



# How Life Science Manufacturers Can Thrive in the New Age of Disruption

Three Characteristics of an Agile Manufacturer

A QAD Leadership White Paper for  
Life Sciences Manufacturers



## CONTENTS

The New Age of Disruption	3
Adaptive Manufacturing Enterprises Are Intelligent	4
Adaptive Manufacturing Enterprises Are Innovative	4
Adaptive Manufacturing Enterprises Are Agile	5
To Be Adaptive, Your Supplier Management Must Be Integrated	5
To Be Adaptive, Your Supply Chain Must Be Connected	5
To Be Adaptive, You Must Effectively Manage Your Enterprise Processes	6
To Be Adaptive, You Must Embrace Digital Manufacturing	6
To Be Adaptive, Your Customer Management Must Be Complete	6
Only the Adaptive Will Thrive	6

# HOW LIFE SCIENCES MANUFACTURERS CAN THRIVE IN THE NEW AGE OF DISRUPTION

## THE NEW AGE OF DISRUPTION

As a manufacturer of highly regulated products, you've faced unprecedented disruptions in recent years -- rapidly changing technology, an evolving regulatory landscape and unexpected competition. And despite the challenges, your customer and sponsor organizations expect product consistency and on-time delivery.

Disruption doesn't have to mean bad news for your business. How you weather the threats depends on how well you adapt to change. The leading life science manufacturers of tomorrow will plan beyond mere survival and use disruption to their advantage. But what can you do now to thrive in the face of unprecedented change?

In the best of times, navigating life sciences manufacturing isn't easy. The industry is a complex set of interdependent processes that have to work together seamlessly, from the sourcing of materials to the manufacturing of multiple variations of a medical device. But that same interlocking set of operations and connected ecosystems makes life science organizations particularly vulnerable to disruption.

The global manufacturing world is a minefield of turbulence and disruption. The most recent major disruption, the 2020 global coronavirus pandemic, created havoc that upended supply chains and forced severe production changes in a matter of weeks. But businesses have faced escalating, non-cataclysmic threats for the past decade.

*One key to surviving in a world of disruption, where the external environment is changing at lightning speed, is to **change the game internally**. This requires accelerating your speed-of-execution as well as your agility to seize new opportunities. When a company can do both, it goes from just surviving to thriving.<sup>1</sup>*

**Kotter International**

Traditional systems can often hinder a company's ability to respond to rapid change. As businesses are stressed by outside forces, they need to re-evaluate their internal processes to assure that they're ready to respond to – or lead – the next wave of change. Their internal infrastructure, like their strategy and mindset, can't be rigid. It needs to be flexible enough to withstand the next wave of change.

# HOW LIFE SCIENCES MANUFACTURERS CAN THRIVE IN THE NEW AGE OF DISRUPTION

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**We've identified three characteristics that adaptive manufacturing enterprises share that allow them to profit during turbulent times.**

## **ADAPTIVE MANUFACTURING ENTERPRISES ARE INTELLIGENT**

To be adaptive, manufacturers should use more of the data from clinical trials, health records and genetic testing collected by their organizations. Adaptive manufacturers get real-time insights into their operations, the larger market and their customers, and with intelligence-driven decisions, they can connect customers, suppliers, people and processes to gain a strategic advantage over the competition.

Enlightened manufacturers also use advanced technologies, like artificial intelligence (AI), machine learning and the Internet of Things (IoT), to optimize their data gathering. With technology, they can better monitor key performance indicators (KPIs) across manufacturing, supply chain, finance and other operations for faster course corrections and better demand forecasts.

### **Examples: How to use data-driven decisions to gain the adaptive advantage**

- One manufacturer replaced manual processes and embedded new analytics capabilities in its systems. This improved data analysis during rapid product changeovers and recalls.
- A manufacturer improved forecast accuracy, raised customer service levels and reduced stock outs by adding production planning to internal systems and replacing manual spreadsheet calculations. Forecast accuracy improved to 85 percent and inventory was reduced by \$500,000.

- A medical device manufacturer embedded skip lot logic in its receiving process to share real-time inspection results with suppliers. The inspection process was shortened and supplier quality improved.

## **ADAPTIVE MANUFACTURING ENTERPRISES ARE INNOVATIVE**

Life science firms understand innovation but to be truly adaptive, life science enterprises also need to be innovative with their infrastructure. They need to use technology to capture more real-time data, and use more of the insights from that data to personalize the customer experience. Advances like smart, connected products improve customer satisfaction, and SaaS-based applications improve operational efficiency and reduce costs.

Innovative firms also use cloud-based, low-code/no-code applications to respond rapidly to change. They quickly incorporate new ideas into their business using actionable performance analysis.

### **Examples: How to use innovation to gain the adaptive advantage**

- One manufacturer was manually reporting its yield and scrap using spreadsheets. Digitizing the reporting function cut the time in half required by engineers to calculate scrap and enabled them to more accurately determine costs.
- Modern, flexible demand and supply chain planning platforms improve forecasting and supply chain transparency and reduce operating costs. These systems can yield a 2-to-1 return on investment and help to reduce inventory.
- A manufacturer improved customer lead time and on-time delivery reliability by switching to a product configuration system that helps track product variants. This enabled a more profitable go-to-market strategy.

# HOW LIFE SCIENCES MANUFACTURERS CAN THRIVE IN THE NEW AGE OF DISRUPTION

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## ADAPTIVE MANUFACTURING ENTERPRISES ARE AGILE

To be adaptive, life science manufacturers must rapidly respond to both internal and external business changes while maintaining the highest quality standards. They take actionable analyses and drive them across processes, departments and trading partners. Adaptive manufacturers rigorously calculate KPIs so they can consistently optimize labor, machine and process performance, creating a culture of continuous improvement.

Agile enterprises also enable process mobility. Rapid process change management empowers the enterprise to quickly add programs across the organization, saving technical, support and service resources.

### Examples: How to be more agile to gain adaptive advantage

- A medical device manufacturer, implementing changes that allowed all systems to work together seamlessly, was able to stock multiple sizes and versions of their products worldwide. The solution reduced manual efforts, saved time and money, cut errors and helped the company grow its global presence.
- Moving critical business systems to the cloud improves a company's agility. One company moved all its environments to the cloud to lower business risk, improve delivery performance and reduce inventory.
- One global manufacturer proved that standardizing its systems provided maximum staffing flexibility. It now can respond to fluctuating demand by leveraging staff across any of its facilities with zero onboarding time.

Let's dig deeper into how a manufacturer can transform itself into an adaptive enterprise by focusing on five core, technology-enabled capabilities.

## TO BE ADAPTIVE, YOUR SUPPLIER MANAGEMENT MUST BE INTEGRATED

With global supply chains, manufacturers have suppliers spread around the world across multiple time zones and are working with many trading partners. They need to keep track of all the activities that take place between them. How many orders with suppliers are in process? Have any changed? Has the P.O. been confirmed? What is the inbound shipment status? And so on.

A solution that integrates real-time communication between manufacturers and their suppliers can improve supply chain visibility, allowing for faster response to changes in supply and demand.

## TO BE ADAPTIVE, YOUR SUPPLY CHAIN MUST BE CONNECTED

Life Science manufacturers have many supply chain challenges -- siloed supply chain functions, a lack of supply chain partner visibility and shipments that show up at the wrong time and in the wrong place. Connected supply chain management isn't just about grabbing and sharing data with partners; it's about effectively using data to make automated and intelligent decisions across global supply chain operations. Using forecast modeling and execution capabilities, manufacturing businesses can install control of end-to-end processes to improve overall supply chain performance.

As a result, manufacturers can break down silos with supply chain partners and create an agile, adaptive supply chain, for improved global operations and rapid responses to supply chain disruptions.

## TO BE ADAPTIVE, YOU MUST EFFECTIVELY MANAGE YOUR ENTERPRISE PROCESSES

To better manage disruption and change, manufacturing decision makers need access to real-time financial data and analytics across their

# HOW LIFE SCIENCES MANUFACTURERS CAN THRIVE IN THE NEW AGE OF DISRUPTION

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global businesses. They need to trust the data they receive, and their processes have to be flexible enough to reflect up-to-date changes.

A well-planned business ecosystem ensures that the company is working from a solid yet adaptable foundation of financial and accounting data. An integrated, comprehensive solution supports various currencies, recognizes regional and local compliance, tax and accounting standards and makes it easier to integrate an acquisition.

## TO BE ADAPTIVE, YOU MUST EMBRACE DIGITAL MANUFACTURING

Digital manufacturing isn't just about collecting data, it's about effectively using data. Embracing digital technology can result in improved efficiency of manufacturing operations, real-time access to production data, inventory accuracy, shop floor visibility and asset utilization.

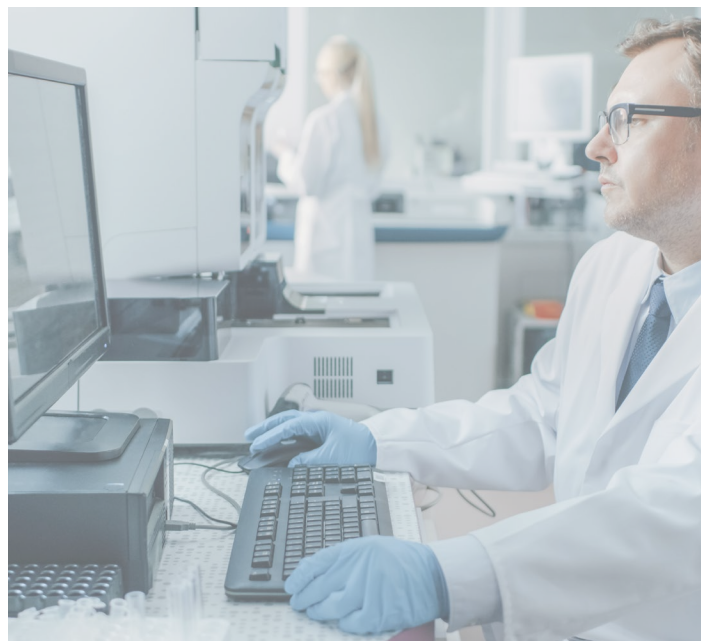
Adaptive manufacturers seek out digital technology for the shop floor and throughout their operations to intelligently connect manufacturing to the rest of the business. They look for advanced technologies like machine learning, AI, IoT and robotic process automation to help modernize manufacturing operations. Using technology, manufacturers can better communicate, analyze and use information to meet cost and quality objectives.

## TO BE ADAPTIVE, YOUR CUSTOMER MANAGEMENT MUST BE COMPLETE

Customer management is the gateway to your company; how customers evaluate your company determines whether or not your business succeeds.

With the fast-evolving and frequent changes in customer demand, manufacturers need real-time visibility into what customers experience with every interaction. They need immediate

feedback on all aspects of the customer experience, from pricing to the order process to inventory. A life science manufacturer can be more responsive to its customers when it captures information on every interaction and shares it across the organization.



## ONLY THE ADAPTIVE WILL THRIVE

The key to success in life sciences manufacturing is a business infrastructure that provides performance at the cutting edge of intelligence, innovation and agility, so you can flex to whatever comes along. We call the companies that position themselves to thrive during the inevitable, next waves of disruption, Adaptive Manufacturing Enterprises.

[Take our diagnostic to find out how adaptive your organization is.](#)

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<sup>1</sup>Kotter International, Forbes, April 3, 2013.



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