# The global postal and parcel delivery sector needs to change, and technology can help

*January 2023*

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The postal, parcel and courier services sector is being transformed by changing demand for letters and packets (driven by changes to interpersonal communications and e-commerce trends that are transforming the economy). In turn, the sector is undergoing a series of digital transformations of its own to improve efficiencies and dramatically change the consumer experience. Technology will play a central role in the industry, using advanced wireless networks, AI-based automation, driverless vehicles (both inside and outside warehouses) and a digitally managed and optimised workforce that can deliver to consumers as well as a connected parcel locker infrastructure. These developments will support smart-city plans and policies, given their ability to transform the efficiency of the 'last mile'. However, the sector will need to handle workforce issues throughout these transformations, and recent labour strikes in the UK point to how challenging this might be. A subset of these benefits and challenges are discussed in this article.

## Digital parcel locker infrastructure is heralding rapid change in supply and demand preferences

Consumers increasingly expect to have access to real-time tracking of items, co-ordinated by software that integrates visibility and control of the delivery pipeline with users and suppliers. While parcel shops are reasonably established, digitally connected and controlled parcel locker infrastructures are transforming the delivery of items from a physical, traditional knock-on-the-door type approach to one controlled by software and application interfaces.

This infrastructure offers an efficient alternative to doorstep delivery and will be positioned by market players as the default for low-cost delivery of parcels. Analysys Mason and Last Mile Experts (LME) predict investment in 50 000 parcel lockers in the UK by the end of the decade.

Later in 2023, detailed information about the fast-growing parcel locker segment across Europe will be published by LME in collaboration with Analysys Mason, in the *Out of home delivery in Europe 2023* report.

## Smart and green city policies will reinforce the need for new postal and parcel delivery technologies

Consumers will also see technological changes as local authorities place emphasis on reducing urban emissions and move towards developing more environmentally friendly cities, with the postal and parcel delivery sector having to respond. Parcel lockers and electric delivery vehicles are part of the solution, and visionary local authorities are implementing specific regulations for their introduction.

The postal and parcel sector already shows significant promise in adopting these technologies, with robotic and predictive AI applications in sorting centres. The advent of driverless vehicles on urban delivery routes[1] is the sector's newest contribution to smart cities. Further technology deployments will lead to greater benefits including greater optimisation and efficiency of supply chains, cost reductions and more-integrated smart town and city infrastructures.

## Workforce optimisation is possible but must be carefully handled

Meanwhile, digitally managed workforce optimisation is transforming the way that parcel delivery companies organise employees. Linked to the above developments is the opportunity for route optimisation for both pedestrian and vehicle delivery routes around urban and rural areas. As a result of technology deployment and data analysis, postal and parcel companies are now able to experiment with driverless solutions, monitor delivery rates, redirect employees while en route, and use data to estimate the number of staff needed per day in real time. However, these new technologies may bring about social and governance issues that could lead to negative consequences for business performance, quality of service and profitability, such as dissatisfaction in the workforce and management challenges.[2,3]

## What is needed for technology to succeed in transforming postal and parcel delivery?

A well-managed digital transformation has the potential to significantly improve the performance of the postal and parcel sector and realise benefits for users, for cities and their residents, but should be based on various components, including:

- high-level objectives and outcomes

- a detailed digital technology strategy

- investment in well-designed, leading-edge equipment and infrastructure, supported by effective software

- a profitable commercial model and transformation business case

- engagement and buy-in with national and local authority stakeholders who seek smart solutions but need national priorities such as universal services to be satisfied, and

- careful planning with the business and workforce regarding social and governance impacts.

Analysys Mason can help you to consider these issues and devise strategies that work with all parties. For more information, contact Ian Streule, Partner.

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[1] For example, Starship robots. See Starship Technologies (16 November 2022), *Delivery robots now available to Cambridge residents*.

[2] This month, Amazon in the UK is facing industrial action, with striking workers mentioning pay and performance monitoring conditions. For more information, see BBC (25 January 2023), *Amazon strikes: Workers claim their toilet breaks are timed.*

[3] For more information, see Analysys Mason's *The digital transformation of the postal sector is creating new social and governance issues.*