



Transforming logistics A sector fit for the future

2022



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Foreword

The time to transform the logistics sector is now.

The logistics sector has successfully operated for years, and in a relatively consistent way. However, the sector now finds itself at a crossroads. The growth in online shopping as well as investment in infrastructure projects has meant that logistics providers are in more demand than ever before. The public and other sectors are also acutely aware of how important their supply chain is in enabling them to operate, so their expectations on how they work with logistics companies are rapidly changing.

The old ways of working are no longer able to cope with these new demands. Increased demand is posing challenges around having access to sufficient fleet and handling equipment as well as warehousing space. However, it is labour shortages that are the most noticeable constraint on the sector. This is already challenging daily operations and stifling business growth. From the labour standpoint, the expectations of employees about their roles and working conditions have evolved, and in a tight labour market where the employees have more choice, logistics and particularly road haulage jobs are not as appealing as other available jobs. The sector needs to plan for the future of its workforce and decide how it can make logistics the sector of choice for long-term careers.

The sector must also start planning how it can reach net zero greenhouse gas emissions by 2050. As the sector grows in importance as well as size, it needs to ensure it does so in a responsible, sustainable manner. This is probably the biggest challenge ahead. While complex to plan for in the short term, the pressure from customers, partners and consumers is only going to intensify over the coming years. This will require the sector to be more proactive and strategic in its future actions and to aim for greater efficiency.

This report highlights how logistics sector businesses need to transform to be fit for the future. We see three key trends shaping the sector's future in the next 18 to 24 months:

- The need to cultivate the workforce of the future
- Finding a way to net zero
- Focusing on efficiency and sector-wide thinking.

We hope that this report provides insight and practical steps businesses can take, not only to address the challenges they face, but to turn them into an opportunity to grow and prosper in the future.

We look forward to discussing these trends with you and welcome your feedback.



Dan Wright

Lead partner, Logistics, distribution, shipping and ports



Cultivating the workforce of the future

One of the most pressing questions for logistics, and particularly road haulage companies, is how to solve the labour challenge.

The importance of the logistics industry has increased significantly over the last few years across Europe but particularly in the UK. A combination of higher smartphone penetration supporting growing online commerce and public infrastructure investment has meant that, despite the global pandemic, the demand for the sector has grown. The UK logistics market is projected to grow at a compounded annual growth rate (CAGR) of 6.3 per cent through to 2027.¹ Road freight and haulage is seen as a particular area of growth.

The higher levels of demand are already posing challenges surrounding access to sufficiently large vehicle fleets, enough warehousing space as well as other equipment. However, it is the driver shortage and its impact on not just the logistics sector but the entire economy that has highlighted the importance of the sector. As a sought-after partner logistics companies may now hold more power in their relationships and negotiations with current and future clients. However, the lack of drivers poses significant challenges to their daily operations and hinders their ability to grow at pace.

Why the shortfall?

The workforce challenge is indeed pressing. Some estimates suggest that the road haulage sector is already short of over 100,000 drivers.² There are two main reasons for the shortfall. First, the existing driver population is ageing, and the number of drivers retiring is increasing rapidly. Second, some drivers are leaving the UK to work in other parts of Europe. For many, a contributing factor has been the reduction in their earnings following changes to the benefits of working as self-employed drivers in the UK. A survey produced by the Office for National Statistics (ONS) estimated that there were 16,000 fewer EU nationals working as heavy goods vehicles (HGV) drivers in the UK in the year ending March 2021 than in the previous year.³

The UK is not the only country in Europe to struggle with recruitment issues in this sector. Figures from 2020 show that Poland and Germany have suffered from similar, if not greater, shortages than the UK.⁴ However, the impact in other European countries has not been as great as they can call upon a larger pool of labour within the EU single market which allows free movement of people.

The issue of not having enough drivers in the logistics sector is also not new. In the run up to Christmas in 2015, the Road Haulage Association warned that a shortfall of 50,000 lorry drivers was putting Christmas deliveries at risk. Indeed, back then the sector body highlighted how the inability to attract new talent was creating a longer-term challenge for the sector. In a survey carried out in 2015 only one in five (21%) 18- to 24-year-olds would consider a career in lorry driving while the equivalent share among 25- to 34-year-olds was 38 per cent. Other research at the time also found that only two per cent of the nation's HGV drivers were under the age of 25, and 60 per cent were over the age of 45.⁵

Keeping the wheels turning: Future of work in logistics

The need to increase the size of their workforce has led many logistics and haulage businesses to compete by enhancing their reward packages. This has involved offering substantially higher salaries and bonuses to increase the attractiveness of the roles to new starters as well as to retain existing employees. While current market conditions might allow some of those increased labour costs to be passed on to clients, this could quickly change, which could impact the ability of the sector to maintain profitability.

Road haulage jobs in the UK appear to have lost their appeal, not only to the current workforce but to prospective employees as well. The sector needs to consider carefully what the future of work in the logistics sector will look like and this can be examined through three different lenses. The sector needs to critically evaluate what work, by who and where it is done and how that can be changed to better match the availability and expectations of the future workforce. To be successful, businesses in the sector need to adapt their employment offering now to attract and retain the workforce it needs in the future.

Figure 1. Future of work: the what, the who and the where?



Taking action

A substantial part of haulage jobs cannot be automated until autonomous vehicles become commonplace. However, there are opportunities to use technology and automation to improve efficiency in the sector so that driver time is utilised more efficiently, which will be important in addressing the current worker shortages. Automated route planning, powered by data rather than experience, habit or intuition, can lead to increased fleet efficiency and a major reduction in lost capacity. Similarly, automation of other tasks can help to achieve greater accuracy and reduce the time drivers spend on non-driving related aspects of the job. For instance, automated customs clearance solutions can ensure that drivers do not end up wasting time resolving issues with incomplete forms at borders.

Attracting new entrants into the workforce would require lowering some of the barriers by addressing the challenges around working hours and conditions. Many businesses in the sector have already made changes such as offering permanent positions, rather than contracts for self-employed drivers paid by the mile, or by recruiting for roles that will not require night or weekend work. This enables a wider group of candidates, for example people with caring responsibilities, to consider it as a career option. It can also help to attract women who are currently woefully underrepresented in the sector's workforce.

In addition to route optimisation, combining different modes of transport to move goods can help to reduce the need for long-distance driving for those who find it less appealing. Where rail infrastructure exists, intermodal freight – containers carried on rail – combined with road transport cuts the need for long-haul drivers and could help to attract more new drivers. Similarly, memberships in pallet networks can help regional hauliers with a national customer base to reduce the need for long-distance trips.

Addressing issues around wellbeing is another key area to consider, given the often unsocial, isolated and potentially tedious nature of the work. While many find such aspects appealing, for others the toll on their wellbeing can be considerable. A previous study has shown a high prevalence of loneliness, depression, chronic sleep disturbances, anxiety and other emotional problems among truck drivers.⁶ While wellbeing programmes that address these issues as well as provide a range of health and nutrition related information and support to drivers can attract new recruits, more importantly they can help ensure employee safety. Such programmes can also help retain drivers and lower the cost of absenteeism. For instance, many central European countries offer better overnight parking and rest stop facilities than currently on offer in the UK. The logistics sector should take advantage of opportunities to work with partners across the industry to help design better facilities for those who are on the road for long periods, so they feel better supported.

The need to reach net zero

Decarbonisation has become a global imperative and the logistics sector needs to create its own path to net zero.

The 2015 Paris Agreement set a target to limit global warming to well below 2°C and pursue efforts to limit it to 1.5°C. This target would require global net human-caused emissions to fall by about 45 per cent from 2010 levels by 2030 and reach net zero by around 2050.⁷ Keeping to this benchmark should allow the world to prevent the worst environmental impacts. The recent 26th UN Climate Change Conference of Parties (COP26) was described as the “world’s last best chance to get runaway climate change under control”, emphasising the global need to both agree on ambitious emissions reduction targets and to act on those quickly.⁸

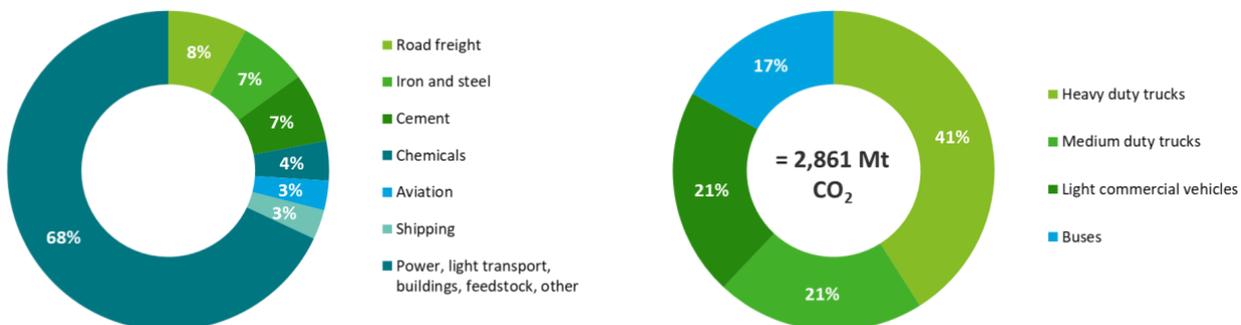
The UK was the first G7 country to legislate a net zero target for 2050.⁹ The UK Climate Change Committee in its report to Parliament on the progress made against the net zero target stated that the UK has begun to reinforce its new emissions targets but key strategies have been delayed.¹⁰ In another report it concluded that the UK’s net zero strategy is “ambitious and comprehensive” but “further steps will need to follow quickly... if it is to be a success”.¹¹ Clearly more needs to be done to reduce emissions, and businesses in particular will be expected to demonstrate their commitment to a low-carbon future and how their actions will help the UK hit its current targets.¹²

Focus shifting to decarbonising transport

Until now much of the focus on decarbonising efforts has centred on the power sector, referred to as the ‘first frontier’. However, even extensive decarbonisation of power generation on its own would not arguably be sufficient to achieve the net zero target. The Energy Transition Council published a report in 2018 that examined the possible routes to decarbonise what it identifies as the ‘harder-to-abate sectors’, including trucking, shipping and aviation, as well as the major emitting industrial sectors. Globally, the transport sector is responsible for nearly a quarter of emissions from the use of fossil fuels for energy and over 90 per cent of its fuel derives from oil. Overall, transport accounts for 15.7 per cent of the emissions from human activities.¹³

Maritime transportation forms 87 per cent of global freight but as shown, in Figure 2, it is road freight that ranks the highest in terms of emissions and is also the largest of the hard-to-abate sectors. Given that road freight volumes will have a growth rate of 3-4 per cent CAGR, total freight volumes could double from now to the mid-2040s. Most of the emissions come from heavy duty trucks.

Figure 2. Global CO2 emissions by sector (2019)



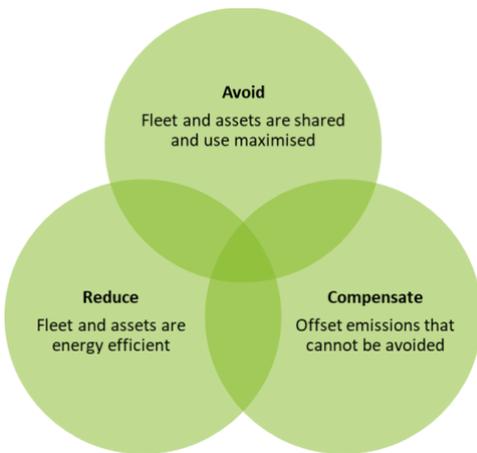
Source: Deloitte analysis

As such a major contributor to emissions, the transport sector is likely to be the ‘next frontier’ for major cuts. This calls for a substantial transformation of the sector in the near term.

Finding the path to net zero

To lower its emissions the logistics sector must focus on avoiding, reducing and compensating for emissions. Compensating for emissions involves offsetting those emissions that cannot be avoided or reduced, making it the easiest but sequentially the last step in the path to net zero. Avoiding emissions requires goods to be moved and the fleet and assets to be used in a coordinated manner across the different parts of the logistics chain to avoid any wasted capacity. In practical terms, this could entail removing excess packaging or using modular packaging to maximise the use of space. It also means that individual logistics businesses would need to ensure that they can potentially share assets, fleets or loads with others so that the maximum number of goods are always transported with the fewest possible moves.

Figure 3. Ways to decarbonise



Source: Deloitte LLP

Reducing emissions is linked to the energy efficiency as well as the fuel needs of the fleet. Energy efficiency can be partly improved through changes in design or behaviour (see Figure 4). There are also opportunities to increase efficiency by choosing to use different transport modes in combination with each other. For instance, emissions could be cut by using rail or waterway freight instead of less energy efficient forms of transport, such as road haulage. Indeed, during the recent fuel and driver shortages in the UK, demand for intermodal traffic - containers carried on rail – increased notably.

Figure 4. Examples of efficiency measures in heavy duty trucks

	Design efficiencies			Operational efficiencies		
	Aerodynamics	Tyres	Driveline	Route optimisation	Platooning	Driver assistance
Description						
	Drag reducers (e.g. gap seals and boat tails)	Low resistance tyres and automatic pressure control	Transmission gear and friction reduction (e.g. better lubricants)	Optimise (partially) empty kilometers with digital solutions ²	Close driving at constant speed, with fewer speed changes	Predictive cruise control and automated eco-driving
Internal combustion engine fuel savings potential (%)	6-14	1-9	1-4	1-253	4-17	1-10

Source: Shell International B.V., 2021

However, substantial cuts in emissions can only be achieved through the adoption of a more efficient fleet and cleaner technologies. The options include using alternative, cleaner fuels instead of fossil fuels, or technologies, such as battery electric or fuel cell electric vehicles or aircraft. Deloitte research on the technology options, benefits and disadvantages of each option, feasible timescales as well as geographic roadmaps to decarbonise shipping, aviation and road freight has been extensively examined in various reports.¹⁴ However, no optimal and scaled-up solution for any sub-sector has yet emerged that would work immediately. For example, there is no current practical option for the electrification of heavy goods vehicles.

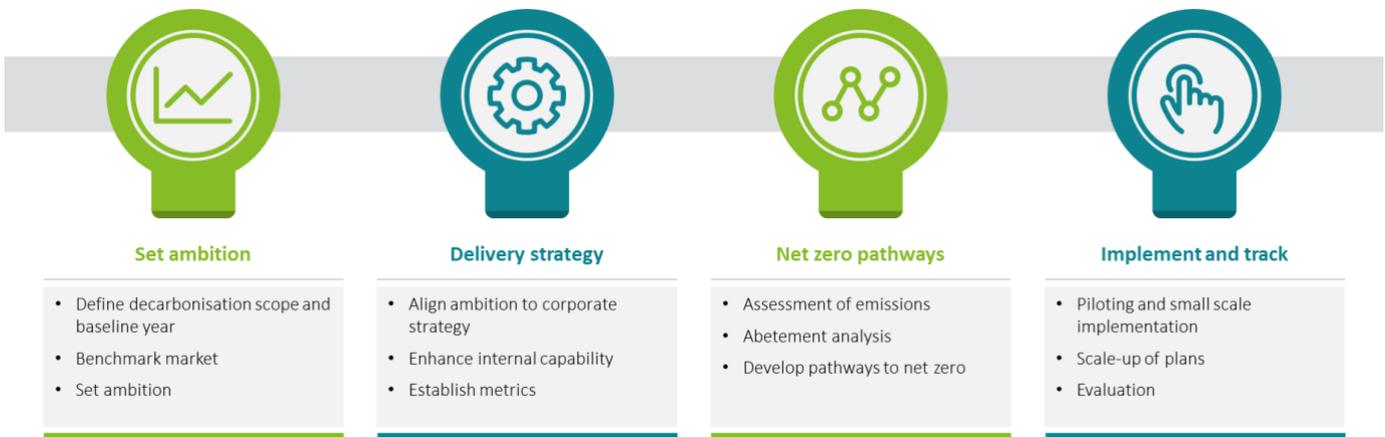
Taking action

This does not mean that logistics businesses should wait to act. Indeed, investors as well as clients of logistics companies will not accept the sector postponing action. Businesses able to demonstrate that they are at least monitoring and measuring their existing activities with a view to adopting a decisive strategy for future action are in a better position to attract more investment and win more client contracts. Those that do not will be less competitive.

The industry may need to work with different technologies for different applications. Collaboration and pilot projects are required to activate the ecosystem; to start building demand for the new technology options, spur innovation and to bring the cost down. For instance, in aviation, choosing sustainable aviation fuel as the primary means of decarbonisation can help to rapidly lower emissions for air freight because there is no need to redesign aircraft.¹⁵ However, more investment, research and development is needed to scale production and lower cost for the sector to adopt this. There might also be opportunities to explore whether grants and other financial incentives are available to lower the cost barrier among early adopters of new technologies. In addition, partnerships as well as sector-wide collaboration should help to make the most out of early-stage investments as well as create the required ‘snowball effect’.

Businesses in the logistics sector need to create their own decarbonisation roadmaps to ensure the issues are at the centre of their strategy and operations. Such a roadmap will prompt the business to think through their ambitions, outline how they can implement the changes needed to achieve them and create a basis for tracking progress (See Figure 5).

Figure 5. Framework for creating a decarbonisation roadmap



Source: Deloitte LLP

The aim of the roadmap is to inspire action and push decarbonisation up the agenda. Often initial targets and plans might be conservative, but during the pathway development stage it may transpire that more ambitious targets are appropriate. For example, recently a major shipping company introduced a new target of being net zero by 2040. They admitted that when setting their initial ‘net zero by 2050’ target they were not sure how it could be achieved but due to pressure from their clients as well as investment in new technology, they are now committed to speeding up emissions reductions.¹⁶

Given the complex nature of climate science, carbon accounting and emissions abatement, data analytics tools that can simplify and visualise the data required to make decisions will be critical in enabling business leaders and decision-makers to be informed and act in a timely manner. Effective tools should include the ability to combine internal and external data; modelling capabilities to identify science-based targets or abatement gaps, and cost the different options, as well as an intuitive, user-friendly interface.

Case study: Switching to a greener fleet

A European logistics business wanted to lead the way in being green. While they had a good understanding of their current emissions and had taken steps to reduce them, they struggled to know how to decarbonise their fleet further. Deloitte helped the business to define decarbonisation ambitions for their fleet and provided them with a decarbonisation tool that combined their own data with other key external sources. The decarbonisation ambitions were developed using the framework and guidelines from the Science Based Targets initiative (SBTi). The ambitions have now been approved by the SBTi and are in line with the Paris Agreement. The tool enabled the business to develop and evaluate three different scenarios of emissions abatement with different technology options for fleet transformation, and suggested timings for the implementation. The tool also allowed the business to estimate the related economic cost of each scenario.



The efficiency challenge

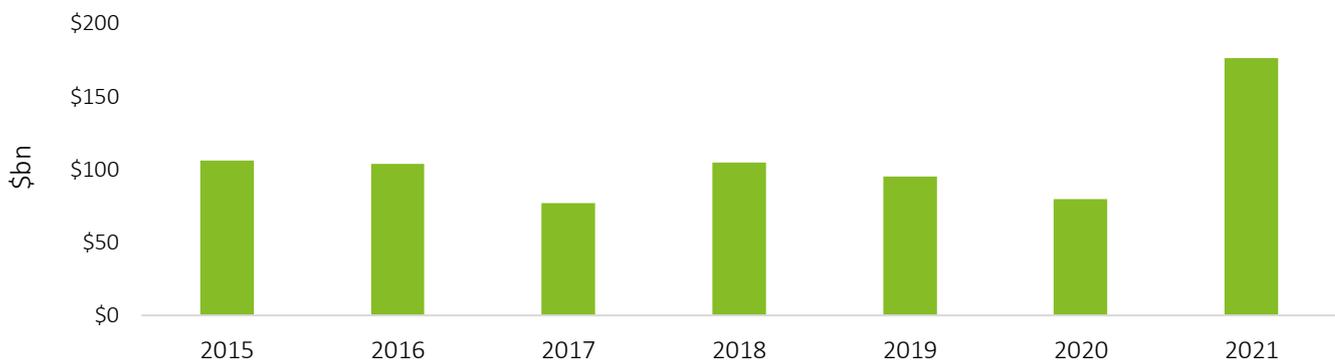
Success in the logistics sector in the future will require a focus on efficiency and a sector-wide mindset.

A key part of solving both labour as well as decarbonisation challenges is about increasing efficiency in the sector. Greater efficiency means less time and capacity wasted and that can result in lower emissions and improved business performance. The sector has operated effectively largely due to the depth of knowledge and experience of the people it employs. The professionals in the sector have learned to analyse and optimise business operations through hands-on experience. However, these methods are still largely manual and as the sector continues to grow, the level of complexity will increase. The logistics sector now needs more sophisticated tools and technology that can handle such complexity. Increasing use of technology will enable businesses to maintain continuity as older logistics professionals retire and newcomers join the workforce. It will also help to make the sector more appealing for new talent.

In addition to increasing efficiency, a sector-wide mindset is needed to meet current and future challenges. Logistics is in fact a collection of many small sub-sectors which together have formed a chain of services that enables raw materials and goods to move from one place to the next. However, more recently, the demarcations between these different parts of the sector have started to blur, and increasingly there has been a shift towards integrating the different parts more closely, partially to drive efficiency but also to obtain greater control over customer offering. Shipping companies have made land-based acquisitions and road haulage companies have partnered with intermodal transport businesses to create operational certainty during these challenging times.

The focus on efficiency and sector-wide thinking is likely to lead to further consolidation in the market. In the UK and Europe more widely, the sectors are still very fragmented with a huge number of local or regional businesses competing alongside large international companies. For example, the market share of the ten largest companies in the UK logistics sector is estimated to be only around six per cent of the total logistics market.¹⁷ As the push for efficiency intensifies, scale becomes more important. So, too, does the ability to diversify the range of services offered to clients as well as the need for greater control over how current services are provided. If clients start to favour logistics companies that can offer a wide range of services many businesses in the sector will be asking: In a consolidating market, is it better to be a buyer or a seller?

Figure 6. Total value of M&A deals in freight and logistics globally – pending and completed



Source: Analysis by Deloitte LLP, based on various sources.

Creating value and achieving growth through efficiency

When a market is consolidating, financial efficiency is a key determinant of success but difficult to achieve. In the past private equity investors have expressed only limited interest in the logistics sector which reflects the challenges it has had maintaining strong margins and relatively few opportunities to increase profitability. In a market where demand is strong, but costs are also rising it is hard to know how to price and manage margins effectively. A well-managed cost base as well as an optimised cash flow are however integral components of a strong valuation for those looking to sell their business, but equally important for those who look to have money available to invest in new areas.

Case study: Helping a global delivery company become more efficient

A global delivery company was seeking to reduce the costs of its international division, targeting expenditure worth \$1.2 billion. In addition to looking at restructuring, the aim was to establish a more scalable and sustainable operating model for the future. The project included assessing savings opportunities in each division and then prioritising these based on the size of saving, cost and complexity to implement as well as the relative risk to the overall business. Deloitte reviewed how services were currently delivered to identify opportunities to improve efficiency and effectiveness, and to support growth. We also looked at how the different functions operated and whether efficiencies could be gained by making changes to those functions. As a result, Deloitte identified opportunities worth around \$100 million of estimated annual savings and for the agreed areas of savings, developed a 'sweet spot' scenario for each division so the client could optimise the payback while continuing to support operations. Deloitte also provided recommendations on how to achieve sustainable savings in the future. The holistic nature of the analysis ensured that savings could be maintained for a longer period and the business was in a much stronger financial position as a result.

The most progressive businesses are looking at value chain optimisation: instead of focusing on cutting or reducing spending, they are more critical about where and how they spend their money. Attention shifts from controlling activities and costs to exploring where the business can invest to create sustainable value or achieve efficiencies. However, this is a complex task as it often requires a joined-up strategy, experience of working across different functions, a change in culture and investment in technology.

Digitisation has accelerated across most industries and indeed recent research found that in 2021, 93 per cent of consumer businesses surveyed mentioned investment in digital transformation as a priority for the next 12 months.¹⁸ However, logistics businesses have been slower at adopting technology and where it has occurred, it has often been piecemeal. The sector's interest in 'log tech' – technology businesses that specialise in offering solutions to the logistics sector – is gradually increasing with various big logistics operators investing in existing technology businesses or incubators supporting them. For example, a leading UK supply chain company recently announced the opening of its own Innovation Centre which will be used to develop and showcase cutting edge design and technology for the benefit of Britain's supply chains and all those that rely upon them.¹⁹ Similarly, a major parcel company has announced partnerships with several external innovators to accelerate technology development in the fields of robotics, augmented reality, robotics process automation and the Internet of Things (IoT) to enhance their operations. The key for businesses in the logistics sector is to understand that technology investment should not be about replacing specific manual tasks; it should be about using technology holistically to transform how the business operates.

Taking action

A 'digital twin' is a digital copy of a real-world organisation, or a part of it, that allows businesses to simulate changes in conditions quickly and understand how they might impact various inter-dependencies in their operations. While the concept of digital twins has existed for over a decade now, recent improvements in simulation and modelling capabilities, better interoperability and IoT sensors, as well as greater availability of tools and computing infrastructure mean that they are now more powerful than ever. Therefore, it is not surprising that the value of the digital twin market is estimated to reach \$35.8 billion by 2025.²⁰

For businesses in the logistics sector digital twins offer endless opportunities to improve business efficiency and support decision making. A digital twin has the capability to collect and distil complex data into something simpler and visual, and can therefore help to encourage sector-wide thinking by helping the leadership to see holistically the impact of any hypothetical change. It can validate 'gut-feel' decisions and being based on data, it can help to structure thinking and provide a framework for next steps.

A digital twin can also make it easier to bring financial efficiency together with the operational efficiency. For instance, when planning for a new warehouse, information about space, layout and packaging materials can all be inputted into the digital twin so that the business can better understand what the optimal design might be and what changes would be needed to their operations, such as packaging materials, placement of machinery or workflow so that the investment made is fully optimised. Alternatively, a digital twin could be utilised to appraise a potential M&A opportunity to consider how overlaying two different fleet networks would work under different scenarios. With digital twins currently underutilised in the sector, those businesses that do take advantage of their capabilities are likely to benefit from more effective decision-making and operational efficiency.

Case study: Optimising the UK COVID-19 Testing Supply Chain

The UK COVID-19 testing supply chain consists of over 500,000 daily test samples flowing through more than 500 testing locations, over 200 mobile sites and 15,000 care homes. These samples must be transferred to a network of over 30 laboratories spread across the UK for analysis. This system was failing to achieve its nominal capacity and turnaround time targets (i.e. the time from taking the sample to communicating the result) mainly due to inefficient routing. Moreover, there was little visibility across a supply chain which had grown from an initial workforce of 20 people to over 20,000 people in under a year. Deloitte built a scalable simulation digital twin replicating the end-to-end COVID national testing network. The digital twin allowed our client for the first time to simulate the arrival of thousands of tests to laboratories on an hourly basis for a period of over three months into the future, and that way better support the management and planning for the growth in COVID-19 PCR testing within the UK. It also helped to manage outbreaks and unexpected issues, such as equipment failures by forecasting how the network would perform under such scenarios. It also allowed the programme to achieve its national targets and cope with periods of intense demand. Deloitte has since handed over the digital twin to the client, who continues to use and develop it.



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