The beating heart of the transport industry

The spread of Covid-19 has caused significant disruption to the travel industry.

In the aftermath of the global crisis, transport organizations have had to fundamentally rethink the services they offer. How they can keep customers safe. And how they can keep up with changing regulations. Likewise, businesses are increasingly having to reimagine the idea of the workplace as employees' expectations increase. Following the pandemic, employee experience is now key to a business enjoying the fruits of a loyal and productive workforce.

But what might customers' interactions with transport organizations and their employees be like in 2025, and what sort of changes to the workplace and working practices of those in travel are likely?

It's 2025, and the transport sector has seen considerable changes. By now, three out of five cars are electric, but also the way that people traverse the urban jungle has become much smarter. Ticketing between different providers has become harmonized and simplified, and customers can pay for their tickets in a number of ways, without even reaching into their pocket: iris, fingerprint or facial recognition, as well as a wide range of wearable devices.

Meanwhile, cars alert manufacturers of problems before they happen, or notify vehicle owners of more minor issues. Predictive maintenance is everywhere. At the same time more and more vehicles are autonomous, and several fleets of taxis are now self-driving.

Transport networks have also become smarter, particularly in large cities. Faced with limited capacity and growing congestion, cities have had to reimagine themselves. Centered on a vast amount of data being collected from vehicles, street furniture and road, rail and underground networks, artificial intelligence is being used to maximize capacity while also minimizing air pollution. Companies have implemented smart logistics, drawing on data from engine management systems and GPS to minimize their carbon footprint, comply with more stringent air quality regulations and ultimately save money on fuel.

In London for instance, the number of commuters opting to cycle or scooter to work has grown exponentially. Battery-powered bikes and scooters have a far longer range than before and they are lighter and quicker to charge than ever. Sensors in bikes and wearable devices are regularly analyzed to improve the cycling infrastructure. A new network of smart "skytunnels" now crisscross the city. The skytunnels are essentially glass and steel tubes suspended 50 feet in the air, which keep cyclists dry and warm in winter and cool in summer, as well as enabling them to keep out of the way of larger vehicles and pedestrians.

Riders' wearable smart devices – including watches, smartglasses, and in-ear headphones – are able to inform users of the optimum route, in real time, based on congestion hotspots or maintenance work.

Dan is a project manager for an organization that runs the day-to-day operation of a public transport network, and helps to manage the city's main roads too. He has a wide range of experience in the implementation of technology and process change to help make transport and logistics organizations more efficient. Currently, one of his tasks is running a project that is aimed at reducing congestion in one of London's busiest Underground stations: Oxford Circus.

He rides his electric scooter most of the way in the main East-West skytunnel, before completing the last couple of blocks at road level. Folding his scooter he enters the organization's main transport control center reception hall, where an iris recognition scanner grants him access to the lifts to the fifth floor. This is the location of the central command center, where banks of computers and monitors are used to ensure the most efficient use of available capacity on the various transport networks. Some have an operator sitting in front of them, potentially able to make minor adjustments, while others simply provide a view of what an artificial intelligence engine is doing automatically in the background.

Dan doesn't always work in the control center. His organization encourages flexible working, a scheme which offers staff a better work-life balance. Of course, it also minimizes the office space required by the organization and reduces the number of commuters on London's already busy streets and transport networks. The organization found that adopting the scheme enabled it to attract an even better quality of recruit, as it is such a popular benefit. The company has implemented workplace technology which allows staff to access the data and applications they need regardless of their location. In 2025, a seamless and considered employee experience is crucial to attracting and retaining a productive workforce.

This morning Dan wants to use the control room systems to take another look at footfall at Oxford Circus. By pinpointing where there is most congestion, he hopes to establish whether the routes that travelers are currently being asked to follow could be improved. While it's clearly not possible to take down walls and widen corridors any further, he can make adjustments to which corridors, entrances and exits are used to guide passengers from A to B within the station.

Dan uses a number of different ways to look at how people move around the station, and in what numbers. He is able to draw on data from the moment passengers enter the station. Based on ticket purchases made via contactless card, biometrics or wearable devices via a payment app, Dan can see when and where they complete their journey. He also uses the station's cameras, synced to a computer that is running pedestrian modeling software and crowd simulation technology. Not only can it monitor people's movements in real time, he can also use predictive analytics to see what effect rising passenger numbers are likely to have on the worst congestion black spots. He can also compare this with data from the number of passengers using Wi-Fi on the Underground, gathered from the various Wi-Fi hubs dotted throughout the station.

That afternoon, Dan has a meeting with a specialist consultant with experience of modeling and improving pedestrian workflow in Manchester Piccadilly train station. On arrival at reception, Dan gives him a pair of visitor smartglasses. These serve several useful functions. They can be used to browse the web and make holographic video calls to others, and they offer access to a wide range of productivity applications. But they are also smart enough to give the consultant access only to the parts of the building where he is authorized to be. Swiping them or pointing them at a sensor at various doors or lifts, in combination with an iris or fingerprint scan, provides several layers of security.

"Linking a number of devices to smart security systems is something that we already see today, but in the future as Dan's story suggests there is likely to be even more seamless authorization processes and access privileges for staff and visitors, linking a wider range of smart devices that will suit different situations," said Andy Davis, Fujitsu's Head of Strategy & Growth, Workforce & Workspace Services.

In a meeting room, Dan and the consultant use their smartglasses to "walk through" Manchester Piccadilly station and take a look at some areas where the consultant was able to make improvements. The combination of virtual reality and holographic makes it feel like they are actually moving through the crowds together – it's all possible thanks to a "digital twin" of the station built using quantum computers and hundreds of thousands of data points and measurements captured on the ground using a miniature drone-based buildings scanner: all transport hubs, even those underground, have been mapped and then "cloned" in this way by now.

It means that they can have the sense of being in the station in rush hour, and they can also model the same path through the station with varying passenger volumes. They both agree that the station is going to be close to maximum safe capacity with a rise in passenger numbers of more than 20%. The consultant then pulls up a series of graphs and charts for Dan, which can be viewed on their sunglasses. They show that through a number of changes to the way passengers are encouraged to move through the station, boarding times of trains were improved and queues shortened. Dan is now convinced that the consultant's experience at Manchester Piccadilly could be useful in his work on the Oxford Circus project.

Later in the afternoon they do a simulated "walk-through" of Oxford Circus, but this time Dan also brings four other members of his team – all of whom are working off-site but have full remote access to the simulation. They can

experience it using various wearable devices or a tablet. The consultant thinks there may be several areas where signage could be improved, and he suggests they work on it together in the coming days.

After the consultant has left the office, Dan and his team are able to have a five-way conversation as if they are all sat in the room together, using a combination of their smartglasses and the latest holographic technology. There are times when face-to-face meetings are still desirable – especially when his team is planning on ending some work meetings with a social outing after work – but on the whole it doesn't matter where his team members are. They all agree it has been a valuable afternoon and he gives each of them a few tasks to work through in coming days.

This evening Dan has planned to meet a friend in Camden to watch one of his favorite bands. He decides the best way to get there is via scooter to his nearest Underground station. At 6pm the entrance to the tube is busy, but the crowds are moving and it's not long before he is waiting on the platform for his tube to Camden Town. The operators at the control center he was in just this morning are doing a good job, he thinks to himself, even if many of the systems are backed up by sophisticated artificial intelligence running almost unnoticed in the background.

"Seamless collaboration across teams and the physical walls of offices requires a combination of technologies and smart thinking," said Fujitsu's Chief Technology Officer for the Transport Sector, Rabih Arzouni. "More and more companies are reaping the benefits of modern workplace technologies when used hand-in-hand with a flexible and agile approach to working practices."

Dan reflects that for his team to be as effective as they are – helping the organization to maintain its excellent track record for the reliability of the transport network – it's proven vital they can collaborate seamlessly whether in the office, at home, or even on the move. Providing employees with workplace technology that is just as powerful (and in some cases, even more so) – yet as easy to use – as the kind of technology they are using at home in 2025, has been invaluable.

Staff have the ability to communicate across the team almost whenever and wherever they are. It means that the organization does not suffer from "shadow IT" where staff seek out unauthorized solutions to get their jobs done because the sanctioned technologies are not up to scratch. As well as being inefficient, this can also have significant consequences for the organization's security and ability to comply with regulations. After all, his organization is largely responsible for the safe running of the city's transport networks.

Transport has been investing in customer experience and revenue generation for years, sometimes neglecting investment in the workplace and employee experience – this has a knock-on effect on the sector as a whole when compared to others. The future of the work environment is seamless in its experience, has an ethical foundation and promotes human development, wellbeing and fulfilment at work.

This is considered a novel approach in the transport sector. Businesses are encouraged to reimagine and think about the long-term trajectory of their workplaces. A new generation immersed in technology in their daily lives are coming into the workforce, and they expect a digital experience in the workplace. Not investing now could pose a risk of not attracting new talent to your organization.

The future workplace will be a space for even more collaboration, creativity and engagement, enabling a connected workforce to have an exciting employee experience. Read everything you need to know about how to reimagine your workplace here.