

ADVANCING MANUFACTURING OPERATIONS

How manufacturers are adopting a customer-centric mindset while seizing the potential of digital tools and reinventing their supply chains

The future of manufacturing

Inserted in a **competitive environment**, producers will be pressured by changes in consumer habits that are demanding more **transparency** in production and supply chains and **decreasing profit margins**.

The effects of **inflation** will be felt in a general price increase that will affect both customers and companies. Energy and raw material/component price increases will require organisations to operate with **vision, discipline and adaptability**.

Decarbonisation, digitalisation, cost pressures, **geopolitical** uncertainty and safeguarding the **planet's resources** will shape the future of manufacturing operations.

HOW TO MATCH **SHORT-TERM COST PRESSURES** WITH THE NEED TO **RESHAPE THE BUSINESS** FOR THE FUTURE



Here are the **top 7 initiatives**
to **boost manufacturing operations**

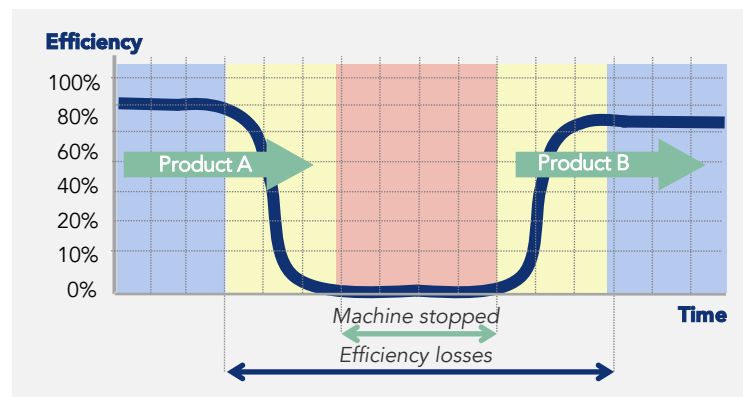
Create **top performing operations** by **boosting efficiency**

CHALLENGES

- Equipment's availability issues related to breakdowns, micro-stoppages, cleaning or changeovers
- Recurring quality issues in labelling, packaging or product specifications compliance
- Lack of full optimisation of production parameters to reduce human intervention
- All everyday Maintenance tasks only concentrated in specialised Maintenance teams

KAIZEN™ SOLUTIONS

- Implement **Kobetsu KAIZEN™** to solve basic, frequent and sporadic equipment failures
- Improve **Planned Maintenance** activities by understanding the shutdown critical path, manage spare parts in real time, implement predictive maintenance and standardise maintenance tasks
- Implement **Autonomous Maintenance** by operators focused on standards for cleaning, basic maintenance and detection of operating deviations
- Use **SMED** to reduce total loss time due to changeovers and optimize setups sequencing



IMPACT

- ^ **20%**
Overall Equipment Efficiency (OEE)
- ✓ **40%**
Setup time

Efficiency is at the heart of most capital intensive manufacturers, besides contributing to create flow in production and boost productivity

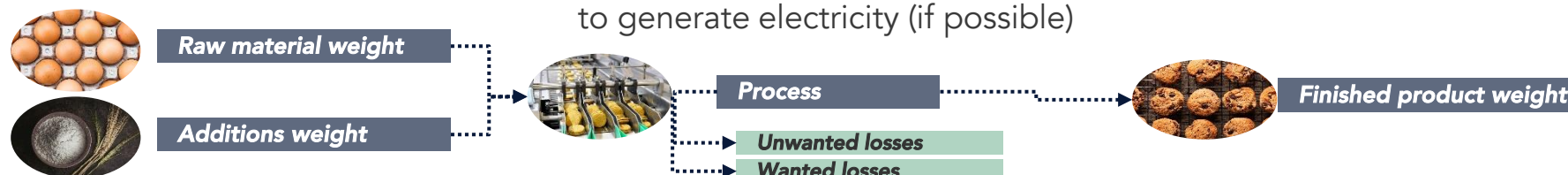
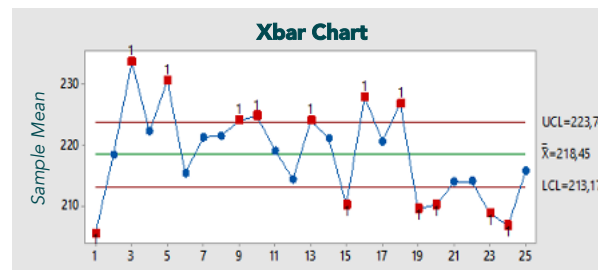
Implement a **material yield improvement plan**

CHALLENGES

- Most of the material yield losses are hidden in the process
- High variability in material or components consumption
- Product development is not optimised to increase material yield
- Lack of materials reuse in the process

KAIZEN™ SOLUTIONS

- Improve process control by using **Lean Six Sigma** to reduce consumption variability and standardising manufacturing tasks (adjust and fine-tuning of equipment)
- Eliminate **machine inefficiency** and/or replace outdated machinery
- Implement **product reengineering** to remove non value-added materials or technically improve the process to reduce the consumption of certain materials.
- **Reintroduce by-products** in the manufacturing process or use them to generate electricity (if possible)



IMPACT

- ✓ **11%**
Materials and raw materials costs

Manufacturers have been facing increasing input costs - especially related to raw materials. Small improvements in material yield can have a significant impact on margins

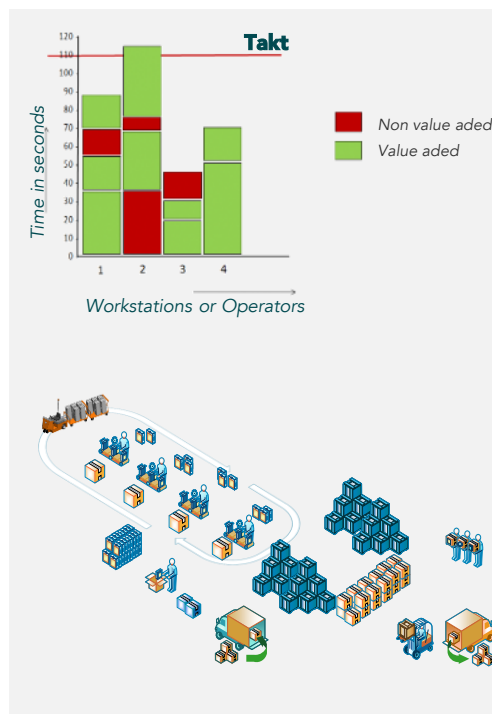
Adopt a **flow improvement** model

CHALLENGES

- Batch production with long production lead-times
- Production lines with unbalanced operations
- Dysfunctional and non-ergonomic warehouse and production layouts
- Team leaders are firefighting and focused on operational tasks

KAIZEN™ SOLUTIONS

- Implement one-piece flow from raw materials to finished products by implementing **Line Design and Standard Work**
- Achieve **scale customisation** through the flexibility required for the production of **small batches**
- Implement an **information flow** that follows the material at all its stages.
- **Synchronise logistics loops** between Production and Logistics
- Improve **warehouse design** to increase picking productivity
- Develop a **training plan** to ensure standard compliance and the transmission of best practices



IMPACT

- ⤴ **30%**
Productivity
- ⤴ **20%**
Service level

Around 70% of production time is non added value.

20% of productivity loss is due to functional layouts and inadequate logistics.

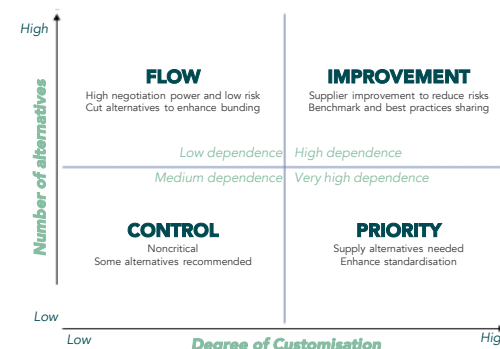
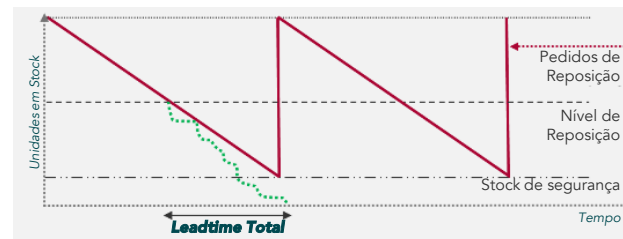
Shift from **push** to **pull** production

CHALLENGES

- High stocks of slow movers
- Reduced warehouse occupancy
- Purchase orders based on non accurate sales forecast
- High number of finished product SKUs (many variations on packaging and labelling for different markets)
- Production Planning execution focused on maximise equipment occupancy and efficiency instead of customer service level

KAIZEN™ SOLUTIONS

- Refine the **stock management policy** to achieve the right balance between coverage levels and stockouts.
- Link production to logistics by implementing a **planning algorithm** based on historical data, replenishment lead times, stock strategy for each reference and consumption data
- Reduce supplier dependence to decrease sourcing variability



IMPACT

- ✓ **20%** Stock levels
- ^ **38%** Service level agreement compliance

High seasonality on raw materials availability and the increasing number of finished product references create difficult challenges for F&B Supply Chain planning

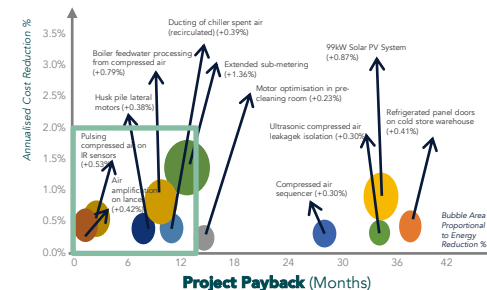
Develop **sustainable operations**

CHALLENGES

- High consumption of energy and water
- Evolving consumer expectations dictate that clients value convenience, sustainability, transparency and ethical sourcing
- Lack of measurement of energy and water consumption throughout all stages of the production process

KAIZEN™ SOLUTIONS

- Leverage **data analytics** and expert insights to develop an actionable zero carbon roadmap
- Focus on **real-time measurement** of energy consumption hotspots and execute a **cost/benefit analysis** to identify critical equipment whose energy performance should be primarily improved
- Reduce resource consumption and strive for circularity in energy and water consumption



Power factor correction

Equipment maintenance plan

Intelligent technology

Resources reutilisation

IMPACT

- ✓ **15%** Energy and water consumption
- ✓ **13%** Energy cost

Only 20% of manufacturing companies are on-track to meet their sustainability goals

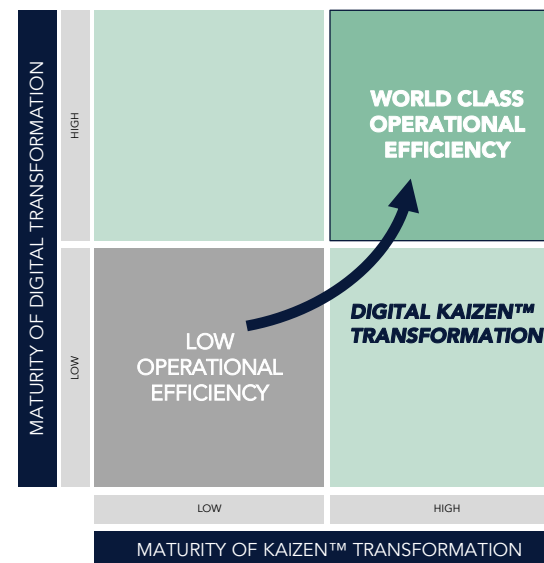
Harness the **power** of data

CHALLENGES

- Difficult access to information
- Reduced return on digital operations
- Digital efforts are not tied to a broader operations strategy
- Underskilled workforce

KAIZEN™ SOLUTIONS

- Effective and flexible **automation**.
- More **accessible information** allows effective use of real-time data and data analytics for decision-making and process improvement
- **Advanced analytics** to improve planning and forecasting
- Embed **new technologies** as artificial intelligence or machine learning in every stage of manufacturing operations
- Develop **digital competences** by implementing a programme of workforce training



IMPACT

^ **20%**
Efficiency

57% of companies do not make use of data in a meaningful way to facilitate process improvement

Reorganise teams to reinforce the **KAIZEN™** culture

CHALLENGES

- Production teams organised in silos leading to low flexibility
- High span of control
- Low polyvalence of teams
- Lack of managers' ownership in the training and support of teams
- Unstructured methods to deploy new processes

KAIZEN™ SOLUTIONS

- Organize production lines in value streams to **improve flexibility** and increase resource productivity.
- Deploy **new standards** or processes using a structured **Training plan** to develop team members. Implement a **Team Development Programme** by first training the team leaders and then assign them the responsibility of training the team members.



IMPACT

- ⤴ Teams flexibility and polyvalence
- ⤴ Improvements sustained over time

To support a deep operational transformation, a strong improvement culture needs to be established within the organisation

Ready to **BOOST** manufacturing operations?



CREATE **TOP PERFORMING**
OPERATIONS BY BOOSTING
EFFICIENCY

IMPLEMENT A **MATERIAL
YIELD IMPROVEMENT**
PLAN

ADOPT A **FLOW
IMPROVEMENT** MODEL

SHIFT FROM PUSH TO **PULL
PRODUCTION**

DEVELOP **SUSTAINABLE**
OPERATIONS

REORGANISE TEAMS TO
IMPROVE THE KAIZEN™
CULTURE

HARNESS THE **POWER OF DATA**

How to start?



The KAIZEN™ approach starts with an end-to-end analysis of **MANUFACTURING PROCESSES.** This analysis culminates in a customised Solution Design and Implementation Plan

The solutions implementation is carried out side-by-side with the teams and the KAIZEN™ experts. This will **enhance the internal knowledge and experience of the teams**, as well as develop their improvement skills. Agility is ensured through **intensive working sessions involving all the stakeholders**

By working closely with your Management Team, we will understand the current situation of your business areas, identify the main gaps and opportunities, design the vision and define an implementation plan with KAIZEN™ events

Define the Roadmap

COMPLETE BUSINESS DIAGNOSIS



Implement the Roadmap

PRACTICAL IMPLEMENTATION



Achieve the Results

THANK YOU

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