Making fastener supply chains more resilient

By Bindiya Vakil, CEO and co-founder, Resilinc

From the Covid-19 pandemic and labour shortages through to natural disasters and geopolitical disruptions, the fasteners industry has certainly not been immune to the challenges presented to global supply chains.

Despite the challenges of recent years, the fastener sector is experiencing significant growth as the market regains momentum. Statistics[1] suggest that the global industrial fasteners market was valued at US$92.16 billion in 2021 and is expected to reach US$131.56 billion (€123.2 billion) by the end of 2031. In addition, the sector is estimated to grow at a CAGR of 3.2% from 2022 – 2031 with the biggest CAGR growth this year predicted to be in the construction sector, fuelled by an increase in building projects globally – as projects previously delayed by Covid-19 are put back on the agenda.

With a significant proportion of standard commodity fasteners manufactured overseas, especially in China, it is essential that supply chain risks are properly identified and managed in order to prevent delays and backlogs, which will invariably create a chain reaction of problems further up the supply chain. The solution to this issue lies in improved supplier mapping.

Identify supply weaknesses

Mapping, combined with 'real time' event monitoring, enables businesses to get ahead of any potential disruptions that might occur. Businesses cannot overcome any weak links in their supply chains, if they cannot first identify where these weaknesses lie. That's why mapping supply chains down multi-tiers should be the first priority of any business. This provides a 'bird's eye view' of the supply chain through employing the latest AI, Cloud and enterprise network technology. Once supply chains have been mapped, they should then be monitored, giving businesses the edge in their ability to react to any supply disruption and mitigate its impact – or even avoid its impact altogether.

Fastener businesses that regularly conduct analysis of their supply weaknesses can take swift measures to address any blind spots and prevent problems occurring that could have significant impact on not only their business, but that of their customers too.

Mitigate safety risks

Mapping and monitoring suppliers also has the additional benefit of giving a business insight into whether health, safety and environmental standards and regulations (ESG) are being followed. This is beneficial in two ways, first, it means suppliers can be held to account if they are not following ESG requirements in their region, which continues to pose a risk to businesses who can find their supply chains paralysed if violations around labour, pollution or safety are discovered. For this reason, investing now in multi-tier mapping and monitoring a supply chain is the proactive measure to avoid costly disruption in future.

Second, and of particular relevance to fastener businesses, is that supplier mapping ensures that suppliers are operating as safely as possible, reducing the impact of fires and other accidents. As Resilinc's 2022 annual report highlighted, factory fires were the number one supply chain disruption for the fourth year in a row. Additional data from Resilinc's 24/7 monitoring system, EventWatchAI, also reveals that 59% of fires were caused by faulty machinery and equipment. This is why the impact of unmonitored supply chains should not be underestimated, especially considering that nearly half of these fires (47%) caused medium or even high levels of damage upon factories and sites. »

Identify cyber risks

As a general rule before most businesses appoint suppliers, they carry out some degree of IT security due diligence. To identify any potential 'weak' links in the chain when it comes to cybersecurity, businesses should treat their supplier network as an extension of their own business when it comes to cybersecurity risk mitigation.

The fastener sector is certainly not immune to the risks of cyberattacks, although it is an area that is often overlooked. The use of smart technology has undoubtedly enabled manufacturing businesses to enhance their operations, productivity, and management, but it has also opened up the door for hackers to significantly disrupt or even completely halt production. By identifying and tackling cyber risks, businesses in the fastener industry can ensure that they are resilient to potential attacks, making them a 'safer' supplier choice.

An example of this was reported in Faster and Fixing Magazine last year, when a cyber attack affecting David + Beader GmbH (DBK) knocked out its existing on-site systems and backups. The attack posed a significant risk to the production and delivery times. By working quickly with industry Cloud company Infor, it was able to migrate to a more secure Cloud-based system within weeks, allowing it to ramp up production as quickly as possible – whilst also providing the business (and its future customers) with a more resilient and robust system.

Supplier network visibility is a crucial factor in helping businesses to manage the uncertainties of trading in the global marketplace. Mapping and monitoring supply chains serves to identify potential risks in order to be able to take action quickly to minimise disruption. For businesses operating in the fastener industry, it is essential to recognise the importance of supply chain visibility and the role of maintaining reliable, robust and efficient operations. +

www.resilinc.com

References:

[1]*https://www.transparencymarketresearch.com/industrial-fasteners-market.html*

About the author

Bindiya Vakil is the CEO and founder of Resilinc and is an award-winning expert in supply chain risk management. Crowned Supply & Demand Chain Executive's inaugural Woman of the Year in 2020, Bindiya's career spans 20 years.

She holds a master's degree in supply chain management from MIT and an MBA in finance. Bindiya continues to lead the market in risk intelligence and mitigation and is credited with bringing supply chain risk management into the mainstream.

iSCALE sensor controlled weighing bin deployed successfully

The iSCALE system has been transferred from its pilot phase to regular operation, after being deployed successfully at WISAR's Kloten site in Switzerland since August 2022 – providing uninterrupted replenishment within production supply, even amongst a turbulent supply chain.

Recent global strains have led to a greater need for reliable warehouse processes, especially in times of capacity and supply bottlenecks, combined with rising transport and energy costs. In response to this, Wyser + Anliker AG (WISAR) turned to Würth Industrie Service GmbH & Co KG to connect all its processes.

WISAR possesses a wide product range aimed at customers in the fields of installation and building services, industry and mechanical engineering, as well as telecommunications and transport technology. Though C-Parts represent a small portion of purchase volume for the company, the procurement efforts involved are high and the potential of saving time and money lies in optimising the processes.

Over 100 sensor controlled scales were implemented in three different bin sizes at the Kloten site. At WISAR, the storage management is carried out through the traditional Kanban material storage. So, a centralised storage location with three Kanban racks ensures that the required fasteners are stored securely, as per the requirements, and are reordered accordingly. The storage locations were all adapted within two days by a team of three employees of Würth Industrie Service.

The iSCALE system is a sensor controlled scale, which is directly connected with the Kanban bin and is independently movable. As a result, it can be used flexibly in the industrial process, be it at the assembly line, material storage, Kanban storage location or directly at the workplace. Designed for digital storage management, and uninterrupted replenishment within the production supply, the system effectively measures the weight of components before digitally notifying the requirements of production materials directly to the ERP system of Würth Industrie Service.

Würth Industrie Service also implemented its sensor controlled weighing technology for traditional Kanban material storage, as well as for seamless supply throughout assembly lines and directly to individual assembly stations. Such flexibility is only possible as the system is operated without power and is instead controlled via the new radio technology, NB-IOT.

The Kanban bin W-KLT®2.0, which is equipped with a sensor controlled scale, continuously checks the weight inside the bin directly at the customer's location and transfers it via an encrypted interface to the ERP system of the C-Parts provider. Once the weight goes below a defined value, a notification is sent automatically to Würth Industrie Service, whereby the scale system automatically determines the optimal time for an order according to the requirement. Once an order is triggered, a subsequent delivery is initiated. The versatile scale system is designed for all the bin sizes of Würth Industrie Service.

"A fully automated logistical stock management replaces the cumbersome stock takings, re-orders and interim storage. As the inventory is continuously audited, any fluctuations and peaks can be identified in time, and thus the supply security can be maximised," says Roman Anliker, general manager at Wyser + Anliker AG. +