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BMW Mini: Big decisions under the Brexit Cloud[[1]](#endnote-1)

Ken Mark wrote this case under the supervision of Professor Klaus E. Meyer solely to provide material for class discussion. The authors do not intend to illustrate either effective or ineffective handling of a managerial situation. The authors may have disguised certain names and other identifying information to protect confidentiality.

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In April 2017, BMW AG (BMW) faced a big decision regarding which plant should receive the mandate to produce the first electric version of BMW’s iconic Mini car. The leadership team of BMW’s operations in the United Kingdom (UK) was determined to keep the Mini at its historical home base in the UK. However, given the uncertainty arising from the UK’s decision to leave the European Union (EU)—a move commonly known as “Brexit”[[2]](#endnote-2)—how would the team be able to convince corporate headquarters?

The main assembly line for the Mini was in Cowley, England. It employed a highly integrated production and distribution network spanning the UK and Continental Europe. Gasoline engines for the Mini were manufactured by BMW in Hams Hall in the UK, but many parts came from Germany or other parts of Europe. The decision of where to produce the Mini Electric was strategically important for BMW because it represented a key element in BMW’s plans to introduce electric versions of its main models and for 15 to 25 per cent of its cars to be sold with an electric engine by 2025.[[3]](#endnote-3)

The Brexit process was set in motion after a nationwide referendum in June 2016. At the time, the future legal basis for trade between the UK and the remainder of the EU was highly uncertain. In 2017, the UK economy continued to be resilient despite the uncertainty around Brexit negotiations. However, depending on how the negotiations turned out, different types of trade barriers between the EU and the UK were expected to emerge. BMW needed an arrangement that would support its electric-mobility ambitions under a variety of different policy scenarios.

BMW AG

BMW was founded in 1916 and headquartered in Munich, Germany. The company focused on luxury car and motorcycle brands, manufacturing vehicles in Germany, Brazil, China, India, South Africa, the UK, and the United States. In 2016, BMW sold 2,367,603 cars and 145,032 motorcycles. The largest markets were China (516,785 cars sold in 2016), the United States (366,493), Germany (298,928), and the UK (252,205). In 2016, total group revenues were €94.1 billion,[[4]](#endnote-4) and earnings before interest and taxes (EBIT) were €9.39 billion. A list of BMW’s global production plants can be found in Exhibit 1. Mini was part of the BMW group; it sold 360,233 cars in 2016.[[5]](#endnote-5)

The Mini—Heritage and Target Market

A fuel shortage sparked by the 1956 Suez Crisis inspired Leonard Lord, president of the British Motor Corporation (BMC), to commission the creation of a “proper miniature car.”[[6]](#endnote-6) Designed by Sir Alec Issigonis, it was a small, no-frills car that made optimal use of its small structure. Called the “Mini” and introduced in 1959, the car was manufactured at BMC’s plants in Longbridge and Cowley, England, as well as around the world. The car focused on functionality. Customers had to request heating units, as they did not come standard.[[7]](#endnote-7) It was after a partnership with racing car maker John Cooper that the Mini earned a reputation for performance, and its popularity grew when British fashion model Twiggy and American actor Steve McQueen were photographed driving the car, as well as when the brand was featured in several movies.[[8]](#endnote-8)

The Mini brand had been owned by a series of British firms and was last owned by the Rover Group when BMW acquired it in 1994. The latest iteration of the Mini retained the design heritage of the original. Anders Warming, Mini’s head of design, described the brand as follows: “Mini has always been about new ideas, inspiration, and a lot of passion, and these things are not going to change. Mini crosses cultures, class, gender, and age. Anyone who buys a Mini feels immediately younger while driving it—it just puts a smile on your face. People keep coming back to Mini because it has real substance.”[[9]](#endnote-9)

In 2016, Mini’s total of 360,233 units sold set a new sales record, selling 6.4 per cent more units than the previous year.[[10]](#endnote-10) A typical Mini sold for between US$17,392[[11]](#endnote-11) and $28,892,[[12]](#endnote-12) with an average price of $23,142. With BMW’s EBIT margins at about 10 per cent, the Mini brand contributed EBIT of about $830 million.

In 2017, Minis continued to be manufactured in Cowley, and new models incorporated styling cues—such as horizontal double doors—that linked them to the original versions. Under the ownership of BMW, the Mini continued to be known as a quintessential British brand.[[13]](#endnote-13)

The Mini was an urban brand, especially popular for driving shorter distances within a city. The Mini was aimed at car buyers who were—or thought of themselves as—young and who wanted to stand apart from the crowd. For example, Mini’s 2016 Super Bowl advertisement,[[14]](#endnote-14) its first in that highly popular space in five years, had the tag line “Those Who Defy Labels, Define Themselves” and featured sports celebrities Serena Williams, Abby Wambach, and Tony Hawk, as well as actor Harvey Keitel.[[15]](#endnote-15) Consumers could buy Minis from 1,580 dealerships around the world.[[16]](#endnote-16) The UK was the most important market, accounting for about 20 per cent of sales (see Exhibit 2). In recent years, sales had been growing throughout Europe but declining in the United States. Moreover, China was emerging as a major market, with sales expected to reach 30,000 units in 2017.

Supply Chain for the Mini

The Mini was one brand in BMW’s Global Production Network consisting of 30 production and assembly sites in 14 countries. The aim of having an integrated global production and logistics network was to achieve greater efficiency in the manufacturing process, specialization in each plant, reducing cost, and shortening the time to market for cars. Buyers looking to customize their Minis had up to six days before assembly to lock in their final selections.

Minis were manufactured at Cowley in the UK, with contractor manufacturer VDL Nedcar (VDL) in the Netherlands, and at three Asian locations: Chennai, India; Kulim, Malaysia; and Rayong, Thailand.[[17]](#endnote-17) In 2016, the majority of Minis were manufactured in Cowley (210,971 units) and in the Netherlands (87,609 units). However, VDL had spare capacity; with an extra shift, it could produce up to 200,000 cars.[[18]](#endnote-18) In 2016, all Minis still had internal combustion engines. The sales volumes for the four models were as follows:[[19]](#endnote-19)

* Mini Hatch, three- and five-door—198,373 units
* Mini Convertible/Roadster/Coupé (Coupe in the United States)—30,050 units
* Mini Clubman—63,509 units
* Mini Countryman/Paceman—98,301 units

The Cowley plant covered 65,000 square metres and employed a staff of 4,600. It was a complex operation: 12,000 different parts for the Mini came from 500 suppliers, with the average part travelling 660 kilometres (km).[[20]](#endnote-20) BMW manufactured some of its own parts, such as the Mini’s sub-assemblies and doors supplied by a company-owned plant that was 50 km away in Swindon.[[21]](#endnote-21) Each day, 270 trucks filled with parts arrived at Cowley. Petrol engines came from BMW’s plant in Hams Hall near Birmingham. However, 90 per cent of parts came from Continental Europe, including car bodies from Germany, main harnesses from Romania, cooling modules from Poland, fuel tanks and centre consoles from Germany, and diesel engines from Austria. Moreover, each day several truckloads of parts came from North America and Asia.

To manage the flow of parts in an efficient manner, the Cowley plant relied on a number of standard delivery and supply processes. There were three network procedures in place overseeing inbound goods: just in sequence (JIS) and just in time (JIT), steered network, and base network.

The JIS and JIT procedures had full truckloads of parts delivered to Cowley in high frequency from supplier locations.[[22]](#endnote-22) Some of these locations were close to Cowley, while others were as far away as Romania—a distance of nearly 2,500 km. The steered network encompassed commonly used parts, delivered on a frequent basis in full truckloads and with low fluctuations. The base network oversaw the consolidation and delivery of low-volume, high-fluctuation parts. These parts were collected into consolidation centres by shippers and then sent to Cowley.[[23]](#endnote-23)

Suppliers received firm orders for parts four to 12 months in advance of the delivery date. Parts received at Cowley were either placed in inventory or sent straight to direct-to-assembly storage facilities, consisting of buffer zones close to the assembly line. BMW relied on specific terms to indicate to suppliers when product was expected to be at Cowley. For example, the term “JIS50” meant that suppliers had four and a half days—upon receipt of the order—to deliver the parts to Cowley’s assembly line. The JIS50 designation was used at Cowley for 17 part families. Of these 17, the majority (15) were from UK suppliers and another five were from EU suppliers. The overlap was due to the fact that some part families were sourced from more than one supplier.

Parts used in the production of the Mini could cross country borders several times before they were installed in the car. For example, the car’s crankshaft—the part that transferred motive power from the pistons to the wheels—started its life as a cast steel part in Haute-Marne, France. Next, the part was sent to BMW’s Hams Hall plant, where it was drilled and milled into the shape of a crankshaft. Then the crankshaft was shipped to Steyr, Austria, to be assembled into the engine. The finished engine was then shipped from Steyr to Cowley, where it was placed into a car. The crankshaft, from start to finish, travelled 3,200 km—and this journey did not account for any additional travel once the car was sold.[[24]](#endnote-24)

Growing Demand for Electric Vehicles

In 2016, 2 million electric cars were sold worldwide—about double the number sold in 2015. The penetration of electric cars by market varied, with Norway being the market leader at 29 per cent of cars sold in the country, and the Netherlands at 6.4 per cent of cars sold. While demand for electric cars was growing, worldwide electric cars accounted for only 1.5 per cent of cars sold. However, by 2016, China had become the world’s largest market for electric cars, accounting for 40 per cent of all electric cars sold globally and selling twice as many as were sold in the next largest market, the United States (see Exhibit 3).[[25]](#endnote-25)  For comparison, there were 69.5 million new global car registrations in 2016, with China and Japan as the largest production countries (see Exhibit 4).

Policy-makers around the world were advocating electric vehicles as green alternatives to gasoline cars. For example, the Electric Vehicles Initiative (EVI) was a multi-government policy forum with, as of May 2017, 10 member governments (Canada, China, France, Germany, Japan, the Netherlands, Norway, Sweden, the UK, and the United States). The EV30@30 campaign, launched in 2017, redefined the EVI’s ambition by setting the collective aspirational goal for all EVI members of a 30-per-cent market share for electric vehicles sold by 2030.[[26]](#endnote-26) However, major policy-related uncertainties remained regarding, for example, the taxation of electrical vehicles and the coverage of the charging station infrastructure.

BMW had been developing technology for electric vehicles for over a decade. In 2013, BMW launched the BMW i3, its first fully electric car, followed by the BMW i8, a plug-in hybrid. The strategy was to develop cars specifically designed for energy efficiency and electrification. However, production costs of these vehicles were relatively high, and sales were slow, in part because few countries had developed an appropriate infrastructure of charging stations at the time.

In 2016, BMW changed its electric-mobility strategy: rather than treat electric cars as a separate segment, BMW aimed to offer all of its main models with an electric engine, starting with the Mini and the X3.[[27]](#endnote-27) By capitalizing on its operational capabilities, BMW expected to be better than early movers like Tesla, Inc. at scaling up manufacturing;[[28]](#endnote-28) thus, BMW prioritized investments in the development of new competencies in innovation and manufacturing processes related to electric vehicles. The aim was to grow electric car sales from 100,000 units in 2017 to 15–25 per cent of BMW group sales by 2025 (which would translate to about 350,000 to 500,000 cars).[[29]](#endnote-29) Although sales forecasts were uncertain because the evolution of the regulatory environment in key markets in Europe and the United States remained unclear, this did not deter BMW from prioritizing electrification. In the words of BMW chief executive officer (CEO) Harald Krüger:

In 2016, electrified vehicles accounted for around 2.6 per cent of our group sales. But in certain EU countries, electrified cars already make up over 20 per cent of our sales. In 2017, we aim to sell 100,000 electrified cars. Already in January and February 2017, we sold more than twice as many e-cars worldwide as in the same period last year. February sales of the i3 were 55 per cent higher than last year.

With our strategy, we have decided that the fully electric drivetrain will be integrated into our core brands, with an all-electric MINI in 2019, and an all-electric BMW X3 in 2020. Soon, range will no longer be a differentiating factor. We are already concentrating on achieving an optimum balance between all relevant features: safety, range, and duration and life of the battery.[[30]](#endnote-30)

Brexit

UK Prime Minister David Cameron, fighting an election and facing pressure from his colleagues who were fearful of the rise of the UK Independence Party, promised to hold a referendum by 2017 on the UK’s membership in the EU. On June 23, 2016, 51.9 per cent of the participating UK electorate voted to leave the EU in a non-binding referendum. After a change of government, the new prime minster, Theresa May, formally notified the EU on March 29, 2017 that the UK invoked Article 50 of the Treaty on European Union. “Exit day” would be March 29, 2019, at 11:00 p.m. (GMT time).

At the start of 2017, it was still unclear what the terms of Brexit would be, how goods would flow across borders, and what tariffs would be imposed. Tim Lawrence, head of manufacturing at PA Consulting, commented on the impact a trade barrier could have on car production:

They schedule components on the production line and sequence it so parts arrive only hours before. You may think that sounds straightforward, but there is quite an art to this JIT supply chain. If you put a customs unit in place [because you are no longer part of a single market], things could be delayed at the border for a couple of days—it really has an impact.[[31]](#endnote-31)

There were potentially “six flavours” of Brexit.[[32]](#endnote-32) First, the UK could retain full membership, meaning that the Brexit referendum result would be overturned. Second, the UK could retain membership in the European Economic Area (EEA), joining Norway, Iceland, and Liechtenstein for full integration into the EU’s single market for goods and services excluding agriculture and fisheries. However, as a non-member, the UK would not participate in the EU’s rule-setting processes. Third, the UK might join the European Free Trade Association (EFTA), which comprised EEA members plus Switzerland. As part of the EFTA, the UK would have access to the EU market for goods other than agricultural goods; it would not, however, have access to the market for services, including—crucially—financial services, nor would it be a part of the EU Customs Union. The fourth option would be to form a customs union with the EU—similar to the situation of Turkey. This would imply common external tariffs and no internal tariffs, but exclude the possibility of signing free trade agreements with other countries. As a customs union member, the UK would not have to follow EU regulations domestically and would not be required to contribute funds to the EU.

The fifth option would be to negotiate a free trade deal with the EU, putting the UK in a position similar to Canada’s, for example, when dealing with the Continent. Last, the UK could end up trading with the EU under World Trade Organization (WTO) rules. This would mean that UK exporters to the EU would be treated the same as exporters from any other WTO member country, which implied standard tariffs on goods and documentation of compliance with EU regulations for each shipment (and, thus, potentially complex border procedures). For cars, the applicable tax rate would be 10 per cent, and for car components it ranged from 2 per cent to 4.5 per cent.[[33]](#endnote-33) Moreover, WTO rules did not secure free trade in services.

Brexit and the Automotive Industry

In the UK, carmakers and their industry association, the Society of Motor Manufacturers and Traders, were demanding government action to protect the industry, calling for a transition deal rather than a “hard Brexit” that imposed tariffs once the Article 50 deadline was reached in 2019. The car industry was important to the UK economy, producing 1.82 million vehicles (of which 1.72 million were passenger cars), generating a turnover in 2016 of £77.5 billion,[[34]](#endnote-34) and employing 814,000 people (see Exhibit 5).[[35]](#endnote-35) Of the cars produced, 78.8 per cent, or 1.35 million, were exported.

The car industry was highly dependent on free trade with the EU. On average, only 44 per cent of components used in cars made in the UK contained components that were made in the UK; of the remainder, 79 per cent were imported from the EU and 21 per cent from other countries, such as Japan.[[36]](#endnote-36) Carmakers had an average operating margin of just 6 per cent,[[37]](#endnote-37) and the costs of tariffs or other trade barriers could potentially be in the hundreds of millions of pounds per year.[[38]](#endnote-38) Carmakers could potentially handle Brexit by building a new car plant in Europe; yet, a BMW car plant could cost $1 billion.[[39]](#endnote-39)

Localizing supply chains would be an alternative, but it would require suppliers to invest in new facilities in the UK. These new operations would achieve fewer scale economies and be less flexible than integrated European operations. Industry analyst Lawrence argued that

you could look to bring components into the UK to manufacture, so it could have a positive impact. But the challenge is if you are exporting 80 per cent of the vehicles—like Nissan are or Vauxhall are from Ellesmere Port—you have to question the benefits of that if there will be tariffs on exports.[[40]](#endnote-40)

Disruptions to carmakers’ supply chains would arise not only from tariffs but also from border controls on trucks crossing the border. If journeys took longer, or journey times were less predictable, more trucks and drivers would be needed, and more inventory would be tied up in traffic.[[41]](#endnote-41) Thus, Honda Motor Company Ltd. (Honda) estimated that a 15-minute delay to each truck at the border in Dover, England, would add £580,000 to its operating costs.[[42]](#endnote-42) Consequently, Honda predicted a need for much larger storage facilities to provide sufficient buffers to secure smooth operation of their production line. Its warehouses near Swindon, England, stored parts to keep production running for 36 hours, and 2 million parts arrived every day. If supplies from the EU needed more time to arrive, and scheduling became less predictable due to border controls, Honda would have to increase its warehouse capacity to nine days of supply, which would require a warehouse the size of 42 football fields. As such, both the fixed costs of warehouse infrastructure and the working capital tied up in inventory would increase, making Honda’s UK operation more costly.[[43]](#endnote-43)

The uncertainty of Brexit was of such concern to Japanese manufacturers that Japanese Prime Minister Shinzō Abe raised the prospect of Japanese carmakers relocating in case there was no viable deal between the EU and the UK. Japanese ambassador to the UK Koji Tsuruoka, speaking on the British Broadcasting Corporation, added that “if there is no profitability of continuing operations in the UK—not Japanese only—no private company can continue operations. It’s as simple as that. These are high stakes that I think all of us need to keep in mind.” In 2016, the UK government was approached by Nissan for “support and assurances” before Nissan committed to building its Qashqai and X-Trail vehicles in the UK. Similarly, Toyota was rumoured to have received certain reassurances before going ahead with an investment in a new production line.[[44]](#endnote-44) Until that time, BMW had not sought or received assurances from the government on post-Brexit trading arrangements, yet Greg Clark, British secretary of state for Business, Energy, and Industrial Strategy, met with Ian Robertson, BMW’s head of Sales and Marketing, in January and March 2017.[[45]](#endnote-45)

Krüger was very familiar with the UK business environment: from 2003, he had spent four years as leader of the BMW engine production plant in Hams Hall.[[46]](#endnote-46) He commented on the challenges of the UK operations in BMW’s Annual Accounts Press Conference in March 2017: “The UK remains an important location for us. Much will depend on how Brexit is ultimately negotiated. At the BMW Group, we are preparing for different scenarios. Our production network offers us flexibility. Mini models are also built at VDL Nedcar in Born in the Netherlands.”[[47]](#endnote-47)

Manufacturing the MINI Electric

As part of BMW’s goal to become a global leader for electric vehicles, the introduction of the Mini Electric was of strategic importance. It would be one of the first fully electric models to go into mass production, with market launch scheduled for 2019. The electric drivetrains and engines would be manufactured in Germany at BMW’s “e-mobility” centres in Dingolfing and Landshut. Batteries would be supplied by Samsung, who, although currently producing in Korea and China, was building a new plant in Hungary to be opened in late 2018.[[48]](#endnote-48)

The assembly process of a fully electric car was substantially different than that of a traditional internal combustion engine car; hence, BMW had to retool and upgrade an existing production line, or it could build a dedicated production line from scratch at a location meeting its long-term needs. In addition, substantial investment would have to go into staff training to build the human capital for the production processes of the future. But where should this investment be made?

The Mini’s main assembly line in Cowley was an obvious candidate. BMW had invested a total of £500 million in Cowley since 2012, and the plant could be modified to build the electrified Mini—an investment “in the tens of millions of pounds.”[[49]](#endnote-49) This option would be true to the British brand image and utilize the competencies in the existing plant—but would it be viable after Brexit? BMW had several alternatives. Its supplier in the Netherlands, VDL, would be able to increase capacity by increasing the number of shifts. Moreover, rumours suggested that BMW might move the manufacturing closer to its e-mobility centre and build a new plant in Regensburg, Germany, to produce the Mini Electric.[[50]](#endnote-50)

Alternatively, BMW could look for sites with lower costs for skilled manufacturing labour in Central Europe. For example, Slovakia already hosted factories by major carmakers such as Volkswagen, Kia Motor Corporation, Peugeot, and Citroën, along with many first-tier automotive suppliers. In 2013, BMW was already exploring opportunities for new car production capacity in Slovakia.[[51]](#endnote-51) Alternatively, BMW might even consider giving its Chinese plants a pioneer role.

The decision of where to locate the new production line for the Mini Electric had long-term implications for BMW’s ambition to build capabilities for e-mobility globally, the efficiency of its European operations, and the role of UK subsidiaries within the global operations. For the leadership team of BMW UK, the challenge involved convincing headquarters to allocate the production mandate to the UK.

Exhibit 1: BMW Global Production Sites



Source: Created by the case authors using data from BMW Group, *Annual Report 2016* (Munich, Germany: Bayerische Motoren Werke, 2016), 26–27, [www.bmwgroup.com/content/dam/bmw-group-websites/bmwgroup\_com/ir/downloads/en/2017/GB/2016-BMW-Group-Annual-Report.pdf](file:///C:\Users\kpepers\Downloads\www.bmwgroup.com\content\dam\bmw-group-websites\bmwgroup_com\ir\downloads\en\2017\GB\2016-BMW-Group-Annual-Report.pdf).

Exhibit 2: Mini Car Sales, 2013–2015

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **2013** | **2014** | **2015** | **2016** |
| United States | 66,502 | 56,112 | 58,514 | 52,030 |
| Europe, | 153,156 | 156,887 | 181,244 | 208,317 |
| *of which:* |  |  |  |  |
| Britain | *52,000* | *53,661* | *63,581* | *68,984* |
| Germany | *34,263* | *33,183* | *39,714* | *44,010* |
| Other (Europe) | *66,893* | *70,043* | *77,949* | *95,323* |
| Rest of the World | 85,372 | 89,184 | 98,708 | 99,886 |
| World Total | 305,030 | 302,183 | 338,466 | 360,233 |

Sources: Created by the case authors using data from BMW press releases, industry reports, and case authors’ calculations. “European Car Sales Data: Mini,” Carsalesbase.com, <http://carsalesbase.com/european-car-sales-data/mini/>; “US Car Sales Data: Mini,” Carsalesbase.com, <http://carsalesbase.com/us-car-sales-data/mini/>; Christian Hetzner, “Talks for Mini’s China Output Are ‘Going Well,’ BMW CEO Says,” Automotive News Europe, May 11, 2018, http://europe.autonews.com/article/20180511/ANE/180519947/talks-for-minis-china-output-are-going-well-bmw-ceo-says; “BMW Group UK Reports Record Sales in 2014,” The BMW PressClub, January 7, 2015, [www.press.bmwgroup.com/united-kingdom/article/detail/T0199644EN\_GB/bmw-group-uk-reports-record-sales-in-2014](http://www.press.bmwgroup.com/united-kingdom/article/detail/T0199644EN_GB/bmw-group-uk-reports-record-sales-in-2014); “BMW Group UK Reports Record 2015 Sales,” The BMW Press Club, January 7, 2016, [www.press.bmwgroup.com/united-kingdom/article/detail/T0249302EN\_GB/bmw-group-uk-reports-record-2015-uk-sales?language=en\_GB](http://www.press.bmwgroup.com/united-kingdom/article/detail/T0249302EN_GB/bmw-group-uk-reports-record-2015-uk-sales?language=en_GB); Phil McNamara, “2017 New Car Registrations: Vauxhall, Diesel and the Climate the Big Losers,” *Car*, January 5, 2018, www.carmagazine.co.uk/car-news/industry-news/uk-2017-car-sales-analysis-winners-and-losers/; Henk Bekker, “2017 (Full Year) Germany: Best-Selling Car Manufacturers and Brands,” Best Selling Cars.com, January 5, 2018, www.best-selling-cars.com/germany/2017-full-year-germany-best-selling-car-manufacturers-brands/; Henk Bekker, “2015 (Full Year) Germany: Best-Selling Car Manufacturers and Brands,” Best Selling Cars.com, January 6, 2016, www.best-selling-cars.com/germany/2015-full-year-germany-best-selling-car-brands/; Henk Bekker, “2013 (Full Year) Germany: Best-Selling Car Brands and Manufacturers,” Best Selling Cars.com, January 3, 2014, www.best-selling-cars.com/germany/2013-full-year-germany-best-selling-car-brands-manufacturers/; “Record Sales for BMW Group Worldwide during 2017 While It Boosts the Premium Car Market in Mexico, Latin America and the Caribbean,” The BMW Group PressClub, January 24, 2018, www.press.bmwgroup.com/latin-america-caribbean/article/detail/T0278223EN/record-sales-for-bmw-group-worldwide-during-2017-while-it-boosts-the-premium-car-market-in-mexico-latin-america-and-the-caribbean?language=en. All sites were accessed September 10, 2018.

Exhibit 3: BEV and PHEV vehicle sales, 2015 versus 2016



Note: BEV = battery electric vehicle; PHEV = plug-in hybrid electric vehicles

Source: International Energy Agency, *Global EV Outlook 2017*, 18, accessed September 10, 2018, [www.iea.org/publications/freepublications/publication/GlobalEVOutlook2017.pdf](file:///C:\Users\kpepers\Downloads\www.iea.org\publications\freepublications\publication\GlobalEVOutlook2017.pdf).

Exhibit 4: Global Car Production by Country



Sources: “2017 Production Statistics,” OICA, www.oica.net/category/production-statistics/2017-statistics/; “2016 Production Statistics,” OICA, www.oica.net/category/production-statistics/2016-statistics/; “2015 Production Statistics, OICA, www.oica.net/category/production-statistics/2015-statistics/; all sites accessed September 10, 2018.

Exhibit 5: The UK Passenger Car Industry



Note: Excludes manufacturers of commercial vehicles, buses, and coaches; n.a. = not available.

Source: The Society of Motor Manufacturers and Traders, *SMMT Motor Industry Facts 2017*, accessed September 10, 2018, (London, UK: The Society of Motor Manufacturers and Traders Limited, 2017), 5, 8, www.smmt.co.uk/wp-content/uploads/sites/2/SMMT-Motor-Industry-Facts-2017\_online\_May.pdf.

**ENDNOTES**

1. This case has been written on the basis of published sources only. Consequently, the interpretation and perspectives presented in this case are not necessarily those of BMW AG or any of its employees. [↑](#endnote-ref-1)
2. “Brexit”was a portmanteau of “British” and “exit.” [↑](#endnote-ref-2)
3. Horatiu Boeriu, “BMW: ‘By 2025, 15–25% of Our Cars Will Have Electric Drivetrains,’” BMWBlog, July 10, 2018, accessed September 10, 2018, www.bmwblog.com/2018/07/10/bmw-by-2025-15-25-of-our-cars-will-have-electric-drivetrains. [↑](#endnote-ref-3)
4. € = EUR = euro; €0.92 = US$1 on January 1, 2016. [↑](#endnote-ref-4)
5. All data from *BMW Group Investor Factbook*, December 2017, accessed November 3, 2017, www.bmwgroup.com/content/dam/bmw-group-websites/bmwgroup\_com/ir/downloads/en/2017/Investor\_Presentation/2017-BMW-Group-Investor-Factbook.pdf. [↑](#endnote-ref-5)
6. Jim Frets, “Collectible Classic: 1959–2000 BMC Mini,” *Automobile Magazine*, October 2, 2009, accessed September 10, 2018, www.automobilemag.com/features/collectible\_classic/0910\_1959\_2000\_bmc\_mini/index.html. [↑](#endnote-ref-6)
7. Jonathan Bacon, “Mini: Reinventing a Brand Icon,” *Marketing Week*, July 8, 2015, accessed September 3, 2018, [www.marketingweek.com/2015/07/08/how-mini-is-reinventing-itself-to-remain-iconic/](file:///C:\Users\kpepers\Downloads\www.marketingweek.com\2015\07\08\how-mini-is-reinventing-itself-to-remain-iconic\). [↑](#endnote-ref-7)
8. Ibid. [↑](#endnote-ref-8)
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