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The New Normal in Vehicle Logistics

11 Ways Covid Will Accelerate Change in Europe

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Overview: Disruption is the New Normal

We live in exceptional times and 2020 was a particularly devastating, unexpected year. It is now obvious that 2021 will be just as exceptional, though perhaps, with experience and data, somewhat less unexpected, at least in terms of how it impacts the European automotive supply chain and logistics sector.

The convergence of challenges now facing the industry – the evolution of the coronavirus pandemic, economic downturns, border restrictions, component shortages, shipping capacity crunches, sustainability, rapid consumer shifts and Brexit to boot – demonstrate that disruption is the 'new normal' for the supply chain. By that measure, anticipating and mitigating disruption is the new business as usual for logistics managers and operators.

It is obvious that OEMs in Europe, and the vehicle logistics providers that serve them, are set for more difficulty from a harsh resurgence of coronavirus cases, further lockdowns and restrictions that may last for a long time to come, even with the rollout of vaccines. Hopes for a fast recovery are long gone and more businesses will make cuts or consolidate to survive, while others will exit the market altogether.

However, the industry is not facing the current wave of the crisis with the same lack of preparedness as it did the first. Automotive logistics has become more resilient, whether in managing volume swings, adjusting to new ways of working or implementing health and safety protocols. Carmakers, dealers and service providers have also pivoted quickly to new sales channels, including online orders, 'click-and-collect' and contactless delivery, all of which have helped companies maintain distribution even during lockdowns.

Many companies have also used the crisis to improve business continuity strategies, including in areas like sales and operations planning, network design, capacity management, cost control and employee capability. Digital tools play a role, such as enabling better visibility and optimisation, as does closer communication between manufacturers and suppliers. In these ways, the changes that OEMs, dealers and logistics providers have made will strengthen their businesses in future.

While the scale of the current crisis has tempered optimism for 2021, there are evident reasons for hope – and good business reasons for OEMs and vehicle logistics providers to proactively prepare for recovery. Even without an immediate end to the pandemic, demand for private mobility has proven strong, with 2020 showing that, as lockdown restrictions lift, vehicle sales and production levels can bounce back relatively quickly. And of course, the vaccine rollout is expected to allow for a more sustained recovery.

Vehicle logistics, as ever, will play a critical role. OEMs and providers need to work carefully to manage inventory now to avoid missing opportunities. That won't be easy given other

supply chain challenges. But the new normal is about anticipating and working through these difficulties. The central role and critical importance of logistics has only become more evident throughout this crisis, including more visibility at the board level of OEMs. That should enable logistics managers and service providers to make things happen.

And there are also opportunities for logistics as well, whether in market segments, technology, government funding or even mergers and acquisitions in the sector.

Snapshot Opportunities in European Vehicle Logistics

- Support OEMs in strategic capacity and inventory planning for recovery
- Implement new digital tools for optimised logistics networks
- Embrace news ways of working to be more agile and flexible
- Improve visibility and tracking of finished vehicles
- Leverage EU and government support to reduce logistics emissions
- Enhance logistics capacity and skills to support growth in electric vehicles
- Invest in network flexibility to support online sales and direct delivery
- Exploit the growth in used vehicles sales and logistics
- Tap into the growth in vehicle leasing and changing ownership models
- Help OEMs to navigate post-Brexit trade complexity
- Invest in weaker companies to consolidate market share and operations

1. Managing Rolling Lockdown Restrictions in the Supply Chain

Lockdowns have had the most significant impact on the European economy and automotive supply chain. Unfortunately, with Europe in the midst of a third wave of Covid-19 infections, hospitalisations and deaths, these restrictions are far from over. However, the industry's response and its ability to work through them will play a major role throughout 2021, including in capacity, cost and lead time for vehicle logistics.

The first lockdown in spring 2020 resulted in an almost total shutdowns of non-essential retail, including car dealerships, new vehicle sales and registrations, with most non-essential travel and manufacturing stopped. With a drastic demand shock for new vehicle sales – registrations declined by 90% or more year-on-year in markets during national lockdowns – and disruptions on the supply side, European passenger vehicle manufacturing came to a halt.

While some OEMs and dealerships began to pivot quickly to online sales and alternative distribution, vehicle logistics flows slowed to a trickle. Vehicle inventory was held in storage, while logistics providers furloughed workers, put transport equipment and assets in lay-up or even began to scrap or sell down some capacity.

Restrictions were broadly eased in late spring and summer. In most cases, volumes began to recover close to pre-crisis levels by August and September, supported by pent-up demand

and economic incentives. But a second wave of infections in the autumn led many European governments to reimpose restrictions.

There were notable differences from the first wave, however. In many cases, restrictions and lockdowns were less strict than in spring, with more non-essential sectors and manufacturing continuing, and 'click and collect' retail permitted in many cases, including for vehicle purchases. OEMs, retailers and logistics providers were also better prepared to circumvent the closure of physical car sales by using online sales and contactless delivery. Compared to the near-total stop in sales in spring, most markets saw vehicle registrations fall less severely.

But the autumn restrictions and 'lockdown lights' did not prove effective enough at containing the spread of infections, especially with the identification of new Covid-19 strains that are reported to be much more transmissible. Europe is thus moving deeper into 2021 with renewed and more severe lockdowns.

While vehicle demand has proved resilient, these restrictions means that any stronger recovery is unlikely to begin until later in 2021, with more medium-term economic damage likely to be felt for years to come. What's more, the stop-starts of lockdowns continue to disrupt global supply chains and lean production, with OEMs, suppliers and logistics providers struggling to align capacity to demand. A clear example today is the shortage of key components like chips and semi-conductors (see section 3). Capacity issues are also evident in container shipping and air freight. Rates remain high and make it even more challenging to expedite critical electronic parts to avoid plant shutdowns. The outcomes across the logistics sector have included longer lead times and higher costs.

For vehicle logistics, it will be important to continue adapting the lessons of the past lockdowns to help maintain production and distribution with as much stability as possible. That will include supporting flexible online channels, as well as providing high visibility of inventory and deliveries in a volatile market.

With multiple Covid-19 vaccines approved for use across the EU and UK, OEMs and providers must also work together on preparing for a stronger recovery. Certainty on when that might begin remains elusive, as vaccine supply issues demonstrate the challenge ahead in protecting the majority of the population. While restrictions should be able to ease in the coming months, there is no immediate prospect of a widespread easing. There is also no certainty that the vaccines will completely eradicate the virus. We will likely be living with the effects of it for the foreseeable future.

But that does not mean the European automotive supply chain will remain in a state of hibernation. Already, OEMs, dealers and logistics providers are better able to meet demand even amidst economic, health and supply constraints.

2. New Ways of Working, New Logistics Flexibility

The crisis has had a notable impact on working practices for production and logistics, many of which are likely to remain in place for much of this year. However, while some measures might limit productivity, many are making the automotive and vehicle logistics sectors more flexible and resilient.

Companies have applied new requirements across facilities, including social distancing, compulsory PPE, workplace hygiene and workstation reorganisation, as well as monitoring employees for symptoms and supporting tracking efforts for infections. Inevitably, such measures add extra cost and time to production and delivery. For example, some companies have had to contend with workplace shortages and absenteeism as a result of coronavirus outbreaks, furlough and redundancy.

Logistics providers continue to face new measures in cross-border logistics, too. While goods have in most cases been able to circulate, European countries have at various times in the crisis reimposed border checks and controls to monitor essential travel. Since the outbreak of a new strand of coronavirus in the UK, for example, logistics providers have faced further restrictions, from a temporary border closure with France in late December, to new requirements for drivers to show negative Covid-19 tests. Further travel restrictions are being put in place with other regions as well to contain the spread of other strands, including with Brazil, South Africa and Portugal.

Many logistics providers, meanwhile, have had to flex the size of their transport fleets up and down between lockdowns, leading to imbalances on some freight lanes. The global air freight and container shipping industries are prime examples, however, there have been localised issues in Europe as well.

More generally, the shift to home working also has impacts for many automotive and logistics workers, including employees in planning, IT, engineering, sales and other functions. Companies have introduced new software, hardware, servers and cybersecurity controls. They have also needed to allow more flexibility around childcare and home-schooling needs, provide support services such as for well-being and mental health.

The industry has proven adept at managing the changes. Early concerns about PPE supply were eventually resolved (although requirements for surgical grade masks in some countries could pose new cost and supply issues), while most manufacturing and logistics operations have implemented safety measures without losing much capacity. Border delays are causing problems – especially for the UK – but are broadly considered manageable. Meanwhile, the shift to contactless vehicle delivery and handover, notably for dealer ‘click-and-collect’ sales, or even for direct-to-customer home deliveries, will lead to long-term network and service improvements.

Remote working and greater connectivity have not only helped many companies to better track operations and performance, but also kept them in closer communication and contact with customers, suppliers, service providers and, importantly, employees. Few companies will look to roll back on the agility they have developed but will instead look to enhance it further.

3. Mitigating Capacity and Supply Chain Imbalances

The Covid-19 crisis and resulting downturns have made cash flow management critical for survival. Automotive manufacturers have quickly adjusted production and supplies to preserve cash in the downturn, however the relatively robust recovery of volumes when restrictions were lifted have made it even more important to build and move the right products to customers.

The crisis has exposed how difficult this balance can be, as many OEMs faced low inventory of products in high demand – including hybrid and electric vehicles, SUV and premium models – even as overall vehicle sales declined sharply year-on-year. This has made the planning, storage and distribution of key models more important than ever, with more emphasis on visibility, customer allocation, storage and transport.

The challenges are now more evident than ever on the inbound supply chain, as the industry faces a shortage of microchips and semiconductors. Multiple OEMs such as Volkswagen and Audi, Ford, FCA, Honda, Toyota and Nissan and suppliers such as Bosch and Aptiv are reporting shortages and reducing production plans as a result.

The shortage is a result of multiple factors, including global vehicle demand recovery in the third and fourth quarter of 2020 that was stronger than expected in some markets – especially China – and in segments like electric vehicles and other connected vehicles, which increase the industry's demand for electronic components. The widespread shift to working from home has also led to a huge uptick in demand for consumer electronics, which has also impacted supply to the automotive industry. Chipmakers tend to prioritise orders for consumer electronics over automotive manufacturers as these chips have higher volume and margins. Fallout from US-imposed tariffs on China and even a fire at a factory in Japan have compounded the issue.

Ultimately, chip and semiconductor manufacturers are likely to scale up, but we expect that it will take 2-3 months to balance supply; it could take several months more for that stability to be felt in automotive assembly. However, OEMs should be able to make up some lost production starting in the second half of the year. OEMs such as Audi are already confident that they will make up for lost production earlier than that.

However, chip shortages are likely to be just one of several supply chain capacity issues that will emerge during the next phase of the crisis. With demand for hybrid and electric vehicles

rising strongly even during the crisis (see section 7), some OEMs and suppliers have already faced supply shortages of batteries and extended lead times for finished electric vehicles. Securing and managing the battery supply chain, including developing more regional production in Europe, will play a strategic role in the coming years.

To improve alignment in the supply chain, OEMs such as Volkswagen Group and others are increasingly moving towards 'build-to-order' production models aimed at prioritising the manufacture and transport of volumes that have customer orders attached to them. According to the carmaker, the ultimate aim is to reduce delivery time down to one week from the customer order. OEMs including BMW and Mercedes are also enabling customers to track vehicles during production as part of the digital factory.

In practice, such an integrated supply chain is very difficult for OEMs. The chip and semiconductor shortages highlight the challenges of lean inventory, while manufacturers have also sought to stockpile material and vehicles in anticipation of other disruptions, including Brexit. And even the best forecasting tools are unlikely to predict sudden changes in demand related to the pandemic or other disruptions.

Nonetheless, OEMs, suppliers and logistics providers are increasingly using digital tools to help evaluate and mitigate supply chain risks, including scenario planning to help make purchasing and logistics decisions (see section 4). Companies are now more agile in switching to alternate supply and production sources or turning to new shipping routes. OEMs will continue to seek greater visibility and control over their vehicle inventory, which is likely to become even more important with the migration to more online ordering, customisation and direct deliveries.

4. Digitalising Logistics Design and Operations

The crisis has also revealed vulnerabilities in long and complex automotive supply chains. The industry's poor visibility in the upstream supply chain was exposed yet again in the early months of the coronavirus outbreak in 2020, as initial shutdowns and restrictions in China were felt across global production locations. Later, as OEMs and suppliers tried to coordinate restarts after the first lockdown, visibility was also critical to avoid dwindling supply of critical parts. Today, in the face of a third wave of restrictions, as well as ongoing shortages of components like microchips, it is obvious just how important visibility in the supply chain remains.

Manufacturers and logistics providers are exploring solutions. There is some reassessment of single sourcing, at least in terms of identifying alternate supply and shipping options. However, the importance of scale and the industry's thin margins make it unviable to multi-source all components. Instead, logistics managers are focusing more on tools to improve visibility, planning and contingency measures, including for vehicle logistics.

OEMs and suppliers have a range of IT and tracking tools in the supply chain to help monitor material and inventory, including the use of telematics and GPS, for example. When significant disruption comes, however, OEMs and logistics providers often rely just as much on spreadsheets and manual methods to track inventory and communicate directly with suppliers and logistics providers than they do advanced technology.

We expect more manufacturers and logistics providers to use tools that will better help anticipate changes in the supply chain, such as algorithm-based planning and predictive software. Supply chain modelling creates a 'digital twin' representation of the physical supply chain, for example, to optimise inventory management and plan transport scenarios, including different supply and logistics routes. Predictive, AI-based software can help businesses anticipate and adapt faster to a crisis, and ideally pre-empt a problem before it impacts the business. For example, supply chain modelling software can even help anticipate vehicle logistics capacity availability and lead times, depending on different transport modes and delivery scenarios.

The use of such tools should play a bigger role in helping to decide sourcing and production decisions, for example ensuring that OEMs weigh up the costs of logistics, trade, customs, security and delivery times in relation to labour and material costs. Such visibility will play a much more critical role in shaping manufacturing and purchasing decisions. That could be especially important not just for managing disruptions, but also in accounting for changing costs and technology. For example, as automation and robotics increase, overall labour costs may reduce and change consideration for sourcing decisions significantly.

Over the longer term, companies need to develop complete end-to-end transparency of the value chain with scenario planning to understand risks, anticipate disruption and adjust to fast-changing technology, including the impacts on delivery lead times for finished products.

5. Ramping Up Online Sales and Delivery

For many OEMs and vehicle retailers in Europe, one of the success stories of lockdown has been the rapid migration to online sales channels and delivery. Not only has this transition been essential for survival of retailers and OEMs, the Covid crisis has rapidly accelerated an overdue technological shift to online sales and service. The industry has arguably progressed further in online retailing over the past ten months than would have happened over a decade if the Covid crisis had not occurred.

The transition to online vehicle sales was never going to be as straightforward as the 'one-click' Amazon model for consumer products, not least because of the multistage nature and complexity of a vehicle purchase, whether in customising vehicle options, managing lease, finance and insurance, and eventually maintenance. The franchise dealership model also encourages a certain amount of negotiation on price.

However, dealers and customers have implemented more tools to manage these processes and transferred more communication online and through mobile apps, for example. Likewise, dealers have offered more virtual product demonstrations, as well as arranging 'contactless' test drives, delivery options, and even service and repair.

We expect many features to continue long after the Covid crisis abates, with online retail channels becoming a permanent feature of the car buying experience, supported by advanced technologies such as augmented and virtual reality.

Vehicle logistics providers and specialists have key roles to play in this transition, both in maintaining contactless handovers, and in some cases delivering direct to customers at home or other locations. They may also gain more services across online sales and planning processes, whether in managing test drives and online order processes, or carrying out PDI and modifications at logistics facilities in response to direct customer specifications.

Bricks and mortar dealerships will still have a place even as in-person sales restrictions are lifted, albeit in potentially new capacities. Dealerships are likely to focus more on higher margin business, including used vehicle sales (see section 8), aftersales servicing and maintenance, alongside managing value-added services around financing, leasing and even vehicle subscription models (see section 9).

Although most carmakers stress the role that franchised dealerships will continue to play, OEMs will increasingly offer digital services that supplement or even circumvent traditional dealerships. Along with Tesla and start-up OEMs, carmakers including Volvo Cars, Mercedes-Benz and Jaguar Land Rover have created online spaces to customise and order vehicles. At least in some cases, such services will lead to more direct transport distribution and logistics services to customers.

6. Decarbonising Logistics and Supply Chain

Sustainability has become a central focus for the wider European automotive and transport sectors. Legislation, incentives and improving technology are driving electric vehicle sales and production higher even amidst a sharp contraction in overall vehicle sales (see section 7), but environmental impacts from the supply chain and logistics are also under greater regulatory scrutiny. Sustainability is also becoming more important in network operations, fleet and asset investments, as well as purchasing and supply decisions.

The EU's wider climate change mitigation strategy is being enshrined in European law, including a recent decision to tighten the target for reducing emissions. A host of new policies are following both at the EU and member state level to encourage low-emission and less-polluting logistics. Funding is rising to support these transitions. The goals of non-EU countries in Europe are also broadly aligned with those of Brussels, including the UK, Switzerland and

Norway. Global institutions, such as the International Maritime Organization, continue to tighten restrictions on emission and particulate matter for international shipping.

Despite challenges from the pandemic, OEMs and logistics providers are putting more emphasis on sustainable supply chains. Trucking companies are adopting alternative fuels and emission-saving technology. A number of shipping lines in Europe and globally are expanding the use of liquified natural gas (LNG) and blends with biofuels to reduce emissions and pollution from bunker fuel.

The past year has seen significant moves in European climate policy, with sustainability objectives linked to wider recovery and stimulus measures. The EU agreed a new climate law at the end of 2020 to reduce carbon emissions 55% by 2030 compared to 1990 levels. Although many details are still to be determined, Brussels and member states are exploring regulations such as road pricing, expanding the EU emissions trading scheme as well as shifting more freight to low-emission transport modes. While controversial, some member states are also expanding the use of longer trucks to reduce logistics journeys.

The European Commission has committed to funding of around €1 trillion over the next decade to invest in a low-carbon economy, which includes grants and loans to help companies decarbonise, as well as financing for greener infrastructure and transport. A €750m crisis relief package, which was added to the EU's seven-year budget, allocates at least a third of funding to green projects.

The legislative push will be significant and is likely to require logistics providers to invest further in technology or to pay higher taxes and penalties for using high-emitting equipment and fuels. Transport and logistics electrification will eventually play a key role. While fully electric trucking is still niche and uneconomical for wider fleets, some vehicle logistics providers have already been trialling electric equipment for certain routes and urban logistics. Commercial vehicle OEMs are also investing in fuel cell technology.

Regulators and manufacturers are also scrutinising upstream supply chains, especially for electric vehicles. Volvo Cars and its premium Polestar electric vehicle brand have revealed data showing that their electric models are responsible for more emissions in production than similar ICE variants, emissions for which it takes years of driving a zero-emission EV to compensate. Such data strengthen arguments for more regional supply of battery components and production, with Europe witnessing a sharp increase in investment in lithium-ion 'gigafactories' for batteries – and the EU and UK both set to regulate for more localisation.

OEM managers are already emphasising that sustainability is becoming more important in purchasing and logistics decisions, including transport and packaging equipment. Carmakers like Volkswagen Group and BMW are making more efforts to track and reduce these

emissions, as well as encouraging alternative fuels and technology in outbound vehicle logistics. These efforts include rail transport that uses zero emission energy, and the use of LNG and biofuels in ro-ro shipping.

But fleet technology is not the only answer: emissions can be reduced by higher loading factors and optimising collection and delivery routes and switching transport modes in some cases. For vehicle logistics providers, supporting full visibility of emissions, as well as efforts to reduce them, will increasingly be part of the new normal.

7. Scaling up Logistics to Meet Electric Vehicle Growth

While the coronavirus crisis led to a fall in new vehicle registrations of around 25% year-on-year in 2020 across the EU and UK, sales of plug-in hybrids and electric vehicles more than doubled last year and are expected to rise further.

This growth has presented a notable opportunity for vehicle trade and logistics, encouraging providers to adapt processes and equipment to better manage the requirements of electric vehicles, including heavier weights, charging and battery maintenance. But it has also exposed shortages of inventory, leading some OEMs to turn to additional production locations to source vehicles, for example China.

EV sales growth has been the result of multiple factors. Consumers are more environmentally aware, and EV technology and infrastructure have improved. OEMs are launching more electric and hybrid vehicles and many governments have increased incentives to encourage consumers to purchase low-emission vehicles. Legislation, however, is arguably the biggest driver.

Last year saw the phase-in of the new 95g CO_2/km fleet average targets across the EU. Thanks to the shift to EV, most OEMs are now likely to meet, or at least come quite close to this target. Daimler and PSA say that they have met their individual targets, while the Volkswagen Group has come close at around 99g CO_2/km across its brands, recording a 20% reduction in fleet emissions year-on-year. The group expects to meet its target for 2021.

Legislation will continue to increase EVs sales, including through stricter emissions targets and funding that is likely to benefit investment in charging infrastructure and low-carbon logistics (see section 6). More European countries are also setting dates by which they will ban the sale of new petrol or diesel cars; Norway will phase these out as early as 2025, while the UK, Netherlands, Sweden, Ireland and others have set bans for 2030.

However, EV sales and production could face upper constraints in demand as well as supply. The rollout of charging infrastructure is still slow in many regions, and there are questions over how long governments will maintain purchase and tax incentives, especially as revenue from fuel tax decreases. A tapering of subsidies could substantially slow consumer take up.

High development costs and battery prices also tend to make EVs less profitable for most OEMs compared to ICE vehicles.

EV and battery production also faces capacity issues, including securing upstream minerals like copper and cobalt. OEMs and battery makers have ambitious plans to localise battery cell production in Europe, but some may struggle with high investment barriers in achieving planned capacity levels. EU legislation is also set to require more localised battery sourcing, putting more pressure on investment.

Already customers have faced extended waiting times for electric vehicles as OEMs have struggled to meet demand. Carmakers including Tesla, BMW and Renault have turned to China to import finished EVs. Vehicle logistics providers also face constraints, as higher average weights for EVs mean that carriers cannot achieve full truckloads under current weight and dimension limits. The EU is expected to review these regulations, but any change is unlikely before the middle of the decade.

However, the positive growth and development of EVs remains a bright spot for OEMs and logistics providers. As battery prices creep downwards, they are expected to help EVs achieve upfront price parity with ICE vehicles by 2023-24 (lifetime running costs are already arguably lower), which will help attract consumers and improve OEM margins. The growth in electric and hybrid SUV sales in Europe should also help improve profitability. And as a result, electric vehicle distribution will continue to grow and reshape European vehicle logistics.

8. New Logistics Opportunities for Used Vehicles

The Covid-19 crisis has led more consumers to purchase used compared to new vehicles. Lockdown restrictions impacted the sale of second-hand cars in Europe last year but to a lesser degree; we estimate that used vehicle sales in the UK and EU fell by around 15% in 2020 compared to 2019, a smaller decline than the 25% drop in new vehicle sales.

The relative success of second-hand vehicle sales over the past year has come despite generally rising prices for used vehicles. With fewer trade-ins from new vehicle purchases and lease renewals, used vehicle inventories have been constrained. We expect inventory levels to rise as the new vehicle market recovers later in 2021, which should lead to more stable or declining prices in used vehicle prices, and help used sales to grow even more.

As a result, used car sales will expand faster than the new vehicle market. European used vehicle transactions were estimated at 40m in 2019, a level we expect the market to reach again by 2024, rising to nearly 50m transactions by 2030. By contrast, we don’t expect the new vehicle market to reach its pre-crisis levels until nearly the end of the decade, and not at all for some markets.

Logistics services have played key roles in the resilience of the used vehicle sector. Second-hand car sales had already developed across online sales channels before the pandemic, making it easier to ramp up online sales and auctions. Logistics providers have worked more directly with OEMs, dealers and auction providers to establish dedicated distribution centres, new transport services, as well as added-value services around refurbishment and inspection.

We expect the opportunities in used vehicles to rise further and become increasingly important for OEMs and car dealerships over the next decade, as well as to provide a more significant revenue stream for logistic service providers.

9. Adapting to New Lease and Subscription Models

Partly related to changing distribution patterns between new and used vehicles is the continuing rise of leasing, which we generally expect to grow further in the wake of the crisis.

Pre-Covid, there was a trend of customers opting for lease contracts over purchasing vehicles outright or through financing. A number of factors contributed to this shift, including the rising cost of new vehicles, innovations in contracts as well as a broader shift to 'on demand' consumption, especially amongst younger consumers.

For vehicle distribution, leasing impacts not only the turnover of new vehicle volumes – with customers typically renewing leases for different models every two or three years – but also plays a role in replenishing used vehicle stock through trade-ins. Logistics and service providers maintain this inventory loop, and also perform services around refurbishment and inspection of end-of-lease vehicles for remarketing or auction.

The first lockdown in spring 2020 hurt leasing, as many customers and business fleets had few options but to extend existing contracts. The rise in remote working has also resulted in lower mileage both for private and company cars, which has encouraged customers and business fleets to extend or terminate leases rather than replace them with new vehicles.

However, there are already signs that leasing trends are accelerating. For those customers still in the market for private mobility, leasing is more attractive given economic uncertainty. Furthermore, the avoidance of public transport and shared mobility services – including carsharing, ridesharing and ride-hailing – has encouraged consumers to consider leasing as an alternative. Some leasing companies are actively exploiting this new potential customer by offering contract terms as short as 3-6 months.

What's more, we expect that the growth in EV sales will encourage customers to lease rather than purchase vehicles outright. Pre-Covid, EV leasing was outperforming the wider new car market by a factor of two, thanks in part to higher prices for electric vehicles, as well as attractive leasing deals on models like the Renault Zoe and Tesla Model 3. Leasing can be

particularly interesting for EV customers because, although the purchase price of electric vehicles is generally more expensive than petrol-based models, their running and maintenance costs are lower than equivalent ICE models. Customers can therefore avoid the purchase price and instead pay a more manageable monthly fee with reduced running costs.

There are questions over whether the long-term impacts from the coronavirus crisis will disrupt these business models. The lower running costs of EVs will typically balance the total cost of ownership with petrol-based vehicles over a certain level of annual mileage, however if remote working leads to a drastic decline in driving, it may take longer for EVs to compensate for higher upfront costs. The evidence thus far is that this potential shift has not slowed EV sales or leases, which continue to rise.

Some OEMs, notably Volvo Cars and fellow Geely-brand Lynk & Co, are rolling out more customer 'subscription' models, which unlike conventional leases can include extras such as insurance, servicing, feature upgrades and the ability to swap vehicles more readily. The rise of electric vehicles could make such models more attractive, as subscriptions might include battery maintenance (or even swapping) and also allow customers to vary the models they drive depending on journey type or other requirements.

While the success of subscriptions remains to be seen, such business models require fast and flexible logistics networks, including fewer fixed routes and patterns and more local return loops with customers. The opportunities for more value-added services will also rise. Vehicle logistics providers will need to stay close to these changing business models.

10. Adjusting to Customs and Compliance Rules Post-Brexit

Brexit has also brought a new set of rules, paperwork and costs to automotive and finished vehicle logistics.

The EU-UK Trade and Cooperation Agreement (TCA), which was announced on December 24th last year and ratified just before year end, brought a sigh of relief for all stakeholders in the automotive sector. The agreement means that there won't be tariffs and quotas in trade for goods built in the EU and UK, helping OEMs and suppliers to avoid extra costs on the substantial flow of parts and finished vehicles in either direction. The agreement staves off a worst-case, 'no deal' scenario. Already, Nissan has made a long-term commitment to its large plant in Sunderland, in the north of England, thanks to the stability that the agreement allows.

However, the free trade agreement is, compared to the UK's previous membership of the European single market and customs union, quite 'thin', introducing new friction for vehicle trade and logistics, such as customs and export documentation, permits and licences. The new arrangements also introduce new regulatory approvals, as products certified in the EU

won't automatically be permitted in the UK, and vice versa. Rules of origin requirements also have impacts on certifying parts and potentially on tariffs.

The most significant problems appear so far to be for food and seafood exports, as well as for complexities in moving goods within the UK to and from Northern Ireland – which remains in the European single market and applies EU customs rules, creating a regulatory border with the UK mainland.

For vehicle logistics, many challenges are expected to remain manageable and may mostly require time to adapt new processes and IT systems. However, those handling automotive trade are still facing bottlenecks and complexity in moving goods. OEMs and logistics providers are likely to consider setting up subsidiaries on either side of the Channel for certain operations, as well as new locations for distribution centres or even production to avoid friction. The end of the free movement of people could also compound some labour shortages, such as truck drivers.

At a minimum, the outcome looks likely to be costlier logistics and longer delivery lead times between the UK and EU.

But service providers have a key role in helping OEMs to manage and mitigate these impacts. Failures in providing documentation has already led to delays and supply chain issues across sectors, for example with non-compliant invoices. The evidence so far suggests that government IT systems both in the UK and EU are encountering teething problems in handling documentation such as customs declarations, Transit T1 permits (for non-EU members) and the export licences required before vehicles are shipped. The 11th hour confirmation of the free trade deal has added somewhat to the difficulty, as manufacturers and logistics providers were not completely sure of all aspects of the trading regime coming into place. Meanwhile, problems for the automotive sector may currently be masked by the Covid crisis and the scale of delays may only become more apparent when volumes ramp up.

Some shipping and distribution changes are inevitable, especially for non-EU products. For example, OEMs that previously imported and cleared customs for vehicles from Asia or North America into the EU through ports in Belgium, where they might then be stored for eventual distribution to the UK, will now need to import and customs clear UK-bound vehicles directly in the UK. Likewise, storing vehicles in the UK for distribution in Northern Ireland or the Republic of Ireland could also cause issues, requiring more direct ferry services with continental Europe.

Demonstrating that vehicles meet rules of origin will be a new challenge for automotive trade between the EU and UK. The free trade agreement states that UK- or EU-built vehicles will remain exempt from tariffs if at least 55% of the value of components are from either the UK or EU. Most OEMs are satisfied with this level of content requirement, however meeting the

paperwork requirements to prove supplier origins will take time for OEMs to adjust. That is why there is a one-year grace period on providing full supporting documentation.

There is nevertheless some complexity in meeting the targets. While most vehicles built in the EU or UK typically meet or exceed the 55% threshold, vehicles that import engines from other regions are likely to have lower localisation rates. Ford, for example, now faces tariffs to the UK on several high-performance models built in Germany that import their engines from the US.

Electric and hybrid vehicles built in Europe also import a large proportion of the value in the form of the battery. As a result, there is a six-year phase-in period for EVs and batteries. Until the end of 2023, complete EVs, including hybrid, plug-in hybrid and battery electric vehicles, have a minimum EU-UK origin threshold of 40%, compared to the 55% required for combustion engine vehicles. During this period, batteries must have at least 30% of parts sourced in the EU or UK.

From 2024 to end of 2026, the origin threshold for finished EVs rises to 45%, while batteries must have at least 50% regional content. From 2027, the rules are expected to tighten further as part of wider EU and UK objectives to develop a regional battery supply chain. However, these increases will be a tall order and the regulatory complexities around Brexit could make it even more challenging.

Ultimately, trading post-Brexit should become easier once system challenges are overcome. Nissan's management has downplayed the early challenges, while also announcing that it would shift some long-range battery production from the US to the UK for local Leaf production to avoid tariffs. Volvo has also referred to current delays as 'teething problems'.

Some logistics providers will even benefit from helping OEMs to manage new processes smoothly, offering OEMs alternative shipping routes or providing the necessary bonded storage and customs solutions to avoid tariffs. Eventually, as the UK agrees free trade agreements with other regions outside the EU, there could be additional vehicle trade and shipping opportunities.

In the meantime, OEMs and logistics companies are facing more time and costs in their logistics processes, impacts which will weigh on profit margins, competitiveness and investment decisions.

11. Consolidating Costs and Services in the Supply Chain

The Covid-19 crisis has severely impacted the finances and bottom line of almost all OEMs and logistics companies in Europe. Many companies have relied on extensive credit lines, as well as government-backed loans to support cashflow as well as employment support.

Ultimately, companies across the supply chain are confronting aggressive cost cutting, restructuring and cash preservation. The pain from these will continue to be felt throughout 2021 and beyond.

Manufacturers are starting to look at where to make structural adjustments. Already, there have been changes and reductions in production capacity, including Nissan's plan to shut a factory in Spain, Renault repurposing and consolidating some French plants, Daimler selling its Smart plant in France to INEOS, and BMW planning to shift some contract manufacturing from the Netherlands to its own plant in Leipzig, Germany. Honda had also already decided to close its UK plant in 2021. It remains expensive and difficult to close plants in Europe; however, a number of under-utilised factories remain under threat. Carlos Tavares, the chief executive of Stellantis, formed following the merger of FCA and PSA, has already pointed to risks to Vauxhall plants in the UK, for example.

Logistics providers will continue to feel the squeeze from OEMs. General shipping and freight rates have increased, in part thanks to limits in capacity and disruption in the supply chain. But OEMs will look for savings on contracts with service providers wherever possible or may look to insource certain functions where it makes sense. Other OEMs may just as well reduce internal staff and outsource more logistics.

An ongoing impact is likely to be greater industry consolidation. The PSA and FCA merger, which was agreed before Covid, will be an example where manufacturers rationalise development costs, share more vehicle platforms, suppliers and logistics services. More joint ventures and partnerships are likely on the OEM side, while consolidation among tier suppliers is also in evidence.

Acquisitions and consolidations in the vehicle logistics sector are also likely. Companies with strong balance sheets and access to working capital could exploit opportunities for M&A activity to gain new capabilities or access market segments. Companies which have a strong presence in digital sales channels, or the second-hand market may be able to invest in new assets, technology and companies.

Other optimisations continue to follow as a matter of efficiency and necessity. The Covid crisis has accelerated the trend towards companies digitalising processes, whether communication and workflow management, or advanced business spend management software that integrates procurement, budgeting and invoicing with inventory management and analytics. OEMs and logistics providers have also put more focus on tools for visibility, network and load optimisation, as well as network simulation systems (see section 4).

OEMs will increasingly look to work with suppliers on reducing costs, and those providers able to do this without comprising quality will, as ever, gain a competitive advantage.

Conclusion: Logistics Proves its Value

In times of economic downturn, manufacturers often look to find savings in areas perceived as 'non-value added', including logistics and inventory. But the Covid crisis has emphasised the importance of effective supply chain and logistics management, both in overcoming disruption or in helping businesses to adapt working and sales models.

Whether it is working closely with suppliers to identify critical parts shortages to prevent costly stoppages at a vehicle plant, helping an OEM prioritise customer orders across global vehicle stocks, or pivoting distribution networks to deliver online orders, OEMs must collaborate closely and integrate systems across logistics providers.

While 2021 will continue to bring significant difficulty and risk to Europe's automotive and vehicle logistics industry, providers have the opportunity to play a major role in the eventual recovery, as well as to capture new services and investment in a sector that is becoming more digital, sustainable and agile.

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