

Automotive Manufacturing

The current market and future roads



Key Highlights

A Snapshot of the current automotive industry

Key Acceleration Initiatives

Facing Competition

How Can we get there ?

Introduction Statement

The automotive industry, much like a lot of industries, has faced crisis after crisis since 2020. The Covid-19 pandemic, and the ongoing uncertainty attached to this crisis, alongside a prolonged shortage of semiconductors, presented OEMs with the perfect storm in 2021.

Fast forward to 2022, and the initially optimistic predictions for recovery faded quickly as war broke out in Ukraine and geopolitical instability in the region of Europe increased, once again threatening vital supply chains.

Manufacturers are further faced with the increasing disruption attached to sustainability policy, changing consumer preferences and technological innovation. While the significant level of investment made by the automotive sector towards advanced product technologies, enterprise systems and automation solutions are well known, the industry, and particularly manufacturers, are now faced with a new competitor- the technology and data companies that are leading the Fourth Industrial Revolution.

Trailblazers in Industry 4.0, these technology companies have transformed the physical world through digitisation, producing optimised actions from insights through the development of high-speed connectivity, low-cost computing and machine learning. Increasingly, these tech actors are entering the automotive industry, resulting in traditional manufacturers lagging behind.

This industry outlook thus presents a current snapshot of automotive manufacturing in the UK and Europe, before detailing a blueprint to enact change, and direct the route for manufacturers in the industry to step up to challenges of the Fourth Industrial Revolution.

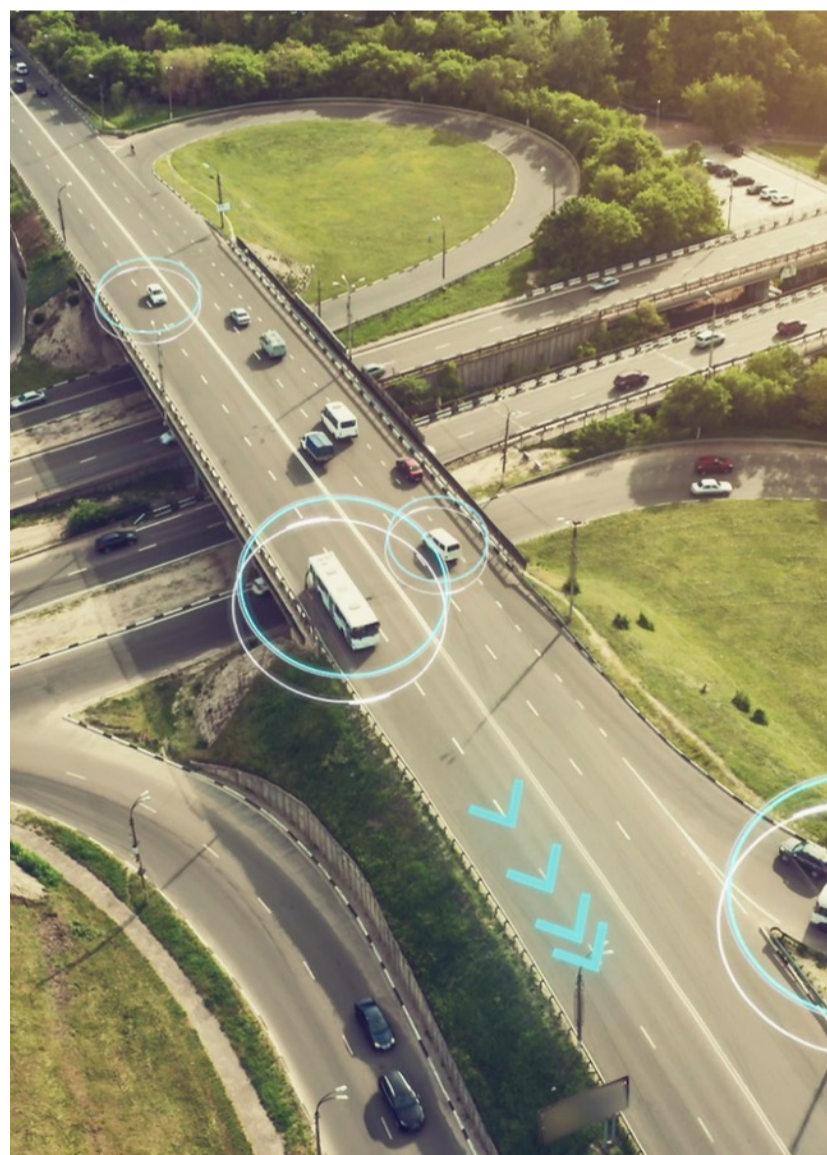
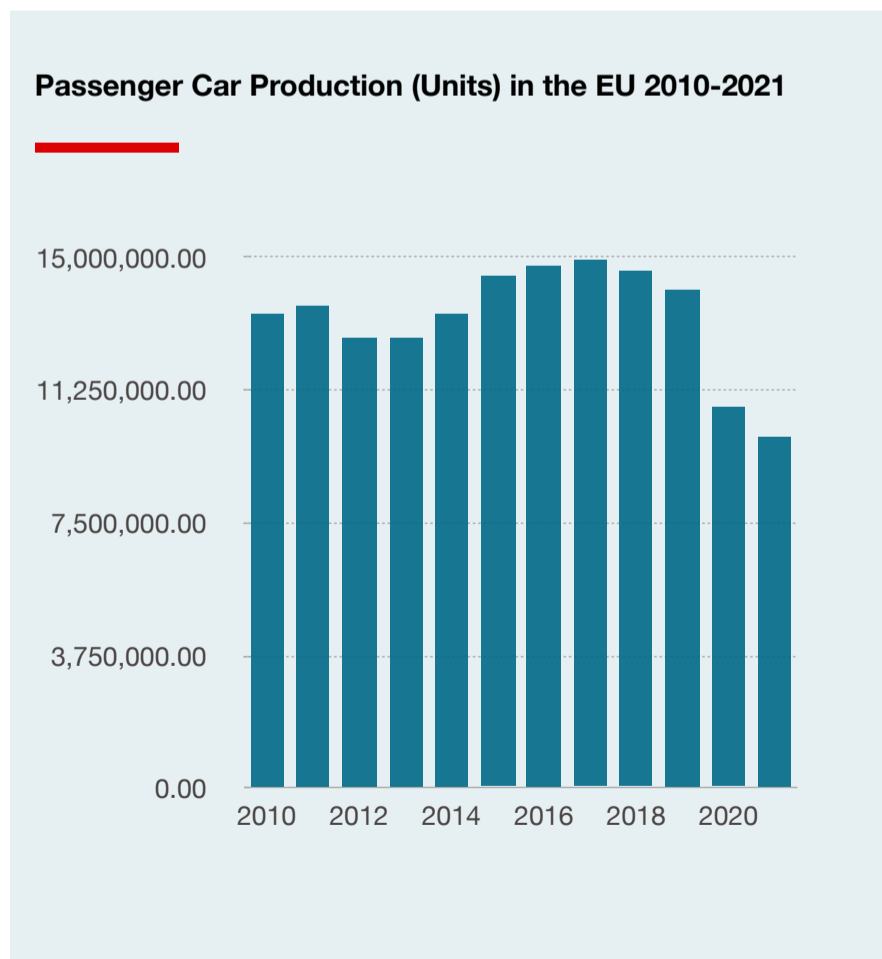
A Snapshot of the Current Automotive Industry

The year is 2022. Still reeling from the impacts of the Covid-19 pandemic, and subsequent supply chain delays, as well as the semiconductor shortage, the figures for the automotive industry are underwhelming. **In the UK, the new car market declined -15.8% to 119,167 units in April**, with the 2022 outlook for production revised, decreasing from 1.89 million units to 1.72 due to the persistent parts shortages that continue to impact supply. Across Europe, the picture is not much different.

In 2021, new car sales in Europe were down by 1.7% to only 11.75 million vehicles across the continent. Although the difficulties faced particularly in the German market have been one of the main drivers

of the poor results in the EU, with the **German drop in volume being the worst results since 1985**, virtually all countries within the region faced similar drops in demand for new cars. **Austria faced the worst year for new car registrations since 1984, Belgium since 1995 and the Netherlands since 1980.** At the beginning of 2022, the European Automobile Manufacturers' Association predicted a 7.9% rise in new car sales due to the easing of the semiconductor supply problems, which whilst optimistic, was still a prediction some 20% below the pre-pandemic levels of sales in 2019.

Slightly after this prediction, war broke out in Ukraine, resulting in a decreased outlook for the European vehicle market, because of the subsequent increased threat to supply chains. The fragility of European supply for automotive manufacturing, already apparent due to the effects of the semiconductor shortage, is likely to be increasingly evident in vehicle manufacturing in the region over the next few years due to the high levels of uncertainty linked to the geopolitical crisis in Eastern Europe. Against the backdrop of these disruptions are also significant changes to the fabric of the automotive manufacturing industry. The automotive value chain, including manufacturers, consumers, national car markets, suppliers and regulators, is set to be disrupted significantly by changes in the automotive industry as a whole, which result from the increasing development and use of new technologies, such as Industry 4.0 technologies, changing consumer preference (i.e., in relation to ownership), sustainability concerns and policies, and increasing development and competitive advancement from emerging markets.



Facing Competition



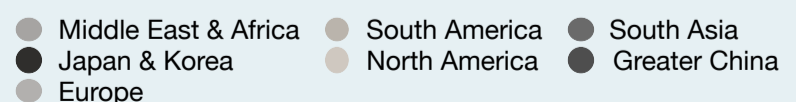
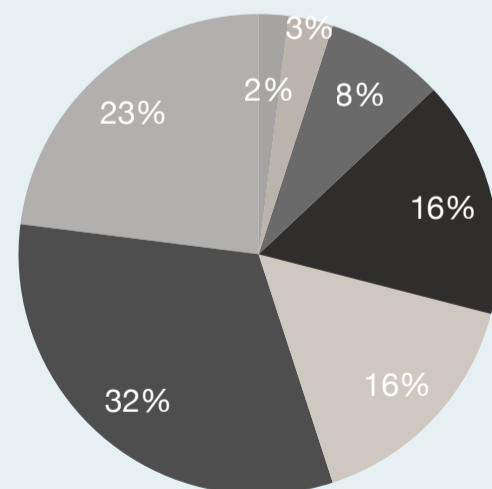
Faced with increasing disruption from both the wider operating environment, and the industry itself, automotive manufacturing firms are currently in a precarious position. The market share of European automotive manufacturing has been rapidly decreasing since 2018, with the region losing market share to Greater China. Although almost a quarter of all cars are made in Europe, in 2018 the region faced a **1.6% decline** in units produced, a **6.2% decline** in 2019 and a **16.9% decrease** in 2020.

A growing and increasingly important and omnipotent source of instability in the market is increased competition from new actors entering the market, due to the divergence of the traditional automotive industry with other industries, most notably the tech industry. These market actors are likely to adopt a strategy of initially focusing on a handful of specific areas within the automotive value chain, targeting only the most economically attractive segments of the market, before expanding.

Many new actors are predicted to capitalise on this disruption and enter the automotive market, particularly cash-rich, high-tech companies and start-ups. Such new entrants pose a significant threat to existent automotive manufacturers given that along with being high-tech and cash-rich, they wield more influence with consumers and regulators (for example, by generating interest in new forms of mobility, or by lobbying for the favourable regulation of new technologies). Automotive manufacturers must therefore act now and make

strategic moves to maintain their place in the evolution of the automotive industry. To counter this threat and get ahead of the curve, it is important that manufacturers best place themselves in a position to be able to both adapt to the increasing, diversified demands of the industry, whilst maintaining core manufacturing activities. A recent report by McKinsey & Company considers that the solution to navigating the changes ahead should be managed by incumbent automotive manufacturers in four ways.

Market Share in Vehicle Production 2020



Key Acceleration Initiatives

Leverage Partnerships.

The automotive industry is in a period of transition, propelled by changes within the operating environment, uncertainty and the advancement and development of disruptive technologies. Whilst traditional competition between peers is transformed to new competitive interactions from actors not typically associated with the industry, the automotive manufacturing landscape is increasingly characterised by open and scalable ecosystems, where partnerships are key. Automotive manufacturers, along with suppliers and service providers have two options: form alliances or participate in these ecosystems (i.e., to create the infrastructure required for autonomous and electric vehicle production).

Encourage and lead transformational change.

Product value and innovation are increasingly reliant upon and defined by new technologies. For this reason, manufacturers should align both their processes and skills to help address new challenges such as cybersecurity, continuous product updates, software-aided consumer value definition and data privacy.

Be proactive and Agile.

The market is currently characterised by heightened uncertainty, and automotive manufacturers must be proactive in terms of uncertainty- and crisis-preparedness. Manufacturers should continuously endeavour to anticipate new market trends and explore new and relevant business models to match these challenges. Agility and scenario planning will be imperative to both identify and scale new attractive business models.

Value Proposition Reengineering.

Manufacturers in the automotive industry should strive for differentiation to match the current challenges faced and remain competitive. Manufacturers may best focus on changing the value proposition of their firm, to build a stronger position in the automotive market, and seek new business models and opportunities that allow for opportunities both in the core-business area, and new business areas to be combined.



How can we get there?

Based on the following analysis, one thing is clear. Change within the automotive industry is happening, and whether incumbent firms like it or not, the change is increasingly being driven by tech. In order to overcome the disruption and challenges and enact the appropriate strategic change, manufacturers must possess the enablers to execute new business models and sources of value. Manufacturers in the automotive industry must scale-up, and aim for technological innovation to meet changing consumer, technological and sustainability requirements, and to remain competitive in an industry characterised by negative growth forecasts and uncertainty. Based on our expertise and lengthy experience within the manufacturing industry, we believe that incumbent automotive manufacturers will greatly benefit from support in three key areas.



Investment Capital

Risk capital is imperative for investment in experimental and new technologies, as well as business applications. Equity, growth, and venture capital would provide firms with the essential resources required to enact long-term, knowledge-based investment.

Transformation Management

To manage the transformation of automotive manufacturers a clear plan is needed. The right program of management and digital transformation structures should be in place. Agile digital platforms would allow for the collection of large volumes of unstructured data, from both internal and external sources, which can be processed into actionable insights, and which facilitate information sharing with external partners.

Expertise

The roll out of expertise and skills across manufacturers in the automotive industry will allow for new technologies and disciplines to be assimilated and will help to build new capabilities within incumbent firms in the industry.

Talent

To make the transition to Industry 4.0 integration a success, automotive manufacturers must have the talent in place. Identification of the correct skillset and the recruitment of the right talent is an important growth driver. Investment to upskill existing employees is likely to be required.

Summary

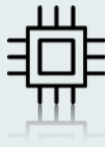
This industry outlook presented a brief snapshot of the current position of European automotive manufacturing. Against both supply chain and strategic threats, we call manufacturers within this industry to rethink their current business models and strategy and join the Fourth Industrial Revolution. Doing so will allow for increased competitiveness in an industry that is in a period of rapid transformational change, allowing manufacturers to meet the demands of the 21st century.

The Snapshot

Still reeling from the impacts of the Covid-19 pandemic.



The fragility of European supply for automotive manufacturing, already apparent due to the effects of the semiconductor shortage.



Competition outlook and strategic moves to maintain their place in the evolution of the automotive industry.



Manufacturers in the automotive industry must scale-up, and aim for technological innovation to meet changing consumer, technological and sustainability requirements,



Oak Universe

Oak Universe AB

Visiting and postal address: Strandvägen 7, 114 51,
Stockholm, Sweden

Legal Notice

This white-paper (the "Presentation") has been prepared by Oak Universe AB ("Oak Universe" or the "Company") and is provided for information purposes only.

This Presentation may not be used for, or in connection with, any offer to, or solicitation by, any person in any jurisdiction or under any circumstances in which such offer or solicitation would not be authorized or lawful. This Presentation does not constitute or form part of, and should not be constructed as, any offer, invitation, solicitation or recommendation to purchase, sell or subscribe for any securities in the Company in any jurisdiction and does not constitute any form of commitment or recommendation on the part of the Company.

This Presentation may not, without the prior written consent of the Company, be copied, passed on, reproduced or redistributed, directly or indirectly, in whole or in part, or disclosed by any recipient, to any other person, and it may not be published anywhere, in whole or in part, for any purpose or under any circumstances.

This Presentation is not a prospectus and has not been approved or reviewed by any governmental authority or stock exchange in any jurisdiction. Prospective investors must solely rely on their own examination of the legal, financial, taxation and other consequences of an investment in the Company. Prospective investors should not treat the contents of this Presentation as an advice relating to legal, taxation or investment matters.

Certain information contained herein has been obtained from published sources prepared by other parties that the Company has deemed to be relevant and trustworthy. No representation or warranty, express or implied, is made by the Company as to the accuracy, completeness or verification of any information contained in this Presentation. The Company has not made any independent review of information based on public statistics or information from an independent third party regarding the market information that has been provided by such third party, the industry or general publications.

Although efforts have been made to accurately describe the Company, the Company disclaims any and all liability for the content being correct, accurate and complete. In addition to information provided in the Presentation, the Company also

disclaims any and all liability for oral and written information that a potential investor may be provided with by the Company. The Company also disclaims any and all liability for direct and indirect consequences resulting from decisions which are wholly or partly based on information in the Presentation.

Statements in this Presentation, including those regarding the possible or assumed future or other performance of the Company or its industry or other trend projections, constitute forward-looking statements. By their nature, forward-looking statements involve known and unknown risks, uncertainties, assumptions and other factors as they relate to events and depend on circumstances that will or may occur in the future, whether or not outside the control of the Company. No assurance is given that such forward-looking statements will prove to be correct. Prospective investors should not place undue reliance on forward-looking statements. They speak only as at the date of this Presentation and the Company do not undertake any obligation to update these forward-looking statements. Past performance does not guarantee or predict future performance. Moreover, the Company do not undertake any obligation to review, update or confirm expectations or estimates or to release any revisions to any forward-looking statements to reflect events that occur or circumstances that arise in relation to the content of this Presentation.

This Presentation as well as any other information provided by or on behalf of the Company in connection herewith shall be governed by Swedish law. The courts of Sweden, with the District Court of Stockholm as the first instance, shall have exclusive jurisdiction to settle any conflict or dispute arising out of or in connection with this Presentation or related matters.