

How the filling station will evolve in a high-tech future

By [Louise Steenekamp](#)

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The petroleum retail industry has evolved over the past three decades - in terms of structure, layout, ownership and technologies.



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Processes are more streamlined through integrated process and systems, from mechanical DU, tank gauges, to electronic, automated desktop underwriter (DU)/automatic tank gauging (ATG) and fluid catalytic cracking (FCC), and integrated point of sale (POS), back office system (BOS) and hours of service (HOS).

Traditional petrol forecourt ripe for disruption

But the traditional forecourt model where the processes are manual is, once again, ripe for disruption. Take, for example, the process of filling up your tank and purchasing goods at the convenience stores. With technologies such as the internet of things (IoT), artificial intelligence (AI) and analytics, the possibilities are endless.

If we have a look at macro-trends in the retail energy sector – including environmental concerns, new forms of biofuels, price pressures, and the advent of driverless cars – they are changing the game for fuel retailers.



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Our classic petrol forecourt scene may not be around for much longer, as forward-thinking energy players use advanced technologies to redefine the forecourt experience.

Petrol stations are under pressure from a number of retailers as they look to adapt to changing demographics (digital natives, millennials), and new technologies like e-commerce, robotics, mobility, and the IoT. All these trends are upending site operations and customer service.

A few ways to deliver new offerings and value propositions

Here are a few ways to deliver new offerings and value propositions, enabling forecourts to evolve in the future – enhancing customer engagement, marketing efficiency, business capability:

1. A shift to format less forecourts

As we gear away from petrol and towards cleaner energy, the design of the forecourt need not be constrained by the logistics of filling the wells.

Forecourt owners can differentiate their customer experiences by altering the layout, adding new value-added services, and catering better for those customers that aren't even filling up their cars. The entire ecosystem could be wrapped within the same loyalty or member programme.

2. Smart payments

Imagine an end to payment related challenge such as waiting for handheld POS devices, often damaged by the rigour of all-day, outdoor use, and often struggling to connect to payment networks.

Automated payments technology could invite consumers to link their debit or credit cards in a once-off registration process, and then fill up at any time.



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As you pull off, the value of the fuel, groceries, and other items will be automatically billed to the card that you've registered.

3. Loyalty on steroids

Fuel retailers have a fantastic opportunity to fuse data from various incoming streams - from filling-up behaviour, to purchase choices within the forecourt shop. Equipped with this knowledge, they can start tailoring special offers to consumers and creating compelling loyalty offerings to entice customers to visit again soon.

By smartly and sensitively applying facial recognition video technology, the loyalty experience could become entirely seamless to the user.

4. On-demand, drone delivery

The short-range, high-frequency requirements make the forecourt an ideal place to use drones to deliver packages of groceries from the store, to the owner's vehicle. This not only simplifies and speeds up the process of buying from the shop, but also has a 'wow factor' that again helps to differentiate the station from its peers.

Another slant on this concept of 'extending the forecourt experience' is to start delivering fuel and grocery purchases to the consumer's home or workplace.

By integrating online ordering and payment facilities, retailers can make concepts like remote delivery and click-and-collect a reality - giving them a clear edge over the competition.

5. Electric charging

Electric charging units, and new sources of biofuels will give us an alternative to the traditional petrol and diesel pumps. As we move towards green energy, the forecourt will evolve – to include solar panels, wind turbines and other sources of power generation.



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6. Integration into connected cars

One of the biggest boons for forecourt owners will be the ability of connected cars to sense fuel quality and oil quality. Now, those forecourts that brand their petrol as 'premium grade' will have irrefutable evidence to prove it.

Obviously, for those peddling lower-quality, less refined fuel, their inadequacies will quickly be brought to the surface with

the advent of connected cars.

7. Beyond energy for autonomous cars

Moving past merely 'connected cars' and into the realm of autonomous vehicles, service stations will have the opportunity to cater for multiple life simplification and vehicle needs beyond energy both when it is with driver or driverless to reincarnate itself as a "destination for lifestyle adapted needs" independent of markets, formats, segments.



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This is a fascinating challenge for forecourt owners to navigate.

8. New business models to complement or supersede

As we shift from petrol to electricity, we no longer need to keep everything contained in one venue. Retailers could position electric charging stations in shopping centre and office car parks, at airports, and in residential areas, to increase the convenience for drivers and allow them to charge their cars while going about their daily activities.

These are just a few of the technology sets that can be combined to reshape the forecourt experience. Making this a practical reality may be a step-by-step journey, but with the availability of cloud-based software, the platform that brings it all together can be easily deployed.

Using open standards APIs, companies can build the platforms for the future and start readying their operations in preparation for an exciting, futuristic, forecourt, which will stand out from the one across the road.

9. Where to start the forecourt transformation journey

Petroleum retailers are well placed to leverage digital disruption to develop and enhance their site formats and operations in order to deliver differentiated offerings and customer experience.

Future sites will assume significantly extended features which extend beyond the physical site. These extensions may include homes, vehicles, microsites as well as a virtual store - providing a seamless customer experience.

Within the next five to ten years, we will see the best-in-class petroleum retailers seize new opportunities by enabling future-ready adaptive forecourts.

This will extend the service offering on many levels – from opening the door to new and emerging segments to highly personalised customer engagements and the ability to offer seamless end user experience across physical as well as virtual realms.

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