

## Supply chains: future assurance



Outsourcing, supply chain and third-party risk is one of the top five areas where internal audit spends its time and effort, according to [Risk in Focus 2020](#).

This short read draws on leading thinking about the future of supply chains and how developments could influence internal audit assurance deep within the supply chain.

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## Advancements and new developments

Continuous advances in delivery and logistics management are making supply chains smarter and faster, with the potential to improve sustainability and meet heightened customer expectations. In addition to technology, key drivers of change in the industry also include climate risk management, resource scarcity, labour migration, shifting demographics and political uncertainty.

New trends may include:

- Reducing cost and attracting customers by switching to positive [environmental](#)
- Sea and land integration strategy for two of the largest container freight companies, Maersk and DAMCO, coupled with digitalisation to improve efficiency and flexibility while reducing costs.
- Blockchain technology could enable complete supply chain tracking, enhancing inventory management and maximising asset utilisation.
- Digital workflows and artificial intelligence through to robotics and drone deliveries replacing human workforce in areas where return on investment is achievable as digitalisation can be costly.
- Increasing efficiency and effectiveness of logistics through partnerships.
- Rise in protectionism and the uncertainty of tariffs and quotas on pricing and demand.
- Simplifying supply chains and heightening supplier relationships to improve traceability and remove the risk of hidden risks deep within a complex supply chain.

Is your organisation too **dependent** on one locality for supply, such as China?

Click [here](#) for short case studies on how blockchain is being used today?

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## Risk landscape

The start of the 2020s continues intense geopolitical turmoil across the globe with the threat of trade wars, tariffs, sanctions and logistical challenges together with the opportunity for new alliances.

These challenges are compounded by a rise in extreme risk events such as pandemics, resource shortages, forced migration, wildfires, flooding, hurricanes and drought that are happening with increased frequency putting pressure on availability and supply chain resilience.

Such events have seen a rise in risk awareness and a pressing need to address issues in real terms and to protect reputation using a wide range of measures including those that challenge current ways of working and consumerism.

Globalisation saw the expansion of supply chains leading to many of the current complexities and volatility that trouble organisations. Looking forward to **2025**, catalysts such as 3D printing, climate adaption and cost may continue the rationalisation of the supply base to reduce uncertainties, create efficiencies and protect the organisation.

- How well does your organisation identify its supply chain risks?
- Is it superficial or does it delve deep?

We encourage you to read our thought leadership piece about **nth assurance** looking at the dangers of iceberg assurance, unchecked subcontractors and the variety of risk hidden deep with a supply chain.

Without looking below the surface, past the top tier suppliers, how can internal audit deliver assurance that:

- meets stewardship expectations
- addresses sustainability
- considers viability
- protects reputation?

The FRCs guidance on the **strategic report** requires reporting on factors prescribed by the EU Non-Financial Reporting Directive 2014/95/EU: environmental matters, social matters, employee matters, respect for human rights and anti-corruption and anti-bribery matters. The directive relates directly to the United Nations' 17 **global goals**. Similar public sector guidance is in place and members are advised to source relevant regional versions.

- Without assurance over the end-to-end supply chain how can such reporting be accurate?

The future trends while improving efficiency and effectiveness from an operational perspective will also enable internal audit to provide robust assurance. Audit leaders have an opportunity to influence the design of controls by keeping pace with change in industry/sector and the organisation itself.

\*Click thumbnail to enlarge



**Image credit:** The Global Goals

The US banking regulator issued guidance in 2017 that included an expectation for banks to monitor and review significant nth parties with the same scrutiny as third party/tier 1 suppliers; relationship management at every level.

With ever increasing pressure on governance and sustainability, how prepared is your organisation if such expectations were introduced in your sector?

## Subcontracting

One of the biggest risks within supply chains is the use of unauthorised outsourcing/subcontracting; a myriad of nth parties.

Subcontracting is a normal part of production. It is mainly driven by pressures on timing, pricing and technical production processes. However, unauthorised subcontracting presents significant risks for supply chain continuity and compliance production standards relevant to quality, environment and social matters.

- How does your organisation protect itself against unauthorised nth party risk?
- What assurance has been provided in this space?

Audit leaders are well placed to offer advice and instigate risk management conversations, examples of good practice to discuss include:

- factory capacity should be established before negotiations relating to volume begin
- undertaking a gap analysis between factory capacity and purchase forecasts
- awareness of supply chain saturation/dependencies on specific locations
- consider in advance how increased demand will be managed (seasonal or unplanned)
- develop responsible purchasing practices within the organisation
- using digital technologies to monitor activities remotely
- invest in long-term partnerships to improve standards and capacity
- consider vertical integration of critical supply chain assets

## Digitalisation

The digital supply chain is a new undefined term covering everything from digital transformation initiatives

through to extending supply chain visibility and analysis.

Trends in supply chain **technologies** have the potential to improve existing practices once adopted on a wide scale. At a basic level the Internet of Things (IoT) has been used for many years to enable remote tracking and monitoring but new capabilities extend its use. Advanced warehouse control (or execution) systems evaluate the sensor outputs from equipment to respond in near real-time to achieve operational objectives.

- How mature is digitalisation in your organisation?
- Is internal audit's control advice leading edge?

Two key areas for the management of risk deep within the supply chain, the hidden nth party risks are blockchain and digital supply chain twin.

Blockchain was initially designed for financial transactions but it's use is now extending into many other sectors. It has the ability to simplify end-to-end supply chain traceability and global logistics.

According to Christian Titze, research vice president at Gartner, "organizations might use blockchain to track global shipments with tamper-evident labels, allowing a reduction in the time needed to send paperwork back and forth with port authorities and improved counterfeit identification."

Blockchain a time-stamped series of undisputable data records managed by a cluster of computers not owned by any single entity. Each of data block (block) is secured and bound to each other using cryptographic principles (chain).

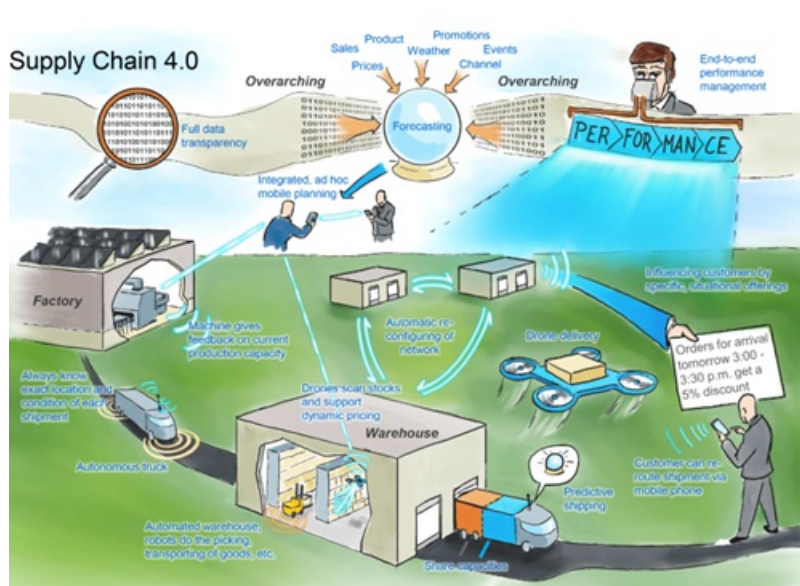
A digital supply chain twin is a clone of the digital and physical processes within the supply chain - products, customers, markets, distribution centres/warehouses, plants, finance, attributes and weather. The ability to augment human capability with digital technology could be the future of competitive advantage.

The digital version simulates the physical entity through the use of IoT, sensors, artificial intelligence and machine learning, augmented reality, and cognitive data analytics

Such digital convergence, dubbed Supply Chain 4.0, represents the latest phase of supply-chain maturity and enables organisations to detect supply chain threats, simulate possible outcomes, and model corrective actions.

Way back in 2016, **McKinsey** wrote about the changing landscape for supply chains. As digital technologies become cheaper and more mainstream could this almost futuristic vision become reality?

\*Click thumbnail to enlarge



**Image credit:** McKinsey

According to a 2019 Gartner [survey](#), while the use of digital supply chain twins is currently low they forecast the market for the technology is expected to reach \$15.66bn by 2023.

Increased use of IoT and AI also heightens cyber risk across the supply chain, including nth parties.

## Closing thoughts

Over the next decade, supply chain models will undoubtedly respond to the intensity of pressures upon them from a wide variety of sources. As this changes the risk profile for your organisation audit leaders have an opportunity to shape new control environments as trusted advisors.

*"The supply chain stuff is really tricky."*

**Elon Musk, CEO of Tesla and SpaceX**