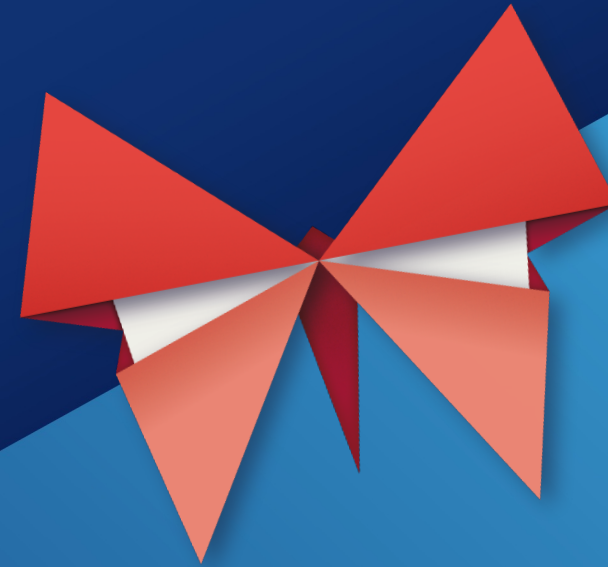


7 KEY CAPABILITIES for a Supply Chain Lean Transformation

(E2E, Demand Driven, Agile & Lean)

A New Paradigm for achieving Breakthrough Results and Competitive Advantage in Customer Service & Profitability



Webinar & White Paper



GEMBAKAIZEN™

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Why we Need Resilient E2E, DD, Agile & Lean Supply Chains

7 Key Capabilities for a Lean Resilient Supply Chain Transformation

1. Strategic E2E Mapping of the Supply Chain

- Map the E2E Supply Chain and Learn to See the Logistics Loops
- Develop an E2E Lean Vision
- Prioritize a Roadmap
- Develop a Business Case

2. Implement a Pull Planning System

- Implement a Demand Driven Pull S&OP
- Implement Demand Driven Pull S&OE
- Implement Levelling
- Implement Synchronisation

3. Create Material & Information Flow

- Create Flow in Production
- Create Flow in Warehouses
- Create Flow in Transportation
- Streamline the Information Flow

4. Increase Resource Efficiency

- Improve OEE in Production
- Improve Efficiency in Warehouses
- Improve Efficiency in Transportation
- Modernize with Digitalisation & Automation Technologies (but respecting the Pull Flow System)

5. Reinforce the KAIZEN™ Culture

- Engage Top Management in E2E Supply Chain Transformation
- Implement Daily KAIZEN™ in All Natural Teams
- Learn how to do Focused KAIZEN™ Events
- Implement a Strategy Deployment Process
- Educate & Train with a KAIZEN™ Lean Academy

6. Increase Supply Chain Resiliency

- Explore the Pull System to Fight Instability and become more Resilient
- Develop a Supply Chain Digital Twin Model to Gain more Visibility
- Install an Oobeya Room for Visual Risk/Crisis Management
- Implement a Tiered Help Chain Process

7. Pilot, Assess, Benchmark & Scale

- Engage in Pilots & Benefits Tracking
- Develop and Use an Assessment Maturity Model
- Do Internal & External Benchmarking
- Go Quickly with the Deploy & Scale Process

KEY CAPABILITY #2

Implement a Pull Planning System

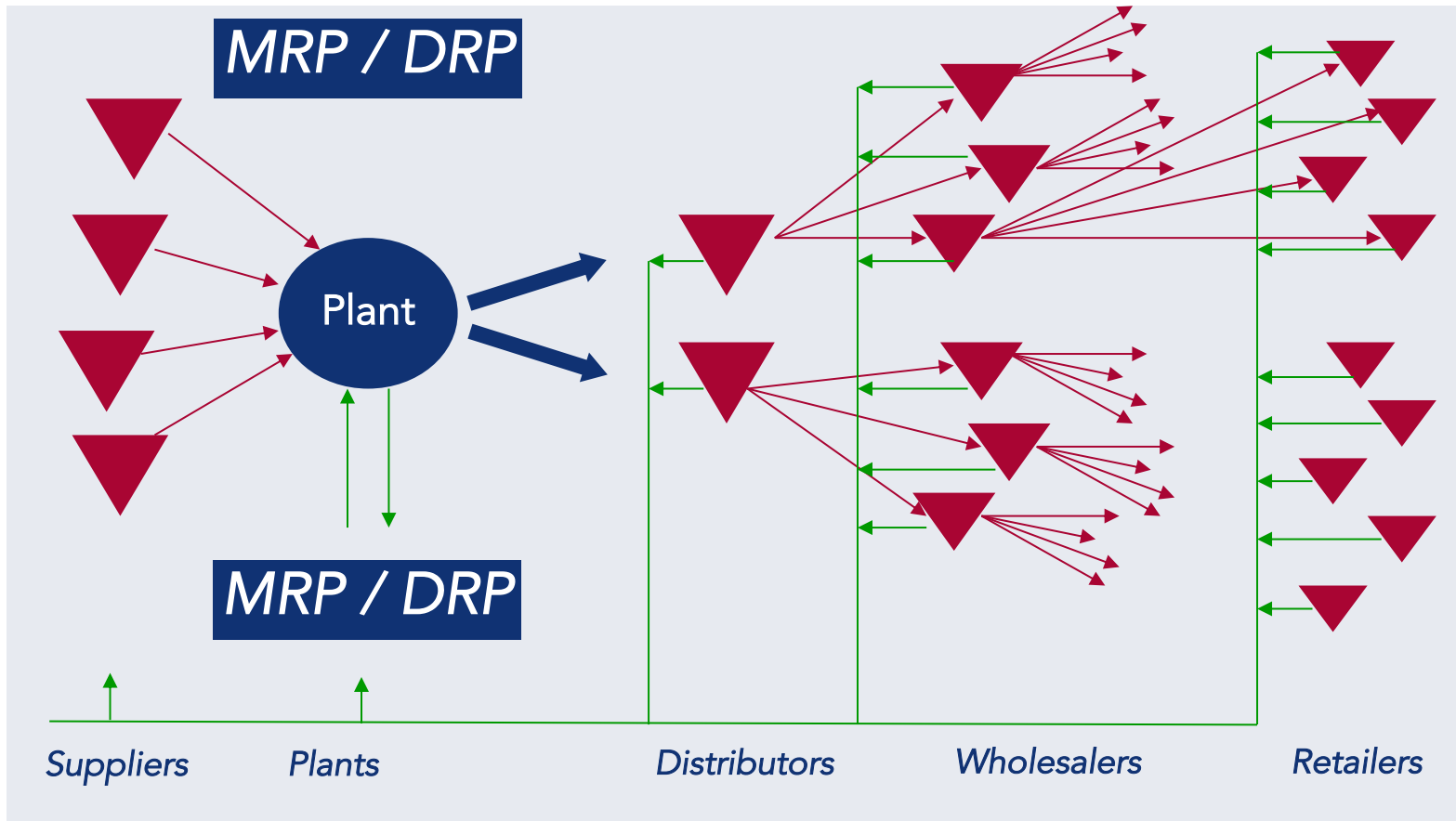
- Implement a Demand Driven Pull S&OP
- Implement Demand Driven Pull S&OE
- Implement Levelling (higher planning frequency & small batches)
- Implement Synchronisation (*kanban* & *junjo* stock policies)

Implement Pull Planning

Traditional Approach to Supply Chain Agility – CPFR

Improve Collaboration around Forecasting and Synchronize Centrally with MRP / DRP Systems

CPFR Collaborative Planning Forecasting & Replenishment



Traditional Supply Chain improvement appeared in the 1990s to answer the question:

“ How can an organisation deliver the required products in the shortest lead time possible with 100% customer service, minimising at the same time the overall stock? ”

Due to Isolated Loops & the Whiplash Demand Amplification Effects...Looked like COLABORATION and MRP Planning could solve the Problem ...

Yes..., but to a certain limit !

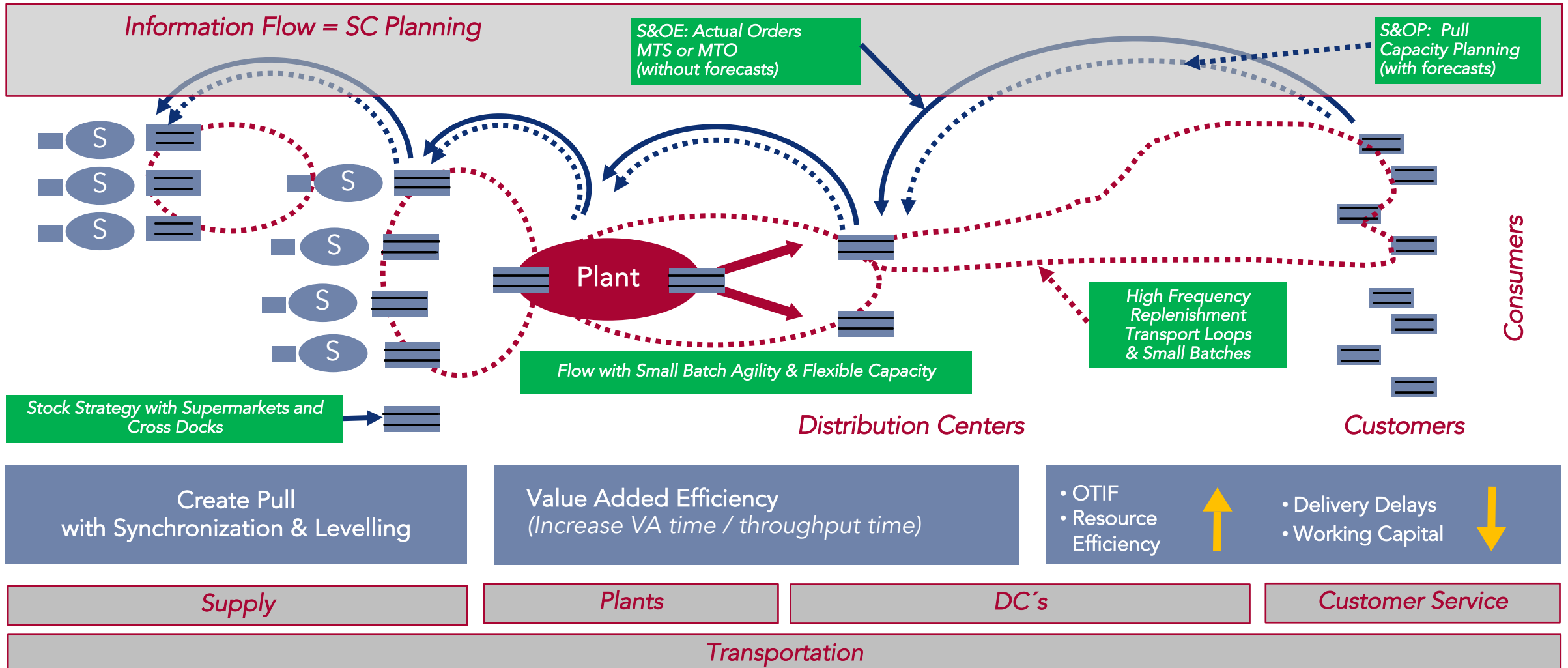
Why ?

Because Forecasts (with implicit errors) drive Execution and there is no effort to Create Flow, Synchronization & Levelling

...so we need a better System !

Implement Pull Planning

A New Paradigm - Pull Demand-driven Supply Chains

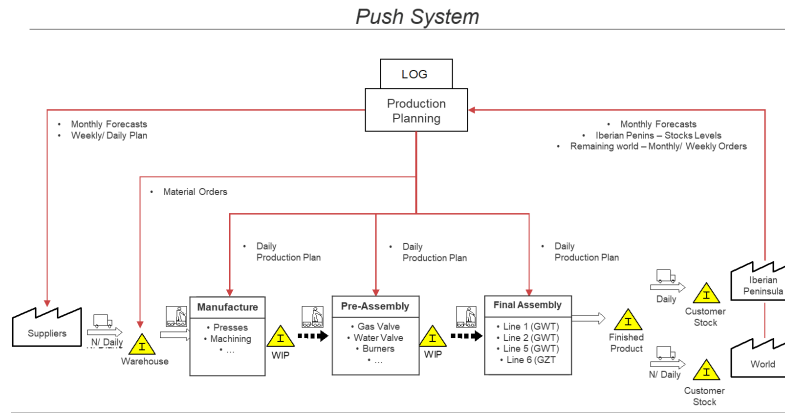


Implement Pull Planning

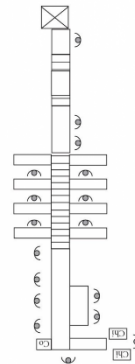
A Pull Flow Transformation Use Case (fully explained in the KAIZEN™ in SC Book)

Additional Reading Material !

STRATEGIC VALUE STREAM MAP BEFORE

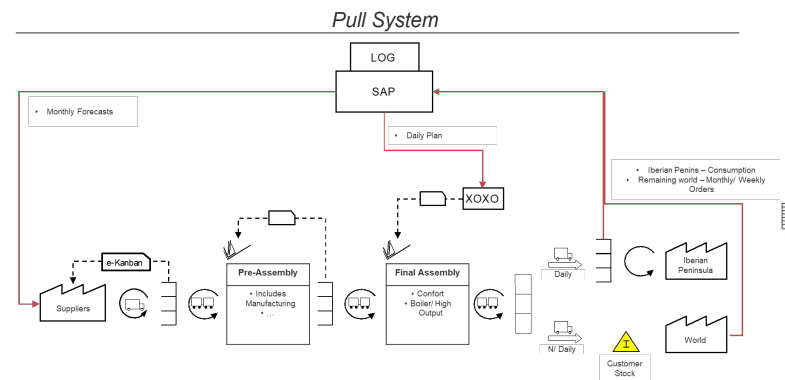


Forecast Driven Push System

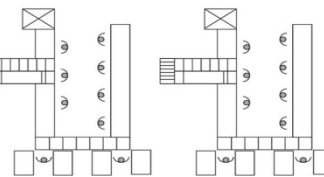


Big Inflexible Lines

STRATEGIC VALUE STREAM MAP AFTER



Demand Driven Pull System



Flow Cell Line Design

Problems

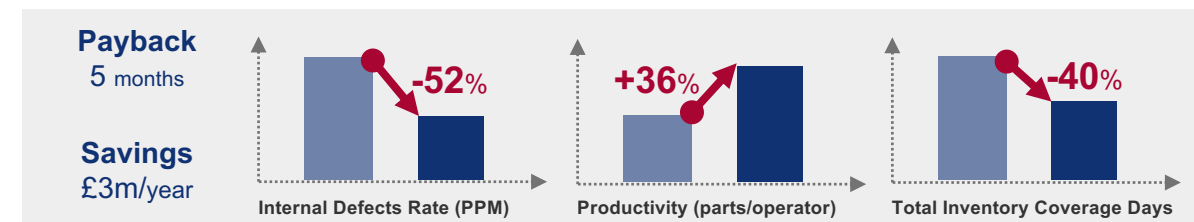
- Finished goods inventory coverage of 15 days with a customer service level of 93% = dysfunctional inventory
- Raw materials and parts stock coverage of 30 days
- Additional 1 to 5 days of WIP in production and assembly lines
- 50% of planned production lost due to lack of parts and poor line efficiency

Root Causes

- Finished goods planning based on order forecasts: forecast errors between -18% and 16%
- Functional layout: preassembly lines separated from final assembly lines
- Operators isolated from each other, back supply, supply of large pallet-sized containers, poor operator standard work, low line balancing efficiency
- Delivery to final assembly line by forklifts, under the instruction of operators or supervisors

Solution Approach

- Pull planning algorithm used on a daily basis to compare a certain replenishment level with the current stock of finished goods and create the production orders according to deviations
- Transformation of orders into KANBAN and planning on a daily basis through a logistics box
- Daily schedule determined by freezing one day of production and according to levelling rules
- Transformation of one assembly line to two with fewer product references on each; Zero changeover time; Balanced operation time between operators; Small containers on the border of line
- Three Mizusumashi circuits for purchased parts, sub-assemblies and finished goods



CONCLUSIONS & NEXT STEPS

How can I Learn More

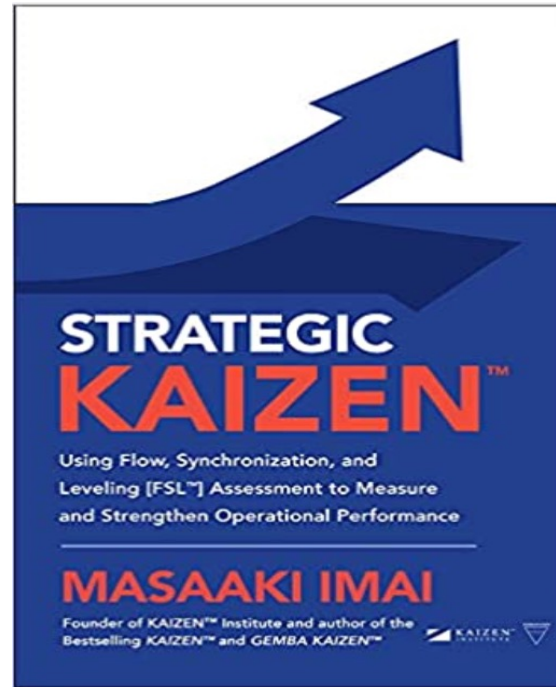
- Reading Materials
- Learning by Doing - Select & Start a **Pilot** Strategic E2E Value Stream Mapping
- Get Support from Kaizen Institute (or another Sensei)
- Make a Performance Based Partnership with the Sensei

How can I Learn More

Learn all the Details with KAIZEN™ Books

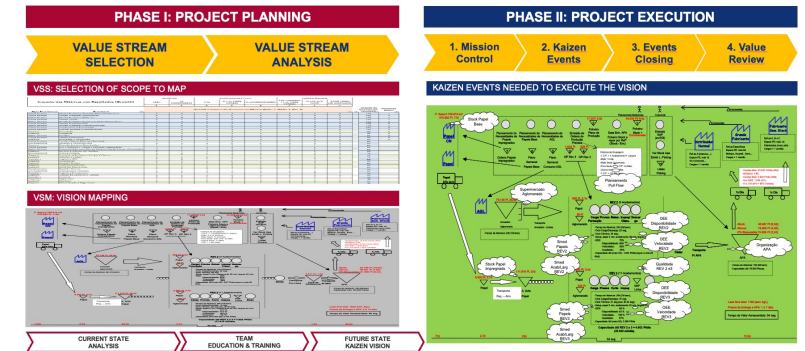


The Global Reference Book in Supply Chain Transformation



The Last Book about Strategic Assessment of Supply Chains

- Reading Materials
- Learning by Doing - Select & Start a Pilot Strategic E2E Value Stream Mapping
- For more information contact ecoimbra@kaizen.com



WANT TO LEARN MORE: ORDER THIS BOOKS...

How can I Learn More

Develop a Successful Pilot Project (to serve as a Beacon)

CASE	COMPANY	PROBLEM	SOLUTION	RESULTS
Plant Design		<ul style="list-style-type: none"> Old line with a lot of material and operator movements 	<ul style="list-style-type: none"> New Layout and line design with 50% less space Mizusumashi Standard Work - 20% increase in Productivity 	<ul style="list-style-type: none"> Quantifiable benefits 3,300,000 Euros / year. Total investment: 1,125,000 Euros. R.O.I.: 4 months. State-of-the-art factory design
Flow Improvement		<ul style="list-style-type: none"> Line Design not Flexible & Isolated Islands Low Frequency Logistics Central Push Planning System 	<ul style="list-style-type: none"> One Piece Flow Shojinka Lines Creation of Flow in Internal Logistics Pull Planning System with Levelling 	<ul style="list-style-type: none"> -52% internal defects rate 36% increase in Productivity -40% Total Inventory Coverage
Factory & Planning Design		<ul style="list-style-type: none"> Functional Layout High lead-time Management difficulties 	<ul style="list-style-type: none"> Flow Layout Stock Reduction Standard Work SMED 	<ul style="list-style-type: none"> 50% area reduction 40% productivity increase 89% lead-time reduction 38% Setup Time Reduction 8% Service-level improvement
Factory & Planning Design		<ul style="list-style-type: none"> Low Productivity Push Supply High model changeover time 	<ul style="list-style-type: none"> U shape line with frontal supply Pre-assemblies near point of use Pull Supply (With levelling box) Setup Time = 0 Standard Work 	<ul style="list-style-type: none"> 26% productivity increase 52% area reduction 21% to 0% ergonomics' critical stations

OTHER REFERENCES

- Get Support from Kaizen Institute (or another Sensei)
- Make a Performance Based Partnership with the Sensei
- For more information contact ecoimbra@kaizen.com

Our Brand Promise

Authentic

We introduced the KAIZEN™ methodology to the world in 1985

Practical

We make our customers experts in their Gemba

Holistic

Our methods touch everyone in the organisation working for the same goal and sharing the same KAIZEN™ Spirit

Worldwide

Our expertise, from helping the world's leading organisations, can be applied to any situation

WE HELP LEADERS TO

ACHIEVE DREAMS OF PERFORMANCE IMPROVEMENT

IMPLEMENT CONTINUOUS IMPROVEMENT CULTURES

LEARNING BY DOING WITH A SUCCESSFUL PILOT PROJECT

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