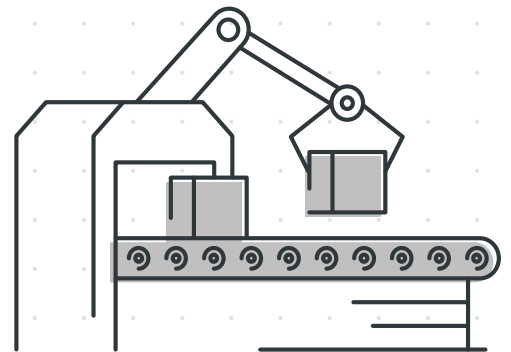


OPERATING SYSTEM FOR MANUFACTURING

A systematic approach to reaping the full potential of manufacturing

August 2018





Operating System for Manufacturing is an enabler which we, at Implement Consulting Group, care a great deal about.

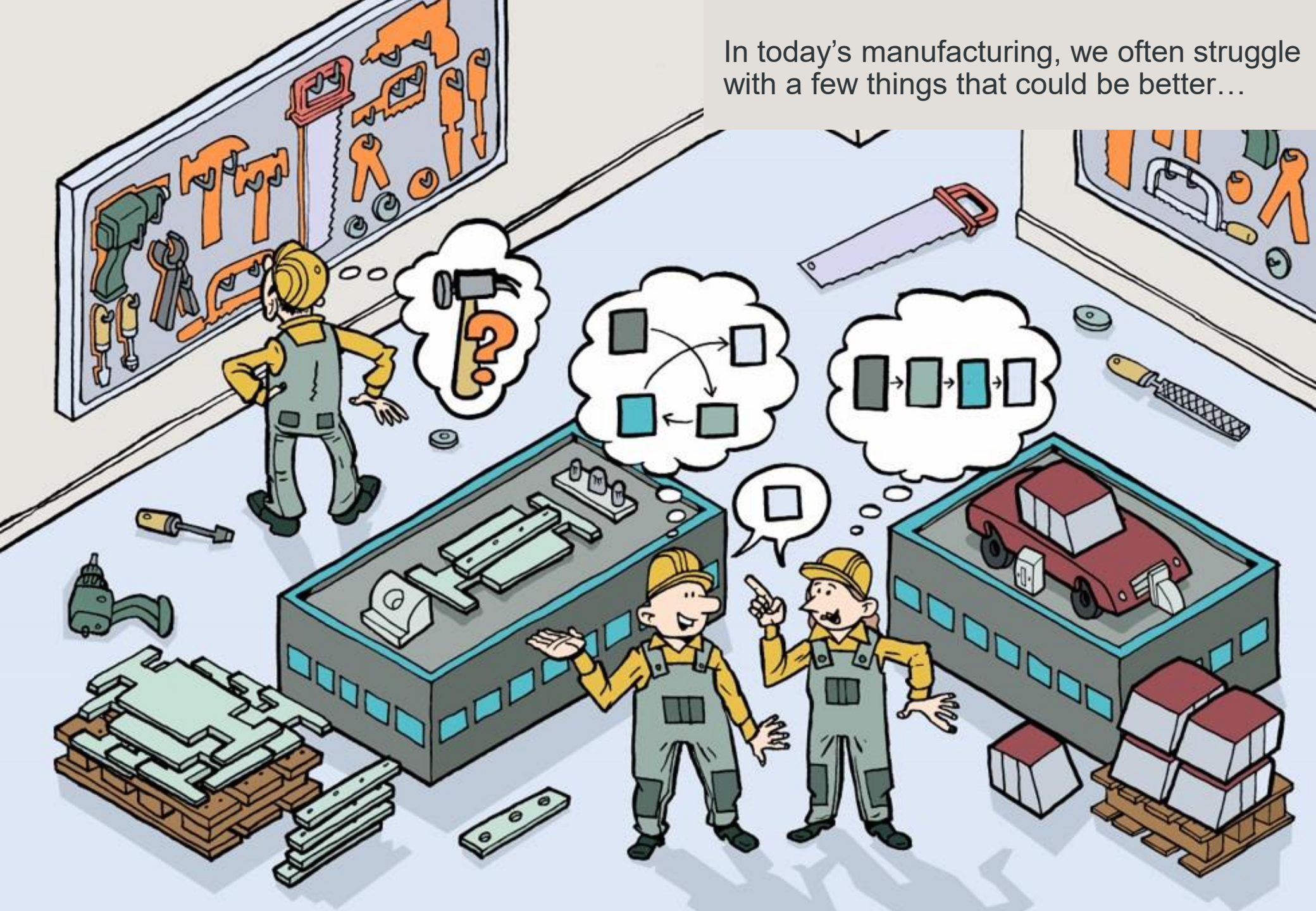
An operating system addresses parameters required, in order to manage and improve manufacturing processes end-to-end, with the intention of driving performance at an operational level, ultimately supporting the manufacturing strategy.

In this viewpoint, it is our intent to inspire the reader to reflect and ultimately consider if and how their operating system for manufacturing requires redesigning.

Enjoy!



In today's manufacturing, we often struggle with a few things that could be better...





WHAT ABOUT ...
... OH NO, THAT WILL
NEVER GET APPROVED

✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓
✓	✓	★	✓	✓	✓

DO WE HAVE
THE RIGH SKILLS
ON THE SHIFT?

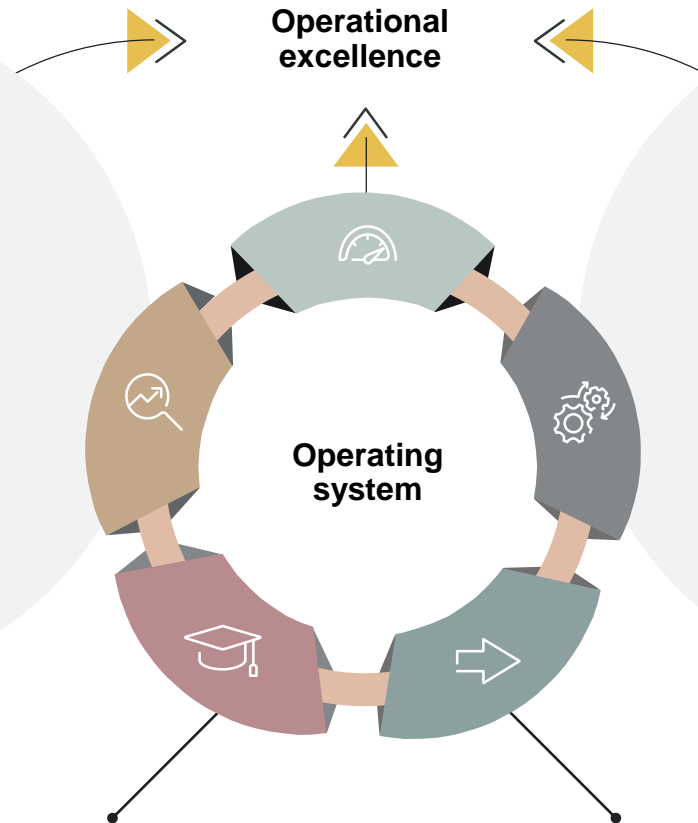
PRODUCTION
MANAGER

The operating system is the link between people and tools, thereby creating a foundation for operational excellence to run and improve the business

People are your most valuable asset. Involving, engaging and developing them unleashes a far higher potential than anything else.

The operating system provides the necessary infrastructure for the employees of today and tomorrow to reach their full potential.

The operating system is what **links** the people and the organisation to strategic choice and tools/levers, creating a platform where everything comes to life and everyone can participate.

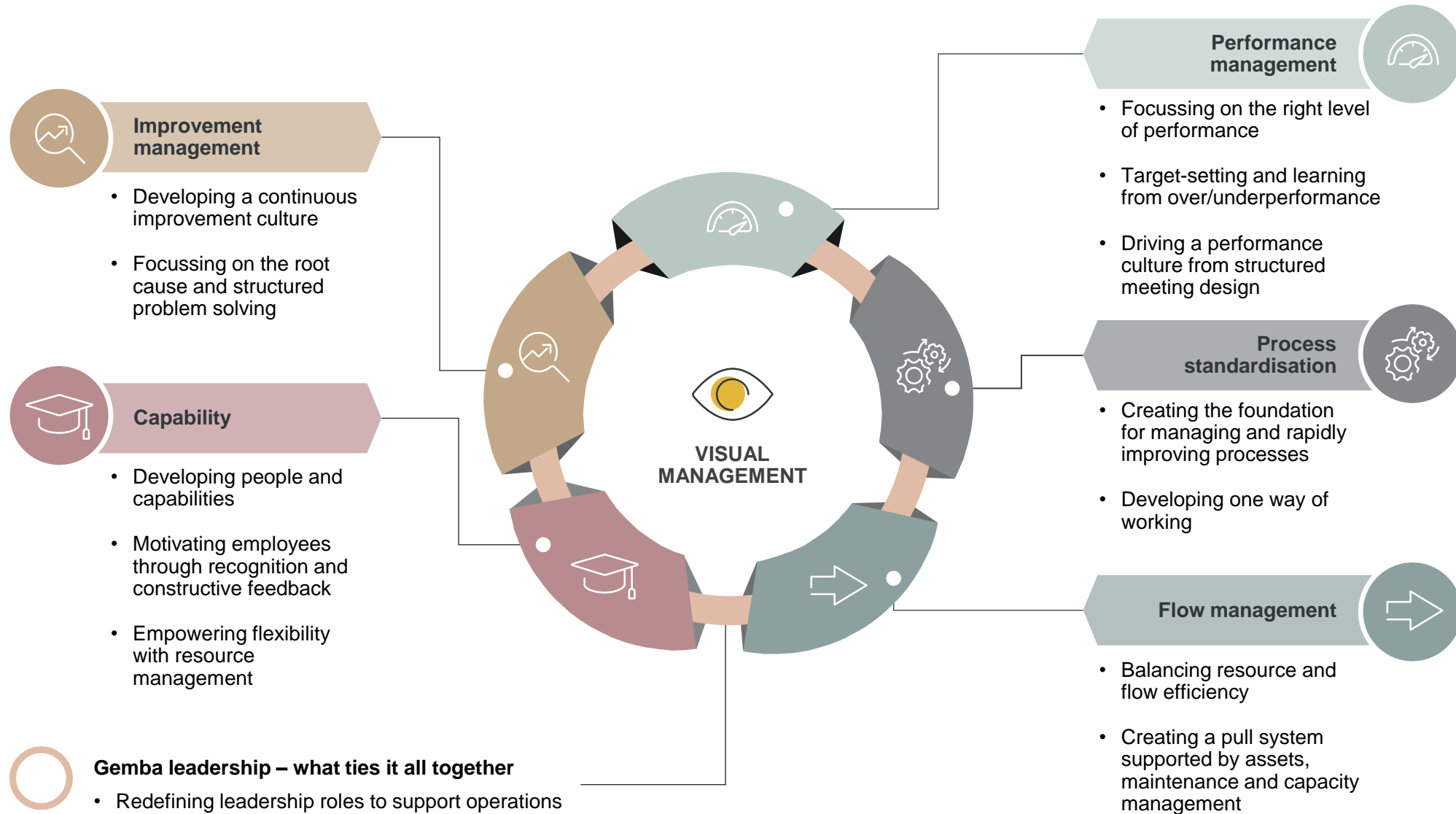


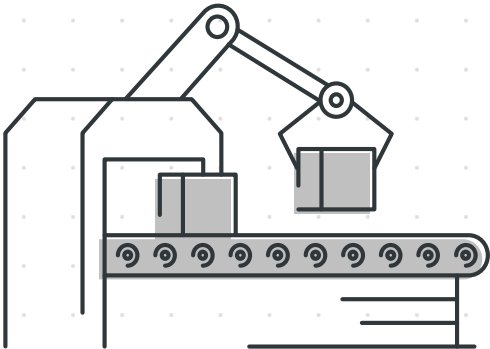
To sustain, or build competitive advantage in manufacturing, firms are looking to their operational strategy and a mix of operational levers to succeed. Regardless of whether one or many **tools or levers** are jointly used, the operating system is the **link** where decision, improvement and innovation materialise into impact – it creates a platform where innovation inspired by e.g. Lean and Industry 4.0 can mutually benefit each other.

The operating system links **people** and **tools** together and thereby acts as a **foundation** for operational excellence.

A foundation where an organisation can excel in running and improving the business – we manage as **ONE** instead of with one manager.

Each core element, Gemba leadership and visualisation are vital to the operating system – all of these synergise to reach full impact

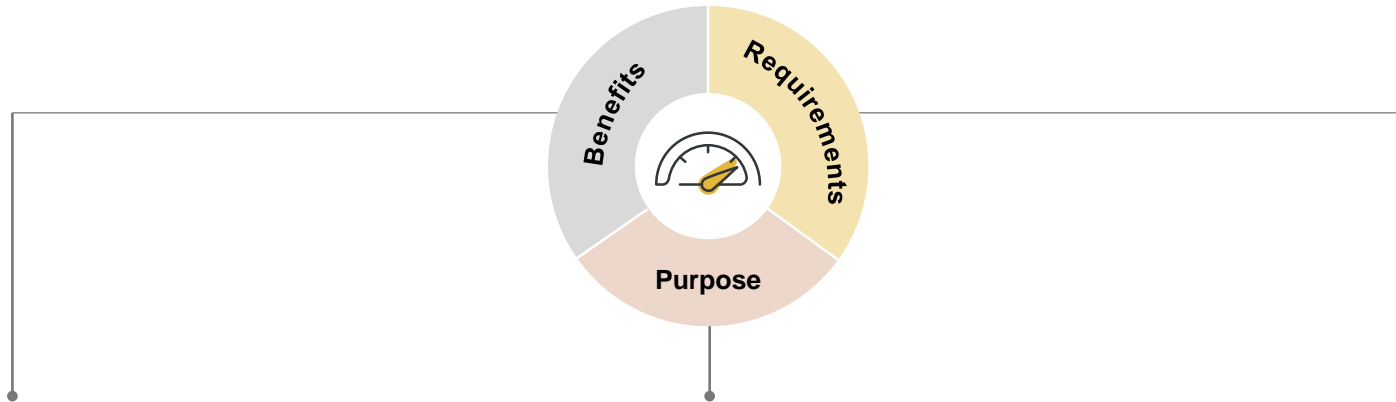




PERFORMANCE MANAGEMENT



Knowing what “good” looks like, and being able to focus on the right things



- **Focussing on a few crucial** metrics that drive performance.
- **Prioritising** and targeting the right initiatives to execute, in order to improve performance.
- **Minimising the required time** for meetings in the organisation to execute operational performance.
- **Rapid escalation** of critical topics to the right decision-makers.
- The ability to **learn** from overperformance and challenges that drive performance downwards.
- Creating a **performance culture** that is based on facts rather than feelings.

Measuring our performance is vital to understanding the health of our company and operations. Without knowing our performance, we will not be able to take the right actions to improve. This is why performance management is the first core element in the operating system. We want to act on **fact-based decisions** and not on feelings!

Acting on performance consistently and in a timely manner requires a certain **structure** around how to make decisions and take action, which can be achieved through a fixed meeting structure from shop floor to senior.

management level. This ensures that everyone works together towards the **strategic goals** of the company. Performance management drives a culture with focus on **continuous improvement** and sharing **best practices**.

- KPIs are to be **precisely defined** so that everyone has the same understanding of the KPI and is able to measure it the same way every time.
- The ability to find a rhythm for meeting structures that supports a timely sequence to take appropriate actions.
- All result measures should have at least one corresponding **leading measure**.
- **All metrics have an owner** that will report the measure and be able to talk about root causes and corrective actions.
- **Targets** are to be set for all KPIs.



A consistent way of directing and improving performance



ROLES

Business process owner

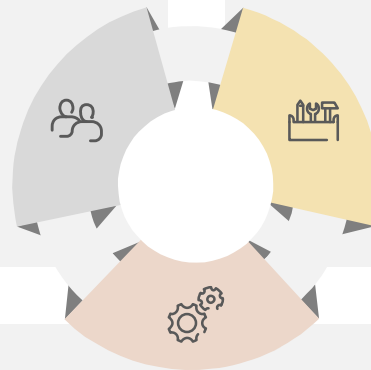
The overall owner of performance management usage in organisation.

People

Responsible for reporting and acting on performance accordingly.

Manager

Responsible for efficient meetings that adhere to meeting specifications.
Responsible for ensuring that value is created at meetings.



TOOLBOX



Policy deployment methodologies, KPI trees, Excel, alarms.



PDCA and improvement management.



Meeting structure, meeting specification, good meeting habits.

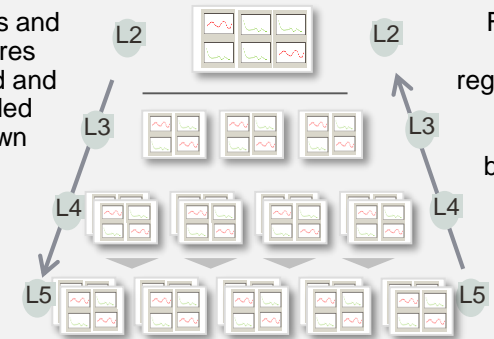
CONTENT

What best describes performance management?

- Performance management is a structured way of using data and meeting structures to ensure that all levels of the organisation work together towards the strategic goals of the company.
- Establishing a KPI tree that links result measures and leading indicators together throughout the organisation.
- A clear definition of KPIs and targets that are regularly followed up on with corrective actions that are made accordingly.
- Cascading meetings from shop floor to the senior management team on a daily, weekly and monthly frequency.

Metrics to be cascaded down and **feedback** to be given bottom-up in the organisation

Targets and measures defined and cascaded top-down



Feedback through regular VMS meetings crawling bottom-up



Focus on a few crucial KPIs and set ambitious and realistic targets



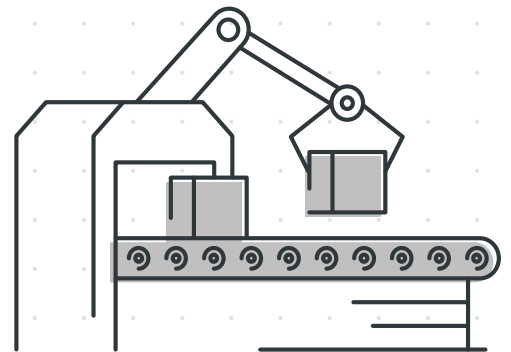
Design Principles

- Fix the **agenda** and **specification** for all meetings.
- **1-2 Wildly Important Goals (WIGs)** – with corresponding result measures to be cascaded down from top management.
- **3-5 KPIs** – these are to be shown during board meetings to ensure achievement of WIGs and to focus on what is important.
- **Leading and lagging indicators** – the majority of KPIs should be leading indicators to ensure focus on what can be improved in daily operations. Result/lagging measures are primarily for reporting benefits realisation to management.
- **Setting targets** – knowing what “good” looks like will highlight under- and overperformance (red/green numbers).
- **Action log** - capturing the actions that will bring performance back to green numbers, who will do it and when it will be done.



Behaviour

- **Adhere to the agenda and meeting specification** to create stability.
- Emphasise good meeting habits to **enforce a respectful environment**.
- **Visualise simplicity** so that deviations from the norm are easily observed, e.g. with alarms or info boards displayed in the production area.
- **Respect under- and overperformance** and make corrective actions accordingly. Do not hide the red numbers – highlight and learn from them instead!
- **Involve employees in target-setting** to ensure that it is realistic and that they feel ownership for high performance and reaching ambitious goals.
- **Fact-based culture** based on reality instead of what we think is right.
- **Challenge** each other to **understand the root cause** of what drives performance up and down.

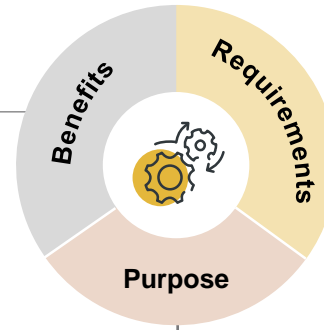


PROCESS STANDARDISATION



Are you looking for **sustained improvement** and **robust results**, without **firefighting**?

Process
standardisation



- Improved and more consistent production which entails **higher quality** and **increased throughput**.
- Understanding the current performance and deviations from the norm.
 - The ability to be proactive rather than reactive ...
 - ... To avoid firefighting.
- Robust results and **sustained improvements**.
- A common language that enables faster and more efficient introduction and training of employees.
- Faster **induction training** of new employees.

Process standardisation is a foundation to effectively and efficiently **manage** and **improve** process and manufacturing system output.

Consistent execution reduces variation in output induced by the processes/system, translating into shorter lead time and/or higher quality.

Through standards, a common language is established, thereby **increasing transparency**.

Transparency synergises well with **performance management** (knowing why the desired output has not been achieved), **improvement management** (knowing what to improve from to prioritise improvement) and **skills training** (knowing the process to teach efficiently and effectively).

- All standards must have a **timeframe** element connected to the process – without an element concerning time, it is just a job description.
- Standards are **made at Gemba** by process owners.
- Processes in scope require **repetitive** characteristics in order to have **ONE** common way of working.



Standardised processes are described, executed and managed consistently



ROLES

Business process owner

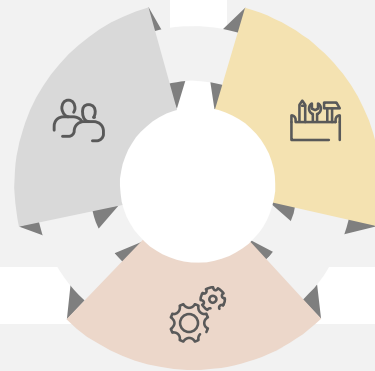
The overall owner of the process who ensures that procedures are in place and updated.

People

Responsible for executing the standardised processes.

Manager

Responsible for process confirmation so that people can execute the processes accordingly.



TOOLBOX



Standard Operating Procedure, meeting SOPs, checklist.



Swim lane, SIPOC, value stream map.



Process landscape, systems/tools for accessing and managing processes.

CONTENT

What best describes process standardisation?

- A **common understanding** and description of how to perform a task or behave in a certain situation.
- Each process step is described by the roles involved with tasks and times.
- Critical meetings (for example daily operations meetings) are performed according to **standard meeting specifications**.
- It covers **business critical** processes of both **blue and white** collar work.
- The **scope** of the process standardisation effort is highly dependent on the specific manufacturing environment, and the scope and **level of detail*** has to be adjusted to fit the business needs.

*Consider **detail** and **scope** to target the areas **where impact per effort** is most beneficial

- Detail – to what level are we standardising? Depending on the current state, the value of detail varies. Start at high level, low detail, to target where the highest impact resides.
- Scope – business critical processes first, then what? Extending into support processes or increasing the level of detail is guided by potential impact.



Co-creating and managing the scope of details are key factors of sustained implementation

Process
standardisation



Design Principles

- **Co-creation** – no one knows the process better than the people performing it, hence they should be highly involved in creating and implementing standards.
- **Governance and infrastructure** – the central function stages the implementation by managing governance systems, providing templates and repositories.
- **Scope and level of detail** – early management and roll out sequencing in order to find the most pragmatic, user-friendly and impactful solution.
- All **SOPs** have a **time element** connected to them.



Behaviour

- **“Walk the talk”** and respect the standards.
- **Gemba** – go see how work is done to understand the processes and enhance a culture that embraces the standards.
- Go to Gemba with an **improvement mindset**, not just solving the problem.
- **Process confirmations** to be used in the follow-up process to anchor the use of standards in the organisation.
- **Measure** the process, not the people.

Process confirmations and a meeting SOP visualises the standardisation content and maturity



Visual management board

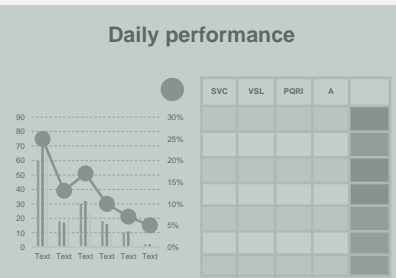
Meeting SOP

Daily Meeting SOP

Purpose	Meeting owner
Agenda	Input
Timing	Output
Participants	

Good meeting habits

Meeting SOP describes the purpose, participants, input, agenda, timing, owner etc. of a standard meeting.



Continuous improvement

Ideas

Prioritisation

Ideas in process

Idea	Resp	Due

Team info

Paul					
Ken					
Karin					
Ignacio					

Takt and bottlenecks

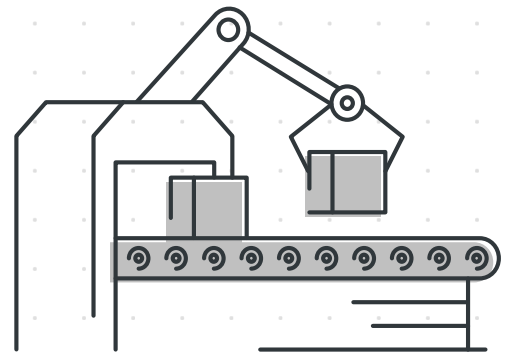
	Takt	Bottleneck equip.
Production line A		
Production line B		
Production line C		
Production line D		
Production line E		

Process confirmation

	45	46	47	48	49
Plan	8	8	6	8	8
Completed	7	8	6	6	7
Quality	40%	48%	63%	63%	74%
Productivity	110%	90%	112%	105%	101%

Actions:

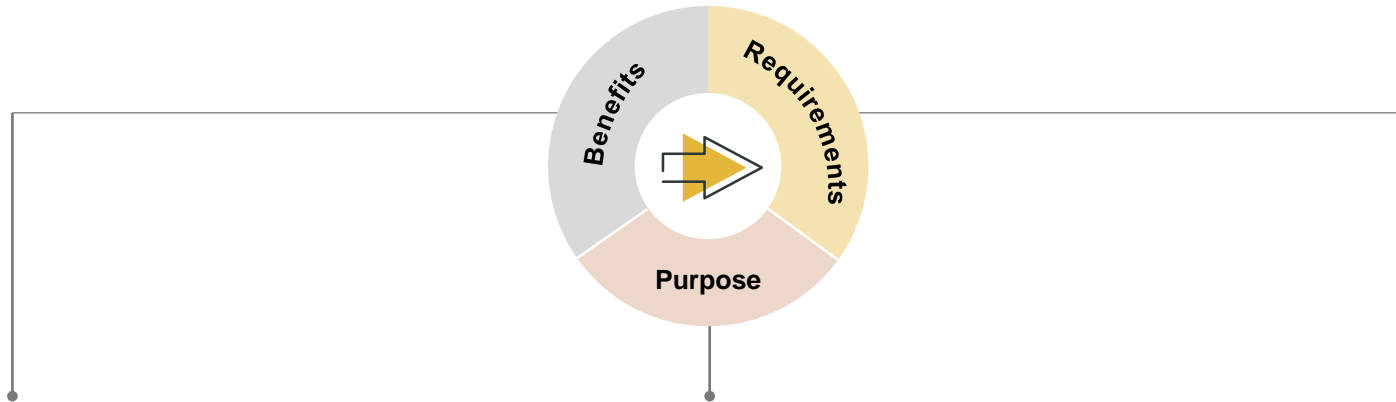
Training	Date	Responsible	Status
XXX Process A	28 Nov	Paul, Ken Team 2	Karin
XXX Process B	15-16 Dec	ALL	
XXX Process C	21 Jan	Xiao Mei, Ignacio	Ken



FLOW MANAGEMENT



Optimise lead time, capacity and cost by exercising flow management



- Faster (lead time reduction) and more consistent throughput with less resources.
- Takt production matching customers demand.
- Visual material and information flows ...
- ... With an emphasis on expectations, timing, quality, quantity to internal and external customers and creating transparency about what needs to be done.
- With an overview of flow and resource, the production can be balanced more quickly, addressing bottlenecks and adjusting resources.
- Reduction of inventory and WIPs.

“What is it the customer wants and when?”

In discrete manufacturing, batches of physical products are often the reality. Batches incur waiting time, which is waste that the customer is not willing to pay for. Waiting time increases lead time, making the customer wait longer than optimal. A product unnecessarily waiting adds to WIP, ..

... tied-up capital and occupies the workspace. A mutual interest of the customer and manufacturer is, therefore, to achieve a steady, continuous flow to reduce lead time.

By adding capacity and cost elements to the flow equation, the manufacturer can manage flow by making conscious decisions to balance resource and flow. By having a clearly visualised flow, bottlenecks are easily identified and sub-optimal decisions are avoided. All in all, this is what flow management is.

- Within the relevant scope, mapped and visualised end-to-end material and information flow.
- Customer demand is known to some degree, in order to enable takt.
- First-line managers are encouraged, empowered and responsible for layout, quality, machine and cost.
- Expectations for manufacturing are clear – takt and quality.
- Transparent performance for lead time, on time delivery and quality – with granular performance data on bottlenecks (OEE, yield, cycle times).



Manage your flows by consciously balancing resource utilisation and flow utilisation



ROLES

OT engineer/ technician

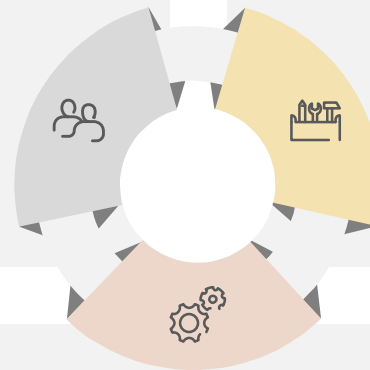
Facilitates improvement work – an expert in toolbox and OT to guide team members.

People

Communicating the status and a holistic mindset.

Manager

Responsible for facilitating pulse meetings – steering resources to short-term and long-term bottlenecks.



TOOLBOX



Swim lane, value stream map, spaghetti-diagram, layout chart, takt/cycle time chart, OEE and skills matrix.



Symbols, colour, lightning, marking and free sight at eye height.



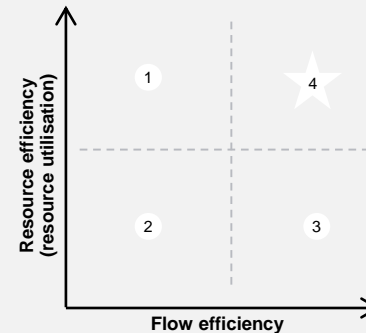
Frequent [insert name of daily pulse meetings] to balance and adjust.

CONTENT

What best describes flow management?

- Flow management is the overarching principle guiding our decisions in running as well as improving the manufacturing plant.
- A balanced trade-off, optimising resources on the one hand and optimising flow on the other to takt effectively/efficiently with customer demand.
- Our ability to steer resources* to the bottleneck – short-term and long-term.
- Actively working to reduce temporary or structural barriers to material and information flow – investing where it matters the most.
- Visual presentation of the end-to-end manufacturing flow at Gemba – everyone needs to understand their part of the work.

*part of the work, manning, investment or improvement work.



***Source: Niklas Modig – “This is Lean”.**

1. Sub-optimisation, with sole focus on resource efficiency.
2. Transforming the flow entails low resource efficiency, with marginal flow effects to begin with.
3. Impact gradually materialises, removing flow barriers and reducing lead time.
4. The ideal state – our short-term and long-term investment pays off – resources spent are leveraged.



What is rewarded? Visualise, design and manage flows to balance cost, flow and capacity



Design Principles

- **Kill complexity** – be customer-centric when designing the future state, reduce variations and eliminate unnecessary work to ensure that only what is asked for is performed.
- **Value stream mapping** – map core process flow to create insight for the team and organisation.
- **Foster transparency** – what output and yields are currently expected? Link expectations from manufacturing to support functions, e.g. maintenance, logistics, IT.
- **End-to-end** vision to avoid functional silos – a minor adjustment at the right process step can have a transformational effect.



Behaviour

- **Proactively** address deviations – actively managing, using skills matrix, flow overview and production plan.
- **Observe bottleneck at Gemba** - go see status to understand where it matters most.
- **Seven types of waste**¹ – continuously look for how to reduce Ohno's seven types of waste and increase the ratio of value adding processes at Gemba.
- **Adjust according to the current situation** – always look for ways on how to improve (also captured in improvement management).
- **Encourage efforts to smoothen flow** – motivate and share ideas within the team.

¹: **Seven types of waste**: over-production, over-processing, waiting, transportation, movement, inventory and defects (quality).

Ensuring a joint focus for the team on takt and crucial bottleneck equipment



Visual management board

Meeting SOP

Daily Meeting SOP

Meeting center

Agenda

Participants

Good meeting habits

Good meeting habits

Daily performance

SVC VSL PORI A

Weekly performance

Continuous improvement

Ideas

Prioritisation

Impact vs Time

Ideas in process

Idea	Resp	Due

Ideas Implemented

Ideas YTD	Implemented YTD
18	11

Functional skills

Training	When	Who	Trainer
XXX Process A	28 Nov	Paul, Ken Team 2	Karin
XXX Process B	15-16 Dec	ALL	
XXX Process C	21 Jan	Xiao Mei, Ignacio	Ken

Today's takt and bottleneck equipment overview provides important information for the whole team about what to focus on.

Team info

	Mo	Tu	We	Th	Fri
Paul					
Ken					
Karin					
Ignacio					

Takt and bottlenecks

	Takt	Bottleneck equip.
Production line A		
Production line B		
Production line C		
Production line D		
Production line E		

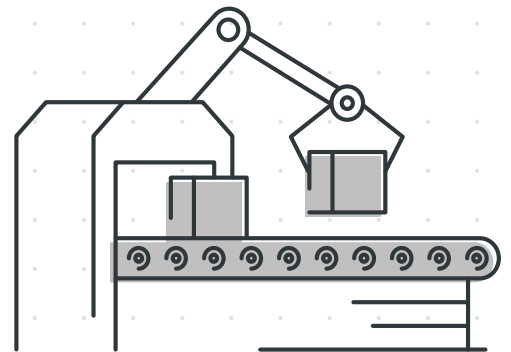
Process confirmation

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Productivity	110%	90%	112%	105%	101%

Actions:

Action

Date	Theme	Action	Resp	Due
11/11			Paul	25/11

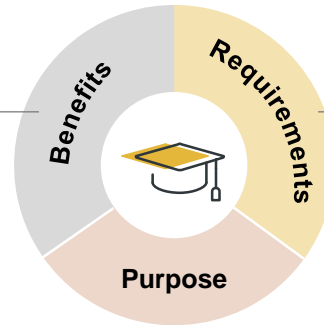
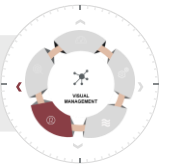


CAPABILITY



Build the capabilities of the people and watch your company prosper

Capability



- Higher **employee satisfaction** and **motivation**.
- Clear picture of the **link between competences and processes** and identified gaps that need further development.
- Mitigating the risk of critical skill sets ensures **knowledge sharing**.
- Being more reliant on internal rather than external resources.

People are your most valuable asset, therefore investing time and building capability is one of the most important tasks for an organisation.

People who are challenged and developed will have higher motivation and ownership of daily challenges, which will lead to a high performance culture.

When we work in a structured way with our processes, we begin to have a better understanding of what skill set is needed not only to carry out the daily work, but also to improve.

Building a transparent set-up that links the skill set of the organisation with daily operations is an important part of the foundation to becoming proactive instead of reactive.

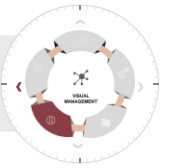
This allows for better delivery, productivity, motivation and customer service.

- Prioritising time and resources to develop people.
- Defining work roles in relation to critical processes.
- Embracing efforts and accepting failures and mistakes.
- A willingness to invest in long-term gains.



Build capabilities in your organisation with a structured approach, linking processes and people

Capability



ROLES

Business process owner

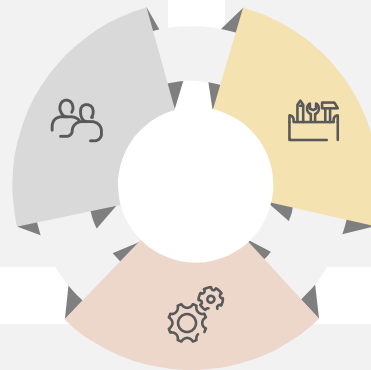
Responsible for training people together with HR or training functions.

People

Have a willingness to learn and develop.

Manager

Responsible for allocating time and resources for training plans and aligning individuals with capabilities.



TOOLBOX



Standard Operating Procedure, role description and clear expectations.



Buddy programme, Training within Industry (TWI), Train the Trainer (TTT).



Competence matrix, training plans.

CONTENT

What best describes capabilities?

- Tying execution of business critical processes together with the development of people.
- Training people in development is part of daily operations, used to fill out gaps.
- A direct link between training plan, strategy and performance.
- Using a process confirmation to identify training needs.
- Defining the kind of skills that are needed depends strongly on the company and the industry of operations.*
- We consider both process specific skills and more generic skills, such as systems, Lean tools etc.



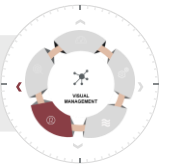
Skills matrix

Shift	Department	Area	Job title	Name	Process A	Process B	Process C	Process D	Process E	Process F	Process G	Process H	Process I	Process J
D	Operations	Welding	Shift Manager	Dan Joe 1	●	●			★	●	●			●
A	Operations	Welding	Shift Manager	Dan Joe 2	●	●		★						
B	Operations	Welding	Shift Manager	Dan Joe 3			●	●			●	●		
C	Operations	Assembly	Shift Manager	Dan Joe 4			●			●	●			●
D	Operations	Assembly	Shift Supervisor	Dan Joe 5	●			●			●			●
D	Operations	Assembly	Shift Supervisor	Dan Joe 6	●	●			●			●		★
A	Operations	Assembly	Shift Supervisor	Dan Joe 7			●				●	●	●	
A	Operations	Assembly	Shift Supervisor	Dan Joe 8	★	●	●	●						●
A	Operations	Paint shop	Shift Supervisor	Dan Joe 9		●			●	●				●
B	Operations	Paint shop	Shift Supervisor	Dan Joe 10		★		●	●					●
B	Operations	Paint shop	Shift Supervisor	Dan Joe 11	●		●				●	●	●	●
B	Operations	Paint shop	Shift Supervisor	Dan Joe 12		●		●				●	●	●
C	Operations	Paint shop	Shift Supervisor	Dan Joe 13	●	●			●				★	



Training plans are evaluated and updated on a weekly basis

Capability



Design Principles

- **Empower people** – allow your skilled people to train others. They will take ownership. One of the best ways of learning is teaching.
- **Link skills matrix to core processes** - develop and build capabilities of people through SOPs.
- **Scope and level of detail** – our training should contain processes specific to training and business generic methods. We should cater for long-term training plans, but we should also be flexible enough to cater for newly identified training needs.
- **Focussing on the long-term** – we do not necessarily see the benefits of training in performance from day-to-day. It is, therefore, important that we understand and aim for long-term goals.

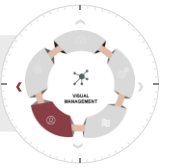


Behaviour

- **Prioritise** training both in up and down times, this will strengthen the organisation on a holistic level.
- **Combine business and people** training needs. Some people have higher interests in different areas. Combine these needs to get the most out of people and boost motivation.
- **Process confirmations** become your strongest tool for monitoring the effect of training and defining new training needs.
- **Integrate** training as part of your daily and weekly operations.
- **Not a one-off** – we want to improve our business and processes on a continuous basis. This means that we need to develop our people in the same way.

Training plans are made visual, so the team is informed according to daily operations

Capability



Visual management board

Meeting SOP

Daily Meeting SOP

Good meeting habits

Team info

Daily planning

	Mo	Tu	We	Th	Fri
Paul					
Ken					
Karin					
Ignacio					

Daily performance

Takt and bottlenecks

	Takt	Bottleneck equip.
Production line A		
Production line B		
Production line C		
Production line D		
Production line E		

Action

Date	Theme	Action	Resp	Due
11/11			Paul	25/11

Weekly performance

Process confirmation

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Completed	7	8	6	6	7
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Productivity	110%	90%	112%	105%	101%

Actions:

Continuous improvement

Ideas

Prioritisation

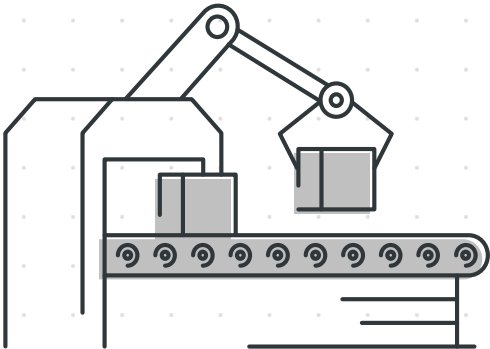
Ideas in process

Idea	Resp	Due

Functional skills

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XXX Process C	21 Jan	Xiao Mei, Ignacio	Ken

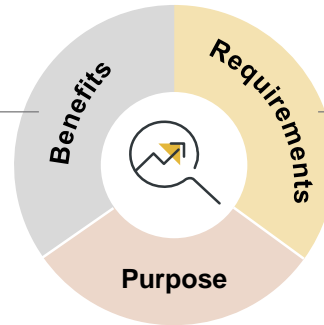
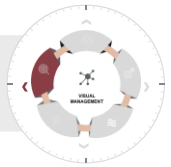
Visual training plans of the team make it easy to administrate who will have a new skill set and when, while also making the manning situation of the day's operations transparent.



IMPROVEMENT MANAGEMENT



Unleash your employees full potential by driving a continuous improvement culture



- Focus on **continuously improving** operational performance.
- **Share best practices** and ensure improvements are implemented across the company.
- Highly **involved** and **engaged** employees.
- Activating the possibility of improving process efficiency and quality in a **structured way**.
- Enables **sustainable change**.
- Better **communication and collaboration** between departments and across plants.

The world is rapidly changing, and in order to maintain a competitive advantage organisations will need to continuously develop and improve their operations.

This covers **small incremental** improvements as well as **radical improvement jumps**. Therefore, engaging employees in improving small, local and large, global operational challenges to achieve higher performance is important to create the desired **continuous improvement culture**.

Involving **employees to drive improvements** creates a shared responsibility among them which

leads to a higher success rate of sustainability.

Through a **structured improvement** management process, an empowering and self-reinforcing mechanism is established in the organisation by having employees that:

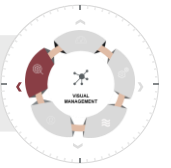
- **Proactively** look for opportunities.
- Focus on what they **can impact themselves**.
- **Involve other employees** across the plant and globally to come up with large company improved processes.

- Ideas are generated and prioritised locally by employees and/or teams.
- The principle of ideas is either employee or operational performance-driven.
- Ideas are logged and shared between:
 - Teams
 - Departments
 - Companies
- Weekly team follow-up on both implementation and prioritisation.



Improvement management is part your daily, weekly and monthly rhythm

Improvement management



ROLES

Business process owner

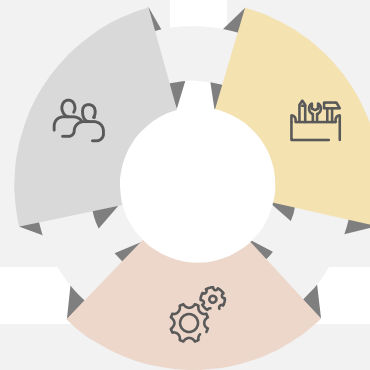
The overall owner of the process who ensures that the environment and surroundings are in place.

People

Generate and execute improvement ideas.

Manager

Follows up on progress, challenges ideas and supports implementation (escalating this, if needed).



TOOLBOX



Five Whys, fishbone diagram, pareto, tally sheet, OEE, SMED.



PDCA – plan, do, check, act/adjust.

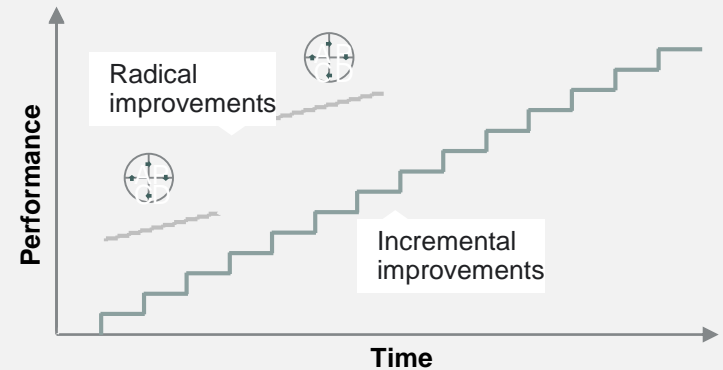


Priority matrix.

CONTENT

What best describes improvement management?

- A **structured bottom-up** approach that drives incremental improvements targeting operational performance initiated by employees.
- Ideas are **generated by employees**.
- Ideas **cover business-related** topics that target manufacturing performance.
- Larger **company improvement ideas** are top-down selected but with high involvement of employees to develop the improvement solution.
- Continuous improvement is **part of the agenda** for daily/weekly/monthly meetings.
- Use of **problem solving tools** to cover all aspects of the challenge that the improvement targets.





Boost a positive mindset by ensuring the successes of the first improvement ideas



Design Principles

- **Employee involvement** – the best knowledge and solutions for optimising operations are found among people at Gemba, hence a high involvement of employees is required to make the best improvements.
- **Governance and infrastructure** – the daily and weekly meetings that create a rhythm to discuss new ideas, the status of current ideas and drive momentum to continuously keep it in focus are key for improvement management.
- **Scope and prioritisation** – manage incoming ideas by prioritising according to business impact and ease of implementation to ensure focus of improvement that can be managed by employees with minimum support.
- **Measure it** – track the progress of current improvements by PDCA methodology, which will keep it simple and comprehensive to drive implementations while measuring impact related to improvement ideas.

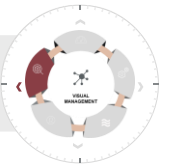


Behaviour

- **Encourage everyone** to be part of the idea generation and improving the company.
- **Go to Gemba** of others to see and understand how each process is connected to enrich your understanding of what improvements can be supported across departments.
- **Support colleagues** in generating ideas and coach them on how to show/reflect on impact.
- **Make others shine**, support colleagues in implementing improvement ideas to ensure a positive outcome of the first couple of ideas to boost the right mindset among colleagues.
- **Measure** progress and track business outcomes to energise a winning mentality.

Training plans are made visual, so the team is informed according to daily operations

Improvement management



Visual management board

Meeting SOP

Daily Meeting SOP

Meeting center

Agenda

Participants

Good meeting habits

Good meeting habits

Daily performance

Weekly performance

Improvement management is solely carried out by employees on the shop floor and follows a natural order from "ideas generated" to "ideas implemented" (Top to bottom on the VMS)

Team info

Mo	Tu	We	Th	Fri
Paul				
Ken				
Karin				
Ignacio				

Takt and bottlenecks

	Takt	Bottleneck equip.
Production line A		
Production line B		
Production line C		
Production line D		
Production line E		

Process confirmation

	45	46	47	48	49
Plan	8	8	6	8	8
Completed	7	8	6	6	7
Quality	40%	48%	63%	63%	74%
Productivity	110%	90%	112%	105%	101%

Actions:

Continuous improvement

Ideas

Prioritisation

Ideas in process

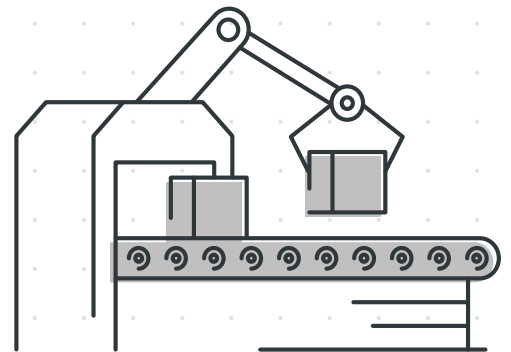
Idea	Resp	Due

Ideas Implemented

Ideas YTD	18
Implemented YTD	11

Functional skills

Training	When	Who	Trainer
XXX Process A	28 Nov	Paul, Ken Team 2	Karin
XXX Process B	15-16 Dec	ALL	
XXX Process C	21 Jan	Xiao Mei, Ignacio	Ken



**GEMBA LEADERSHIP
SYNERGIES
PROJECT APPROACH
CASES 1, 2, 3**

Gemba leadership is a mindset approach that focusses on processes and developing people

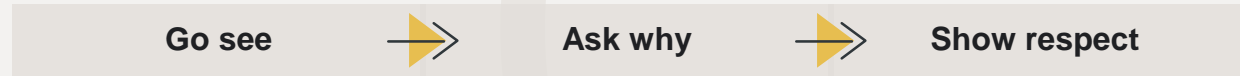
The overall purpose is to **develop people** by having a better understanding of how things are done

Gemba is “**the real place**” – where value is created for the customer

WHAT

Gemba leadership refers to a culture that ties all the elements together by focussing on both the physical and mental presence with one core purpose: to develop people. The mindset focus that is embedded in all elements is to go see at Gemba, be curious and show respect for employees.

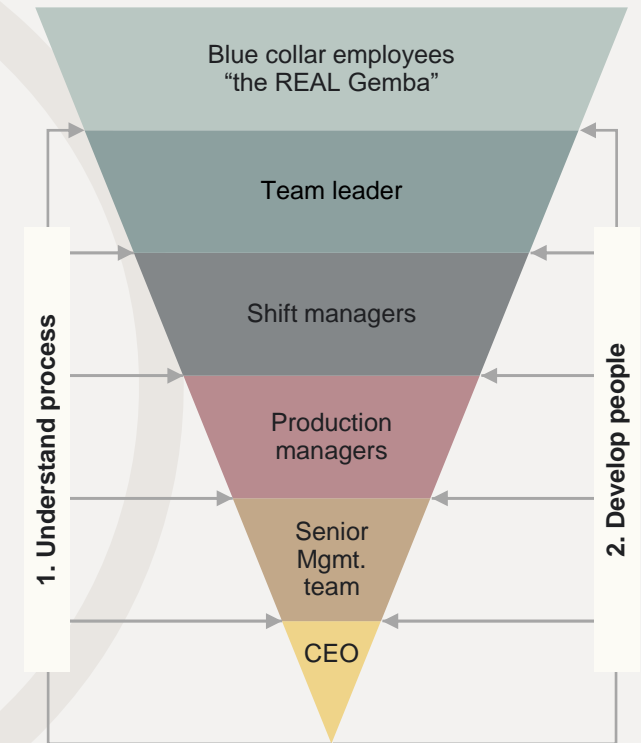
Gemba can be different places depending on the position in organisation. However, true Gemba in manufacturing will always be on shop floor.



HOW

- **Go see** – to understand the process being performed and approach of Purpose (of the process), Process, and People.
- **Ask why** – When going to Gemba, we must have the lenses of either “Waste view”, “Problem view” or “Kaizen view” and ask questions to clarify the understanding of the process (*What? Why? What? ... And finally, why not?*).
- **Show respect** – listen, observe and understand the process. It is not about giving advice, but about developing people. Therefore, it demands that we challenge each other to become the best that we can be.

The culture organisation pyramid



The elements complement each other and the synergy allows focus on the right decisions and behaviour

 Performance management


 Process standardisation

 Flow management


 Capability management

 Improvement management


Change of technology demands a change of processes and skills, implemented and followed up in the OS.

 New processes defined and induction training provided to relevant employees.




 Continuous training conducted and skill development tracked in order to carry out new processes.




 Performance tracked in a objective manner with transparency among employees.



 Process confirmation carried out to highlight more training needs and adjustments to process and improvement ideas.




 New training needs conducted.




Improvements to surrounding processes implemented.


Discovering that we are underperforming on key measure gets improvements going and under control.

 Downward trend of quality observed through weekly standard performance meetings.




 Process confirmation planned and carried out, showing a misalignment in the sequence of planning between processes.




 A change in the planning structure and in how we manage the supply to the assembly cell defines a need for pre-kits to assembly.



 New process and training needs defined, together with expected outcome to performance.



 New training needs conducted.



Revised measures monitored in performance management.

Focussing on a rapid “**trial and error**” approach will secure quick involvement and learning that ensures sustainable implementation



OVERALL STRUCTURE

The **approach** is to rapidly test ideas and concepts. This approach ensures faster learning and wiser scaling through active involvement and co-creation with the ones who matter the most – **the people of the organisation**.

1. THINK BIG

- Establish a **vision and performance ambition**.
- **Communicate** and involve the organisation early.

2. START SMALL

- **Choose/select a core production area** to pilot/test beta versions.
- Run small iterations to rapidly **create learnings** and impact.

3. SCALE FAST

- Form **communities** across the company **to be the driving force** to roll out concepts.
- **Scale** methodology and governance.
- **Train people** in operating system’s hardware and software.

PROJECT MANAGEMENT



Impact

Reduce focus on deliverables and **enhance focus on effect**.

- Build impact case for business and behavioural impact and track progress.
- Design the pilot to show impact early, with high employee involvement in the solution.
- Be in touch with the “pulse” of your key stakeholders to create energy and passion.



Leadership

Reduce formalism, **enhance focus on active involvement** of the project and enhance focus on leadership of people.

- Have an active, committed and engaged project owner to support the project with support from an **active and involved leadership team** to be the cultural change bearer.
- Be a collaborative project leader with a “**people first**” **approach** to drive the project forward.



Flow

Reduce focus on optimisation of resources and **enhance focus on the project’s progression**.

- **Allocate core team +50%** and assure co-location where only OS project work will be done.
- Define a **rhythm for project and stakeholder** interaction to progress the project in sprints.
- Increase insight and commitment using **visual tools and plans to support progression**.

Case example 1: Global logistics company



Viewpoint

“Improving a global footprint requires a step away from headquarter thinking and finding the right balance between global standards, local adaptations, collaboration and support. It is a transformational effort, but realising the synergies will unleash significant potential.”

Commitment

- Strong sponsorship from the senior management team.
- Dedicated programme organisation.
- A local transformation lead full-time on each site.
- Support consultation at each site.

Situation

The asset-heavy company had put themselves in a market leading position by doing a number of successful strategic decisions and investments. Competitors started to copy investments and decision and started to catch up in regards to performance and yearly results.

The 8 global operation offices acted individually and little or no knowledge sharing was in place. The objective was clear; to improve global operations in a manor that could not be directly copied, and would allow global sharing of best practice, whilst performing and improving as one.



Started off with ...

1. Designing a systemic improvement model, combining improvement cycles, process landscapes, one set of numbers and operating system.
2. Implementing the hardware in six months across global implementation.
3. Running improvements in quarterly cycles.
4. Setting up global communities and continuously training and developing behaviour.

Challenges

- History of focussing on performance and benchmarking across locations, not harvesting the synergies in a global footprint.
- Standardisation across sites with different cultures and ways of working.
- Changing from a firefighting mentality to ensuring the performance of tomorrow.



IMPACT

- The programme led to savings of USD 70m during the first two years, and the savings continually improved with time.
- Increased trend in improvement ideas generated per month (from 200 to 900 in one year).
- Capabilities to continuously run quarterly cycles, improving global standardisation.



Case example 2: Global construction machinery manufacturer



Viewpoint

“Introducing takt and flow in production had a significant, positive effect on network capital and costs for temporary workers. Visual planning made it possible to manage in an effective manner.”



Situation

A leading and global construction machinery manufacturer had been through a year with a 35% increase in demand. However, the company had not been profitable, and this project was initiated to increase competitiveness and improve the company end-to-end. The need to create better production processes and transparency across departments in the one production site was essential to ensure demands were met and to lower bottom line costs. Furthermore, it enabled improved employee satisfaction and reduced sick leave.



Commitment

- A committed production manager who was persistent and had a relatively high level of respect and authority amongst the employees.

Started off with ...

1. Analysing the forecasted demand in order to determine the required takt in each department.
2. Installing visual planning boards in each department to show e.g. material flow and process circles times.
3. Coaching and developing leadership competences of team leaders and facilitators of stand-up meetings.

Challenges

- Lack of top-down support to prioritise the project.
- The highly engaged production manager left the company and it took time to find the right candidate for this critical leadership position.



IMPACT

After one year, the results were remarkable:

- 5% reduction in sick leave.
- 5% efficiency increase (value of reg. hours).
- 12.5% productivity increase (output per employee).
- 25% reduction in network capital.



Case example 3: Global jewellery producer



Viewpoint

“Managing and improving a large-sized company through a small-sized training area, ensuring the creation of commitment of operators to new initiatives.”

Commitment

Group COO (bi-weekly), majority of local Lean team and 30 employees were allocated to the project.

Alongside these people, a full floor was given as a test environment/incubation room, in order to define a new way of production and management.

Situation

One factory with 10,000+ employees had experienced a rapid growth in the volume and amount of employees. With the factory divided into functions, the lead time had drastically increased together with batch sizes. The factory produced for a central warehouse that distributed globally. These things combined meant that forecasting needed to be accurate due to the cheap type of jewellery that resulted in a short product lifespan. The overall ambition for the company was to increase flexibility and get closer to market in order to adjust to changes.



Started off with ...

1. Defining what the overall success criteria was: to reduce lead time without sacrificing productivity.
2. Defining the product and live information flow.
3. Defining how to manage and plan in a live information environment.
4. Building a test set-up.

Challenges

- Mobilisation of support functions.
- Low importance in beginning of project since normal production was still running, and only 30/10,000 employees were involved.
- Normal change resistance.

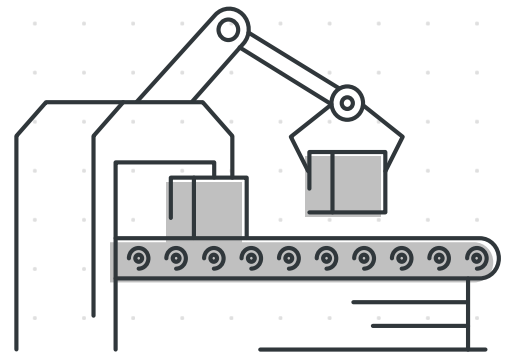


IMPACT

Lead time reduced from six to two weeks, while **productivity was increased by 20%**.

The test area now serves as a training environment and as an area for testing flow and continuous improvement initiatives before big roll-outs. Since all employees have been through the same training in the training area, we see a higher buy-in on improvement initiatives from the training area.







LET'S MAKE A CHANGE

The world is begging for change. Let's go make it. We are ready to work alongside the world's most ambitious clients, taking on their toughest challenges.

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