



IMPLEMENTING ZERO DEFECTS AND ERROR PROOFING TRAINING COURSE

21 - 25 DEC 2026

MUNICH

5100 € (PER PERSON)

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COURSE INTRODUCTION / OVERVIEW:

This comprehensive training course is designed to equip professionals with the essential knowledge and practical skills to implement a Zero Defects culture and robust error-proofing systems within their organizations. In today's competitive landscape, the cost of quality is not an expense but an investment, a principle championed by the quality guru Philip B. Crosby in his seminal work, "Quality is Free". This course delves deep into Crosby's philosophy that preventing defects is far more cost-effective than detecting and correcting them later. We will also explore the ingenious Poka-Yoke (mistake-proofing) techniques developed by Shigeo Shingo, a key figure in the Toyota Production System. Participants will move beyond theoretical understanding to gain hands-on experience in identifying potential failure points, analyzing root causes, and designing effective, low-cost error-proofing solutions. BIG BEN Training Center has structured this program to be highly interactive, ensuring that attendees can immediately apply these powerful methodologies to eliminate waste, enhance customer satisfaction, and drive significant operational improvements. This course is the definitive guide for any organization committed to achieving the highest standards of quality and efficiency by getting it right the first time, every time.

TARGET AUDIENCE / THIS TRAINING COURSE IS SUITABLE FOR:

- Quality Assurance and Control Managers.
- Production and Operations Supervisors.
- Process and Manufacturing Engineers.
- Continuous Improvement and Lean Specialists.
- Team Leaders and Line Managers.
- Product Designers and Development Professionals.
- Maintenance and Reliability Engineers.
- Anyone involved in process improvement initiatives.



TARGET SECTORS AND INDUSTRIES:

- Manufacturing and Assembly.
- Automotive and Aerospace.
- Pharmaceuticals and Medical Devices.
- Electronics and Technology.
- Food and Beverage Production.
- Logistics and Supply Chain Management.
- Governmental and public sector service operations.
- Healthcare and Service Industries.

TARGET ORGANIZATIONS DEPARTMENTS:

- Quality Assurance and Control.
- Operations and Production.
- Engineering and Design.
- Research and Development.
- Continuous Improvement and Operational Excellence.
- Supply Chain and Procurement.
- Maintenance and Facilities Management.
- Customer Service and Support.



COURSE OFFERINGS:

By the end of this course, the participants will have able to:

- Define the core principles of the Zero Defects philosophy and its business impact.
- Identify and classify different types of human errors and process variations.
- Apply Root Cause Analysis (RCA) techniques to uncover the source of defects.
- Design and implement effective Poka-Yoke (mistake-proofing) devices and systems.
- Utilize Failure Mode and Effects Analysis (FMEA) to proactively identify risks.
- Develop strategies to foster a sustainable quality-focused culture.
- Measure the effectiveness of error-proofing interventions through key metrics.
- Lead process improvement projects aimed at defect elimination.

COURSE METHODOLOGY:

The training methodology at BIG BEN Training Center is designed for maximum engagement and practical application. This course moves beyond traditional lectures to create a dynamic learning environment where participants actively build their skills. The program is built on a foundation of expert-led instruction, interactive discussions, and real-world case study analysis from various industries. Participants will work in teams on practical workshops and simulation exercises, allowing them to design and test error-proofing solutions for realistic operational scenarios. These hands-on activities are crucial for translating theoretical knowledge into tangible competence. A significant portion of the course is dedicated to group problem-solving sessions, where attendees can share their unique challenges and collaborate on innovative solutions. Continuous feedback is provided by the instructor and peers throughout the sessions, ensuring a deep and lasting understanding of the concepts. This blended approach guarantees that participants leave not just with knowledge, but with the confidence and ability to implement Zero Defects and error-proofing strategies effectively in their own workplaces.



COURSE AGENDA (COURSE UNITS):

UNIT ONE: FOUNDATIONS OF A ZERO DEFECTS PHILOSOPHY

- The historical context and evolution of quality management.
- Understanding Philip B. Crosby's Four Absolutes of Quality Management.
- The concept of "Quality is Free" and the Price of Non-Conformance (PONC).
- Differentiating between defect detection and defect prevention.
- The psychological and cultural barriers to achieving Zero Defects.
- Establishing a business case for a Zero Defects program.
- Introduction to Shigeo Shingo and the principles of mistake-proofing.

UNIT TWO: UNDERSTANDING AND ANALYZING ERRORS

- The science of human error and cognitive biases in the workplace.
- Classifying errors: slips, lapses, mistakes, and violations.
- Source Inspection and the principle of quality at the source.
- Introduction to Root Cause Analysis (RCA) tools.
- Utilizing the 5 Whys technique for simple problem analysis.
- Applying Fishbone (Ishikawa) Diagrams to map potential causes.
- Conducting process mapping to identify error-prone steps.

UNIT THREE: POKA-YOKE (MISTAKE-PROOFING) SYSTEMS

- Core principles and objectives of Poka-Yoke.
- Types of Poka-Yoke systems: Control, Warning, and Shutdown.
- Poka-Yoke detection methods: Contact, Fixed-Value, and Motion-Step.
- Designing effective and low-cost Poka-Yoke devices.
- Integrating Poka-Yoke into product design and process development.
- Case studies of successful Poka-Yoke implementation in various industries.
- Workshop: Designing a Poka-Yoke solution for a given scenario.



UNIT FOUR: PROACTIVE DEFECT PREVENTION TOOLS

- Introduction to Failure Mode and Effects Analysis (FMEA).
- Conducting a Process FMEA to identify and prioritize risks.
- Calculating Risk Priority Numbers (RPN) to guide action.
- Developing control plans to mitigate high-risk failure modes.
- Introduction to Statistical Process Control (SPC) for monitoring stability.
- Using control charts to distinguish between common and special cause variation.
- The role of standardization and clear work instructions in error prevention.

UNIT FIVE: IMPLEMENTING AND SUSTAINING A ZERO DEFECTS CULTURE

- Developing a strategic roadmap for Zero Defects implementation.
- The role of leadership in driving and championing the quality culture.
- Training and empowering employees for quality ownership.
- Establishing key performance indicators (KPIs) to track progress.
- Implementing a robust Corrective and Preventive Action (CAPA) system.
- Leveraging Kaizen and continuous improvement events to sustain momentum.
- Celebrating successes and creating a system of recognition and reward.

FAQ:

QUALIFICATIONS REQUIRED FOR REGISTERING TO THIS COURSE?

There are no requirements.

HOW LONG IS EACH DAILY SESSION, AND WHAT IS THE TOTAL NUMBER OF TRAINING HOURS FOR THE COURSE?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

SOMETHING TO THINK ABOUT:

Beyond mechanical devices, how can psychological principles be integrated into process design to proactively prevent cognitive errors?



WHAT UNIQUE QUALITIES DOES THIS COURSE OFFER COMPARED TO OTHER COURSES?

This course distinguishes itself by providing a holistic and strategic perspective on quality, moving beyond a narrow focus on tools to cultivate a comprehensive Zero Defects mindset. While many programs teach the "what" of error-proofing, we emphasize the "why" and "how," integrating the foundational philosophies of quality pioneers like Philip B. Crosby and Shigeo Shingo with modern, practical application. The curriculum is uniquely structured to build a bridge between technical mistake-proofing mechanisms and the critical human and cultural elements required for sustainable success. Rather than simply presenting a list of techniques, we guide participants through a logical progression from understanding the psychology of human error to designing robust systems and fostering an organizational culture of quality ownership. The extensive use of interactive simulations and real-world case studies ensures that learning is not just theoretical but deeply practical. Participants will leave with a strategic roadmap, not just a toolkit, enabling them to lead transformative change and embed a culture of "right first time" excellence within their organizations.