

# IDENTIFY AND ELIMINATE DEFECTS WITH THE DMAIC PROCESS

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## WHAT IS THE DMAIC PROCESS?

DMAIC is a data-driven quality strategy used to improve processes. It is an integral part of the Lean Six Sigma methodology and stands for Define, Measure, Analyze, Improve, and Control. This structured approach will help you systematically improve your processes by identifying and eliminating defects.

## STEPS IN THE DMAIC PROCESS

- 1. Clearly define the problem**, project goals, and customer requirements. Develop a project charter, identify stakeholders, and map the process. Tools: Project Charter, Voice of the Customer, and Value Stream Mapping.
- 2. Quantify the problem** by collecting relevant data. Develop a data collection plan, measure current performance, and validate measurement system. Tools: Process Map, Capability Analysis, and Pareto Chart
- 3. Identify the root causes** of the problem. Analyze the data, identify gaps between current and desired performance, and prioritize root causes. Tools: Root Cause Analysis, FMEA, and Multivariate Charts
- 4. Implement and verify the solution.** Develop solutions, pilot improvements, and implement changes. Tools: Design of Experiments and Gemba Walks
- 5. Sustain the improvements.** Develop control plans, monitor performance, and standardize processes. Tools: Control Plan, Statistical Process Control, 5S, and Mistake Proofing



## LEARN MORE!

- Our [Learn About Quality](#) page provides an overview of DMAIC, and tools used in each phase.
- This impressive e-book sampler of [Splitting the DMAIC](#) walks you through DMAIC to reduce variability, failures, waste, and defects, and includes a DMAIC checklist.
- This Quality Progress classic article [“To DMAIC or Not to DMAIC,”](#) will help you determine when you need a structured method for problem solving.
- This webinar, [“A Step Forward Toward Zero Defects,”](#) outlines a new problem-solving strategy based on DMAIC that incorporates Quality 4.0 technologies.

ASQ also offers an interactive, self-paced e-learning course for attaining your [Lean Six Sigma Green Belt](#) and covers DMAIC and Lean practices. Or, if you're more of an in-person, hands on learner, the [DMAIC Review Workshop](#) steps you through the process, working the tools in a fun and competitive environment.

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