, auto-generated SOPs

Responsible AI

Bias mitigation, explainability, data privacy, human-in-the-loop decisions

AI amplifies Green Belt impact: faster identification, predictive insights, scalable improvements

Project & Change Management

1 **Project Selection**

Prioritization frameworks and strategic alignment

2 **Risk Management**

FMEA, mitigation strategies, contingency planning

3 **Stakeholder Engagement**

Communication plans, influence mapping

4 **Change Management**

Stakeholder Matrix, AI-based resistance analysis

Successful projects require technical excellence + people enablement

Applications Across Industries

ITSM & Digital
Shared services, ticket optimization, SLA management

Healthcare
Patient workflows, compliance, quality outcomes

BFSI
Compliance-driven processes, risk management, efficiency

EdTech
Learning workflows, student experience, operational excellence

Financial Impact

- Cost of Poor Quality (COPQ)
- Hard vs soft savings
- Business case development

AI-Enabled Benefits

- Automated benefit tracking
- Sustainability monitoring
- Real-time ROI dashboards

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Your Path to Certification

Complete AI assisted DMAIC Project
End-to-end execution with measurable results

Verify Data & Improvement
Documented baseline, intervention, sustained gains

Control Sustainability
Evidence of monitoring, response plans, handover

Executive Storytelling
Dashboard-driven narrative with AI-enabled insights

4

Key Outcomes
of an AI-Enabled Green Belt

Faster problem identification through AI-assisted detection

Predictive, data-driven decisions replacing reactive firefighting

Scalable improvement through automation and AI integration

Strong foundation for Black Belt and Digital Excellence roles

Thank you