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FEATURED ARTICLE: **QFUSE**

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### Just what is a QR Code?

Well, if you live in the U.S. you may have begun to notice some unusual-looking square boxes appearing in print publications and advertisements. These 2D matrix barcodes are called QR Codes, or Quick Response Codes.

QR Codes are similar to the standard bar codes that currently appear on all types of consumer products (think bottom of your favorite breakfast cereal). However, QR Codes can contain much more information than traditional barcodes.

You can think of a QR Code as a paper-based hyperlink that connects the physical world with the online world. For marketers, your unique QR Codes allows advertisements, brochures, posters - even clothing or billboards - to direct users to a mobile landing page. This integration between print and web via mobile adds a new dimension of communication to any marketing or outreach effort.

### How Do QR Codes Work?

A QR Code works by simply scanning the code with a mobile device that is equipped with a camera and QR Code reader application. These days, most smartphones have QR code scanning capability integrated directly into the camera, which makes scanning QR codes very simple – simply point your camera toward the code to read it.

Once the QR Code is scanned, it is translated into actionable information, such as a text message or opening a mobile web page.

In conclusion, QR codes can be a valuable tool in manufacturing, offering benefits such as increased efficiency, product traceability, effective training, and enhanced customer experience. As technology continues to advance, it's likely that we'll see even more innovative uses for QR codes in the manufacturing industry.

## QR Codes for Manufacturing Scenarios

The manufacturing industry has always been at the forefront of technological advancements, and the use of QR codes is just one of the latest examples. QR codes can be scanned with a smartphone camera for instant access to information, making them a versatile, convenient, and effective tool across a range of manufacturing environments and industrial use scenarios.

The potential uses for QR codes within an industrial context is virtually unlimited, but examples of practical use case scenarios include the following:



### ***Maintenance & Repair Records***

Maintain service records and important documentation for equipment and buildings.

### ***Operations & Instructions***

Provide instructions and procedures for performing critical tasks or operating equipment; communicate this information using text, images and/or video.

### ***Facilities Management***

Document critical specifications and schematics within key locations (e.g. wiring, plumbing, electrical, and alarm systems) that can be accessed by contractors and maintenance personnel.

### ***Regulatory Compliance***

Document important authorizations needed to comply with local, state or federal regulations, such as inspection or expiration dates, permits or licenses.

### ***Inventory Control***

Document important information about equipment components or complex systems.

### ***Emergency Contacts***

Provide direct access to important departments and personnel via mobile-friendly technologies such as click-to-call, text messaging and email.

### ***Maintenance Requests***

Conveniently submit requests for maintenance services at different locations; request notifications are sent directly to one or more designated contacts, and can also be integrated with 3rd party systems.



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## Increased Efficiency

One of the main benefits of QR codes in manufacturing is increased efficiency. By using QR codes, workers can quickly access information about a product or process, reducing the time and effort spent searching for information. This can lead to increased productivity, faster production times, and lower costs.

## Inventory Control & Asset Management

QR codes are also beneficial in ensuring product traceability and quality control. By including a QR code on each product, manufacturers can easily track the product's journey through the supply chain, from the raw materials to the finished product. This allows for improved transparency and accountability, as well as the ability to quickly identify and resolve any quality issues.

## Training

Another use of QR codes in manufacturing is for training purposes. Workers can scan a QR code to access training videos, manuals, and other resources, allowing for more efficient and effective learning. This can lead to improved skills, reduced errors, and increased safety on the factory floor.

## Customer Support

Finally, QR codes can be used to enhance customer experience. By including QR codes on products, manufacturers can provide customers with instant access to product information, such as specifications, usage instructions, and customer support. This can lead to increased customer satisfaction and loyalty.

In conclusion, QR codes can be a valuable tool in manufacturing, offering benefits such as increased efficiency, product traceability, effective training, and enhanced customer experience. As technology continues to advance, it's likely that we'll see even more innovative uses for QR codes in the manufacturing industry.



## Company Overview

Qfuse™ (pronounced “Q-Fuse”, short for “quick-fuse”) was established with the goal of making it easy for anyone to fuse online and offline media using technologies such as QR Codes, NFC Tags, and mobile websites.

Too many QR codes are created without a mobile-friendly landing page or the ability to track the number of scans on the code, creating an experience that is disappointing for users and unsatisfying for publishers. Qfuse addresses this problem by offering all the tools necessary for developing engaging customer communication using QR Codes, NFC Tags, and mobile websites under one roof for anybody to use.

Qfuse has the ambitious goal of serving a wide-ranging user base, from personal users up to major corporations. To accomplish this vision, the Qfuse application is built with a set of scalable features that range from the fundamental to the sophisticated. All users can be sure they're using a top-notch system that delivers professional results, even if they're not web professionals themselves.

The founders and developers of Qfuse share diverse professional skills ranging from design, to application development and interactive marketing, which lends to a well-rounded model that is built for growth.

Today, our vision for media-fusion with Qfuse leverages the mobile web, QR Codes, and NFC Tags. Tomorrow, our model will embrace other technologies as well. Whatever the technologies, Qfuse will aim to provide the tools that make the world an engaging and interactive place for everyone.

## The Qfuse Platform

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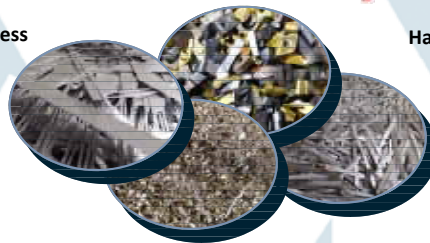
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## IMPROVING SUPPLY CHAIN RESPONSIVENESS IN THE MANUFACTURING INDUSTRY

### What steps can manufacturers take to improve the responsiveness to their supply chain?

A combination of intensely competitive global markets, constantly evolving consumer demands, and unsettling international geopolitical events means manufacturers cannot rely on conventional models to optimize efficient supply chains.

Supply chain managers have realized that their existing processes are not sufficient to buffer them from the disruption caused by unpredictable events such as the recent Coronavirus pandemic. Instead, companies should aim to redesign their supply chain and supply chain planning processes to be more responsive so that they can better cater to their customers' requirements in real time.

Doing this can safeguard a supply chain from the demand fluctuations brought about by unpredictable events and deliver huge value in terms of efficiency and cost reductions. It can also provide benefits for the end customer in the form of a more personalized and streamlined service, instead of merely offering a mass-produced product and potentially inconsistent delivery methods. That is why, from the manufacturers and the customer's point of view, boosting responsiveness across the entire supply chain is a win-win situation.

In a recent interview, DELMIA's Director of Strategic Business Development, Adrian Wood, shared some pointers on how manufacturers can boost the responsiveness of their supply chain.

Let's start the conversation with a question:

## What are the steps involved in improving supply chain responsiveness?

### Assess your company culture and executive process

Companies must first evaluate their maturity level. If they are starting from a level of maturity based on manual processes and spreadsheet-based planning – then that transformation will take some effort and require buy-in from different organizations. Therefore, one of the first steps is to get executive buy-in to any supply chain transformation initiative.

Company culture and organizational collaboration are key drivers of a more responsive supply chain, according to Supply Chain Brain<sup>1</sup>. Improved collaboration, which includes the sharing of data<sup>2</sup>, provides supply chain leaders with the intelligence necessary to accurately and consistently predict future demand.

Research has established that manufacturers with multiple reporting channels and many decision-makers battle to share information effectively. Supply chain leaders must have the authority to own decision-making throughout the supply chain and across all locations by embracing a so-called “plan centrally and execute locally” model.

Most companies comprehend that today’s market environment requires them to become more responsive and agile. Still, few understand the necessary changes to supply chain processes are required if they want to fully benefit from the efficiency that comes with true responsiveness.

### Define a goal

Adrian advises that to develop an ROI (Return on Investment), companies must define a goal based on what the end result looks like and what steps need to be taken. This is necessary because it will require a transformation across multiple departments simultaneously over time. Therefore, the first step of executive buy-in is to define the goal – make sure there is a plan and set the parameters of how that can transform the organization.

### Buy-in and investment in technology

Once you have buy-in to the process, it is essential to combine the transformation with technology and the need to invest in relevant applications that will help support that process. It is possible for companies to invest in multiple point solutions for different parts of the process (for example forecasting, master production scheduling or collaboration) but it is not always the best strategy.

“I think because of the collaborative nature and the breadth of the process, companies should look at investing applications that are part of a platform. The reason is that the platform gives the ability for these different organizational groups to work together more cohesively and for the data to flow more seamlessly. That’s one of the steps that they should look at as they begin to assess the technology,” advises Adrian.

### Look at technology cohesively and apply it intelligently

“Optimization technology is key,” comments Adrian. “Because the problems in supply chains are so complex, there are so many possible outcomes and inputs within the process if you manage it manually. The only way to manage the complexity of supply chains is to apply automation and optimization in meaningful ways. When companies think about transforming their strategic planning process, they need to work with application providers that have experience in how to correctly apply advanced technologies like Machine Learning and Artificial Intelligence. Avoid the pitfall of applying advanced technology just for its own sake,” he adds.

Sophisticated modern supply chain technologies ensure a more flexible, adaptable approach to supply chain management. A so-called “plug and play” approach to supply chain technology has seen technology vendors develop tailored and niche supply chain solutions. Radical transparency and real-time visibility are now possible with the help of IoT, AI, blockchain and advanced analytics.

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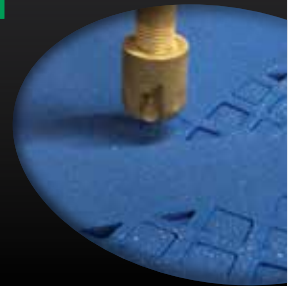
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### Multi-sourcing for the supply chain win

If there is anything the pandemic has taught us, it is the considerable risk of relying on a single-source supplier. If a crucial supplier can no longer meet requirements due to increased demand, factory closures, shipping and border delays, or bankruptcy, an entire supply chain can be impacted and severely disrupted.

To prevent subsequent supply chain bottlenecks and production delays, many manufacturers are ensuring they are not dependent on single supplier for critical product components. Supply chain diversification or multi-sourcing involves sourcing a product, part or material from different suppliers. This means the demand can be split across multiple vendors to reduce risk and relieve pressure.

Supply chain technology can help support strategic design of the supply network to determine optimal ways to add diversification without excessive cost. Additionally, even in worst-case scenarios where constrained supply is impacted, companies can benefit from real-time and accurate updates of supply problems to allow more time to develop contingency plans.

### Keep expanding the end goal

“I think there are a number of considerations that the supply chain community needs to think about as they move forward and increase the maturity of their planning processes to achieve greater levels of resiliency and responsiveness,” says Adrian. “This might involve a simple yet effective self-monitoring process on incremental value delivered. Are they

getting the value expected at each step of the process agreed upon to ensure healthy expansion and evolution – or are they going about it in a short-sighted manner? The key goal is to ensure they have an end goal in mind that engages all critical stakeholders and leverages an integrated and collaborative process supported by a platform-based technology,” he advises.

Technology is helping address many of the recent issues behind the supply chain crisis. Innovations in optimization, AI, process automation, and analytics can provide tremendous value and make supply chains more resilient. Technology also offers numerous additional benefits, such as reducing costs, speeding up the flow of goods, improving health and safety in the workplace, and minimizing waste and emissions.

1. <https://www.supplychainbrain.com/articles/6854-making-the-supply-chain-more-responsive-requires-organizational-and-process-change>
2. <https://www.bcg.com/publications/2020/manufacturers-unlock-value-from-data-sharing>

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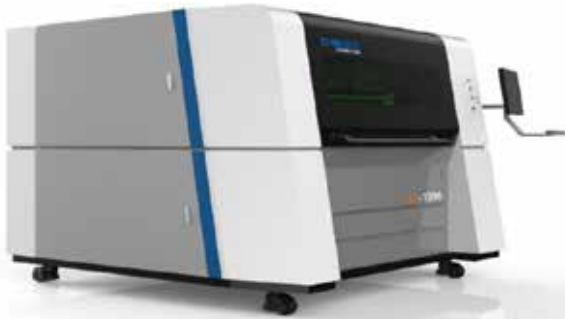
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## Flexxbotics Delivers Robot Compatibility with Haas Automation CNC Machines and Equipment

Boston, MA—Flexxbotics, delivering workcell digitalization for robot-driven manufacturing, today announced robot machine tending connectivity compatible with the full range of Haas Automation machine tools including vertical machining centers, horizontal machining centers, CNC lathes, and rotary tables, as well as, five-axis and specialty machines. With Flexxbotics next generation machining environments running robotics with Haas Automation equipment achieve greater throughput, higher yields and increased profit per part.

Flexxbotics' patent-pending FlexxCORE technology enables robots to securely connect and communicate with Haas Automation equipment in the smart factory to provide more powerful, flexible and open connectivity than previously possible. Flexxbotics compatibility includes the Haas Next Generation Control, as well as, Haas Serial and I/O for interfacing to both current and older models.

“We understand that the robots need to work with the CNC machines that manufacturers already have in place, not just the new, latest & greatest equipment they want to buy in the future,” said Tyler Modelski, Co-founder & CTO of Flexxbotics. “That’s why Flexxbotics includes older connection methods and protocols, as well as, today’s most modern approaches.”

In addition to compatibility with the Haas Next Generation Control, Haas Serial and Haas I/O, Flexxbotics is compatible with a wide range of open standard protocols including OPC/UA, MTConnect, Modbus-TCP, TCP/IP, Ethernet/IP, and DeviceNet along with proprietary protocols such as FOCAS2/FOCAS, MELSEC, Profibus/Profinet and many more.

Flexxbotics workcell digitalization is the backbone of the Smart Factory, delivering robot-driven manufacturing at scale with autonomous process control for advanced machining operations. Flexxbotics' SaaS/hybrid architecture also runs both online and offline so production continues with or without internet access, and Flexxbotics works with existing business systems as well such as CAD/CAM, SCADA/HMI, IIoT, MES, ERP, PLM and others for complete synchronization.

A full set of bidirectional communication, transform and routing capabilities are available in Flexxbotics for the robots and Haas machine tools that are connected including loading PLC programs, sending instructions, updating parameters and status awareness depending on the equipment’s capabilities so the robots control and command the smart factory equipment.

“With Flexxbotics robots go beyond simply talking to the machinery, the robots control and command the machines for maximum efficiency and production optimization,” said Tyler Bouchard, Co-founder & CEO of Flexxbotics. “We see a future where robotics play the central role in Industry 4.0 with the advent of robot-driven manufacturing.”

### About Flexxbotics

*Flexxbotics workcell digitalization is the backbone of the Smart Factory delivering autonomous process control for next generation machining environments. Flexxbotics SaaS/hybrid solutions enable robot-driven manufacturing at scale. Flexxbotics breakthrough, the FlexxCORE™ technology, seamlessly connects and coordinates robots with existing automation equipment, IT systems and people. More powerful, flexible and open, Flexxbotics revolutionizes the use of robotics in complex production. Visit [www.flexxbotics.com](http://www.flexxbotics.com) to learn more and follow us on LinkedIn.*

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