

# LEAN SIX SIGMA BLACK BELT

## CERTIFICATION PROGRAM

INDIA'S MOST RIGOROUS & TRUSTED CERTIFICATION



Computer Society of India



KINDUZ

<http://www.leansixsigmaindia.org/>



## Industry Snippets

"No matter which level of Six Sigma training the respondents completed, their average salaries are higher than the respondents who didn't complete any Six Sigma training."  
- Salary Survey, conducted by International Society for Quality

"During the past 10 years Six Sigma has become one of the most widely practiced process improvement methodologies in both service and manufacturing industries."  
- iSixSigma.com

"The savings as a percentage of revenue for a company can vary from 1.2% to 4.5%."  
- Charles Waxer

"Lean Six Sigma techniques implemented throughout the Army continue to prove successful, and leaders anticipate reaching a \$2 billion-savings mark this year."  
- U.S. Army

## What is SIX SIGMA?

Six Sigma is a management strategy originally developed by Motorola, USA in 1979. As of 2010, it enjoys widespread application around the globe, across all sectors.

Six Sigma is focused on improving the predictability of:

- Revenues
- Profits / Cash Surplus
- Cash Flows
- Internal and External Customer Satisfaction
- Quality of Services and Products
- Achieving your, your department's, your organization's goals
- Solving your, your department's, your organization's problems

## What is LEAN?

Lean is a management strategy that strives to optimize processes with a focus on delivering more and more value to your customers. In today's fast paced life, Lean helps deliver quick improvements and results.

Started by Toyota, Lean has gained popularity around the world for its simplicity, and the ability to deliver quick benefits.

Lean focuses on:

- Delivering quick customer value
- Improving performance
- Reducing waste in the system
- Reducing costs and improving profitability

Value Stream Mapping, which is one of the tools of Lean is the most used process improvement technique today in the world.

## WHY CSI & KINDUZ

- Certifying Industry Professionals since 45 years
- Internationally Recognized Certification
- Only Provider in the World focussing Extensively on the "Recognize Phase"
- Rigorous Certification Process
- Instructors with Global Experience
- Affordable Pricing delivering Overall Value
- Best in class training material
- Project assistance and mentoring

## 01. Enterprise-wide Deployment

### 1.1. Enterprise - Wide view

- History of Continuous Improvement
- Value and Foundations of Six Sigma
- Value and Foundations of Lean
- Integration of Lean and Six Sigma
- Business Processes and Systems
- Six Sigma and Lean Applications

### 1.2. Leadership

- Enterprise Leadership Responsibilities
- Organizational Roadblocks
- Change Management
- Six Sigma Projects and Kaizen Events
- Six Sigma Roles and Responsibilities

## 02. Organizational Process

### Management and Measures

### 2.1. Impact on Stakeholders

### 2.2. Critical to x (CTx) Requirements

### 2.3. Benchmarking

### 2.4. Business Performance Measures

### 2.5. Financial Measures

## 03. Team Management

### 3.1. Team Formation

- Team Types and Constraints
- Team Roles
- Team Member Selection
- Launching Teams

### 3.2. Team Facilitation

- Team Motivation
- Team Communication

### 3.3. Team Dynamics

### 3.4. Time Management for Teams

### 3.5. Team Decision-Making Tools

### 3.6. Management and Planning Tools

### 3.7. Team Performance Evaluation and Rewards

## 04. Define Phase

### 4.1. Voice of the Customer

- Customer Identification
- Customer Feedback
- Customer Requirements

### 4.2. Project Charter

- Problem Statement
- Project Scope
- Goals and Objectives
- Project Performance Measures
- Project Tracking

## 05. Measure Phase

### 5.1. Process Characteristics

- Input and Output Variables
- Process Flow Metrics
- Process Analysis Tools

### 5.2. Data Collection

- Types of Data
- Measurement Scales
- Sampling Methods
- Collecting Data

### 5.3. Measurement Systems

- Measurement Methods
- Measurement Systems Analysis

- Measurement Systems in the Enterprise
- Metrology

## 5.4. Basic Statistics

- Basic Terms
- Central Limit Theorem
- Descriptive Statistics
- Graphical Methods
- Valid Statistical Conclusions

## 5.5. Probability

- Basic Concepts
- Commonly Used Distributions
- Hypergeometric Distribution
- Lognormal Distributions
- Bivariate, Exponential, and Weibull

## 5.6. Process Capability

- Process Capability Indices
- Process Performance Indices
- Short-term and Long-term Capability
- Process Capability for Non-normal Data
- Process Capability for Attributes Data
- Process Capability Studies
- Process Performance Vs. Specification

## 06. Analyze Phase

### 6.1. Measuring and Modeling Relationships Between Variables

- Correlation Coefficient
- Regression
- Multivariate Tools
- Multivari Studies
- Attributes Data Analysis

### 6.2. Hypothesis Testing

- Terminology
- Statistical Vs Practical Significance
- Sample size

- Point and Interval Estimates
- Tests for Means, Variances, and Proportions
- Analysis of Variance (ANOVA)
- Goodness-of-fit (chi square) Tests
- Contingency Tables
- Non-parametric Tests

### 6.3. Failure Mode and Effects Analysis (FMEA)

### 6.4. Additional Analysis Methods

- Gap Analysis
- Root Cause Analysis
- Waste Analysis

## 07. Improve Phase

### 7.1. Design of Experiments (DOE)

- Terminology
- Design Principles
- Planning Experiments
- One-factor Experiments
- Two-level Fractional Factorial
- Full Factorial Experiments

### 7.2. Waste Elimination

### 7.3. Cycle - Time Reduction

### 7.4. Kaizen and Kaizen Blitz

### 7.5. Theory of Constraints (TOC)

### 7.6. Implementation

### 7.7. Risk Analysis and Mitigation

## 08. Control Phase

### 8.1. Statistical Process Control (SPC)

- Objectives
- Selection of Variables
- Rational Subgrouping
- Control Chart Selection
- Control Chart Analysis

### 8.2. Other Control Tools

- Total Productive Maintenance (TPM)
- Visual Factory

### 8.3. Maintain Controls

- Measurement System Re-analysis
- Control Plan

### 8.4. Sustain Improvements

- Lessons Learned

- Training Plan Deployment
- Documentation
- Ongoing Evaluation

## 09. Design for Six Sigma (DFSS) Frameworks and Methodologies

### 9.1. Common DFSS Methodologies

- DMADV
- DMADOV

### 9.2. Design for X (DFX)

### 9.3. Robust Design and Process

### 9.4. Special Design Tools

- Strategic
- Tactical

# Online Lean Six Sigma White Belt Certification

By Computer Society of India and KINDUZ Consulting.

## Why The Initiative?

- Motivated by "Gandhian Engineering"
- Focused on Introducing Professionals to Next Generation Leadership Techniques and Upcoming Market Trends

## How will you benefit?

- Understanding of Lean and Six Sigma
- Helps you to create a base for next level Certifications
- Internationally Recognized Certification
- Project the certification with Badges in your resume



Hard Copy of Lean Six Sigma White Belt Certificate



Certification badges for your resumes

Get access at:

<http://onlinecourses.kinduz.com/>

# Workshop Highlights

- Based on the ASQ Book of Knowledge
- Recognized Internationally
- Conducted only on weekends
- Comprehensive best in class training material with case studies
- Use of Six Sigma and statistical software like Minitab, Quality Companion, SPSS
- ASQ Certified Faculty and Leading Industry Consultants from KINDUZ, with Global Experience
- Special Life-time Access to the KINDUZ Knowledge Base at <http://network.kinduz.com/>
- List of clients include Managing Directors, Chief Executive Officers, Leaders and Senior Managers from Service, Manufacturing, Non-profit and Govt. sectors
- PMP professionals earn 32 PDUs
- 30 hours of Recertification benefits for CASQ, CSQA, CMSQ, CAST, CSTE, CMST, CSPE, CQSPE, CSPM, CSBA certified professionals

## Video Testimonials !!



Mr. Alwarappan  
Statistician



Mr. Mahendran  
Process Specialist  
Cognizant



Mr. Pranaysheel  
University of Austin  
USA

<http://www.youtube.com/kinduzconsulting>



# Black Belt Certificates

LEVEL I



Awarded after completing the 4 day workshop

LEVEL II



Awarded after completing two book examinations

LEVEL III



Awarded after completing a real time project

# Projects Completed by Participants



Ms. Vandita Malhotra  
Assistant Manager  
Aegis Ltd.

Delivered benefits worth  
0.54 Crores in three months



Ms. Ruma Chakravarty  
Director  
CoreMind Tech Services

100% improvement in  
Customer Satisfaction



Mr. Mahendran  
Process Specialist  
Cognizant

Over 1 crore cumulative  
benefits delivered

# Associates Trained From:



and many more .....



# Trainer's Profiles:

Mr. Pavan Kota is the Chief Executive Officer at KINDUZ Consulting. He has extensive experience in the field of Business Consulting, working in the past with the TATA Group, Lionbridge and Capgemini and consulting with clients in the U.S., India, U.K. and Singapore.

He has presented his ideas around 'Business Excellence' and 'Business Process Management' in 12 International Conferences and continues to share his knowledge and experiences around the world.

Mr. Pavan Kota completed his Masters in Business Management from Xavier Labour Relations Institute (XLRI), Masters in Quality Management from Birla Institute of Science and Technology (BITS) and Bachelors in Engineering and Mining Machinery from Indian School of Mines (ISM).

He is also a Lean Six-Sigma Master Black Belt, ISO 20000 Auditor, ISO 27001 Lead Auditor, Assessor -European Foundation for Quality Management (EFQM) and Certified External & Internal Assessor for TATA Business Excellence Model (based on the Malcolm Baldrige National Quality Award).

You can interact with him on the KINDUZ Consulting Network at:

<http://network.kinduz.com/profile/pavankota/>



Mr. Pavan Kota  
CEO  
KINDUZ Consulting

Ms. Aartee Roy is a Vice President at KINDUZ. She leads the Lean Six Sigma Practice and the Retail and Infrastructure Service Verticals at KINDUZ. She has international retail exposure, heading merchandising for Lifestyle's Home décor category across nine GCC countries. A NIFTIAN, Aartee is also a Certified Production and Inventory Management (CPIM) Professional from APICS (USA) with over nine years of industry experience covering sourcing and merchandising domains.

Aartee is also a Lean Six Sigma Master Black Belt.

Prior to this she was working for William E. Connor & Associates Ltd, Monsoon Accessorize, Landmark Group, Odyssey India Ltd.

You can interact with her on the KINDUZ Consulting Network at:

<http://network.kinduz.com/profile/AarteeRoy>



Ms. Aartee Roy  
Vice President  
KINDUZ Consulting

Mr. Yash Challa is a Senior Consultant at KINDUZ. He leads the Lean Six Sigma Practice and the Banking and Financial Services Vertical at KINDUZ. Yash is also an American Society of Quality (ASQ) certified Six Sigma Black Belt.

In the last two years, he has provided his consulting services for Riyadh Bank in Saudi Arabia where he has helped

- Reduce cycle time in credit approval for retail and corporate customers
- Reduce cycle time in account opening for retail customers
- Reduce cycle time in approval and delivery of credit cards for retail customers

You can interact with him on the KINDUZ Consulting Network at:

<http://network.kinduz.com/profile/YashChalla>



Mr. Yash Challa  
Sr Consultant  
KINDUZ

# Client Speak:

"Very good insights in lean management. The workshop taught me a practical approach towards how to apply lean management to solve any problem. Trainer was insightful and had good knowledge of the lean principles. Participants also participated with their experiences which made it more interesting".

- Kavita Yadav, Consultant, Ernst & Young



"I really enjoyed the program in terms of the relevance and the live examples that the trainer Yash was ready to take up to help us understand the concepts better. Appreciate the extra effort from Yash to go with us the extra mile in accommodating our requests for stretching as well. On the whole the learning and takeaways are worth the effort. Thanks for the experience."

- Vijay Raj, Manager Quality, Netenrich Technologies Pvt. Ltd.



"I liked the way lean concepts were blended with six sigma concepts to bring out a practical way to address process improvements. Pavan's approach to drive home the concept using simple, non-technical examples is worth a praise as it is extremely important to have audiences' involvement throughout the session."

- Sandya Nagarajan, Assistant Manager, Applabs



"First of all I would like to say thank you for bringing/initiating Six Sigma Programs to Hyderabad where we can count in fingers for finding the Quality Instructor's of Six Sigma. Well presented. He brought examples from everyday life and we can apply the information taught here in real life projects and made it comprehensible. He has good service background and excellent communication skills in presentation. The Frameworks are excellent. Why can't they patent their Frameworks!"

- Chandragirish, Sr. Software Engineer, Gmantis Solutions (P) Ltd.



"This program is really amazing and it is really useful to improve knowledge on six sigma implementation in any kind of industry."

- Mr. Mahendran, Process Specialist, Cognizant Tech Solutions



"Excellent introduction to a methodology woven around common sense and scientifically proven methods. Lean and Six Sigma don't feel boring anymore..."

-Mr. Manish Thakur, Vice President (Engg), Lucid Infotech Pvt Ltd.



"It's a phenomenal explanation by Mr. Pavan Kota. The connection between the topics, business and personal life was explained clearly. Very friendly approach, towards making the participants understands the concepts. Kundooz to CSI and KINDUZ"

- Mr. M. A. Prasad, Manager – Quality Management, Dr. Reddy's Labs.



# Lean Six Sigma International Network

<http://www.sixsigmanetwork.org/>

Lean Six Sigma International Network helps you interact with Six Sigma and Lean Experts from all over the world. A forum for sharing knowledge and experiences.

Download Slides of  
"Lean Six Sigma White Belt  
Certification Program"



Blog on  
"Data Mining and Six-Sigma"



By  
Mr. Anand Tamboli  
Associate Vice President, Change Delivery, HSBC

Case Study on  
"HR Business Improvement"  
using Lean Six Sigma



By  
Mr. Mahendran  
Process Specialist, Cognizant Tech Solutions

## Interact With

- Master Black Belts
- Black Belts
- Lean Professionals
- Others

# KINDUZ Consulting Network

<http://network.kinduz.com/>

Interact with over

- 2000 members from 92 countries
- Over 50 CEOs from all over the world

With specific focus on:

- Lean Six Sigma
- Retail
- Entrepreneurship
- Investing
- Human Resource Management
- Metrics and Benchmarking
- Project Management

# 2011 Lean Six Sigma International Convention

Theme: "Delivering Customer and Business Value using Lean Six Sigma"



## Convention Speakers



Mr. Clyde Parker  
President,  
Star Six Sigma, USA



Mr. Rupam Bhaduri  
Chief, Total Quality Management  
TATA Steel



Mr. Vineet Sharma  
Executive Vice President,  
Quality & Business Excellence  
Max New York Life Insurance



Mr. Murthy. S. N.  
Head Performance Excellence,  
Ernst & Young Global  
Shared Services



Mr. Jagdish Ramaswamy  
Chief Quality Officer,  
Wipro Limited



Mr. K. Satyanarayana  
Chancellor,  
KL University



Mr. Ashutosh Pandey  
Global IT, Quality & Process Manager,  
Nokia Siemens Networks



Mr. Anand Tamboli  
Associate Vice President  
Change Delivery, HSBC

## Convention Focus Areas

- Improving Profitability
- Improving Cash Flows
- Increasing Revenue
- Increasing Customer Satisfaction and Customer Delight
- Delivering Customer Value

## Convention Partners



Manufacturers Association for  
Information Technology



IEEE - Hyderabad Section



TiE Hyderabad



Center for Organization  
Development



SPIN

## Convention Awards

The Lean Six Sigma International Awards are given to the most outstanding organizational, project and individual achievements through the deployment of improvement programs.

Lean Six Sigma International Awards Categories

- Organizational Awards
- Team Awards
- Individual Awards



For Registrations / Award Nominations / Sponsorships Please Visit

<http://www.leansixsigmaconvention.org/>



# About Computer Society of India



Formed in 1965, the CSI has been instrumental in guiding the Indian IT industry down the right path during its formative years. Today, CSI has 66 chapters all over India, 381 student branches, and more than 65,000 members, including India's most famous IT industry leaders, brilliant scientists and dedicated academicians.

The mission of CSI is to facilitate research, knowledge sharing, learning and career enhancement for all categories of professionals, while simultaneously inspiring and nurturing new entrants into the industry and helping them to integrate into the IT community. CSI is also working closely with other industry associations, government bodies and academia to ensure that the benefits of IT advancement ultimately percolate down to every single citizen of India.

CSI has partnered with KINDUZ to offer their entire spectrum of High Value Leadership Development Programs, to CSI members and the entire industry (not limited to the IT sector) at rates that are affordable.

## CSI Affiliations:



# About KINDUZ Consulting



KINDUZ is a niche consulting firm that delivers focused 'Organizational Improvements', with 'Organizational Results' for its customers.

Since 2008, KINDUZ Consultants have delivered Organizational Benefits worth over \$150 million.

Headquartered in India, with branches in Germany, U.S.A, Canada and New Zealand KINDUZ has completed over 60 assignments since its inception in 2008, and has retained every single client it has worked with.



# Key Contacts

## CSI Educational Directorate



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