



# 6 Megatrends that are revolutionising your supply chains



Since the dawn of the Industrial Revolution, businesses have been refining their trading relationships with customers and suppliers. The onset of globalisation brought with it supply chains that were busier, longer and more complex than ever before, while in recent years increased consumer awareness and rapid advances in technology have brought about a host of new challenges. From traceability and human rights violations to safeguarding supply chains against disruption, supply chain management is an increasingly complex and challenging task. However, leading businesses and disruptive innovators are seeing opportunity in these challenges, harnessing the latest technology to improve business performance and sustainability.

**Ian Ellison, senior associate at the University of Cambridge Institute for Sustainability Leadership, sets out the six megatrends that are disrupting traditional supply chains and what you need to know to future-proof your supply chain.**

## 1 Blockchain transformation

Public trust in business and government is at **low levels** and declining. Increasing demand to understand the origin of goods, coupled with complex global supply chains, make the twin challenges of supply chain transparency and traceability seem ever more difficult. However, this is an area where technology can provide affordable and scalable solutions. Blockchain technology is maturing and finding its way into all kinds of industries. It offers the chance not just to provide a trusted and immutable flow of data from one big business to another, but also back to **smallholder farmers** or **private individuals**. It is also not limited to any one kind of information, such as financial applications. Blockchain can carry data regarding authenticity, origins, logistics and any other relevant dimension that can so easily be lost or corrupted by other means. This opens up the opportunity not just to trade commodities but to differentiate them and to be sure of their history and authenticity. This, in turn, allows value to be attached to these attributes, creating the opportunity and incentive for a fairer form of trade.

## 2 From linear to circular

Despite all of the recent attention on recycling and reusing, our economy and its industrial systems are still overwhelmingly linear – taking, making and wasting materials in ways that are financially and environmentally unaffordable in the long run. In many cases, there is no technical reason not to reuse or recycle materials, or even find business models that reduce or eliminate material consumption altogether. While some businesses rush to find the technical solutions to these issues, many still neglect to explore the full supply chain – as to do so seems a daunting task. This disguises the opportunity that lies in taking the end-to-end supply chain redesign approach.

Examination of supply chains often reveal large and unexpected waste with behaviours in one part of the chain (for example, in product design) generating difficulties in another (such as preventing material identification, separation and, therefore, recycling). If you can look beyond the challenges, there are great rewards for businesses that can find the time and resources **to collaborate along a supply chain** and redesign it for optimum performance.

### 3 Climate change resilience

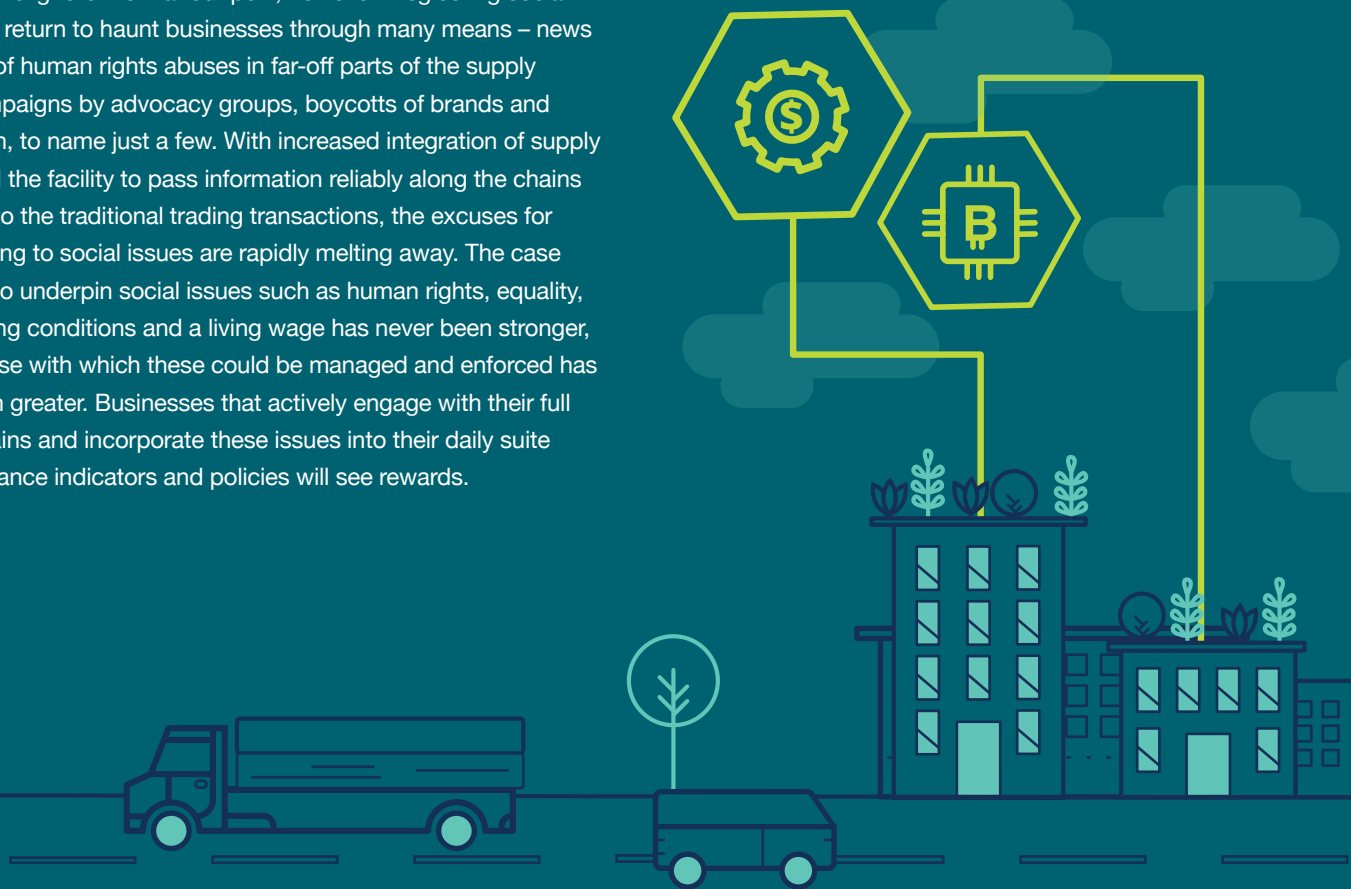
The science is now clear: [our climate is changing](#), human activity is a key driver, and we are vulnerable to extreme weather and the interruption of supply chains. While there is a clear recognition of this through bodies such as the UN and many national governments, it is the business sector that has both the resources and self-interest to act. Until now, this action has tended to focus on issues such as efficiency and renewable energy. Even though these issues are the most obvious and accessible, they disguise the fact that for many organisations, the most significant climate impacts and dependencies are in their supply chains. Therefore, businesses that wish to ensure their own resilience to climate change, both in terms of preventing the worst and adapting to what is to come from existing emissions, need to understand and act upon these supply chains. Developing this understanding has never been easier, and those that invest and act on this understanding will be rewarded both operationally and financially.

### 4 The social impact imperative

With the traditional focus on financial matters being increasingly supplemented by attention to environmental impacts, social issues have tended to come third in the race for business attention. We ignore them at our peril, however. Neglecting social issues can return to haunt businesses through many means – news headlines of human rights abuses in far-off parts of the supply chain, campaigns by advocacy groups, boycotts of brands and legal action, to name just a few. With increased integration of supply chains and the facility to pass information reliably along the chains in parallel to the traditional trading transactions, the excuses for not attending to social issues are rapidly melting away. The case for action to underpin social issues such as human rights, equality, safe working conditions and a living wage has never been stronger, and the ease with which these could be managed and enforced has never been greater. Businesses that actively engage with their full supply chains and incorporate these issues into their daily suite of performance indicators and policies will see rewards.

### 5 Digital disruption

Technology continues to advance at a breathtaking, and sometimes overwhelming, pace. The umbrella term of Industry 4.0 embraces a wide suite of incoming innovations, from artificial intelligence, the Internet of Things, big data, robotics and 3D printing to massive interconnectivity and more. The arrival of so many innovations in such a short time is bound to lead to disruption, as incumbent businesses struggle to understand and adapt, and new entrants take advantage by mastering combinations of technologies. It's important, therefore, for organisations to learn to scan the horizon for technologies, understand the risks and opportunities, and move quickly on the most critical innovations. It's not sufficient to do this at a business level. The real disruptions are at supply chain level. The new entrants in the automotive industry are not simply making electric cars, but are looking at ride-hailing, energy generation and storage, plus changing the whole business model towards mobility as a service. Organisations must look beyond their traditional operating boundaries and re-examine how and where they can and will create value. To remain competitive, businesses must look at their current, potential and future supply chains to ensure long-term value creation as technology filters into all corners of our lives.



## 6 Surviving sudden shocks

In stable times, businesses and their supply chains invest in efficiency. We live in increasingly unstable times, however, where events that seemed far off, or unlikely, suddenly have a direct and immediate impact, dislocating our normal supply chain operation. At these times, it pays to invest in resilience and to be flexible. So far, 2020 has seen multiple scenarios that have led to sudden supply chain disruption, from large-scale forest fires to sudden changes in the rules for global trade and the impact from pandemics.

**With these shifts, the rewards for efficiency reduce and those for resilience increase. In order to ride out the literal and metaphorical storms, businesses must:**

- map and understand their actual and potential end-to-end supply chains
- have the flexibility to switch supply chains around
- understand supply chain capabilities and limitations
- be able to establish new collaborations and partnerships quickly
- rewire for resilience, potentially at the cost of traditional efficiency
- consider social purpose, as people reflect on what really matters and what behaviours should be rewarded when humanity's vulnerabilities are exposed

Many businesses may feel they can ill afford to shift the focus to resilience, but in uncertain times it becomes a question of survival.





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# Sustainable Supply Chain Management online short course

The University of Cambridge [Sustainable Supply Chain Management](#) online short course equips you with the tools to build more resilient and efficient supply chains within a rapidly evolving global context. You'll walk away with an understanding of how resource depletion and rising inequality are making supply chains increasingly vulnerable, prompting immediate action from stakeholders. Building on the University of Cambridge Institute for Sustainability Leadership's commitment to developing leadership and solutions for a sustainable economy, the course incorporates innovative business models, integrated analytics, KPIs, and the latest technology. On the course, you'll have the opportunity to see supply chain management through a different lens and become empowered to effectively manage supply chains within an increasingly dynamic market.

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