



How to Implement POLCA

April 11-12, 2012

DoubleTree Hotel

Madison, Wis.

University of Wisconsin-Madison Center for Quick Response Manufacturing

POLCA in Action

Alexandria Extrusion

Manufacturer of aluminum extrusions

- Reduced WIP by 60%
- Reduced expediting while improving on-time delivery performance
- Simplified tasks of shop-floor personnel

P&H Mining

Manufacturer of surface and underground mining equipment

- Increased output of critical parts by over 200%
- Reduced lead times by 50%
- Increased inventory turns by 13%
- Reduced WIP by \$2 million

Bosch Hinges

Manufacturer of custom hinges

- Improved on-time delivery to 98%
- Eliminated all back orders and hot jobs

POLCA: a production control strategy for high-mix, low-volume, or custom-engineered products

For companies making a high variety of products or offering custom-engineered solutions, implementing flow using pull strategies can be a challenge. Determining the optimal kanban quantities in high-mix environments with demand fluctuations is a complex task. Similarly, implementing takt time concepts presents significant problems for many manufacturers of custom or even one-of-a-kind highly engineered products.

POLCA (Paired-cell Overlapping Loops of Cards with Authorization) is a card-based production control strategy specifically designed for these environments. The hybrid push/pull system effectively overcomes the limitations of pull (kanban) and push (MRP) systems.

When implemented in the context of a larger manufacturing strategy based on principles of Quick Response Manufacturing (QRM), POLCA has helped companies significantly reduce inventory and lead times while improving delivery performance and throughput.

Presenter: Ananth Krishnamurthy

Ananth Krishnamurthy is the director of the Center for Quick Response Manufacturing and serves as an associate professor in the Department of Industrial and Systems Engineering at the University of Wisconsin-Madison.

Involved with the QRM Center for more than a decade, he has conducted numerous training events in the United States and Europe earning him worldwide recognition as an expert in the theory and practice of QRM and POLCA.

Krishnamurthy has consulted for a variety of companies and has authored various publications in international journals. Prior to returning to UW-Madison, Krishnamurthy was an assistant professor at Rensselaer Polytechnic Institute.



“POLCA was a revolution for our company. Now our delivery performance is a revolution for our customers.”

— Godfried Kaanen
President, Bosch Hinges
Doetinchem, Netherlands

POLCA: The Production Control Strategy for Quick Response Manufacturing

Coordinating manufacturing activities to reduce lead times and cost can be a significant challenge for manufacturing firms with a product mix that includes standard items, customized products and even highly engineered one-of-a-kind solutions.

POLCA is a card-based capacity and inventory management strategy that provides visual signals to organize production flow. The result: supervisors, schedulers, shop

floor operators, planners and operations managers see solutions to problems, rather than getting lost in complexity.

At this workshop you will learn how POLCA can help you to:

- update production and staffing schedules to effectively react to daily changes
- determine appropriate inventory levels and coordinate material deliveries to the shop floor

- synchronize fabrication and assembly operations to increase shipments

These systemwide effects can help you significantly cut lead times and inventories, reduce WIP, eliminate back orders and hot jobs, and improve delivery performance.

“POLCA has been a very good fit for our shop. Our manufacturing process is complex, and parts need to move from cell to cell, and sometimes to non-cell areas as well. POLCA keeps all of these areas working together and the results have been solid.”

Bob Mueller,
Factory Manager, P&H Mining
Milwaukee, Wis.

Quick Response Manufacturing

An enterprisewide strategy to reduce lead times in all areas of your operations

Quick Response Manufacturing (QRM) is a companywide strategy to cut lead times in all phases of manufacturing and office operations. Firms competing through QRM capture market share by filling customer orders faster and rapidly introducing high quality custom-engineered products at competitive prices. QRM will not only make your firm more attractive to potential customers; it will also increase profitability by reducing non-value-added time, cut-

ting inventory and increasing return on investment.

QRM has helped companies reduce lead times by over 80%, reduce costs by 20-40%, and substantially increase market share.

This two-day course will benefit plant managers, vice presidents of operations, vice presidents of materials, shop-floor schedulers, production planners, and material-supply staff.



Center for Quick Response Manufacturing

University of Wisconsin-Madison

The QRM Center is a partnership between companies, faculty and students at the University of Wisconsin-Madison, dedicated to the research and implementation of lead time reduction principles.

Since 1993, the Center has worked with more than 220 companies worldwide and from a wide variety of industries to implement and refine QRM principles with a focus on real-world challenges.

Upcoming QRM Center Events

Presentations of Student Projects with Industry (QRM Center Members Only) // May 1, 2012
Engineering Centers Building (Madison, Wis.)

QRM 2012 Conference // June 5-7, 2012
Arnhem, Netherlands

For more information, check www.qrmcenter.org or join our QRM LinkedIn group.

What you will learn in this workshop

Overview of Quick Response Manufacturing

- Key principles, methods and tools of QRM

Material Planning and Production Control

- Limitations of MRP and kanban in high-mix environments
- Using High Level MRP for high-mix environments

Detailed Explanation of POLCA: How POLCA works

- Managing capacity and inventory using POLCA
- Comparison of POLCA, MRP and kanban
- When to use kanban, when to use POLCA

Planning your own POLCA Implementation

- Workshop on POLCA applications in your facility

Case Studies of POLCA Implementations

- Managing high mix at a manufacturer of precision pins, bushings and CNC parts
- Synchronizing component and assembly production of electromechanical parts
- Controlling production at critical resources at a manufacturer of aluminum extrusions
- And many more

Stepwise Procedure for Implementing POLCA

- Designing the POLCA card and POLCA loops
- Computing the number of cards in each loop
- Dealing with part shortages and schedule changes
- Employee training and management support



Hands-on POLCA Simulation

POLCA is a card-based capacity and inventory management strategy specifically developed for high-mix, low-volume environments.

In a hands-on simulation exercise, participants will run a factory using kanban and POLCA and see how both run in day-to-day operations – and how they deal with new and frequently changing products.

FEES

Course fee: \$995

Discounted fee for

QRM Center members: \$595

(QRM member firms may enroll up to five people at the member rate.)

Course fee due by registration deadline of April 4, 2012. Cancellations after deadline will be assessed 25% of enrollment fee. Fee covers workbook, continental breakfasts and lunches both days, and reception after the first day's session.

SCHEDULE

DAY 1:

Continental breakfast and check-in starting 7:30 a.m.

Course from 8:00 a.m. to 5:00 p.m.

Networking reception from 5:15 p.m. to 7:00 p.m.

DAY 2:

Continental breakfast starting 7:30 a.m.

Course from 8:00 a.m. to 4:00 p.m.

LODGING

DoubleTree Hotel

525 W Johnson St.
Madison, Wis. 53703

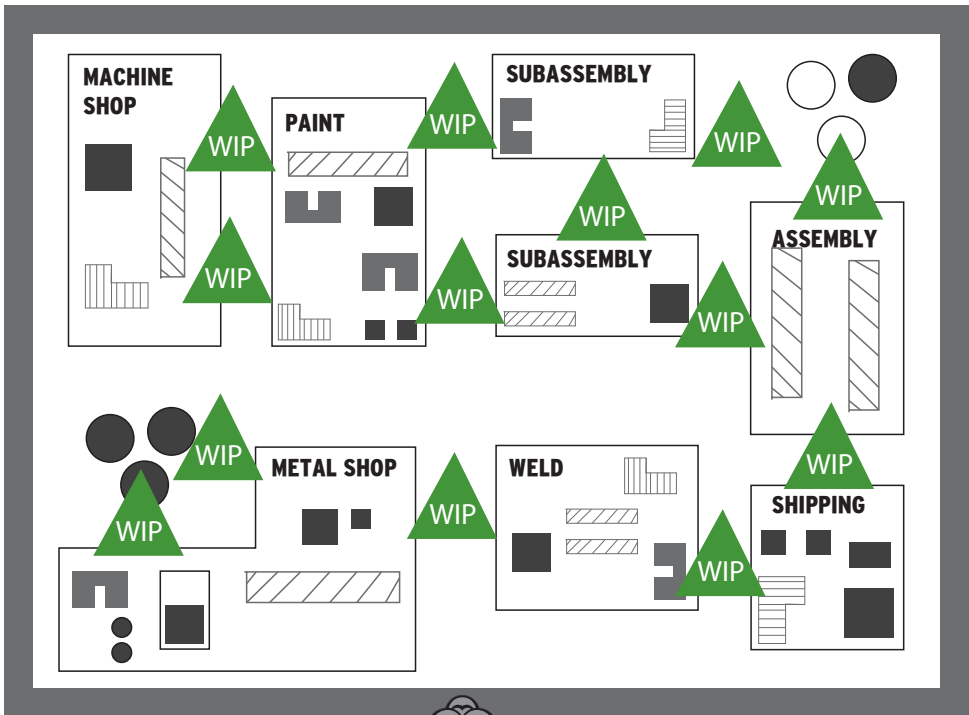
Call 800.222.8733 or go online by March 11, 2012
Request Group Code IQR.

REGISTER

Call us at
608-262-4709

or go to
qrmcenter.org for
online registration.

REGISTRATION DEADLINE:
April 4, 2012



Are you tired of tripping over WIP on your shop floor?

Are you struggling to implement takt time and flow?

Are you constantly expediting and rescheduling to meet delivery targets?

Time
to **POLCA!**



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