

” Robust discussions and sustainable sandwich runs”, Handdels reviews the place of Electric Vehicles within logistics ...

At Handdels we're constantly monitoring shifts and changes within the logistics & events industries, the past year has seen us undertake several studies into industry futures and direction. As always, certain topics rise to the surface as candidates for closer inspection, our focus on 'Environmental and Social Governance' raised the potential for 'Electric Vehicles' .. in our line of business, a subject worthy of a deep dive ..

Strong Opinions & Token EVs

ESG is a large subject and one with multiple spin offs, no surprise that the subject of Electric Vehicle use within logistics gave rise to a lot of strong opinions during what's often referred to in polite circles as 'robust discussion'.

Let's be honest.. The standard response to talk of EVs from the traditional fume breathing die hard petrol (or rather diesel) heads in our industry is to laugh then counter with an anecdote, the conclusion of which usually involves an EV having to be unloaded in the middle of the night into a 'proper vehicle' and then towed to a charge point, from where it either limps back to base some hours later, or spontaneously combusts with the local fire brigade refusing to go anywhere near the resulting battery fire..

Quick EV fact - There are now more EV charging points in the UK than petrol stations!

The topic did raise the question however as to how many of our preconceived ideas were based on doomed early day prototypes or the 'Token EV' some organisations bought years ago so they could feature it on the front of a web site and tick the environmental box .. Had things moved on now that those old, limited battery 'token Evs' have all been relegated to sandwich collection duties..

Quick EV fact - An Electric Vehicle is now registered every 9 minutes in the UK

Bottom up & top-down pressure

Like Handdels, our clients are busy building their own 'green strategy'. The pressure to think electric as part of an overall logistics solution is being driven from a number of directions, not least of all the introduction of low emission zones in major cities; for example London's infamous Ultra Low Emission Zone (ULEZ) being pushed hard by our own Mr Khan despite protestations from Jeremy Clarkson amongst others, feelings run high and it's safe to say Jeremy and Sadiq won't be exchanging Christmas cards following the presenters recent asterisk filled posts about ULEZ on X!

We've all seen electric-powered cars, taxis and even busses but the exciting emissions improvements would be made in the big HGV long haul space, traditionally the hardest to address using non ICM (who ever thought I'd have to differentiate from Evs by calling a standard engine as an 'Internal Combustion engine', we'll be calling cars 'horseless carriages' again soon..) There's also top-down pressure from governments aimed at the manufacturers in the HGV/goods arena, targets are being set in the US to reduce emissions by 15% by 2025 and 30% by 2030 .. In the UK government policy dictates the end the sale of new, non-zero emission HGVs under 26 tonnes from 2035, and that all new HGVs must be fully zero emission at the

exhaust by 2040. The obvious answer is a shift to zero emission electric .. But is this a realistic prospect when you're traversing continents?

Quick EV fact - Scientists are working on wireless road charging - think wireless phone charge pads, these would be installed roadside and in parking bays and represent a real leap forward in convenience.

Challenging as it is, HGV developments include the wireless charging mentioned above, and, using tech first seen in the 1800s during the tram era, the use of overhead charging cables, these styles of 'on the go' charging are often discussed using the term 'direct electrification'. These solutions in combination with city friendly hybrid engines and the possibility of pit stop style battery swap facilities mean changes might come incrementally rather than through one big, and hugely expensive, bang.

Quick EV fact - It's illegal for electric vehicles to be silent - in 2019 the EU mandated that at over 13mph EV emit an artificial noise so that pedestrians and cyclists can hear them coming.

No sleep 'till Cologne ..

In the medium size commercial market, investigation suggests that there's no shortage of vehicles available in EV format. As with everything at the 'sales' end of the equation the task is to separate the rosy futuristic picture vendors paint from the reality you're likely to face on the M1 in November when it's not just your phone that has 'only one bar left'.

As expected, the suitability of an EV van will be dictated by the use case in question. Wide adoption in city based 'last mile' scenarios is a given with Amazons Jeff Bezos placing a \$7 billion order with EV startup Rivian for a fleet of 100,000 electric delivery vans by the end of this decade. It's not a stretch to imagine uptake amongst tradesmen who operate within a specific local area which is well within the typical range of circa 150 miles.

A high percentage of the trips undertaken by Handdels are planned well in advance and could present the potential for 'built in charge stops' but flexibility is our watchword, we pride ourselves in the ability to turn on a sixpence and literally 'deliver the goods' anywhere at any time.

Given the current limitations EV isn't going to help that delivery that needs to go from London to Cologne by tomorrow get much further overnight than a charge point just outside Calais. The driver might begin to feel frustration set in during another charge period some three hours further on. In the medium-term clean diesel vehicles will still play an important role at Handdels, a future hybrid fuel scenario however might allow good progress, with the added benefit of zero emissions while navigating the cities at either end.

Quick EV fact - The record distance travelled by any EV on a single charge, without solar charging aids, is 1,599 miles (2,574km) with a battery capacity of just 15.5kWh - smaller than many plug-in hybrids carry.

In other slightly shocking news...

Given the inevitable march towards sustainability the EV naysayers could start to run the risk of starting to sound like Great Uncle Fred who was never going to wear a seatbelt or stop smoking in the pub, may he rest in peace. There are however a few considerations which on face value

can seem a little alarming, one of these is the fire risk profile .. Fires involving lithium batteries are a new and not fully understood phenomenon and can effectively never be considered 'fully extinguished' given their propensity to re-ignite, sometimes days later..

Quick EV fact- EV batteries have led to 25% of scrap yard fires in recent years!

Browsing a recent autocar article in which an eminent Newcastle University Prof writing on the subject pointed out that EV batteries have led to 25% of scrap yard fires in recent years!.. The same article goes on to initially quieten alarmist by pointing out that stats show just 25 out of 100,000 Evs suffer fire damage, versus 1530 ICE cars, but before hybrid owners rest too easily in the driving seat, the number was 3275 per 100,000 for hybrid vehicles, 3.2 %, a number that might start to raise, and then singe, some eyebrows. As with all statistics, the devil is in the detail, apparently 65% of all car fires are a result of arson .. does this mean arsonist prefer burning Hybrid cars! The message is clear, drive an EV not a hybrid and don't block that angry neighbour's driveway.

Big brother is monitoring your donut consumption..

In the drive for fuel and emission efficiency we sometimes forget smarter practices pay dividends, similar to those some of us might remember from the 1970s fuel crisis where speeds were limited to 50mph for a year (I want to be clear, this is a very vague memory for me, I was busy at the time bouncing around on the back seat without a seatbelt on whilst inhaling second hand smoke) Handdels has for some time been using tracking software which amongst other benefits, monitors driving style and provides data over longer periods of time which might not be apparent to a casual observer. That tendency for a driver to change gears late could mount up to considerable excess fuel use across 6 months! These tools help spot inefficiencies, allow for smart routing, as well as creating that big brother feeling that means as a driver you develop the need to over explain that 15-minute stop on the north circular, the one suspiciously close to a donut shop.

Quick EV fact - EV are eligible in the UK for Green number plates, considered an essential as gen Z look to impress with their green credentials.

Bridging fuels & Hydrogen miracles..

Anyone who's owned a smart phone over the years will be familiar with the highs and lows of old phone, new phone battery dynamics, but until now I didn't know I needed to add 'EV range anxiety' to the list of things I need to wake up earlier in order to worry about.

Articles covering EV battery tech fluctuate between discussing advances with lithium batteries, to explaining why lithium is old tech & solid-state batteries are preferable, then back through the potential problems with solid state, to lithium .. Safe to say the stakes here are high and manufactures like Tesla, Rivian & Nikola will be engaging the world's best minds.. I think advances in battery technology are as assured as me believing I need to spend more on my next phone than I did my first car.

Quick EV fact - Lithium - Is a metal soft enough to be cut with a knife, is light enough to float on water, and along with hydrogen and helium was one of the three elements produced in large quantities by the big bang!

While we've been focused here on Evs we need to acknowledge other fuels that are fuelling discussion in the future fuel debate (can you beat three 'fuels' in a sentence?), not least of all Hydrogen, liquified petroleum, and liquified natural gas.

Considering hydrogen, it's easy to be misled by power derived from what appears to be a miracle source - hydrogen is emission-free at the point of use!.. But, our physics lessons still hold true, the energy does need to be created in the first place, and the creation process for hydrogen is currently energy intensive. There are three classifications of hydrogen production, green, blue and grey, with 'green' not surprisingly referring to that 'required energy' coming from sustainable sources, this solution gives legs to the potential for hydrogen-based solutions being considered worthy of further development.

LPG falls into the category of fuels sometimes referred to as a 'bridging fuel' i.e.: those fossil fuels which are a by-product of gas extraction and crude oil refining, and have cleaner burning properties than existing fuels, it's progressive in terms of emissions, but not considered clean enough to be part of the final solution. LNG again can appear to provide short term benefits, but LNG is primarily made up of methane, a greenhouse gas 80 times more potent than CO2 in the short term and 30 times worse in the long term, so no big bets being placed on LPG/ LNG!

Final word..

The topic, as we've seen already, is complex and made even more challenging by deeply held preconceptions and perhaps, given the pace of change, a forgivable lack of knowledge. The danger is in letting a single overriding consideration, like 'range' become the deciding factor. Maybe, if we couple the frequent charging requirement with approaching driver hours regulations and consider the substantial repair and service savings when running an EV, the chances of Mr Khan getting a Christmas card could be improving (slightly!)

Whichever solution wins the day, I can't help imagining trying to describe current vehicles to someone from a future where autonomous driving and clean fuel are the only game in town.. .. "Every vehicle on the road contained its own noisy fuel burning engine complete with a big tank of explosive fuel and a loud exhaust pipe which pumped fumes randomly into our breathing air... What if the driver fell asleep or got distracted?.. Oh, you crashed"

With the latest iterations of electric vans rapidly pushing through the 200 miles range barrier it's a fast-evolving space... rest assured, Handdels will be there alongside you, monitoring innovation and providing the most sustainable service possible.

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