



K V A L I K O N

VEZETÉSI TANÁCSADÓ ÉS
RENDSZERFEJLESZTŐ KFT.

Value Stream Improvement – Activities and Results

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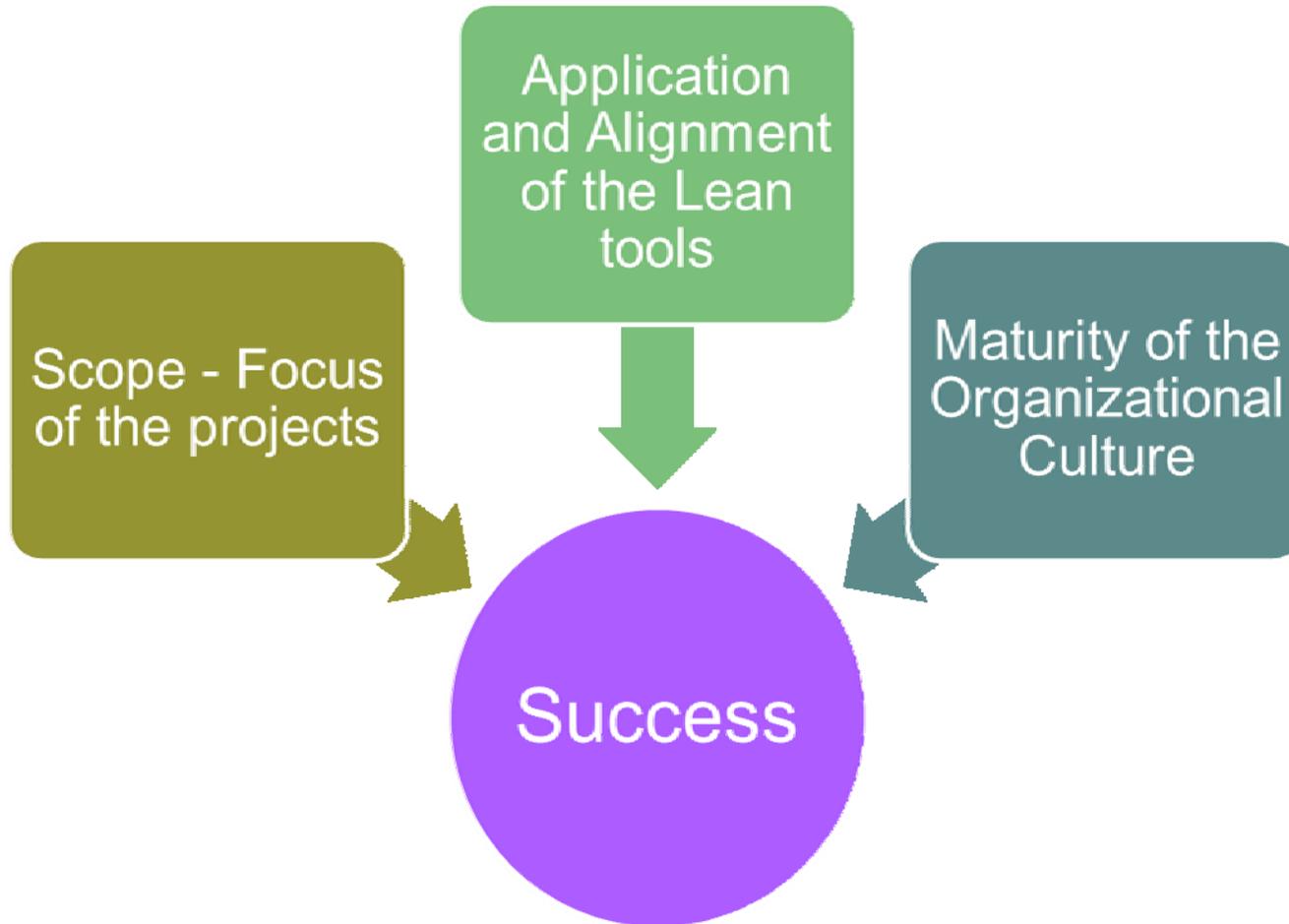
Budapest, 2015.



Lean Management - Focus

- Lean Management philosophy and projects are mainly focusing on improving value added, reducing order fulfillment lead time by eliminating waste from the processes.
- The major goal of Lean management is the flexible adaptation to market demand changes (and utilization of resources) by continuously aligning and optimizing organizational resources, and processes according to the market requirements.

Value Stream Improvement Activities



5 Principles of Lean Management



1. Specify value from the standpoint of the end customer by product family.
2. Identify all the steps in the value stream for each product family, eliminating whenever possible those steps that do not create value.
3. Make the value-creating steps occur in tight sequence so the product will flow smoothly toward the customer.
4. As flow is introduced, let customers pull value from the next upstream activity.
5. Pursue perfection. As value is specified, value streams are identified, wasted steps are removed, and flow and pull are introduced, begin the process again and continue it until a state of perfection is reached in which perfect value is created with no waste.

Value

Value stream

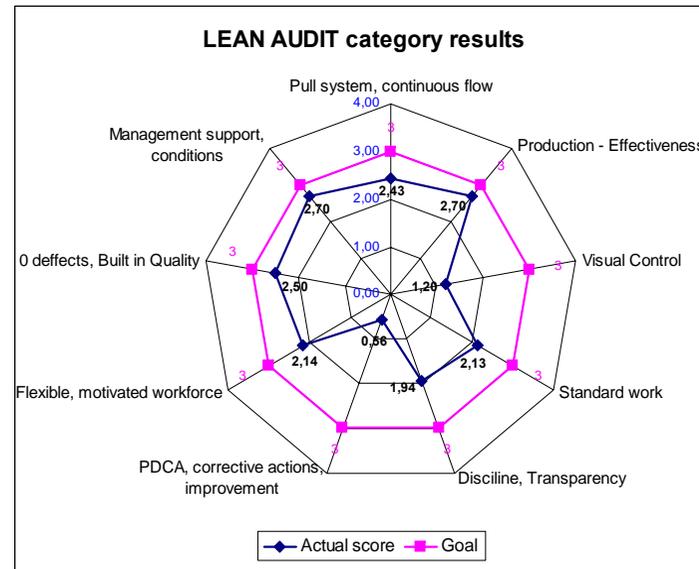
Flow

Pull

Perfection

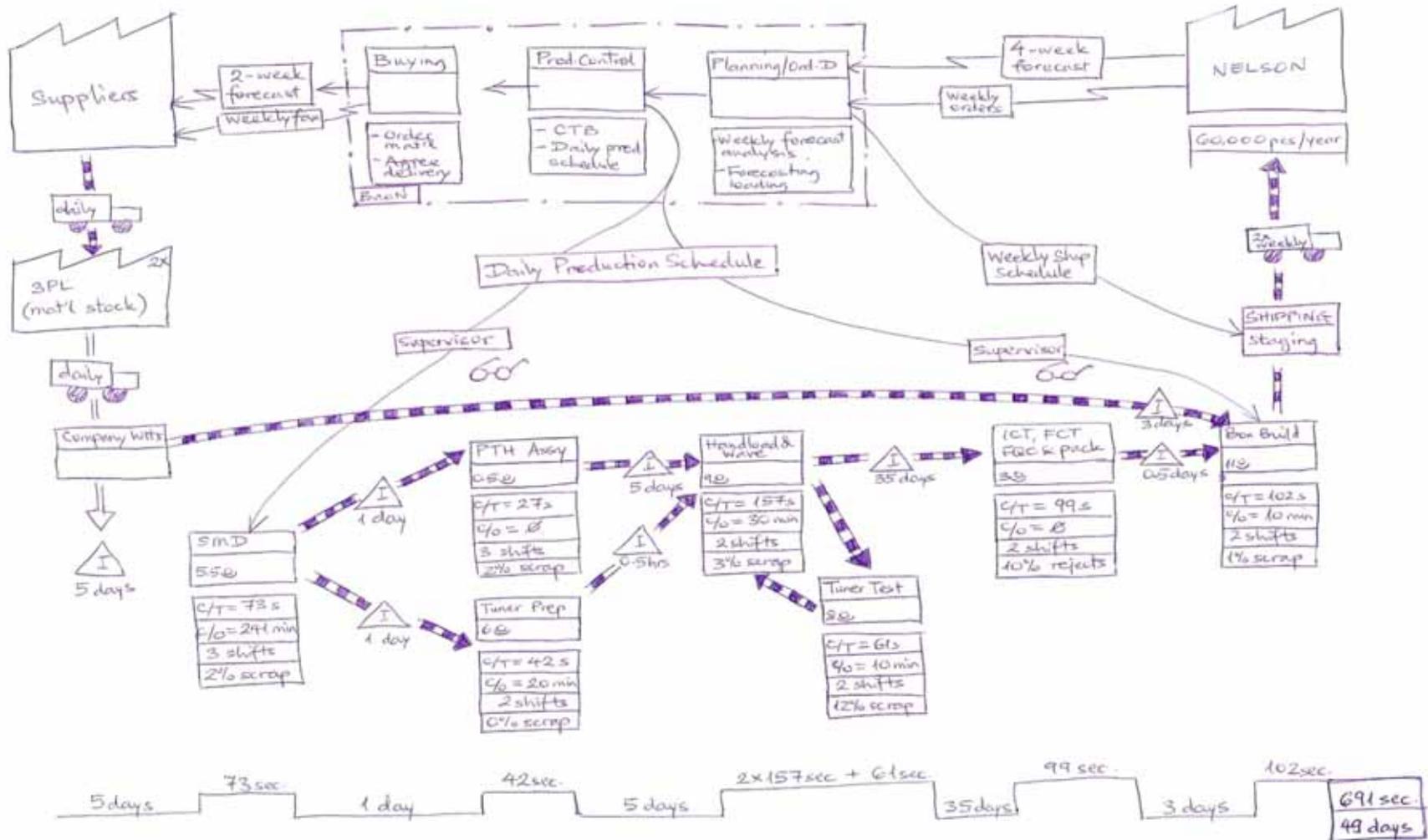
(Daniel Jones, James Womack)

Lean Assessment, Value Stream Mapping

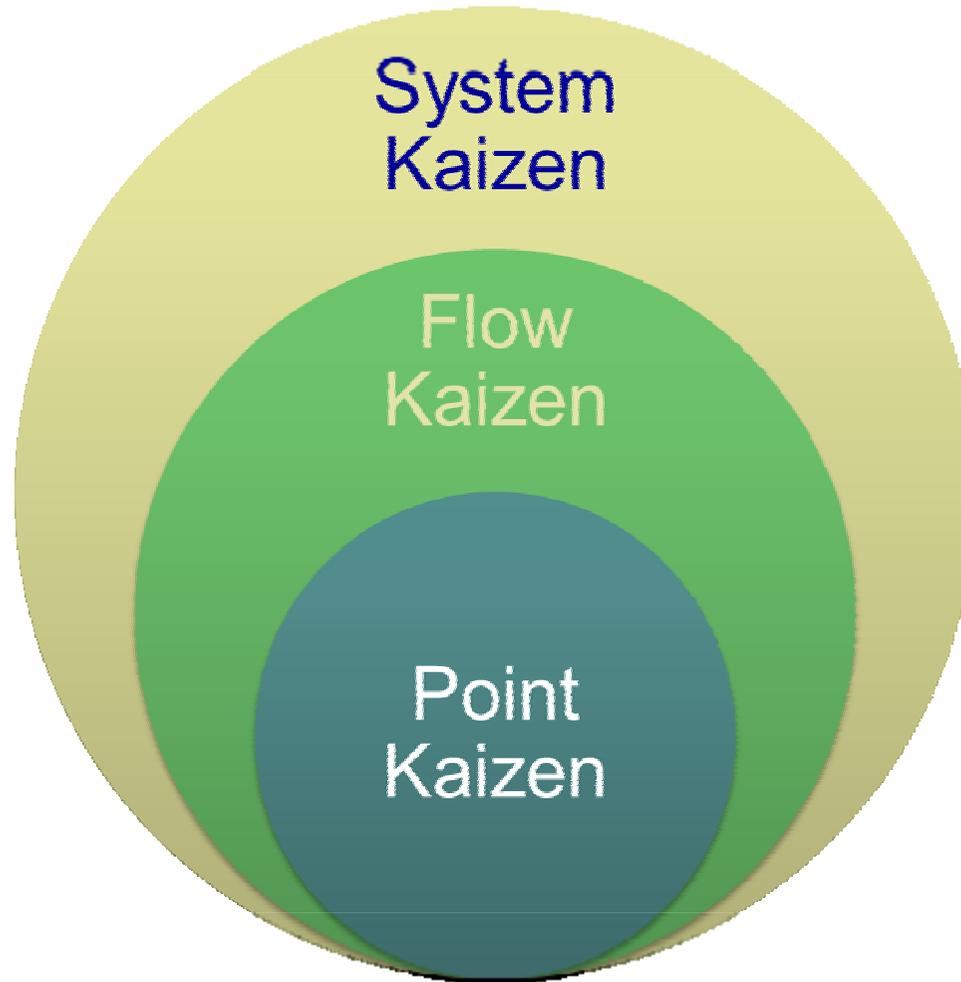




Current State Value Stream



Value Stream Improvement - Actions

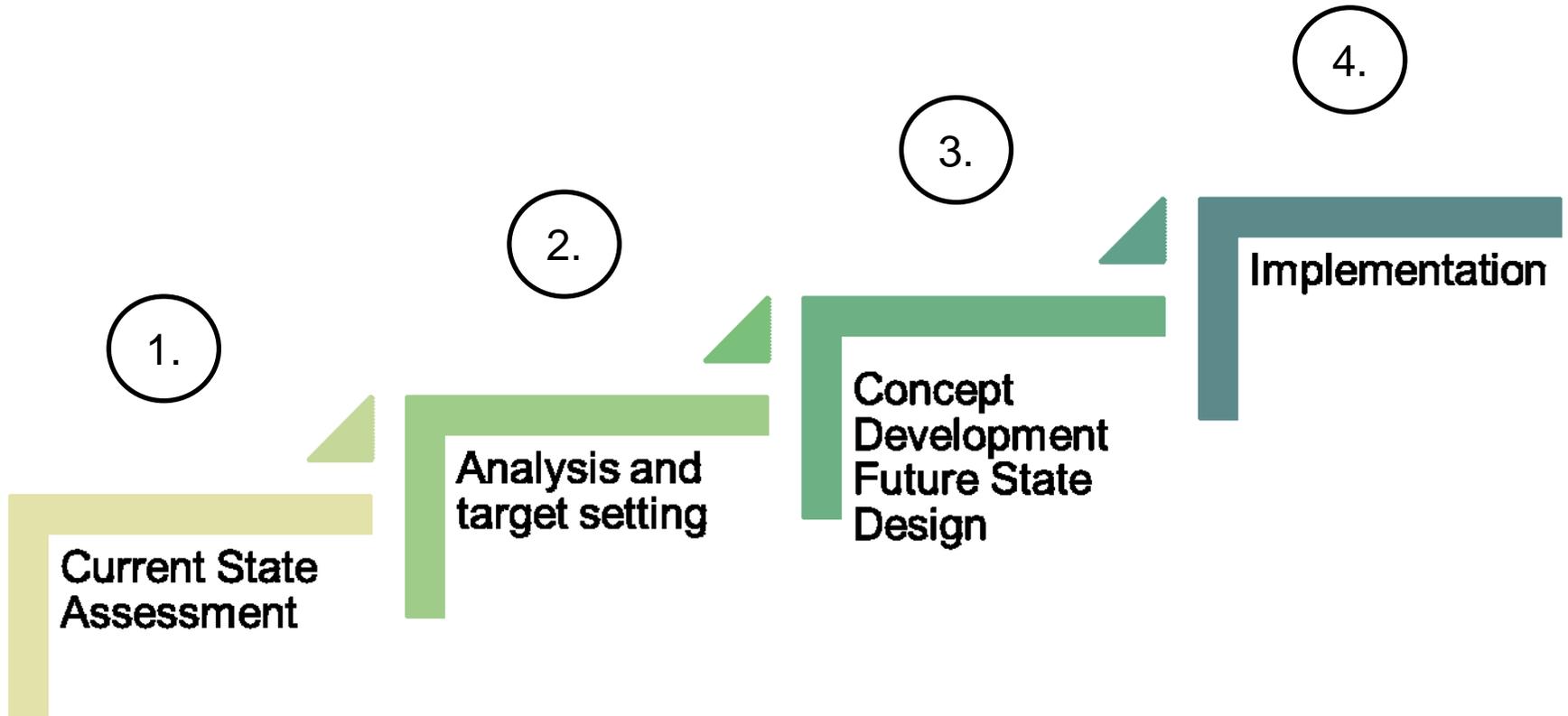


Business Results,
Sustainability
Effectiveness

Alignment,
Integration
Efficiency

Instant results
Problem Solving
Trust, Confidence

Value Stream Improvement Projects consist of 4 phases:



Current State Assessment



Current State
Assessment

Analysis, Target
Setting

Future State
Design

Improvement
Action Plan

Implementation

1. Kick off meeting, set up data collection team
2. Process Walk through
3. Conduct **alignment meeting** with key participants before workshop
4. Compile **measurement plan** and identify data need both on overall and process step level
 - *Demand, Calculate Takt time*
 - *Process Steps, product –process matrix*
 - *Time: cycle time, change over time, waiting times, lead time, working time*
 - *Inventories (FG, WIP, RM)*
 - *Quality / error metrics, scrap, first pass yield*
 - *Machine down times, availability*
5. Draw **Value stream map** of the “As-is” process in presentable format, prepare brown paper
6. Conduct Lean Assessment interviews and do a process walk through (Gemba Walk)



Analysis & Target Setting



1. **Alignment of the VSM¹⁾ process steps**, assign identified issues to process steps, gather additional issues and separate value-adding and non-value adding activities

2. **Create the Current State Map**
 - *Yellow Post It notes on White Board.*
 - *Identify Value Adding, MU1, MU2 activities*
 - *Identify Risks and Failure opportunities*
 - *Create final version of Current State Map with Total Lead Time, Value Add Time, Value Add %*

3. **Analyze Current Value Stream**
 - *Material and Information Flow*
 - *Identify Muri & Mura,*
 - *Operator and Line Balancing, Analyze capacity and bottlenecks*

4. **Brainstorming : Wastes and improvement ideas**
 - *Waste identification and categorization*
 - *Waste quantification and prioritization*
 - *Identify and prioritize improvement ideas*
5. **Target setting and wrap-up**



Future State Design



1. Recap of the last session and discuss new findings

2. **Identify opportunities for improvement (Kaizen opportunities)**
3. **Generate improvement ideas**
 - *5W2H method*
 - *4 Kaizen principles*
 - *Lean principles*

4. **Create project list. Estimate potential savings.**
5. **Identify Quick Wins. Prioritise.**
6. **Create Road Map. Develop and document Kaizen action packages**
7. **Create target Future State Map and calculate new Total Lead Time, Value Add Time and new Value Add %.**
8. **Create Story Board on Shop Floor for Report Out.**



Improvement Action Plan



1. Recap of the last session and discuss new findings

2. Brainstorming: Solution finding

- *Work down the prioritized improvement idea list to come to solutions*

3. Evaluate Solutions

- *Estimate resource and time requirement of the improvement actions*
 - *Stakeholder analysis for key improvements*
-

4. Develop Improvement plan

- *Kaizen workshops and Actions (2 months)*
 - *Mid-term improvement projects (2<12 months)*
 - *Long term improvement projects (>12 months)*
-

4. Identify KPI-s to track and monitor Lean progress

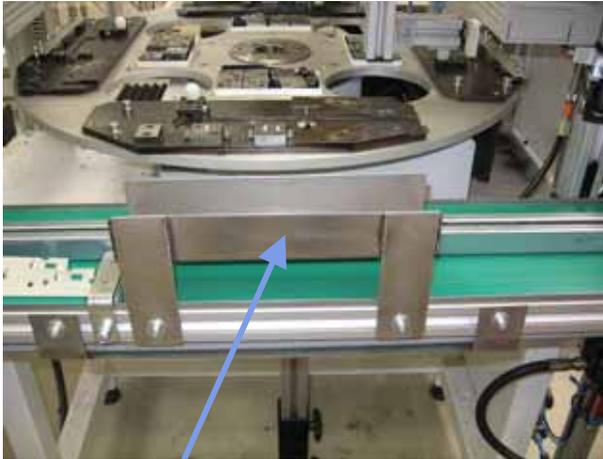
5. Create final presentation

- *Quick-wins, short- and mid-term results*
- *Cost – Benefit analysis of improvement actions*
- *Large Scale Project Plan and Communication plan*



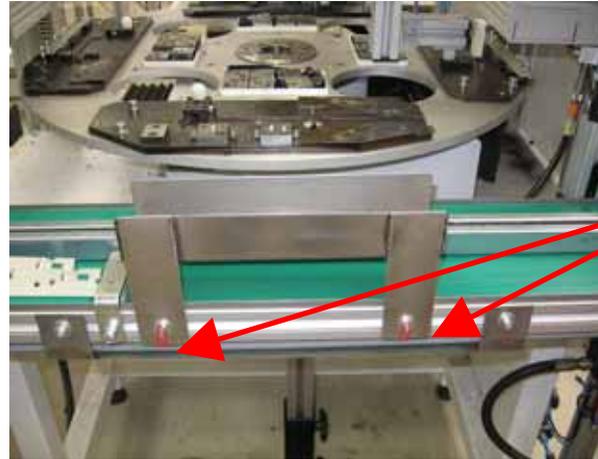
Point Kaizen - Simplification

Before Kaizen



The HOLDER impedes motions during assembly when it is not used

Suggestion



Trim the (bolt) slots or use quick fastener

After Kaizen





Point Kaizen - Elimination

Before KAIZEN



After KAIZEN



Result: 50% area reduction, one piece flow, 60% inventory reduction, FIFO



Flow Kaizen – Product line Transformation

1. Project Title	Brush production efficiency improvement project		
2. Reason	To replace the individual workstation concept by a high volume/high diversity line concept.		3. Objectives
			To increase output from 25k brush to 35k brush per week without investment and additional people. To realize lean flow and to reduce waste.
4. Start Date	29.06.2009.	5. Target End	30.09.2009.
6. Project Team	Tibor Sill, Gabriel Ridean, Péter Sisa, András Kiss, Kriszta Horváth, Attila Ország, László Pusztai, Zoltán Madócs, Péter Juhász		

7. Problem Details

P
L
A
N

Problem

Material flow in the former individual workstation concept was unclear, several products run parallel on the same workstations. Manufacturing time per product varied in large intervals.

Implications

Highly unpredictable product completion times.
Permanent management supervision was necessary to manage bottlenecks.
Having to set up weekend overtime to recover deficit.

Measurement

- brush product family analysis is completed;
- representative products are selected per family;
- cycle time measurement for each selected product is done;
- manufacturing concept is defined (concerning volume, diversity and flexibility);
- brush lean layout is drawn, project measures and main timeline are ready;
- new (target) capacity per line/cell is calculated;
- layout implementation is in progress;
- new equipment, tool (necessary to finalize the lines/cells) purchasing/manufacturing is in progress.





Flow Kaizen - Material Supply, Rearrange work content

Workstation	Problem	Suggestion	Results
APA 51	The operator is unpacking the parts (+1 gitter box space requirement)	The parts (cover sheets) are arriving unpacked to the workstation.	Higher value added ration. Unpacking activity and gitter box space is eliminated

Before Kaizen



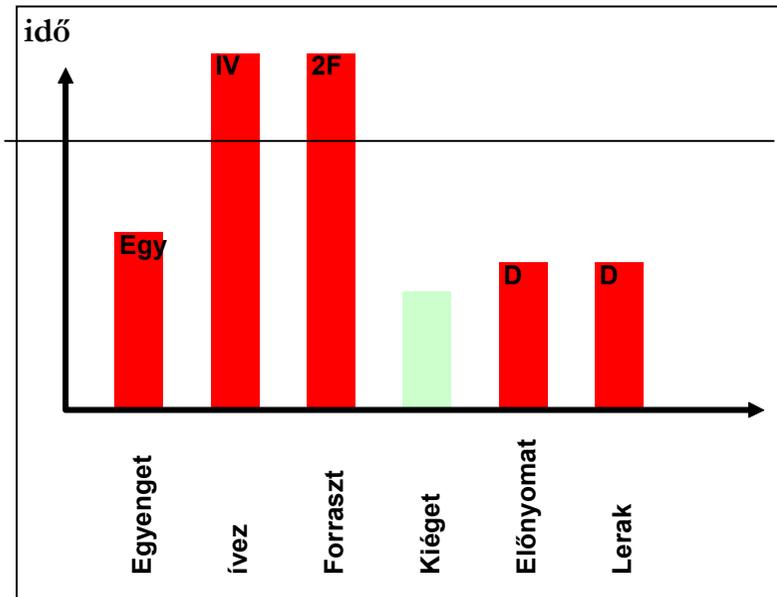
After Kaizen



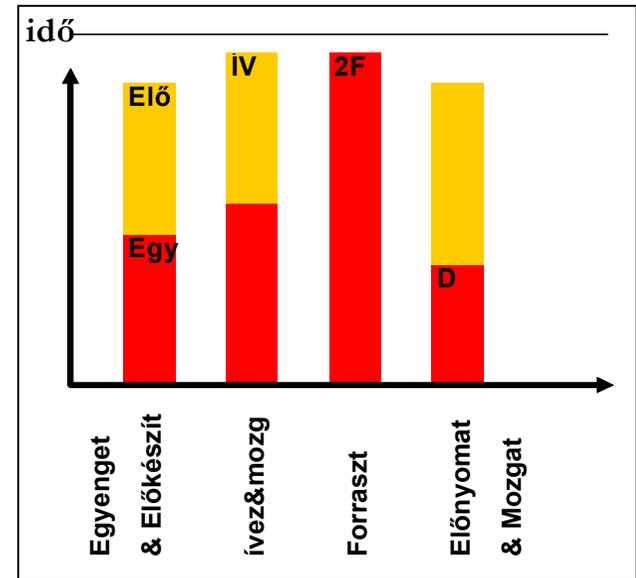
Flow Kaizen – Material Flow Optimization, Balancing



Before Kaizen



After Kaizen





Flow Kaizen - Pull System

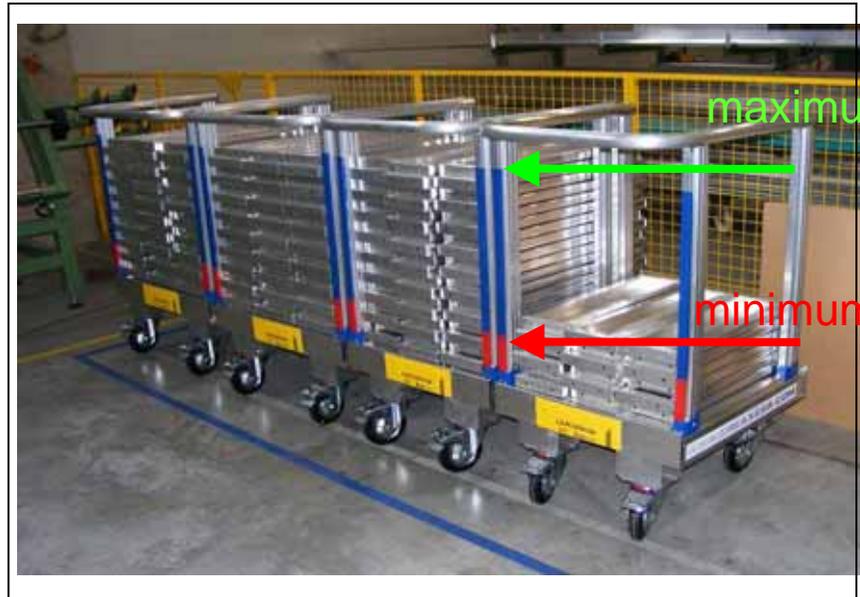
Operation	Problem	Actions	Results
Stair profile making	Stair profiles stored on pallets, moved with forklift (1,5 min moving time, 38 m)	New „Kanban” trolleys have been introduced, min max levels indicated (visual control)	Reduced transportation, Moving time is 6 sec, 5 m

Before Kaizen

After Kaizen



Stair profil supermarket, pull system



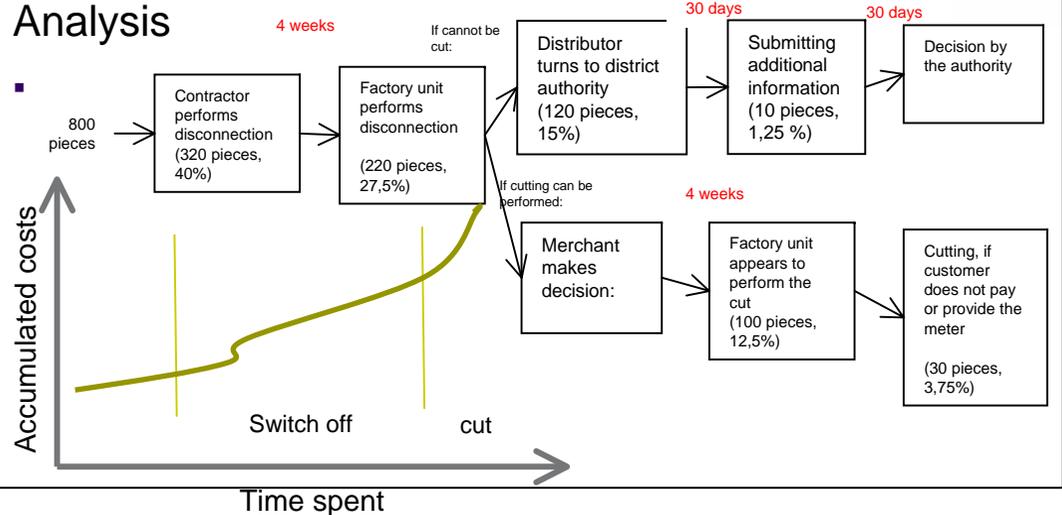
Flow Kaizen – „Disconnection” Process Improvement



Problems:

- Long lead time of disconnection (accumulated debts)
- Inaccurate information flow with the subcontractor
- Disconnection represents significant additional costs for distributor
- Repeated unsuccessful customer visits when customer is not at home
- Customers perform payment only (late), in the last stage of switch off

Analysis



Suggestions:

- Customer should be informed in a visual informative letter about the consequences and deadlines of not paying and disconnection
- Data received from contractor to be imported to SAP from Excel, state of meter, photo to be enclosed
- Introduction of 'smart' meters in connection Customer (solvency) credibility evaluation
- Prepare sample (standard) letters for local governmental administration

Improvement Actions

- Sample letter to inform customers is prepared,
- Sample documentation for letters submitted to the authorities is prepared with the involvement of the legal department, it can be finalized upon the statement to be received from the district government offices

Expected Results

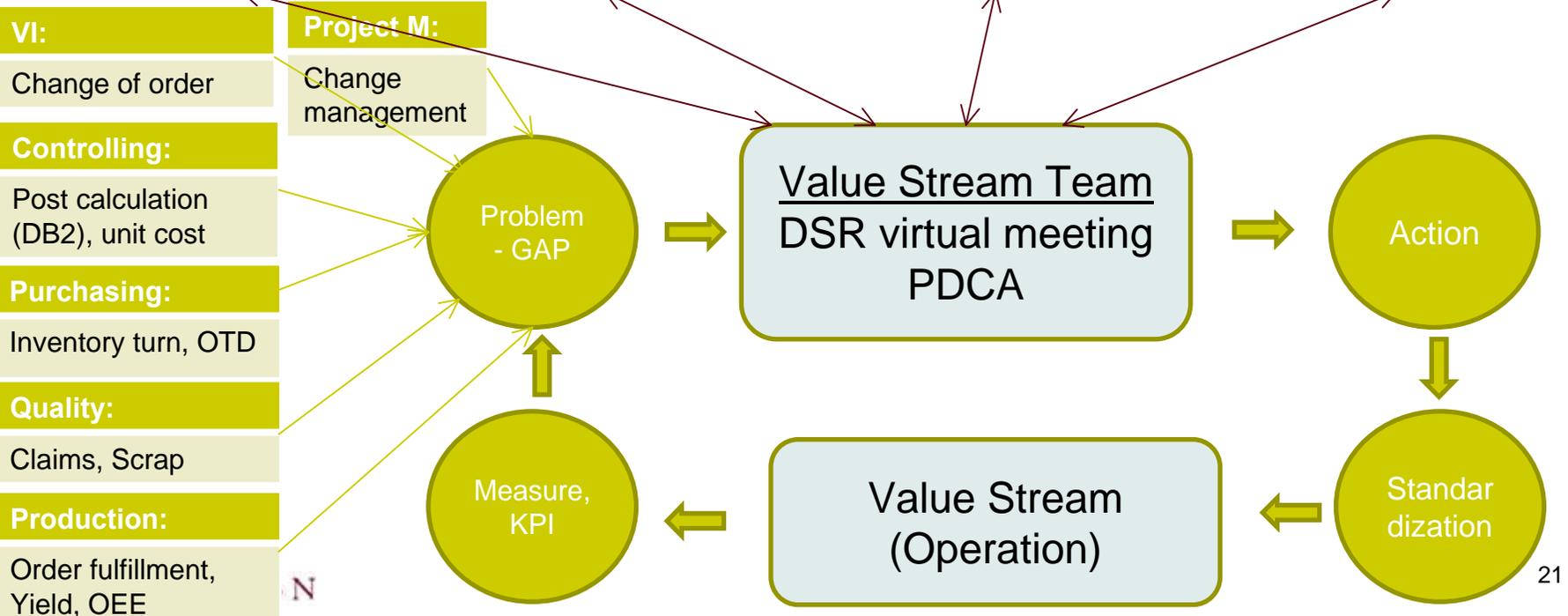
- Shorter lead time (15 days)
- Less cost accumulated during disconnection period
- Less road construction costs
- Reduced unnecessary customer visits
- Smaller postal costs

Realized Results

- Standardized letters can be written to authorities faster

System Kaizen – Value Stream Management

#	Problem, Failure	Problem description	Priority (1-2-3)	Identified by (Who)	Date of indentification	Temporary containment action/ responsible	Affected Functions	Root Cause	Corrective Action, Intervention	Respon sible	Deadline	Status
1			1									25%
2	Delivery is delayed	The raw material has not arrived on time from the suppliers	2	Peter Wolf (Diszpo)	November 5th	Inform Production about the delay	Production, Quality	We have ordered the raw material too late (shorter lead time than the delivery time)				50%
3			3									100%
4					september 15.							75%



Experiences



- Eliminating waste along the entire value stream, instead of at isolated points, requires coordination and cooperation of different functional departments with different objectives and incentives.
- Value Stream Improvement should be aligned with the strategy of the company if we want to ensure Management support and suitability.
- Hoshin Kanri (policy deployment) is a good method to assure acceptance, commit necessary resources and to align lean activities with strategic objectives. Those companies that have used Hoshin Kanri, were more successful in Lean implementation and achieved better results in inventory turnover, lead time, customer PPM, and Revenue/person.

Lean Tools - Categorization



Point Kaizen	Flow Kaizen	System Kaizen
SMED	VSM	TPM
5S	Heijunka	JIDOKA
Standard work	Line Balancing	KANBAN
Visual Management	One Piece Flow	Zero defects Quality Control
Poka Yoke	Andon	Hoshin Kanri
A3 Problem solving	Synchronized Production	
5 Why?	Cellular Production	
5W2H	Mixed Model Production	
	Supermarket	



Enabling Successful Implementation of Kaizen tools

	Preconditions – Requirements	Enabling tool
Point Kaizen	Knowledge of the Kaizen tools, Empowerment, Resources	Problem Solving
Flow Kaizen	Process Focus, Management by Facts, Cross functional coordination	Value Stream Mapping
System Kaizen	Alignment of the different Management Systems within the organization	Hoshin Kanri

Lean Maturity



Based upon our experiences we can distinguish 4 levels of Lean maturity among our clients:

1. Beginners,
with instable
processes and
organization

2. Stable, perfor-
mance oriented
companies
with standardized
processes and
measurement
system

3. Good
Problem Solvers,
with Continuous
improvement
culture

4. Strategic
System Builders,
with learning
organization

Based upon the Lean Maturity more advance Lean methods can be applied.

- Beginners can start with the Point Kaizen tools,
- Stable companies are more likely to be successful with the flow Kaizen tools
- Good Problem Solvers can start the System Kaizen tools to become Strategic System Builders.



Further Information

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