

**BOSSARD**

Proven Productivity



---

# Supply Chain Resilience

in a Post-Pandemic World

# CONTENT

Introduction	3
<b>Why Supply Chain Resilience is Important</b>	
Why? – Disruptions are the New Normal	5
Why? – COVID was a Test, and Few Passed	6
Why? – Supply Chain Resilience and Industry 4.0 are Inseparable	9
<b>Building Supply Chain Resilience through Digitalization</b>	
How? – Digitizing for End-to-End Supply Chain Visibility	12
How? – Bossard Smart Factory Logistics	13
<b>Building Sustainability and Survivability</b>	
Productivity = Sustainability	17
Proven Productivity - Anytime, Anywhere	19

# As the world begins to recover from the worst effects of the COVID-19 pandemic, billions around the world eagerly await a return to 'business as usual'.

But as a leader at a vital business, you already know that the world has changed due to the pandemic.

Inefficient and wasteful processes have been exposed.

Communication and logistics have moved increasingly online.

And supplier-manufacturer relationships have been pushed to the brink.

COVID-19 may soon be history, but the challenges of the future demand that you stay on the ball.

## Don't get left behind.

## Stay ahead of the curve.

This White Paper discusses pre internal supply chain inefficiencies that were eventually exposed due to the pandemic, resulting in businesses' slow recovery and the painful disruption to productivity.

It also covers key areas experts recommend focusing on to build supply chain resilience against such disruption - particularly within the context of digitalization.

The concepts and solutions in this paper are pertinent if you are interested in building resilience against unforeseeable events.

Overall, you will gain insights regarding the need for businesses to:

1. Increase **resilience** against supply chain disruption
2. Increase operational efficiency via **digitalization**
3. Increase long-term **sustainability**

# Why Supply Chain

Resilience  
is Important

# Why? — Disruptions are the New Normal

Material disruptions lasting more than a month now occur every 3.7 years on average<sup>1</sup>

Day-by-day, it becomes clear that the type of business risks and sustainability challenges exposed and accelerated by the pandemic will only become more common.

McKinsey outlines 4 types of disruptions that all businesses ought to be wary of:

Type	Examples	Potential Losses
Foreseeable Disruption	Trade War, Local Conflict	>USD10 billion
Unanticipated Disruption	Man-Made Disaster, Climate Event	>USD100 billion
Foreseeable Catastrophe	Pandemic, Global War	>USD1 trillion
Unanticipated Catastrophe	Systemic Cyberattack, Severe Terrorism	>USD10 trillion

The most common types of disruptions are generally foreseeable, thus allowing for mitigative measures to be implemented in advance.

However, choosing to be reactive rather than proactive to potential disruptions will leave your business open to greater negative consequences once a disaster strikes.

Having the flexibility and insights to quickly respond to changing conditions will reap you the benefits in the event of a rare catastrophe.

Adapting early will allow you to reduce your day-to-day business risks, and have greater control over your short-to-medium term ambitions.

“Shocks that occur less frequently could inflict bigger losses and also need to be on companies’ radar.

The COVID pandemic is a reminder that outliers may be rare—but they are real possibilities that companies need to consider in their decision making.”

~ McKinsey Global Institute

<sup>1</sup> McKinsey Global Institute, <https://www.mckinsey.com/business-functions/operations/our-insights/risk-resilience-and-rebalancing-in-global-value-chains>

# Why? — COVID was a Test, and Few Passed

---

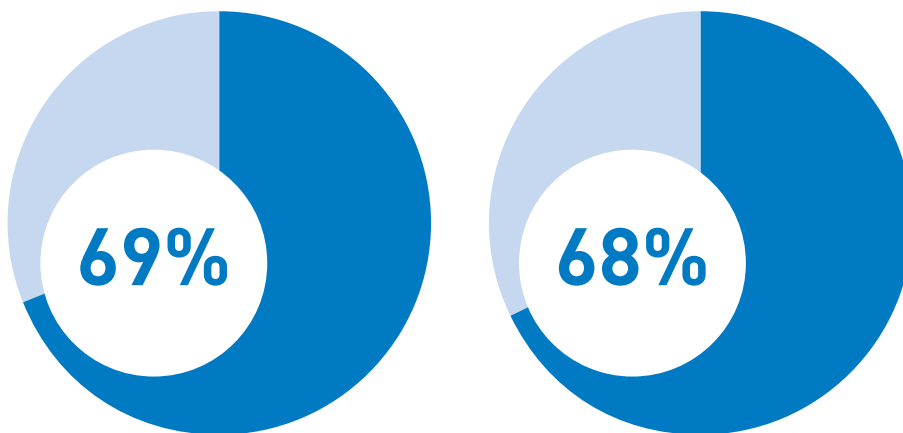
## 80% of businesses took up to 1 year to recover from pandemic-related supply chain disruptions

According to SupplyChain Magazine, more than 80% of companies worldwide also suffered from a failure of their supply chains during the COVID-19 pandemic.

GEP further estimates that in Europe and America alone, the business losses stemming from pandemic-related supply chain disruptions totaled almost USD4 trillion.

Common supply chain issues that exacerbated the financial impact of the pandemic on businesses included:

### 1. Lack of Data



69% of businesses were unable to compare suppliers on a running basis, thus resulting in excess procurement costs.

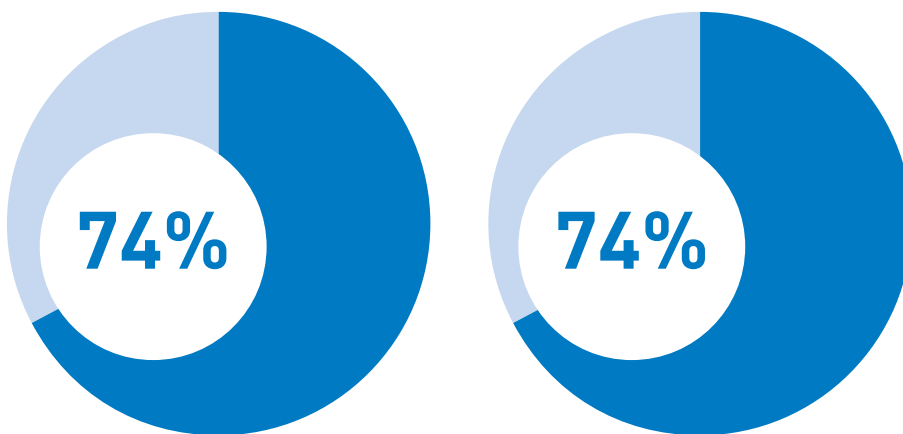
68% of businesses were unable to precisely measure the level of demand for parts and products, leading to excess orders and expense.

“The global health emergency has made organizations accept the fragility of their ecosystems.

Critical gaps must be plugged to ensure end-to-end visibility on a global scale and minimize the risk to the business.”

~ Kristof Symons, Executive Vice President, Orange Business Service

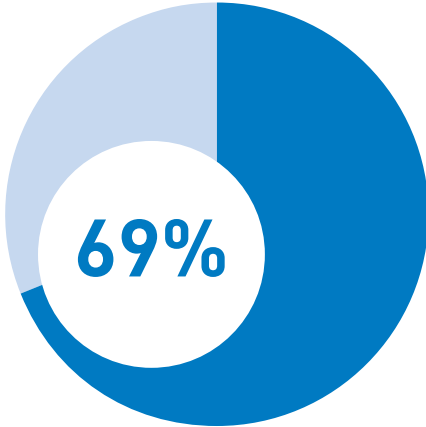
## 2. Delays and Shortages



74% of businesses suffered shortages of critical parts and materials at key intervals, rendering them unable to fulfill orders and collect payments.

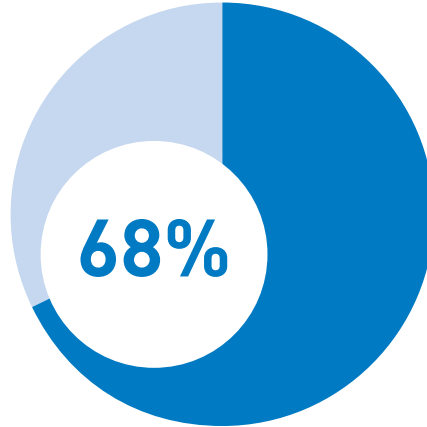
74% of businesses experienced delays in supplier shipments, resulting in longer lead time and necessitating compensation to customers.

### 3. Rigid Processes

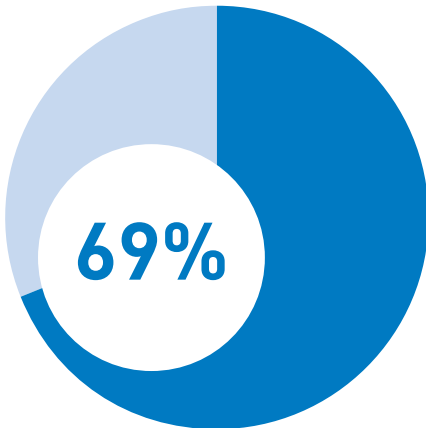


69% of businesses were unable to scale their production lines to match actual supply and demand, resulting in inefficiencies and excess costs.

68% of businesses struggled to reconfigure their production lines to meet changes in demand for specific product lines.

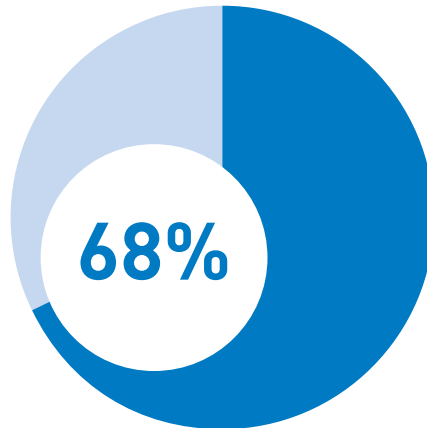


### 4. Distribution Challenges



69% of businesses struggled to balance stocks between facilities amidst new supply disruptions, leading to severe production imbalances.

68% of businesses saw their products impounded at ports of entry, preventing delivery and collection.





# Why? — Supply Chain Resilience and Industry 4.0 are Inseparable

---

72% of organizations in the Americas, Europe, and Asia-Pacific expect Industry 4.0 technologies to profoundly impact their business<sup>2</sup>

Supply chains are always designed with 2 things in mind - cost efficiency and speed.

This is with good reason. According to EY, supply chains typically represent about 70% of a company's costs.

Until COVID-19, most organizations relied on static calculations made at the tail-end of a given financial year to adjust their supply chain arrangements.

Such an approach is serviceable provided that the variables impacting calculations do not alter drastically from month to month, let alone week to week or day to day.

If the pandemic has exposed anything, however, it is that by standing still, your supply chains remain beholden to unanticipated volatility.

And even after the pandemic, being able to maximize Industry 4.0 technologies to ensure full visibility of your supply chain will be fundamental to making the best business decisions for your company.

Here is why:

## 1. **Accurate Supply and Demand Forecasts = Greater Efficiency**

Demand signals can and often do change at a moment's notice.

Your supply and demand forecasts should be able to account for this volatility by incorporating live inputs from a variety of data sources. This ranges from internal departments responsible for sourcing, planning, and fulfillment, to external players like suppliers and customers.

But unless you have the tools capable of integrating, summarizing, and analyzing the aforementioned data inputs, any forecast you produce could prove outdated within hours. The accuracy of your inputs also need to be water-tight to ensure representative readings.

Industry 4.0 technologies are fundamental to achieving this flexibility, and ultimately smarter allocation of resources.

“The pandemic will stop, somehow.

But **[other] trends and risks are here for the next few decades.**”

~ Erwin Verstraelen, Chief Data Officer & Chief Information Officer, Port of Antwerp

---

<sup>2</sup> Deloitte, [https://www2.deloitte.com/content/dam/Deloitte/de/Documents/human-capital/Deloitte\\_Review\\_26\\_Fourth\\_Industrial\\_Revolution.pdf](https://www2.deloitte.com/content/dam/Deloitte/de/Documents/human-capital/Deloitte_Review_26_Fourth_Industrial_Revolution.pdf)

## 2. Better Visibility = Smarter Collaboration

Every business's supply chain in the 21st century is interconnected - a truth that COVID-19 has laid out to bare.

Because one decision or event in one business can affect many other businesses, it has become vital for companies to invest in trade analytics and supply chain intelligence tools to improve visibility from end to end.

Introducing control towers that incorporate artificial intelligence and machine learning will be vital for optimizing collaborations across the supply chain. Having this birds-eye view will allow you to identify potential disruptions early and collaborate on a viable action plan.

Being able to walk in step with your business partners enables swifter production, less waste, and greater revenue.

## 3. Strong Data Foundation = Sustainable Performance Improvements

Even without disruptions, your main priority will be to keep your business costs to a minimum and identify business areas capable of stimulating maximum growth.

To do this, you will require robust Industry 4.0 infrastructure that possesses the data and analytics tools capable of measuring and visualizing operational performance, as well as carrying out simulations.

Possessing a strong data foundation will thus enable your business to make better and faster decisions capable of offering more consistent productivity and revenue growth.



**Building  
Supply Chain  
Resilience**  
through  
Digitalization

# How? — Digitizing for End-to-End Supply Chain Visibility

---

Digitized supply chains and operations can spawn annual efficiency gains of 4.1% and boost revenue by 2.6% a year.<sup>3</sup>

Clearly then, 'going digital' is more than just a buzz phrase.

If you are still early in your digitalization journey, some key considerations when reviewing potential digital systems and processes are if they enable:

## 1. An all-in-one data depository

You will need a system that allows you to connect data inputs from multiple sources - be it your C-suite offices, manufacturing plants, or R&D facilities - and provide real-time signals.

This will lower the amount of time spent searching and compiling data housed in various formats and locations, in turn increasing the amount of time available for analysis and strategy.

## 2. An integrated business network

You will need a system that allows your business suppliers, partners, manufacturers, distributors, and retailers access to all of this relevant data on a cloud - at any time and at any place.

This will enable all key stakeholders within and outside your business to evaluate strategic options with greater pace and make decisions based on real-time data signals.

## 3. Introduction of 'control towers'

You will need a system that allows you to build 'control towers' - teams who have access to all shipment and inventory data, analytical tools needed to diagnose issues and perform test scenarios, and the authority to resolve problems as and when they occur.

When given access to additional artificial intelligence tools, your control towers will allow your business to break down incoming data, highlight critical shifts in supply chain variables, and prescribe the necessary solutions needed to pre-empt or mitigate changes in demand.

Ultimately, you will require a comprehensive solution capable of providing the end-to-end data visibility needed for an agile and efficient supply chain.

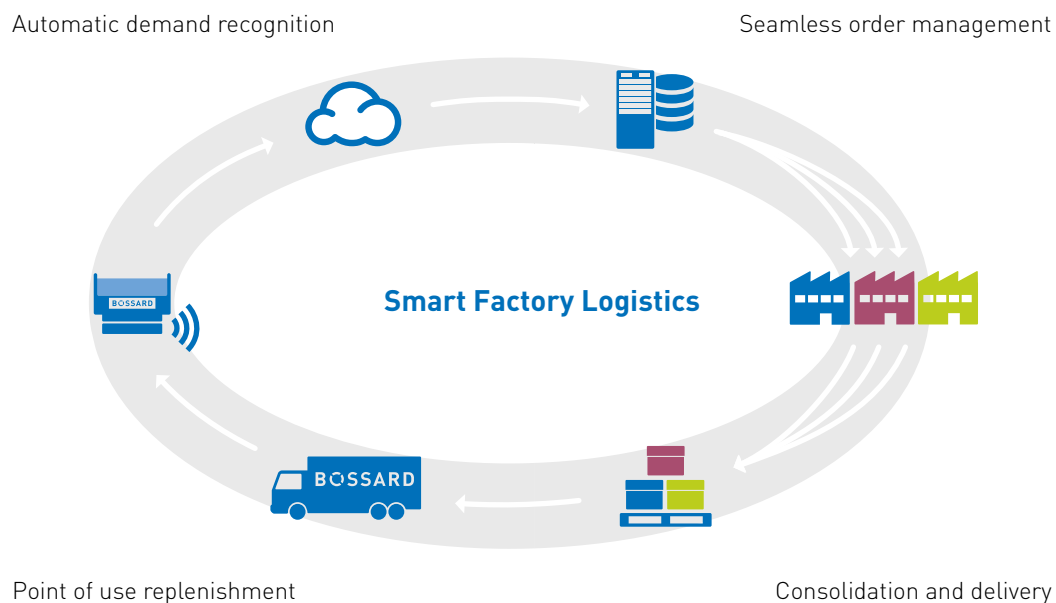
We call it **Smart Factory Logistics**.

---

<sup>3</sup> SupplyChain Magazine, <https://supplychaindigital.com/supply-chain-2/what-does-industry-40-mean-supply-chain-network>

# How? — Bossard Smart Factory Logistics

Smart Factory Logistics is an end-to-end service for managing your B- and C-parts. It is a time-tested and proven methodology that helps to uncover hidden potential for productivity improvement.



Smart Factory Logistics is easily understood as a 4-step process:

**1. Implementation of Smart Factory Logistics systems**

You introduce Smart Factory Logistics smart systems into your facilities to precisely track supply and demand on a 24/7 basis.

**2. Seamless order management**

You let Smart Factory Logistics smart systems automatically optimize material orders in line with forecasts based on live inventory tracking.

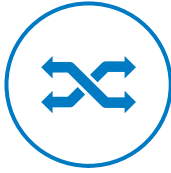
**3. Consolidation and delivery**

Bossard consolidates your material orders into as few deliveries as possible to minimize carbon footprint.

**4. Point of use replenishment**

Materials are delivered directly by Bossard to the point of use.

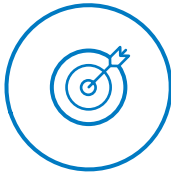
## 5 Immediate Benefits



### Increased Agility

Using advanced embedded sensor technology, Smart Factory Logistics systems automatically recognize manufacturing demand fluctuation.

**This allows the supply chain to respond with increased agility.**



### Improved Predictability

ARIMS application software analyzes big data to uncover meaningful patterns.

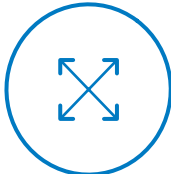
**This increases supply chain predictability and efficiency.**



### Leaner Process

Insights enable the implementation of a leaner manufacturing process, allowing you to order and stock only what you need when you need it.

**This boosts savings on order management, material handling, and storage costs.**



### Maximum Flexibility

Smart Factory Logistics systems are engineered to suit different manufacturing environments and production setups.

**This ensures maximum operational flexibility.**



### Proven Productivity

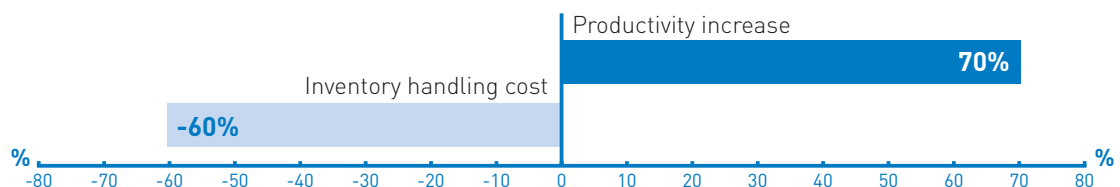
Based on the value-stream-mapping methodology, Smart Factory Logistics provides expertise for continuous and sustainable productivity improvement.

**Execution-focused, result-oriented.**

## Landing on 'Proven Productivity'

Without Smart Factory Logistics	Predictiveness	With Smart Factory Logistics
No foreseeability. Reactive to demand surge.	Predictability on demand surge	Proactive to demand surge. High flexibility and adaptability to production rate changes.
No visibility.	Visibility of material flow	Full transparency
	Time and Cost Spent on Internal Logistics	
Manual	Good receiving	Reduce by 30%
Manual	Putaway	Not needed
Manual	Material issue to production	Reduce by 50%
	Inventory Data Accuracy	
Manual monitoring and analytics with risk of human error.	Inventory analytics and reporting	Big data analytics
Manual audit that is prone to inventory variance.	Cycle Count	System data-driven without manual cycle count needed.

### The Impact of Smart Factory Logistics



'Proven Productivity' is our promise to our customers. It contains two elements:

Firstly, that it demonstrably works.

Secondly, that it sustainably and measurably improves the productivity and competitiveness of our customers.

No one size fits all. From our range of different products and services, we strive to customize a solution that works specifically for your unique business needs.

And from years of cooperation with our customers, we know what achieves proven and sustainable impact.

Working with Bossard means working with a flexible partner capable of:

1. Designing custom solutions that fit your needs
2. Providing technical support and expertise during the digitalization process
3. Reliably sourcing and fulfilling your inventory requirements

This is Proven Productivity.

This is our philosophy which motivates us every day to help you stay one step ahead.

**Building  
Sustainability  
and Survivability**



# Productivity = Sustainability

Many casual observers deem 'productivity' and 'sustainability' to be two diametrically opposed concepts.

They claim the former to be an inherently short-term goal motivated by a 'win-at-all-costs' mentality, and the latter to be inherently long-term and incompatible with more immediate business goals.

In other words, they claim that you must choose between being a successful business financially or being an environmentally conscious business.

This 'choice' is a myth.

Can businesses be productive and sustainable?

Yes.

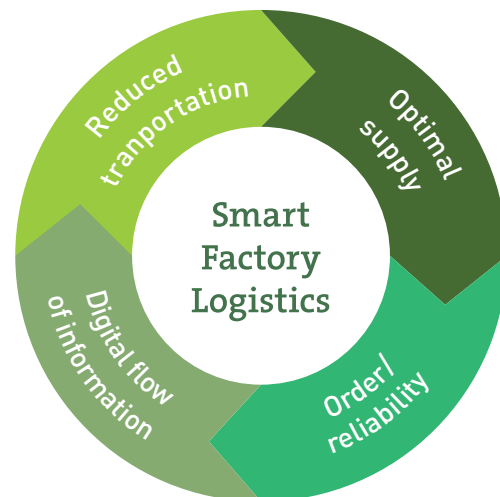
Bossard Smart Factory Logistics not only increases business efficiency but helps minimize waste and carbon footprint.

This is because streamlining involves using materials, energy, and production capacity more efficiently.

Experience also shows that the efficient use of resources and simplified logistics processes lead to less waste and lower emissions.

In fact, according to McKinsey, a sustainability strategy can reduce costs substantially and can affect operating profits by as much as 60%.

## The Smart Factory Logistics Contribution



Sustainability is built-in to the design of the Bossard Smart Factory Logistics concept.

By streamlining your procurement flow, you can minimize the number of locations that materials need to be sourced and delivered from. This in turn reduces the overall transportation requirements related to your supply chain, resulting in less fuel consumption and lower CO2 emissions.

Automatically optimized order management also contributes to lower transportation requirements, while also minimizing the amount of scrap and waste emanating from over-ordering.

Because Smart Factory Logistics allows you to order only what you need, when you need, it also reduces your overall inventory and storage requirements, thus lowering power consumption and physical footprint.

**Staying Ahead:**

Supply Chain Resilience  
in a Post-Pandemic World

Finally, the transition to digital dashboards and data storage removes the need for paper, while also guaranteeing a virtual paper trail that is fast and secure.

As the challenges of the pandemic fade, new ones will continue to arise.

As such, digitalizing in the name of supply chain resilience will be vital to staying ahead post-COVID.

It is through digitalization that your business can minimize unnecessary costs.

It is through digitalization that your business can navigate the turbulence and uncertainty of tomorrow.

With a global network and an array of data-driven tools, Bossard offers you the expertise needed to augment your supply chain resilience.

Increased efficiency  
and smarter decisions  
are just one step away.



# Proven Productivity

- Anytime, Anywhere

"This digital Kanban supply chain solution helps us secure stocks and manage it at a lean level throughout COVID lockdown."



Leica Geosystems Technologies

Smart Factory Logistics helps us to gain 37% productivity in the warehouse workforce.



State Grid Shandong Power Equipment Co., Ltd.

"SmartBin Cloud is a real progress for ABB in Turgi towards Industry 4.0 and represents one step forward in digitization and automation of our production."



ABB Schweiz AG Turgi

"No more manual process, no more missing parts, less administrative work, lower stock levels and less tied-up capital. At the end of the project, Studer achieved high savings on the overall process costs."



Fritz Studer AG

"The intelligent SmartBin reduces the storage value, optimizes the turnover rate and reduces internal costs by up to 60%.

Out-of-stock situations are avoided and thus ensures the reliability of the production process."



Franz Haas GmbH



Ready to join the Industry  
4.0 revolution?

**Contact us.**

Bossard AG  
Steinhauserstrasse 70  
Postfach  
CH-6301 Zug  
T +41 41 749 66 11  
F +41 41 749 66 22  
[bossard@bossard.com](mailto:bossard@bossard.com)  
[www.bossard.com](http://www.bossard.com)