



# Introduction to Six Sigma

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- ▼ The Six Sigma program is a structured project management methodology.
- ▼ The Six Sigma approach focuses on the use of real performance data to measure, analyze, improve, and control process performance.

# What is a Sigma?

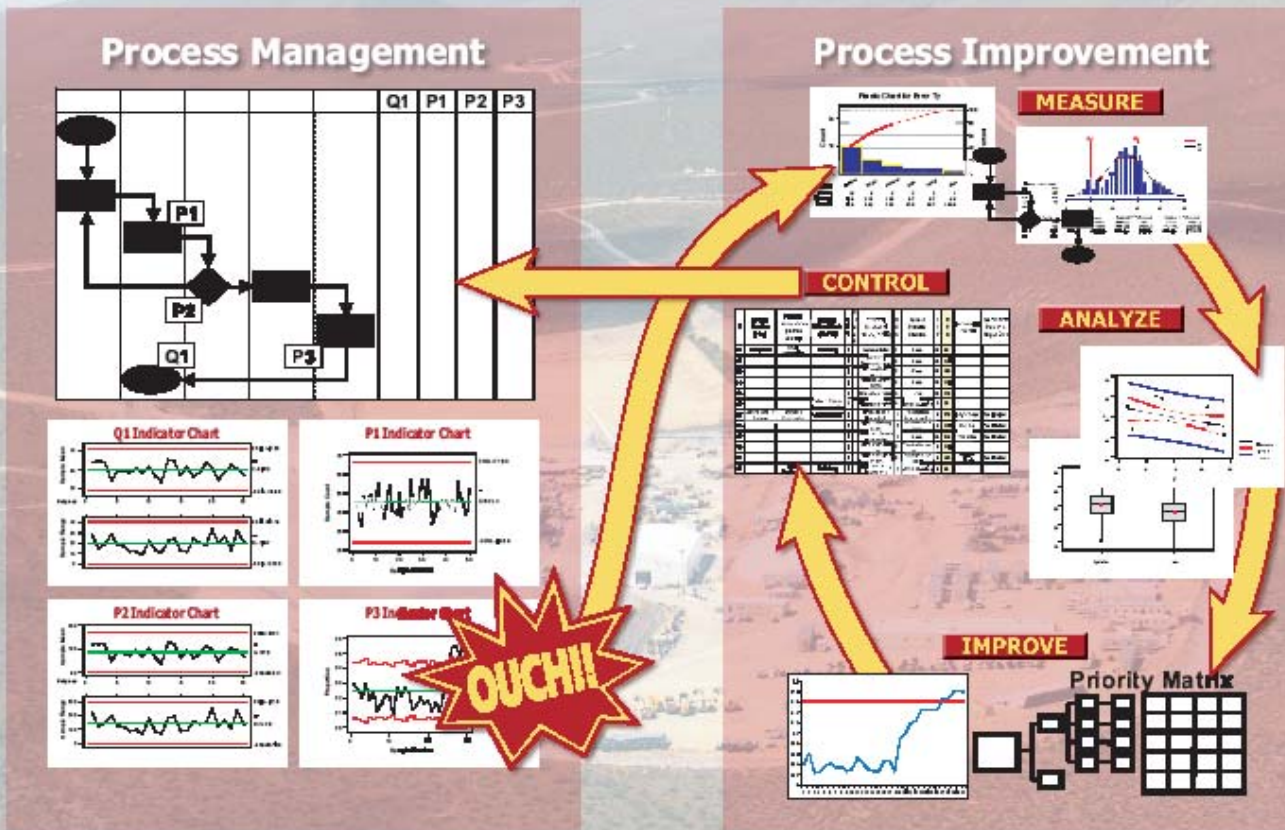
- ▼ A Sigma is a Standard Deviation, or a measure of how much variability there is in a process and its capability to perform.
- ▼ A Sigma Level is the business metric used to indicate the performance of a process as compared to some specification.
- ▼ The more Sigma Levels, the more process stability and the more capability to meet requirements.

- ▼ 3.5 hours of no cable television per month
- ▼ 15,000 lost overnight packages per week
- ▼ 25 incorrect car reservations per company per day
- ▼ 3 plane crashes per month

- ▼ Six Sigma Standard is 99.99966%
- ▼ This represents 3 or fewer failures per million opportunities

- ▼ Eliminate Defects/Reworks
- ▼ Reduce production and development costs
- ▼ Reduce cycle times
- ▼ Reduce the number of reviews
- ▼ Increase profits
- ▼ Improve customer satisfaction

# σ The Big Picture of Six Sigma





# Six Sigma Methodology

- ▼ Measure
- ▼ Analyze
- ▼ Improve
- ▼ Control

- ▼ Document process
- ▼ Measure performance
- ▼ Determine baseline performance
- ▼ Identify opportunities for improvement

- ▼ Define performance objectives
- ▼ Compare with observed performance
- ▼ Measure contributing factors
- ▼ Analyze sources of variability
- ▼ Identify significant drivers of poor quality

- ▼ Screen potential causes
- ▼ Develop potential solutions
- ▼ Test potential solutions
- ▼ Propose most appropriate solution

- ▼ Implement solution
- ▼ Implement process controls
- ▼ Measure effectiveness of solution
- ▼ Document lessons learned
- ▼ Begin improvement cycle again

- ▼ Cost of finding defects
- ▼ Cost of failing to please the customer the 1st time
- ▼ Cost of missed opportunity for greater efficiency
- ▼ Cost of increased cycle time
- ▼ Cost of increased reviews and inspections
- ▼ Cost of more complex procedures

- ▼ Six Sigma is a way of doing business.
- ▼ Management-by-fact is the key.
- ▼ Goal is to provide managers with the data they need to make informed decisions.