**Detailed Description of Portfolio of Client Services**

(24/7) Access to an online discussion group where members can get answers to their questions on IE-related operational problems

(1/2 day per week) One-on-one supervision and guidance of a full-time intern who was hired by the company for Lean-related projects, either by onsite presence, or remotely by phone/email,

(Monthly) Webinars

(Monthly) Consortium meetings that could involve any combination of *but not be limited to* the following activities:

* Workshop
* Workshop incl. Plant Tour, such as the FMA Lean Fab Workshop + Plant Tour
* One-on-one mentoring/advising of kaizen teams
* Participation in strategic planning meetings of the executive management
* Participation in project close-out presentations by internal kaizen teams
* “Deep-dive” discussion on a book that discusses a specific topic
* Benchmarking
* Brainstorming on a New Idea/Strategy
* Tutorial on a Method/Tool
* Software Demo
* Game followed by Plant Tour to see how the game applies in practice
	+ See your map of all the games that you have at your disposal!
	+ See your column in Gear Technology magazine: *Educating the workforce and management about flexible and lean (FLEAN) manufacturing cells.* Gear Technology, 2013 (November/December), 82-92.
* Learning by Video Dissection

(Quarterly/Bi-Annually) FLEAN Conferences

* Consultants and other Subject Matter Experts speaking on a variety of ”hot” topics
* Software Tutorial (or User Case Study incl. Good/Bad Experiences)
* Projects done by our interns and/or employees
* Workshops on “hot” topics, such as VSM, TOC, Change Management, Product-Process Matrix Analysis, etc.
* Tutorials
* Games, such as JobshopLean Simulation, Transfer Batches vs. One-Piece Flow, etc.
* Plant Tours
* Round Table Discussions, Open Forums, etc.

(Monthly/Quarterly) Plant Tour (possibly preceded by a Workshop which would give the Plant Tour a certain set of learning objectives and viewing stops)

(1 day) Lean Assessment of the Current State of a Facility

* Preliminary assessments are done prior to the day of the facility walkthrough using a 2-part questionnaire
	+ Is JobshopLean Right For You? Part 1 of 2 (Initial Assessment)
	+ Is JobshopLean Right For You? Part 2 of 2 (Follow-On Assessment)
* Facility Walkthrough
	+ Observations: Problems, their potential cause/s and project/s to fix them
	+ Observations: “This is good work that you have already done!”
* Post-Walkthrough Discussion
	+ Problems/Issues/Needs and Projects/Actions to fix them

(1 day) Assessment of the Current Facility Layout

* + Assessment of facility layout, material handling and storage systems
	+ Assessment of support services and systems based on Lean principles

(1-day workshop) *“Lean IE”: How* *IE Tools and Lean Tools* *Enhance Each Other*

* Enhancing the Flow Process Chart for Waste Elimination
* Enhancing the Hand-Drawn Spaghetti Diagram with a Facility Layout Tool
* Enhancing Value Stream Mapping using MS Project
* etc.

(1-day workshop) *Methods Analysis and Process Improvement for Waste Elimination*

* **Morning Session:** During this time we would watch and dissect the *Toast Kaizen* video which is an excellent resource for teaching how to recognize and measure the Seven Types of Waste.
* **Afternoon Session:** During this time we would watch and dissect the *How a Jobshop Developed their In-House Training Video on Waste Elimination* video that explains a case study done at PR Machine Works in Mansfield, OH.

 (1-day workshop) *Introduction to JobshopLean*

* **Morning Session:** I will give lectures on:
	+ ToyotaLean vs. JobshopLean,
	+ A Quick-Start Approach for Implementing JobshopLean,
	+ JobshopLean Internship Success Story: Bula Forge,
	+ Lean Advisory Tools for Implementing JobshopLean,
	+ etc.
* **Afternoon Session:** I will conduct the *JobshopLean Simulation*. It is a hands-on and fun-filled interactive game to engage a large group of employees and managers, both as observers and players. It teaches the core ideas and tools underlying JobshopLean.

(1-day workshop) *(Lean 101) Fundamentals of Lean Manufacturing*:

* Overview of Lean Manufacturing
* Viewing of an introductory video on Lean Manufacturing
* Viewing of videos that are actual real-life case studies on successful implementation of Lean Manufacturing (“Lean Manufacturing at Miller” and “Lean Manufacturing at TAC”)

(5-day workshop series) *Fundamentals of Lean Manufacturing*, Each of these five 1-day workshops is taught in a “half-and-half” format. The AM session of each workshop is devoted to instruction. The PM session is devoted to applying what was taught in the morning to an actual problem suggested by the company. These are the topics taught in the five workshops:

* Overview of Lean Manufacturing
* Process Analysis and Improvement for Lean Manufacturing
* Facility Layout for Lean Manufacturing
* Essential Tools for Implementing Lean Manufacturing (5S, Setup Reduction, Visual Management)
* Integrating TOC (Theory Of Constraints) with Lean Manufacturing

(The # of days for this workshop series is flexible) *JobshopLean: Adapting Lean for High-Mix Low-Volume Manufacturing*, Each of these 1-day workshops is taught in a “half-and-half” format. The AM session is devoted to instruction. The PM session is devoted to applying what was taught in the morning to a problem/area specified by the company. Some of the topics that have been taught in these 1-day workshops are:

* Overview of Lean Manufacturing (aka Lean for assembly lines)
* What is JobshopLean?
* Design For Flow using Production Flow Analysis (PFA) to implement JobshopLean
* Tutorial on the PFAST (Production Flow Analysis and Simplification Toolkit) Software for Implementing Production Flow Analysis
* The Quick-Start Approach for Implementing JobshopLean
* Value Stream Mapping
* Value ***Network*** Mapping: Enhancing Value Stream Mapping for High-Mix Manufacturing Facilities
* Setup Reduction on a Forging Press
* Design and Implementation of a Manufacturing Cell
* Fundamentals of Jobshop Scheduling
* etc.

**Note:** Other topics can be taught based on the particular preferences of the client company.

(The # of days for this workshop series is flexible) *Implementing JobshopLean using the Lean Advisory Toolkit*, Each of these 1-day workshops is taught in a “half-and-half” format. The AM session is devoted to instruction. The PM session is devoted to applying the particular LAT (Lean Advisory Tool) that was taught in the morning. Some of the topics that could be taught in these 1-day workshops are:

* Design For Flow using Production Flow Analysis (PFA) to implement JobshopLean
* Tutorial on the PFAST (Production Flow Analysis and Simplification Toolkit) Software for Implementing Production Flow Analysis (PFA)
* Lean Advisory Tools (LAT) that are implemented using PFAST:
	+ Waste Assessment using a Value Network Map (instead of a Value Stream Map)
	+ Product Mix Segmentation
	+ Feasibility Analysis for Cellular Manufacturing
	+ Design of a Multi-Product Multi-Machine Workcell Layout
	+ Design of Hybrid Layouts
	+ Product Mix Rationalization
	+ Revision of Manufacturing Routings
	+ Evaluation of Current vs. Proposed Layouts

(This is a 5-day workshop series) *Designing an Entire Factory using Production Flow Analysis*, Each of these 1-day workshops is taught in a “half-and-half” format. The AM session is devoted to instruction. The PM session is devoted to applying what was taught in the morning to improve the layout of the company. These are the topics taught in the workshops:

* Overview of Facility Layout
* Introduction to PFAST and STORM software packages used for facility layout
* Factory Flow Analysis
* Shop Flow Analysis
* Cell Flow Analysis
* Workstation Flow Analysis
* Company-specific Project: Assuming that the company has provided the necessary data in the form of a PFAST Input File, we will use the PFAST Analysis Report’s outputs to execute a project involving factory/shop/cell/workstation layout.

(1-4 hours for each video) Each detailed lecture explains a video on a specific topic using a Stop→See→Explain→Discuss discussion format. A sample of the titles in my video collection is provided below:

* What is Lean Manufacturing?
* Incorporating Lean
* What Lean Means
* Building a Lean Culture
* Training Within Industry
* Work Measurement
* Theory Of Constraints (plus The Goal)
* Value Stream Mapping
* 5S
* Poka-Yoke (Error Proofing)
* Kanban Systems
* TPM
* Lean Automation
* Case Studies & Plant Tours
	+ Jotul
	+ Madico
	+ Bahri Dentistry
	+ The Gem Group
	+ Z Corporation
	+ Abiomed
	+ VIBCO
	+ Accurounds
	+ Brookfield Engineering Laboratories
	+ Raytheon
	+ Petersen Pacific Corporation