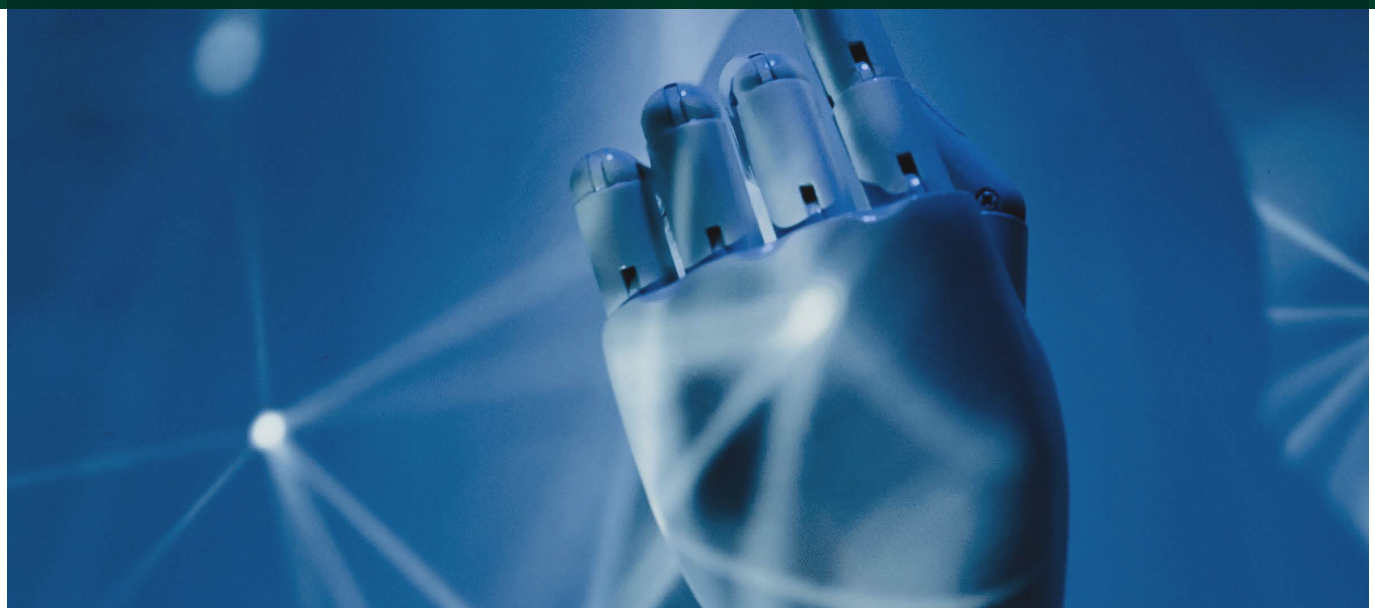
Assurity Consulting

Independent workplace compliance

White Paper

AI - threat, opportunity or tool for workplace compliance?

April 2023



AI - threat, opportunity or tool for workplace compliance?

Workplaces and work process have seen tech and IoT (Internet of Things), especially over recent years, deployed for many and different reasons.

With Stagecoach announcing this month the "first registered bus service in the UK to use full-sized autonomous buses", are we now one step closer to seeing artificial intelligence (AI) integrate further into our work and personal lives?

This month we will look at AI and some of the effects it could have in managing workplaces and compliance.

What is AI?

According to Wikipedia, "Artificial intelligence (AI) is intelligence demonstrated by machines, as opposed to intelligence of humans and other animals."

Put another way, the ChatGPT description, "AI stands for Artificial Intelligence, which refers to the development of computer systems that can perform tasks that typically require human intelligence, such as visual perception, speech recognition, decision-making, and language translation. AI systems are designed to learn from experience and adapt to new inputs and situations, making them capable of improving their performance over time. AI can be divided into several categories, including machine learning, natural language processing, robotics, and computer vision, among others. AI has many applications in various industries, including healthcare, finance, transportation, and entertainment, among others."

Since the 1950's, when in his paper "Computing Machinery and Intelligence" Alan Turing asked the question, "Can machines think?", there has been as much debate as development. With AI already causing issues with education and music, to name but two areas in the news recently, the announcement from Stagecoach will no doubt continue the conversation.

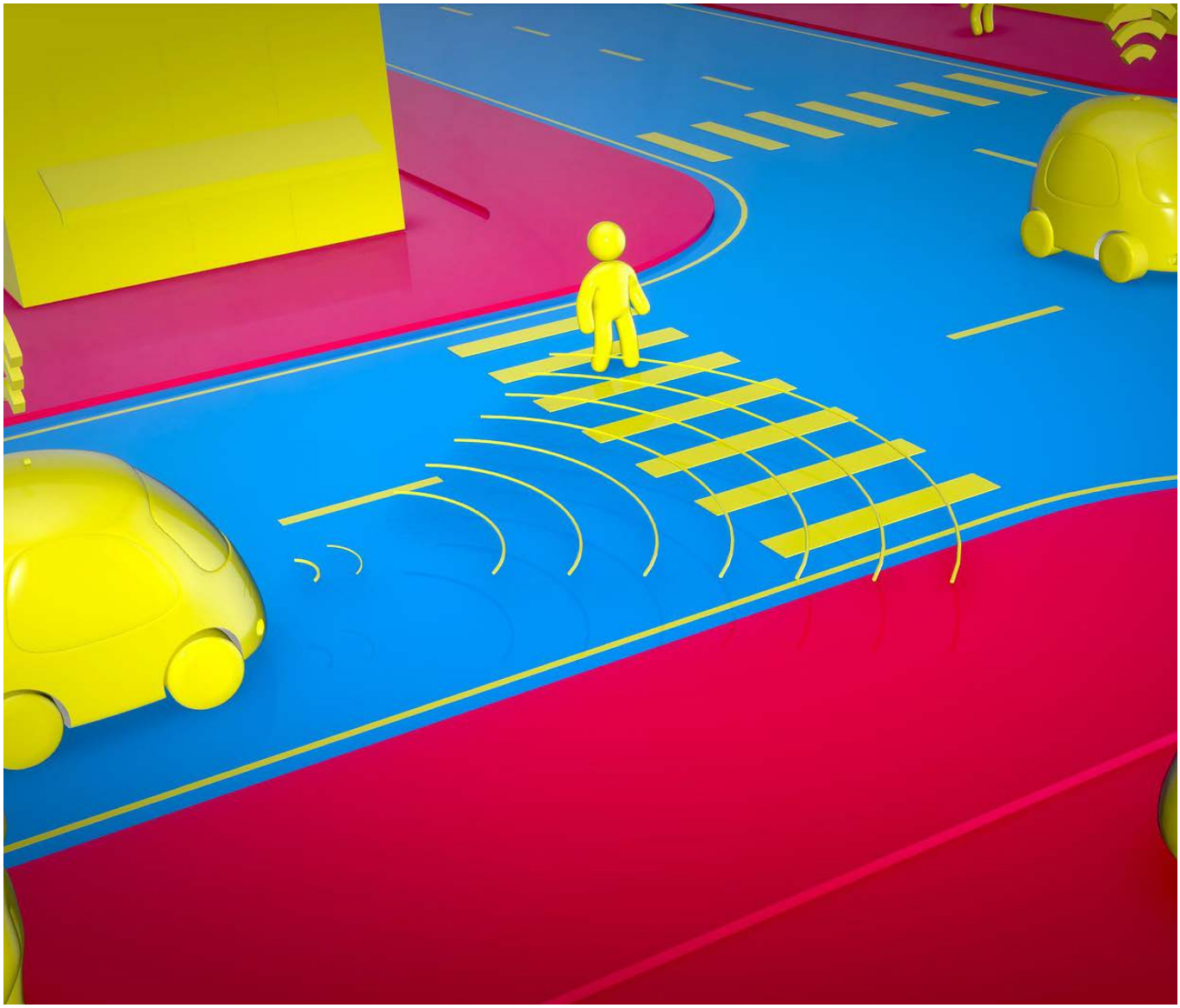
What is Stagecoach planning?

The CAVForth project, as it is called, is set to start on the 15th May 2023. A fleet of five driverless single-deck buses will service a 22.5km route between the Ferrytoll Park and Ride in Fife and the Edinburgh Park Transport Interchange, and also cross the Forth Road Bridge. The buses could be able to reach speeds of up to 80km per hour on pre-selected parts of the route and carry a potential 10,000 passengers on journeys per week.

Commenting on the proposals, Kevin Stewart, Scottish Minister for Transport said, "Our trunk road network can provide a wide range of environments as a diverse testing ground, and the ground-breaking and globally significant Project CAVForth will really help Scotland establish its credentials on the world stage."

As some sections of the media have highlighted, fully driverless vehicles are not legally permitted in the UK currently, and there will be a two person team on each of the buses:

- A safety driver, in the driver's seat, monitoring the journey and able to take control in the event of any issues; and
- A captain who is there to assist with ticketing, boarding and questions.



Where is AI currently or already used?

The use of AI has been with us for some time already in several customer interaction scenarios, these include:

- **Customer queries** - AI-powered chatbots are increasingly being used to provide customer support on websites, social media platforms, and messaging apps etc. These chatbots can handle a variety of customer queries and issues, such as providing information about products and services, troubleshooting problems, and processing orders;
- **Virtual assistants** - Siri, Alexa, and Google Assistant are powered by AI algorithms and already perform a wide range of tasks, such as setting reminders, answering questions, playing music, and controlling smart home devices;
- **Transactions** - AI algorithms can detect and prevent possibly fraudulent activity through real-time analysis of transaction data and buying pattern comparisons.
- **Personalised recommendations** - AI algorithms have been analysing data such as past purchase history, search queries, and browsing behaviour to tailor product recommendations; and
- **Analysis** - Customer feedback, reviews, and social media posts are analysed to understand the 'sentiment' towards products and services.

Whether you were aware of it or not, if you use online services, social media, or digital assistants it is likely you have already had some of your buying patterns and browser activity analysed by an AI algorithm, with the view to optimising content, products, and services you are being offered.

How is or can AI be used in workplace, facilities, building management and compliance?

Due to the physical nature of facilities and building management, AI could lend itself to being used for potential use in several different scenarios, for example:

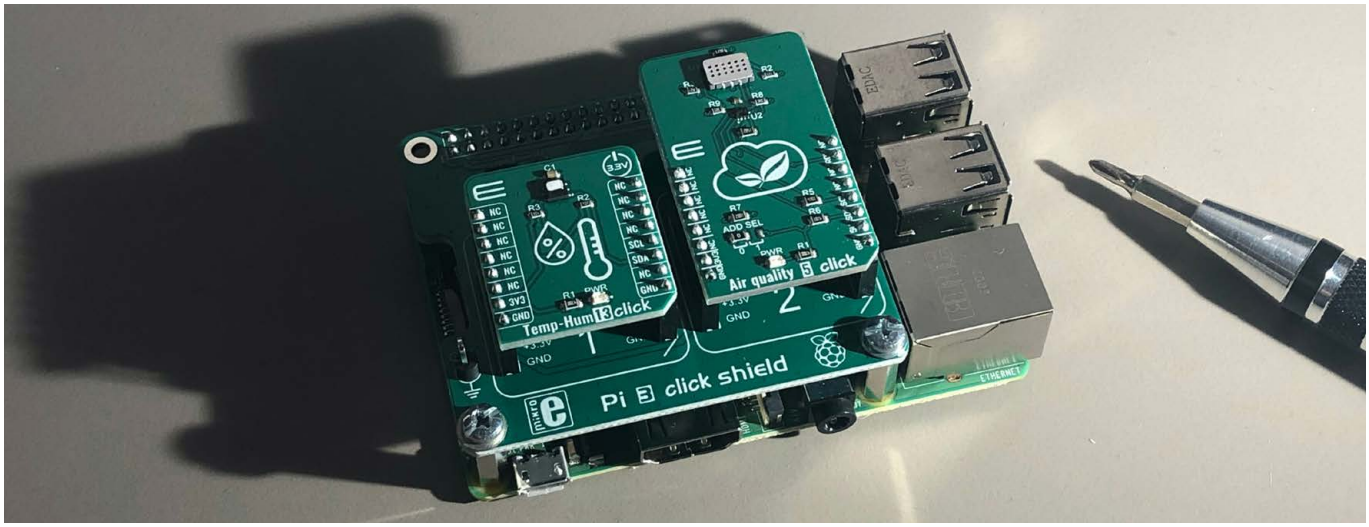
- **Predictive maintenance** - where AI algorithms can analyse performance data to predict optimum running or when equipment may fail or require maintenance;
- **AI-powered security systems** - using facial recognition and other technologies to identify potential threats and alert security personnel;
- **Energy management** - by analysing building and occupancy data to optimise energy usage, reduce waste, and improve efficiency (i.e. automatically adjusting lighting and heating levels based on occupancy and time of day, and other factors;
- **Optimising/utilising space** - with AI analysis of data on space usage and offering suggestions on re-configuration or layout to improve utilisation or use (collaboration and productivity) of the space; and
- **AI analysis of data** - from sensors monitoring air quality, humidity levels, and other environmental factors to help optimise performance.

These examples are not exhaustive, but they do provide a range of situations where the ability of AI to quickly assess and analyse large volumes of data, could be used to maximise space utilisation, enhance efficiency, reduce costs, and optimise operations and conditions in the workplace.

Similarly, a number of health, safety and compliance-based activities could also have AI applied to them, again using the ability it has to gather data at volume from several of sources, interrogate it and extrapolate patterns.

As with predictive maintenance, predictive analytics using weather data, sensor data, and historical incident data, could introduce systems to reduce accidents, incidents, and failures. It could automatically flag changes and so identify potential changes in risk, be they health, safety or environmental.

AI systems could also be populated to monitor compliance data, predicting non-compliant areas, or develop interactive and personalised training programmes for individuals tasked with managing compliance within their organisation. After all, this is not that dissimilar to the analytics already being used to assess your online preferences and usage etc.!



What are the potential pitfalls or points for further consideration in the deployment of AI?

First and foremost, the subject is in its infancy and despite the opportunities it offers, there will be a natural amount of scepticism and assurance needed over the technology, and how it performs.

The terms of reference for any system will also be (at least initially and until it starts to think for itself (a whole other issue)) driven by whoever populates it and the ability of the system to learn, so full trust and autonomy will need to be earned, and carefully managed. You will need to consider the quality of the risk assessment or other data or information you are using, to teach the system initially, it will need to be good.

Where and how critical components such as sensors are deployed - and the quality - will be key. Sensors in the wrong place or out of calibration, will not provide the data you need and may well factor in error. For example, in our experience, more than just a few installed Carbon dioxide sensors during the COVID-19 pandemic, went out of calibration, giving readings vastly different to our regularly checked and calibrated equipment.

Changes to configurations and usage could see a continuous process of learning and re-learning, so how long will the system take to adapt, and what happens in the interim? Let's also remember that we don't automatically buy everything the internet pushes at us!

As with the Stagecoach CAVForth bus project roll out, human safeguards and a high degree of oversight is going to be needed. In a workplace and building management context, AI does offer opportunity and a threat too, certainly to some aspects of the discipline. It could become a tool and the start of something truly remarkable, when used well and wisely.