



**TOP 10 GROWTH OPPORTUNITIES IN MOBILITY FOR 2021**  
– WHAT YOU NEED TO KNOW NOW



## State of the Industry –

The automotive industry, which witnessed weak global sales in 2019, was dealt a body blow in the form of the COVID-19 pandemic in 2020. The resulting lockdowns across all major economies resulted in global sales plummeting in the first half of the year.

There have been hints of a revival in the second half of the year, the sustainability of which is being watched keenly by industry participants.

## Signs of a Recovery?

Major markets such as China, India and Europe have shown signs of a recovery as lockdowns ease and economies sputter back to life.

Sales in China and India have been driven by compact small cars sought by first time buyers, many of whom remain apprehensive about public transportation and ridesharing services.

In Europe, the success of incentive programs in major markets such as Germany have contributed to positive numbers.

The US automotive market has also witnessed a revival in the third quarter boosted by demand for SUVs and pickup trucks.

# 1

## REBIRTH OF THE USED CAR MARKET



- As the sales of new cars in many countries double, used cars have emerged as a key growth catalyst for the automotive industry.
- The global used car market is poised to boom driven by COVID-19 and the subsequent market realignment in 2021.

### What's Driving Growth?

- **V-shaped Recovery:** The current ramp-up phase is indicating a V-shaped recovery for the used car market by 2021.
- **Demand for Electric Vehicles (EVs):** The demand for used battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs) is set to grow six times over the next six years.
- **Online Retail:** Online transactions (part/full payment) related to used cars are expected to grow robustly at a CAGR of 9% between 2019 and 2025.

### Recommendations & Best Practices

- **Value-added Services:** Offering value-added services has evolved into a key best practice in the used car market.
- **Full-stack Approach:** A full-stack/integrated approach is a crucial ingredient of online used cars platforms.
- **TRT Strategy:** Transparency, Reliability, and Trust will be essential to succeed in online used car sales.

# 2

## TWO SPEED WORLD ECONOMY



- The global automotive sales have been on the decline for over two years due to multiple reasons, including a gradual fall in economic activity and rising prices of automobiles. The pandemic has made the situation worse. The automotive industry is slowly coming back to pre-COVID life from a virtual standstill albeit at varying speeds. Frost & Sullivan believes that consumer demand will recover much faster in China and the US, closely followed by Europe and India.
- While China took the lead in the global automotive recovery, the US market gathered momentum in the third quarter. As the COVID-19 situation across Europe remains fluid with the second wave coming in, many of the countries in the region are expected to have a U-shaped recovery.

### What's Driving Growth?

- **Rising Usage of Personal/Private Cars:** People will prefer personal vehicles over public transport and shared mobility over safety concerns the pandemic situation.
- **Subsidies and Incentives by the Government to Buy EVs:** Many countries are taking the opportunity to encourage the purchase of hybrid and electric vehicles by offering monetary benefits as part of the COVID-19 recovery packages.

### Recommendations & Best Practices

- **Spruce Up Online Sales:** Online sales in the automotive industry is still in its nascent stage. However, due to the impact of COVID-19 pandemic, dealers have enhanced their online selling capabilities and buyers are becoming more accustomed to the idea of buying cars online.
- **Re-evaluate Electrification Strategy:** Automakers, auto component suppliers, and the government must engage with each other to create the ecosystem and the architecture to lower the total cost of ownership and expedite the mass adoption of EVs.

# 3

## ONLINE TO BOOM



- Digitization has underpinned the emergence of digital retail as a major revenue stream opportunity for the automotive industry. Digital retail has witnessed steady growth over the past decade, capturing significant share in the more organized automotive markets of Western Europe and North America.
- Growth is set to accelerate as digitization enables the synergistic convergence of multiple stakeholders onto a single platform. This will allow stakeholders to offer end-customers enhanced value-added services at competitive prices.

### What's Driving Growth?

- **Ease of Purchase:** The ability to view, compare and select from a multitude of choices through a simple click of a button makes the purchase process more convenient and effortless.
- **Competitive Pricing:** Digital retail sales support better inventory and supply chain management. The lack of physical stores allows it to be more cost-competitive than traditional bricks-and-mortar sales channels.

### Recommendations & Best Practices

- **Omnichannel Approach:** Stakeholders need to look beyond sales via the website only and expand to multiple e-Commerce channels that will open more revenue-generating opportunities.
- **Seamless Customer Journey:** Gaps in the customer journey through the lifetime of the product need to be identified and effectively addressed.

# 4

## CONNECTED CAR IOT PLATFORMS



- Understanding consumer demands and challenges for vehicles have made it possible for automakers to bring elements of the consumer electronics world into the vehicle, thus generate new revenue streams. Software-defined vehicles are evolving to provide software-over-the-air (SOTA) and firmware-over-the-air (FOTA) enhancements that allow dramatic transitions within the vehicle, therefore enhance user experience (UX) as well.
- This includes the new-age connected car Internet of Things (IoT) platforms such as the in-car marketplace and Feature-on-Demand (FoD), which allow customers to make use of both mobility and personal retail services inside the car and expand the revenue streams for automakers.

### What's Driving Growth?

- **Changing Consumer Preference:** Vehicle-centric use cases such as Parking, Fueling and Charging are of higher priority to customers. At least 65% of drivers prefer using these services via in-car marketplace or FoD.
- **Recurring revenue potential:** For automakers, the in-car marketplace is a source of recurring revenue as the integration of third-party applications can make several business models possible.

### Recommendations & Best Practices

- **Customer Retention:** Original Equipment Manufacturers (OEMs) have higher chances of bringing in service revenues through these platforms and transactional business models, which will support their overall value proposition.
- **Deeper Integration:** Control options via head unit and voice assistants are highly preferred, highlighting that OEMs need to integrate both touch and voice as input modes.

# 5

## GROWTH IN SUBSCRIPTION SERVICE



- Vehicle subscription represents a key trend for 2021, which will provide opportunities for OEMs and leading providers in the automotive industry. On the demand side, its popularity is spurred by duration flexibility, short-term commitment and vehicle swapping at no additional cost. On the supply side, it is driven by the large stock of used cars, especially that of off-lease cars, which can be monetized by lease providers.
- This business model is currently popular in North America and Europe. It is expected to grow into a globally dominant trend by 2025.

### What's Driving Growth?

- **Low Production:** Low new car production and launches.
- **Increase in Used Car Assets:** Growing off-lease or 0 km dealer stock.
- **Drop-in Fleet Renewals:** Postponement of high-value purchases like cars by corporates due to liquidity challenges.

### Recommendations & Best Practices

- **Affordable Payments:** Solutions need to be made more affordable to appeal to a wider customer base, i.e. the option of monthly payments.
- **Personalization:** Particularly over the short term, solutions need to be more personal with adequate health, safety and sanitary features.
- **More Recent Used Cars:** More recent used cars should be introduced into the pool as customers prefer vehicles with the latest features.

# 6

## CAR AS A POINT OF HEALTH



- In a bid to offset plummeting car sales and claw back short term profits, automakers are shifting their focus to advanced connectivity technologies that accelerate health, wellness and well-being (HWW) agendas. If the previous decade was all about mobility being sustainable, the next decade will be about keeping vehicle occupants safe and healthy.
- The number of connected vehicles with HWW features is projected to expand from 11 million units to more 40 million units between 2019 and 2025, growing at a CAGR of 25%.

### What's Driving Growth?

- **Demographics:** In Japan, fatalities caused by drivers aged 70+ years rose from 8.7% in 2008 to 14.8% in 2018. Globally, senior citizens will become the focal point of new HWW design features in cars.
- **Air Pollution:** The emphasis on combating air pollution and in-vehicle allergens, together with health & safety concerns related to the recent pandemic, will result in HWW manifesting initially as “Purify” in-car features.
- **Road Safety:** According to WHO estimates, approximately 1.35 million people die each year as a result of road traffic crashes. As the next layer of functionality, HWW features are expected to manifest as “Measure and Monitor” features.

### Recommendations & Best Practices

- **Identify the Right Segment:** Market participants need to identify and establish partnerships that yield maximum synergies.
- **Platform flexibility:** Solutions with the ability to adapt to various use cases and support platform/plug-and-play functionalities for risk mitigation need to be developed.
- **Pricing flexibility:** OEMs must also offer greater flexibility and transparency in pricing. Various options like subscription-based or pay-as-you-go models need to be designed.



# 7

## CIRCULAR ECONOMY, AUTOMOTIVE INDUSTRY INNOVATES TO ZERO



- Automotive companies have been very good in terms of building carbon-neutral factories, striving for zero fatalities or developing zero-emission cars
- Currently, the focus on adopting the use and reuse practices, which incorporate 'Design and Dismantle' principles at the design stage itself, which will reduce the waste generated during the production of a vehicle, thereby facilitating Innovation to Zero in the manufacturing process

### What's Driving Growth?

- **Strict Regulations:** In the past decade, Europe has passed laws to reduce the waste arising from end-of-life vehicles. Incorporating reusable components during manufacturing will make it easier to recycle and reuse.
- **Focus on Environment:** Increasing consumer awareness about the environment has encouraged companies to develop sustainable vehicles, which have reduced the overall impact on the environment.

### Recommendations & Best Practices

- **Sustainable Processes:** OEMs should revisit their production processes and incorporate solutions that will enable sustainable production, e.g. recycling of EV batteries.
- **Design Focus on End-of-Life Phase:** Strategic thoughts on design should be applied to focus on the end-of-life phase and how the components can be recovered and reused.

# 8

## THE RISE OF DEDICATED EV PLATFORM ARCHITECTURE STRATEGIES

- Increasingly stringent emission norms, coupled with the growing customer preference for electric vehicles (EVs), are motivating OEMs to ramp up their electric car portfolios. OEMs will also need to account for the accelerated convergence of Connected, Autonomous, Shared and Electric (C.A.S.E) trends. In order to successfully address these trends and ensure continued profitability, OEMs will need to develop dedicated EV platforms that are, simultaneously, modular and scalable.



### What's Driving Growth?

- Cost of development:** Building a dedicated platform is seen as beneficial to achieving economies of scale and ensuring cost/resource efficiencies for EV makers.
- Scalability and modularity:** Scalable and modular components will allow OEMs to build EVs of different types and sizes using the same set of components, thereby promoting economies of scale.

### Recommendations & Best Practices

- Collaboration:** OEMs lacking the required investment capital to build a dedicated platform need to collaborate with other industry players on co-creation development models.
- Re-strategize:** Automakers should strategize best-in-class flexible and variable EV/AD (autonomous driving) platforms that can seamlessly transition into mobility intelligence platforms.

# 9

## DATA AS THE 21<sup>ST</sup> CENTURY OIL: THE SHIFT FROM “HORSEPOWER” TO “COMPUTING POWER”



- Data-led transformations are inevitable for OEMs, considering the increasing number of digital touchpoints and evolving use cases. Future automotive revenue growth will arise from downstream services driven by a platform approach that leverages data.
- Data monetization is already gaining momentum in the automotive industry and is expected to witness further growth in 2021 post-COVID-19.

### What's Driving Growth?

- **The Rise of New Ecosystem Players:** Technology platform companies that assist in aggregating, analyzing and interpreting the data into actionable insights are on the rise.
- **New Revenue Streams:** Apart from sales revenue, the advent of large volumes of data provide opportunities to OEMs to monetize the data through business models such as brokering, bartering and business intelligence.

### Recommendations & Best Practices

- **Establishment of a Digital Strategy:** Digitization is the foundation for data generation and computation. OEMs should focus on establishing an overarching digitization strategy.
- **Engage with Platform Companies:** Platform companies such as Otonomo and Octo Telematics must be ripe for engagement to create the ecosystem and the architecture to collect data from disparate systems and to aggregate, analyse, and interpret the same.

# 10

## THE RISE OF FUEL CELL ELECTRIC VEHICLES (FCEVs)



- Fuel cell mobility has been in the spotlight over the last couple of years. This focus is set to intensify in these uncertain times. Fuel cell electric vehicles (FCEVs) are a form of clean transportation with water constituting their tailpipe emissions. FCEVs have 3-5 times the range and faster refuelling, five minutes for hydrogen dispensing and 45 minutes to one hour for a 50-100kW DC fast charger, compared to battery electric vehicles (BEVs).

### What's Driving Growth?

- **Government Support:** Countries like China, Japan, South Korea, the US and Germany are pushing for the development, manufacture, and sale of FCEVs via various programs.
- **Increasing investments:** OEMs like Hyundai, Audi and Toyota have invested heavily in setting up dedicated divisions and programs for FCEV research and development (R&D).

### Recommendations & Best Practices

- **Hydrogen Production:** Lowering the cost of hydrogen production will be a major factor in reducing the price of FCEVs.
- **Infrastructure:** The increase in FCEVs will be accompanied by a higher requirement for hydrogen refuelling stations. Onsite hydrogen production via electrolysis is a viable option that could cut down transportation costs and significantly reduce the retail cost of hydrogen.

## SCHEDULE A COMPLIMENTARY DISCUSSION WITH OUR INDUSTRY EXPERTS

<https://hub.frost.com/gsd/>

### Recommended Readings:

- ✓ [Global Automotive Industry Outlook, 2020](#)
- ✓ [Global Electric Vehicle Market Outlook, 2020](#)
- ✓ [Strategic Analysis of the Global Vehicle-to-Everything \(V2X\) Market, Forecast to 2025](#)
- ✓ [Global Shared and Autonomous Mobility Industry Outlook, 2020](#)
- ✓ [Strategic Analysis of eRetailing in the Global Automotive Aftermarket, 2020](#)
- ✓ [Global Vehicle Leasing Market Outlook, 2020](#)
- ✓ [Evolution of 3rd, 4th & 5th Dimension of Travel](#)



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### SILICON VALLEY

3211 Scott Blvd  
Santa Clara, CA 95054  
Tel 650.475.4500  
Fax 650.475.1571

### TOKYO

Akasaka Park Building  
5-2-20 Akasaka, Minato-Ku  
Tokyo 107-6123 Japan  
Tel: +81.0.3.4550.2210  
Fax: +81.0.3.4550.2205

### LONDON

Floor 3 - Building 5  
Chiswick Business Park  
566 Chiswick High Road  
London W4 5YF  
Tel +44 (0)20 8996 8500  
Fax +44 (0)20 8994 1389



[myfrost@frost.com](mailto:myfrost@frost.com)



877.GoFrost (877.463.7678)



[www.frost.com](http://www.frost.com)