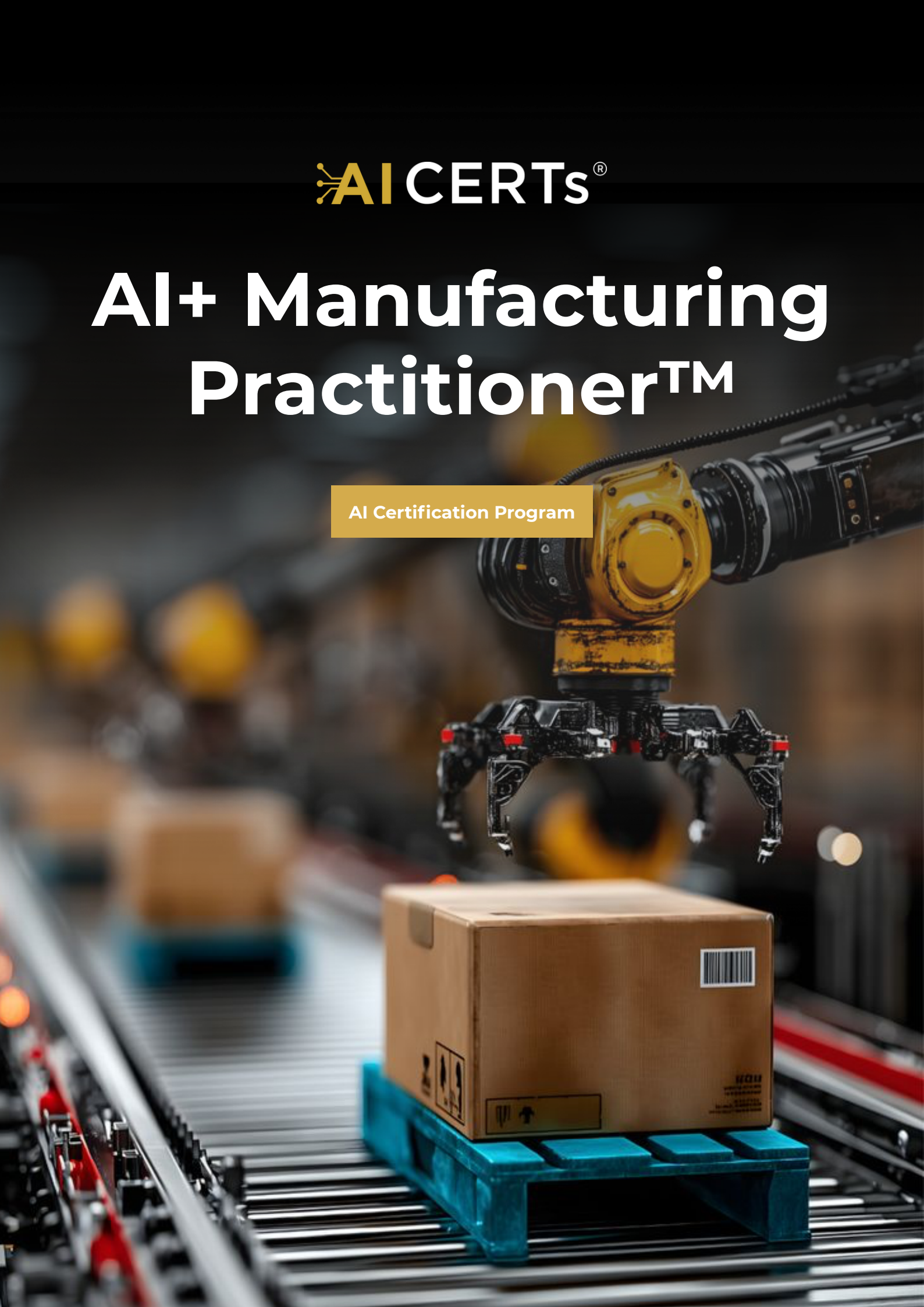




AI+ Manufacturing Practitioner™

AI Certification Program



Executive Summary

The AI+ Manufacturing Practitioner certification prepares professionals to apply artificial intelligence across production, maintenance, quality, supply chain, planning, and industrial operations. Learners explore manufacturing data, AI readiness, vision inspection, predictive maintenance, system architecture, deployment choices, implementation planning, responsible AI, safety, security, and return on investment. The program connects technical concepts with practical factory challenges, helping participants identify valuable use cases, evaluate data and systems, design pilots, measure operational impact, and build adoption roadmaps. Through case studies, exercises, and a capstone project, learners develop the confidence to support reliable, scalable, and business-aligned AI initiatives across diverse, connected, and modern manufacturing environments.

Prerequisites

- **Manufacturing Fundamentals:** Understand production, maintenance, quality, and supply chain operations.
- **AI Basics:** Know core AI, machine learning, and automation concepts.
- **Data Literacy:** Interpret operational data, metrics, dashboards, and trends.
- **Digital Systems Awareness:** Recognize MES, SCADA, ERP, sensors, and connected systems.
- **Business Analysis Skills:** Evaluate problems, feasibility, value, risks, and outcomes.

Exam Blueprint

Number
of Questions

50

Passing
Score

35/50 or 70%

Duration

90 Minutes

Format

**Online via AI
Proctoring platform**

Question Type

**Multiple Choice/Multiple
Response**

Exam Overview

Module	Weight
AI in Manufacturing - Context and Opportunities	5%
Core AI Applications in Manufacturing	11%
Manufacturing Data and Readiness	12%
AI Systems and Architecture in Manufacturing	12%
Implementing AI in Manufacturing	12%
Responsible AI, Safety, and Security	12%
AI Success, Failure, and ROI	12%
Future Trends in Manufacturing AI	12%
Capstone Project	12%
	100%

The logo for AI CERTs, featuring a stylized 'AI' in orange and 'CERTs' in black, with a registered trademark symbol.

AI CERTs®

AI⁺

Manufacturing
Practitioner

Certification Modules

Module 1

AI in Manufacturing - Context and Opportunities

1.1 AI Fundamentals in Manufacturing

1.2 AI Across Plant Operations

1.3 Human and Business Context of AI Adoption

1.4 Use-Cases

1.5 Case Studies

1.6 Hands-On

Module 2

Core AI Applications in Manufacturing

2.1 Vision AI in Manufacturing

2.2 Maintenance and Reliability AI

2.3 Operational AI in Manufacturing

2.4 AI in Planning and Automation

2.5 Use-Cases

2.6 Case Studies

2.7 Hands-On Exercise

Module 3

Manufacturing Data and Readiness

3.1 Types of Manufacturing Data

3.2 Data Readiness Requirements

3.3 Common Readiness Challenges

3.4 Use-Cases

3.5 Case Studies

3.6 Hands-On Exercise: Manufacturing KPI Dashboard Creation using Looker Studio

Module 4

Manufacturing Data and Readiness

4.1 Deployment Approaches for Industrial AI

4.2 AI System Structure

4.3 Integration and Solution Evaluation

4.4 Use-Cases

4.5 Case Studies

4.6 Hands-On Exercise: AI System Architecture Mapping Exercise using Miro or draw.io

Module 5

Implementing AI in Manufacturing

5.1 Identifying and Prioritizing AI Opportunities

5.2 Pilot and Proof-of-Concept Design

5.3 Measuring and Scaling AI Impact

5.4 Real-World Implementation Constraints

5.5 Use-Cases

5.6 Case Studies

5.7 Hands-On Exercise: AI Pilot and Implementation Roadmap Workshop using Miro

Module 6

Responsible AI, Safety, and Security

6.1 Responsible AI in Industrial Operations

6.2 Governance and Data Responsibility

6.3 Security and Safety Risks

6.4 Human Oversight and Escalation

6.5 Use-Cases

6.6 Case Studies

6.7 Hands-On Exercise: AI Risk and Governance Checklist Exercise using Google Sheets

Module 7

AI Success, Failure, and ROI

7.1 AI Project Failures in Manufacturing

7.2 Success Patterns in AI Adoption

7.3 ROI Frameworks for Manufacturing AI

7.4 Industry Comparison

7.5 Use-Cases

7.6 Case Studies

7.7 Hands-On Exercise: AI ROI Estimation and Benefit Tracking

Module 8

Future Trends in Manufacturing AI

8.1 Emerging AI Directions in Manufacturing

8.2 Digital Twins and Intelligent Monitoring

8.3 Generative AI in Manufacturing

8.4 Future Adoption Outlook

8.5 Use-Cases

8.6 Case Studies

8.7 Hands-On: AI Adoption Roadmap Creation

Module 9

Capstone Project

9.1 Problem Definition and Scope

9.2 AI Use-Case Selection and Readiness Review

9.3 Solution Evaluation and Roadmap Development

9.4 Business Value and Communication

9.5 Capstone Tracks

Certification Outcome

Upon completing the AI+ Manufacturing Practitioner course, learners will be able to identify AI opportunities across production, maintenance, quality, planning, and supply chain operations. They will assess manufacturing data readiness, compare edge and cloud deployment approaches, map AI system architectures, and evaluate integration with MES, SCADA, and ERP platforms. Participants will design pilots, select meaningful KPIs, estimate ROI, and plan scalable implementation roadmaps. They will also apply responsible AI, cybersecurity, safety, transparency, and human oversight principles. The certification prepares learners to communicate business value, support cross-functional adoption, and develop actionable AI solutions for automotive, electronics, FMCG, and other manufacturing environments.



Market Insight

Manufacturers are expanding AI adoption to improve quality, equipment reliability, productivity, forecasting, and operational visibility. This growth increases demand for professionals who can connect manufacturing challenges with suitable data, technologies, implementation plans, safety controls, and measurable business outcomes.



Value Proposition

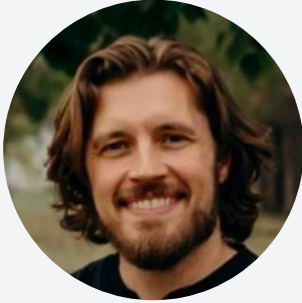
The certification combines manufacturing operations, industrial data, AI applications, architecture, implementation, responsible practices, and ROI analysis. Learners gain a structured approach for selecting feasible use cases, designing pilots, evaluating solutions, and communicating operational value to cross-functional stakeholders.



Additional Features

The course includes manufacturing case studies, guided use cases, no-code tool exercises, architecture mapping, KPI dashboards, risk checklists, ROI estimation, adoption roadmaps, and sector-focused capstone tracks covering automotive, electronics, and FMCG manufacturing scenarios for practical application.

AI Experts



Jason Kellington

AI Expert

As a consultant, trainer, and technical writer with more than 25 years of experience in IT, I specialize in the development and delivery of solutions focused on effective and efficient enterprise IT.



Justin Frébault

AI Expert

I'm a boutique data consultant specializing in data mesh and lakehouse solutions. I've dedicated my career to helping organizations transform their approach to data, moving beyond mere knowledge.



J Tom Kinser

AI Expert

I have over forty years of experience in software development, data engineering, management, and technical training. I am a Microsoft Certified Trainer and a software developer, holding multiple certifications.



Terumi Laskowsky

AI Expert

Country Manager for Global Consulting Services in Japan, Specialties: Information Security (Compliance, Policy, Application, Host, Network)



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