Leonardo

Designing the Perfect Value Stream

Mixed Model Line Design Workshop

December 1-3, 2015

This Workshop is graciously hosted by ***Toyota Material Handling***, and is a rare opportunity to tour a Toyota Factory!

Sponsored by Daniel Penn Associates

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Developing Your Lean Team
Foundational Knowledge for Lean Manufacturing

"A large majority of the benefits of a Lean Transformation come from improved Process Design, and there is a step-by-step methodology that will lead to an optimum value-stream design. Unfortunately most Lean practitioners don't know it."

Richard D. Rahn, Co-Author of *The Complete Guide to Mixed-Model Line Design*

You can be a Line Design expert in your organization.

Take the leap beyond 5S, Value Stream Mapping and SMED to where the real process improvements take place: Lean Process Design. This workshop is led by the authors of ***The Complete Guide to Mixed Model Line Design***, experts in mixed model line design from Leonardo Group Americas.

The future of manufacturing belongs to multi-product manufacturing, but few Lean practitioners are competent in the Lean design process. A primary goal of this workshop is for participants to learn these skills, and to be able to apply them immediately in their home factory environment.

You will:

- **Learn the Line Design Mixed Model Roadmap, the step-by-step method for process design excellence.**
- **Apply the tools learned in the classroom to the creation of a simulation line design.**
- **Use Excel-based line design tools and templates to calculate Takt time, resources, and apply line balancing methods.**
- **Use a copy of the Line Design textbook, *The Complete Guide to Mixed Model Line Design*.**
- **Enhance your professional development, with skills that you will use for the rest of your career.**

Learning Objectives

- How to apply the Line Design Roadmap, and use it to build a comprehensive implementation plan.
- How to set Target Volume for the Mixed Model Line correctly.
- How to document the process flow, and use this information to determine products that can be combined into a product family.
- What "Standard Work" means, and how to collect and document process tasks and times, including the use of software tools.
- Understand the Takt Time and resource formulas, as a foundation for the eventual line layout.
- Learn the five main Balancing Tools, and how to use them to overcome time imbalances.
- Apply the five Pull Signals to link and balance the work flow, including using In-Process Kanbans and Material Kanbans.
- Create a conceptual layout, incorporating best practices for operator access, safety, ergonomics, product flow and material delivery.
- Test conceptual layout with computer simulation tools, essential for validating a Mixed Model line.

Agenda

The Mixed Model Line Design Workshop is a three-day program consisting of short topic-specific modules combined with knowledge checks and hands-on exercises.

Day 1

- Mixed Model Line Design Roadmap
- Assessment and Master Plan
- Products and Volumes
- Processes and Process Flow Diagrams
- The Process Flow Matrix
- Defining Product Families
- Takt Time and Takt Volume Modifiers
- Effective Work Time

Day 2

- Standard Work
- Resource Calculations
- Workstation Definition
- Using In-Process Kanban
- Applying the Balancing Tools
- Integrating Machines
- Toyota Plant Tour 1
- Lunchtime Q & A

Day 3

- Overcoming Changeovers
- Material Flow Basics
- Conceptual Layout
- Final Block Layout
- Creating a Deployment Plan
- Using Simulation Modeling
- Next Steps and Action Items
- Toyota Plant Tour 2
- Lunchtime Q & A
- A3-based Project Plan

Hands-On Exercises

Classroom training is reinforced with a series of hands-on exercises that apply the lessons learned. Participants will go though the Mixed Model Line Design methodology by designing a family of products, culminating in a team-based line layout and validation with computer simulation. On the final day, each company will develop a deployment plan using the A3 methodology.

Take Home Resources

Students do not leave empty-handed. All training materials are provided in a workbook with notes. Each participant also receives a copy of the source book ***The Complete Guide to Mixed Model Line Design***, and a CD with all of the spreadsheets used in the hands-on exercises.

Who Should Participate?

This workshop is for anyone responsible for designing, implementing, or managing a production line or cell based on Lean principles. Main participants should include manufacturing engineers, managers, supervisors, material and supply-chain professionals.

The Memory Jogger Option

You have heard about the Learning Curve, but what about the Forgetting Curve? Unless your training is reinforced with application or review, knowledge fades. The Memory Jogger program is a 50-week reinforcement program, of weekly short online lessons on the topics covered in the live workshop.

Remote and On-Site Support

If additional help is desired after the workshop, on actual in-house projects, the Leonardo Group can provide both remote coaching support as well as on-site consulting as a part of your implementation team.

About Leonardo Group Americas

Leonardo Group Americas (LGA) is a Lean training and consulting company with offices in the US and Germany. LGA has worked on Lean projects with many of the world's leading companies, including John Deere, Boeing and Toyota.

Workshop Details

Date: December 1-3, 2015
Three-Day Workshop

Time: 8:00 AM to 5:00 PM

Location: Toyota Material Handling USA
National Customer Center
5559 Inwood Drive
Columbus, IN 47202

Cost: $1,995/Person, Lunch included
$300 Early Bird discount available until November 1, 2015.
Discount code: mixedmodel
Enrollment limited - 32 participants.

Registration

Register online at:
www.leonardogroupamericas.com