POLCA: A Simple Visual Control System for High-mix, Low-volume and Custom Products

POLCA (Paired-cell Overlapping Loops of Cards with Authorization) is a card-based visual control system that manages the flow of jobs through the shop floor: at each operation, it controls which job should be worked on next to meet delivery targets. POLCA ensures that upstream operations use their capacity effectively by working on jobs that are needed downstream, while at the same time preventing excessive work-in-process (WIP) build-ups when bottlenecks appear unexpectedly.

POLCA is particularly suited to companies manufacturing high-mix, low-volume and custom products, for which Kanban systems do not work well. These companies struggle with long lead times, late deliveries, and daily expediting. POLCA has delivered impressive results in such companies in the US, Canada, and Europe, including 50-75% reduction in inventory and lead times, on-time delivery improved to over 98%, and increase in shipments by 10-20%.

The crowning aspect of POLCA is that it is simple. It does not require any complex software implementation: it can be used without an ERP system or it can seamlessly complement an existing ERP system.

What you will learn:

• Why MRP and Kanban don’t work well in low-volume and custom environments
• Understanding POLCA: How it works
• Operational benefits of using POLCA
• Case studies from companies in several types of industries
• Next steps for designing and implementing POLCA in your company

POLCA Results

Alexandria Industries
A manufacturer of aluminum extrusions, reduced WIP by 60%. “Through POLCA we dramatically reduced our WIP, freeing up cash and creating additional space for manufacturing. Also, our internal chaos decreased and customer satisfaction and profitability increased.” — Tom Schabel, CEO

Bosch Hinges
A manufacturer of custom hinges, improved on-time delivery to 98% and eliminated all back orders and hot jobs.

Who should attend?

• Business owners
• VPs of manufacturing and operations
• Plant managers
• Materials managers
• Continuous improvement managers
• Lean/Six Sigma champions
• Production supervisors, planners and schedulers

Presenter: Rajan Suri
Learn directly from the inventor of POLCA!

Rajan Suri is the inventor of the POLCA system and has received awards from the Society of Manufacturing Engineers and Industry Week magazine. He is Founding Director of the Center for Quick Response Manufacturing and emeritus professor of Industrial Engineering at the University of Wisconsin-Madison.
Why POLCA might be a good fit for your organization

Coordinating manufacturing activities to reduce lead times can be a challenge for companies with high-mix, low-volume or custom-engineered products. POLCA is a card-based capacity management system that has unique features designed specifically for such environments:

- POLCA provides visual signals indicating availability of capacity, not inventory. By using capacity signals to make the right products, POLCA avoids having excess inventory in supermarkets throughout your shop-floor.
- POLCA ensures that when an upstream area works on jobs, downstream resources have the capacity to process the jobs sent to them. This keeps jobs flowing through the factory, reducing bottlenecks and increasing shipments.
- POLCA does not require any complex software implementation! It can be used without an ERP system or it can seamlessly complement your existing ERP system.
- POLCA visually identifies changing/shifting bottlenecks as well as potential solutions to resolve bottlenecks. POLCA frees up capacity wasted in building inventory.

“Dr. Suri has created a truly innovative alternative to Kanban for companies that do non-repetitive work in small batches rather than in automotive-style volumes...POLCA can dramatically improve the way they meet their customers’ needs, now and for years to come.”

— Bill Ritchie, President, Tempus Institute, Maryville, Tennessee

- POLCA provides a simple mechanism to re-sequence jobs in response to changing priorities, thus significantly reducing hot jobs and expedites.
- POLCA provides effective visual control to react to shop floor realities such as part shortages, machine breakdowns, labor unavailability, engineering holds, and customer expedites.

The result: managers, supervisors, and planners see solutions to problems rather than getting lost in the complexity. As problems are eliminated, management and supervisors’ time is liberated to focus on strategic improvements instead of daily fire-fighting.

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Workshop Content

The Need for a New Material Control Strategy
Learn why MRP systems can result in an increasing spiral of long lead times and late deliveries, and why concepts such as Takt time and Kanban do not work well in low-volume or custom environments.

Detailed Explanation of POLCA
POLCA stands for Paired-cell Overlapping Loops of Cards with Authorization. This hybrid push/pull system combines the best features of card-based pull (Kanban) systems and push (MRP) systems while overcoming their drawbacks for low-volume and custom production. See how POLCA uses simple visual signals to manage capacity, while at the same time preventing excessive work-in-process (WIP) build-ups when bottlenecks appear unexpectedly.

Computer Animation of POLCA
A computer animation will demonstrate how POLCA works for a company making low-volume and custom-engineered products.

Operational Benefits from Implementing POLCA
You will learn about numerous benefits that companies experience after implementing POLCA, and understand why these benefits are the result of the POLCA system.

Industry Case Studies of POLCA Application
Case studies will show the effectiveness of POLCA for companies in many industries in USA, Canada, and Europe, including:
- Using POLCA in an Aluminum Extrusion Operation
- Applying POLCA in a Pharmaceutical Environment
- Improving Delivery Performance at a Custom Hinge Manufacturer
- Implementing POLCA at a Metalworking Subcontractor
- How POLCA reduced lead times and improved quality in a Glass Factory

Steps to Design and Implement POLCA
Get an overview of the steps needed to design, implement, and launch POLCA successfully in your company.

Brainstorming Session for Your Specific Situation
Brainstorm about a potential implementation of POLCA in your company, and get feedback on your ideas as well as recommended next steps.

Overview of New Book on POLCA
You will get a “walk-through” of Suri’s new book to provide you with an overview of the contents, as well as tips on how to best use the book as a resource to support your POLCA system analysis, design, implementation, and launch.

Learn how POLCA can provide your company with a powerful competitive advantage!

Fees

Course fee: $495
Discounted fee for QRM Center members: $295 (QRM member firms may enroll up to five people at the member rate.)

Course fee due by registration deadline of April 1, 2020. Cancellations after deadline will be assessed 25% of enrollment fee. Fee covers workbook, copy of Suri’s POLCA book, continental breakfast, lunch and a networking reception after the session.

Schedule

Continental breakfast and check-in starting 8:00 a.m.
Course from 8:30 a.m. to 4:30 p.m.
Networking reception from 4:45 p.m. to 7:00 p.m.

Lodging

Fluno Center
601 University Avenue
Madison, Wis. 53715
Call 1-877-773-5866 or make reservations through the link on our website under the event’s Schedule and Lodging tab. Cutoff date for group rates is Sunday, March 8, 2020.

Register

Visit our website, qrmcenter.org for easy online registration.
Registration deadline: April 1, 2020

**Bonus**

Attendees will receive a copy of Suri’s recently published book: The Practitioner’s Guide to POLCA.