The European Union Industrial Strategy
Reconciling Competition and Geoeconomic Challenges

Marie KRPATA
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The Cerfa

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Executive Summary

The EU’s basic assumptions, on which it grounds its economic and trade power, are being steadily cast into doubt. The EU’s main trade partners, the US and China, increasingly set their sights on securing their supply chains, which may further a potential decoupling. This shift is likely to be accelerated in the context of growing geopolitical instability. Multilateralism and international trade principles are increasingly challenged by a weakening of international institutions and the recourse to asymmetric market practices, while technological leadership will be key in the struggle for global leadership. Being fundamentally built on economic openness, the EU is comparatively ill-equipped to respond to these developments. Its biggest economy, Germany, is prompted to assert itself if it does not want to lose in competitiveness. While the EU is developing strategies, policies, and instruments to adapt to this change of circumstances and increase its resilience, a shift in mentalities, leaving behind political and economic short-term interests, will be necessary.

Résumé

Les principes sur lesquels l’Union européenne (UE) a basé sa puissance économique et commerciale sont progressivement battus en brèche. Ses principaux partenaires commerciaux, les États-Unis et la Chine cherchent à sécuriser leurs chaînes de valeur, ce qui est susceptible de créer un découplage. Ce phénomène est amené à s’accélérer dans un contexte d’instabilité géopolitique croissante. Le multilatéralisme et les principes du commerce international sont remis en question par un affaiblissement des institutions internationales et l’utilisation de pratiques asymétriques de marché tandis que le leadership technologique sera essentiel dans la course au leadership mondial. L’UE étant fondamentalement basée sur l’ouverture économique, elle est moins bien armée pour faire face à ces développements que d’autres acteurs mondiaux. Sa principale économie, l’Allemagne, est amenée à se montrer plus assertive si elle ne veut pas perdre en compétitivité. Tandis que l’UE développe des stratégies, des politiques et des instruments pour s’adapter au changement de contexte international et accroître sa résilience face aux crises, un changement de mentalités s’impose, en laissant de côté les intérêts politiques court-termistes.
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Introduction

Although not a political heavyweight, the European Union (EU) is considered an economic giant. Its internal market of 450 million potential high-income consumers gives it the de facto power to set standards. The EU is also a normative power; the “Brussels Effect” is illustrated by the EU leadership in terms of environmental policy, in the affirmation of social and human rights, and in the protection of personal data. This soft power is based on multilateralism and the openness of its market.

Both of these principles are being shaken by the current geopolitical context, with the US-China trade rivalry; with tendencies to self-sufficiency in these two countries, the EU’s main trade partners; and with China’s ambitions to become the world manufacturing power in 2049. The repercussions of this context are sensed in the EU, both directly – through the US-EU trade relations on the one hand and through the China-EU trade relations on the other – and indirectly, through the repercussions of the US-China trade rivalry on the EU.

Within the EU, supply-chain security is increasingly taken into consideration too as clearly illustrated by government responses to the shortages caused by the coronavirus crisis and the war in Ukraine. The interconnectedness of our economies may increasingly be weaponized, a development that states try to counteract by diversifying their suppliers and clients. The EU is less prepared than other states for these massive disruptions and now needs to quickly adapt to the new circumstances it is facing. While a new industrial policy is in the making in the EU, this also comes with a number of tradeoffs:

- How can industrial policy be made compatible with the Green Deal and the EU’s environmental objectives in particular against the backdrop of the war in Ukraine which puts the priority on energy security?
- How far is the EU ready to foster European champions, knowing that this would unleash concerns about the supporting of competition (and thus innovation) on the internal market?

1. A report by IfW Kiel, Bruegel and DIW Berlin states: “All great powers make increasing use of international economic – “geoeconomic” – instruments to achieve various foreign policy goals, and vice versa. For the EU, this development is particularly relevant, as the common foreign and security policy is still very much underdeveloped and remains on the national level while the field of trade, monetary, competition and single market policy almost completely fall under the exclusive competence of the union. Thus, the two areas that are interacted in the realms of geoeconomics remain mostly separated from each other in the EU. […] neither the US nor China face these obstacles.” In: K. Kamin, K. Bernoth et al., “Instruments of a Strategic Foreign Economic Policy–Study for the German Federal Office”, IfW Kiel, Bruegel and DIW Berlin, November 2021, available at www.bruegel.org.
How can the EU best navigate as multilateral solutions give way to an ever more polarized world, where it appears more clearly from day to day that it will have to select partners of trust to overcome overreliances on single trade partners by diversifying, while being mindful that no partnership lasts forever?

An approach combining industrial policy, trade policy and competition policy would nurture the EU’s ambitions to stay technologically relevant while also unleashing the EU’s private sector innovation potential, both of which are intrinsically linked. This echoes the EU’s aim to become more “geopolitical” and to “speak the language of power”.

The all-encompassing concept “open strategic autonomy” – to which some prefer the term “strategic sovereignty”2 or “European sovereignty”3 – entails, first, the acknowledgment of a tenser geoeconomic context casting doubt on the principles underlying the EU’s prosperity, and second, the requirement that informed choices be agreed in common, the success of which presupposes both political will and material support in the frame of a joint approach with all relevant stakeholders.

In these endeavors Germany plays an essential role, first and foremost because its economic openness renders it vulnerable to geopolitical hazards, and further because the EU’s success in adopting the strategies, policies, and instruments necessary to strengthen its industrial power and to protect it from ill-intended third-country influence – notably via third-country economic actors – will depend to a great extent on the German positioning in this regard.

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Geopolitical Context Drives the EU to Reduce its Economic Vulnerability

A Sino-American Rivalry that Pushes the EU, and German Companies in Particular, to Strengthen the EU’s Geoeconomic Stance

Caught in the middle of the Sino-American rivalry, which evidences a weakening of rules-based multilateralism accelerated by the war in Ukraine, the EU and within it, Germany, its main economic power, are required to assert themselves based on legal and regulatory instruments to protect their economic and strategic interests. Germany’s role in this shift is motivated by the lessons drawn from its open economic model and is evident in parallel legislative developments both at the EU and the German level.

The Challenge of Sino-American Rivalry Involves an Interplay Between States and Economic Actors and Encompasses a Social Dimension

The Sino-American rivalry leads to greater polarization, casting doubt on rules-based multilateralism and creating a divide between liberal democracies and those who increasingly cast doubt on the principles underlying the world order. Caught in the middle of the Sino-American crossfire, the EU risks becoming a collateral victim of the overall erosion of trust between its two main trade partners if it does not assume a more assertive stance. It has long been wary of taking sides between its transatlantic partner, the US – with which it shares common values and interests, notably as far as defense is concerned – and its main trade partner, China, with whose economy it is getting increasingly entangled.

China’s self-assurance on the global stage has been growing with the “Made in China 2025” (MIC 2025) strategy of 2015 which clearly states its ambition to become the world manufacturing leader by 2049.4 The US

has been responding with a series of executive and legislative acts aimed at avoiding China as a supplier in key technological sectors and rendering US supply chains more resilient to major disruptions, while also seeking to avoid providing critical components that would help China’s industrial base to gain a competitive edge. The erosion of trust has to be understood against the backdrop of China’s increased importance in world economics since its accession to the World Trade Organization (WTO) in 2001, which has happened at the expense of respect for a number of WTO applicable rules. The hopes associated with China’s integration into the international community – that China would democratize as its trade relations with the West grew – have not materialized. Its economic success is deemed to have accrued at the expense of other countries. In the US, it has been estimated that 25% of job losses can be attributed to the rise of China. In 2018, the tone became particularly confrontational, as then US President Donald Trump did not shy away from defending “America First”, including within the United Nations institutions. The current Biden administration has adopted a more diplomatic tone while forging the concept of “Foreign Policy for the Middle Class” according to which foreign policy decisions should be made bearing in mind the interests of American workers.

At the climax of Sino-American rivalry, the two countries have both introduced tariffs, restrictions in market access and export controls directed at each other. Security reasons were invoked in critical sectors. Because of the entanglement of the world economy, EU companies such as the Dutch semiconductor producer ASML for instance felt the repercussions of US export restrictions in a strategic sector where China still very much relies on supplies from third markets: the semiconductor sector.

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6. Executive Order on America’s Supply Chains, op. cit.
8. Vice-President Mike Pence’s speech at the Hudson Institute in 2018, when he highlighted the loss of manufacturing jobs in the US because of unlawful market and trade practices in China is an example of a hardening in the tone of US representatives concerning China. See “Vice President Mike Pence’s Remarks on the Administration’s Policy Towards China”, Hudson Institute, YouTube, 43’09”, October 4, 2018, available at www.youtube.com.
9. President Biden exerted pressure on The Hague so that ASML, the world leader in lithography systems, would not export upstream products in the semiconductor industry that it produces (machines with EUV technology), fearing that China would make use of this technology to build its own competitive semiconductor industry. In: C. Geinitz, Chinas Griff nach dem Westen – Wie sich Peking in unsere Wirtschaft einkauft, Munich, C. H. Beck Verlag, 2022.
In the Face of a Challenged Multilateral Order, the EU Is Forced to Take a More Assertive Geoeconomic Stance

Under the Trump presidency, EU-US relations too became increasingly tense, with the American president casting doubt on NATO and subjecting some EU goods to additional tariffs (on steel and aluminum and Airbus planes for instance) which US president Donald Trump justified by recalling Germany’s export surplus with the US, for which the German car sector was deemed particularly responsible. Consequently, the EU has become increasingly aware that a change in America’s foreign politics suffices to marginalize the EU geopolitically. The US withdrawal from the Joint Comprehensive Plan of Action (JCPOA) with Iran in 2018 and the putting into place of secondary sanctions against EU companies entertaining business relations with sanctioned Iranian entities, as well as the American shift of priorities from the Atlantic toward the Indo-Pacific, illustrate this clearly. Against this backdrop, the EU is under pressure to become more assertive, independently of any other major world power.

The need for the EU to assert itself has become even more evident towards China. Indeed, predatory Chinese foreign direct investments (FDIs) in the EU, particularly targeting Germany, and distortive Chinese trade practices such as non-reciprocal market access, forced joint-venture agreements, intellectual property (IP) theft and coercion practices that linked political decisions to economic power bargaining are increasingly worrying European companies.

Against the backdrop of the US-China rivalry and the growing world polarization, this leads to a decoupling in many domains. Indeed, EU companies are increasingly subject to US regulations in terms of restriction to market access and export control targeting China but producing extraterritorial effects, thereby disrupting EU companies’ value chains and business activities. Examples include US pressure on the EU to avoid Huawei when awarding 5G network contracts, and not exporting to China upstream products in the semiconductor industry, given the fear that China

would build its own competitive semiconductor industry. At the same
time, China, which has expanded its retaliatory toolbox in recent years, may
“exploit European choke points, such as the bloc’s dependence on rare
earts, and employ asymmetric retaliatory responses should the EU target
China with expanded export controls or apply more concerted pressure over
human rights issues”. Growing awareness about this trend led to the EU
adopting the **Strategic Outlook** in 2019, indicating that the EU had
chosen its side, since it considers China not merely as a “cooperation
partner” and “economic competitor” but also as a “systemic rival”. **EU-
China relations** have even grown tenser since 2021. While EU clothing
brands have faced popular boycotts in China following their refusal to buy
cotton from Xinjiang province allegedly produced by Uighur forced labor,
the EU decided to put in place targeted sanctions against the inhumane
treatment of Uighurs. At the same time, Chinese authorities sanctioned
European researchers and institutions. As a result, the long-negotiated EU-
China Comprehensive Agreement on Investments (CAI), intended to
rebalance EU-China relations but considered with skepticism by the US,
was not ratified by the European Parliament. Growing Chinese tensions
with Lithuania, which left the 17+1 format (the two remaining Baltic
countries followed suit in August 2022) and opened a Representation Office
of Taiwan in Vilnius, leading to Chinese trade retaliation, damaged EU-
Chinese relations even more. Against this backdrop, the EU cannot stand
idly by: it needs to take a more assertive stance toward China.

The **coronavirus crisis** also spurred a debate within the EU about
rendering supply chains more resilient. Whether stockpiling essential
goods, reshoring activities, or diversifying sources of supply to ensure
access to basic supplies that had been lacking during the first phase of the
crisis, different solutions are envisaged. Calls for “**Strategic Autonomy**”
have become increasingly audible. This concept largely framed by France,
to which the adjective “open” was added, entails “[…] solidify[ing] global
supply chains to enhance resilience to future crises”. An analysis of the
EU’s dependencies was pushed forward as a basis of reflection on which
steps to take to reduce supply-chain vulnerabilities. Such vulnerabilities
may be critical in the event of natural disasters, during pandemics, or when
political decisions have repercussions on international trade, as the Sino-
American tensions showcase.

15. Ibid.
16. European Commission and HR/VP Contribution to the European Council EU-China–A Strategic
17. Commission Staff Working Document, **Strategic Dependencies and Capacities Accompanying the
Communication from the Commission to the European Parliament, the Council, the European
Economic and Social Committee and the Committee of the Regions Updating the 2020 New Industrial
Relations with **Russia** are yet another front where the EU has been obliged to take a clearer position. The war in Ukraine, which started on February 24, 2022, has demonstrated this. Germany, in the person of Chancellor Olaf Scholz, spoke of a “Zeitenwende” (turning point) on February 27, 2022, three days after Russia’s invasion of Ukraine, thus acknowledging that what had been Germany’s, and the EU’s, policy fundamentals up to then had been shattered overnight. The brutal awakening after February 27 is the awareness that autocratic regimes may make use of interdependencies by way of coercion. The credo that interrelatedness in trade would create conditions conducive to legal security and stability and reduce the probability that the EU’s economic partners would resort to war (“Wandel durch Handel”: change through transformation), was greatly weakened.

As the EU’s strongest economy by GDP, Germany in particular has been cast in the limelight. Its ambiguity toward Russia has weakened the EU. The assumption of Germany’s partners such as Russia and China was that it would systematically favor its economic interests rather than steadfastly defending a policy coherent with its values and principles. The annexation of Crimea in 2014, which led to little resistance within the EU and did not impede Germany from negotiating a deal with Russia on Nordstream 2, confirm this assumption.\(^{18,19}\) Cheap Russian gas prices furthered the competitiveness of the German economic model, yet the lack of substitution at a time when Germany decided to phase out coal and nuclear energy increased its dependence on Russia and jeopardized Ukraine’s existence. The conclusions drawn from the outbreak of the war in Ukraine, shift priorities towards guaranteeing security of supply and favoring political grounds, values, and principles rather than mere economic interests. In fact, decoupling from Russia also strengthens the ties between the EU and the US, which suggests that the EU has chosen to join the US and other like-minded countries, against those increasingly challenging the principles of a multilateral world order.

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German Economic Actors and German Politics Greatly Influence the EU’s Efforts Toward More Resilience and its Economic Ambitions

Germany steadily adjusted its posture toward China. Indeed, “business interests have long been the main driver”\textsuperscript{20} of Germany’s China policy. However, the ringing of alarm bells by German companies about increasingly unfair market practices in their relations with China created a big stir and resulted in political responses at the German national level. Germany has been particularly crucial in the EU endeavors to assert itself, which is why it is pertinent to analyze the shift within Germany towards increased prudence with regard to China.

“Germany is by far China’s largest trading partner in the EU. In 2019, Germany accounted for 48.5% of EU exports to China, 4.6 times that of France, the bloc’s second-largest exporter to China,” the 2022 European Think Tank Network on China reported.\textsuperscript{21} “By a rough assessment of the German Federation of Industries (BDI), 900,000 jobs in Germany are in one way or another related to business with China, accounting for 2% of the German workforce,” the report adds.\textsuperscript{22}

While the Chinese market is attractive to European companies, the European market is increasingly being targeted by Chinese investments and takeovers and is facing competition from Chinese actors. The example of the takeover of the German robotics company Kuka, a key player for Industrie 4.0, by the Chinese group Midea caused considerable uproar in Germany and triggered a review of Chinese targeted investments in German “hidden-champions”, i.e., small and medium-sized enterprises (SMEs) in niche sectors with growth potential. German and EU authorities tried to find European investors to propose an alternative bid, but this effort was not successful. Since then, it is understood that such a takeover would not happen again.\textsuperscript{23} A sample of Chinese takeovers and of participations targeting German companies, as well as the application of Chinese unfair trade practices affecting German companies, is provided in Figure 1.

\textsuperscript{21} Ibid.
\textsuperscript{22} Ibid.
\textsuperscript{23} C. Geinitz, op. cit.
Figure 1: Sample case of German companies confronted with Chinese competition, participation in the capital and takeover attempts

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<tr>
<th>Sample Cases of German Companies Confronted with Chinese Competition, Participation in Capital and Takeover Attempts</th>
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<tr>
<td><strong>Thyssen-Krupp</strong> (2001)</td>
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<td>The Chinese steel company Shagang bought a Thyssen-Krupp production plant in Dortmund-Hörde for EUR80 million. The Chinese disassembled the plant and built it up again in China. Today Shagang outweighs ThyssenKrupp in terms of volumes of steel production worldwide, as it produces double the steel volumes of Thyssen-Krupp.</td>
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<td><strong>Putzmeister</strong> (2012)</td>
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<td>Acquisition of Putzmeister, the world market leader in concrete pumps, by the Chinese heavy machinery group Sany Heavy Industry. Putzmeister was considered a “hidden champion”, i.e., an SME specialized in a niche sector with growth potential. For the Chinese group, the takeover has proven unsatisfactory from a financial perspective. However, with this takeover, it could gain access to German technology and expertise, which is considered the main motivation for such an undertaking.</td>
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<tr>
<td><strong>Kuka</strong> (2016-2021)</td>
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<td>Kuka, the European leader in robotics and a key player for Industrie 4.0, was steadily acquired by the Chinese group Midea; of which it acquired 95% of the capital by “squeezing out” other stakeholders. This acquisition was of a strategic nature as it resulted in China becoming the most important industrial partner of the German automotive industry. German and EU authorities tried to persuade European bidders to propose an alternative bid. This attempt was not successful. The German Federal Ministry of Economics has since explicitly said that a takeover such as the one of Kuka must not happen again.</td>
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<td><strong>SolarWorld</strong> (2017)</td>
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<td>The German manufacturer of photovoltaic panels, SolarWorld, declared bankruptcy following dumping practices by Chinese companies producing panels at unbeatable prices which rendered SolarWorld uncompetitive.</td>
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<td><strong>Bosch</strong> (2017)</td>
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<td>Car suppliers have been in the focus of Chinese acquisitions. The German supplier Bosch, for instance, sold one of its loss-making subsidiaries to the Chinese Zhengzhou Coal Mining Machinery Group. The Chinese car supplier Weichai Power has steadily asserted itself in a sector dominated by German and Japanese companies. It has done so by buying up other companies, among which the German Koen car company producing forklifts. The German Tier 1 car supplier FFT was taken over by the Chinese group Fossun in 2018. The Chinese Juyon Electronic took over a majority stake in the German company Pehl producing electrical and electronic operating systems for passenger cars and commercial vehicles, which has since grown tremendously. The German car supplier KSM Castings was acquired by the China International Trust and Investment Corporation (CITIC). In 2012, Kileap AG, specialized in the production of locking systems of motor vehicles, was bought by Liugong Industrial. Finally, the Chinese tech giant Xiaomi bought up the German car manufacturer Borgward with the aim of manufacturing its own electric vehicles.</td>
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<tr>
<td><strong>50 Hertz</strong> (2018)</td>
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<td>The German Federal Ministry of Economics prevented the State Grid Corporation of China (SGCC) from acquiring a share of Berlin electricity network operator 50Hertz.</td>
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<tr>
<td><strong>Leifeld</strong> (2018)</td>
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<td>The German Federal Ministry of Economics blocked the takeover of German mechanical engineering company Leifeld by the Chinese Yantai Taishai Group. Leifeld machines can be used to manufacture military engine components and parts for the nuclear industry, which is why the Ministry of Economic Affairs raised security concerns.</td>
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<td><strong>Biotest</strong> (2018)</td>
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<td>Diverse takeovers in the health industry include the takeover by the Chinese company Cret of German pharmaceutical company Biotest for US50.2 bn. In 2016 German startup Wuoli bought German biotech company Cosula. In 2020, during the peak of the coronavirus pandemic, it bought a Bayer Group plant. In 2020, the Chinese Fossun launched a cooperation with the German Biotest for EUR140 million. It invested US505 million in R&amp;D and paid additional US220 million for 9.7% of Biotest shares. This proved to be an astute decision as the Biotest share value grew substantially amidst the coronavirus crisis.</td>
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<td><strong>Daimler AG</strong> (2018)</td>
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<td>The Chinese car manufacturer Geely acquired 9.7% of the capital of German car manufacturer Daimler AG.</td>
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<td><strong>CATI</strong> (2019)</td>
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<td>Chinese batteries manufacturer CATI decided to build a production plant in Erfurt, which is to open in 2022 and include an R&amp;D facility. This is the biggest greenfield investment project in Germany in years. Similarly, Chinese battery producer Sibao plans to build two plants in Saarland. Also the Chinese battery producer Fanarison plans to build a plant in Saxony-Anhalt.</td>
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<td><strong>Daimler AG</strong> (2019)</td>
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<td>Beijing Automotive Industry Holding (BAIC) acquired 5% of the capital of Daimler AG. The deal amount is estimated at US20.2 bn. BAIC slowly bought more Daimler shares. In 2021, when truck division Daimler-Truck separated from Daimler AG, the fact that BAIC already held 9.98% of the voting rights in the car company became common knowledge. In 2019, Minister for Economics and Energy Brights Zypries had raised concern that a Chinese competitor could gain insights into Daimler’s strategy.</td>
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<td><strong>Volocopter</strong> (2019)</td>
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<td>Chinese investments in the aeronautical sector include, Chinese car manufacturer Geely acquiring a stake in Volocopter in 2019. Lilium, a German company working on electric vertical take-off and landing aircraft raised investments, notably from the Chinese technology group Tencent.</td>
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<td><strong>Voelkswagen Locomotives</strong> (April 2020)</td>
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<td>Chinese high-speed rail firm CRRC acquired German company Voelkswagen Locomotives, the market leader for short-distance diesel locomotives (Voelkswagen held 25% of the market for diesel locomotives). German competition authorities agreed to this deal in April 2020. By acquiring a company approved to European standards, and accustomed to producing according to the standards applicable within the EU, CRRC avoided having to go through a process of accreditation that usually happens on a country-by-country level. It can take several years and requires considerable financial and human effort.</td>
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<td><strong>Port of Hamburg</strong> (2021)</td>
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<td>COSCO, a state-owned Chinese shipping magnate, aims at taking a 35% stake in one of Hamburg’s three terminals. German and EU authorities are sceptical about the deal. Other infrastructure projects include the city of Duisburg which hosts the largest inland port in the world and is a BRI destination, connecting the city with China by rail.</td>
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Alerted by the German business spheres of the risks faced in the Chinese market, the political class operated a shift towards a more overtly cautious and less naïve posture towards China. A BDI Policy Paper (2019) calling for more clarity in relation to China, greatly influenced the EU’s Strategic Outlook (2019). In February 2019, the publication of a Franco-German Manifesto for a European industrial policy fit
for the 21st Century led to the definition of a European Industrial Strategy in 2020, updated in 2021. This example illustrates parallel developments on the national and EU level. This interplay has also happened the other way around. For example, developments on the EU level with the FDI Screening Instrument (2020) resulted in the tightening of the German Investment Control Law (2020). The German Law on the Duty of Vigilance “Lieferkettensorgfaltpflichtengesetz”, set to enter into force in January 2023, was inspired by similar legislations in other member states, while an EU Directive on Corporate Sustainability Due Diligence is also being prepared. Furthermore, a “5G networks EU toolbox of risk mitigating measures” was put into place on the EU level in 2020, addressing security concerns linked to 5G technology being deployed on EU telecommunication networks, while the German “IT Security Act 2.0” is set to come into force on 1st May 2023. On the German national level, with the change of government in 2021, the German coalition contract drafted by the SPD, the Greens and the FDP announced a more assertive stance toward China than under the preceding government, which was perceived as too indulgent.

A tightening of the investment guarantee rules is also expected. Already, in May 2022 the German government denied German car manufacturer Volkswagen (VW) guarantees for investments in China because of the human rights situation in the Xinjiang region, where the German multinational has production plants. Two further documents, the “China Strategy” and the “National Security Strategy”, which are both due by the end of 2022, are also impatiently awaited by EU institutions as they may serve as an inspiration for the EU. In particular, Germany is preparing for a dreaded scenario: a potential decoupling from China that, due to the degree of entanglement of the two economies, could have wide repercussions. Alternatives to China for German businesses and industry are to be sought, and negotiation levers in relation to China – to be triggered in case of increased tension – are to be identified. With an eye on the West’s decoupling from Russia, it is likely that China’s efforts to reduce dependencies and become more autonomous will accelerate. This makes Germany’s China strategy all the more pertinent. The shift in German politics with the pendulum swinging from pro-business behavior to a more prudent posture may be visualized through the examples provided in Figure 2.

A German shift towards more geopolitical thinking?

Policy paper of the Federation of German Industries BDI - "Grundzüge einer deutschen Industriepolitik (January 2019)"

The BDI urged the political spheres to consider China not only as a trading partner but also as a "systemic rival." European institutions followed suit by releasing a Strategic Outlook document on March 12, 2019 containing a "threshold definition of China: an "opposition partner", an "economic competitor" and a "systemic rival".

"A Franco-German Manifesto for a European industrial policy for the 21st Century" (February 29, 2019)

In 2019 the German Federal Ministry for Economic Affairs and Energy and the French Ministry of Economy and Finance paved the way for the EU's Industrial Strategy of March 2020 with a Franco-German Manifesto for a European industrial policy. As "Europe's economic strength in the coming decades will be highly dependent on our ability to remain a global manufacturing and industrial power," France and Germany aim at increasing investments in innovation, adapting the regulatory framework to further the success of EU countries on the global stage and putting into place measures to shield the EU from asymmetric trade and market practices.


This document aimed at guaranteeing favorable framework conditions for the industry and proposed measures to strengthen future-oriented technologies in Germany, while also developing Germany's technological sovereignty against international competition. First drafts were issued in early 2019, some initial ideas were weakened down. For instance, state intervention and the pooling of resources ("Beteiligungsstruktur" and "Neues Wirtschaftswissenschaftliches Verflechtungs- und Strategiegrundkonzept") were seen as hindering foreign takeovers in sensitive and highly-relevant technologies. Companies of major national interest such as Deutsche Bank, Thyssen Krupp and Siemens were mentioned in the draft documents. The term "industrial champion" however, appears in the final document. Third-country acquisitions may be hindered by the state if public order and security are threatened. In the draft versions, even the possibility of such a threat would have sufficed for the state to reject a takeover. The spirit behind the "Industrial strategy 2030" was echoed by the German-French Minister for Economic Affairs Peter Altmaier in these terms: "German companies are not only in competition for the best products, but increasingly in competition with economic systems that rely heavily on state intervention and protectionist market foreclosures. This is an unequal battle that more and more of our companies are losing."

Position paper of the SPD parliamentary group called for the EU to uphold a multilateral rules-based order in the face of China's increasing efforts to shape the international order, putting strain on universal values (freedom, human rights, democracy, rule of law). In this paper the SPD also called for a level playing field in global trade and investment.

Lightening of the Foreign Trade Act ("Außenwirtschaftsgesetz") of the Foreign Trade Regulation ("Außenwirtschaftsreformierung" 2019) and of the Investment Control Law ("Investitionsüberwachungsrecht" July 17, 2020)

The lightening of the Foreign Trade Regulation happened after the takeover of Lixil by the Chinese group Meituan, when the threshold for state control of takeovers of critical infrastructure was reduced from 25% to 10%. Following the entry into force of the EU FDI Screening instrument, Germany lightened its Investment Control Law. Its scope was notably widened to include emerging technologies such as AI, robotics, semiconductors, cybersecurity, air and space transportation, energy storage, and quantum, nuclear, nano- and biotechnologies.

German coalition contract "Mehr Freihändigkeit, Harmonisierung, Freiheit, Gerechtigkeit und Hochschulreform" (November 24, 2021)

Following the German parliamentary elections of 2021, the coalition contract between the SPD, Greens and FDP stated: "We want and must strengthen our relations with China in the dimensions of partnership, competition and system rivalry." It mentions human rights violations in Xinjiang province and the German government's aim to uphold "human rights" and "international law" in its relations with China. Prior to that and to her leaving power in September 2021, although she has been criticized for being rather conciliatory with China, mound of German industry's interests there, Chancellor Merkel gave a speech to the Bundestag in which she criticized China for "bad and cost-unsound" of minorities and emphasized the difference between China and the EU in referring to the "fundamentally different social systems," stressing that the EU stands for "freedom of expression and human rights."

German law on the duty of vigilance ("Liefereigentumsgesetz“ Liefereigentumsgesetz, LAGE) [yet to enter into force November 1, 2023]

This law requires companies to verify the activities of their partner companies, as sub-contractors, as well as with companies abroad, as far as human rights and environmental standards are concerned. In parallel, on the EU level, a Resolution on Corporate Due Diligence and Corporate Accountability is in the making. Firms risk monetary fines and reputational damage if they are not compliant.

IT Security Act 2.0 (yet to come into force May 1, 2023)

In a debate about the granting of 5G mobile communications licences, the Federal Foreign Office and the Chancellery. The Chancellery were in conflict, the discussions dragged on, and in the end, the Foreign Ministry's position prevailed, the resulting law was written in such a way that the controversial Chinese network supplier Huawei could be excluded from licensing. According to German media, the German government intends to reserve the right to forbid network operators from using critical components from Chinese manufacturers if they are not considered trustworthy.

The elaboration of a German "China Strategy" and of a "National Security Strategy" expected by end 2022

Germany has anticipated a particularly dreaded scenario: a potential decoupling from China, which, due to the degree of entanglement of the two economies would risk having wider repercussions. The German Federal Foreign Office is developing a strategy (to which the Federal Ministry for Economic Affairs and Climate Action will contribute) to identify alternatives to China for German businesses and industry. In so what extent this strategy will be linked to the "National Security Strategy" (also due at end 2021) it is not yet known. The latter is likely to present similarities with NATO's Strategic Concept 2022 and the EU's Strategic Compass which both mention China. However, the current geopolitcal situation, in which Russia understandably represents the main threat to European stability, may compromise a too daring approach with regard to China. EU institutions follow developments in Germany very closely. They may feel the need to follow suit.

Plans to tighten German investment guarantee rules, being prepared by the German Federal Ministry of Economics

Investment guarantees are granted by states to their companies with activities in developing, emerging countries and transition countries to protect against unsustainable political risks such as expropriation, nationalization, war, breaches of commitment, revocation, risks and act of terrorism. In the event of damage, the federal government assumes the loss of assets. Already in May 2022, the German federal government denied EU guarantees for investments in China because of the human rights situation in the Xinjiang region, where the German multinational has production plants. This rejection means that the EU must bear on its own the financial risks for its planned commitments in China.

Source: Compilation by the author based on the following sources:

EU Strategies, Policies, and Instruments to Better Confront an Increased “Politicization of Economics”

In the face of geopolitical hardening casting doubt on the principle of multilateralism and economic openness, the EU has drawn up an industrial policy and trade defense mechanisms to increase its resilience and assert its economic power.

The Definition of a European Industrial Strategy Updated in May 2021

As a result of the coronavirus crisis, under the impulsion of European Commissioner Thierry Breton and the French and German economy ministers Bruno Le Maire and Peter Altmaier, the European Industrial Strategy was updated in May 2021. The strategy contains a mapping of the EU’s strategic dependencies and the capacities of 5,200 products imported into the EU. This mapping identified 137 products in sensitive sectors on which the EU is highly dependent, representing 6% of the value of extra-EU imported goods. Over half of these dependencies originate in China. Particular dependencies in sensitive sectors, i.e., where almost no substitution or diversification is possible, were also identified. For these dependencies, reliance on China involves mainly rare earth and critical raw material. However, there is also a dependence on components that will be needed for the EU’s green and digital transition. As well, China has become a major manufacturing hub, due to its size and economies of scale, linked to its huge internal market, which renders the EU’s supply chains fragile in the event of disruption. The analysis also highlights “reverse dependencies”, where the US relies on the EU, and “common dependencies” where the EU and the US rely on China (cf. Figures 3 and 4).

### Figure 3: Overview of EU and US dependencies in sensitive ecosystems

<table>
<thead>
<tr>
<th>Dependent Country</th>
<th>Source of dependency</th>
<th>Number of dependent products</th>
<th>Potential for diversification (% of dependent products)</th>
<th>Share in total import value</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="" alt="" /></td>
<td><img src="image1" alt="" /></td>
<td>260 products</td>
<td><img src="chart1" alt="chart" /></td>
<td>3.1%</td>
</tr>
<tr>
<td><img src="" alt="" /></td>
<td><img src="image2" alt="" /></td>
<td>15 products</td>
<td><img src="chart2" alt="chart" /></td>
<td>0.1%</td>
</tr>
<tr>
<td><img src="" alt="" /></td>
<td><img src="image3" alt="" /></td>
<td>20 products</td>
<td><img src="chart3" alt="chart" /></td>
<td>EU: 2.8%, US: 4.1%</td>
</tr>
<tr>
<td><img src="" alt="" /></td>
<td><img src="image4" alt="" /></td>
<td>70 products</td>
<td><img src="chart4" alt="chart" /></td>
<td>EU: 4.6%, US: 5.1%</td>
</tr>
</tbody>
</table>

Source: Commission Staff Working Document, Strategic dependencies and capacities Accompanying the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Updating the 2020 New Industrial Strategy: Building a stronger Single Market for Europe’s recovery, op. cit. Adapted by the author.
The EU’s Industrial Strategy is at the same time a response to the **EU’s shrinking competitiveness**, which needs to be tackled. As stated by the Joint Research Centre (JRC), figures show that the EU’s share in global value chains has decreased in recent years while China’s has increased. This may be partly attributed to “changes in competitiveness”. In times when technological leadership “confers leverage in case of political tension”, this aspect should not be neglected. This is why industrial policy, which Germany together with France pushed forward on the EU level, is so important. Sectors of major importance, so-called “ecosystems”, were defined with a view to strengthening the EU’s leadership. They represent a little less than 75% of EU value added, about 185 million employees within the EU, and 23 million EU companies, among which are a high number of

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SMEs. These sectors are: Aerospace and Defense; Agri-food; Construction; Cultural and Creative Industries; Digital; Electronics; Energy-intensive Industries; Energy-Renewables; Health; Mobility-Transport-Automotive; Proximity, Social Economy and Civil Security; Retail; Textiles; and Tourism. These more or less correspond to the sectors also identified as worthwhile defending in the US and in China (cf. Figure 5).

**Figure 5: Critical sectors to be defended in the frame of an assertive industrial policy**

<table>
<thead>
<tr>
<th>China</th>
<th>EU</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sectors identified as worth promoting</strong></td>
<td><strong>Sectors identified as worth promoting</strong></td>
<td><strong>Reviews in supply chains of four critical products:</strong></td>
</tr>
<tr>
<td>• Next generation IT</td>
<td>• Aerospace and Defense</td>
<td>• Semiconductor manufacturing and advanced packaging</td>
</tr>
<tr>
<td>• High-end computerized machines &amp; robots</td>
<td>• Agri-food</td>
<td>• Large-capacity batteries</td>
</tr>
<tr>
<td>• Aviation &amp; space equipment</td>
<td>• Construction</td>
<td>• Critical minerals materials</td>
</tr>
<tr>
<td>• Maritime engineering equipment &amp; high-tech ships</td>
<td>• Cultural and Creative Industries</td>
<td>• Pharmaceuticals and active pharmaceutical ingredients (APIs)</td>
</tr>
<tr>
<td>• Advanced railway transportation equipment</td>
<td>• Digital</td>
<td></td>
</tr>
<tr>
<td>• Energy-saving &amp; new energy vehicles</td>
<td>• Electronics</td>
<td></td>
</tr>
<tr>
<td>• Energy equipment</td>
<td>• Energy-intensive Industries</td>
<td></td>
</tr>
<tr>
<td>• Agricultural equipment</td>
<td>• Energy/Renewables</td>
<td></td>
</tr>
<tr>
<td>• New materials</td>
<td>• Health</td>
<td></td>
</tr>
<tr>
<td>• Biomedicine &amp; high-performance medical equipment</td>
<td>• Mobility/Transport/Automotive</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Proximity, Social Economy and Civil Security</td>
<td></td>
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<td></td>
<td>• Retail</td>
<td></td>
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<tr>
<td></td>
<td>• Textiles</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Tourism</td>
<td></td>
</tr>
</tbody>
</table>

**EU in-depth reviews in key areas considered strategic:**
- Raw and processed materials (rare earth, magnesium, chemicals)
- Batteries
- Active pharmaceutical ingredients
- Hydrogen
- Semiconductors
- Cloud and edge technologies (software capacities)
- Products, services and technologies key to the twin transition (such as renewables – photovoltaic panels; energy storage and cybersecurity).

Source: compiled by the author based on:
The Putting into Place of Market Defense Instruments

As Business Europe reckons in a report from January 2020, “China and the US do not shy away from using their economic power to pursue security and geopolitical objectives.” In this context of “politicization of economics”, EU efforts focus not only on establishing an active industrial policy but also on combining it with measures in trade and competition policy in a holistic manner (Appendix 1). These should help strengthen the EU’s value chains through diversifying trade and securing a level playing field with trade partners, while also protecting the internal market from asymmetric trade and market practices and strengthening EU’s actors’ competitiveness in the face of ever fiercer international competition. In doing this, the EU seeks to address the criticisms directed at its instruments, which have been deemed not fit for purpose.

Many of the challenges faced by the EU relate to China, which seeks to catch up with its Western counterparts and to climb up the technology value chain in order to move from an economy based on labor-intensive activities to one based on capital-intensive activities, and thus become a more technologically advanced economy. China has been trying to tighten relations with innovative foreign companies at the top of their sector in order to benefit from their know-how. These companies often end up being lured by a Chinese market which hosts nearly 20% of the world population, which eases China’s endeavor in this regard.

However, European companies are of interest to China as long as they bring value-added and expertise that Chinese companies may appropriate for their own activities. Hurdles encountered by European companies on the Chinese market and that are particularly under the scrutiny of the European Chamber of Commerce in China (EUCCC) and the member states’ chambers of commerce are, for example: the corporate social credit system, forced joint venture requirements, specific data management requirements and legal uncertainty in general.

Apart from the difficulties European companies may experience in the Chinese market, security concerns also motivate reluctance to resort to Chinese technology. That is, for instance, the case as far as critical infrastructure is concerned, e.g., on 5G, where the fear of misuse

33. The EU and China Addressing the Systemic Challenge, op. cit.
generates skepticism about Chinese technology, Huawei being particularly in the spotlight of European authorities.

Also, **public contracting and investing conditions** within the EU are increasingly criticized as they allow foreign tenderers, or investors, to avail of loopholes. Among these actors, there are Chinese ones, whose activities abroad meet the Chinese Belt and Road Initiative (BRI)’s overarching ambition to expand abroad and spread Chinese influence and soft power to the detriment of the EU’s.

In a context of weakened multilateralism that extends to international economics, the lack of trust and legal uncertainty coupled with **asymmetric market and trade practices**, favors attempt to achieve self-sufficiency and state vigilantism that harm global trade. The **policy fundamentals underlying global trade**, namely a rules-based order and the openness of markets grounded on an international division of labor determined by comparative advantages, are **seriously weakened**. **Unlawful competition by third states** through **dumping methods** and **subventions** to **state-owned enterprises**, the resurgence of **trade barriers** such as **export controls**, **restrictions in market access** and **customs duties**, and the increased use of **weaponization of trade** through **coercion practices** of a political nature thus require the EU to elaborate trade defense mechanisms, such as the ones its main trade partners adopted too. A non-exhaustive list of instruments to protect the EU against asymmetric trade practices from third countries that threaten the success of its economic model is provided below (cf. Figure 6).
However, the application of such instruments might raise concern about retaliation against EU companies abroad. These instruments thus also trigger some reluctance within the EU as, in the event of confrontation, bargaining power would prevail in the absence of unquestioned multilateral rules. The EU is considered comparatively “ill-equipped” to win such a
confrontation.\textsuperscript{36} And the effects of such instruments are uncertain: they might backfire, leading to escalation that would intensify the fragmentation of the world economy even more. Diplomacy is thus to play a major role, keeping communication channels open and affirming that the EU’s preferred interaction with its trade partners is based on transparency and predictability.\textsuperscript{37}

\textsuperscript{36} K. Kamin, K. Bernoth \textit{et al.}, “Instruments of a Strategic Foreign Economic Policy–Study for the German Federal Office”, \textit{op. cit.}

\textsuperscript{37} \textit{Ibid.}
Increasing the Resilience of the EU’s Industrial Basis: Drivers and Challenges

A Need for Groundbreaking Changes in European Industrial and Trade Policy to Support the EU’s Growing Assertiveness

While the EU asserts itself with an ambitious industrial policy and well-aimed trade defense mechanisms, the gap between theory and practice needs to be bridged. Also, the EU will have to tighten its relations with those partners that are relevant to its ambitions.

*European Industrial Strategy: From Theory to Practice*

As “ecosystems” were defined in order to strengthen the EU’s leadership in future-oriented technologies and in areas where shortages with far-fetching consequences for the EU are to be expected, the gap from theory to practice has yet to be bridged. The question to address is how to best complement a top-down ecosystem approach with a bottom-up approach linking the main stakeholders. The ecosystems approach *per se* is already an attempt to propose tailor-made action plans to sectors that have their own dynamics.

However, at the outset of successful implementation of ecosystems, political will is crucial. This requires various actors to converge toward one objective whose realization benefits from overwhelming support and thereby has all reasons to succeed. Therefore, the stated objective or ambition needs to be evident, and the main stakeholders must be committed so that their forces are combined.

Associated questions to be addressed while implementing industrial ecosystems concern a wide range of domains:

- How can disadvantages in the availability of **factors of production** be counteracted? These factors are workforce, land, and capital, and extend to access to raw material through extraction or acquisition. Trade contracts, to guarantee the supply of raw material and goods that are unavailable on the internal market, need to be looked into. What also needs to be catered for is the processing of the raw material and intermediary goods. Hence both know-how and technology are paramount.
Human resources: It is crucial to anticipate the human resources needed in future-oriented technology sectors. Interaction between universities, Research & Development (R&D) departments, SMEs and trade unions is to be promoted to prepare for the EU’s leadership in key technologies. Reskilling and upskilling are catered for in the EU’s Skills Agenda.\(^{38}\) An attractive talents acquisition and retention policy needs to be drafted too.

Financing: An interplay between private and public actors is essential. Regulatory framework conditions conducive to providing resources or facilitating activities – such as incentives and tax rebates – are also crucial in other competing countries.\(^{39}\) The EU’s shortcoming in mobilizing venture capital to the same extent as in other countries has often been underlined. The creation of a Capital Markets Union within the EU has been regularly called for\(^{40}\) to address this shortcoming. As the financing of projects needs to conform with EU regulations, and in particular the EU’s competition law, legal requirements should be made clear. So-called “Important Projects of Common European Interest” (IPCEIs), for instance, would require the existence of a market failure so as to receive public financing without contravening EU state aid rules.

Supply/purchasing: The EU’s trade policy and its technological and industrial objectives need to go hand in hand. Trade agreements are hence to be envisaged with attention to what is needed to attain these objectives. Concentration on a single supplier has to be avoided and diversification needs to be practiced. Diversification entails not only having multiple suppliers, but also multiple logistic supply routes. The resilience of supply chains needs to be guaranteed as much as possible. Multinational firms (MNFs) may be quicker and more flexible in adapting to disruption; SMEs, in contrast, with a reduced number of suppliers are particularly at risk. Carrying out systematic stress tests on supply chains, as suggested at the G7 summit in the UK in 2021,\(^{41}\) could help SMEs to make informed decisions, and improve their risk culture provided a way is found to convey information to reporting institutions without increasing the risk of disclosing “company secrets”.

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40. “Currently, venture capital as a share of EU GDP is less than one tenth the level in the US. Deepening the Capital Markets Union will require regulatory harmonization, in particular through a centralized supervisory authority, facilitating equity investment of institutional investors and harmonization of corporate insolvency law”. In: K. Kamin, K. Bernoth et al., “Instruments of a Strategic Foreign Economic Policy—Study for the German Federal Office”, op. cit.
41. “In Search of Resilience”, op. cit.
**Procurement**: Procurement standards need to be worked on within the EU to better reflect the “most economically advantageous tender” (MEAT) criteria thus taking into account not only the lowest price but also quality criteria.

These are just a few of the questions that arise when addressing solutions to efficiently implement EU industrial ecosystems. Best practices may equally be drawn from international organizations such as the Organization for Economic Cooperation and Development (OECD), encompassing industrialized countries; looking at what is being done in the US and China, the EU’s biggest trade partners is equally important (cf. Figure 7).
### Figure 7: Key success factors in industrial policy according to the US, China, the EU, and the OECD

<table>
<thead>
<tr>
<th>China</th>
<th>EU</th>
<th>US</th>
<th>OECD</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Increase R&amp;D in high-tech and high-growth sectors (build 40 R&amp;D centers in China)</td>
<td>• Mobilize funds to promote innovation, e.g., through the Recovery and Resilience Facility and Horizon Europe</td>
<td>• Promote R&amp;D investments, e.g., through grants</td>
<td>• Design efficient R&amp;D tax credits and subsidies to stimulate R&amp;D and innovation</td>
</tr>
<tr>
<td>• Strengthen domestic innovation capacity. China has greatly increased its R&amp;D spending in the past decades.</td>
<td>• Improve the availability of relevant skills by identifying skills gaps and, emerging skills needs, and develop a strategy to meet them</td>
<td>• Strength know ledge, leadership, engagement of people; create pathways to quality jobs</td>
<td>• Put in place skill and knowledge transfer policies: stimulate innovation beyond upskilling through human capital policies based on immigration or the reduction of barriers to entry into inventor careers</td>
</tr>
<tr>
<td>• Create a joint platform and structured dialog between the Commission, industrial alliances and investors (i.e. European Investment Bank – EIF, European Bank for Reconstruction and Development – EBRD, National promotional banks and institutions – NPIs)</td>
<td>• Further the creation of new SMEs in cloud and hydrogen, and develop an additional one in semiconductors</td>
<td>• Acquire foreign talent, for instance in future-oriented technologies as foreseen in the Report from the National Security Commission on Artificial Intelligence (March 2021)</td>
<td>• Use public loans, guarantees and public venture capital as tools for targeted interventions</td>
</tr>
</tbody>
</table>

**Key Success Factors of Industrial Policy**

- **R&D, skills, funding**
  - Make due use of China’s market size, which helps reach economies of scale
  - Further cross-fertilization through a centralized technology policy that strengthens innovation, notably in the biotechnology, IT, AI and robotics sectors
  - Evolve from a standard-taker to a standard-maker

- **Internal market; stay internationally competitive/become more technologically relevant; follow sustainability objectives**
  - Restock activities: build on industrial alliances for batteries, hydrogen and raw materials.
  - Identify investment needs and help investments to come to fruition in support of breakthrough innovations on batteries and semiconductors, notably in “Important Projects of Common European Interest” (IPCEIs), such as in the domain of batteries.
  - Further the creation of new SMEs in cloud and hydrogen, and develop an additional one in semiconductors.
  - Identify supply-chain vulnerabilities and address them, e.g., in the area of active pharmaceutical ingredients. Increase the sustainability and resilience of EU ecosystems through stockpiling, diversification of trade and autonomous capacities.
  - Provide fit-for-purpose regulatory frameworks, e.g., on semiconductors, hydrogen and batteries.
  - Promote clean extraction and processing standards for raw materials, resort to increased recycling.

- **Globalization; globalization and its benefits**
  - Improve supply-chain transparency (establish a Supply Chain Disruption Task Force to monitor mismatches between supply and demand, diagnose problems and surface solutions together with main stakeholders).
  - Stockpile and rehouse production and processing.
  - Diversity international suppliers and reduce geographic concentration risk.
  - Put in place domestic demand incentives.
  - Stimulate domestic production by building up strategic production capacities through incentives (subsidies, tax rebates).
  - Leverage the government’s role as a purchaser of and investor in critical goods through procurement standards that favor “Made in America”.
  - Shape globalization to ensure it works for Americans as workers and as families, not merely as consumers, by upholding and defining tax, labor protections, and environmental standards. Introduce comprehensive sustainability standards for essential minerals, such as lithium, cobalt, nickel, copper, and other minerals.
  - Reduce inequality to unleash the potential of workers, researchers and entrepreneurs to contribute fully to growth and innovation.
  - Support small and medium-sized businesses (provide capital and technical assistance, facilitate supply and access to R&D, increase commercialization).
### Key Success Factors of Industrial Policy

<table>
<thead>
<tr>
<th>Country</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>- Reduce imports and reduce China's reliance on foreign technologies while moving up global value chains (Dual Circulation Strategy). E.g. by 2025, Chinese manufacturers should ensure that they are self-sufficient for 70% of all upstream products and basic materials, according to the declared goal of the political leadership in Beijing. On the topic of semiconductors, China aims to reach self-sufficiency by 2050. Planned government spending in this sector totaled USD170 billion from 2014 to 2024. - Reduce risks posed by foreign investment using the Foreign Investment Risk Review Modernization Act of 2018 (FIRRMA) - Use outbound FDI and M&amp;As to increase influence abroad, notably in sectors where China experiences shortages such as the semiconductor industry. Build on acquired foreign competencies to reach technological leadership. Increase influence abroad, notably in Africa. - Use inbound FDI for technology transfer, notably through forced joint ventures where Western companies share their know-how. This raises the question of respect of intellectual property. Link industrial ambitions with the Belt and Road Initiative and thereby reach out to 60% of the world population and to 40% of world trade. - Actively support Chinese economic actors abroad, e.g. for the exploration of raw materials, the establishment of research centers, and support for mergers and acquisitions of Chinese economic actors, where Chinese buyers may even get into debt if risks are manageable, provided the deal is compatible with the strategic ambitions outlined in Chinese official documents. This support may include secure debt capital, equity and state guarantees.</td>
</tr>
<tr>
<td>EU</td>
<td>- Reject foreign investments considered to go against the EU's strategic interest via the Foreign Direct Investment (FDI) screening instrument. - Strengthen international partnerships for diversified and resilient supply chains. - Increase understanding of the EU's strategic dependencies, as a basis to address them through tailored, fact-based and proportionate policy measures. - Continue efforts to monitor the EU's current and possible future strategic dependencies and assess the risks they carry (notably through an Observatory of Critical Technologies across civil, defense and space industries). - Extend the scope of dependency tracking to the extent necessary. Guide corporate decisions to manage risks and provide recommendations on policy measures to address dependency and market failure. This is the responsibility of a task force on strategic dependencies.</td>
</tr>
<tr>
<td>US</td>
<td>- Support exports - Build trade and investment partnerships with like-minded countries (with similar values — valuing human dignity, worker rights, environmental protection and democracy), such as within the Quad and 67, to secure supplies of critical goods. - Strengthen international trade rules, including trade enforcement mechanisms (combat dumping, create a U.S. Trade Representative-led trade strike force to identify unfair trade practices, further supply-chain resilience in relation to China). - Shield against malevolent foreign takeovers through the Committee on Foreign Investment in the United States (CFIUS).</td>
</tr>
<tr>
<td>OECD</td>
<td>- Mobilize export promotion agencies - Further trade that helps increase the &quot;effective market size for domestic firms,&quot; thus increasing the profit potential. Trade liberalization &quot;leads countries and firms to specialize on those activities they are most efficient in [...]&quot; at the same time, mark-ups, investment, and innovation may decrease because of increased exposure to competition with foreign firms.</td>
</tr>
</tbody>
</table>

Source: compiled by the author based on:
Looking Out for Partners and Being Constantly Ready to Adapt to New Contexts

As one lesson drawn from the coronavirus crisis is not only reshoring activities but also diversifying sources of supply, new partnerships are to be envisaged. Indeed, the EU could not possibly provide for its own needs in some major sectors, such as critical raw materials. It is illusory to think that the EU will be able to shift from an open economic model to autarky, and that this should even be something the EU should aim for. This is why the EU’s trade power should be astutely leveraged (the EU is the biggest exporter and importer of goods and services worldwide).

A possible solution to reduce dependencies is, for instance, to join forces with partners with which the EU shares common interests. Such a partnership, which is being put into place in the form of the EU-US Trade and Technology Council, launched in June 2021, cannot be exclusive. The aim of such a partnership would be to create synergies in R&D; to make the most efficient use of available factors of production; and to cooperate in the supply of goods where a rise in demand, shortages, or price increases are to be anticipated, as, for example, in critical raw materials. Such cooperation would help increase the supply-chains resilience of both the EU and the US. Putting together common early alert systems once shortages accrue would also participate in this logic. Similarly, joint efforts in standardization would guarantee that future-oriented technologies would be compatible with the values system that both the US and the EU endorse. However, the EU needs to be mindful that its own interests and those of the US are not identical, and that differences may fluctuate according to the geopolitical and domestic context.

Similarly, the EU’s attempt to assert itself on the global scene goes hand in hand with its soft power potential. While its influence in its own neighborhood has been shrinking, other countries are increasing theirs.

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42. The European Commission has emphasized that the EU is the number one trading partner for 74 countries around the world. It is the number one trading partner for Asia, Africa, the US, the Western Balkans, and the EU’s neighborhood. In terms of figures, “In 2019, the EU exported over €3.1 trillion worth of goods and services and imported €2.8 trillion of goods and services.” It adds: “The EU’s increased openness to imports since 1995 has boosted its income by about EUR 550 billion” and that “EU exports support 35 million jobs in the EU”. In: Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, Trade Policy Review – An Open, Sustainable and Assertive Trade Policy, European Commission, COM(2021) 66 final, February 18, 2021.

43. The EU may also leverage the “Brussels effect”, namely the fact that the EU is able to extra-territorialize its regulations and standards because of the attractiveness of the internal market to foreign exporters. Should the EU increasingly turn inward, this effect would steadily decrease. See K. Kamin, K. Bernoth et al., “Instruments of a Strategic Foreign Economic Policy – Study for the German Federal Office”, op. cit.

44. “EU-US Trade and Technology Council”, European Commission, available at www.ec.europa.eu. Areas of cooperation include areas of export controls, investment screening, supply-chain resilience, artificial intelligence, and, more broadly, global trade challenges.
e.g., in the Balkans where China and Russia are among the most influential states. Likewise, in the Indo-Pacific and in Africa, China has increased its influence by responding to the infrastructure needs in these regions and to their desire to catch up with their Western counterparts. In September 2021, European Commission President Ursula von der Leyen announced the creation of the Global Gateway\(^45\) which, in contrast to the Chinese BRI, is aimed at helping beneficiary states to develop through sustainable infrastructure projects, based on transparent rules and strict environmental and social standards, and at guaranteeing their political and economic sovereignty.\(^46\) Through increased ties with these world regions, and by countering the narrative of other powers, the EU may broaden its source and supply markets; while also establishing or maintaining a communication channel with beneficiary countries that may secure agreements on the political level as far as international politics are concerned.

Furthermore, cooperation with like-minded countries is to be sought in targeted fields of action – for instance, in order to increase the EU’s capacity to develop its semiconductor capabilities. The EU’s Chips Act aims in this direction; the European Commission is seeking to team up with countries such as the US, Japan, South Korea, Singapore, and Taiwan, which are very advanced in this sector and with which the EU shares a number of values and interests. Concrete partnerships in the semiconductor sector such as the US-Japan digital alliance,\(^47\) the US-ROK (US-South Korea) Supply Chain Task Force, and the Quad’s Semiconductor Supply Chain (involving Australia, India, Japan and the US)\(^48\) may spur the EU to follow suit.


Figure 8: Efforts deployed in the semiconductor sector in China, the EU, and the US

**China**
- **Contextual elements**: China aims to reach self-sufficiency in the domain of semiconductors by 2030.
- **Market share**: China aims at reaching a 40% market share in semiconductors against a market share of 16% in 2019.
- **Means deployed**: Planned government spending in this sector totaled USD 170 bn from 2014 to 2024. State aid mechanisms such as preferential tax and policy measures, and the financing on favorable terms or subsidies, state-guided funds and technology-focused stock exchanges are also planned in order to support China’s leadership in semiconductors.
- **Main actors**: Semiconductor Manufacturing International Corporation (SMIC)

**EU**
- **Contextual elements**: The role that semiconductors play in China-US geopolitical competition has led the EU to consider strengthening its position in the market. This partly triggered by the chip shortage in 2020/21 that caused production difficulties for European car manufacturers. The European Commission aims to become the home for production of cutting-edge chips.
- **Market share**: The EU’s goal is to reach a world market share of 20% by 2030 (against the current 10%)
- **Means deployed**:
  - The EU’s Covid Recovery Fund (20% should be directed toward digital infrastructure, a sizable portion of which would focus on the microelectronics industry).
  - IPCEI: EUR 1.7 bn spent in the IPCEI on microelectronics.
  - Horizon 2020: EUR 80 mn to be spent in an industry-relevant Horizon 2020 R&D project.
  - In 2020, Thierry Breton called for a European alliance on microelectronics with a strong R&D pillar and combined public and private investment of EUR 20 bn to EUR 30 bn.
  - The Chips Act (June 2022) aims to mobilize EUR 43 bn in “policy-driven investment” for the EU’s semiconductor sector by 2030. It anticipates that EUR 11 bn will be invested in the sector for R&D until 2030 by pooling EU and member state budgets.
  - EUR 30 bn to fund a new “Important Project of Common European Interest” (IPCEI) and mega FABS.
- **Germany**: In December 2021, 32 selected semiconductor materials, design, and manufacturing projects were chosen to be funded through a USD 12 bn investment fund for microelectronics projects, announced in May 2021.
- **Main actors**: The EU is home to leading producers of materials and equipment for the industry, including the leading production machinery maker ASML and its German suppliers Trumpf, Zeiss and Infineon. Cooperations with countries such as Taiwan, South Korea and Japan and with foreign companies such as Intel are proposed.

**US**
- **Contextual elements**: The US faces several gaps and vulnerabilities in the semiconductor supply chain, posing significant risks to the US economy and national security. Against the backdrop of the US-China rivalry, the US have decided to incentivize semiconductor manufacturing in the US in order to address its declining share of commercial semiconductor manufacturing, partly due to foreign state subsidies in this sector unleveling the playing field to the detriment of the US. They also decided to restrict US technology exports to some Chinese firms.
- **Market share**: current market share of 12% (as compared to 37% in the 1990s)
- **Means deployed**: The Biden infrastructure plan includes a USD 50 bn public investments package for the industry. Manufacturing grants, research investments and investment tax credits are planned.
- **Main actors**: US semiconductor producers such as Intel and Nvidia. Diverse partnerships have been launched, for instance with countries such as Japan, South Korea, Australia and India, and with companies such as Samsung, Texas Instruments, Global Foundries, Cree, SK Group, and Micron.

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**Information about Tradeoffs the EU Will Have to Face, as a Basis for Sound decisions**

The EU’s industrial and trade policies are increasingly confronted with other EU imperatives, such as the green transition. Tradeoffs need to be faced in order to overcome these challenges in a satisfactory way. In addition, short-term objectives sometimes contradict longer-term goals; a change of mindset relating to the support of “European champions” is also underway in the face of fiercer international competition.
Overcoming Challenges Relating to the Green Transition

Industrial policy is not the only priority for the EU. It is also committed to the Paris Agreement under the United Nations Framework Convention on Climate Change of 2015 and agreed to keep the rise in global temperature to below 2°C. The EU’s Green Deal and Fit for 55 objectives helped further clarify the objective of making the EU climate-neutral by 2050.

In this sense, can mechanisms such as the Carbon Border Adjustment Mechanism (CBAM) be considered instruments of a green industrial policy that allow for compromise between industrial and green policy by furthering clean production processes? Indeed, this instrument caters for a computation of negative externalities in the price of products manufactured in third countries so as to rebalance competition with products being produced in Europe and complying with higher standards. However, although the logic of this instrument is legitimate in view of the international challenge of environmental protection, it may also be deemed “green protectionism”. As such, putting it into place generates fears as to its compatibility with the WTO’s rules. Against this backdrop, if the efficiency of this mechanism is to be guaranteed, identifying coalitions with countries already working in the same direction may be preferred to a unilateral move by the EU.49

Another particularly topical compromise concerns energy security and combatting climate change. While the green transition is a major priority for the EU, the latter’s dependency on China for those goods and components necessary to successfully implement the green transition increasingly worries EU decision-makers. In the face of the war in Ukraine, the divergence of interests between energy security and environmental protection has become even wider. Against this backdrop, how can European companies make sure they stay profitable and competitive, while energy security is not a given anymore and energy costs are increasing, thereby reducing the prospect of profits? Energy-intensive industries such as steel and the chemical industry are particularly affected. Alternatively, are we currently caught up in a momentum where phasing out Russian energy at the same time accelerates the transition toward more environment-friendly production techniques?

As the green transition will have to be financed, the challenge of taxonomy may also be mentioned. To support the EU’s industrial strategy and facilitate funding sources, incentives should be provided to invest in green energy. In order to flag the sectors that should be incentivized it is important to reach a common understanding of which energy is to be deemed green and which is not. In the absence of more clarity in

In this regard, both private investors and energy sectors awaiting resources for their projects will consider that legal certainty is lacking and potential return on investment will be too difficult to estimate. The prospect of energy shortages linked to the hasty decoupling with Russia in the aftermath of the invasion of Ukraine has prompted the EU to take short-term decisions with its back to the wall. In the longer-term, sustainable solutions need to be worked out.

In the meantime, what room for maneuver does the EU energy dilemma leave for values-based partnerships? Instruments of a values-driven foreign policy include trade agreements where conditions in terms of social, labor, and environmental standards may be negotiated with third countries, as mentioned in the European Commission’s Trade Policy Review 2021. The Directive on Corporate Sustainability Due Diligence (cf. Figure 6) is yet another tool the EU may use to implement such standards. With this Directive, the EU intends to maintain its role as a normative power and to further values. The energy dilemma the EU is facing, however, exposes the difficulty of staying true to one’s values. Indeed, what is the EU’s room for maneuver in defending human rights, labor, and environmental standards when, for instance, to find substitute sources for Russian energy it concludes energy deals with the United Arab Emirates, Saudi Arabia and Qatar, all regularly criticized for human rights violations?

How Far Is the EU Ready to Go with Reforming European Competition Law and Supporting European Champions?

An important question that needs to be addressed is the degree of state intervention – in this case, the interplay of EU institutions with economic actors – and the underlying spirit. In so far as the EU’s main trade partners have announced massive support for their respective industries (cf. Figure 8), and the EU has itself elaborated an industrial strategy (where public funds can be granted in the frame of IPCEIs as an exemption to the EU’s state aid rules), it is likely that a stronger state presence will be key in the EU’s endeavors to assert itself on the global stage. However, against the backdrop of the “ politicization of economics”, a stronger presence of the state in a regulatory framework that has been characterized by market liberalism, where the state’s role was limited to regulatory purposes, would represent an important shift.

A good example of the support the EU may grant through its institutions to the EU industry to strengthen its position is the promotion of “European champions”. A telling illustration of the issue at stake is that of

the European Commission’s rejection of the merger attempt between the German company Siemens and the French company Alstom, on the ground that it would “have harmed competition in markets for railway signaling systems and very high-speed trains”. Thus, protecting the consumer from higher prices and preserving competition were the arguments brought forward by the European Commission.

However, against the backdrop of accelerating technological innovation on a global scale, Europe’s competition policy is being reviewed “to take into account the challenge of EU industrial competitiveness”. Third-country competitors, for instance, benefit from their country’s policy of creating and supporting national champions. In the Chinese rail industry, that is the case for the China Railway Construction Corporation (CRRC) which has received extensive subsidies and state aid to catch up with its Western counterparts and has benefited from public contracts in China and therefore from the size of the Chinese market, which helped it to achieve economies of scale. CRRC today is the biggest rolling-stock producer in the world, far in front of Alstom. Its revenues are bigger than those of Siemens, Alstom, and Bombardier together. Its world market share is 40% in electric locomotives, and it dominates the Chinese market. It developed in the Chinese market after a merger in 2015 under a state monopoly and benefitted from technology transfer from Western companies such as Kawasaki, Alstom, and Siemens in the early 2000s, which have been progressively evicted from the Chinese market. CRRC used its development on the Chinese market as a springboard to spread internationally and notably benefitted from funding of $30 billion from the Chinese Export-Import (ExIm) Bank. According to Nigel Cory, “CRRC and Chinese rail mercantilism is forcing rail firms around the world to find ways to protect themselves, such as by cooperating – or even merging – with their competitors.” In the face of these developments, there have been discussions about allowing European players to merge and grow to reach a critical mass in order to improve their chances of competing globally, particularly in the face of Chinese national champions, which are shielded from foreign competition at home and boosted by public support when they go abroad. In February 2020, Alstom acquired Bombardier Transport for $8.2 billion, thus becoming the second biggest rolling stock producer in the world. To comply with the

56. Ibid.
EU’s competition law, the two companies had to divest some of their activities. In any case, the merger between two companies such as Alstom and Bombardier Transport is considered a turning point in European competition law that some welcome while others reiterate their concerns about consumer protection and the preservation of conducive conditions for competition.

However, reluctance to find ways to adapt to a context where foreign players dominate the market and harm competition by putting into place protective measures also comes from within the EU. While France and Germany are keen to increase the EU’s proactiveness and defense measures to promote EU champions, smaller member states that do not benefit from the same type of support are more skeptical. A change in mindset in the EU’s competition law, mindful of the concerns noted above, would be necessary to address the challenges appropriately. This topic is, of course, very delicate and requires a constructive approach since accusations of interventionism, dirigisme, and protectionism, on the one hand, and laissez-faire liberalism, on the other, prove sterile and often result in stalemate.
Conclusion

In the face of growing world polarization around the Sino-American rivalry accentuated by the coronavirus crisis and later by the war in Ukraine, countries around the world are keen to render their supply chains more resilient to potential disruption. They are also boosting their production apparatus in order to keep pace in the global competition that has started in future-oriented sectors and technologies. They are also shielding themselves from asymmetric trade practices and strengthen their relations with partners in order to diversify their sources of supply and sales markets.

The EU and, among its member states, Germany, are under pressure to define adequate policies, strategies, and instruments. The update of the EU’s industrial strategy, the analysis of dependencies on third markets, and the establishment of trade defense mechanisms are necessary adjustments to a global context of fierce competition that challenges the root of the EU’s prosperity in the past decades, namely a multilateral rules-based order. These endeavors may be subsumed under the concept “open strategic autonomy”, to which some in the EU prefer the terms “strategic sovereignty” or “European sovereignty”, which are intended to push aside the notion of disguised protectionism that this concept may suggest. Indeed, the EU’s DNA is based on openness and trade, and it would be illusory to think the EU could become autarkic. The strategy that is in the making combines stimulating domestic production by building up strategic production capacities to help prepare for the upcoming leadership race in innovative and disruptive technologies, by stockpiling essential goods, and by diversifying sources of supply and export markets. It additionally protects the EU from ill-intended investment on the internal market while also protecting EU companies abroad. Furthermore, partnerships with countries of trust are to be sought.

Because of a plurality of actors with various competencies often acting in a siloed manner, the EU appears structurally weaker than its main trade partners, China, and the US. The upcoming tasks therefore appear even more challenging. One particular challenge, faced by a number of EU companies is embodied by China. In seeking to attain technological and industrial leadership by 2049, China is willing to resort to practices that cater for a selective application of international rules as far as international trade and investment, as well as market access rules are concerned. To address this challenge, the EU, and first and foremost Germany, need to adopt a shift in mentality.
Different tradeoffs are associated with this shift:

- For instance, in **competition policy**: its redefinition should be undertaken mindful of strengthening the EU’s companies in their external actions while maintaining a necessary level of competition and innovation potential within the internal market.

- When undertaking partnerships with third countries, the EU should make sure that such **partnerships** are not exclusive but follow the objective of being extended to more countries provided the necessary conditions are met: a level-playing field, market openness, a guarantee of IP protection, and upholding social, environmental, and human rights standards.

- As far as the EU’s **foreign policy** is concerned, the **Global Gateway Initiative** needs to be seen as a springboard for spreading the EU’s soft power, but for that, it needs to be fleshed out rather than remaining an empty shell. Infrastructure needs around the world must be addressed. The EU’s incapacity to uphold coherent public procurement and due diligence standards within the EU, and also in its vicinity, as well as the lack of cohesion in the EU’s foreign policy which serves systemic rivals such as China and Russia, show the need to address this matter in an effective way.

  In addition, the onus also lies on EU companies and their geopolitical maturity as they increasingly risk getting into the crossfire between the EU’s main trading partners, China and the US. SMEs with little room for maneuver in the event of intensified tensions are particularly at risk, which is why sustainable and flexibly adaptable supply chains – which come at a cost – need increasingly to be envisaged.
Appendices

Figure 9: Key components of “Open Strategic Autonomy”

**OPEN STRATEGIC AUTONOMY**

**SUSTAINABILITY AND FAIRNESS**
- Allow for exceptional measures in state aid to support European industry in case of crises and emergencies, e.g. to cope with the coronavirus crisis.
- Adapt EU state-aid rules in order to allow exemptions in case of IPCEs and alliances because of market failure under the condition that this contributes to strategic EU objectives, involves several EU countries, includes private financing by the beneficiaries, generates positive spillover effects across the EU, shows high research and innovation ambitions.
- Prevent “killer-acquisitions” to maintain competition, innovation and contestability of markets.
- Adapt “merger control” to assess impacts of mergers on competition and innovation.
- Put into place framework conditions conducive to innovation (market entry, standardisation, IP rights). Prevent market concentration that may create market asymmetries, thus tackling the issue of “European champions”.

**RESILIENCE AND COMPETITIVENESS**
- Put in place IPCEs and alliances to implement the “ecosystems” approach contained in the EU’s industrial strategy.
- Based on the inventory of EU dependencies ensure shortages are catered for by rendering EU supply chains more resilient. A mapping of EU dependencies, “reverse dependencies” and “common dependencies” with “like-minded countries”, completed by a stress test approach to make risks EU companies undergo more tangible and provide them with a sound basis for fact-based decisions.
- Draw up a thorough Skills Agenda anticipating the needs in skills in future-oriented sectors where the EU aims to attain leadership.
- Re-shore activities where needed but also build trustworthy partnerships with third countries.
- Identify investment needs and help investments come to fruition. Mobilize private and public funds. Create necessary incentives and allocate funds in R&D spending that will further innovation.

**ASSERTIVENESS AND RULES-BASED COOPERATION**
- Convey non-trade objectives relating to the process of production, such as a social, environmental and human rights standards through trade agreements.
- Uphold a multilateral order guaranteeing conditions conducive to seamless trade, such as stability, security of supply chains and legal security. Such an order is built on trust and rules applicable among a broad range of states. It is also based on institutions such as the World Trade Organization (WTO) and its Dispute Settlement Body.
- Broaden the EU’s partnerships with “like-minded countries”, with candidates for EU accession, in its neighborhood, and with countries such as the USA, or in the Indo-Pacific. Targeted countries may secure access to rare and easily resources and help the EU diversify its suppliers.
- Use initiatives such as the Global Gateway as a springboard, not only for trade and investments, but also to spread the EU’s “soft power”.
- Put into place trade and market defense instruments to ensure a level playing field is guaranteed in interactions with third countries and third-country actors.

*“Open Strategic Autonomy” is the term used by the European Commission in various documents such as the 2021 Trade Policy Review. Other acronyms such as “strategic sovereignty” and “European sovereignty” have, however, also been frequently used for the same intentions.*

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