Navigating the supply chain crisis

Top tips from Sven Bretschneider,
Head of Supply Chain at EU Automation

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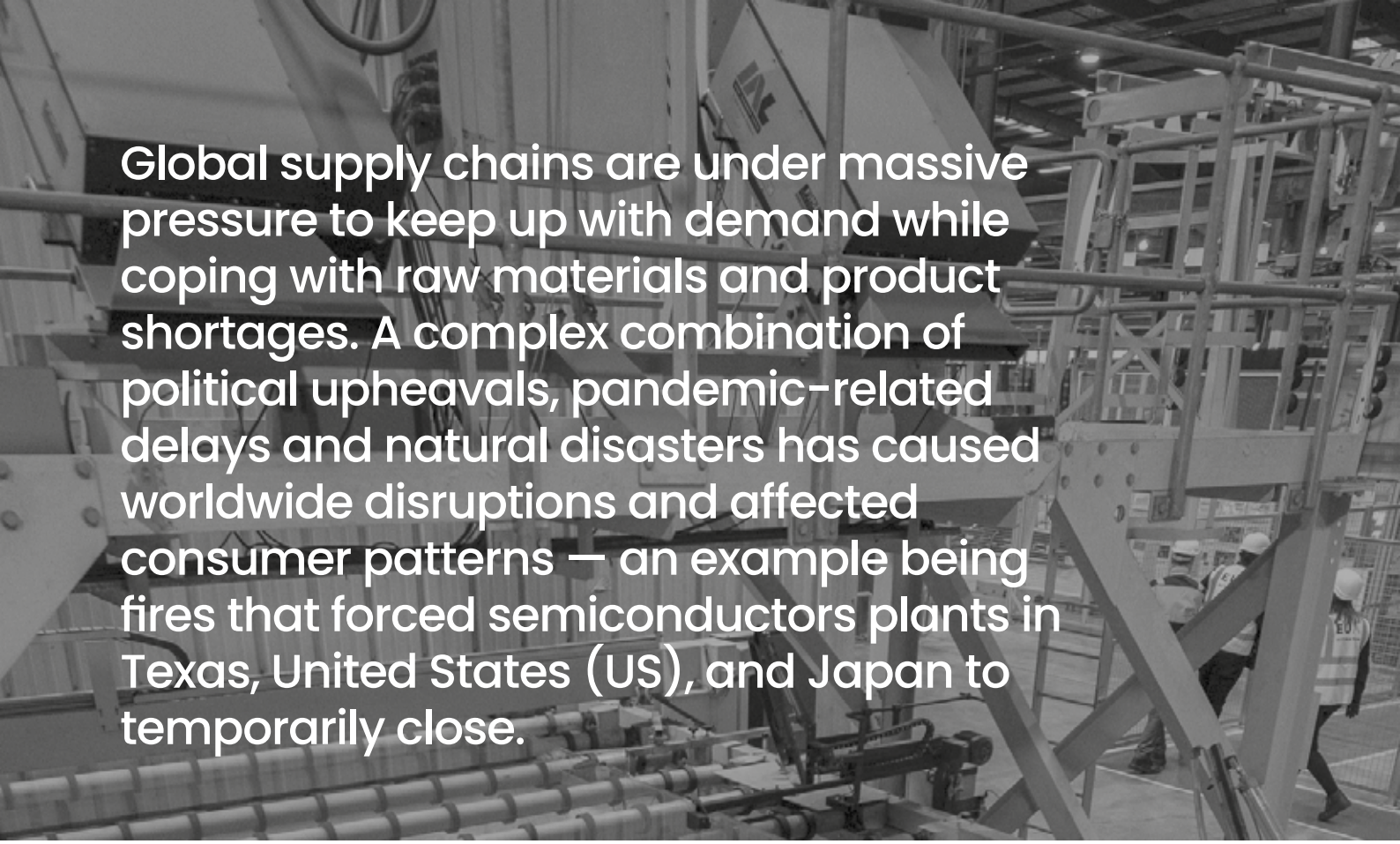

Global supply chains are under massive pressure to keep up with demand while coping with raw materials and product shortages. A complex combination of political upheavals, pandemic-related delays and natural disasters has caused worldwide disruptions and affected consumer patterns — an example being fires that forced semiconductors plants in Texas, United States (US), and Japan to temporarily close.

When events of these proportions happen, manufacturers may feel like there isn't much they can do to change the situation. However, there are strategies which can help companies stay afloat, cope with supply chain disruptions and better-prepare for unexpected future events.

At EU Automation, our mission is to provide manufacturers with the automation parts they need as quickly as possible, so factories can get back to full performance in no time. That's how we've become experts in overcoming procurement and logistics challenges. Below are our top tips for manufacturers.

Diversification

Historically, some countries have excelled in the production of certain components. For example, decades of expertise have allowed South-Eastern producers to offer high-quality semiconductors at the best price. However, the COVID-19 pandemic has highlighted the risks manufacturers invite by focussing too much on one product area or specialism.

Excessive reliance on one specific location or supplier is never a good idea — if the supplier's operations in Tier 1 are interrupted, crucial supplies might not be able to travel to the next factory, warehouse of distribution centre — the so-called nodes of a supply chain — inviting a domino effect that can result in expensive downtime for manufacturers further down the line. The same thing can happen if a single source base, that experiences an unpredictable and catastrophic event, is purchased by a competitor or encounters financial problems.

Case in point

The recent semiconductor shortage can be partly attributed to an over-reliance on Asian suppliers. Few companies are like Intel, which designs and manufactures its own semiconductors. Instead, companies generally rely on external suppliers located predominantly in South-East Asia. So, when the area was hit by the pandemic, buyers lost their most relied-upon source for semiconductors.

At EU Automation, we strongly believe in diversification. We navigate the challenges of extended supply chains by operating from four different locations: Germany, the UK, the US and Singapore. We rely on a diverse and reliable network of global suppliers and work with international sales experts that speak more than 20 languages to overcome linguistic and cultural barriers. In this way, manufacturers can receive the components they need as fast and possible and avoid expensive unplanned downtime.

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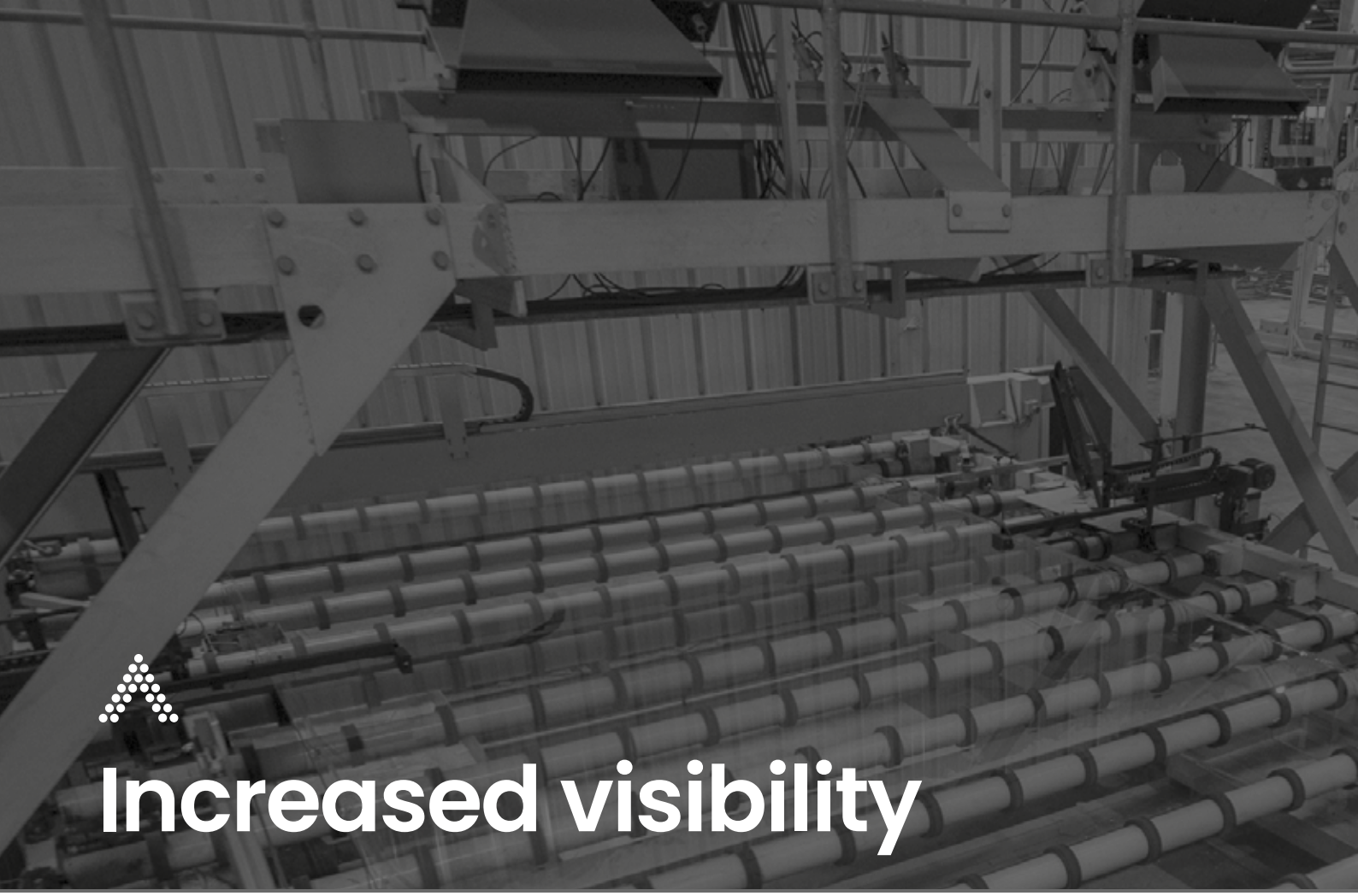

Increased visibility

Research company Capgemini published a report on rethinking supply chain resilience for a post-pandemic world. It highlights that, in the past year, at least 72 per cent of companies faced huge challenges in monitoring their end-to-end supply chain. The main challenges reported by business owners were:

Keeping track of the location and status of their inventory.

Forecasting customer demand.

Tracking the share of transport capacity.

A lack of end-to-end visibility in global supply chains can expose manufacturers to higher risks of disruptions or huge financial losses. That is because they don't have enough information to identify problems and act accordingly.

Instead, supply chain managers can invest in tracking technologies such as sensors, barcodes and readers, or radio frequency identification (RFID) systems to collect and relay information. They can then use the data collected by these trackers to see a product's journey along the entire supply chain. In this way, it's possible to identify any inefficiencies during transport, production or warehousing that could be easily corrected to improve efficiency and reduce demand on energy or resources.

Investing in supply chain visibility platforms is also a good idea to keep track of what happens in your extended supply chain, and to spot disruptions, such as factory shutdowns or unusual traffic conditions, that may prevent materials from reaching the next node of the supply chain on time.

On top of that, consumers are starting to pay more attention to ethical and environmental issues around supply chains. According to a recent survey, 64 per cent of consumers agree that supply chains are a major contributor to a company's environmental footprint, while data from the MIT Sloan School of Management suggests that consumers may be willing to pay two to ten per cent more for products from companies that provide greater supply chain transparency. Having a system in place that shares the whole journey of your product can ensure full transparency and help gain consumers' trust.

Manage lead times with technology

The Institute of Supply Management (ISM) recently surveyed 559 manufacturers and reported that, since the start of the pandemic, average lead times are at least twice longer than normal. For China, the lead times increased by 222 per cent, for Europe by 201 per cent and for the US by 200 per cent. This means that manufacturers might struggle to meet deadlines and supply their products on time.

Technology can help react to unexpected situations and reduce lead times. For example, digital twins — virtual representations of a physical object or process — can be used to test issues with supply and distribution, using sets of dummy data to create possible scenarios and see how the supply chain would react. In this way, manufacturers can be more prepared for rapidly changing market conditions.

Route optimisation is another quick way to improve efficiency. For example, installing a GPS device with artificial intelligence (AI) in a delivery lorry can optimise international, national and local transport routes. As opposed to traditional navigation systems, AI-based ones can not only make decisions based on real-time traffic conditions, but also anticipate how traffic will change during the travel time and direct the driver accordingly.

Another common issue that can negatively impact lead times is poor communication among different nodes. Nodes located in different geographical areas can use a variety of Enterprise Resource Planning (ERP) systems, ranging from Excel spreadsheets to dozens of different open-source or proprietary software solutions, such as Oracle, Acumatica or SAP. This is especially true for companies that have grown through acquisition, which is currently a very common scenario. For example, chipmaker Nvidia recently acquired UK-based chip maker Arm to boost its production capacity.

Luckily, smart technologies like data migration systems can help manufacturers overcome some of these challenges. For example, it is possible to implement an overarching supply management solution that collects and analyses data from all sources, reducing issue related to the heterogeneity of ERPs in place.

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Glocalisation

Glocalisation describes the process of developing and distribution a product or service globally, but also adjusting it to accommodate users or consumers in local markets. Manufacturers now rely on the industrial Internet of Things (IIoT) to operate on a global level, sourcing materials where it is most convenient while expanding their international client base. However, they also need to adapt their offer to local trends and predict which products are more in-demand in a particular geographical area.

A disregard of local market conditions can negatively impact businesses, leading to operational and supply chain issues. For example, if a product is not particularly in demand in Germany, German suppliers might be left with extra stock that doesn't generate profit and increases storage costs. Secondly, sourcing raw materials locally can also contribute to streamlined supply chains and reduced freight fees.

Manufacturers should strive to implement a supply chain that acts on a global level but adapts to local demand — a glocal supply chain. To achieve this, it's necessary to analyse data in real-time and to be able to rapidly move items where they will be needed. Automation technology can help create what is known as a cognitive supply chain, which means all these complex operations are fully digitalised.

To better react to local market conditions, many businesses are also considering reshoring, which is the process of transferring operations that were moved overseas back to their original country. In the US, Reshore Initiative, an organisation aimed at bringing manufacturing jobs back to North America, found that reshoring in the US increased by 38 per cent in 2021, compared to the previous year. In the UK, the trade body Make UK revealed that 46 per cent of companies are planning to reshore at least part of their operations in the next two years.

While reshoring is a complex endeavour, investing in technology to increase visibility and improve communication, such as the ones outlined in the previous sections, is a great step to facilitate this process.

Predictions on the current supply chain crisis agree that disruptions could last for years, and that a full return to the pre-pandemic situation is unlikely to happen. Luckily, automation can help predict problems across complex supply chains, so that manufacturers can get what they need as fast as possible.

For more tips on supply chain management, visit EU Automation's free online Knowledge Hub. To get a fast a hassle-free quote on a variety of new, reconditioned and obsolete automation parts, call us at +44 1785 785100 or fill out our enquiry form. Our team will get back to you in no time.

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