



INSIGHT

EU STRATEGIC AUTONOMY AND TECHNOLOGICAL SOVEREIGNTY

edited by Charlotte Beaucillon and Sara Poli

REINFORCING EUROPE'S TECHNOLOGICAL SOVEREIGNTY THROUGH TRADE MEASURES: THE EU AND MEMBER STATES' SHARED SOVEREIGNTY

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ABSTRACT: This *Insight* focuses on the EU and Member States' initiatives to reinforce Europe's technological sovereignty (i.e. technological leadership and independence from others (especially China)) as far as semiconductors are concerned. It explores whether it is necessary to change the current allocation of powers between the EU and Member States to achieve the mentioned objective. It shows that the EU has enacted (or proposed to adopt): *i)* a number of internal measures to address the EU technological gap in various areas of the EU's competence, including those in the field of the internal market; *ii)* unilateral trade measures designed to establish a level playing field for EU operators and to protect Member States' technological assets. National authorities have also taken unilateral trade measures such as the Dutch decision of March 2023 to establish an export control of chip technology. This measure was enacted at the request of the United States and is based on the need to avoid dependence, on the preservation of technological leadership and on security grounds. It is an attempt to react to China's strategy ("Made in China 2025") to close its technological gap in various areas, including semiconductors. The Dutch decision illustrates that the EU institutions and Member States can each exercise their competences and successfully protect Europe's technological sovereignty (technological leadership) on the basis of a "shared sovereignty". There is no need to change the Treaty rules to strengthen Europe's sovereignty. However, it is necessary that Member States inform the Commission and coordinate their actions at EU level.

KEYWORDS: Europe's Sovereignty – Technological leadership – Strategic autonomy – Trade measures – Dual use goods – China.

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I. INTRODUCTION

In various policy documents¹ or Commissioners' speeches the need to reinforce "Europe's technological sovereignty" is advocated. The EU has lost competitiveness in key enabling technologies² and is dependent on others.³ This is true, for example, for semiconductors, as is stressed by the Communication of the Commission on "A Chips Act for Europ".⁴

The term "Europe's technological sovereignty" is ambiguous⁵ since it is not clear whose sovereignty it refers to. The legal conundrum can be articulated as follows: does the mentioned concept refer to the EU's technological sovereignty as a whole⁶ or to the sovereignty of its single Member States? In the former case, the EU is set to be transformed into a sovereign entity; in the latter case, Member States remain sovereign when it comes to making decisions pertaining to technologies. Admittedly, it is difficult to argue that it is possible for the EU to become sovereign in making decisions concerning technologies, under the current Treaty rules. However, given that EU Member States have to compete with US and Chinese companies, the enhancement of technological sovereignty presents a clear 'European dimension' and cannot be tackled on the basis of entirely national approaches.⁷ Both EU institutions and Member States must act in order to ensure Europe's technological sovereignty. This is necessary especially when it comes to EU and Member States' relations with China, a third country which today is more of a rival than a trading partner for the EU as far as key enabling

¹ For example, see Communication COM(2020) 67 final from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions of 18 February 2020 on 'Shaping Europe's Digital Future', 2; Communication COM (2020) 102 from the Commission of 10 March 2020 on 'A new industrial strategy for Europe', 6.

² For a discussion on key enabling technologies, including advanced manufacturing, advanced materials and nanomaterials, life science technologies and micro-nano electronics and photonics, AI and security and connectivity technologies, see European Parliament Research Service, Scientific Foresight Unit (STOA), 'Key enabling technologies for Europe's technological sovereignty' (December 2021) www.europarl.europa.eu.

³ For example, the EU is lagging behind other third countries in the fields of AI and in particular in Big Data, Cybersecurity and Micro and nanoelectronics. See Report of the Commission, 'Advanced Technologies for Industry – EU Report' (5 December 2020) ati.ec.europa.eu.

⁴ Communication COM(2022) 45 final from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions of 8 February 2022 on 'A Chips Act for Europe', 4.

⁵ On the ambiguities of this notion, see S Barbou des Places, 'Taking the Language of European Sovereignty Seriously' (2020) European Papers www.europeanpapers.eu 292.

⁶ On "collective sovereignty" see C Beaucillon, 'Strategic Autonomy: A New Identity for the EU as a Global Actor' European Papers (European Forum Insight of 27 July 2023) www.europeanpapers.eu 417.

⁷ See for a discussion of these issues D Gallo and S Poli, 'Enhancing European Technological Sovereignty: The Foreign Investment Screening Regulation as a Means to Protect Critical Infrastructure and Critical Technologies in the European Union' in J Scott, A Thies and K Armstrong (eds), *EU External Relations and the Power of Law-Essays in Honour of Marise Cremona* (forthcoming).

technologies are concerned.⁸ This context begs the question of whether the current allocation of powers between the EU and its Member States is adequate for the EU and its Member States to strengthen technological sovereignty. The EU enjoys powers in a number of areas that are crucial to enhance Europe's technological sovereignty:⁹ these are defence,¹⁰ internal market, industrial policy, research and innovation, space and the common commercial policy. With this in mind, the legal analysis will focus on the use of EU powers in fields such as internal market, research and innovation and trade and on Member States' export control measures. The case study of a recent export restriction of a key enabling technology enacted by the Dutch government *vis-à-vis* China will be taken as an example of the latter category of measures.

In order to answer the legal question mentioned above, this insight focuses on different meanings of "Europe's technological sovereignty" (section II). Then, illustrations of measures (or proposed measures) that are intended to strengthen the EU's industrial base and the EU's ability to have its own key enabling technology are provided in section III. In this context special attention is reserved to the EU Chips Act.¹¹ Section IV hints at initiatives taken by the EU in the framework of the WTO to counter China's unfair trade practices as far as technology transfer is concerned; in addition, it provides examples of unilateral trade measures designed to establish a level playing field for EU operators and to protect the EU technological assets. Section V comments the case study mentioned above: the recent decision by the Dutch government to prohibit the export of strategic technology to China on grounds of national and international security. This is an example of exercise of Member States' exclusive competence which affects an EU exclusive competence (common commercial policy). Finally, section VI draws conclusions as to how the EU and its Member States can achieve Europe's technological sovereignty without changing the nature of the EU and the Treaty rules. It is argued that this objective can be achieved on the basis of a model of "shared sovereignty;" the case study of Dutch export control of key enabling technology is one such example.

⁸ It is telling in a few calls of the Horizon Europe-work programme-digital, industry and space (2023-2024) related to Innovation Actions, legal entities established in China are not eligible to participate in any capacity.

⁹ On the problems related to EU competence in developing European technological sovereignty, see M Varju, 'The Protection of Technology Sovereignty in the EU: Policy, Powers and the Legal Reality' (2022) ELR 568, 583. For a discussion on legal bases and, in particular on the wide use of art. 114 TFEU, see E Fahey, S Poli, 'The Strengthening of the European Technological Sovereignty and its Legal Bases in the Treaties' (2022) *Eurojus rivista.eurojus.it* 147-164.

¹⁰ On defence and strategic autonomy see G Perotto, 'The Legal Framework of the EU Defence Industry and the Pursuit of Strategic Autonomy' *European Papers* (European Forum Insight of 27 July 2023) www.europeanpapers.eu 475.

¹¹ Proposal for a Regulation COM(2022) 46 final of the European Parliament and of the Council of 8 February 2023 establishing a framework of measures for strengthening Europe's semiconductor ecosystem (Chips Act).

II. DIFFERENT MEANINGS OF ‘EUROPE’S TECHNOLOGICAL SOVEREIGNTY’

Looking at the practice, it is possible to identify three different meanings of the term “Europe’s technological sovereignty”. First, being sovereign entails the EU and Member States’ ability to be independent from others, to be self-sufficient in key-technology intensive sectors (such as telecommunication and space)¹² which are at the basis of the provision of core services for a modern economy and of the internal market. In this respect, there is an overlap between the concept of “strategic autonomy”, which is used in relation to defence, trade and most recently in the field of energy and that of “technological sovereignty”. The EU’s strategic autonomy can be conceived as a means to gain technological independence. Access to “critical raw materials”,¹³ which are used in strategic sectors, including digital technology is in its turn necessary to be independent from others.¹⁴

Second, enhancing technological sovereignty implies achieving technological leadership; this requires creating the conditions in the EU for national or European technological Champions to emerge or to continue to operate, as we shall see in section V.

Third, technological sovereignty means resilience to incidents. As is stated in the Commission’s communication on The EU’s Cybersecurity Strategy for the Digital Decade: “All Internet-connected things in the EU, whether automated cars, industrial control systems or home appliances, and the whole supply chains which make them available, need to be secure-by-design, resilient to cyber incidents, and quickly patched when vulnerabilities are discovered”.¹⁵

¹² Space technology is not only essential for defensive purposes but also to collect and manage data that are necessary for the functioning of several services in areas such as telecommunication, transport, environmental monitoring, border management and maritime safety. Space infrastructure is also necessary for the connectivity which is at the basis of the digital single market. On this issue and on telecommunications, see C Cellierino, ‘EU Space Policy and Strategic Autonomy: Tackling Legal Complexities in the Enhancement of the “Security and Defence Dimension of the Union in Space”’ European Papers (European Forum Insight of 27 July 2023) www.europeanpapers.eu 487; L Mola, ‘Fostering “European Technological Sovereignty” Through the CSDP: Conceptual and Legal Challenges. First Reflections Around the 2022 Strategic Compass’ European Papers (European Forum Insight of 27 July 2023) www.europeanpapers.eu 459.

¹³ These are raw materials which are necessary to manufacture strategic technologies. These materials are defined as “essential prerequisites for the development of strategic sectors such as renewable energy, electric mobility, defence and aerospace, and digital technologies”. European Commission Joint Research Centre, *Critical Raw Materials for Strategic Technologies and Sectors in the EU: A Foresight Study* (2 September 2020) ec.europa.eu p. 14.

¹⁴ As the Commission Joint Research Centre stresses, “Almost the entire periodic system of elements can be found in digital technologies, with a particularly high share in the consumption of elements like copper, gallium, germanium, gold, indium, PGMs, rare earths and tantalum. China (41%) and African countries (30%) are dominant suppliers. Europe is largely dependent on other countries (mainly from South-East Asia) for high-tech components and assemblies”. *Ibid.* 10.

¹⁵ Joint communication JOIN(2020) 18 final to the European parliament and the Council of the High Representative of the Union for foreign affairs and security policy and the European Commission of 16 December 2020, ‘The EU’s Cybersecurity Strategy for the Digital Decade’, 5.

The EU institutions have taken action on the basis of art. 114 TFUE through Directive 2022/2557 to strengthen resilience by “critical infrastructures”¹⁶ as well as by “critical entities”¹⁷ to natural or man-made hazards and to reinforce the ability to prevent the disruption of services offered by these entities. Indeed, the latter provide essential services “for the maintenance of vital societal functions or economic activities within the scope of Article 114”.¹⁸

In the next section we will focus on EU measures designed to strengthen the ability to be independent from others as far as key enabling technology is concerned and to preserve technological leadership. In contrast, the harmonisation of national legislation for the purpose of ensuring that services provided by critical infrastructure and critical entities are not disrupted will not be further examined.

III. REINFORCING THE EU'S INDUSTRIAL BASE, COMPETITIVENESS AND ITS RESILIENCE TO CRISES THROUGH INTERNAL MEASURES: THE PROPOSED CHIPS ACT AND THE APPROVAL OF IMPORTANT PROJECTS OF COMMON EUROPEAN INTEREST

The EU's efforts to “boost Europe's technological sovereignty”¹⁹ is epitomised by the so-called “Chips Act”. In September 2021 Thierry Breton, the Commissioner for the internal market, called for the need to strengthen industrial capacity in Europe and to retake control and rebalance the global supply chain of semiconductors, stressing that 80 per cent of global semiconductor production was located mostly in Taiwan (while Europe and the U.S. hold 10 per cent each). He further added that: “Those who think this is just about rivalling the U.S. are wrong. It is about *technological sovereignty*, about having enough autonomy to make the right choices for Europe”.²⁰

The Commission's proposal for a Regulation of February 2022 is based on the exercise of shared parallel competences as in the field of research, technological development and space (arts 182(1), 183 TFEU), industrial policy (art. 173 TFEU), which is a coordinating and supporting competence, and internal market (art. 114 TFEU), a shared

¹⁶ These are defined as “asset, a facility, equipment, a network or a system, or a part of an asset, a facility, equipment, a network or a system, which is necessary for the provision of an essential service”. See art. 2(4) of Directive 2022/2557 of the European Parliament and of the Council of 14 December 2022 on the resilience of critical entities and repealing Council Directive 2008/114/EC.

¹⁷ These are “entities that operate critical infrastructure”. For a definition see art. 2(1) of Directive 2022/2557 cit.

¹⁸ *Ibid.* art. 1(1)(a). In the Recital n. 11 of Directive 2022/2557 cit. it is made clear that Member States should be able to decide that the obligations on critical entities laid down in this act do not apply, in whole or in part, to critical entities that carry out activities in the areas of national security, public security, defence or law enforcement.

¹⁹ European Commission, *European Chips Act* digital-strategy.ec.europa.eu.

²⁰ D Bandow, ‘Time to Rebalance the U.S.-Europe Relationship’ (14 January 2021) CATO Institute www.cato.org (emphasis added).

competence.²¹ The initiative pursues multiple objectives which are convincingly exposed in the explanatory memorandum of the proposal. It is designed to reinforce the industrial base and it thus sets the ambitious objective of quadrupling the production of the most advanced chips by 2030.²² As the Commission explains, the reason why it is necessary to increase the production of this sensitive technology is to avoid excessive dependencies and shortages, which were exacerbated by Covid 19 when the EU structural vulnerabilities and dependence on a number of third countries were exposed. A further objective is to reinforce the EU's competitiveness.²³ The decision to boost the production of this critical technology mimics the US Chips Act of September 2022²⁴ whose main objective is to increase the production capacity of chips.

The proposed act rests on three pillars: "a Chips for Europe Initiative to support large-scale technological capacity building and innovation in cutting-edge chips; a new framework to attract large-scale investments in production capacities and ensure the security of supply; a coordination mechanism between the Member States and the Commission to monitor market developments and anticipate crises".²⁵

The first Initiative mentioned intends to combine investments from the Union, Member States and the private sector: the EU envisages to spend €6.2 billion of public funds, of which €3.3 billion from the EU budget. Intel, which is the world's largest manufacturer of semiconductor chips has planned to open "a foundry plant for cutting-edge semiconductors in Europe in a bid to diversify its global supply chain".²⁶

The idea of setting up a European Sovereign Fund was launched; the Commissioner for the Internal Market, Thierry Breton, is considering financing this Fund "through common debt, like we successfully did with NextGeneration EU".²⁷ It is not clear, at the moment, whether this will actually be possible.

In addition to the proposed Chips Act, further noteworthy initiatives were taken.

First, in February 2022 the Commission approved three Important Projects of Common European Interest (IPCEIs): one on microelectronics and two on batteries. Said projects are intended to contribute to sustainable economic growth and resilience for industry and the economy in the Union and to strengthen its "open strategic autonomy". The

²¹ Proposal for a Regulation COM(2022) 46 final cit.

²² The EU sets to achieve 20 per cent of world production of semiconductors by 2030 in the proposed EU Chips act.

²³ Communication COM(2022) 45 final cit. 3.

²⁴ Congress.Gov, *H.R.4346 – Chips and Science Act* www.congress.gov.

²⁵ European Commission, *European Chips Act* cit.

²⁶ O Noyan, 'Intel Plans Billion-Euro Investment in Next-Generation Microchips on EU Soil' (26 January 2022) Euroactiv www.euractiv.com.

²⁷ European Commission, 'A European Sovereignty Fund for an Industry "Made in Europe" I Blog of Commissioner Thierry Breton' (15 September 2022) ec.europa.eu.

state aid rules²⁸ for the assessment of public financing, were relaxed under art. 107(3) b.²⁹ These projects may concern “breakthrough innovation and infrastructure projects” and must have a cross-border cooperation nature. The IPCEIs are defined as such when they represent “a concrete, clear and identifiable important contribution to the Union’s objectives or strategies and must have a significant impact on sustainable growth”,³⁰ for example by being of major importance for a number of EU plans, including the New Industrial Strategy for Europe or the Union’s objective to become climate neutral by 2050.³¹

The Commission issued guidelines defining a number of general criteria of eligibility for a project to be of “common European interest”, including that they have to be beneficial for four Member States. This institution states that it will take positive stance on a project which addresses “a clearly identified and significant strategic dependency”.³²

These projects “can make a very important contribution to sustainable economic growth, jobs, competitiveness and resilience for industry and the economy in the Union and strengthen its open strategic autonomy, by enabling breakthrough innovation and infrastructure projects through cross-border cooperation and with positive spill-over effects on the internal market and the society as a whole”.³³

Second, a proposal to ensure a secure and sustainable supply of critical raw materials was put forward by the Commission in February 2023.³⁴ Indeed, the pandemic and the war in Ukraine have shown the EU’s “structural supply dependencies in raw materials”³⁵ which are necessary to maintain or to strengthen technological leadership. For example, gallium is used to manufacture semi-conductors, its demand is expected to grow 17-fold by 2050.³⁶ The proposal has an internal market component: it is designed to create a

²⁸ Communication COM(2021) 8481 from the Commission of 30 December 2021, Criteria for the analysis of the compatibility with the internal market of State aid to promote the execution of important projects of common European interest 2021/C 528/02.

²⁹ This provision provides that state aid to promote the execution of an important project of common European interest may be considered to be compatible with the internal market.

³⁰ These are the following: the European Green Deal, the Digital Strategy, the Digital Decade and European Strategy for Data, and its update, Next Generation EU, the European Health Union, the new European Research Area for research and innovation, the new Circular Economy Action Plan.

³¹ Communication COM(2021) 8481 cit. point 14. It should be added that special attention needs be placed on laying down the conditions for the development of clean technologies in the EU, given that in this area the manufacturing of a number of net-zero technologies is currently dominated by China. Communication COM(2023) 62 final from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions of 1 February 2023, A Green Deal Industrial Plan for the Net-Zero Age, 2.

³² Communication COM(2021) 8481 cit. point 3(2)(2)(g).

³³ *Ibid.* point 2.

³⁴ Commission Proposal for a Regulation COM(2023) 160 final of the European Parliament and of the Council of 16 March 2023 establishing a framework for ensuring a secure and sustainable supply of critical raw materials and amending Regulations (EU) 168/2013, (EU) 2018/858, 2018/1724 and (EU) 2019/1020.

³⁵ *Ibid.* 1.

³⁶ *Ibid.*

harmonised legal framework for increasing the Union's resilience and security of supply which is essential for a functioning internal market.³⁷

The three EU initiatives which were briefly presented are necessary for the EU to become independent from others since they create a favourable climate for innovation for EU companies, they boost the "in house" manufacturing capacity of chips and seek to ensure access to critical raw materials. At the same time, more can be done to preserve technological leadership and to protect the technological assets of the EU Member States. The EU plays an important role in these respects since it may establish a level playing field in the internal market through trade measures. As is widely known, in 2015 China launched the programme "made in China 2025"³⁸ which intends to substitute foreign technology with Chinese technology and to exploit the openness of market economies in Europe and the United States in order to acquire core technologies through investments abroad. It is worthwhile quoting the Commission's comments on this programme and more broadly the picture that this institution paints of China as a trading partner.

"China's [...] policies such as 'Made in China 2025' aim at developing domestic champions and helping them to become global leaders in strategic high-tech sectors. China preserves its domestic markets for its champions, shielding them from competition through selective market opening, licensing and other investment restrictions; heavy subsidies to both state-owned and private sector companies; closure of its procurement market; localisation requirements, including for data; the favouring of domestic operators in the protection and enforcement of intellectual property rights and other domestic laws; and limiting access to government-funded programmes for foreign companies. EU operators have to submit to onerous requirements as a precondition to access the Chinese market, such as creating joint ventures with local companies or transfer of key technologies to Chinese counterparts. One of the sectors where the lack of reciprocal market access is particularly acute is financial services. While Chinese fintech and online payment companies, credit card providers, banks and insurers are expanding their presence in the EU, European operators are denied access to the Chinese market".³⁹

In the next section, we shall briefly see that the EU has acted within the WTO to tackle China's domestic legislation favouring transfer of technology and that it has taken unilateral trade measures to preserve the EU technological leadership and to counter China's policy of subsidising its companies to achieve technological leadership.

³⁷ Communication COM(2022) 45 final cit. 9.

³⁸ China State Council, 中国制造2025 (Made in China 2025) of 8 May 2015. J Wübbeke, M Meissner, MJ Zenglein and others, 'Made in China 2025: The making of a High-Tech Superpower and Consequences for Industrial Countries' (December 2016) MERICS Mercator Institute for China Studies merics.org.

³⁹ Joint Communication JOIN(2019) 5 final from the High Representative of the Union for foreign affairs and security policy and the European Commission to the European Parliament, the European Council and the Council of 12 March 2019, 'EU-China – A strategic outlook, 5-6.

IV. REINFORCING 'TECHNOLOGICAL SOVEREIGNTY' THROUGH EU TRADE MEASURES

Faithful to its commitment to multilateralism, the EU has relied on the dispute settlement mechanism of the WTO to address the incompatibility of Chinese domestic legislation with the GATT and the TRIPS. On 1st June 2018 the EU requested consultation with China for the forced technology transfer with respect to EU companies operating in the mentioned third country;⁴⁰ later this request was amended and the US, Chinese Taipei and Japan requested to join the consultations.⁴¹ The Commission stresses that: "China conditions the right to invest in China, including the possibility to access and operate in the Chinese market by foreign investors, foreign invested companies and joint ventures between foreign and Chinese companies, upon performance requirements, including in relation to the transfer of technology and the conduct of research and development in China, contrary to China's WTO obligations".⁴²

So far there have been no further developments on the pending dispute and it is unlikely that any progress will be made to solve the dispute in this context.

In more recent times, the EU relations with China are managed outside the WTO.⁴³ In a trade report of 2021 the Commission highlighted that China's accession to the WTO has not led "to its transformation into a market economy. The level at which China has opened its markets does not correspond to its weight in the global economy, and the state continues to exert a decisive influence on China's economic environment with consequent competitive distortions that cannot be sufficiently addressed by current WTO rules".⁴⁴

The EU has started to address the mentioned distortions of competition by using its existing unilateral instruments and by enacting new ones.

In parallel, the negotiations of the EU-China Comprehensive agreement on investment (CAI), which is qualified as an "*in principle*" agreement on the website⁴⁵ of the Commission, were finalised in 2020; indeed, a couple of years ago, the EU-China strategic outlook stressed that there was a wide interest in concluding an EU-wide investment agreement, replacing the existing bilateral agreements with Member States; such a legal instrument could have also been a prelude to an advanced free trade agreement.⁴⁶

⁴⁰ World Trade Organization (WTO), *DS549: China; Certain Measures on the Transfer of Technology* www.wto.org.

⁴¹ *Ibid.*

⁴² European Commission, *DS549: China; Certain Measures on the Transfer of Technology* policy.trade.ec.europa.eu.

⁴³ Communication COM(2021) 66 final from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions of 18 February 2021, Trade Policy Review – An open, sustainable and assertive trade policy, Annex 2.

⁴⁴ *Ibid.*

⁴⁵ European Commission, *EU and China Reach Agreement in Principle on Investment* ec.europa.eu.

⁴⁶ The only trade agreement in force between China and the EU dates back to 1985. This is the Agreement on Trade and Economic Cooperation between the European Economic Community and the People's Republic of China of 21st May 1985. It is largely outdated given that it was concluded ten years before the WTO was created.

However, the negotiated text has not been signed due to human concerns related to the treatment of the Uighurs by Chinese officials, raised by the European Parliament.⁴⁷

Coming back to the EU's unilateral measures mentioned above, in 2020 the Commission was able to effectively use its basic anti-subsidy Regulation of 2016.⁴⁸ This institution has applied it quite successfully⁴⁹ to tackle cross-subsidies by China to companies that export certain woven and/or stitched Glass Fiber Fabrics (GFF) and are part of the so-called "new materials industry".⁵⁰ Although the latter is not one of the industries listed in the "Made in China 2025" initiative, it is defined by the Commission as "an encouraged industry"⁵¹ under the mentioned initiative "and thereby is eligible to benefit from considerable State funding".⁵² The legal framework leading the Commission to apply the mentioned Regulation is briefly sketched out below.

Following a complaint under the anti-subsidy Regulation of 2016 by Tech-Fab Europe eV, an organization representing one quarter of EU producers of GFF, the Commission started to investigate imports into the EU of these products originating in China and Egypt. A parallel anti-dumping investigation was started in 2019. The outcome of the investigation led the Commission to countervail a financial contribution granted by China to Chinese companies that had exported at an artificially low price the concerned goods from Egypt to the EU.⁵³ This was legally possible since the exporters of GFF operated in the special economic zone set up by Egypt and China in 1990.⁵⁴ The Commission attributed the subsidies to Egypt on the basis of an interpretation of art. 3(1)(a) of the basic anti-subsidies Regulation which was read in the light of art. 11 of Draft articles on the Responsibility of States for Internationally Wrongful Acts, as adopted in 2001 by the International Law Commission of the United Nations ("the ILC Articles").⁵⁵ The mentioned

⁴⁷ Resolution P9_TA(2021)0382 of European Parliament of 16 September 2021 on a new EU-China strategy (2021/2037), para. 10. The latest news on the conclusion of the mentioned agreement are those available on the 'EU-China Relations factsheets' which states that: "The broader political context is currently not favourable for a ratification of the Comprehensive Agreement on Investment (CAI)", available at www.eeas.europa.eu.

⁴⁸ See Regulation (EU) 2016/1037 of the European Parliament and of the Council of 8 June 2016 on protection against subsidised imports from countries not members of the European Union (codification).

⁴⁹ It should be noted that Regulation (EU) 2016/1037 cit. has been criticised for its lack of effectiveness. See Editorial, 'Protecting the EU's Internal Market in Times of Pandemic and Growing Trade Disputes: Some Reflections about the Challenges Posed by Foreign Subsidies' (2020) CMLRev 1375.

⁵⁰ Commission Implementing Regulation (EU) 2020/776 of 12 June 2020 imposing definitive countervailing duties on imports of certain woven and/or stitched glass fibre fabrics originating in the People's Republic of China and Egypt and amending Commission Implementing Regulation (EU) 2020/492 of 1st April 2020 imposing definitive anti-dumping duties on imports of certain woven and/or stitched glass fibre fabrics originating in the People's Republic of China and Egypt, para. 151.

⁵¹ *Ibid.* para. 147.

⁵² *Ibid.*

⁵³ *Ibid.*

⁵⁴ This is the China-Egypt Suez Economic and Trade Cooperation Zone ('SETC-Zone').

⁵⁵ International Law Commission, 'Draft Articles on Responsibility of States for Internationally Wrongful Acts' (November 2001) Supplement No. 10 (A/56/10), chapter IV.E.1.

provision of the basic anti-subsidies Regulation considered a subsidy a financial contribution granted by the government of a third country of export or of origin of goods to the benefit of a company. According to the Commission, the subsidies which originated in a third country (China) could be attributed to the country of export (Egypt) due to the existence of the special economic zone which was set up together by the two countries targeted by the complaint. The legality of the Commission's implementation of the Regulation imposing countervailing duties on a number of exporting producers of GFF operating in China and Egypt were challenged by two of these companies, which were legal persons formed in accordance with the laws of the Arab Republic of Egypt whose shareholders were Chinese entities. The GC rejected the action, confirming that neither art. 3(1)(a) of the basic anti-dumping Regulation, nor the general scheme of this measure precluded the Commission's interpretation.⁵⁶

Although the good at stake was not a key enabling technology, the use of basic anti-subsidies Regulation can be considered an example of the long arm of EU defence measures to tackle subsidies that originate from China but are beneficial for operators in third countries that have deepened their economic ties to China.

The EU has also adopted new trade measures. The first is Regulation (EU) 2022/2560 which was enacted to protect EU operators from unfair competition carried out by foreign companies subsidised by third countries. The establishment of a level playing field is at the heart of this trade defensive instrument.⁵⁷ Indeed, it is designed to counter China's wide use of subsidies to make acquisitions of strategic infrastructure and critical technology in the EU. A second instrument is Regulation (EU) 2022/1031 that enables the closure of the procurement market to third countries that are not open to EU companies, as in the case of China.⁵⁸ Finally, three years before the above-mentioned Regulations were approved, the EU had already taken a cautious approach to foreign direct investments (FDIs) of investors, including those coming from third countries. Regulation (EU) 2019/452 has established a framework to screen FDIs into the EU⁵⁹ in case these investments affect security or public

⁵⁶ Case T-480/20, *Hengshi Egypt Fiberglass Fabrics Jushi Egypt for Fiberglass Industry v Commission* ECLI:EU:T:2023:90 para. 95. It should be noted that an appeal has been lodged and is currently pending. See case C-269/23 P – *Hengshi Egypt Fiberglass Fabrics and Jushi Egypt for Fiberglass Industry v Commission*.

⁵⁷ Regulation (EU) 2022/2560 of the European Parliament and of the Council of 14th December 2022 on foreign subsidies distorting the internal market. P Figueroa and JM Böhme, 'The Foreign Subsidies Regulation and Foreign Direct Investment: How to Reconcile?' (9 January 2023) Kluwer Competition Law Blog competitionlawblog.kluwercompetitionlaw.com.

⁵⁸ Regulation (EU) 2022/1031 of the European Parliament and of the Council of 23 June 2022 on the access of third-country economic operators, goods and services to the Union's public procurement and concession markets and procedures supporting negotiations on access of Union economic operators, goods and services to the public procurement and concession markets of third countries (International Procurement Instrument – IPI). For a wider overview see F Hoffmeister, 'Strategic Autonomy in the European Union's External Relations Law' (2023) CMLRev 691–700.

⁵⁹ Regulation (EU) 2019/452 of the European Parliament and of the Council of 19th March 2019 establishing a framework for the screening of foreign direct investments into the Union, art. 1(1). On this

order. The mentioned instrument can be considered an exception to the traditional openness to investments that has characterised the Union.

The mentioned legal instrument lays down a cooperation mechanism between Member States and between Member States and the Commission which is designed, amongst other things, to avoid that foreign investors (the implicit reference is to Chinese state-owned companies) take over European companies holding key technologies for strategic reasons. Indeed, this would create a risk to security or public order in the EU. Member States can oppose a FDI on the mentioned grounds in case the investor is a foreign undertaking.⁶⁰ The Regulation which is here commented does not set up an EU screening mechanism on FDI that affect public order or public security; yet, the Member State in whose territory a FDI takes place is not completely free in making its decision about FDIs. It is subject to a number of procedural and substantial conditions which make the final decision on the mentioned investment a matter of common concern for the Member States and the Commission.⁶¹

Having sketched out the EU's use of trade powers to establish a level playing field and to protect the EU's technological assets, it is now necessary to look at how EU Member States could contribute to strengthening Europe's technological sovereignty through trade measures taking into consideration a case study. The latter shows how a Member States can act to preserve its technological leadership, national and international security by exercising its powers to control exports of key enabling technologies. By taking these measures, this Member State also acts to reinforce Europe's technology sovereignty.

Regulation see S Robert, 'Foreign Investment Control Procedures as a Tool for Enforcing EU Strategic Autonomy' (2023) *European Papers* www.europeanpapers.eu 513; M Egan, 'Taking Back Control: The Political Economy of Investment Screening in the US and EU' in E Fahey, *The Routledge Handbook of Transatlantic Relations* (Routledge) due to publication in June 2023 (essay on file with the author); SB de Jong and W Zwartkruis, 'The EU Regulation on Screening of Foreign Direct Investment: A Game Changer?' (2020) *European Business Law Review* 447–474.

⁶⁰ The Regulation safeguards Member States' powers to object to an investment from an EU undertaking under the terms of the free movements of capitals as laid down by art. 65(1)b TFEU. On the scope of Regulation (EU) 2019/552, see case C-106/22 *Xella Magyarország* ECLI:EU:C:2023:267, opinion of AG Čápeta, para. 35.

⁶¹ For example, Regulation (EU) 2019/452 cit. lists factors that may be taken into consideration in determining whether a foreign direct investment is likely to affect security or public order. More precisely, under art. 4 (1) b of this Regulation, "Member States and the Commission may consider its potential effects on, inter alia, critical technologies and dual use items as defined in point 1 of Article 2 of Council Regulation (EC) No 428/2009 (15), including artificial intelligence, robotics, semiconductors, cybersecurity, aerospace, defence, energy storage, quantum and nuclear technologies as well as nanotechnologies and biotechnologies".

V. MEMBER STATES' CONTRIBUTION TO THE ACHIEVEMENT OF 'EUROPE'S TECHNOLOGICAL SOVEREIGNTY' THROUGH EXPORT CONTROL OF ADVANCED SEMICONDUCTOR TECHNOLOGY

On 8th March 2023 the Dutch government restricted the export of “chips machines capable of producing transistors that measure under seven manometers”.⁶² This very specific technology (the most advanced deep ultraviolet (DUV) immersion lithography and deposition) is manufactured by ASML and is necessary, in combination with certain other advanced technologies produced outside The Netherlands, to play a crucial role in the manufacture of advanced semiconductors.⁶³ The mentioned Dutch company is of strategic importance for the EU since it has “a 100% global market share in the EUV lithography machines essential to manufacture on advanced nodes below 7 nanometers”.⁶⁴ In the words of the President of the European Commission “it will play a big role in our efforts to make Europe more competitive and more sovereign in the tech sector”.⁶⁵

The US has succeeded in persuading the Netherlands to align to the US' trade policy. The latter had imposed export restrictions on US suppliers of key enabling technology in October 2022 aimed at preventing access of this technology to China. However, the participation of ASML and of Japanese companies, such as Nikon, were required for the restrictions to be effective.⁶⁶ Thus, the participation of The Netherlands to the export restrictions was crucial since it was the only EU country to have developed the above-mentioned specific technology. The US' request is part of this country's strategy to contain China's run to achieve technological leadership in the chips sector. It is unclear to what extent the request to control the export of the DUV may be considered an invitation to bilateral trade coordination or if it actually amounts to “economic coercion”, within the meaning of art. 2(1) of the proposed EU anti-coercion measure.⁶⁷

⁶² C Martinet, 'Dutch Dilemma: Caught in the middle of the US-China Tech Cold War' (20 January 2023) Euractiv www.euractiv.com.

⁶³ Government of the Netherlands, 'Letter of 8th March 2023 from the Minister for Foreign Trade and Development Cooperation to the President of the House of Representatives of the States General announcing forthcoming export control measures concerning advanced semiconductor manufacturing equipment' www.government.nl.

⁶⁴ A Varas, R Varadarajan, F Yinug and others, 'Strengthening the Global Semiconductor Supply Chain in an Uncertain Era' (April 2021) Semiconductor Industry Association (SIA) web-assets.bcg.com 41.

⁶⁵ Statement by European Commission President von der Leyen on her visit to ASML, together with Dutch Prime Minister Rutte, of 15 November 2021 ec.europa.eu.

⁶⁶ S van der Lugt, F-P van der Putten, 'New EU Chip Rules Threaten European Strategic Autonomy' (7 December 2022) Clingendael Institute spectator.clingendael.org.

⁶⁷ Proposal for a Regulation COM(2021) 775 final of the European Parliament and of the Council of 8 December 2021 on the protection of the Union and its Member States from economic coercion by third countries. This instrument is designed to enact counter measures in reaction to a range of conducts by third countries that interfere with the legitimate sovereign choices of the Union or a Member State by applying or threatening to apply measures that affect trade or investment.

The decision of the Dutch government has an important economic impact on the ASML given that China is the third largest market for the export of the advanced chips after Taiwan and South Korea.⁶⁸ The mentioned decision is not the first of its kind: in 2019 ASML's EUV tools were subject to export restrictions.⁶⁹ In this case, it seems that the level of economic pressure exercised by the US was close to what is defined "illegal coercion" under the proposed anti-coercion instrument⁷⁰ mentioned above.

It is submitted that the US could have discussed trade measures concerning key enabling technology such as the DUV in common *fora* and not only with the Member State that hold the chip technology. Since November 2020 the Transatlantic Trade and Technology Council (TTC) "offers new opportunities for the US and EU to coordinate on key global technology, economic, and trade issues".⁷¹ This body has been defined as "a diplomatic forum to deal with increased geoeconomics concerns rather than a broader trade deal that focuses on regulatory cooperation".⁷² It is hoped that it will be widely used to this effect in the future.

Let us come back to the Dutch export restriction of March 2023. This measure was taken on grounds of "national and international security"⁷³ and is justified in the name of these public interests since the technology used to make semiconductors is constantly advancing, potentially changing the impact that the export of these products has on security.⁷⁴ However, security concerns were not the only justification at the basis of this measure.

In a letter from the Minister of Foreign Trade and Development Cooperation to the Dutch Parliament, Mr Schreinemacher, it is stated that the trade restriction is part of a strategy inaugurated in December 2022 to control exports of the semiconductor technology in order to achieve three objectives:

- "1. preventing a situation in which Dutch goods contribute to undesirable end use, such as military deployment or weapons of mass destruction;
2. preventing undesirable long-term strategic dependencies; and

⁶⁸ M Dell'Aguzzo, 'Microchip, perché Taiwan e in Olanda Powerchip e Asml sbuffano contro gli Usa' (3 April 2023) Start Magazine www.startmag.it.

⁶⁹ ASML, *Statement Regarding Additional Export Controls* www.asml.com.

⁷⁰ It seems that a "threat to restrict trade or investments" (a form of "illegal coercion", under art. 2(1) of the proposed anti-coercion Regulation COM(2021) 775 final cit.), was envisaged at the level of diplomatic discussion between The Netherlands and the US. Apparently, in 2019 a senior US official warned the Dutch government that ASML depended on crucial US-made components and that Washington had "the authority to restrict exports of those parts to the Netherlands". This news is reported on C Martinet, 'Dutch Dilemma' cit.

⁷¹ M Egan, 'Taking Back Control' cit.

⁷² *Ibid.*

⁷³ Government of the Netherlands, 'Letter of 8th March 2023 from the Minister for Foreign Trade and Development Cooperation to the President of the House of Representatives of the States General announcing forthcoming export control measures concerning advanced semiconductor manufacturing equipment' cit.

⁷⁴ *Ibid.*

3. preserving the Netherlands' technological leadership position".⁷⁵

It is clear from this statement that the Member State concerned has acted on the basis of a mixture of trade-related and non-trade related concerns, including security. Mr Schreinemacher is acting to preserve his country's technological leadership, to prevent its strategic dependency and protect national and international security. However, the Dutch export control measure is crucial to protecting not only the mentioned national interests but also those of EU Member States. There is a common European interest in the enactment of the said export control measure. In this context, does this country hold the right to take unilateral export restrictions of technology of this kind?

Member States are sovereign in protecting essential security interests, under art. 4(2) TEU.⁷⁶ Yet, Member States must exercise their powers in full respect of those of the EU. The latter has set up a Union regime on dual use goods with is currently regulated by Regulation 2021/821.⁷⁷ It is submitted that when export control measures are enacted *vis-à-vis* a third country, concerning strategic technologies (regardless of whether they are dual use goods or not), Member States should coordinate their action with the Union since this is required by the principle of conferral and by the exclusive nature of the EU competence in the field of trade.⁷⁸ Even if a given technology is available in a single Member State, decisions to sell or not to sell to Chinese operators should be concerted at EU level.

It is submitted that The Netherlands seems to have acted within the limits of its exclusive competence in full respect of EU exclusive competence in trade matters as defined in the Union regime on dual use goods. Indeed, while announcing the setting up of a national control list by public ministerial order, the Dutch Minister for foreign Trade and Development cooperation shows a clear intention to act within the framework of Regulation (EU) 2021/821 on dual-use items and even at multilateral level in the context of the Wassenaar arrangements.⁷⁹ Mr Schreinemacher announces that it will notify the

⁷⁵ *Ibid.*

⁷⁶ The Treaties provide for national reserves of sovereignty. See, for example, arts 346 and 347 TFEU. On the interpretation of these provisions, see P Koutrakos, 'Is Article 297 EC "a reserve of sovereignty"?' (December 2000) CMLRev 1339; T Perišin and S Koplewicz, 'The Nexus between the CCP and the CFSP' in M Hahn and G Van der Loo (eds.), *Law and Practice of the Common Commercial Policy: The First 10 Years After the Treaty of Lisbon* (Brill 2020) 414.

⁷⁷ Regulation (EU) 2021/821 of the European Parliament and of the Council of 20 May 2021 setting up a Union regime for the control of exports, brokering, technical assistance, transit and transfer of dual-use items (recast).

⁷⁸ Opinion 1/75 *Draft Understanding on a local cost standard* ECLI:EU:C:1975:145. See M Cremona and J Kukavica, 'Common Commercial Policy and the Determination of Exclusivity' in G Butler and RA Wessel (eds), *EU External Relations Law: The Cases in Context* (Hart publishing 2022) 52.

⁷⁹ The Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies ("the Wassenaar Arrangement") is an international agreement that provides a transnational legal framework for restricting the export of surveillance equipment, software and expertise. See H Kim, 'Global Export Controls of Cyber Surveillance Technology and the Disrupted Triangular Dialogue' (2021) ICLQ 380. In

European Commission and the EU member states about the national control measure, under arts 9 and 10 of the mentioned Regulation. At this point, the Dutch Minister observes that a new legal issue will emerge for the other EU Member States: will they impose an authorisation requirement similar to that of The Netherlands, considering that the dual good concerned is not available in other EU countries? As it is emphasised in the letter of 8th March 2023,

“the provision in the Dual-Use Regulation on member states adopting another country’s national control measures is new, and has not previously been applied. The Netherlands has recently held close consultations with the European Commission and EU member states to explain the importance of this specific control measure in the light of national security, and to gain support for it. In the months ahead, the government will continue these efforts with a view to establishing the national control list in the EU landscape as effectively as possible”.⁸⁰

Export controls similar to those enacted by the Netherlands should also be adopted by other Member States, even if they do not manufacture the technology at stake. This is necessary to ensure the unity and effectiveness of the export control system. The possibility for EU Member States to amend their national control lists in light of the Dutch decision is provided for by art. 9(4) of the dual use good Regulation.⁸¹ We shall see in the next months whether there will be an update of the export control lists by other Member States.

The case of the Dutch export restriction of chipmaking equipment shows that the EU and its Member States can act together to strengthen Europe’s technological sovereignty, according to a model which can be defined of “shared sovereignty”. The Netherlands has relied on its exclusive powers to protect national and international security, to safeguard its technological leadership and to prevent the emergence of new dependencies on semiconductors. At the same time, the government has consulted with the Commission, in line with its duty of sincere cooperation⁸² and with the EU regime for the control of export of dual use items.

the ‘Letter of 8th March 2023 from the Minister for Foreign Trade and Development Cooperation to the President of the House of Representatives of the States General announcing forthcoming export control measures concerning advanced semiconductor manufacturing equipment’ cit., it is announced that: “The Netherlands will submit proposals in the framework of the [...] multilateral export control regime, the Wassenaar Arrangement. Such proposals are confidential, as are any discussions held in the context of an export control regime. Decision-making under the Wassenaar Arrangement takes place on the basis of consensus. The likelihood of consensus being reached at the present time is small, however. The government expects that the altered geopolitical context will be reflected in the regime, since the Russian Federation is a member and can block the proposal. Proposals that are ultimately adopted by the regime are subsequently automatically included in Annex I to the European Dual-Use Regulation, which contains a list of all controlled goods and technologies”.

⁸⁰ *Ibid.*

⁸¹ Regulation (EU) 2021/821 cit.

⁸² Art. 4(3) TEU.

VI. CONCLUSIONS

The idea of strengthening Europe's technological sovereignty is ambiguous as far as whose technological sovereignty should be reinforced. In this Insight it was argued that Member States' technological leadership and independence from others as far as key enabling technology is concerned can be achieved on the one hand, if they act through the EU. Under this respect, examples of useful EU measures are the proposed EU Chips act and a number of trade measures, which were adopted in the absence of an EU investment or trade agreement with China. On the other hand, Member States *uti singuli* may strengthen the EU's sovereignty when they act to preserve their own, if they duly inform and cooperate with EU institutions. The export restriction of the Dutch government of March 2023 was adopted as a unilateral measure on the basis of the need to protect national and international security, to reduce dependencies and to protect the technological leadership of the country in semiconductors. Yet, this measure was not taken in isolation from the EU. There was an exchange of information with the Commission. In addition, Member States are now expected to amend their national control lists of dual use goods, thus aligning with the Dutch export restriction of chipmaking equipment.

In this context, there is no need to change the Treaty rules and provide more powers to the EU in order to strengthen the EU's technological sovereignty. The EU institutions and Member States may each exercise their respective competence according to a model of "shared sovereignty" or "pooled sovereignty".⁸³

⁸³ C Gammage and P Syrpis, 'Sovereignty Fictions in the United Kingdom's Trade Agenda' (2022) ICLQ 568.

