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China's Electric Vehicle Challenge to Europe:

Red Flags and Red Lines

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Summary

July 2025

Initial trade data suggest that the EU's tariffs on Chinese electric vehicles (EVs) in 2024 slowed the growth of their share in the single market compared to forecasts. However, it has not blunted the risk Chinese EVs present to European automakers, which was demonstrated by the more than 100,000 job losses announced last year.

The US–China trade war will add to these economic woes as European automakers are squeezed out of the Chinese EV market and could lose the US export market. Moreover, Chinese EV producers are opening plants in Spain, Hungary and the European neighbourhood to circumvent tariffs and divert trade. The Lower Saxony region in Germany, for example, cannot afford the loss of taxes from workers, corporate taxes and dividend payments from Volkswagen if it closes plants in the region.

Nor can policymakers ignore the data security risks: under China's National Intelligence Law, Chinese EV producers are legally required to work with the Ministry of State Security, and some European companies are advising their staff not to connect their phones or discuss their work in Chinese EVs. Chinese EVs are built on the basis of one-sided technology transfer. In the limited joint ventures in Europe where member states have increased local requirements, Chinese companies have cancelled projects. Alongside the presence of Communist Party cells in these companies, it is highly unlikely that Chinese EV producers will transfer technology to European automakers.

Tariffs alone will not save the sector. Policymakers need to soberly assess the 'red flags' that Chinese EVs present and consider practical policy recommendations and 'red lines' to protect jobs and data security and create a European alternative. This includes a market share cap for Chinese EVs, the creation of a sovereign cloud storage system, and the creation of joint ventures with Japanese and Korean EV battery manufacturers.

Keywords Electric vehicles – People's Republic of China – Joint ventures – Tariffs – Imports – Technology transfer – Data security

Introduction

It has been more than six months since the EU ratified tariff increases on Chinese electric vehicle (EV) imports. As we pass this anniversary, the institutions of the EU, European member states and European automotive producers appear no closer to producing a coherent plan to address the red flags that Chinese EVs present or to clearly marking out sensible red lines which would allow them to operate in the single market. The inaction of the EU in this regard is unsurprising given that EU member states and European automotive producers remain split on the best way to deal with the economic and data security risks Chinese EVs present. Still, the clock is ticking, and the single market will face serious risks as a result.

Such splits reflect the dependence of individual member states on trade and investment from China and the extent to which European legacy brands have their respective manufacturing base and profit centres in China. The 'Big Three' German automakers (BMW, Volkswagen (VW) and Mercedes-Benz) and Chinese-owned Volvo maintain several joint ventures (JVs) in China and host a significant amount of their industrial capacity there.

Where previously the EU could point to acting in tandem with partners in North America in dealing with the risks that Chinese EVs present, the return of Donald Trump to the US presidency raises fresh questions regarding the willingness of the US to work with the EU. The resumption of a US–China trade war may inevitably extend to a US–EU trade war too. These developments reinforce the need for the Union to maintain its automotive industrial base as a way of guaranteeing its economic sovereignty.

Through a mixture of financial penalties, regulations and subsidies, the EU is heading towards a fixed target of ensuring all new cars and vans sold in the single market are zero emission by 2035 and phasing out the combustion car engine.[1] These net-zero targets, paired with a growing appetite amongst the public for the adoption of EVs in the last few years, have created an opening for Chinese EVs at a time when China is seeking to export its way back to growth. China's EV market penetration in Europe, while relatively small compared to overall automotive sales, has grown rapidly from 1% in 2019 to around 8.3% in 2024.

[1] European Commission, 'Zero Emission Vehicles: First "Fit for 55" Deal Will End the Sale of New CO2 Emitting Cars in Europe by 2035', Press release, 27 October 2022.

A failure by European automotive producers to create a competitive alternative has only deepened their dependency on China's battery technology supply chain and left them in the rearview mirror of Chinese EV producers in China's domestic market, third markets and soon in the European single market, as well. Beyond tariffs, the European Commission has sought to loosen its emissions targets over the next several years to avoid automotive producers paying billions of euros in fines. However, this short respite will do little to address the growing challenge Chinese EV production presents due to its scale.

This paper seeks to address the economic red flags that Chinese EVs present to the current European automakers' historic business model, which has been built on a strong industrial base and supply chain across the EU. It also seeks to address the red lines that policymakers must consider when allowing Chinese EVs to participate in the single market. Additionally, when it comes to data security and JV rules, the EU has been far too lax and must consider a firmer approach, which one could describe as pushing for 'reciprocity' with China.

Section one: red flags

Red flag one: market share and the impact of tariffs

The overarching rationale for the European Commission to investigate Chinese EVs and impose the subsequent tariffs on 29 October 2024[2] was predicated on unfair state subsidies and alarm at the speed at which Chinese EV imports were gaining a foothold in the single market. Take the case of BYD, which is the largest Chinese EV manufacturer and surpassed Tesla as the most popular global EV brand in 2023: a study by the Kiel Institute for the World Economy found that the Chinese EV manufacturers received at least £2.9 billion in direct government subsidies in 2018–22.[3] This financial support from the Chinese government enables BYD to invest in developing its technology and keep prices artificially low.

According to research by the Rhodium Group, China could have the capacity to export 560,000 cars annually to Europe this year, based on six trips per year (in 2023, the EU imported 472,000 EVs from China), and capacity could surge

[2] Ibid.

[3] F. Bickenbach et al., *Foul Play? On the Scale and Scope of Industrial Subsidies in China*, Policy brief, Kiel Institute for the World Economy (April 2024).

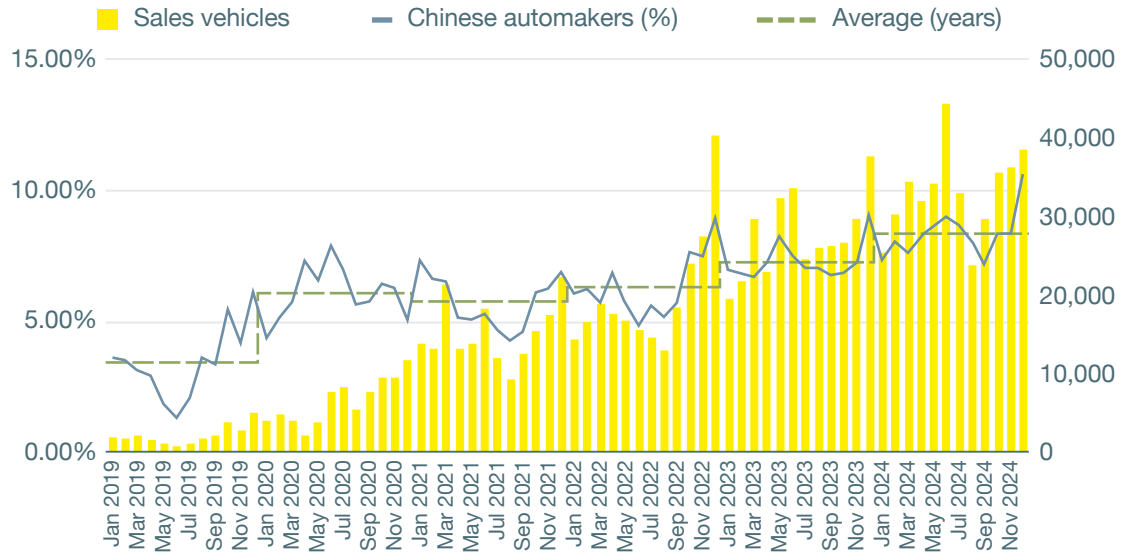
to as much as 1.7 million cars in 2026.[4] A review by the Biden administration in the US last year reinforced these concerns, finding that China's export of EVs increased by 70% from 2022 to 2023.[5]

As a result of China's excess manufacturing capacity, which is measured by low utilisation rates in the EV sector, China was the subject of 198 trade investigations alleging dumping or illegal subsidies by trading partners at the World Trade Organisation in 2024. The European Commission launched 21 trade defence investigations of Chinese goods, which was up from 9 investigations in 2023.[6]

The European Automotive Association has stated that it is too early to assess the effectiveness of the EU's tariff on stemming the flow of Chinese EVs into the single market. Nevertheless, the European Commission has laid out a helpful benchmark, citing figures from the consultancy firm KPMG, which had previously forecast that Chinese EVs might gain a market share in Europe of 15% by the end of this year.[7]

Taking the European Commission's forecast as a benchmark and reviewing the Chinese EV sales data currently available for 2024, we conclude that the Chinese EV market share in the single market appears to be falling behind these projections. Marklines data for 2024 show that Chinese EVs only achieved an average market share of 8.34% compared to the forecasted 11% market share as a stepping stone to 15% in 2025.

Figure 1 Chinese EV market share in the EU single market (2019–24)



Source: China Strategic Risks Institute (CSRI).

[4] G. Sebastian, N. Barkin and A. Kratz, *Ain't No Duty High Enough*, Rhodium Group (29 April 2024).

[5] K. Magill and E. Walz, 'Biden Hikes Tariffs on China-Made EVs, Batteries', *Automotive Dive* (14 May 2024).

[6] *Financial Times*, 'China's Export Boom Sparks Record Number of Trade Challenges', 30 March 2025.

[7] G. Grieger, 'EU Anti-Subsidy Probe Into Electric Vehicle Imports From China', European Parliament (October 2023).

Despite the announcement in June by the European Commission that tariffs would be imposed, Chinese EV sales to the single market continued to grow, albeit at a slower rate than was initially forecasted. The sales figures for May 2024 and November 2024 are notable outliers, showing that Chinese EV sales reached an 11% market share, although for the rest of the year sales underperformed, likely as a result of increased speculation regarding tariffs.

This appears to suggest that the tariffs may have had some impact in dampening demand for Chinese EVs. However, with the limited data available, it remains too early to conclude whether this is the overarching factor.

Other factors at play include weak demand more broadly for EVs, the scarcity of affordable shipping vessels to import them and increased costs due to disruption to international shipping in the Red Sea. Chinese EV producers and shipping companies have moved to rectify this issue by securing new car-carrying ships; two of these new ships are the largest ever built and have already had their maiden voyages this year.[8]

It is worth noting that while Chinese EV sales averaged only 8.34% of market share in 2024, the overall market share of Chinese-made EVs including Tesla and those produced by European JVs reached nearly 19.5% market share in 2023 and is forecast to reach at least 25% by the end of 2025.[9] On an individual EU member state level, the Chinese EV market share in some cases is even larger. In the case of Spain and France, which are significantly larger automotive markets, nearly a third of the EVs imported in 2023 were from China. This reveals the extent of the economic challenge that the EU is facing when it comes to protecting the domestic production of automotives.

Outside of the different tariff rates, which were calculated based on the extent to which Chinese EV producers cooperated with the European Commission's anti-subsidies investigation, not all Chinese EV exports will be impacted by the EU's tariffs in the same way. Those who boast an export-led business model will be hit far harder; for example, for Chery Automobile and Great Wall Motor, exports accounted for at least a third of their sales, compared to just 10% for BYD in 2024.[10]

This has led to Chinese EV producers pursuing a variety of strategies in response. While BYD and Chery Automobile have pushed ahead with committing to opening

[8] C. Yang, 'Another Chinese Car Carrier Sets Record, Putting Spotlight on Vehicle Export Ambitions', *South China Morning Post*, 16 May 2025.

[9] *European Federation for Transport and Environment*, 'How Europe Can Use Tariffs as Part of an Industrial Strategy' (27 March 2024).

[10] S&P Global, *Credit FAQ: Impact of U.S. Tariffs on China's Auto Sector: Watch for Second-Order Effects* (11 February 2025).

their own respective factories in Hungary and Spain to serve the European single market, Great Wall Motor has closed its headquarters in Germany, laying off 100 employees, and suspended plans to set up factories in Switzerland and Austria.[11] Alongside Xpeng and Leapmotor, Chinese EV producer GAC has indicated that it is in advanced talks to set up an EV plant in either Spain, Poland, Italy or Hungary.[12]

A further consideration is whether the current decline of Tesla sales in Europe in the first quarter of 2025 becomes a trend rather than a blip. The lion's share of Teslas imported into Europe are produced in the company's Shanghai plant, which means that if this continues, there could be a decline in the percentage of Chinese-made EVs in Europe overall. Early data suggest that the greatest beneficiary of the decline in Tesla sales in Europe has been VW, which saw its EV sales in the first quarter of 2025 account for 17% of its sales in Europe.[13]

The response of other markets

US

Unlike the situation in the EU, Chinese EVs accounted for just 2% of all EV imports into the US prior to the introduction of 100% tariffs in 2024, and US imports of Chinese EVs had been falling since 2020.[14] This reflects the fact that the US is already in the enviable position of having its own domestic EV sector, which, under the Biden administration, was receiving significant subsidies through the Inflation Reduction Act.

Canada

Canada joined the US in imposing an additional 100% tariff on Chinese EVs on 1 October 2024, after it recorded Chinese EVs accounting for 13.4% of all EV imports in 2023. However, this surge has been attributed largely to Tesla imports originating from the company's plants in China. The Chinese ambassador to Canada has suggested that BYD might consider investing in plants in Canada in exchange for the removal of tariffs.[15]

Turkey

Turkey and Brazil have both witnessed a similar surge in Chinese EVs. In the case of Turkey, in 2023, Chinese EVs accounted for 4.5% of the market, with predictions that this figure would hit 10% in 2024. The Turkish government

[11] J. Kastner and C. Zhou, 'China's Great Wall Motor Shuts Europe Headquarters, Fires All Staff: Sources', *Nikkei Asia* (1 June 2024).

[12] *Financial Times*, 'Europe's Clampdown on Chinese EVs Forces U-Turn at State-Owned GAC', 4 March 2025.

[13] *Financial Times*, 'Volkswagen Overcomes China EV Slump by Doubling European Sales', 9 April 2025.

[14] M. Gasiorek and I. Papadakis, 'US Tariffs on EVs: Pre-Emptive or Political?', *Centre for Inclusive Trade Policy* (updated 6 June 2024).

[15] A. Balakrishnan, 'China Dangles BYD as Bait to Reboot Canada Trade Talks', *The Logic* (27 March 2025).

initially increased tariffs on Chinese EV imports to 50% in response. This was subsequently reduced back to 10% on the provision that EV producers agreed to invest domestically, with both BYD and Chery Automobile announcing plans to open plants in the country.[16]

Import data from Turkey's Automotive Distributors and Mobility Association suggest that Turkey's tariffs have had a mixed impact on Chinese EV imports. BYD sold 155 EVs in Turkey in January 2024 and 2,758 in January 2025, marking a year-on-year increase of 1,678%. In contrast, Chery Automobile (which sells significantly more EVs in Turkey than BYD) sold 4,450 EVs in January 2024 compared to 1,016 in January 2025, making a year-on-year decrease of 77%.[17]

Brazil

Brazil boasts the largest EV market in Latin America. Initially welcoming Chinese EV imports, Brazilian President Luiz Inácio Lula da Silva introduced a 10% tariff on EV imports, which rose to 18% in July 2024 and will rise to 35% in 2026, to encourage EV development in the domestic auto industry.[18]

Some have speculated that these tariffs have come too late to be effective, as Chinese EVs have gone from 5% of the market in 2021 to at least 70% in 2024. BYD alone has captured nearly half of the Brazilian EV market, with the company responsible for 63% of the battery cell supplier market in Brazil in the first six months of 2024.[19] The fact that Tesla does not have a formal presence in Brazil and that there are no dealerships may be contributing factors to the dominance of BYD in this market.

The current available data from countries that have applied tariffs on Chinese EVs tell us several things. First, tariffs are likely to be effective in markets with low levels of dependency on Chinese EV exports and where Chinese EVs have a small market share (in the US, for example). Second, the introduction of tariffs after Chinese EVs have gained a significant market share means they are less likely to be effective (in Brazil, for example). Third, even with tariffs, some Chinese EV producers will continue to increase their market share (in the case of BYD in Turkey).

Would minimum pricing work?

European officials continue to talk with their counterparts in China regarding the potential removal of tariffs on Chinese EVs, with both sides floating the possibility

16 *Xinhua*, 'Turkish EV Market Sees Growing Presence of Chinese Cars' (11 March 2024).

17 *ODMD*, 'Passenger Car and Light Commercial Vehicle Market Evaluation' (n.d.).

18 *Reuters*, 'Brazil Imports of Chinese Electric Vehicles Surge Ahead of New Tariff', 5 April 2024.

19 F. Els, 'Brazil's 2024 EV Market Is a Tariff Test Case', *Adamas Intelligence* (3 September 2024).

of an agreement around minimum pricing, which would require EVs to be sold in the single market at a fixed price.

The European Commission negotiated a similar agreement with China in August 2013 after the EU put tariffs on cheap Chinese solar panels, which had flooded the single market, undercutting European rivals. As with EVs, EU member states were split on supporting tariffs,[20] and China retaliated with its own anti-subsidies investigation into European wine.[21]

Under the price undertaking agreement, Chinese solar companies were permitted to export panels duty free up to an annual limit of seven GW, provided that the price stayed at or above €0.56 per watt. Exports exceeding this quota or priced below the minimum threshold were subject to tariffs, which tended to increase the selling price by an average of 47%.[22]

The minimum price agreement was renewed in 2015 and 2017 before being abandoned by the Commission in 2018 to meet the EU's goal to increase its use of solar energy, in part due to a global reduction in the cost of solar components.

For European solar companies, the damage was already done. China currently provides Europe with 95% of the solar panels in use,[23] in contrast to its 47.8% share in the production of solar cells in 2010.[24] In February 2024, 80 European solar companies called on the Commission to introduce emergency measures to limit the import of Chinese solar panels following a surge in Chinese exports due to its export growth policy, but they were rebuffed.[25]

Given that minimum pricing did little to stop the collapse of Europe's solar sector or to reduce Europe's dependency on China, it is clear why the Chinese government may favour a move towards minimum pricing, particularly if it leads to the removal of tariffs and the eventual dominance of Chinese companies in the single market.

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20 *BBC News*, 'Half of EU Members "Oppose China Solar Tariffs", 28 May 2013.

21 B. McWilliams, S. Tagliapietra and C. Trasi, *Smarter European Union Industrial Policy for Solar Panels*, Bruegel, Policy Brief (8 February 2024).

22 Ibid.

23 T. Lebreton, 'How China Became a Solar Superpower', *The Eco Experts* (2 March 2024).

24 N. Puttaswamy and M. Sahil Ali, *How Did China Become the Largest Solar PV Manufacturing Country?*, Working paper 2, Centre for Study of Science, Technology & Policy (February 2015).

25 F. Bermingham, 'European Solar Panel Makers Ask EU for "Emergency" Steps to Block China's "Significant Oversupply"', *South China Morning Post*, 1 February 2024.

Red flag two: market dynamics

The impact of the growing trade war

The decision by the new Trump administration to enact global tariffs on its trading partners based on their respective trade deficits with the US, alongside a 25% tariff on automotive imports and automotive parts, will have a significant impact on the European automotive sector.

In 2024 the EU exported 750,000 vehicles to the US, worth 39 billion euros, and another 13.9 billion euros worth of car parts. The US market accounts for between 15% and 16% of the German Big Three's global unit volume. Despite all three companies having factories located in the US to serve the American market, German car manufacturers still exported some 450,000 vehicles to the US in 2024, reflecting the high demand.[26]

A number of other automotive producers already have factories in the US, including Nissan, Toyota and Stellantis. However, all European automotive producers rely on importing parts from other countries for production in the US. This means they will continue to be impacted by the US automotive tariffs unless there is a reprieve to allow time to relocate interwoven and complex supply chains.[27]

The stock of all automotive companies fell by at least 2% on the news of tariffs.[28] Yet the wider problem for the European automotive sector is that it faces a significant decline in sales inside China as the adoption of EVs there at breakneck speed is squeezing out European companies. The sector is seeing increasing Chinese EV exports into the European single market and now faces a likely decline in sales to the US market, as well.

Given that China historically has been the profit centre for European automakers and the US another strong market, this could cause an existential crisis for the sector. In July 2024 the sale of vehicles in China produced by JVs with a European, American or Japanese company was down 25% year on year. According to the China Association of Automobiles, the market share of non-Chinese brands in the country has declined from a peak of over 60% in 2019 to around 34% in 2024.[29]

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[26] I. Fechner and R. Luman, 'Importing European Cars Into the US? Prepare for a Price Shock', *ING* (28 March 2025).

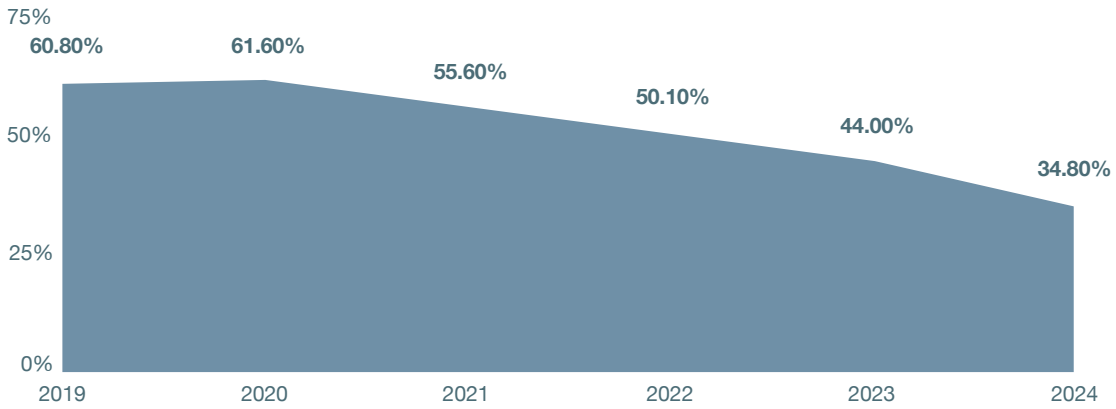
[27] *CBS News*, 'Trump Considers Pause on Auto Tariffs to Give Carmakers More Time to Relocate Production', updated 14 April 2025.

[28] S. Meredith, 'Auto Stocks Fall as Trump Tariffs Spark Trade War Concerns', *CNBC News*, 3 February 2025.

[29] Z. Yao, '销量占比跌至35%，合资品牌何时由冬入春' [Sales Share Fell to 35%, When Will Joint Venture Brands Turn From Winter to Spring?], *OFweek*, 15 January 2025.

A further challenge is China's stranglehold on critical mineral refinement, which includes refining around 68% of nickel, 40% of copper, 59% of lithium and 73% of cobalt globally.[30] As a result, European automakers have elected to move the majority of their EV supply chain to China to be closer to critical mineral refinement and EV battery production and to save on cost.

Figure 2 Market share of non-Chinese car brands (including JVs) in China



Source: China Strategic Risks Institute (CSRI) Data source: China Association of Automobiles.

There remains strong competition in the Chinese auto market between over 200 EV producers,[31] many of whom are debt-laden and do not turn a profit. Reflecting the oversaturation of the EV market and the ongoing price war, two of the market leaders—BYD and SAIC—cut prices again in Q1 of 2025 to increase their share.[32]

Chinese EV producers are already moving to corner third markets in anticipation that they will be permanently closed out of the US market and may face further restrictions in Europe. As a result of efforts to court third markets, Chinese automakers are projected to account for 34% of the Middle Eastern and African automotive market by 2030.[33]

A persistent global trade war, which sees the continued imposition of tariffs on the European automotive sector, would significantly impact the sector's ability to fend off the challenge presented by the Chinese EV sector. At the same time, Chinese counter-measures, which include expanding export control restrictions on

30 R. Castillo and C. Purdy, *China's Role in Supplying Critical Minerals for the Global Energy Transition*, Brookings (July 2022).

31 S. Kennedy, 'The Chinese EV Dilemma: Subsidized Yet Striking', *Centre for Strategic and International Studies* (20 June 2024).

32 *Reuters*, 'BYD Asks Suppliers to Cut Prices as China Auto War Intensifies', 27 November 2024.

33 C. Song, 'Why Gulf Countries Are Fertile Ground for Chinese EV Makers' Growth', *South China Morning Post*, 15 May 2025.

rare earth minerals, are increasing supply chain costs for European automakers as they face delays in gaining licences and securing shipments of rare earths and magnets, which are essential to EVs, including EV batteries.[34]

Tariffs and trade disruption will impact European automotive companies' sales and profits, ultimately reducing the capital that they can spend on research and development to create a viable alternative to compete against Chinese EVs.

A further issue will be trade diversion. The imposition by the US and Canada of a 100% tariff increase on Chinese EV imports has already increased the likelihood that Chinese EV producers will seek to divert their exports to the single market, which has a significantly lower tariff and is where they can still turn a profit. Further US tariffs on Chinese goods make trade diversion to the European single market more likely, as there are only so many customers in the world that can afford to buy Chinese EVs.[35]

The European Commission's anti-dumping measures[36] will be tested under these circumstances, and time will tell whether the European institutions and member states can effectively counter the import of Chinese goods sold below market price in order to protect the European automotive industry and workforce.

Job losses

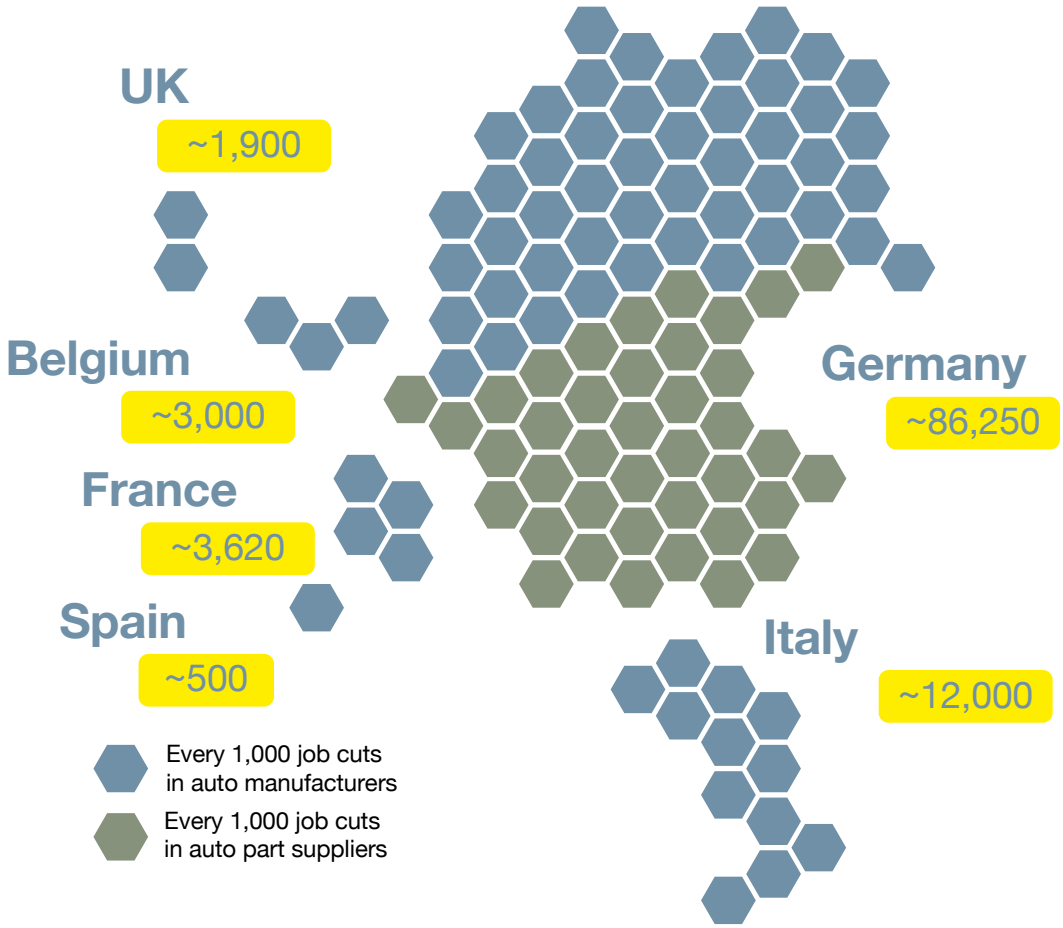
We are already witnessing the hollowing out of the European automotive sector's workforce. In 2024, European automotive producers and automotive parts suppliers announced over 100,000 job cuts as a result of plans to downsize operations and close plants. Germany alone announced 16,000 job cuts in the auto parts supply chain in 2024.

34 *Financial Times*, 'Global Supply Chains Threatened by Lack of Chinese Rare Earths', 17 May 2025.

35 European Commission, 'Read-Out of the Phone Call Between President von der Leyen and Chinese Premier Li Qiang' (7 April 2025).

36 European Commission, 'Anti-dumping Measures' (n.d.).

Figure 3 Job losses in the European automotive sector



UK

Ford
Vauxhall

Belgium

Audi

France

Michelin
Valeo

Spain

Bridgestone Hispania Manufacturing

Germany

Audi
Bosch
Continental
Ford
Mercedes-Benz (no figure)
Porsche
Schaeffler
VW
Walter Klein Group
ZF Friedrichshafen

Italy

Stellantis

Source: China Strategic Risks Institute (CSRI).

The most notable example of the ongoing collapse of the European automotive sector was the announcement by VW that it would close three plants in Germany for the first time in its history. After negotiations with trade unions, the company announced it would cut 35,000 jobs by 2030 in a 'socially responsible' manner to avert plant closures.[37] It was reported in January 2025 that VW is actively considering allowing Chinese EV producers to take over production in struggling plants and take up excess capacity.[38] BYD taking over VW's plants in Germany would provide no better image of the demise of the European automotive sector.

Following the 2008 financial crisis, the European automotive sector grew, in striking contrast to the contraction of the wider manufacturing industry. This came as a result of the restructuring of the wider sector and its growth in Eastern Europe, while automotive manufacturing has faced a decline in Italy, Germany and France since 2019.

According to the European Association of Automotive Suppliers, since 2020 the European automotive sector has surpassed Covid-19 levels of job losses, with a net loss of 56,000 jobs. These job losses have come despite earlier predictions that the industry would see a further 100,000 jobs added by 2025. Germany has accounted for 60% of total job losses.[39]

Forecasts by the International Monetary Fund have warned that the European automotive market will need between 23,000 and 93,000 (11%–35%) fewer jobs by 2030,[40] depending on the speed at which the EU transitions to net-zero emissions. At the same time, only 20% of the previously projected EV supply chain jobs have materialised as European automakers have favoured developing their manufacturing plants in China at the expense of European workers.[41]

The pain will not be felt evenly across the 255 automotive assembly plants in the 27 EU member states. In 2022 automotive employment accounted for 10% of manufacturing employment in six EU member states (Germany, Hungary, Sweden, Slovakia, Czechia and Romania).[42] One study by Allianz Global warned

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37 T. Leggett and L. Jones, 'Volkswagen Agrees Deal to Avoid German Plant Closures', *BBC*, 20 December 2024.

38 H. Boland, 'VW Prepared to Hand Its Factories to Chinese Electric Carmakers', *The Telegraph*, 27 January 2025.

39 *CLEPA*, 'Press Release: Worst Job Losses in the Automotive Supply Industry Since the Pandemic' (22 October 2024).

40 O. Celasun et al., *Cars and the Green Transition: Challenges and Opportunities for European Workers*, International Monetary Fund (2 June 2023).

41 *CLEPA*, 'Press Release: Worst Job Losses'.

42 European Automobile Manufacturers' Association, *The Automobile Industry Pocket Guide 2024/2025* (2024).

that Slovakia and Czechia would each lose 0.4% of GDP if Chinese EV producers achieved a 75% market share in China and a market share of more than 10% in Europe by 2030.[43]

In Q1 of 2025 a further 12,100 job cuts were announced by European automotive producers and automotive parts suppliers. Notably, this figure included Audi announcing 7,500 job cuts as a result of its transition to EVs[44] and Mercedes-Benz announcing the cut of up to 15% of its workforce in China.[45]

These job losses across the continent will have had a political–economic ripple effect, contributing to rising unemployment and political dissatisfaction. The already slow single market economy will need to absorb these jobs into other sectors in a way that has not yet been planned for or forecast.

The case of VW and Lower Saxony

VW is one of the largest employers in the German region of Lower Saxony, employing around 100,000 people in its plants and at its headquarters. As mentioned above, these jobs are increasingly under threat due to the German automaker losing ground to Chinese EVs and seeking to prioritise its plants and jobs inside China. The regional government of Lower Saxony, which owns 11.8% of VW, has 20% voting rights, appoints two directors to the company's board and under German legislation has a blocking minority. In 2024, Lower Saxony received 378 million euros in dividend payments on its VW shares, accounting for around 0.85% of its total annual budget.[46]

One official at the government of Lower Saxony told the author of this paper that if VW were to close its operations in the region, it would face a triple whammy of economic pain with the loss of revenue from workers' taxes and, corporate taxes, and the potential

43 Allianz Research, *The Chinese Challenge to the European Automotive Industry* (2023).

44 A. Singleton, 'Audi to Cut 7,500 Jobs Amid "Challenging" Switch to EVs', *The Telegraph*, 17 March 2025.

45 *Bloomberg News*, 'Mercedes Set to Cut Jobs in China as Local Competition Heats Up', 26 February 2025.

46 Niedersächsisches Finanzministerium, *Haushalt 2025* (Hanover, 2025).

decline in VW's profits, impacting its dividend payments, all of which would significantly hurt its finances. The recent announcement by VW of plans to begin exporting vehicles from its plants in China to third countries will only exacerbate the likelihood of plant closures in Lower Saxony.[47]

If the government of Lower Saxony, with its stake in VW, its significant voting rights, its two company directors and blocking minority, cannot prevent the destruction of its automotive sector, then what hope is there for other European national and regional governments that do not have such influence over their respective automotive producers?

Red flag three: competition

European automotive producers

As mentioned above, European automakers have diverged in their approaches to dealing with the risks that Chinese EVs present to their business model. The German Big Three and Volvo (owned by Chinese manufacturer Geeley) have sought to double down on their existing JVs with Chinese partners in the hope of being able to compete against Chinese EVs in their domestic and overseas markets. In this spirit, VW has announced a target to maintain a 15% market share in China through its JVs by 2030.[48]

Taking a different approach, the Italian car maker Stellantis closed down its two JV sites in China in 2022. In their place, Stellantis has committed to using a new JV with Chinese EV producer Leapmotor to manufacture and sell EVs in Europe. This partnership is not without significant controversy as Leapmotor was founded by the same two executives who created Dahua Technology, a Chinese camera manufacturer who is blacklisted in the US for its alleged links to human rights violations in Xinjiang.[49]

47 *Reuters*, 'Volkswagen Plans Exports From China to Asia, South America, Middle East', 22 April 2025.

48 S. Wu, D. Leussink and C. Steitz, 'Volkswagen Aims to Keep China Market Share Stable as Price War Rages', *Reuters*, 24 April 2024.

49 B. Xinrui, 'Dahua Drives Away as Big Winner From Stellantis' Leapmotor Investment', *Bamboo Works* (6 November 2023); *Reuters*, 'China's Dahua Technology to Exit Projects in Xinjiang', 23 December 2024.

French car maker Renault's efforts last year to team up with VW to create a European EV alternative to BYD were spurned by the German company.[50] This led Renault to open a research and development centre in China and partner with an undisclosed Chinese engineering firm to bring a low-cost EV to market in Europe by early 2026.[51] The French car maker has elected to join them if it cannot beat them.

Before merger talks collapsed in February 2025, Honda and Nissan appeared ready to become the first legacy automakers to join forces to take on Chinese EVs.[52] In the case of Honda, it continues to service the European market through a JV with Chinese EV producer Dongfeng.[53] The collapse of the merger makes it unlikely that Honda will seek to alter this relationship as it will remain dependent on China for its EV supply chain like other legacy automakers. One automotive executive speaking to the author of this report cited the cost of producing EVs in Europe as a significant obstacle to the development of a 'European alternative to BYD'.

Chinese EV producers

In response to tariffs, Chinese EV producers such as BYD and Chery Automobile have agreed to open factories in Europe, alongside Chinese EV battery producers including CATL and Gotion. These investments have been weaponised in the debate regarding the risks Chinese EVs present, with Italian local media reporting that Chinese officials have allegedly linked a planned Dongfeng plant in Italy to the Italian government opposing tariffs and allowing Huawei to access its telecommunications network.[54] The Spanish government's opposition to tariffs also appeared to be linked to the opening of a Chery Automobile factory in the country.[55]

The BYD plant planned in Hungary and the Chery Automobile plant in Spain are predicted to produce 300,000 and 150,000 EVs, respectively.[56] This would give the Chinese EV companies the same production capacity in Europe as VW,

50 G. Guillaume and C. Amann, 'Exclusive: VW and Renault End Talks to Develop Affordable EV, Sources Say', *Reuters*, 17 May 2024.

51 *JustAuto*, 'Renault's New R&D Centre Taps Into Chinese EV Supply Chain' (20 January 2025).

52 J. da Silva and A. Liang, 'Honda-Nissan Multi-Billion Dollar Merger Collapses', *BBC*, 13 February 2025.

53 Honda, 'Dongfeng Honda Holds Opening Ceremony for New Energy Vehicle Production Plant in China' (11 October 2024).

54 *Reuters*, 'Exclusive: China Tells Carmakers to Pause Investment in EU Countries Backing EV Tariffs, Sources Say', 30 October 2024.

55 C. Hall, 'Spanish PM Urges EU to Reconsider Tariffs on Chinese EVs', *Reuters*, 11 September 2024.

56 M. Knauer, 'BYD Mulls Third Plant for European Market to Meet Growth Plans', *Yahoo*, 7 March 2025; J.Faus, 'Chinese Carmaker Chery Says Spain to Be Among Its Main Exporting Plants', *Reuters*, 19 April 2024.

which produced 447,900 EVs in Europe in 2024.[57] At the same time, BYD has quietly expanded its showrooms across Europe. In the four EU member states that are the homes of Europe's automotive legacy brands, BYD has showrooms in 28 locations in Sweden, 29 locations in Germany, 37 locations in Italy and 59 locations in France.[58]

Third markets in Africa, Latin America and the Middle East accounted for only 11% of European automotive exports in 2023 compared to those in the European neighbourhood (including Russia), which accounted for over a third.[59] Given that European automakers are increasingly being squeezed out of China's domestic market and face auto tariffs in the US market, the European neighbourhood will be a significant battleground for EV producers.

Therefore, it is not surprising that on top of strategic investments in EU member states, Chinese EV and battery producers are investing heavily in the EU's neighbouring countries, many of which have pre-existing preferential customs trading arrangements with the single market. This includes battery investment projects in the UK and Morocco, Chinese EV production factories in Turkey, and Chinese EV parts and EV production factories in Serbia.

As a result, we are seeing the regionalisation of the Chinese EV supply chain to countries such as Morocco, which one Chinese businessman described as a 'good option' for EV producers to maintain access to the single market.[60] Strict local content requirements, of 55% in the case of the UK's Trade and Cooperation Agreement with the EU, mean that it would be difficult, but not impossible, for Chinese EV producers to use partners in the European neighbourhood to circumvent the EU's tariffs.

The recent offer by Nissan to allow its plant in Sunderland (in the UK) to be used by its JV partner, Chinese EV producer Dongfeng, to produce vehicles should also be a source of unease for European policymakers concerned about trade diversion and sanctions circumvention.[61] Historically, the lion's share of vehicles

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57 C. Oemisch, 'Volkswagen Group With 9 Million Deliveries After Strong Fourth Quarter', Press release, *Volkswagen Group* (14 January 2025).

58 BYD, 'Find a BYD Store [Map]' (n.d.).

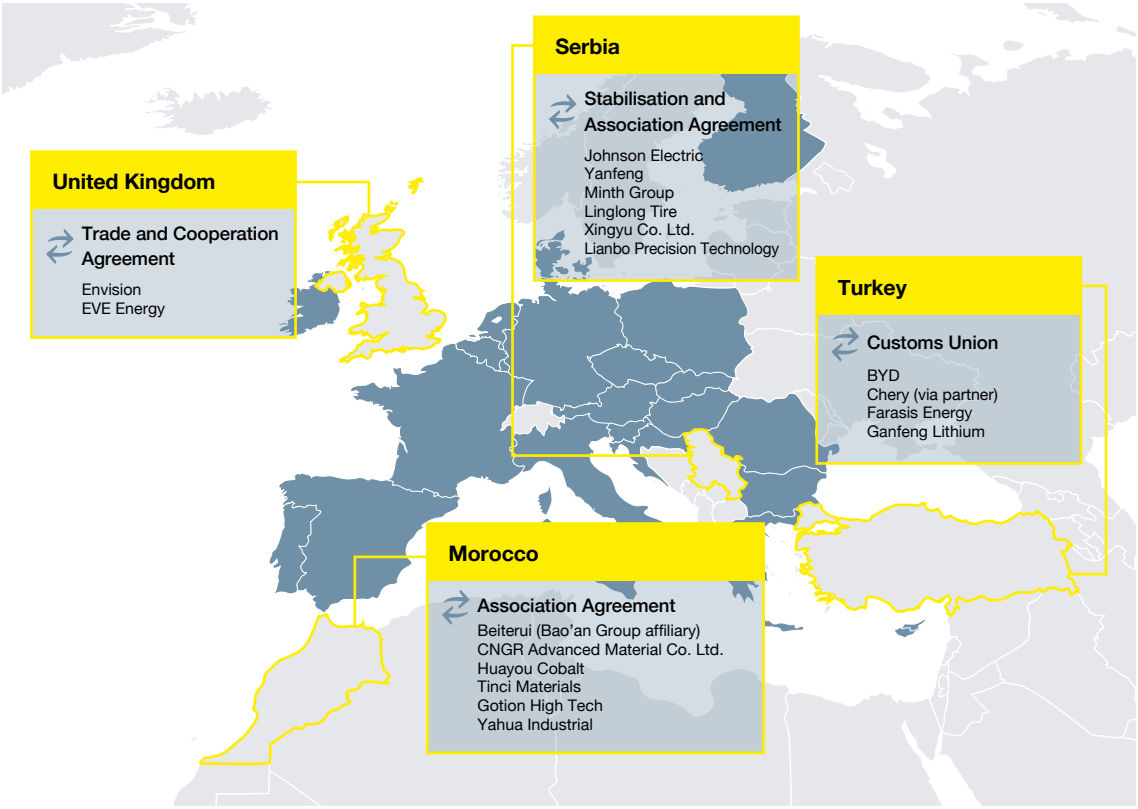
59 European Automobile Manufacturers' Association, *The Automobile Industry Pocket Guide 2024/2025* (2024).

60 A. Zimmermann and J. Dahl, 'China Targets Morocco as Launchpad Into Europe's Green Auto Market', *Politico*, 26 June 2024.

61 J. Jolly, 'Nissan Open to Making Cars for Chinese Partner in Sunderland, Says CEO', *The Guardian*, 15 May 2025.

produced by Nissan's Sunderland plant have been exported to the European single market, and this could include Dongfeng EVs in the future.[62]

Figure 4 Chinese EV investment in the European neighbourhood (UK, Morocco, Turkey and Serbia)



Source: China Strategic Risks Institute (CSRI).

Since Russia's invasion of Ukraine, European automakers have left the Russian market and are currently banned from exporting cars to Russia. Chinese automakers have benefited significantly, with sales increasing in 2023 by 593% compared to 2022.[63] Dominating Russia's automotive market, Chinese automakers are well positioned to eat further into their European rivals' profits by increasing investments and sales across the European neighbourhood.

62 S. Jack, 'Brexit: Nissan Commits to Keep Making Cars in Sunderland', *BBC*, 21 January 2021.

63 V. Vorotnikov, 'Trump's Sanctions Relief Could Revive Russia's Car Industry', *Automotive Logistics* (12 March 2025).

Section two: red lines

Red line one: the data security risk

The former head of MI6, Richard Dearlove, has described EVs as 'computers on wheels', suggesting that they are not just a threat to Europe's automotive industrial base but could be used to gather data and, in extreme circumstances, to disrupt Europe's transport networks.[64]

An industry problem

Hardware and software in EVs collect significant amounts of data through sensors, navigation, autonomous driving systems, infotainment systems and Cellular Internet of Things modules (CIMs), which transmit this data to smart traffic light systems. All of this data is transmitted to a cloud data storage centre which is accessible to the car manufacturer. In the case of Chinese EVs, the data storage centre servers are in China and under the jurisdiction of the Chinese government.

Research by the Mozilla Foundation in the US found that the top 25 automotive brands collect data on their users and 84% of them share or sell that data to service providers, data brokers and other businesses. These data include but are not limited to facial expressions, sexual activity, seat belt use, infotainment settings, destinations and routes used, voice data and phone contacts, speed, and location and footage of car users outside their cars. Only two automotive companies—Renault and Dacia—allow drivers the right to delete their personal information.[65]

Beyond a desire from all automotive producers to collect and monetise user data in recent years, many have a poor track record of data security. This includes VW, which suffered a data breach affecting 3.3 million users; Toyota, which leaked the data of 2.2 million users between 2013 and 2023; and Mercedes-Benz, which in June 2022 disclosed a data leak on the part of a third-party vendor that exposed the personal information of up to 1.6 million prospective and actual customers, including their names, street addresses, email addresses and phone

64 *The Times*, 'Chinese-Made Electric Cars in UK Could Be Jammed Remotely by Beijing', 21 March 2024.

65 J. Caltrider, M. Rykov and Z. MacDonald, 'It's Official: Cars Are the Worst Product Category We Have Ever Reviewed for Privacy', *Mozilla Foundation* (6 September 2023).

numbers.[66] All of this raises concerns regarding the potential threat of hackers using programming backdoors in EVs.

In the case of Tesla, it was reported that from 2019 to 2022 Tesla employees were sharing videos on the company's internal messaging system taken from EVs through sentry mode (an intelligent vehicle security system) in the homes of private owners. Tesla faced a class action lawsuit in the US by one of its drivers, as a result.[67] Many EVs already pose data security risks which, at the moment, the EU's data security regulations do not adequately address.

China exacerbates data security risks

On top of the broader data security risks that EVs present, Chinese EVs exacerbate these trends by raising fresh risks of user data being transferred outside of Europe and accessed by third-party companies whose software may be integrated into the vehicles.

The Chinese authorities, aware of the security risks that foreign EVs could pose, decided to ban Tesla cars from some Chinese cities, military sites and government buildings.[68] According to the China Association of Automobile Manufacturers, 76 models from 6 companies have been restricted, based on data privacy and security criteria.[69]

Regulators only lifted the ban in April 2024 after Tesla agreed to integrate Chinese technology company Baidu's software into its EVs in China.[70] Other automotive producers have ended up in a similar position, with BMW announcing plans to integrate Huawei[71] and VW agreeing to integrate Baidu and Chinese AI software DeepSeek into their EVs in China as the price of being allowed to continue to operate in the country.[72] The companies were subject to security tests conducted by regulators before their EVs could be included in a centralised list of vehicles that meet the country's auto data security requirements.[73] At the time of writing,

66 C. Woods, 'Navigating the Privacy Risks of Electric Vehicles', *LSJ Online* (23 April 2024).

67 J. Brodkin, 'Lawsuit: Tesla Must Be Punished for "Tasteless" Sharing of Car-Camera Images', *Ars Technica* (10 April, 2023).

68 C. Ting-Fang and S. Tabetan, 'Tesla Cars Face More Entry Bans in China as "Security Concerns" Accelerate', *Nikkei Asia* (24 January 2024).

69 China Association of Automobile Manufacturers, 'Notice on the Results of Testing for Four Safety Requirements for Automotive Data Processing (First Batch)' (28 April 2024).

70 *Financial Times*, 'Tesla Shares Surge After Elon Musk Secures Deal With China's Baidu', 29 April 2024.

71 *Reuters*, 'BMW to Integrate Huawei Smart-Connect System Into Its China-Made Cars in 2026', 17 March 2025.

72 *China Daily*, 'SAIC VW Launches SUV With Baidu, DeepSeek Tech', 13 March 2025.

73 *Xinhua*, 'China Publishes List of Intelligent Cars Compliant With Data Security Requirements, Tesla Included', *China Daily*, 29 April 2024.

it remains unclear whether EVs being exported by European automakers from China may also include Chinese technology.

Private-sector companies have raised similar concerns regarding the data risks of Chinese EVs. *The i Paper* in the UK reported that BAE Systems, Rolls Royce, Raytheon, Lockheed Martin and Thales have allegedly advised staff not to park Chinese EVs in production plant car parks, not to discuss their work in Chinese EVs and not to connect their phones to Chinese EVs via Bluetooth or a charging cable.[74] The newspaper also reported that the British Ministry of Defence had banned Chinese EVs from military bases in a move which follows the executive order by the Biden administration on 14 January 2025 to ban the import of EVs which use Chinese software.[75] It is remarkable that Chinese EVs are still considered safe for consumers when multiple governments and companies have taken these precautions in light of the many risks.

Under China's National Intelligence Law, Chinese EV producers and companies in the EV supply chain are legally required to work hand in hand with China's Ministry of State Security, and this includes sharing data and intelligence. They are explicitly not allowed to disclose the extent of this collaboration to foreign partners or foreign governments. In short, this means there is no way for the EU institutions or regulators to ever ascertain a clear picture of the extent to which Chinese EVs collaborate with the Ministry for State Security.

This creates a significant problem, not only as Chinese EV producers are challenging the dominance of European automakers, but also because Chinese companies have a significant chokehold on the global production of CIMs, which is the hardware that goes into EVs. In 2022 Chinese companies had a market share of 63% of CIMs globally. The leading Chinese CIM manufacturer, Quectel, advertises the ability to track vehicles in real time using a computer or mobile phone on its website. Former German Chancellor Angela Merkel, in a speech in Israel on 11 October 2021, speculated that the presence of Chinese CIMs in Chinese EVs would make it increasingly difficult for Europe to import these EVs due to the data security risks.[76]

Michael Dunne, a former CEO at General Motors, has warned that there is no magic bullet to prevent spyware on Chinese EVs because it would be difficult

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74 D. Parsley, '"Don't Charge Your Phone in Chinese Electric Cars", Defence Firms Tell Staff', *The i Paper*, 27 April 2025.

75 D. Shepardson, 'Biden Administration Finalizes US Crackdown on Chinese Vehicles', *Reuters*, 14 January 2025.

76 INSS, 'German Chancellor Dr. Angela Merkel Meets With Senior Researchers From the Institute for National Security Studies (INSS) at the King David Hotel', Press release (11 October 2021).

for regulators to vet EVs for such software, as it could be delivered later as an over-the-air update or blended with useful bug fixes.[77] This poses a big risk to European consumers and regulators if they accept that the presence of Chinese spyware cannot be fully prevented.

A further concern is that Chinese EVs could be utilised for a cyber-attack on energy grids or other critical national infrastructure. Russian hackers known as Sandworm successfully targeted Ukraine's energy grid in 2022,[78] and Chinese hackers, through their Volt Typhoon attacks, successfully hacked the US energy grid and dwelt there for 300 days in 2023 without being noticed.[79]

Nor are EU policymakers keeping abreast of the implications of technology developments in the Chinese EV space on data security. In February 2025 BYD announced the introduction of 'God's Eye', a new advanced driving assistance system which will be integrated into 30 of its brands. The system relies on various cameras and sensors to assist with parking, cruising and automatic braking. Allegedly, it can predict the skill level and type of driver taking control of the vehicle.[80] BYD has also announced a vehicle-mounted drone launching system in collaboration with Chinese drone maker DJI, which allows drivers to launch a drone from the vehicle to take photos and video around it.[81] Both of these new features would pose data security risks for European countries, and the companies have not clarified whether additional data protection measures will be implemented in the European single market.

Data collected by EVs are all likely covered by the EU's General Data Protection Regulation (GDPR), as they include the identifiable data of EU-based residents, such as users' names, addresses and contact details. Chinese EV producers would not be able to process personal user data in China under the GDPR, but as discussed earlier, they face overriding and opaque legal obligations from Beijing, which may undermine these EU laws.

Furthermore, the EU does not have a strong track record of preventing the transfer of personal data outside of the single market: Uber was recently fined 290 million euros by regulators in the Netherlands and France for failing to protect

77 M. Dunne, 'Spy Machines', *The Dunne Insights Newsletter*, 17 July 2024.

78 C. Vasquez and A. J. Vicens, 'Russian Hackers Disrupted Ukrainian Electrical Grid Last Year', *Cyberscoop*, 9 November 2023.

79 E. Kovacs, 'China Admitted to Volt Typhoon Cyberattacks on US Critical Infrastructure: Report', *Security Week*, 11 April 2025.

80 *Wired*, 'BYD's Free Self-Driving Tech Might Not Be Such a Boon After All', 23 February 2025.

81 W. Davis, 'BYD Cars Now Have an On-Vehicle DJI Drone Launch Platform', *The Verge*, 3 March 2025.

the data of its drivers when transferring it to the US, and recently announced a partnership with BYD to introduce 100,000 EVs into its fleet, starting in Europe. US social media company Meta was fined 1.2 billion euros in 2023 by Irish regulators for violating GDPR rules and transferring European user data to the US.[82] In March 2025 TikTok was fined 530 million euros ($600 million) by Ireland's Data Protection Commissioner over concerns about how it protects user information and was ordered to suspend data transfers to China if its processing is not brought into compliance within six months.[83]

China and the US have both run ahead in developing their respective cloud storage and computing, giving both countries dominant positions in the market. This matters a great deal when it comes to EVs, as ultimately the data they produce will be stored in the cloud. The EU has failed in its attempts to harmonise the EU cloud services market, as individual member states have taken different positions on the importance of digital sovereignty over open markets, and the share of European cloud providers in the EU has declined in favour of non-European companies, leaving European consumers with fragmented regulatory protection.[84]

It should be noted that the recent UK–US trade agreement includes provisions for both parties to cooperate on '[information and communications technology] vendor security', 'investment security' and 'export controls'.[85] *The i Paper* has reported that these provisions, which could serve as a template for a US–EU trade agreement, may lead to the UK banning the import of Chinese EVs on data security grounds.[86]

Without a clear assessment of the data security risks Chinese EVs present and trusted providers or sovereign capabilities when it comes to the CIMs in the vehicle and the cloud storage outside, European policymakers will struggle to enforce red lines when it comes to protecting European citizens' data.

82 A. Satariano, 'Meta Fined $1.3 Billion for Violating E.U. Data Privacy Rules', *New York Times*, 22 May 2023.

83 *Reuters*, 'TikTok Fined 530 Million Euros by EU Regulator Over Data Protection', 2 May 2025.

84 J. Rone, 'No EU Cloud in Sight: How Diverging Member States' Preferences Get in the Way of Achieving EU Cloud Sovereignty', *LSE Blogs* (6 August 2024).

85 UK Government, *General Terms for the United States of America and the United Kingdom of Great Britain and Northern Ireland Economic Prosperity Deal* (8 May 2025).

86 D. Parsley, 'Chinese EVs May Face UK Ban Under Trump Trade Deal – Sending Car Prices Soaring', *The i Paper*, 18 May 2025.

Red line two: JVs and technology transfer

Chinese EVs are built on technology transfer

Following the EU member states' ratification of tariff increases on Chinese EVs, several EU member states publicly announced that they expected that tariffs would encourage Chinese EV producers to set up JVs with European automotive producers in the single market, while the European Commission has floated the idea of linking subsidies to explicit requirements for Chinese EV producers to transfer technology to their European counterparts.[87]

This optimistic scenario would amount to the EU reverse-engineering China's JV rules, which have historically required European companies to hand over valuable intellectual property and transfer technology to local partners in exchange for market access.

China's legal framework gives the government expansive authority over technology transfer from foreign companies under its Foreign Trade Law,[88] requiring companies to submit documents and materials, including business secrets, to government departments. The Chinese government can at any moment restrict the import or export of technology, for arbitrary reasons, without due process. It has used this recently, with great effect, in its current trade war with the US, by imposing export controls on 28 US entities in 2 separate rounds and adding 17 US firms to its 'unreliable entities' list.[89] This blocks and restricts US companies and allows them no due process or appeal, and whilst its use is rare, such action is a real risk for European companies, including automobile manufacturers.

Unfortunately, even in the automotive and EV sectors, JV arrangements have been historically risible one-sided affairs in which Chinese companies have consistently benefited. This is starkly different from the narrative that Chinese officials and Chinese Communist Party–aligned think tanks and media outlets wish to maintain of a green technology superpower that has reached its position through pure domestic innovation and talent.

This matters because it is part of a broader false narrative which the Chinese government is using to convince European partners to abandon traditional alliances in favour of 'win–win cooperation' with green technology that has largely come

87 J. Hanke Vela and J. Dahl, 'Europe Gives China a Taste of Its Own Trade Medicine', *Politico*, 18 June 2024.

88 Baidu, Foreign Trade Law of the People's Republic of China (2025).

89 M. Nulimaimaitii, 'China Vows Big Changes to Export Controls – Fresh Safeguards Amid a Raging Trade War', *South China Morning Post*, 10 April 2025.

through technology transfer. It is worth recalling that the sale of Volvo to Geely (in 2012)[90] and the sale of MG Rover to SAIC (in 2004)[91] were underpinned by agreements to transfer technology which were never made public by the Chinese automotive owners in question. This secrecy makes it difficult to assess how much Geely and SAIC benefited from the technology European legacy automakers provided to them, without which they may not have remained in business.

European participation in China's domestic automotive market more broadly has been underpinned by strict JV rules, which codified technology transfer and were only relaxed for EVs in 2020 and for passenger vehicles in 2022. Despite this relaxation of rules for JVs, the American Chamber of Commerce reported that foreign automotive companies continue to struggle to take control of their respective JVs in China.[92]

Nor is the story of China's dominance in EV battery technology a straightforward affair: BYD's first foray into developing EVs was as part of a failed JV with Apple in 2017 to develop the 'Apple Car'. BYD was already working on an early version of its Blade lithium-iron-phosphate battery at the time, but a *Bloomberg* piece notes that Apple engineers would likely have contributed to the battery pack design and offered significant resources that helped the company through its teenage years.[93]

The predecessor company to CATL was a subsidiary of the Japanese chemicals and electronics company TDK.[94] Following a decision by the Chinese government to introduce restrictions on foreign automotive producers using foreign-built engines, and after China increased tariffs on European and US automotives of up to 25% in 2011, TDK sold 85% of its nascent electric battery business to Chinese investors, creating CATL.[95] This means that CATL benefited from Chinese JV rules that helped establish its independence and assured its dominance by shutting out foreign EV rivals.

Four years later, a separate group of investors bought the remaining 15% of TDK's stake in CATL. TDK continues to operate a JV with CATL, which is reported

90 N. Shirouzu, 'Volvo Agrees Technology Transfer to Chinese Parent Geely', *Reuters*, 10 December 2012.

91 I. Griffiths, 'MG Rover Offers Know-How to Chinese Partner', *The Guardian*, 21 October 2004.

92 S. Kennedy, 'The Chinese EV Dilemma: Subsidized Yet Striking', *Centre for Strategic and International Studies* (20 June 2024

93 G. Coppola and M. Gurman, 'Apple Secretly Worked With China's BYD on Long Range EV Battery', *Bloomberg*, 16 October 2024.

94 H. Woo-Duk, 'Buy a Company Rather Than a Market', *Korea Joongang Daily*, 18 July 2023.

95 K. Bradsher, 'Hybrid in a Trade Squeeze', *New York Times*, 5 September 2011.

to have been approached by General Motors to provide CATL batteries.[96] There remains speculation that TDK managed to maintain a small stake in the company and receives technology royalty cheques from its previous subsidiary.

Given the dominance of Tesla and its own EV battery startup ecosystem, the US was well ahead in the EV race for a time. A123, a US battery startup founded in 2005, entered into a JV with SAIC in 2009, which marked the first JV between a Chinese automaker and a non-Chinese battery manufacturer. The American battery startup received millions of dollars in funding from the Obama administration to develop its battery technology, yet failed to commercialise its business and went bust the following year, being taken over by the Wanxiang Group based in Hangzhou.[97]

JVs between Chinese and foreign companies in the EV industry show a consistent trend: the JV fails and leaves the Chinese company to keep the technology and dominate the local market with the assistance of the Chinese state, before expanding aggressively abroad.

Technology transfer in other key European sectors

Technology transfer from European companies to local partners in China is not a historical phenomenon, nor is it limited to the automotive sector. In 2013, the CEO of French nuclear energy company EDF defended the transfer of nuclear technology to partners in China in the face of a French Treasury Ministry inquiry into whether EDF's JVs had undermined France's strategic interests.[98]

Similar tech transfer appears to be taking place in the aerospace sector. A report by Horizon Advisory in 2022 reported that Airbus has shared technology and satellite imagery with Chinese aerospace companies linked to the People's Liberation Army.[99] Additionally, China's state-owned airliner, the C919, which will one day rival those produced by Airbus and Boeing, sourced 60% of its components from JVs with Western aerospace companies, through what former US National Security Advisor Matthew Pottinger has described as forced technology transfer.[100] Aerospace already appears to be following the familiar trajectory of EVs—the

96 G. Coppola, E. Ludlow and D. Welch, 'GM Looks to Japan's TDK to Make US Batteries With China Tech', *Bloomberg*, 12 September 2024.

97 P. Coy, 'The U.S. Lost the Battery Race to China. Can It Make a Comeback?', *New York Times*, 23 September 2024.

98 *Reuters*, 'EDF CEO Defends French–Chinese Nuclear Cooperation – Media', 23 January 2013.

99 Horizon Advisory, *Flying With the Enemy: Risks of Airbus Ties to China* (June 2022).

100 K. Van Cleave and C. Hallowell, 'How China Developed Its First Large Domestic Airliner to Take on Boeing and Airbus', *CBS News*, updated 11 April 2023.

CEO of Ryanair has suggested that the European airline may cancel its contract with Boeing in favour of the C919.[101]

When it comes to the pharmaceutical sector, European companies continue to maintain strategic partnerships in China, despite the experience of Covid-19, when Chinese entities, alongside other hostile actors, sought to hack European companies producing a vaccine.[102] In the case of AstraZeneca, the continued detention of eight of its executives in China has not stopped the company from announcing a JV with the Beijing Municipal People's Government and three Chinese biotechnology companies.[103] Strategic cooperation and technology transfers come with incredibly high risks to staff and with the risk of intellectual property theft.

Why Chinese EV producers will not share technology with Europe

In the limited cases in which EU member states have sought to qualify investments from Chinese companies by imposing conditions around management structure, intellectual property rights and regulatory arrangements, they have had mixed success. In the recent case of Shanghai Putailai's planned battery plant in Sweden, the Chinese company cancelled its investment[104] after the Swedish government insisted it adhere to strict requirements, ironically citing the demands as 'unreasonable'.[105]

The Italian government has struggled for some years to block China's Sinochem from getting majority shareholder control of Italian tyre maker Pirelli on national security grounds after the company bought a 37% stake in 2015 and a 9% stake for the Chinese government's Silk Road Investment Fund.[106] Finally, on 28 April 2025, Pirelli's board managed to strip Sinochem of its status as the controlling shareholder, ensuring the company maintains control of its proprietary technology, which links tyre sensors to driving commands.[107]

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101 D. Shepardson and A. Lampert, 'US Lawmaker Warns Ryanair Against Buying Chinese-Made Planes', *Reuters*, 1 May 2025.

102 D. Sabbagh, 'Hackers "Try to Steal Covid Vaccine Secrets in Intellectual Property War"', *The Guardian*, 22 November 2020.

103 S. Goodley, 'AstraZeneca to Invest $2.5bn in Drugs Research and Manufacturing in Beijing', *The Guardian*, 21 March 2025.

104 *BatteryNews*, 'PTL Cancels Anode Factory in Sweden', 11 March 2025.

105 G. Møller, 'Huge Chinese Battery Investment in Sweden Cancelled', *ScandAsia*, 7 March 2025.

106 P. Hoskins, 'Pirelli: Italy Blocks Chinese Control of Tyre Giant', *BBC*, 18 June 2023.

107 *Financial Times*, 'Pirelli Strips China's Sinochem of Control in Attempt to Avert Exclusion by Trump in US', 28 April 2025.

European policymakers need to be mindful of the wider extraterritorial legal environment in which Chinese EV producers and Chinese companies operate overseas, which would make technology transfer nearly impossible. For example, Chinese EV producers are legally required to adhere to China's Data Security Law, which places severe restrictions on the sharing of data by Chinese companies with partners outside of the country without the explicit approval of the Chinese state.[108] This is already creating significant obstacles for European and Chinese research partnerships, with the German Research Foundation, Swedish Research Council and Swiss National Science Foundation all stating that they have not offered joint co-funding with Chinese research partners since the law took effect.[109]

China lures foreign companies through its huge manufacturing capacity made up of a vast, cheap and efficient workforce with few labour rights protections for companies to follow. However, as the workforce engages in manual and increasingly skilled labour, they learn how to use the technology of foreign companies. This makes it easier for the Chinese government and the country's companies to engage in tech transfer as they have a workforce that can immediately use this technology. It also means jobs requiring both unskilled and skilled labour are outsourced from the EU to China.

If Beijing believes that its companies are being discriminated against or face the risk of losing technology critical to national interests through a 'reverse [intellectual property] transfer' playbook, it reserves the right under the Data Security Law to impose equal measures and can also use other laws to strategically broaden its export controls to cover a wider array of sensitive technology.[110]

Since 2017, Chinese companies and, increasingly, foreign companies operating in China are required to have Chinese Communist Party cells all the way up to the board level. Kenneth Wilcox, the former CEO of Silicon Valley Bank and its JV with Shanghai Pudong Development Bank, observes that when Chinese companies say 'win–win cooperation' they mean the Chinese entity in question wins twice.[111] Wilcox writes that party committees have now begun to influence companies on foreign soil, noting that at one of the 'Big Four' accountancy firms in the US, the party cell has stipulated that a member must be present at any

[108] China Law Translate, 'Data Security Law of the PRC' (10 June 2021).

[109] A. Silver, 'China's Data Protection Rules Prompt Pause From Major European Research Funders', *Reuters*, 25 April 2025.

[110] R. Goujon and J. Bouchaud, *The Clawback: Reclaiming Strategic Assets From China*, Rhodium Group (31 March 2025).

[111] K. Wilcox, 'Lessons From Starting a Bank in China: An Insider's Reflections', *SOAS China Institute* (15 April 2025).

meeting at which an American partner meets with an American client on US soil to discuss doing business in China.[112]

An editorial last summer by the *Global Times*, which is commonly agreed to be a mouthpiece of the Chinese Communist Party, appeared relaxed regarding the EU's ambitions of forcing Chinese EV producers to transfer technology. It stated that such criteria, if introduced, would not constitute legally binding mandatory regulations, and that when faced with these criteria, Chinese companies would make the 'appropriate decisions based on their strategic interests'. The inference is that Chinese companies adhere to China's extraterritorial laws, and party cells within these companies prioritise China's economic statecraft.[113]

The removal of the requirement for Chinese EV producers (alongside all Chinese companies) to publish a 'China risk' section in their annual accounts if they list in Hong Kong or Shanghai means there will be a further reduction in transparency and understanding of the influence of party cells within these companies.[114]

This situation is exacerbated by the fact that individual member states have their own JV rules, which are applied selectively. Germany, France, Italy, the Netherlands and Hungary all cap voting rights for foreign owners in strategic sectors. The German government has previously blocked Chinese investment in medical device producer Heyer Medical, MAN Energy Solutions, Elmos Semiconductor SE and ERS Electronics.[115] However, last year the German government allowed COSCO to buy a 25% stake in the container terminal in the Port of Hamburg, allowing a Chinese company with state links to leverage a strategic European port.[116]

112 K. Wilcox, 'How And Why Western Companies Fail In China', *Chief Executive* (14 November 2024).

113 *Global Times*, 'GT Voice: No Need to Let Reported "Tech Transfer" Disrupt China–EU Ties', 20 November 2024.

114 S. Li and K. Wu, 'Hong Kong Cuts China-Risk Section in Listing Rules, But Says Scrutiny Unchanged', *Reuters*, 2 August 2023.

115 H. Mueller, 'Investing in . . . 2025 – Germany: Trends and Developments', *Chambers and Partners* (updated 16 January 2025).

116 K. Si, 'Germany Approves Cosco Shipping Ports Hamburg Terminal Stake', *Seatrade Maritime News*, 11 May 2023.

Table 1 EU member states' investment screening regimes

Level		Screening threshold	Pursuant regulation
EU-wide		Proposed to improve overall screening of foreign direct investment (FDI) into the EU by harmonised national rules	EU Investment Screening Framework[117]
Representative member states	**Germany**	10%–25%[118] of voting rights, depending on the sector	Foreign Trade and Payments Act[119]
	France	25% of voting rights[120]	French Monetary and Financial Code[121]
	Spain	Over €5 million turnover[122]	FDI screening mechanism
	Italy	At least 10% of the corporate capital, depending on the sector.[123]	Italian FDI regime (Golden Power Law)
	The Netherlands	Generally 50%, and in sensitive technology sectors, 10%–25% voting rights[124]	Vifo Act
	Hungary	25% ownership interests[125]	General ownership regime

Sources: Various open sources, including the European Commission and German and French governments, as well as private legal consultants.

Previously the European Commission sought to harmonise FDI screening rules through a shared notification system. In 2023, 18 EU member states notified the Commission of 488 transactions, a 67% increase from the previous year.[126] This increased coordination between the European Commission and EU member

117 European Commission, Trade and Economic Security, 'Investment Screening' (n.d.).

118 Mueller, 'Investing in . . . 2025 – Germany'.

119 Gerlach, 'Foreign Trade and Payments Act' (n.d.)

120 C. Vannini and A. Rohmert, *CMS Expert Guide to Foreign Investment Screening Laws in France*, CMS (12 June 2024).

121 AMF France, *General Regulation of the AMF Into Force From 01/01/2024 to 28/03/2024* (6 June 2025).

122 Dentons, 'Spain's New Foreign Direct Investment Regulations' (8 November 2023).

123 L. Graffi and S. Scapin, 'Foreign Direct Investment Reviews 2024: Italy', *White & Case* (2024).

124 N. Strous and E. Kranendonk, The Vifo Act (Briefing), *TaylorWessing* (4 January 2024).

125 I. Sólyom and S. Schóber, 'Foreign Direct Investment Reviews 2024: Hungary', *White & Case* (2024).

126 O. Berg et al., 'Foreign Direct Investment Reviews 2025: European Union', *White & Case* (27 March 2025).

states has not prevented individual governments from rushing ahead to welcome Chinese EV investment, prioritising the needs of their economies over the economic security of the single market.

Given China's growing automotive export figures and the impressive demonstrations of EVs with newly fitted gadgets at the annual Shanghai auto show, it is easy for European policymakers to conclude that China is the only show in town for EVs and, in particular, EV batteries. This is simply not the case, and it is our loss to believe so.

In 2024 Japanese and South Korean EV battery manufacturers still controlled nearly a quarter of the global EV battery market.[127] While it is true that CATL and BYD have steadily eaten into their market share in the last few years, there are still Japanese and South Korean battery producers who could strategically partner with European automakers and could be more open to sharing technology at a time when their respective governments are seeking to deepen trade relations.

Nor have other countries that have erected JV rules for Chinese EVs managed to achieve technology transfer or stem the destruction of their automotive manufacturing sector. Take Thailand, where the previous government offered preferential treatment to Chinese EVs in return for EV technology transfer to local firms. All that happened was that the Chinese supply of EVs soon outstripped demand, leading to Thailand's production of vehicles dropping in January 2025 by nearly 25% year on year.[128] Meanwhile, Thai automotive companies continue to wait for the promised technology transfer as the sector faces a 33-month-long low.

Suppose the EU is set on using JVs to revive the fortunes of its flailing automotive sector. In that case, it should consider welcoming partners that are trusted, more likely to share technology and open to fair competition.

Similarly, JVs in China still face the risks posed by working within the Chinese manufacturing environment, including labour rights violations. The EU's new forced labour screening regime is set to investigate and ban the import of all products made from forced labour, and 'the Commission will establish a database containing verifiable and regularly updated information about forced labour risks areas or products.'[129] This means that companies with JVs in China need to take additional precautions if they wish to import their goods into the EU in the long term.

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127 L. Kang, 'Global EV Battery Market Share in 2024: CATL 37.9%, BYD 17.2%', *CNEV Post*, 10 February 2025.

128 *The Nation*, 'Thailand's Auto Industry Skids as Production Plummets 24.63%', 24 February 2025.

129 European Council, 'Forced Labour Products' (9 December 2024).

The European Commission and European member states will struggle to fashion similar levels of technology transfer from Chinese EV producers. Not least because the EU's 'frozen' Comprehensive Agreement on Investment with China includes restrictions on technology transfer, which specify that neither party will directly or indirectly interfere using force or pressure when it comes to technology licensing and transfer.[130]

While it is likely that any attempt to restart trade talks between the EU and China will see both sides seeking amendments to this agreement, what is less clear is the Chinese side's willingness to allow the technology transfer provisions to be watered down.

Conclusion

Covid-19, Russia's invasion of Ukraine and the ongoing US–China trade war—from all these recent crises, a simple lesson is to be learned: in an increasingly geopolitically unstable world, where the set of assumptions and rules that previously held sway is under threat, resilience is king.

Those countries and markets that can exercise resilience will have more options, a far stronger economic outlook and better outcomes for their respective populations than those that are heavily dependent on authoritarian powers for key supply chains and technologies. They and their citizens will also be better protected against the risks arising from such dependence.

Whether it is the European automotive sector repurposing its plants during the Covid-19 pandemic for ventilators or Ukraine utilising its automotive sector to help its defence industry, clearly, having an automotive manufacturing base will remain extremely important when it comes to resilience and weathering future crises. This is exemplified by the recent announcement that Renault will open a drone factory in Ukraine, which marks the first time the French automaker has manufactured defence equipment since the Second World War.[131]

Europe cannot afford to have its automotive sector and industrial base cannibalised by unfair competition from Chinese EVs, nor can policymakers let Chinese EVs into

[130] Communication and Information Resource Centre for Administrations, Businesses and Citizens, 'Section II – Liberalisation of Investment' (29 September 2022).

[131] *Financial Times*, 'Renault Asked by French Government to Make Drones in Ukraine', 9 June 2025.

the single market without drawing clear red lines to protect the data and security of European citizens and to guarantee that any JVs are locally owned and bolster Europe's automotive supply chain. The European single market cannot fall prey to China's false claims and misleading narratives around how their industry is essential for the green future: the country's industries depend on stolen European technology and visions for the future that are far from the EU's democratic and regulated ideals.

A failure to act on these red flags and enforce sensible red lines regarding Chinese EVs and the risks they present will lead policymakers to close the stable door only after the horse has bolted.

Policy recommendations

Policy measures to respond to the red flags that Chinese EVs present are as follows:

- The EU should encourage European automotive companies to collaborate and pool resources to create a viable alternative to Chinese EVs. This should include tax incentives and coordination with the member states to the NextGenerationEU and multiannual financial framework funds to support the development of the European EV sector, as part of efforts to achieve an EU-wide industrial policy.
- The EU should consider introducing a cap on the share of the EV market for Chinese EV producers alongside any minimum pricing agreement that is negotiated. A market share cap for Chinese EVs of less than 10% would ensure that European automakers continue to maintain their market share and industrial base within the single market. This would offer a small headroom for market share growth for Chinese EVs but would prevent them from hitting the 15% threshold by the end of 2025 which the European Commission has cited as a concern. It is also consistent with the EU's historical approach to Japanese and Korean car manufacturers, which included voluntary export restraints.
- Through bilateral dialogues with Brazil, Turkey, Canada and the US, the EU should explore coordination regarding tariffs on Chinese EVs and a move towards a shared tariff rate.

- The EU should deepen industrial ties and develop economic security partnerships with Japan and South Korea, encouraging EV battery JVs between Japanese and Korean battery providers and European automotive producers, and explore alternative critical minerals supply chains. This would help consolidate the global market for non-Chinese EV battery production.

Policy measures to respond to the red lines are needed when it comes to Chinese EVs:

Data security

- The EU should develop and adopt a sovereign cloud storage system which all EVs operating in the single market should be required to use for data storage and which complies with existing data privacy and security regulations. In the short term, the EU should develop a trusted cloud storage provider scheme and require EVs to use it until this sovereign cloud storage system is completed.

- The EU should authorise the European intelligence services and the European Cyber Crime Centre to work with the European commissioner for competition to investigate whether EV companies are transferring data surreptitiously overseas. Evidence found by the office of the European commissioner for competition that foreign EV operators are violating the GDPR by sharing their data outside the European single market should lead to an automatic ban.

- The EU should mandate that all EVs operating in the single market should be legally required to use CIMs from European providers.

JVs

- The EU should review and amend its current FDI regulation to introduce local ownership, data security and local content requirements, and obligations for technology transfer. This could be underpinned by a timetable for Chinese EV producers to offer technology transfer to European partners or face a ban from the European single market.

- The EU should investigate the current JVs between Chinese EV producers and European partners to see whether they comply with foreign subsidy rules and the EU's GDPR rules.

- The EU should direct European intelligence services to investigate the role and influence of Chinese Communist Party cells within European automotive and EV producers and the role that Chinese automotive companies play within European automotive industry bodies, checking for national security risks, in particular.
- The EU should investigate European companies' JVs in China and the extent to which technology transfer is taking place, particularly in the aerospace, pharmaceutical and civil nuclear sectors. The EU should consider declaring these industries elements of strategic sectors and introducing rules to limit the extent of foreign JVs and technology transfer.

About the author

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Acknowledgements

A special thank you to Tau Yang, the China Strategic Risks Institute's Research Analyst, for the data analysis and the original graphical representation in this report.

A special thank you to Anouk Wear, for editorial and research support.

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The Wilfried Martens Centre for European Studies is the political foundation and think tank of the European People's Party (EPP), dedicated to the promotion of Christian Democrat, conservative and like-minded political values.

Wilfried Martens Centre for European Studies
Rue du Commerce 20
Brussels, BE 1000

For more information, please visit www.martenscentre.eu.
External editing: Communicative English bv
Typesetting: Victoria Agency

Printed in Belgium by INNI Group

Internal editor: Dimitar Lilkov, Senior Research Officer, Martens Centre

This publication receives funding from the European Parliament.