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# Rethinking the consumer goods supply chain in response to COVID-19

Information for consumer goods leaders

ALL INFORMATION CURRENT ONLY AS OF 10/19/2020

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# Introduction

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## **COVID-19 is, first and foremost, a global humanitarian challenge**

Thousands of health professionals are heroically battling the virus, putting their own lives at risk. Governments and industry are working together to understand and address the challenge, support victims and their families and communities, and search for treatments and a vaccine.

## **Within this health and economic crisis, consumer packaged goods (CPG) companies are facing significant changes in volume and volatility of demand and supply**

This document is meant to help senior leaders understand the impact of the COVID-19 situation on their supply chain and take steps to protect their employees, customers, supply chains, and financial results through a supply chain control tower

**Read more on McKinsey.com →**

# COVID-19 has already impacted supply chains significantly, with a heightened level of uncertainty in the near future

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## What is happening

Demand for many items is experiencing **significant volatility**. While short-term demand for some items has skyrocketed, other items have experienced a significant decrease

Physical supply chains have been disrupted. Quarantine and lock-downs have **slowed or interrupted the physical flow of materials** across the globe

**Tremendous level of uncertainty** has been introduced that is difficult to predict and requires immediate action (e.g., unavailability of a warehouse and all its inventory because of potential infection, supplier going out of business)



## How to respond to the crisis

Create supply chain **transparency** across different data systems connecting functions, plants, suppliers, and customers

Set up a **cross-functional, empowered team** to accelerate decision making with imperfect data

Decision making can be guided by **scenario driven processes** that consider operational, customer, and financial impact

Provide **senior leadership support** to break down functional siloes and enable fast decision making

# We have described the journey to a post-COVID-19 next normal as having 5 stages

This document focuses on Resilience, Return, and Reimagination considerations for CPG companies

Scope of this document



## Resolve

Determine the scale, pace, and depth of action required

## Resilience

React to and manage the supply chain shock through a Control Tower

## Return

Ramp-up to stable operations

Adjust supply chains to the expected new demand

Look for moves to gain advantage

## Reimagination

Reimagine what the next normal supply chain should be (e.g., autonomous planning) based on hard lessons from the crisis

## Reform

Understand how the regulatory and competitive environment in the industry may shift and impact supply chains

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Source: Adapted from "Beyond coronavirus: The path to the next normal"

# The journey to post-COVID-19 “next normal” has 5 stages.

## The following section focuses on CPG supply chain: Resilience

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# COVID-19 crisis is resurfacing perennial questions that need an integrated crisis response, and may define a next normal in CPG SC's



## Customer service and collaboration

How to **simplify the portfolio** to optimize manufacturer and retailer supply chains (win/win)?

How to **allocate insufficient inventory** across customers to create win-win situation?

How to **address dipping service levels** with partners?

How to improve end-to-end **cost-to-serve**?



## Supplier management

How to fast track new supplier approval processes?  
How to **maximize supply continuity** and raw material availability?

How to **adjust production plans** with shortages in supply?

How to **reprioritize raw material orders** as demand signal shifts?



## Manufacturing operations

How to **maximize manufacturing uptime** in labor scarcity and prioritize utilization of available capacity?

How to **plan for back up sourcing** where there is global production?

How to **fast track new formulation** into production in case of potential new or substitute ingredients?



## DC network

How to **plan for backup capacity** in case of DC closures? Flexible storage? Mobile warehouses?

What to **change in DC operations** to maximize product availability and quick turnaround of products?



## Transportation management

Should you rethink the last mile delivery to ensure **transportation availability and best customer service**?

Are there opportunities that are not considered between **inbound and outbound**?

How to **manage the right set** of expedites?

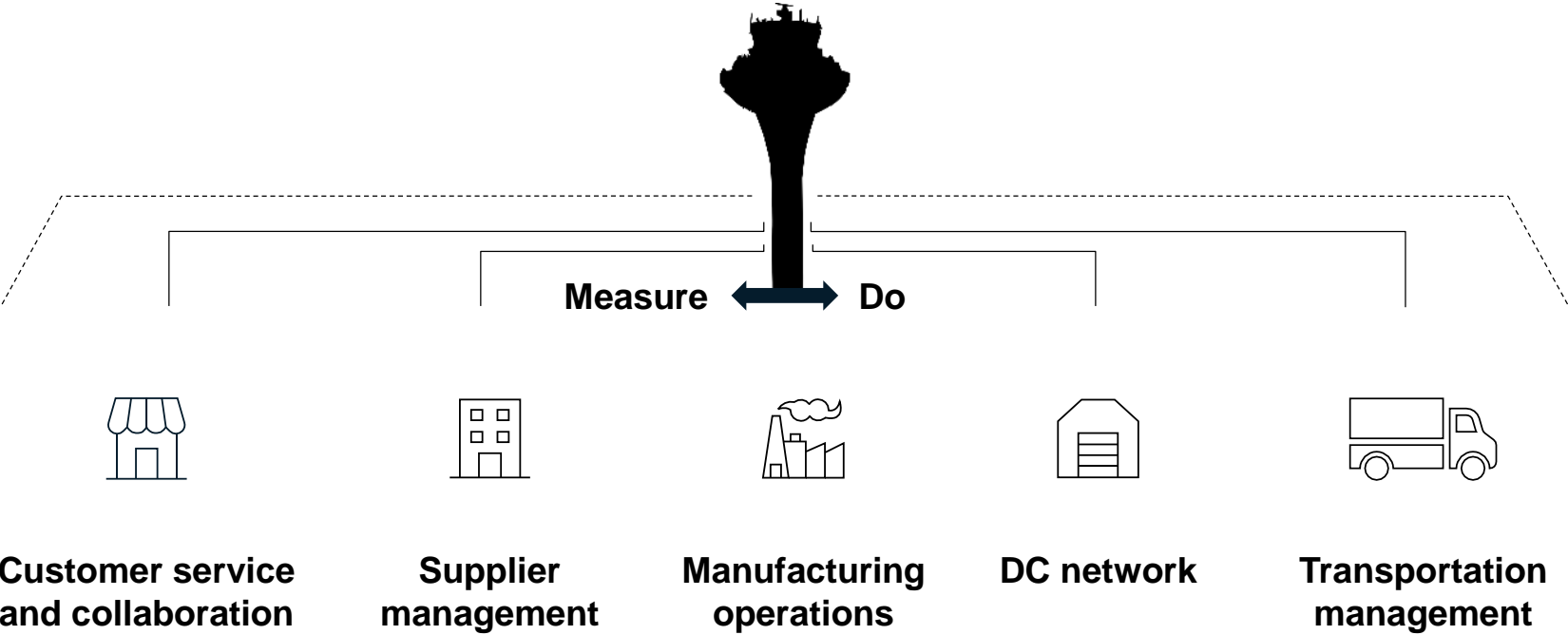
What **short term actions** to take to build **“flex” fleet** capacity from partners?

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# A Control Tower can increase resiliency through transparency and rapid, fact-based decision making

## “Remote” Central Control Tower



### Data transparency and metric tracking

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Focuses on optimal approach to maximizing product availability

Setup with full authority and accountability to make decisions

Organized as a cross-functional team

Communicates the urgency of the situation and approach

Tracks selected set of metrics coupled with data/analytics to produce insights which guide decisions making

# The journey to post-COVID-19 “next normal” has 5 stages.

## The following section focuses on CPG supply chain: Return

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# Demand archetypes during COVID-19 vary for CPG players with volatility likely to continue across archetypes



In all cases, **volatility is likely to increase significantly:**

**Timing uncertainty** - when demand trends back to “next normal”

**Demand uncertainty** – what new demand will be

**Competitive volatility** – likely new competitions or competitive behaviors

**Buyer volatility** – shopping behavior likely to change – channels could be different (more bulk, more e-com)

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# Archetype 1 – Sustained demand increase

## Example of actions to consider for Return

Example: Cleaning products

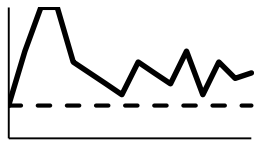
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### **Implement margin management for SKU portfolio**

Proactive collaboration with retailers to determine product portfolio for next year including new product development

Optimize order complexity somewhere between high complexity that used to exist and extremely slimmed down version during peak



### **Move from fire-fighting to scenario planning and proactive value chain management**

Drive margin management through end to end scenario planning from commercial through production and delivery

Invest in data & technology now to prepare autonomous planning capabilities

### **Optimize current capacity and plan for additional ramp-up capacity**

Meticulously plan ahead for PPE, cleaning product, space etc. bottlenecks to protect labor to avoid reactive approach to capacity ramp-up

Leverage co-manufacturing network & consider building long-term cost efficient capacity

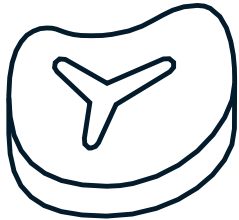
Secure transportation capacity with carriers

# Archetype 2 – Pantry load and consume

## Example of actions to consider for Return

Example: Packaged meat

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**Closely manage raw material supply with demand scenario planning for near term and long term**

Work with suppliers to manage livestock to optimize cost while balancing supply risks in the future

Consider offering financial support to at-risk suppliers/farmers to secure future supply



**Prepare plans to quickly ramp-up supply chain capacity based on demand and labor situations**

Prepare meticulous plans for operations ramp-downs and ramp-ups for facility cleaning to minimize downtime in case of COVID infection cases

Optimize labor cross-utilization from low demand channels/facilities

**Minimize wastage**

Consider donations or sale of products of “away-from-home” or excess production to associations in need if raw material is available while conventional channel demand is absent or conventional channel capacity is absent

# Archetype 3 – Pantry load and preserve

## Example of actions to consider for Return

Example: Pasta

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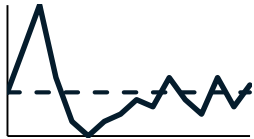


**Closely work with retailers, monitoring POS and inventory data to sharpen near-term view on demand and adjust production**

Utilize control tower to drive a minimal total delivered cost supply chain

Balance on-hand finished goods inventory within manufacturing and distribution network

Identify priority SKUs for inventory replenishment



**Closely manage global raw material supply to ensure supply while avoiding excess on-hand inventory**

Create full visibility into owned and vendor managed inventory

Anticipate potential supply risks and put mitigating actions in place

Closely link with demand and production planning to find right inventory balance

**Refresh supply chain resilience playbook based on forward looking demand scenarios**

Develop forward-looking demand scenarios based on epidemiological and macro-economic scenarios and observed consumer shifts

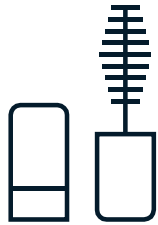
Build and update a set of resilience levers with clear actions and trigger points to increase speed of response (e.g., when/if demand starts to drop)

# Archetype 4 – Temporary demand decrease

## Example of actions to consider for Return

Example: cosmetics

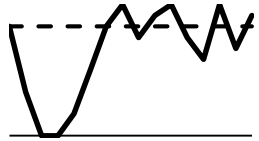
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**Stay close to near-term demand and adjust production schedule accordingly**

Utilize control tower to drive minimal total delivered cost with a focus on balancing labor costs and reduced demand

Consider maintaining full workforce through use of temporary furloughs vs. permanent layoffs of part of workforce



**Strategically manage cash flow**

Adjust inventory targets to match near-term demand forecast

Reduce hours of non-essential employees for duration of demand reduction

**Take advantage of plant/production line downtime**

Complete any required maintenance and clear opportunistic maintenance backlog

Consider pulling overhauls, upgrades, and capital projects forward if possible with cash constraints

**Prepare for employees to return to work**

Develop strategy for production ramp while minimizing risk of spreading infections

Define new policies (e.g., staggered break times, lunch room capacity) and ways of working to encourage social distancing

Make necessary changes to shop floor and office layout

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# The Return phase is also the time to consider how to build agility in supply chain to react to scenarios and evaluate cost/service options



## Customer service and collaboration

What are the demand recovery scenarios across the portfolio?

How to segment response to demand scenarios product/promotion activities that competitors would be launching?

How to balance inventory pre-build and service level to minimize wastage and maximize service levels?



## Supplier management

Is it necessary to consider the geographic location of our supplier base?

How to bring visibility of supplier lead time?

How to continue to closely collaborate with suppliers to optimize raw material availability? E.g. maintaining supplier RM inventory or supplier FG inventory



## Manufacturing operations

How to reassess manufacturing priorities given the various consumer demand shifts across product/channel demand?

How to quickly build buffer capacity for managing product demand volatility? Which products/formats to prioritize?



## DC network

How much buffer capacity is needed? Which locations?

What DC flows would continue to be at capacity? Can DC flows be changed to reduce network lead times?

What changes in DC flows would be needed to be considered for new demand? E.g. case pick for ecommerce vs. pallet picks?



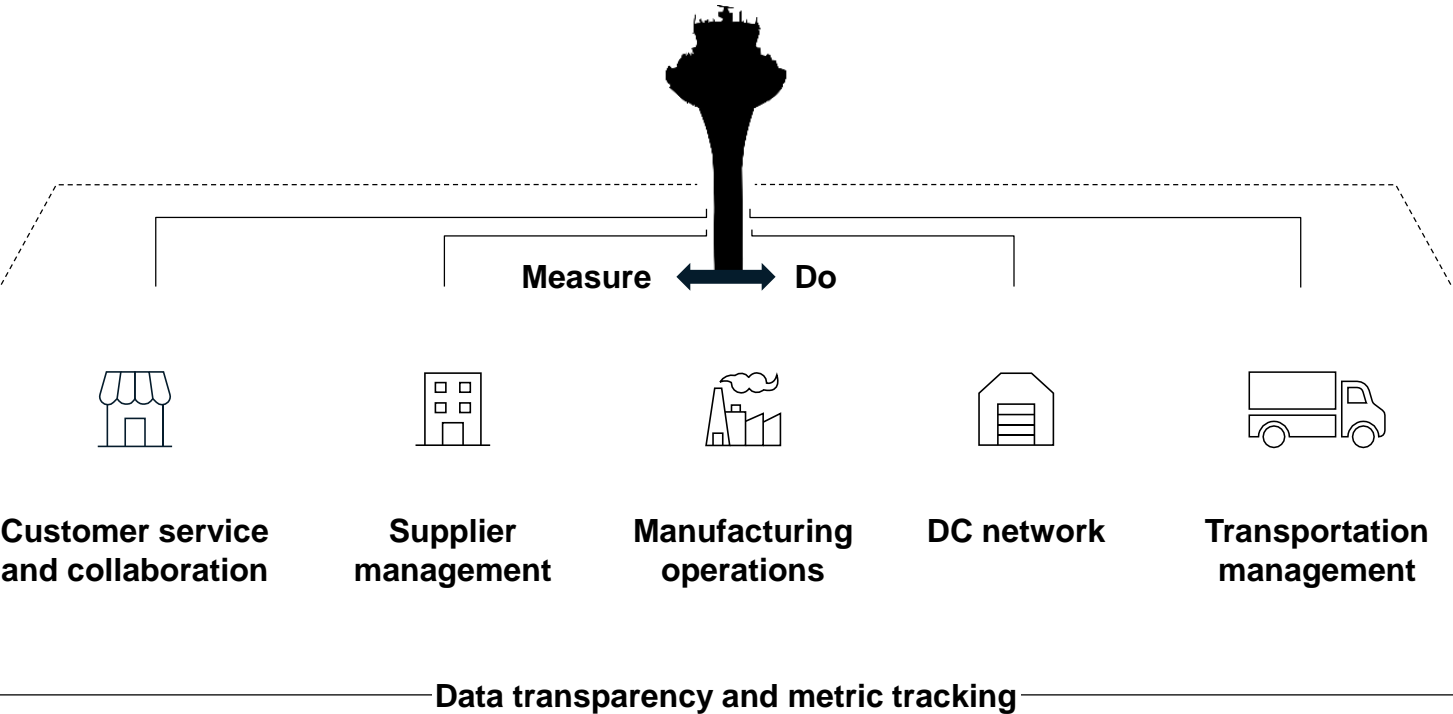
## Transportation management

What are the cost and availability scenarios for 3PL market?

Where are likely risks of availability and what “new lanes” and additional capacity buffers are needed to be built in?

# In particular, institutionalizing the E2E control tower function can drive agility in decision making permanently

## “Remote” Central Control Tower



**Forward-looking scenario planning** at a high-frequency e.g. weekly/daily

**Executive/CSCO reporting and escalation** of critical issues for close partnership with Commercial team

**Structured and cross functional problem solving** for efficient decision making

Root cause analysis and resolution implementation **to gear towards continuous improvement**

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# In parallel, companies are considering various measures to minimize risk of reinfection

## Example mitigation measures seen across industries



### **Protect workers and minimize on-site contact**

Provide PPE to every worker and install hand washing stations and frequently monitor for compliance  
Stagger start/end of shifts and create break shifts  
Size production teams as small as possible and implement social distancing measures

### **Encourage best practice hygiene and behaviors**

Senior leaders and managers role model best practices and use of safety gear on-site to minimize risk of exposure  
Leverage remote working tools (institute remote working for high-risk sites and, if feasible, for other sites) until confirmation on containment of the virus  
Reduction of essential travel or elimination of non-essential travel; encourage new ways of working where possible

### **Adapt facilities to prevent contamination**

Develop detailed site-specific checklists for processes, equipment needed, and post-crisis operational guidelines  
Keep rigorous control of site entry and measure temperature of everyone who enters  
Increase frequency and intensity of facility cleaning, and ventilate facilities per latest guidance by health authorities  
Re-organize layout of workstations and office areas to ensure distance of >1.5 meters is respected  
Close communal areas (e.g. meeting/changing rooms) and discourage use of elevator  
For special areas, install additional cleaning procedures/machines

### **Establish containment plans in case of reinfection**

Dedicate resources that are trained and committed to ensuring control of spread in case of reinfection  
Announce new developments, measures and changes to established protocols in case recontamination does occur  
Provide counsellor or health expert to deal with health-related queries

Note: Many of these actions will also be applicable to earlier phases of recovery. It is important to continue focus on these during Return to prevent reinfection



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# The next normal for SC could be framed around four themes

## Sample levers



### Reimagining a sustainable operations strength advantage

**Rethink network strategy**, footprint and partnership models to create a more resilient and flexible E2E value chain

**Risk management equally important** as efficiency

**Prioritize local partners and** increased control/transparency with global partners

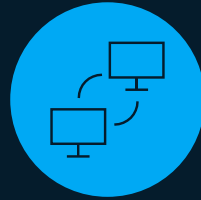
Replicate capabilities with **Co-man in multiple locations**

**Accelerate transition to omnichannel** for greater customer collaboration

Leverage subscription incentives to shape customer demand online

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### Accelerating end-to-end value chain digitization

**Link internal and external digital systems** including those of suppliers

Launch **autonomous planning** to accelerate data insights into actions faster

**Reinvigorate factory of the future efforts**

**Launch digital logistics**

De-bottleneck supply chains through **automation, IoT, and predictive analytics**

**Continuously monitor throughput data for chokepoints** and debottlenecking opportunities




### Rapidly increasing capital- and operating-expense transparency

Reassess **total operational cost structure**

**Revisit operating model and governance while boosting investment in “Future of Work”**

Set a new standard for **rationalization and management of supply chain complexity**; use transparency to prevent business cost creep from incremental complexity

 Deep dive follows



### Driving the Future of Work with new workforce skills & capabilities

**Standardize process and train employees** in health and safety measures

**Leverage remote working** tools to bring central team expertise to address daily issues on-demand at the plant level

**Redeploy lean and automation** to create safe working environment

**Reskill production employees** from executing repetitive tasks to data driven operation, troubleshooting, and improving automated equipment

# Portfolio of 50+ digital use cases can serve as inspiration to tailor a specific approach for companies

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## Digital machines

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Integrating artificial intelligence into processes and machines for optimized performance



## Digital maintenance

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Leveraging physical components, such as sensors, and advanced analytics for targeted proactive maintenance



## Digital performance management

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Creating single source of truth performance management engine with real time leading and lagging indicators



## Digital quality management

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Enhancing quality, efficiency, and effectiveness using data, analytics, and IoT



## Digitally enabled sustainability

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Linking advanced analytics with IoT capabilities to step change performance and reduce energy use and waste

# Example digital use cases

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## Digital Machines



## Digital Maintenance



## Digital Performance Management



## Digital Quality Management



## Digital Enabled Sustainability

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Cycle time optimization through big-data analytics on lines PLCs

Mixed reality to enable digital standard work/trainings

Digital lean tools (e.g., eKanban, eAndon, eSpaghetti)

Advanced IIoT applied to process optimization

Artificial Intelligence-powered process control

Artificial intelligence guided machine performance optimization

Digitally enabled variable takt time

Digitally enabled modular production configuration

Light-guided production sequence

Automation in packaging

# Example digital use cases

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## Digital Machines



## Digital Maintenance



## Digital Performance Management



## Digital Quality Management



## Digital Enabled Sustainability

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Cost optimization of operations through sensor analysis

Remote assistance using augmented reality

Predictive maintenance aggregating data based on historical and sensor data

Machine alarm aggregation, prioritization and analytics enabled problem solving

Real-time pipeline cost optimization based on edge sensors

Analytics platform for deviation root-cause identification

# Example digital use cases

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Digital Machines



Digital Maintenance



**Digital Performance Management**



Digital Quality Management



Digital Enabled Sustainability

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Digital dashboards to monitor OEE performance

Digital standard work

Analytics platform for remote production optimization

Digital twin for remote production optimization

Enterprise Manufacturing Intelligence system to upgrade operations management

Integration platform to connect machine-level data with enterprise-software

Real-time asset performance monitoring and visualization

Sensor-based manufacture KPI reporting

Digital tools to enhance a connected workforce

Digital recruitment platform tailored to shop floor

Digital twin of sustainability

Digitally enabled man-machine matching

# Example digital use cases

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## Digital Machines



## Digital Maintenance



## Digital Performance Management



## Digital Quality Management



## Digital Enabled Sustainability

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Scanning to replace and improve performance for high cost CMM (scans)

Automated in-line optical inspection to replace end-product manual inspections

Digital work instructions & quality functions

Digitized standard procedures for line operations with integrated workflow

Mixed reality glasses to guide operators in end-of-line inspection

Field quality failures aggregation, prioritization and advanced analytics enabled problem solving

IoT enabled manufacturing quality management

Digital quality audit

Quality improvement by predictive analytics

# Example digital use cases

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Digital Machines



Digital Maintenance



Digital Performance Management



Digital Quality Management



**Digital Enabled Sustainability**

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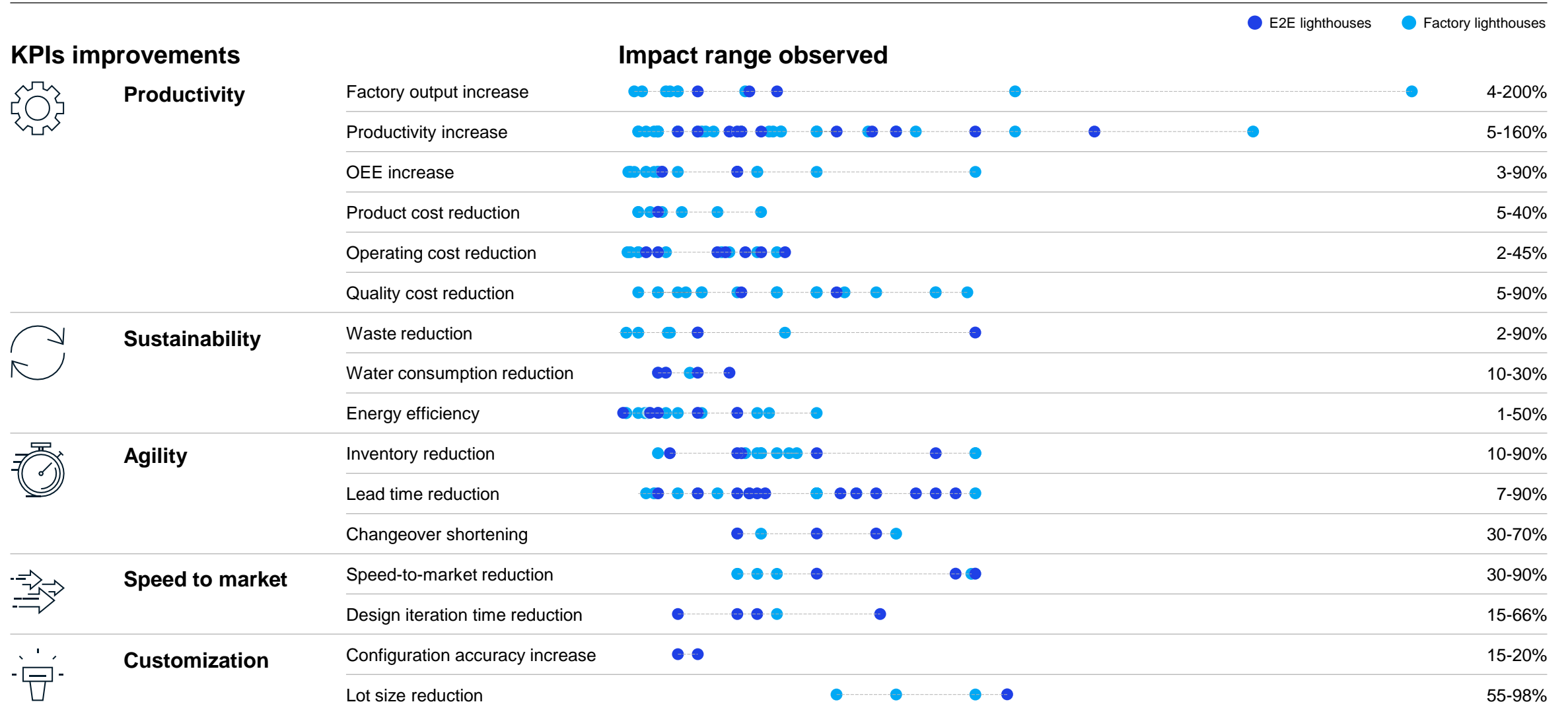
Energy optimization by predictive analytics

IIoT real-time energy data aggregation and reporting dashboard

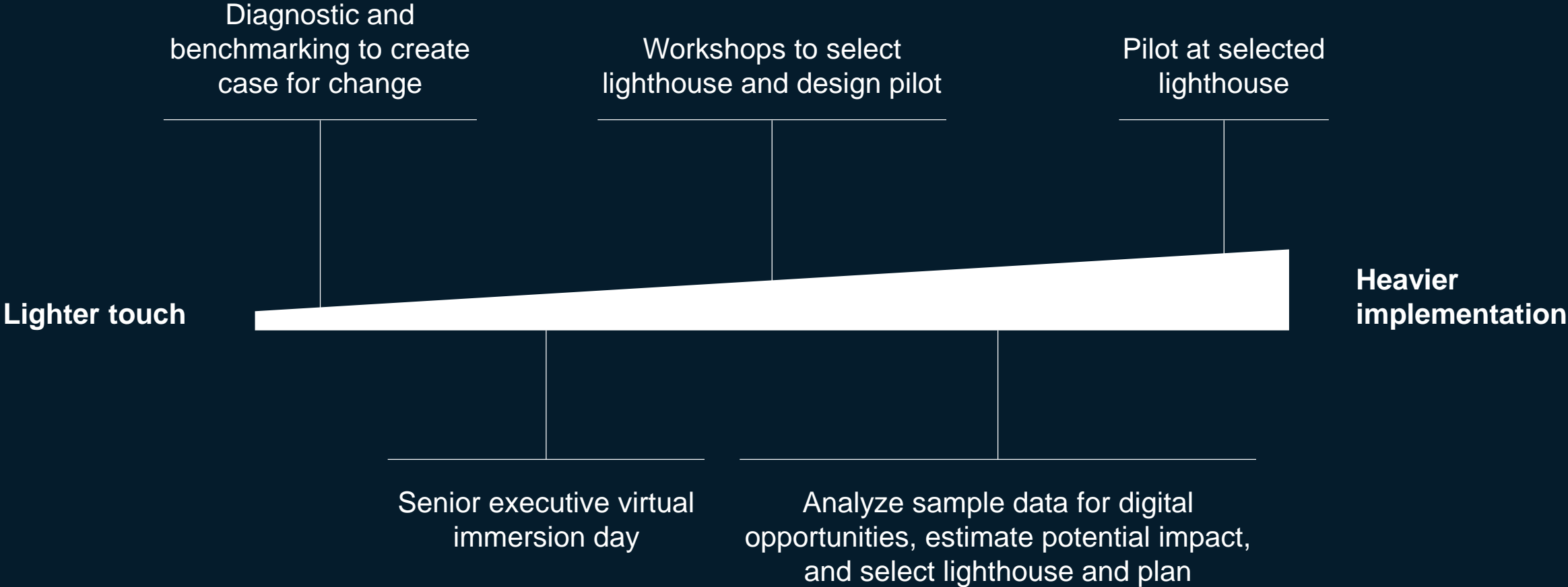
Sensor-based data collection for energy management



# Digital Plant of the Future partnership with the World Economic Forum (WEF) demonstrates what's possible during a digital transformation



# Embarking on a digital journey as part of Re-imagination can start in different ways from light touch to heavy implementation



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