INTERAGENCY AGREEMENT
BETWEEN
COLLIN COUNTY COMMUNITY COLLEGE DISTRICT
AND
THE UNIVERSITY OF TEXAS AT ARLINGTON

This Agreement (hereinafter "Agreement") is made and entered into effective as of the 1st day of April 2018, by, between and among **Collin County Community College District** (hereinafter "**College District**") a Texas political subdivision of higher education, and **The University of Texas at Arlington**, (hereinafter "**UTA**"), a State Institution of Higher Education established under the laws of the State of Texas as an institution of the University of Texas System ("System").

WHEREAS, **UTA** is a recipient of current and/or future **TMAC** (hereinafter "**TMAC**") service delivery contracts, and for the purpose of providing services to **TMAC** customers.

The parties to this Agreement agree as follows:

1. **Term:** The terms are as follows:

   Subject to prior termination or revocation of this Agreement as provided in section 2 of this Agreement, this Agreement begins on April 1, 2018 and ends August 31, 2019. At least ninety (90) days prior to the expiration of the initial term, all parties may agree to this Agreement for a one-year period upon written approval of the **College District** and **College District** Board and U**TA**. This can be renewed annually thereafter upon written approval of the **College District** and **College District** Board and **UTA** and by an amendment in which all the current terms and conditions apply except for the delivery dates and cost.

2. **Termination:** Termination is by:

   a. Mutual written consent

   b. Sole discretion of either party upon thirty (30) days written notice.

   c. Subject to cure in d. below, immediately upon the breach of this Agreement by **TMAC**. A breach of this Agreement includes, but is not limited to:

      i. A violation of the policies and regulations of the **College District**;
      ii. A misrepresentation or false statement in this Agreement by **TMAC**;
      iii. Nonperformance of the party's duties; or,
      iv. A conflict of interest between **TMAC** and **College District**.

   d. Each party has five (5) business days to cure a breach after written notice of the breach.

   e. Termination or cancellation of this Agreement shall not affect the rights and obligations of the parties accrued prior to termination. Upon termination, **College District** shall pay UTA for all reasonable expenses incurred or committed to be

expended as of the effective termination date, including salaries for appointees for the remainder of their appointment.

f. If this Agreement is terminated during delivery of a training program, any students participating in that training program that has already started will be allowed to finish their coursework under this Agreement.

3**. Scope of Agreement and Limitations of Authority:** The Scope of this Agreement and the parties agree as follows:

a. The purpose of this Agreement is for **College District** to hire the instructional and consulting services of **TMAC** to teach a variety of classes and offer assistance and advice at the **College District** or customer locations. **TMAC** will consult with companies and provide pre-assessment activities on an individual basis, through **College District**.

b. All **TMAC** staff will perform as consultants through **TMAC**/ **College District** Agreement and as consistent with **TMAC** general practices of good business procedures.

c. **TMAC** retains rights concerning development of solutions, curriculum development and program services provided to customers.

d. No coursework is enumerated.

e. Materials developed through the Manufacturing Extension Partnership (MEP) a department in the US Department of Commerce, are not to be used outside of MEP.

f. **College District** reserves the right to use the term or logo, **TMAC** as part of its partnership announcements in all of its marketing materials.

g. **College District** reserves the right to copy any course materials generated by **TMAC** related directly to courses developed under this Agreement, except materials under 3.c and 3.e. **College District** shall bear the costs affiliated with copying any course materials.

h. Students or students' employer shall assume the cost of all course materials.

i. Development of curriculum materials in a joint effort of the parties. Each party shall advise the other of any revisions made.

4. **Class Schedule: College District** will approve the minimum class enrollment in classes, consult with **TMAC** if a class needs to be cancelled due to low enrollment at 5 business days in advance. Otherwise, COLLEGE DISTRICT is obligated to pay TMAC for the course unless it is rescheduled to an agreeable date (within 60 days).

Payment and Billing:

a. Maximum Amount and Limitations: Under this Agreement, **College District** will be obligated to reimburse **UTA** for only those costs incurred under separate task

(work) order agreements. These separate task order agreements shall not exceed a total of **One Hundred Thousand dollars ($100,000)** for the period indicated. If this amount is superseded than both parties may agree to process an amendment agreement to extend that amount.

b. For Grant Funded Contract Training and Open Enrollment Classes: **College District** will pay **TMAC** the full fee (per TMAC fee schedule, Exhibit A) and TMAC will return back to **College District** 10% percent of that amount for project (or grant) management fees via an invoice to TMAC. **College District** retains any and all contact hour reimbursements. Invoicing must be within 30 days after this agreement terminates.

c. **TMAC** Contract Training and Consulting Services for non-Grant Funded programs: **College District** will pay **TMAC** the full fee (per TMAC fee schedule) and TMAC will return back to **College District** 10% percent of that amount for project (or grant) management fees via an invoice to TMAC. **College District** retains any and all contact hour reimbursements. Invoicing must be within 30 days after this agreement terminates.

d. Payments

e. Payments are typically paid within 30 calendar days but are often paid earlier. Invoices must show the item(s) provided and the purchase order number applicable to the transaction in order to insure prompt payment. Payment will be made in accordance with Texas Government Code, Subchapter B. Payments and Interest, Chapter 2251.021 (b). If Seller provides a discount for early payment, please indicate in the space provided on the signature page of this request. Payment will be made, per statutory requirements, after the later of:

i. the date the Buyer receives the goods under the contract;
ii. the date the performance of the service under the contract is completed; or
iii. the date the Buyer receives an invoice for the goods or service.

f. Address for Invoices
The mailing address for Invoices is:
Accounts Payable
Collin College
P.O. Box 8021
McKinney, TX 75070-8021

6. **Tuition**: Tuition will vary on the complexity and length of the programs, hours of consultation, and the complexity and length of the training provided. TMAC provides customized training when required.

7. Institution Name and Logo: **UTA** shall adhere to **College District**'s copyright policy and not use the name and logo of **College District** in any manner without prior written authorization, and **College District** will not use the name or logo of UTA or TMAC in any manner without prior written authorization. Notwithstanding the foregoing, UTA may

acknowledge **College District**'s support of the programs under this Agreement, in scientific or academic publications, communications or press releases without **College District**'s prior approval, and as required by the Texas Public Information Act or other law or regulation. In any permitted statements, the parties shall describe the scope and nature of their participation accurately and appropriately. To effect the foregoing, the parties intend that training materials developed jointly under this Agreement will contain names and logos of both parties, and will be reviewed and approved in writing before publication, with each party giving the other a non-exclusive right and license to use its name and logo, but only for the purposes stated herein. As part of this non-exclusive right and license, the parties will have the right to use all logos associated with this Agreement, once approved, in public announcements related to the subject matter of this Agreement, and in a party's own marketing materials related to consortiums and training services offered under this Agreement.

8. **Copying of Instructional Materials: Each of College District and UTA** reserves the right to copy any and all materials used for instructional purposes under this Agreement, excluding materials described in 3.c and 3.e. of this Agreement. Materials available for copying include, but are not limited to textbooks, workbooks, computer files, video and audiotapes, and multi-media materials, where **College District** has paid for the development of said materials.

9. **Duties and Responsibilities of College District: College District** shall:

    a. Pay expenses related to services no later than thirty (30) days after receipt of monthly invoice.

    b. Provide classroom facilities appropriately equipped to deliver the instruction and training provided within this Agreement.

    c. Along with TMAC, jointly develop and produce, and coordinate distribution of all marketing plans and materials.

    d. **College District**, either: On its own initiative, or at the request of **TMAC** may remove students from classes enrolled in courses under this Agreement for violations of the Code of Student Conduct.

    e. Receive copies of each program curriculum and/or work instructions (WIs), for record from **TMAC**, and process this information for approval through **THECB** (Texas Coordinating Board for Higher Education) for contact hour reimbursement. **College District** retains any and all contact hour reimbursements.

10. **Duties of TMAC: TMAC** shall perform the following duties:

    a. Provide consultant, instructor, or designee agreed upon by both parties to this Agreement to teach courses and/or provide consultant services. If **TMAC** defers to **College District** to provide instructor, this in keeping with the intention of this Agreement, **TMAC** alone with the customer, assumes the responsibility that

attendance records are maintained and students who are not attending are followed up with as enumerated in the course syllabus. (Except in case of **College District** provided consultant/instructor, then **College District** will assume this role).

b. Misconduct, behavioral problems and any disciplinary measures resulting therefrom concerning students attending consultant sessions or courses is the joint responsibility of **TMAC, College District and the customer**.

c. **TMAC** will coordinate appreciate documentation as required. All grant documentation and grant management is managed and the responsibility of **College District.**

d. Provide copies of each program curriculum and/or work instructions (WIs). This includes; new programs, revised, modified, or customized courses or programs with a greater than 15% change, addition, deletion, or modification in content and with greater than one (1) hour change in delivery.

e. Pay project (grant) management fees related to services no later than thirty (30) days after receipt of payment from COLLEGE DISTRICT.

11. **Consulting Rights: College District** and **TMAC** have the following consulting rights:

a. In addition to consultant services and instruction, **TMAC** and their third parties will have the first right to provide pre-assessment services and post-assessment consultant services and/or course instruction to all customers, through a joint contract **TMAC**/ **College District** and the customer.

b. Where **TMAC** is involved, they will have the first right to serve as the provider of on-site consulting, training, and procedure writing, through a joint contract **TMAC**/ **College District** and the customer.

12. **Rules and Regulations:** Students enrolled in courses under this Agreement are subject to the rules and regulations of **College District**.

13. **Applicable Law:** This Agreement and all materials and/or issues collateral thereto shall be governed by the laws of the State of Texas applicable to contracts made and performed entirely therein, without regard to its principles of conflict of laws.

14. **Limitations of Authority:**

a. Neither party has authority for and on behalf of the other except as provided in this Agreement. No other authority, power, partnership. Use or rights are granted or implied.

b. Neither party may make, revise, alter or otherwise diverge from the terms or conditions of this Agreement without a written amendment to this Agreement.

c. Neither party may incur any debt, obligation, expense, or liability of any kind on behalf of the other without the other's express written approval.

Waiver: The failure of any party hereto to exercise the rights granted them herein upon the occurrence of any of the contingencies set forth in this Agreement shall not in any event constitute a waiver of any such rights upon the occurrence of any such contingencies.

16. **Right to Contract:** The parties agree to the best of its knowledge that they are free and have full right to enter into this Agreement and to perform all their obligations hereunder and to grant all rights hereunder without violating the legal or equitable rights of anyone.

17. **Assignment:** Neither party may assign their interest in this Agreement without the written permission of the other party.

18. **Indemnification: UTA** shall, to the extent authorized under the Constitution and laws of the State of Texas, indemnify and hold **College District** harmless from liability resulting from the negligent acts or omissions of UTA, its agents or employees pertaining to the activities to be carried out pursuant to the obligations of this Agreement. **The College District** shall, to the extent authorized under the Constitution and laws of the State of Texas, indemnify and hold **UTA** harmless from liability resulting from the negligent acts or omissions of College District, its agents or employees pertaining to the activities to be carried out pursuant to the obligations of this Agreement.

19. **Dispute Resolution:** To the extent that Chapter 2260, Texas Government Code, is applicable to this Agreement and is not preempted by other applicable law, the dispute resolution process provided for in Chapter 2260 and the related rules adopted by the Texas Attorney General pursuant to Chapter 2260, shall be used by The University of Texas at Arlington and **College District** to attempt to resolve any claim for breach of contract. Neither party has waived its right to seek redress in the courts.

20. **Notices:** All notices or other communications required or permitted to be given pursuant to this Agreement shall be in writing and shall be considered as

    Properly given if sent by facsimile transmission or mailed by certified mail, return receipt requested, postage prepaid, and addressed as follows:

Collin College
Natalie Greenwell
Grant Manager
Collin College
4800 Preston Park Boulevard
Plano, TX 75093
Office telephone: (972) 985-3768
Fax: (972) 985-3740
Email: ngreenwell@collin.edu

The University of Texas at Arlington/TMAC
Jeremy Forsberg
Assistant Vice President for Research
701 Nedderman Drive, Box 19145
Arlington, TX 76019-0145
Office telephone: 817.272.2105
Fax: (817) 272-5808
Email: ogcs@uta.edu

Either party reserves the right to designate in writing to the other party any change of name, change of person, or address to which the notices shall be sent.

21 Nondiscrimination: Parties to this Agreement shall not discriminate on the basis of race, sex, national origin, disability, religion, or sexual orientation.

22. **Funding and Performance by College District:** The **College District**'s performance is specifically contingent upon receipt of adequate funding from the State of Texas and its funding sources. If adequate funding is not provided by the State, this Agreement will be terminated as provided in Paragraph 2.

26. Miscellaneous: The term "Partner" or "Partnership" as used herein shall be construed as figurative only and shall not imply or in any way suggest the existence or formation in this Agreement of a Partnership venture or relationship between the parties that imposes on them the legal duties or obligations of Partners.

24. **Signatory Clause:** The individuals executing this Agreement on behalf of Collin County Community College District and The University of Texas at Arlington/TMAC acknowledge that they are duly authorized to execute this Agreement. All parties hereby acknowledge that they have read and understood this Agreement. This Agreement shall not become effective until executed by each party.

EXECUTED effective upon the date indicated above.

THE UNIVERSITY OF TEXAS AT ARLINGTON

By: _____ Date:_____
Dr. Duane B. Dimos
Vice President for Research

COLLIN COUNTY COMMUNITY COLLEGE DISTRICT

By: _____ Date:_____
Kenneth D. Lynn
Chief Financial Officer

TMAC - I have read this contract and approve its contents.

By: _____ Date:_____
Mark Sessumes, Regional Director
TMAC
Principal Investigator

TMAC Fee Schedule

TMAC Course Title	Min per Course	Max per Course	Contact hours per person	Price Per Course	Price Per Participant
Lean Management					
Hoshin Assessment	8	11	24	$7,500	
Lean Assessment			TBD	TBD	
Lean Management System Workshop	8	10	8	$4,000	
Lean Performance Measures	8	15	8	$4,000	
Lean Practitioner's 9+3 Certificate Series	8	15	128		$6,000
Lean Six Sigma Black Belt	8	25	160		$9,990
Lean Six Sigma Green Belt	8	25	80		$3,990
Lean Six Sigma Yellow Belt	10	25	24		$1,800
Lean or Lean Six Sigma Overview (LSS, Lean, Problem Solving, Lean Office, 5S, others)	10	25	2		$99
Design for Lean Six Sigma - Process	10	20	40		$2,500
Design for Lean Six Sigma - Product	10	20	80		$5,000
Master Black Belt Six Sigma - Technical	5	15	80		$10,500
Master Black Belt Six Sigma - Train-the-Trainer	5	15	120		$12,990
Lean Six Sigma Champion & Sponsor Training	5	15	24		$ 1,800
Six Sigma Black Belt (no Lean included)					$ 10,000
Minitab Software Training	8	25	16		$ 600
Principles of Lean for Leadership	5	15	8	$4,000	
Principles of Lean Manufacturing (Lean 101, simulation Legos, buzz,	10	20	8	$4,000	
Principles of The Lean Office	10	15	8	$4,000	
Principles of Lean for Healthcare	10	15	8	$4,000	
Supply Chain Management Workshop	10	20	12	$6,000	
Value Stream Management & Mapping Workshop	5	10	8	$4,000	
Value Stream Mapping Workshop Event	5	10	16	$6,000	
Value Stream Management Implementation Event (or Sustainable E3)	5	10	24	$7,500	
Value Stream Management Event -Healthcare	5	10	24	$7,500	
Toyota Kata Training	5	15	24	$7,500	
Toyota Kata Leadership Training	5	15	8	$4,000	
7-Kata Combining TWI Toyota and Lean	5	15	8	$4,000	
Managing by A3	8	16	4	$3,000	
Financial Fundamentals	10	24	6		$399
Kaizen Methodology					
5S Class	8	15	8	$4,000	
5S Implementation Event	6	12	24	$7,500	
5S Implementation Event	6	12	40	$12,500	
Pull/Kanban Systems Implementation Event	6	12	24	$7,500	
Pull/Kanban Systems Implementation Event	6	12	40	$12,500	
Pull/Kanban Systems Workshop	8	15	8	$4,000	
Set Up Reduction Implementation Event	6	12	24	$7,500	
Set Up Reduction Implementation Event	6	12	32	$10,000	
Set Up Reduction Implementation Event	6	12	40	$12,500	
Set-Up Reduction/Quick Changeover Workshop	8	15	8	$4,000	
Standardized Work & Cellular Flow Manufacturing Implementation Event	6	12	24	$7,500	
Standardized Work & Cellular Flow Manufacturing Implementation Event	6	12	32	$10,000	
Standardized Work & Cellular Flow Manufacturing Implementation Event	6	12	40	$12,500	
Standardized Work & Cellular Flow Manufacturing Workshop	8	15	8	$4,000	
Total Productive Maintenance Implementation Events	6	12	24	$7,500	
Total Productive Maintenance Implementation Events	6	12	40	$12,500	
Total Productive Maintenance Workshop	8	15	8	$4,000	
Value Stream Mapping for the Office Workshop	8	15	8	$4,000	
Value Stream Mapping for the Office-Implementation Event	6	12	16	$6,000	
Value Stream Management for the Office-Implementation Event	6	12	24	$7,500	
Work Measurement & Time Studies Workshop	8	15	8	$4,000	

TMAC Course Title	Min per Course	Max per Course	Contact hours per person	Price Per Course	Price Per Participant
Deploy Supervisory Skills					
Problem Solving and Mistake Proofing Tools full day (DMAIC or PDCA)	8	15	8	$4,000	
Problem Solving Class Overview – 4 hrs. structure	8	15	4	$3,000	
Teams	8	15	8	$4,000	
TWI Leadership Program	4	20	8	$4,000	
TWI-Job Instruction for Standardized Work meets 2 hrs./day for 5 days)	7	10	10	$7,500	
TWI-Job Instruction for Standardized Work (2 hrs./day for 5 days) w/ add-	7	10	30	$9,000	
TWI-Job Methods Improvement meets 2 hrs./day for 5 days)	7	10	10	$7,500	
TWI-Job Methods Improvement meets 2 hrs./day for 5 days) w/ add-on coaching	7	10	30	$9,000	
TWI-Job Relations (meets 2 hrs./day for 5 days)	7	10	10	$7,500	
TWI-Job Relations (meets 2 hrs./day for 5 days) w/ add-on coaching	7	10	30	900-	
TWI-Job Safety (meets 2 hrs./day for 5 days)	7	10	10	$7,500	
TWI-Job Safety (meets 2 hrs./day for 5 days) w/ add-on coaching	7	10	30	$9,000	
TWI-Problem Solving (meets 2 hrs./day for 5 days plus 40 hours OJT)	6	8	50	$15,000	
Value Analysis and Value Engineering					
LPD 101 Lean Product Development	8	16	12	$6,000	
LPD 201 Rapid Project Execution	6	12	8	$4,000	
LPD 202 Value Engineering-Reducing Product Cost	6	12	8	$4,000	
LPD 203 Building a Lean Product Development Process	6	12	8	$4,000	
LPD Assessment	8	16	12	$6,000	
OJT/Mentoring	$150-250/hour				
ISO					
ISO 9001 Quality Management Principles	TBD on Co. size & processes				
ISO 9001:latest version	TBD on Co. size & processes				
ISO 16949 Automotive	TBD on Co. size & processes				
AS9100 Aerospace latest version	TBD on Co. size & processes				
ISO 13485 Medical	TBD on Co. size & processes				
ISO 14001 Environmental Management System	TBD on Co. size & processes				
OHSAS 18001 Management Systems	TBD on Co. size & processes				
Combined IOS 9001/ISO 14001/OHSAS 14001	TBD on Co. size & processes				
ISO 9001: Internal Auditor	4	10	16	$6,000	
ISO 9001: latest version/ISO 14001:latest version Internal Auditor	4	10	16	$6,000	
AS9110 for Aerospace Maintenance Organizations				TBD	
Corrective Actions Training Course	4	10	16	$ 6,000	

TMAC Course Title	Min per Course	Max per Course	Contact hours per person	Price Per Course	Price Per Participant
Target Industry					
2-Hour Lock-Out/Tag-Out (LOTO) Awareness	10	20	2		$ 99
4-Hour Lock-Out/Tag-Out (LOTO) Authorization	10	20	4		$ 198
8-Hour HAZWOPPER Refresher	10	20	8		$ 399
Adult First Aid and CPR with AED	2	10	8	$1,500	
Electrical Safety	10	20	2		$ 99
Chains and Slings	10	20	2		$ 99
Confined space awareness	10	20	2		$ 99
Emergency action/ fire prevention	10	20	2		$ 99
Office safety	10	20	2		$ 99
Walking working surfaces	10	20	2		$ 99
Electric Static Discharge (ESD)	5	20	8	$4,000	
Welding Safety Awareness	10	20	2		$ 99
Work place Violence	10	20	2		$ 99
Hot Work Safety	10	20	2		$ 99
Heat Illness Safety	10	20	2		$ 99
Accident Safety Investigation	10	20	16		$ 198
Advanced Statistical Process Control (SPC)	10	20	16	$6,000	
Automating your Factory: Technology overview	5	20	8	$4,000	
Basic Statistical Process Control (SPC) 4 hours	10	25	4	$3,000	
Basic Statistical Process Control (SPC) 8 hours	10	20	8	$4,000	
Blood-borne Pathogens- Non Healthcare	10	40	2		$ 99
Environmental Directives Training	10	40	4	$3,000	
Ergonomics	15	40	2		$ 99
Hazard Communication/(Right-to-Know)	15	40	2		$ 99
Introduction to Programmable Logic Controllers	2	14	16	$6,000	
Machine Guarding	10	40	2		$ 99
Personal Protective Equipment (PPE)	10	40	2		$ 99
Powered Industrial Truck (Fork Truck) Certification	5	10	4		$ 198
RCRA Training (Hazardous Waste Laws)	10	40	2		$ 99
Respirator (Including Qualitative Fit Test)	10	20	4		$ 198
RFID Expertise Training (Three-Day)	4	12	24	$7,500	
RFID Orientation with Simulation (One-Day)	7	14	8	$4,000	
RFID Overview for Management (Half-Day)	10	50	4	$3,000	
Safe Lifting	10	40	2		99
Statistical Process Control (SPC) for Short Run Manufacturing	10	20	8	$4,000	
Storm Water Prevention Plan Training	10	40	2		99
Strategies for Successful Automation	5	20	4	$4,000	
Troubleshooting Industrial Control Circuits	2	14	16	$6,000	
Troubleshooting Motor Control Circuits	2	14	16	$6,000	
WEEE & RoHS Management Overview Training	10	40	5	$3,000	

Exhibit B
TMAC Catalogue

Products & Services Tailored for Texas Businesses

Work Smart. Grow Smart.™

works with businesses to improve performance and grow profitably.

Catalog

HOSTED BY:

Revision: 1/1/2016

Table of Contents

◆ *Instruction also offered in Spanish.*

◆ *Instruction also offered in Spanish.*

◆ *Instruction also offered in Spanish.*

INTRODUCTION

TMAC works with businesses to improve operations and intelligent growth. TMAC specialists work with a wide range of manufacturing firms to provide industry expertise, training and implementation of best business practices. Typical service areas covered include quality management, Lean transformation, environmental, health and safety, software systems selection, and innovation to commercialization. Workforce development is integral to companies, because technical process improvements can only be sustainable when the culture seeks to grow and improve.

TMAC is an affiliate of the Manufacturing Extension Partnership (MEP) program of National Institute of Standards and Technology (NIST). TMAC consists of six partner institutions delivering services statewide. The Texas partners are:

- **Southwest Research Institute**;
- **The Texas Engineering Extension Service (TEEX)**, - The Texas A&M University System;
- **Texas Tech University**;
- **The University of Texas at Arlington**;
- **The University of Texas at El Paso**; and
- **The University of Texas – Pan American**.

Since 1995, TMAC has served over 5,000 different Texas manufacturers. Customers have reported an average 10:1 return on investment. The continued growth in repeat customers is a testament to the value of TMAC services to Texas manufacturers.

The six TMAC partners bring a wealth of training capabilities to the program. Courses and seminars, which vary from basic skills development to sophisticated business operations, are conducted for individual companies and clusters of companies with related needs. Customized programs are tailored to meet specific company schedules and needs, and are offered both day and evening in our training centers or on-site.

For a number of courses, TMAC can provide instruction in Spanish, as indicated in this catalog by a ◆ symbol next to the course title.

We invite you to contact TMAC to learn more about the resources we offer and the ways in which we can help your organization succeed.

LEAN ENTERPRISE

Lean is a proven approach implemented by small and large companies alike to achieve increased global competitiveness of Texas Manufacturers by making the most efficient use of resources. Lean Enterprise Solutions are geared for companies wanting to implement lean practices, tools, and techniques to achieve greater capability to produce by using labor, machines, material, and facilities more effectively to generate greater income.

LEAN LEADERSHIP & MANAGEMENT

Implementing lean practices is a managed process that requires clear leadership, a defined plan, coordination of resources, and robust support systems to assure transformation. Lean leadership and management offerings are intended to equip those leading the lean enterprise with the necessary skills to achieve long term success in pursuing lean as a strategic initiative.

Hoshin Planning

Hoshin Planning is at the heart of the lean operating system and offers a method for defining where to focus for improvement, and a management tool for implementing projects to ensure bottom-line impact.
It offers a guide to company leaders embracing a lean strategy for planning and execution.
Strategy Deployment is especially important for lean leaders since it assures lean is aimed at the right problems to enable profit management.

Principles of Lean for Leadership

Lean is often viewed as a set of process improvement tools and techniques with little emphasis on the supporting systems that allows the tools to work effectively to maximize and sustain gains. The Lean Leadership workshop is a one-day, simulation based workshop that orients the management team on the holistic view of lean, how to structure the deployment of a Strategic Lean Initiative, and the changes in roles and responsibilities that effects the management levels in the organization

Value-Stream Management & Mapping

This course teaches the 8-step method of implementing Value Stream Management and is designed to create the awareness and necessity of the 8-step Value Stream Management process. It introduces the use of successful lean tools for selecting product families, mapping the value streams of selected families, and creating a plan and management system to transform the value stream to achieve customer expectations. The final outcome of Value Stream Management is the creation of a complete, visual plan for lean transformations.

Lean Six Sigma Chartering Management & Project Selection

Most Lean Six Sigma and other improvement initiatives fail due to the selection of the wrong projects. Find out how to ensure you select and manage the right projects to have a bottom-line and strategic impact! This is hands-on training that allows you to understand Lean Six Sigma by experiencing it! Participants won't just learn concepts, they will experience them in a DMAIC simulation. Also learn the key role of a Champion and the methods used for selecting, supporting, guiding and managing projects and black belts. Review the role of Project Sponsors and their related activities.

Lean Performance Measures

This class helps leadership understand and explain how traditional performance measurements conflict with lean performance, understand barriers to adopting performance measurements and how to begin to overcome them. In addition, it helps leaders understand and implement the *starter set* of performance measurements at the corporate level, the Value Stream level, and in Production Cell to motivate lean behaviors. Finally, leaders develop a clear linkage from a company's business strategy to performance measurements used in the value stream and in production cells.

Lean Management System

Most prescriptions for implementing lean are missing one critical ingredient: a lean management system to sustain the journey. This workshop spells out the linkage between an organization's culture and its management system including performance measures & management, and management habits and routines. It provides a framework to see the differences between lean and traditional cultures, and details the practices, tools and thinking for establishing lean management. This workshop focuses participants on how to sustain and extend gains from implementing lean projects, and provides the linkage of correctly managing lean as a system and growing a culture of lean thinkers.

Managing by A3

Managing by A3 is management process at the heart of lean leadership. A3 thinking helps managers and executives identify, frame, and act on problems and challenges facing their organizations. The A3 report is known by many as "the key to Toyota's entire system of developing talent and continually deepening its knowledge and capabilities."
The A3 Report is a Toyota-pioneered practice of grasping the problem, performing the analysis, identifying the corrective actions, and the creating and managing the action plan – all on a single sheet of large (A3) paper, often with the use of graphs and other visuals. A3 paper is the international term for a large sheet of paper, roughly equivalent to the 11-by-17-inch U.S. sheet.
This half day workshop introduces the 9 step process of A3 Management by using numerous examples, hands-on exercises, and real-world application

Leadership Team Development

Not finance. Not strategy. Not technology. It is teamwork that remains the ultimate competitive advantage, both because it is powerful and so rare. For all the attention that it has received over the years from scholars, coaches, teachers, and the media, teamwork is as elusive as it has ever been within most organizations. The fact remains that teams, because they are made up of imperfect human beings, are inherently dysfunctional. And like so many other aspects of life, teamwork comes down to mastering a set of behaviors that are at once theoretically uncomplicated, but extremely difficult to put into practice day after day. Success comes for those organizations that overcome the all-too-human behavioral tendencies that corrupt teams and breed dysfunctional politics within them. This approach is built around noted author and leadership guru, Patrick Lencioni, and his work '5 Dysfunctions of a Team'. Teams are guided through the 5 dysfunctions of lack of Trust, Dialog, Commitment, Accountability, and Results using several exercises and interactive sessions. Team size is typically ~ 8 people and meet periodically over several weeks to learn and apply the concepts.

Training Within Industry for Leadership

Prescriptions in TWI often miss a critical ingredient: a management methodology to sustain the training. This workshop links an organization's culture and its management system while providing examples of performance measures & management habits and routines. In other words, a framework that details the

management practices, tools and thinking for establish and sustain gains from TWI. How to promote human behavior changes that will foster the continued improvement that TWI makes possible.

LEAN EXPERT DEVELOPMENT

Lean Experts are defined as those possessing the technical skills of various lean approaches, techniques, and tools. Their role is to be an internal technical resource used to identify lean opportunities, guide implementations of various projects, and develop others in their understanding of lean concepts and tools.

Lean Six Sigma Green Belt & Black Belt Training

Time and quality are the two most important measures in improving any company's production and profit performance. Lean Six Sigma explains how to impact your company's performance in each, by combining the strength of today's two most important initiatives -- Lean Production and Six Sigma -- into one integrated program.

The first course to provide a step-by-step roadmap for profiting from the best elements of Lean and Six Sigma, this breakthrough training will show how to:
1. Achieve major cost and lead time reductions in less than a year
2. Compress order-to-delivery cycle times
3. Reduce process variation and waste throughout your organization

Unlike its predecessors, Lean Six Sigma keeps improvement tied to business strategy. You'll learn how to determine which projects will have the biggest and quickest impact on you strategic and financial priorities. You'll learn the secret to eliminating the time traps that add delays and hinder speed in both service and manufacturing processes. Lean Six Sigma can show you how to permanently eliminate sources of unnecessary cost while reaching Six Sigma levels of quality, and dramatically improving shareholder value. Green Belt training is a two-week course in which attendees learn basic problem-solving tools. Black Belt training is a more rigorous four-week course covering both basic and advanced tools. The courses use materials developed and offered in partnership with George Group.

Lean Six Sigma for Service Green Belt & Black Belt Training

Lean Six Sigma for Service is based on the same tools, core principles and the DMAIC (Define-Measure-Analyze-Improve-Control) process as Lean Six Sigma for manufacturing. All of the training is relevant to service and transactional processes with applicable case studies and exercises included throughout. Examples are drawn from various industries including healthcare, banking and insurance.

Champion & Sponsor Training

Most Six Sigma and other improvement initiatives fail due to the selection of the wrong projects. Find out how to ensure you select and manage the right projects to have a bottom-line and strategic impact! Hands-on training that allows you to understand Lean Six Sigma by experiencing it! Participants won't just learn concepts, they will experience them in a DMAIC simulation. They will also learn the key role of a Champion and the methods used for selecting, supporting, guiding and managing projects and black belts. In addition they will learn about the role of Project Sponsors, including how to develop a Project Charter and what to do in a Gate Review.

Lean Practitioner's 9+3 Certificate Series

This program is tailored for manufacturing professionals leading lean initiatives who want to equip themselves with the skills necessary to be effective change agents and lean implementers. The 9+3 program consists of 9 days of simulation-based, hands-on workshops that present lean concepts, principles, tools and techniques plus a three-day rapid improvement event (Kaizen) to experience implementing newly learned lean practices in a real factory. The program is highly interactive and experiential, not simply classroom lectures and theory. It's practical, effective and proven.

Team Facilitation Skills Training

Lean projects are most effective when deployed using teams. Beyond the technical skills of lean tools and techniques, lean experts must also possess the skill of team facilitation. A trained team facilitator is able to assume a key role in improvement teams or natural work groups. A facilitator who can advise teams, assist managers and serve as an internal process consultant is vital to the success of the lean enterprise. Participants will learn the roles of facilitator, leader and team member, skills in team building, communications, interventions, and guiding team activities

Rapid Improvement Event (Kaizen) Methodology

A Rapid Improvement (KAIZEN) Event is a team activity aimed at rapid implementation of Lean methods to eliminate production waste in particular areas of the plant. This workshop covers the three phases of conducting an improvement event including: 1) Planning and Preparation; 2) Implementation…The Event Itself; and 3) Presentation, Celebration, and Follow-Up.

LEAN WORKFORCE PRACTICES

Lean workforce practices are those regular, routine activities executed by front-line workers and leads (supervisors). These practices form the foundation of continual improvement cycles outside of formal events, and are considered to be the foundation of the lean approach to enterprise transformation. They position the company to take advantage of small, systematic, incremental improvements that collectively provide the greatest impact on business objectives and goals. They include 5S, TWI, Problem Solving, and Teams.

5S (Sort, Set in Order, Shine, Standardize, Sustain) ◆

This course teaches shop floor workers the basics of five S's - the cleaning and straightening activities that are the foundation for all workplace improvements. It is particularly valuable for operators in manufacturing environments, pilot teams and implementers of Lean Manufacturing. This is the foundation for creating a Lean environment.

Training Within Industry (TWI)

Although Lean is increasingly recognized worldwide as the most productive approach to manufacturing, most companies do not realize that Lean is actually a blend of both old and new concepts. Henry Ford knew in 1926 that he could keep the prices of his products low by shortening the production cycle and standardization, and he proceeded to build his manufacturing empire on these concepts. Set up by the Roosevelt administration after the fall of France in 1940, TWI was charged to *rapidly boost industrial production, productivity and quality* to sustain the war effort and was adopted by Toyota forming a cornerstone of eliminating waste, standardizing work, and creating a culture of improvement. There are three elements to the TWI training:

- **TWI – Job Methods Improvement**

The aim of the Job Methods Training program is to help produce greater quantities of quality products in less time by making the best use of the people, machines, and materials now available. Supervisors are taught how to break down jobs into their constituent operations. They question details and develop new methods by eliminating, combining, and rearranging these details.

- **TWI – Job Instruction for Standardized Work**

The objective of Job Instruction is to help supervisors develop a well-trained workforce resulting in less scrap and rework, fewer accidents, and less tool and equipment damage. Supervisors are taught how to effectively break down a job for instruction. The method emphasizes preparing the operator to learn, giving a proper demonstration, identifying the key points in the job, observing the operator perform trial runs, and tapering off coaching while continuing to follow-up.

- **TWI – Job Relations**

Problems come in two basic forms – those dealing with products and processes, and those dealing with human behavior and relationships. JR emphasizes that people must be treated as individuals. Supervisors are given foundations for developing and maintaining good relations to prevent problems from arising. Principles include providing constructive feedback, giving credit when due, telling people in advance about changes that will affect them, making the best use of each person's ability, and earning the employee's loyalty and cooperation. When problems do arise, it teaches supervisors how to get the facts, weigh them, make the decision, take action, and check results.

- **TWI - Job Safety - JS**

Based on the TWI instructional model, Job Safety (JS) is a complementary program focused on environmental health and safety. JS provides a framework for supervisors to engage employees in identifying potential hazards and eliminating them in conjunction with their training and knowledge in OSHA and EPA regulations. JS was developed in Japan and, although it was not part of the original TWI program, it plays a critical role in industry today. This program teaches supervisors a method to analyze the chain of events leading to accidents and hazardous situations. Root causes are identified and remediated to "break the chain". JS stresses that the relationship of the supervisor and employees plays a pivotal role in a safe and environmentally responsible workplace.

- **TWI - Problem Solving - PS**

In the spring of 1951, Lowell Mellen and his associates from TWI Inc. began teaching TWI classes in Japan under contract with the U.S. military occupation. Mellen had been a district representative of the TWI Service in Cleveland during the war, and he formed TWI Inc. when the service disbanded in 1945 at the end of World War II. After successfully planting the three original J-Programs in Japan, TWI Inc. was asked by the Japanese government in 1956 if they could teach supervisors how to solve workplace problems. In response, Mellen and his associates developed a new TWI program called Problem Solving (PS) Training.

Since TWI PS specifically uses the three TWI methodologies for the purpose of solving problems, companies already employing one or more of the TWI skills can leverage these supervisory abilities and gain even more value from them. It gives renewed meaning to the TWI methods with a more specific focus — problem solving. Moreover, TWI PS provides a good opportunity to refresh, review, and reinvigorate the use of these powerful skills in workplaces.

Most companies want their front line supervisors to be self-sufficient and to solve the problems they face rather than wait for someone else to do it for them. The TWI Problem Solving program was the way, then, to consolidate and integrate the proven TWI methodologies of JI, JR, and JM under one plan for this purpose. If we look at how far Japanese industry has come since the introduction of these TWI programs

and the effect they had on today's Gold Standard of manufacturing excellence, the Toyota Production System, we can appreciate what a great contribution Mellon and his group made both then and now.

Problem Solving Tools ◆

It is often a common practice to keep fixing the same things over and over. As a result, operators become experts at fixing rather than preventing the problems and identifying opportunities for continual improvement activities. This hands-on course provides the background and skills necessary to lead effective Root Cause Analysis is a structured, team-based, analytical approach that helps detect potential problems and can alleviate chronic failure problems within an organization. It uses the DMAIC model as the systematic approach to solving product/process related problems and provides hands-on application of basic problem solving tools and techniques including process mapping, fishbone diagramming, brainstorming, affinity diagramming, 5 why's and others.

Mistake Proofing

A key element for improving product quality and reliability is mistake proofing. This course teaches the fundamental principles of mistake proofing and its ability to either make it impossible for an error to occur or make the error immediately obvious once it has occurred. A combination of lecture and hands on simulation will teach students how to use mistake proofing procedures.

Improvement Routines (Kata)

Kata is the word used to describe physical positions and patterns in martial arts. It's important because it allows deliberate practice of specific motions needed in self-defense. Similarly, the Improvement Kata is a deliberate routine that taps into abilities we all have but are not well developed by conventional improvement and problem-solving approaches. It's a systematic means for working through obstacles to achieve new conditions and levels of performance, and emphasizes the 4 key elements of the improvement model.

Teams

Effective team participation is critical to unleashing to power of group dynamics in problem solving. While someone may possess the technical tools to solve problems, understanding basic team effectiveness stages, group dynamics, communication styles, listening skills, dealing with group conflict and how to reach consensus are all necessary to effectively participate as a team member. This class teaches basics of team participation to those expected to function effectively

LEAN ASSET MANAGEMENT

Equipment and Facilities are usually the most significant assets appearing on the balance sheet. The fundamental aim of lean is to increase throughput dollars using the existing capital assets. When equipment and facilities are not used effectively, it often results in insufficient capacity and causes overtime, additional equipment purchases, poor customer satisfaction and even facility expansion. Lean Asset Management offerings are geared to making the most effective use of machines and equipment, and facilities to allow the greatest throughput with the least amount of capital investment.

Autonomous Maintenance/Operator-Based Maintenance

Autonomous Maintenance is one of the vital 8 pillars of Total Productive Maintenance (TPM) and is key to getting out of the 'breakdown maintenance spiral'. Studies show that as much as 70% of equipment failures are due to contamination, improper lubrication, and/or mechanical fasteners. This workshop equips operators to perform basic equipment checks and preventive maintenance activities to dramatically improve overall equipment effectiveness (OEE) and reduce unplanned equipment downtime.

Overall Equipment Effectiveness (OEE)

The 6 major equipment losses include breakdown, changeover, slow speed, minor stoppages, startup losses, and run quality. OEE is the measurement that evaluates and indicates the effectiveness of equipment, and is commonly used as a key performance indicator (KPI) in conjunction with lean manufacturing efforts to provide an indicator of success. OEE's of <50% are not uncommon and translates to the company possessing twice as many machines as they really require because of poor equipment performance. It also translates to twice as much machine depreciation expense on the income statement which deteriorates profitability. When OEE improves, the need to add machinery, related space and people is avoided so future revenue growth is more profitable, not to mention improved productivity and customer satisfaction in the short term.

Total Productive Maintenance ◆

This course offers the student a method to proactively maintain machines and equipment at their peak productivity. Participants go away with an understanding of TPM and the five major roles in effective deployment. Each student should understand how TPM increases overall equipment effectiveness and how it can help avoid interruptions to production to achieve reduced batch sizes and increased equipment performance. The course provides a deep understanding of the 8 pillars of TPM.

Set-up Reduction/Quick Changeover ◆

This course teaches the fundamental principles of set-up reduction. The instructor will clearly define set-up and discuss reasons and barriers to reducing set-up time. Participants learn the standard methodology in applying Single Minute Exchange of Dies (SMED) to any type of set-up or industry.

Plant & Warehouse Layout

Poor layout can result in excess handling and inventory, reduced process speed, increased expediting, and poor communication. This workshop details the steps of analyzing, designing, and implementing an improved facility layout to achieve maximum velocity of product moving through the system to produce income while minimizing the resources required. Participants learn a proven methodology to make the most efficient use of the existing facility or designing improvements for an anticipated plant expansion or relocation.

LEAN PRODUCTION & MATERIAL LOGISTICS

Lean production and material logistics is the backbone of the lean enterprise. It includes basic introduction to lean concepts and tools, and techniques to flowing the product at the demand of the internal and external customer.

Principles of Lean Manufacturing ◆

Principles of Lean Manufacturing (with live simulation) is an overview class that provides a foundation for all other classes in the series. Participants begin by manufacturing various assemblies in a traditional manufacturing setting. The results of the first simulation round will provide the setting for continuous improvement by applying the lean manufacturing principles. Participants will have the knowledge of understanding the 8 wastes in manufacturing. A mixture of lecture and hands-on simulations will teach lessons in standardized work, workplace organization, visual controls, set-up reduction, batch size reduction, point of use storage, quality at the source, workforce practices, and pull systems. Each is designed to eliminate waste in the manufacturing processes.

Standardized Work & Cellular/Flow Manufacturing ◆

This hands-on course teaches how to link and balance manufacturing operations to reduce lead times, minimize work in process, optimize floor space usage, and improve productivity. The instructor will lead the class through the 5-step process for designing and implementing work cells. This process applies to both assembly and fabrication applications.

Pull/Kanban Systems ◆

Students will learn how to control shop floor inventory and production schedules by implementing pull systems. This course teaches how to design and implement a visually driven, employee-controlled material replenishment system. Participants also learn how to implement repetitive and non-repetitive pull systems, to set up point-of-use material storage, to interface with planning systems, and to balance lot sizes with capacity, not economic order quantity.

Work Measurement & Time Studies

Work measurement is often considered the backbone of industrial engineering, industrial technology, and industrial management programs because the information that's generated affects so many other areas including cost estimating, production and inventory control, plant layout, material and process selection and design, quality, and safety. Work measurement precedes setting time standards since setting standards on poorly designed jobs and processes would be a waste of time. Therefore, work measurement studies should be used to:

- Develop production system design improvements
- Identify problematic operations and jobs for improvement.
- Develop the best work method (standardized work).
- Develop motion consciousness on the part of employees.
- Develop economical and efficient tools, fixtures, and production aids.
- Assist in selection of new machines and equipment.
- Train employees on the preferred method.
- Reduce effort, injuries, and cost.
- Develop staffing models.

This workshop provides the basic approach to conducting time studies efficiently and effectively.

LEAN OFFICE & ADMINISTRATION

Office processes are vital to the successful transformation of the value stream and are often the best target for impacting cost, quality, and delivery. While the concepts, tools, and techniques used to transform production are also applied equally well in transactional office processes, the offerings included here are designed to relate specifically to the front-office and other non-production audience.

Principles of the Lean Office ◆

The full-day Lean Office training workshop involves a mix of classroom style learning with an interactive live simulation where class participants take on the roles of managers and workers within a company. During the class time participants learn lean definitions and techniques. Then, the participants work in a traditional office environment with forms, calculators, and procedures. Throughout the day, they explore the application of lean techniques in the simulated office.

To apply the lean techniques, the office is transformed in three "stages" or "days" with the improvements implemented at the end of each "stage" or "day". Through the implementation of lean techniques, office work is transformed from a confused and slow process to a much more efficient, effective, and predictable one.

Value Stream Mapping for the Office

This workshop is designed to develop the participant's skill with value stream maps to analyze the transactional business processes in detail from the process and customer's viewpoints. Participants learn value stream mapping as a critical skill to eliminating waste in the existing process, how to develop a detailed, data-rich Value Stream Map in a hands-on manner, and helpful mapping hints. In addition, participants learn how to use the maps by developing their Ability to See the Flow and Create Current State Value Stream Maps Based on Understanding of Lean Techniques., Finally, they are able to Identify Specific Improvements to Apply, Create a Future State Map, and Prioritize and Select Lean Projects to Begin Deploying to Create Lean Office Processes.

LEAN PRODUCT DEVELOPMENT

Lean Product Development Overview: 10-20 participants 2 Hour Class

The Lean Product Development overview presents a selected set of leading-edge, practical tools for slashing waste and increasing speed and efficiency for any product development process. The "lean methods" described in this course enable dramatic reductions in time-to-market while freeing up valuable resources for additional development work. Firms that have embraced these practical, waste-eliminating tools have reported up to 50 percent reduction in launch schedules, dramatic improvements in gross margin, and enhanced customer satisfaction. This overview introduces the participants to selected aspects of the approach for creating your own lean process that will enable rapid, high-value product development.

Introduction to Lean Product Development: 6-15 participants 1 Day Class

The Introduction to Lean Product Development workshop presents a set of leading-edge, practical tools for slashing waste and increasing speed and efficiency for any product development process. The "lean methods" described in this course enable dramatic reductions in time-to-market while freeing up valuable resources for additional development work. Firms that have embraced these practical, waste-eliminating tools have reported up to 50 percent reduction in launch schedules, dramatic improvements in gross margin, and enhanced customer satisfaction. This hands-on workshop introduces the participants to all

aspects of the approach for creating your own lean process that will enable rapid, high-value product development.

Rapid Project Execution: 6-15 participants 2 x ½ Day Events

The Rapid Project Execution workshop focuses on improving the day to day focus and execution of the project team and supporting departments conducting product development. It builds upon the foundational principles learned in the Introduction to Lean Product Development by implementing them directly to a real world application.
Project teams implement rapid project execution tools with this hands-on workshop conducted with the participants on an actual product development project at their company. The participants incorporate rapid project execution methods for meetings, project management and status reporting.
The "lean methods" applied in this workshop, Stand-Up Meetings, Visual Project Boards, exception Driven Status Reporting, Time Slicing / Project Time, and other time savers enable dramatic increases in time spent on creating value by at least 50% while freeing up valuable resources for additional development work.

Value Engineering: 6-15 participants 1-3 Day Event

The Value Engineering workshop focuses on clarifying and prioritizing customer requirements, establishing critical to quality, yield, and cost issues, and analyzing design alternatives that optimize meeting both the customer and business needs. It builds upon the foundational principles learned in Introduction to Lean Product Development by applying them directly to a real world application.
Project teams apply value engineering and design for manufacturing tools on an actual product development project at their company. The participants develop design alternatives that delight customers while optimizing the yield and reducing manufacturing costs and cycle times.

Build a Lean Product Development Process: 6-15 participants 1-3 Day Event

The Build a Lean Product Development Process workshop focuses on improving the strategic system for product development. It builds upon the principles learned in Introduction to Lean Product Development by implementing them directly to a real world application.
Companies begin to transform their product development process into a "continuous-flow process with this hands-on workshop conducted with the participants on an actual product development project at their company. The participants document and analyze their current process and then develop a customized company specific future state that will enable rapid, high-value product development and then create a plan to achieve it. The "lean methods" applied in this workshop; Deliverables Roadmaps, Process Mapping, and Value Stream Mapping, enable dramatic reductions in time-to-market while freeing up valuable resources for additional development work

3P Integrated Cost Reduction and Production Preparation Process: 6-15 participants 1 Day Class or 1-3 Day Event

Learn how to implement 3P, the "Production Preparation Process". 3P is part of an overall Lean strategy because it includes the rapid testing of ideas and the embedding of Lean manufacturing principles at the earliest stages of process and product design. 3P is a powerful new program that addresses one of the most sought-after new initiatives in industry today – implementation of a practical and effective system for integrated cost reduction. This topic has been the center of attention at Lean Manufacturing conferences and throughout the Lean community and it can benefit ANY manufacturing firm that is in the process of implementing Lean. The 3P Integrated Cost Reduction and Process Preparation Workshop

provides an event-driven, standard work approach that is easily understandable and which has a very high success potential.

Lean Six Sigma for Process Design (5 days)

This one week workshop is a Design for Lean Six Sigma course which uses the DMEDI methodology (Define-Measure-Explore-Develop-Implement) instead of the DMAIC process used in Lean Six Sigma. The DMEDI methodology is applicable to all processes, in any department or industry, and is a great tool in process design or redesign. The DMEDI approach will help to not only shorten the development time, but also to create a process that is better able to meet the needs of your customers.

Participants in this course will learn the methodology for designing and launching new processes correctly the first time and:

- Develop new services that drive greater value for your customers
- Create innovative processes with greater efficiency and effectiveness
- Leapfrog the competition with new processes that are significantly higher in quality
- Overhaul existing processes not just incremental improvements

The prerequisite for this class is that you must have previously completed LSS Black Belt OR Green Belt training. It is also highly recommended that each participant have a project on which to work during the class.

Lean and Sustainable Product Design: 6-15 participants 1 Day Class

Lean and Sustainable Product Design is a one-day workshop that incorporates the critical 4th dimension of product sustainability throughout the total life use cycle of a product, from cradle to grave to cradle. Environmental attributes are designed-in early and balanced with quality, performance and cost-value attributes, so that the resultant product meets the needs of customers and market place, and still makes it profitable to produce, sell and service. Several LSPD tools are provided to help the product development team prioritize and optimize product attributes in tune with customer needs, functional and regulatory requirements, and environmental factors. With today's emphasis on global environmental stewardship, LSPD enables product designers to address all aspects of sustainability throughout the entire product lifecycle

Integrated Project Team Lean Product Development Workshop Series

The Product Team Lean Product Development Workshop Series is an integrated series of 6 sequential event based workshops conducted with a company's product development team on an actual company product development project. The series uses a learn / do method of workshops and coaching incorporated seamlessly into the project critical path to both teach the team and incorporate Lean Product Development best practices into the project resulting in improved project results and product development processes. Each of the workshop events are customizable to the size and type of the product development project and the company and can vary from one to three days as needed to best fit the company needs. The workshop series consists of the following six events:

1. Market Requirements Definition - transform voice-of-the-customer (market) data into a prioritized list of product design requirements that maximize customer value, market acceptance, and profits

2. Project Planning and Risk Mitigation – generate a realistic project plan, including schedule, launch date, budget and resource plan, and to perform proactive risk identification and mitigation for the project.
3. Rapid Project Execution - improve the day to day focus and execution of the project team and supporting departments conducting product development
4. Design 3P Cost Reduction – utilize the 3P, (Production Preparation Process) innovative cost reduction and quality enhancement tools to reduce product manufacturing cost and improve manufacturability and delivered quality
5. Design Review and Freeze – provide feedback from technical peers on the completeness and correctness of a product design, and identify improvements or corrections that would enable the design to be "frozen"
6. Production Readiness Review – ensure that all deliverables required for product launch are complete and correct

1. Lean Product Development Market Requirements Definition: 6-15 participants 1-3 Day Event

Workshop Objective:
To transform voice-of-the-customer (market) data into a prioritized list of product design requirements that maximize customer value, market acceptance, and profits.
Key Outputs:
• Market Positioning Statement
• Top Five Customer Benefits / Key Differentiators
• Prioritized List of Features & Performance Levels
• Action Assignments to Execute the Above

2. Lean Product Development Project Planning/Risk Mitigation: 6-15 participants 1-3 Day Event

Workshop Objective:
To generate a realistic project plan, including schedule, launch date, budget and resource plan, and to perform proactive risk identification and mitigation for the project.
Key Outputs:
• Project Budget and Resource Plan
• Project Milestone Schedule
• Prioritized List of Risk Issues
• Action Assignments for Risk Mitigation

3. Rapid Project Execution: 6-15 participants 2 x ½ Day Events

Workshop Objective:
Project teams implement rapid project execution tools with this hands-on workshop conducted with the participants on an actual product development project at their company. The participants incorporate rapid project execution methods for meetings, project management and status reporting.
Key Outputs:

Stand-Up Meetings	Time Slicing / Project Time
Visual Project Boards	Lean Collaborative Meetings
Exception Driven Status Reporting	Reduced Email Waste

4. Lean Product Development Design 3P / Cost Reduction: 6-15 participants 1-3 Day Event

Workshop Objective:
To utilize the Toyota 3P, (Production Preparation Process) innovative cost reduction and quality enhancement tools to reduce product manufacturing cost and improve manufacturability and delivered quality.
Key Outputs:

- Preliminary Manufacturing Plan
- Design Efficiency Analysis
- Prioritized List of Critical-to-Quality Improvements
- Prioritized List of Critical-to-Cost Improvements
- Optimized Capital Plan – Tooling / Fixtures / Equip.
- Action Items to Implement the Above

5. Lean Product Development Design Review and Freeze: 1-3 Day Event

Workshop Objective:
To provide feedback from technical peers on the completeness and correctness of a product design, and identify improvements or corrections that would enable the design to be “frozen”.
Key Outputs:

- Prioritized List of Errors / Corrections to Design
- Prioritized List of Improvements to Design
- Proposed Date for “Freezing” the Design
- Action List to Enable Design Freeze

6. Lean Product Development Production Readiness Review: 6-15 participants 1-3 Day Event

Workshop Objective:
To ensure that all deliverables required for product launch are complete and correct.
Verify and Finalize the Following:

- All Critical Actions Complete (Master Action List)
- Qualification Test Data
- Final Production Launch Plan
- Final Layout for Lines and Cells
- Poke-Yoke / Fixtures / Equipment
- Manufacturing Test / Inspection
- Sourcing / Supply Chain
- Distribution / Logistics
- Sustaining Mfg. Support Process

QUALITY MANAGEMENT

Green Sustainability Generalist 101

Green Sustainability Generalist 101 is a one-day workshop that focuses on green concepts, key environmental issues facing manufacturers, and the components of sustainability. The workshop combines classroom-style learning with an interactive simulation. Participants are introduced to the tools to redesign a fictitious company's business using green techniques to improve customer and employee satisfaction. The workshop is appropriate for anyone in a company's work force.

In the Green Generalist 101 course, participants learn the key environmental issues facing manufacturers and ways to redesign their business practices using environmentally friendly techniques.

ISO 9001 Quality Management Principles ◆

These principles are the fundamental beliefs that focus on continual performance improvement through addressing the needs of customers, as well as business excellence throughout an organization. Participants will gain an understanding of the foundation upon which ISO 9001:2000 was developed. Individuals interested in the background and development of ISO 9001:2000 and/or those professionals who direct or participate in quality system management should take this course.

ISO 9001 ◆

This workshop is designed to explain the new ISO 9001:2000 standard. It covers recognized auditing techniques, develops practical audit skills, and improves Auditor evaluation and reporting skills. You will learn: how to develop a robust and cost effective audit program, concise reporting formats, an explanation of ISO 9001:2000 requirements, and how to avoid common problems with internal audit programs.

ISO16949(Automotive); AS9100C(Aerospace); ISO 9001(General); ISO 13485(Medical)

TMAC will direct and facilitate the implementation of any of the above Quality Management Systems. This course includes how to write the quality manual, procedures, work instructions, and forms/records that are required/needed to meet the requirements of these standards. TMAC will flowchart entire organization and look for areas to reduce waste and improve current processes. TMAC will train company personnel on the quality documentation. Selected individuals will be trained as internal auditors and as part of the training a complete process audit will be completed to ensure system has been effectively implemented. Registration is guaranteed.

ISO 9001/ISO 14001 Internal Auditor ◆

This course teaches you how to audit effectively while trouble shooting your organization for ISO 9000 Standard compliance. ISO 10011 (audit practices) is covered in detail, including planning, execution, reporting and follow-up. Those interested in managing, conducting, or participating in internal audits should take this course. It will also assist individuals wishing to become ISO registered by identifying those areas an external auditor will assess.

◆ *Instruction also offered in Spanish.*

ISO 9001: Lead Auditor ◆

This course will discuss all types of audits, reviews and assessments, and will show how to be most effective in the role of lead auditor. Lecture, teamwork, role-play and mock auditing are used to instruct you in the techniques necessary to ensure a successful assessment. Anyone interested in pursuing Lead Auditor certification and/or those responsible for developing and managing supplier accreditation programs should take this course.

ISO 14001 Environmental Management System

With no previous knowledge of ISO 14001 companies can become registered to the standard in less than one year with hands-on training and implementation assistance. ISO 14001 detects and reduces waste in resources and processes and statistics show immediate return on investment and savings. Compliance to this EMS assists companies with their compliance issues at local, state and national levels. Aspects (the things within a company that could impact the environment) are identified and prioritized and action plans developed to eliminate or reduce them.

Combined ISO 9000, ISO 14000 and OHSAS 18000 Management Systems

With no previous knowledge of ISO or OHSA, companies can become registered to these standards in less than one year with hands-on training and implementation assistance. The combined effort to implement these three standards helps merge these programs into a single system. Combining these systems also allows for reduced 3rd party registration costs for the organization.

Lean and Environmental Value Stream Mapping

This class offers practical strategies and techniques to learn how to improve lean results—waste elimination, quality enhancement, delivery of value to customers—while achieving environmental performance goals. Hidden environmental wastes—sometimes buried in facilities and support functions—can be significant, as can the costs associated with them. *Environmental wastes are often a sign of inefficient production, and they frequently indicate opportunities for saving cost and time*. Both lean and environmental metrics are introduced into a current state and future state value stream map to help identify a roadmap to process improvement efforts. This class teaches people without an environmental background how to "see" environmental wastes for the first time.

Environmental Directives Training

In response to the growing number of inquiries, TMAC now offers a portfolio of consulting services to assist you with WEEE and RoHS compliance and with constructing a "reasonable steps" defense in case you are non-compliant. Particular services include:

- Understanding the legislative requirements and your financial risk
- Assessing your specific obligations and your customers' obligations
- Converting to Pb-free manufacturing
- Reducing product failures from substantially higher temperatures in lead-free manufacturing
- Managing dual inventories and parts numbering issues
- Collecting substance-level data internally and from your suppliers
- Reporting substance-level data to your customers and enforcement authorities

---

◆ *Instruction also offered in Spanish.*

- Developing a compliance roadmap

LEED Basics for Contractors

This 2-hour overview will help contractors understand the basics about the US Green Building Council's LEED Certification standards for green building. In this session you will understand more about the reference standards, awarded points and where and how to complete submittals. You will receive information on resources to provide general contractors with a complete step-by-step process for LEED project management, a listing of LEED sustainable practices and detailed instructions on managing the LEED credits for which contractors are most often responsible.

WEEE & RoHS Management Overview Training

This half day "Complying with RoHS, WEEE and Other EPR Directives" seminar is designed to provide critical background information on the legislative context, requirements and risks. Attendees will learn:

- Why even the smallest electronics suppliers are impacted – and need to accelerate their activities today
- How to mitigate your financial risk
- How RoHS impacts more than just design and manufacturing
- Step-by-step actions from a Compliance Implementation Process
- What other SMEs are doing

Basic Statistical Process Control (SPC) ◆

Shop floor personnel, engineering and quality staff and anyone unfamiliar with SPC and wanting to learn more will learn in this introductory course the principles and practices including: terminology, SPC Steps, X Bar & R Charts, process capability, attributes charts and control charts.

Advanced Statistical Process Control (SPC) ◆

This in-depth course explains the principles and practices of SPC for engineering and quality staff needing to know when and where to apply SPC. Basic course is a prerequisite. Participants will learn: interpretation of control charts, attributes charts, and process capabilities, delving deeper into the topics covered in the basic course.

Statistical Process Control (SPC) for Short Run Manufacturing ◆

This course is designed for staffs who work in short-run manufacturing environments and anyone who wants to learn more about SPC for use with short-run orders.

ENVIRONMENT, HEALTH & SAFETY

RCRA Training (Hazardous Waste Laws)

The purpose of the Resource Conservation and Recovery Act is to protect human health and the environment from the effects of improper hazardous waste management. The statute establishes requirements for all hazardous waste generators, transporters, and treatment storage, and disposal facilities. RCRA regulates hazardous waste, solid waste (non-hazardous), and underground

◆ *Instruction also offered in Spanish.*

storage tanks. The "cradle-to-grave" principle was established by RCRA to ensure proper tracking and disposal of hazardous waste. There are three course objectives:

- Fulfill the Federal RCRA requirement under 40 CFR Part 262.34 for employee training at a generator's facility
- Fulfill the Federal RCRA requirements for annual refresher training for employees whose job function includes generating, handling, storing and shipping hazardous waste
- Provide managers and supervisors with the information needed to train their employees in the proper procedures for managing RCRA hazardous wastes

Course topics include:

- Understanding how to read and reference generator regulations included in 40 CFR Part 262
- Understanding how to read and reference waste characterization procedures included in 40 CFR Part 261
- Application of generator regulations included in 40 CFR Part 262 including:
    - Explanation of "cradle-to-grave" responsibility
    - Determining if a waste meets the definition of a RCRA hazardous waste as being either "listed" or "characteristic" by constituent
    - Explanation of federally "exempt" hazardous wastes
    - Procedures for proper storage of hazardous waste including appropriate time limits and quantity limits
    - Procedures for proper container management
    - Techniques for spill prevention and control of hazardous wastes
    - Explanation of proper shipping documentation including manifests and land disposal restriction agreements
    - Procedures for emergency response including use of the North American Emergency Response Guidebook
    - Planning for a RCRA enforcement facility inspection

Storm Water Prevention Plan Training

Storm Water Pollution Prevention training is required for employees of industrial facilities that maintain an EPA NPDES General Permit for Storm Water Discharges. Under the NPDES regulation, employees must understand their responsibilities if they handle the following materials:

- Fuels, solvents, detergents, plastic pellets, and metallic products.
- Raw materials used in food processing or production.
- Designated hazardous substances (under Section 101(14) of CERCLA, any chemical that must be reported under section 313 of Title III of SARA).
- Fertilizers, pesticides and waste products such as ashes, slag and sludge that may be released with storm water discharges.

Storm Water Pollution Prevention training covers:

- Best management practices
- Sampling - grab versus composite
- Chemical/biological/physical hazards
- Spill prevention and response
- Good housekeeping
- Material management practices

◆ *Instruction also offered in Spanish.*

8-Hour HAZWOPPER Refresher

Employees designated to respond to hazardous material incidents are required to complete Hazardous Waste Operations and Emergency Response training (HAZWOPER). First responders at the operations level are individuals who respond to potential or actual releases of hazardous substances in a defensive fashion. Their response is to protect people, property, or the environment from the effects of the release. Their function is to contain the release from a safe distance, keep it from spreading, and prevent exposures. Topics covered in this course include:

- Introduction to the HAZWOPER regulation - First Responder Awareness and Operations Level requirements
- Basic chemistry and toxicology for emergency response
- Chemical hazard recognition and release response evaluation
- Implementing an emergency action plan
- Personal protective clothing - chemical protective clothing - respirators
- Spill containment and control - sorbent systems
- Basic blood-borne pathogen response in chemical emergencies
- Final classroom written exam and course certification

24-Hour Initial HAZWOPPER

Employees involved in voluntary cleanup operations, government ordered cleanup operations, corrective actions, or operations at any treatment, storage and disposal facility must be trained under the HAZWOPER standard 29 CFR 1910.120(e). Topics covered in this course include:

- Site and safety plan
- Safety, health and on site hazards
- Minimizing hazard risks at work
- Safe engineering controls and equipment on site
- Decontamination procedures
- Emergency response plan
- Use of protective equipment
- Spill containment program

10-Hour OSHA General Industry

This comprehensive, two-day training workshop will focus on the OSHA regulations that the Department of Labor has selected as an “authorized” ten-hour program for any business that must comply with the general industry regulations… 29 CFR Part 1910. Topics covered in this course include:

- An introduction to OSHA as a regulatory agency
- Learn how OSHA regulates the workplace
- Understand what happens during an enforcement inspection
- Learn what is expected for a company to be in “compliance”
- Understanding how to read and use the CFR as a tool for compliance
- Understand how to find any OSHA regulation by its reference
- Learn how to comply with the Subparts within 29 CFR 1910 including
    - Subpart D - Walking and Working Surfaces
    - Subpart E - Means of Egress
    - Subpart L - Fire Prevention
    - Subpart S - Electrical Safety
    - Subpart I - Personal Protective Equipment
    - Subpart Q - Welding, Cutting and Brazing

◆ *Instruction also offered in Spanish.*

- Subpart O - Machine Guarding
- Subpart J - Lockout / Tagout
- Subpart Z - Hazard Communication
- Subpart N - Material Handling - Powered Industrial Trucks

Hazard Communication/(Right-to-Know)

Hazard Communication training is required annually under OSHA 29 CFR 1910.1200 and is intended for individuals who may be exposed to hazardous chemicals in the workplace. The course covers the primary labeling systems (NFPA and HMIS), hazard warnings, and material safety data sheets. Users learn how to make a hazard determination and the responsibilities of various parties with regard to chemical handling. Emphasis includes employee training requirements, hazard prevention, and hazard minimization. Topics covered in this two-hour course include:

- Overview of Hazard Communication Standard
- Requirements and Responsibilities
- Training Requirements
- Hazard Chemical Characteristics
- Material Safety Data Sheets
- NFPA and HMIS Labeling Systems
- Exposure Monitoring Plan

DOT / HAZMAT

The Hazardous Materials Transportation Act's purpose is to protect against risks to life/property resulting from hazardous material transportation accidents. The statute regulates all forms of transportation and the manufacture, fabrication, repair, and testing of packages or containers certified or sold for use in transporting hazardous materials. Employees responsible for the transportation of hazardous materials must attend training, including those who load or unload vehicles, prepare shipping papers, transport, handle, or store hazardous materials. Regulations require that general awareness, specific employee functions, and driver safety training must be incorporated in training programs. Topics covered in this two-hour course include:

- Introduction to the code of federal regulations (Title 49) for the requirements necessary to ship a hazardous material
- Six step system for compliance with Department of Transportation (DOT) regulations prior to shipping:
  - Step #1 - Classification - Identifying the product
  - Step #2 - Selection of proper packaging
  - Step #3 - Completing the shipping papers
  - Step #4 - Marking the package
  - Step #5 - Labeling the package
  - Step #6 - Placarding the vehicle
- Understanding how to read the Emergency Response Guidebook
- Techniques for successful employee training sessions
- HazMat training workbooks for the employee

Powered Industrial Truck (Fork Truck) Certification

The U.S. Department of Labor, Occupational Safety, and Health Administration now requires all employees who operate powered industrial trucks (e.g., forklift, electric pallet jack, etc.) to be specifically trained (i.e., classroom and hands-on practical) in the safe operation of the vehicle

---

◆ *Instruction also offered in Spanish.*

before being allowed to operate it independently. The final rule of OSHA regulation 29 CFR 1910.178 now requires:

- All powered industrial truck operators be trained using a combination of classroom and hands-on practical instruction for the specific equipment type and model they will actually use on-the-job prior to any operation of the equipment,
- All training be conducted by a person or persons with sufficient knowledge, training and performance-oriented experience to qualify as a "trainer - evaluator,"

All operators will be evaluated by the trainer and certified as "competent" before operating any powered industrial truck and re-evaluated at least every three years. Topics covered in this course include:

- Understand the details of the new (12/1/98) regulation for powered industrial truck operator training - 29 CFR 1910.178(I)
- Learn appropriate training techniques to be able to train other "forklift" operators in the requirements of the new training regulation
- Learn proper "pre-trip" equipment inspection procedures
- Learn proper truck operation procedures and practices including:
    - Driving without a load - maneuvering close quarters
    - Driving with a load on flat, smooth and rough surfaces
    - Driving with a load on an incline or ramp
    - Driving into and out of a trailer or railcar
- Understand the procedures used to complete the classroom training requirement of the new standard
- Understand how to "certify" an operator as competent to operate a specific type of powered industrial truck

Blood-borne Pathogens

Blood-borne Pathogens training is required under OSHA 29 CFR 1910.1030 and is intended for individuals with potential occupational exposure to blood, body fluids or other potentially infectious materials in the course of performing their work. This training module presents an overview of the regulatory requirements covering blood-borne pathogens, providing steps to reduce the risk of infection.

Individuals review symptoms of blood-borne diseases and recommended control measures, including proper disposal of contaminated materials and selection of personal protective equipment (PPE). Elements of an Exposure Control Plan and proper labeling and sign information are also covered. Topics covered in this two-hour course include:

- Summary of Blood-borne Standard
- Blood-borne Diseases
- Control of Transmission
- Exposure Control Plan
- Labeling and Sign Requirements

Personal Protective Equipment (PPE)

Personal Protective Equipment training is required under OSHA 29CFR 1910.132 and is intended for individuals who may be required to use personal protective equipment (PPE) in the course of performing their assigned duties and tasks. This training provides an overview of the various common types of PPE and the role of employers and employees in developing and maintaining an effective PPE program. Topics include an explanation of PPE standards, a review of how to wear,

◆ *Instruction also offered in Spanish.*

use and care for PPE, and an assessment of the limitations of PPE. Topics covered in this two-hour course include:

- Overview of Personal Protective Equipment Standards
- Employer PPE Program and Objectives
- Equipment Overview
- Head Protection
- Eye and Face Protection
- Hearing Protection
- Respiratory Protection
- Full Body Protection
- Arm and Hand Protection
- Foot and Leg Protection

Respirator (Including Qualitative Fit Test)

Respiratory Protection training is required by OSHA Standard CFR 1910.134 and is intended for individuals that are required to use respiratory protection equipment in the course of performing their assigned duties and tasks. This training provides an overview of the Respiratory Protection Standard, medical evaluation requirements, proper use of a respirator, and fit-testing protocols. Topics covered in this two-hour course include:

- Overview of OSHA's Respiratory Protection Standard
- Respiratory Hazards
- Types of Respirators
- Selection Criteria
- Medical Surveillance
- Fitting a Respirator
- Inspection, Maintenance, and Storage

Machine Guarding

This course familiarizes the student with a wide variety of common machinery, related safety standards, and guarding methods. Guidance is provided with respect to the hazards associated with various kinds of machinery and the control of hazardous energy sources. The course presents an approach to machine inspection that enables participants to recognize hazards and applicable standards. Topics covered in this two-hour course include:

- Hazards and standards workshop
- Review of machinery and machine guarding
- Review of guarding and devices
- Control of hazardous energy sources (lockout/tagout)
- Electrical safety-related work practices

Safe Lifting

The Safe Lifting course teaches basic safe lifting techniques and includes alternatives to lifting, as well as movements to avoid when lifting. In addition, this course provides a back stretch and exercises to assist the individual who is required to lift objects at work to maintain a healthy back. Topics covered in this two-hour course include the steps of a safe lift and lifting alternatives

Ergonomics

Ergonomics is the science of fitting the job to the worker to create a safer, more comfortable and more productive work environment. Studies have proven that the application of good ergonomic

---

◆ *Instruction also offered in Spanish.*

principles results in the following benefits: increased productivity, improved health and safety, increased job satisfaction, increased work quality, lower work turnover, lower lost time, and lower worker's compensation claims. Topics covered in this two-hour course include:

- Ergonomics Overview
- OSHA's Involvement
- Musculoskeletal Disorders (MSDs)
- Proactive Ergonomics Program
- Ergonomic Risk Factors (reducing the risk of injury)

Lock-Out / Tag-Out

Lockout/Tagout training is required under OSHA's Control of Hazardous Energy, 29CFR 1910.147 and is intended for individuals who are required to service, maintain or work around energized equipment. This training module presents an overview of controls and procedures required to prevent the unexpected energization, start-up or release of stored energy, which could cause injury to employees. Individuals will review methods for recognizing different types of energy hazards and applying appropriate control procedures. Topics covered in this two-hour course include:

- Overview of the Lockout/Tagout Standard
- Definitions of Employee Types: Authorized, Affected, and Other
- Energy-isolating device definitions
- Definitions of "Lock" and "Tag" Program
- Energy Control Procedure

Adult First Aid and CPR with AED

To give individuals in the workplace the knowledge and skills necessary to recognize and provide basic care for injuries and sudden illnesses, including how to use a automated external defibrillator (AED) for victims of sudden cardiac arrest, until advanced medical personnel arrive and take over. Topics covered in this 6.5-hour course include:

- Describe how to recognize and handle an emergency
- Explain how to check the scene for safety and the victim for consciousness
- Explain when and how to move a victim from a dangerous scene
- Describe when to call and how to interact with the emergency medical services (EMS) system
- Explain why and how to apply basic precautions to reduce the risk of disease transmission during and after providing care
- Describe how to prioritize care for life–threatening injuries or sudden illnesses
- Describe how to check a conscious victim for life– and non-life–threatening conditions
- Describe how to recognize the signals of a heart attack and how to give care
- Explain the precautions for using an AED
- Describe how to recognize and care for a victim of sudden illness
- Describe how to recognize and care for different types of wounds, including burns and bleeding
- Demonstrate how to care for a victim who is having a breathing emergency
- Demonstrate how to perform CPR to an adult
- Demonstrate how to use an AED for an adult in cardiac arrest

Food Safety – HACCP ◆

The Basic HACCP workshop is a two-day course (16-hours), designed to review the philosophy and principles of the Hazard Analysis and Critical Control Point (HACCP) System and to discuss

◆ *Instruction also offered in Spanish.*

how to implement HACCP. The training curriculum is based on the information presented in the March 20, 1992 National Advisory Committee on Microbiological Criteria for Foods HACCP document and subsequent revisions as approved. The HAACP training program is consistent with the intent and scope of the USDA, FSIS HACCP regulation. Up to 30% of the HACCP plan is finished in the class. Classes available include Basic HACCP, Advanced HACCP, and Recall Management.

Food Safety - ServSafe

The ServSafe program is the industry standard in food safety training and is accepted in almost all United States jurisdictions that require employee certification. The ServSafe program provides accurate, up-to-date information for all levels of employees on all aspects of safe food handling, from receiving and storing to preparing and serving. You will learn science-based information on how to run a safe establishment-information all employees need to have in order to be part of the food safety team.

◆ *Instruction also offered in Spanish.*

INNOVATION

Learn How To Grow Your Business - three day workshop (not consecutive 8 hour days)

Jump Start is about taking action now. It's about getting your team aligned towards the pursuit of earning higher profits and making smarter choices. During a three-day Innovation Engineering Jump Start training session you and your team will explore and identify the best ways to make more money with ideas for more efficient internal processes, more effective marketing, and new or adapted product or service offerings.

You will generate ideas to win more profits in the short term as well as identify future growth opportunities for the long term.

We want to help you easily get started by getting the most out of what you're already doing and take action on new ideas for profitable growth.

Strategic Planning

This two-day workshop enables the participant to guide and facilitate an organization in establishing their strategic and long-range operating plan. Emphasis is on the process of strategic and long-range planning: developing Mission, Vision and Values; assessing the environment; setting balanced goals; aligning strategies; establishing objectives and accountabilities; determining performance measurements; and planning actions.

Project Management ◆

This course is specifically designed for manufacturing professionals. Learn the concepts, benefits and key terms of project management. Take a leadership role in your department and create reports that show management where budgeting, scheduling and manpower trends are headed. The course is 32 hours, delivered in segments of at least four hours.

Supply Chain Management

This course offers the student the methodology to define the supply chain, its components, and how they are related. The course includes a simulation that helps to understand the importance of supply chain integration. It also teaches the impact of demand on the supply chain and the competitive advantages and optimization that can result from managing demand across organizations. The course will help the student to define value from the perspective of the customer and understand management of the supply chain in delivering value.

Financial Fundamentals

Reducing costs and growing profitable revenue by 20%+ requires people with a fundamental understanding of financial terms and principles. Financial Fundaments is a board game simulation of a manufacturing (or healthcare or other industry) company that includes all the excitement and financial hassles of running a business.
This short one-day workshop teaches non-financial employees how to make wise daily decisions that increase sales, profits and cash. You will experience hands-on learning's where: (a) workshop participants compete with other teams to win sales orders; (b) improve cash and profit by changing prices, payment terms, capacity, or inventory levels; (c) be given the options to

◆ *Instruction also offered in Spanish.*

invest in marketing, implement Lean or buy equipment; and, (d) learn the positive and negative consequences of decisions. Everyone will have the satisfaction of watching financial statements emerge on the simple game board.
This workshop is not an accounting class. Instead, it teaches everyone can positively impact company and individual success.

INFORMATION TECHNOLOGY

Fundamentals of Supply Chain Management (SCM)

Learn the concepts essential to managing the flow of materials in an organization's supply chain. Optimize productivity, customer service, inventory and profitability by using the practical and proven SCM planning and control methodologies applied within Enterprise Resource Planning (ERP) business systems used by successful manufacturing and distribution companies.

Radio Frequency Identification (RFID) Training

TMAC has qualified staff that are CompTIA RFID+ certified. These professionals have expertise in RFID systems, training and implementation. They assist companies in facilitating their next steps on a successful RFID journey. A number of training options are offered and can be tailored to the customer's needs:

- A one-day orientation class for RFID with simulation for those who need general understanding and knowledge but don't need to become implementation experts.
- An RFID expertise training class that is three days of intensive RFID instruction focused on knowledge, issues and implementation. This class includes simulation.
- A three-day CompTIA RFID+ certification course for those individuals who want to become recognized experts in the RFID field.
- A half-day RFID overview for management of companies who have or will have RFID systems.
- One- to two-hour executive overviews for leadership to gain a general understanding of RFID systems and economics.
- Specialized targeted RFID training for sales or production, etc. is available upon request. Many companies are rolling out RFID and need their support groups to be knowledgeable of the systems and impacts to their customers, suppliers and markets.

AUTOMATION

Strategies for Successful Automation ◆

Automation has a well-earned reputation as a black art – sometimes successful, often brittle and unreliable – yet it is virtually certain that your company's bottom line depends heavily upon its proper use. Knowing the state-of-the-art of this technology and understanding its strengths and limitations is an important but difficult-to-obtain asset for decision makers. Course includes:

- What product or process features help the success or guarantee the failure of automation
- How cultural aspects affect the successful deployment of automation
- What technologies and resources are available
- Typical implementation roadmaps for automation projects
- Analyses of actual case studies

◆ *Instruction also offered in Spanish.*

Automating your Factory: Technology Overview ◆

This is an all-day event targeted at a technical engineering audience. It includes a comprehensive overview of sensing, control, and actuator technology in manufacturing.

Introduction to Industrial Robotics (4 8-hour days)

This four-day course presents a comprehensive introduction to industrial robotics based on the FANUC Robotics CERT platform (http://www.youtube.com/watch?v=usKTpeVNNDU). Students learn the principles and practice of programming industrial manipulators, using an actual robot and a high-fidelity simulation environment for demonstrations as well as hands-on assignments. Topics covered include system hardware components, coordinate systems, positional representation and control, teach pendant programming, and I/O interfacing.

◆ *Instruction also offered in Spanish.*

INDUSTRIAL TRAINING

Troubleshooting Motor Control Circuits

This 16-hour course provides a review of motor control circuits used in industry and facility applications. An emphasis is placed on AC and DC motor control circuits, variable speed and frequency drive techniques, and a variety of motor soft start configurations. Participants actually build and troubleshoot a number of circuits in lab.

Troubleshooting Industrial Control Circuits

This course provides 16 hours of hands-on training for electrical and electronic maintenance personnel and others needing a better understanding of electrical control operations. Learning to use and interpret ladder and schematic diagrams is an important part of the course. Formerly known as Industrial Control for Industry and Facilities.

Introduction to Programmable Logic Controllers

This course provides an introduction to programmable logic controllers (PLC's) used in machine control, energy management and other industrial and facilities applications. This generic approach to PLC's helps students understand how they function and are programmed and to apply them in control applications. Students use a personal computer (PC) and PLC programming software to program a PLC on a TEEX trainer and computer to learn and develop their skills by hands-on experience.

Basic Vacuum Technology

This 16-hour course provides an introduction to vacuum technology covering various vacuum natural laws; roughing, high vacuum and ultrahigh vacuum pumping systems; gauges; and supporting materials and equipment. Troubleshooting issues are also addressed during the course.

Semiconductor Processing Overview

This non-technical seminar is designed to provide general background knowledge on the process steps required to manufacture integrated circuit devices. It provides the student with vocabulary and key concepts relating to quality, reliability and process control in a simple and understandable format. A complete glossary of terms is included in the textbook.

Blueprint Reading

This course explains the terms, principles, and techniques for interpreting blueprints for manufactured products. Topics covered include: drawing formats, scale, principles views, auxiliary views, partial view, sectional views, units of measure, dimensioning, tolerance calculation, and surface finish specifications.

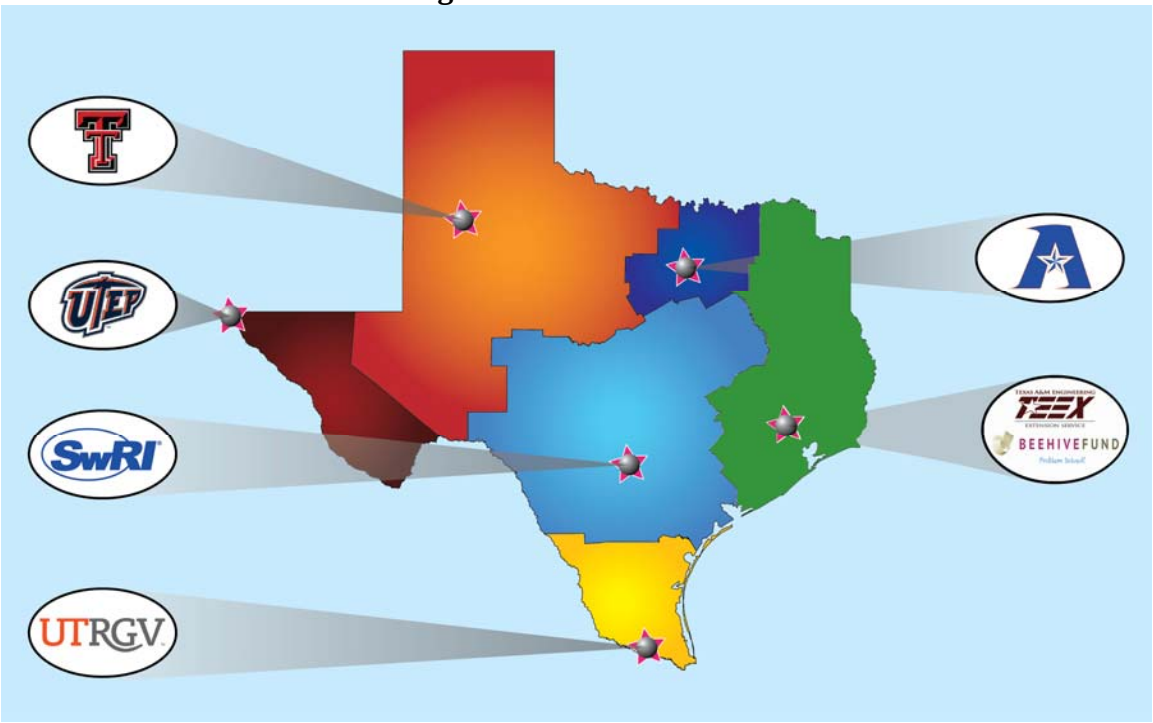
◆ *Instruction also offered in Spanish.*

FOR MORE INFORMATION

TMAC works to ensure the value of your training expenditures. Our expert staff of specialists are available to work with your company on project implementation before, during and after our training sessions. Assistance is available statewide through the TMAC regional and field offices shown below.

Work Smart. Grow Smart.™

Regional Office Locations



Contact TMAC for more information about affordable training and technical assistance solutions for your company:

1-800-625-4876
www.tmac.org
tmac@tmac.org