

Improving the customer experience through AI and IoT

Artificial Intelligence (AI) and the Internet of Things (IoT) will soon be helping deliver an improved customer experience across the forecourt. But what new challenges will these technologies bring? Tom Caldwell, CTO at Techniche, examines the future landscape.



As alternative fuels and new models of mobility begin to disrupt the industry, some fuel retailers are already on the path to realising their vision of how automation and IoT can benefit their business, while others are just starting out. Innovation in these areas will be essential to deliver a positive customer experience and continue to drive forecourt loyalty. What all fuel retailers have in common is working out how best to tackle the challenges that these new technologies will bring.

Smarter assets

Smarter, more intelligent assets, will play a significant role in improving the customer experience. From dynamic signage and intelligent screens to CCTV cameras that can detect when waste bins are over-flowing, from sensors in soap dispensers alerting when they're empty, to connecting older

analogue assets to the network, the shift towards automation is underway. Different kinds of convenience store or café environments with a wider range of services on offer are also coming, as electric vehicles grow in popularity and drivers wait for them to charge. One of our customers in Europe is seeing 80% of customers visit the café but not buy fuel and an increase in the use of service stations as locations for business meetings.

While fuel retailers are very focused on integrating assets to create an improved customer experience, they will also need to focus on areas of digital transformation that will help them manage and maintain those assets, so they are always available and operating at their best. But there are some hurdles to get over first.

New approaches

The new landscape means that the FM team will need to work with IT and vice versa. Some organisations will find this harder than others. Often these departments are very siloed and not used to working together, but both sides will have to find a compromise in order to install and manage IoT devices effectively. New conversations will be needed to determine who owns what and where responsibilities lie. For example, IT manage the network but who owns a router in the convenience store, which is critical to the functioning of that outlet?

Other challenging areas include managing the huge increase in data generated by IoT devices but also the 'traditional' IT network data, which everything on a network produces. Smart coffee machines, for example, can have over 90 error codes alone, and this IoT data is only going to increase in volume. But the machine also leaves its usual trail, as it's connected to the network and has a normal baseline of communication behaviour. So its 'digital health' needs to be monitored too.

Some of these challenges lie further down the line. Today, most fuel retailers we speak to state that the number one hurdle to prepare for AI and IoT is tackling asset inventories – trying to understand more about their estates, know what's going on with assets and inject some consistency. Problems arise from assets not being recorded consistently or some are old and not attached to the network. This unreliable data will have an impact on the first step of the journey as big data and IoT relies heavily on clean data. This is another opportunity to take advantage of AI, to automate the process of visiting every forecourt to perform a manual asset inventory.

Accurate data

So what can be done today? Overhauling your approach to asset data in general can only be good for business, and having complete and accurate data will transform the effectiveness of your maintenance management system too. As service stations adapt to market changes, they still need to become cheaper to run and more fault tolerant. This is where improved maintenance plays an invaluable role.

Having the correct data will help improve how you manage workflows, assign suppliers and determine component and parts hierarchies. Data templates can save a great deal of time in the data gathering

process – essentially a spreadsheet that covers everything you need and is much easier than starting from scratch.

Challenges of digital transformation

New smart assets can enable the customer experience of tomorrow, while at the same time removing human error to keep the data flows clean and accurate. Intelligent digital workflows will ensure compliance and reduce risk factors in this machine-orchestrated vision of the future.

Regardless of where organisations are on the spectrum of digital transformation, they all face a new set of challenges. If fuel retail operators are to rely on new IoT smart assets for improving the customer experience, then the IoT assets themselves should meet certain performance metrics for availability, performance and cybersecurity. Also, the networks that connect these IoT assets to the cloud should be monitored for availability, performance and security. The future goal is to create an automated monitoring fabric that does not require additional people to make this new model a reality.

Written by Tom Caldwell, CTO at Techniche. Urgent is a maintenance management system specifically designed for fuel and convenience retailers. [Urgent](#) is a product from Techniche, a global business technology company.