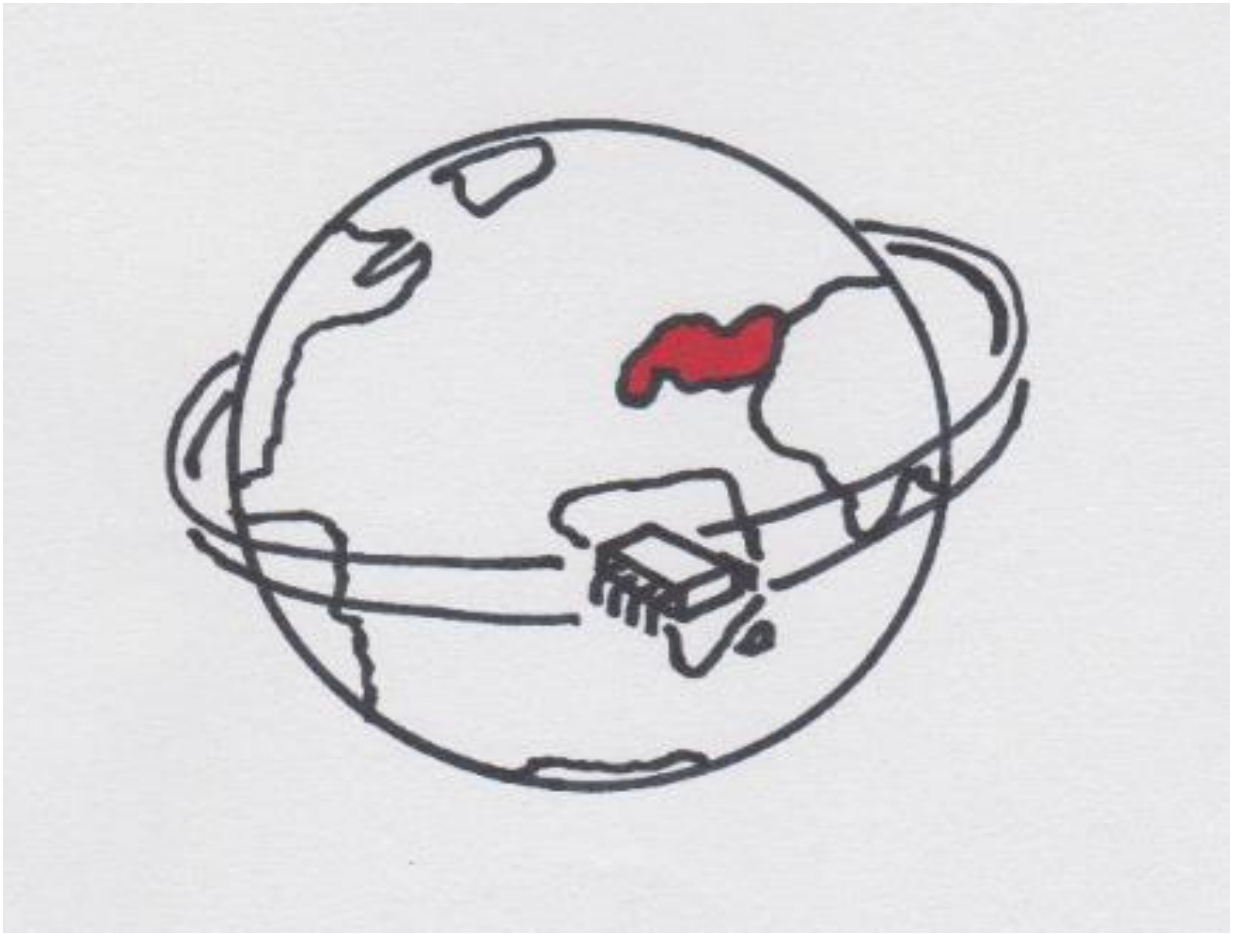
MA IRHP Thesis

From globalisation to techno-nationalism: the European Union's collective securitisation of the chip ecosystem



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Abstract

How did the European Union's chip policy shift from an approach based on liberal values aimed at globalisation, to a stance based on techno-nationalism? This thesis has aimed this shift in policy through Sperling and Webber's model of collective securitisation. It has found that, after the Cold War, the EU embraced globalised, borderless supply chains, particularly in the chip industry. However, the high costs and R&D demands led to concentrated hubs, with TSMC and Samsung dominating manufacturing and the US leading in design, while China and Russia controlled key raw materials. The COVID-19 pandemic starkly exposed the vulnerabilities in this ecosystem, which were further amplified by geopolitical tensions and techno-nationalist policies. The unprecedented surge in chip demand underscored the EU's need for strategic autonomy during the "digital decade." The Russo-Ukrainian war heightened concerns about the sovereignty of the chip supply chain. In response, the EU initiated a series of security measures from 2020 to 2022, culminating in the EU Chips Act proposal on February 8, 2022, and its passage on September 21, 2023. This act, despite internal disagreements on more ambitious legislation, marked a unified response to these threats, shifting the EU's strategy from liberal globalization to techno-nationalism. This evolution reflects a broader policy shift: from neglecting the chip ecosystem (post-Cold War to 2013), to focusing on industrial competitiveness (2013-2018), to recognizing chips as critical to national and European security (2018-2023). The EU now views chip security as vital to its strategic autonomy, driven by recent geopolitical events and trends.

Keywords: European Union, collective securitisation, chip policy, globalisation, techno-nationalism

Table of contents

Chapter 1 – Introduction

1.1. A securitised chip ecosystem

Chips, also known as semiconductors or integrated circuits (ICs), were invented by Robert Noyce and Jack Kilby in 1958.[1] Over the past 66 years the semiconductor has transformed into an essential component of contemporary life. The global economy – and its vital sectors – have changed rapidly. In a time where chips are the modern day equivalent of gold,[2] critical raw materials (CRM) and their end product, semiconductors, are becoming increasingly essential worldwide since these materials are needed to manufacture chips. Chips,[3] subsequently, are the brains of almost every (electronic) device and machine – making microchip technology 'the world's most critical resource'.[4] Chips, like the steam engine for instance, are one of the few 'general purpose technologies' (GPTs),[5] breakthrough inventions that have enabled whole eras of economic growth and technological progress.[6] They are the prerequisite for all electronic technological innovation.[7] The chip market, illustratively, has grown from a mere $33 billion in 1987, to a whopping $433 billion in 2020.[8]

An international chip ecosystem can be discerned, one that is illustrative for the globalized economy that has surfaced after the end of the second world war. In this sense, distinguishable global value chains (GVC) and global supply chains concerning CRM and semiconductors have formed. These two terms are partially overlapping but do have slightly different meanings. With respect to chips, the term global value chain refers to the full range of activities involved in the design, production, and assembly, testing & packaging (ATP) across multiple countries of the semiconductors itself.[9] A global supply chain, then, has more to do with CRM and encompasses the network of entities and processes involved in sourcing raw materials, manufacturing components, and especially the way in which – and through what route(s) – these materials are then delivered to, for example, semiconductor manufacturers (or end-users) that are situated on another continent.

Microchips, and thus their constituting value and supply chains, have been labelled the world's most critical resource(s) by governments worldwide. Our future will be shaped by the outcome of the battle to control this industry.[10] Therefore, semiconductors are deemed crucial for the future and are progressively linked with national security by major powers. In this sense, a shift from globalisation to *techno-nationalism* is observable.[11] Techno-nationalism is an approach

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[1] Miller 2022, p. 13-17. For context: Noyce and Kilby were electrical engineers.
[2] See, for example, us-tmt-semiconductor-industry-outlook-2024v2.pdf, p.3. This report claims that the semiconductor industry has a projected global sales value of US$588 billion in 2024. This would be a 13% increase compared to 2023, and 2.5% higher than the record industry revenues of US$574 billion dating back from 2022.
[3] Also known as microchips or semiconductors.
[4] Miller 2022.
[5] GPTs are distinguished by their widespread use, intrinsic potential for technical advancements, and 'innovational complementarities', which lead to increasing returns-to-scale.
[6] EU Chips Act briefing (starting positions).pdf, p. 2.
[7] See (e.g.) Understanding the geopolitics of the microchip | International | EL PAÍS English (elpais.com), The Battle to Control Microchip Supplies Will Define the Twenty-First Century (jacobin.com) & Miller 2022, p. (….).
[8] Source: Statista, https://www.statista.com/statistics/266973/global-semiconductor-sales-since-1988/.
[9] Teer & Bertolini 2022, pp. 9-15.
[10] Miller 2022, p. 345-352.
[11] As the importance of access to and control over the distribution of modern technologies has become increasingly recognised in economic, military, and strategic contexts, there is a growing acknowledgment that a nation's

employed by states that underscores the significance of domestic high-tech industry competitiveness in bolstering national power. As the importance of access to and control over the distribution of modern technologies has become increasingly recognized in economic, military, and strategic contexts, some states aim to link their technological innovation and capabilities to their national security, economic prosperity, and social stability.[12] Hence, techno-nationalism. Because of the shift from globalisation to techno-nationalism, the chip ecosystem is becoming increasingly strained and hostile. Given the ubiquitous importance of chips, the increasingly strained global supply and value chains have made sure that securing a healthy market share regarding these materials is a priority for all nation states (notwithstanding other relevant actors) - and therefore on the agenda in policymaking worldwide.[13] In Europe, supply chains disruptions and chip shortages have contributed to an intensification of the debate surrounding the need for a European strategic autonomy. Thus, 'strategic autonomy' and 'technological sovereignty' have become pressing points on the agenda for many EU policymakers alike. The European Union, often labelled an economic powerhouse but disregarded as a serious geopolitical player,[14] has to deal with this (security) issue accordingly while its 'half-hearted' semiconductor policies have been subject to criticism.[15] At the core of this relentlessly developing *tech war*, the *securitisation of chips* seems to be the common denominator for virtually all states. The process of securitisation entails a process where an actor identifies a threat and, by doing so, justifies and calls for (exceptional) measures to address it.[16] As will be explained more extensively in the chapters that follow, major powers have been – and will be - *securitising* the chip ecosystem to justify certain measures and decisions in order to win interdependence within the sphere of the semiconductor and CRM equilibrium (and the overarching geopolitical struggle).[17]

This thesis, then, will operate at the nucleus of the two outlined, highly relevant and intriguing aspects of contemporary global (geo)politics: the former entails the pressing (security) issue of the increasingly strained chip ecosystem, while the latter concerns the EU's (collective) securitisation process - and the degree to which the European Union is able to be a securitising actor in itself.[18]

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technological innovation and capabilities are intricately tied to its national security, economic prosperity, and social stability. Techno-nationalism is the term that describes this linkage between technology and national security. See Van Manen et al. 2021, p. 1.for more context on the term.

[12] Van Manen et al. 2021, p. 1.

[13] As will be comprehensively outlined down below (of enkele voorbeelden noemen en basta?).

[14] It lacks geopolitical clout due to, for instance, the national veto power each of its member states enjoy. See Dabrowski 2024 for this example.

[15] See, for example, Poitiers & Weil 2021.

[16] See Buzan & Waever 2003, or for instance, Buzan et al. 1998 & Bigo 2005.

[17] See, for example, Teer & Bertolini 2022, p. 4.

[18] I.e.: to what extent does/did the EU enjoy agency in securitising the chip ecosystem, was is truly a driver of this process, or merely a vehicle in and through which the 27 member states were communicating and deciding upon this matter? Also on the political and social relevance: examining the EU's policies on semiconductors is crucial in today's geopolitical landscape, marked by conflicts such as the one between Russia-Ukraine. The EU seeks greater strategic autonomy, especially in the microchip sector. Understanding the securitisation process can help policymakers manage issues to ensure societal safety. Socially, this research addresses national and continental security and economic stability concerns amid China's rise and Russia's influence. As China dominates semiconductor manufacturing and the demand for critical raw materials grows, European policies offer a model for balancing economic cooperation with strategic independence. These findings can guide policymakers, businesses, and the public in managing resources in a complex global context.

1.2. Academic debate

This paragraph will set out the relevant academic debate concerning the subject introduced in the previous section.

Academic lacuna

Many papers and think tank reports have been published on the increasingly strained chip ecosystem. A vast majority of them is descriptive in nature through. Think tank reports by (e.g.) Ricart[19] and van Manen et al.[20] expound upon bilateral (mostly EU-China) and multilateral policy orientations for the EU to deal with chip shortages, supply chain disruptions and the increasingly protectionist measures employed by other states.[21] Poitiers and Weil have analysed whether the EU Chips Act was the right approach,[22] while Triolo, for example, covered the strategy with which Beijing has reacted to Washington's export controls on advanced chips.[23] Other texts by Teer and Bertolini or Park, for instance, seem to be more concerned with the implications of possible future scenarios, like a possible Chinese blockade of Taiwan, and how this would influence the EU's chip supply.[24] Lastly, Bobba (et al.) and Seric and Tong describe that the increased need for CRM and semiconductors has put a strain on global supply and value chains.[25] A common denominator among these texts is that they all recognise that the EU has securitised chip (at least to an extent). This securitisation by the EU and its subsequent member states (and other nations; such as the US and China), is interpreted and analysed as a fait accompli. While the aforementioned legislative, descriptive and advisory texts have a value of their own and should not be disregarded, they simply ignore how and why (the increasing scarcity abound in) the chip ecosystem got framed as a security threat in the first place. No research has, thus, been done on the securitisation process itself. Also, it leaves us with a rather superficial understanding of the EU's degree of (authoritative) agency with regards to European security governance, its strategy on the subject, and, more broadly speaking, international politics in general. This thesis, however, aims to explore the aforementioned academic lacuna in order to explain how and why the EU has securitised the chip ecosystem, covering new academic grounds in the process.

The EU's securitisation process

Securitisation theory was created to account for these how- and why questions concerning securitised subjects and sectors. It deals with the question of how (and why) a certain topic or issue is turned into a threat, and by which actor(s), justify certain measures through referring to a framed threat.[26] Securitisation theory was introduced by Ole Wæver in 1995. It was later expanded into a comprehensive theoretical framework by the Copenhagen School in their

[19] Real Instituto Elcano.
[20] The Hague Centre for Strategic Studies.
[21] See Ricart 2023, https://www.realinstitutoelcano.org/en/analyses/policy-orientations-on-eu-china-relations-in-semiconductors-an-outlook-on-bilateral-and-multilateral-agendas/ & van Manen et al. 2021.
[22] See Poitiers & Weil 2022.
[23] See Triolo 2024.
[24] See Teer & Bertolini 2022 & Park 2023 (HCSS).
[25] See Bobba et al. 2020 and Seric & Tong 2019.
[26] See, for instance, Balzacq 2011, p. 1-30.

seminal work 'Security: A New Framework for Analysis' in 1998, authored by Barry Buzan, Ole Wæver, and Jaap de Wilde.

While securitisation theory accounts for the process of threat construction, it usually analyses the framing of such a threat in a national context. However, this thesis aims to comprehensively map and analyse the securitisation process of an international organisation: the European Union. Trying to comprehend who and what caused the increasingly strained chip ecosystem to become a security issue for the EU is more complex than analysing the securitisation process of one nation state in particular, since the EU simultaneously has a supranational and intergovernmental character.[27] The complexity of analysing the EU's securitisation process also flows from the inherently different characteristics of one specific country compared to the EU, which consists of multiple EU institutions and is basically made up of its 27 member states that all have different security imperatives. This obviously complicates an analysis through securitisation theory because of the complex interplay between 27 different (security) interests and the European Commission (EC), European Council and European Parliament (EP), among other EU institutions. This rather intricate and problematic aspect of the securitisation process of the EU (and other international organisations) has therefore led Sperling and Webber to introduce their model of *collective securitisation*, which will be utilised to answer the central research question of this thesis.[28] Chapter three will account for the unique characteristics of the EU and introduce Sperling and Webber's analytical framework. Let us now first focus on scholarly contributions concerning (the EU's) collective securitisation.

Scholarly contributions on collective securitisation

Only a handful of studies have used the term collective securitisation to analyse how the EU reacts to security challenges and other threat constructions.[29] Sperling and Webber have, however, applied their model of collective securitisation to the EU's process of securitisation. Their article (published in 2019) was part of a special edition made up of nine articles – redacted by them together with Sonia Lucarelli – all dealing with the EU's collective securitisation and related security governance.[30] Of the aforementioned nine articles, six were case studies of the EU's collective securitisation process with regards to a certain security topic or sector. These case studies investigated terrorism,[31] cyberspace,[32] the EU free-border area,[33] EU energy policy,[34] 'health security' cooperation[35] and climate change.[36] The special editions main argument is that the EU is very capable of functioning as a securitising actor in itself, and that it can assume a high degree of authoritative agency in this regard, provided that the member

[27] Compare, for instance, the studies that do research on the EU's collective securitisation process concerning a certain issue (such as: Dupont 2019, Ceccorulli 2019 or Christou 2019), with those that focus on the securitisation process of one state.
[28] See Sperling & Webber 2016 (introduction of the term) and Sperling & Webber 2019 (collective securitisation conceptualised into a six-stage model for the first time).
[29] This conclusion flows from the author's extensive literature review and is also underscored by Chen and Gao's paper. See Chen & Gao 2021, p. 199.
[30] Lucarelli et al. 2020.
[31] Kaunert & Leonard 2019.
[32] Christou 2019.
[33] Ceccorulli 2019.
[34] Hofmann & Staeger 2019.
[35] Bengtsson & Rhinard 2019.
[36] Dupont 2019.

states are unified to an extent. The prerequisite for this form of governance is that the EU has legal and political authority concerning an issue and, subsequently, has the functional competences required to act as a securitising actor on a certain issue.[37] This is all very context-dependent obviously. Besides, while the EU can be the driving force in the securitisation of terrorism for instance,[38] it can simultaneously have no authoritative agency with regards to the securitisation of European healthcare at all.[39]

Aside from the discussed special edition, collective securitisation has been rarely applied in research dealing with the question how the EU turns certain issues into (existential) security threats - and the policy results that flow from such a process.[40] Chen & Gao's study is worth mentioning though, which dealt with the EU's collective securitisation moves towards China.[41] They concluded that diverging threat perceptions between EU member states have hampered the implementation of the EU's collective policy outputs. Another relevant study was published by Hyttinen & Heinikoski. It analysed the EU's collective securitisation of terrorism-related money laundering, and Finnish harmonisation of subsequent policy outputs.[42] The study concluded that the use of terrorism-focused securitisation was problematic in the EU because it 'challenged the traditional understanding of the objects of legal protection as the basis of criminalization'.

Other studies have analysed the collective securitisation of other international organisations than the EU. Such contributions have analysed entities like the World Health Organization,[43] NATO,[44] and the EU[45] as independent actors in the context of securitisation,. They often simply shift the analytical focus from one unaggregated actor (the state) to another (an international organization). However, Huysmans' work[46] on EU securitisation is a notable exception. It explores the interactions between member states and EU institutions, the simultaneous security discussions and practices at both European and national levels, and the distinctive supranational authority the EU possesses in security-related matters.

To summarise, then, merely assuming the microchip sector to be securitised (by the EU) is problematic. Not only does such an assumption completely ignore the way in which, why and by which actor(s) this issue has been transformed into a security threat. It also does not account for the manner in which this issue has been turned into a collective threat to the European Union, and how such a framing of reality is – and can be – utilised to warrant different forms and types of European strategy on the topic. The latter process is quite political, and therefore substantiates an extremely intriguing subject for scholarly research.[47] Moreover, a problematic analytical gap is to be filled by this research when it concerns the debate on the EU's collective securitisation. Namely, the degree to which the EU is an authoritative actor of securitisation in the case of the chip ecosystem, remains to be analysed. This research aims to fill these analytical

[37] Sperling & Webber 2019, p. 250-253.
[38] See Kaunert & Leonard 2019.
[39] See Bengtsson & Rhinard 2019.
[40] This scarcity in research on the EU's collective securitisation is based on extensive research by the author. However, it is also stated, and thereby verified, by (e.g.) Chen & Gao 2021, p. 199.
[41] See Chen & Gao 2021.
[42] See Hyttinen & Heinikoski 2019.
[43] Hanrieder and Kreuder-Sonnen 2014.
[44] Schlag 2016.
[45] Carrapico 2014 & Cross 2017.
[46] Huysmans 2000 & 2006.
[47] See, for example, Hagmann 2014, p. 2.

gaps. This study will therefore offer a comprehensive analysis of the evolution of European strategy on the chip ecosystem. Subsequently, it aims to serve as a case study in the securitisation process of the EU, an incredibly relevant spectrum of research. Thus, the introduction of the topic, the subsequent academic debate and, consequentially, the problem (i.e. analytical gaps), give rise to the following central research question:

1.3. Central research question

How can the European Union's shift in chip policy (from globalisation to techno-nationalism) be explained through collective securitisation (2013-2023)?

This research question brings forth the following analytical sub questions, to be answered in the main body of research. First off, what was the EU's status quo security discourse and practice (i.e. 'strategic vocabulary', 'agenda' and 'practice') concerning the chip ecosystem before its securitisation (paragraph 4.1)? Second, what is, or what are, the precipitating event(s) in the EU's securitisation process concerning the chip ecosystem (paragraph 4.2)? Third, what can be discerned from the process of recursive interaction and the subsequent policy outputs (paragraph 4.3)? And lastly, what was the new status quo concerning the chip ecosystem after its successful securitisation by the EU (paragraph 4.4)?

1.4. Structure

This study will mostly cover the period 2013-2024, while the emphasis will be on the years 2018-2024. From 2018 onwards, namely (as paragraph 4.2 will argue), the collective securitisation started to take off, including the four precipitating trends, securitising moves, audience response, subsequent policy outputs and new status quo security discourse and practice. Sperling and Webber's model of collective securitisation also accounts for the status quo security discourse and practice before securitisation, however. This study will therefore also cover this discourse and practice of the period before 2018, from 2013 onwards. The year 2013, namely, marked the first time the EU put out specific chip-related policy outputs outside of its normal economic trade governance, through the EC's New European Industrial Strategy for Electronics (NEISE) of May 2013.

This thesis will, furthermore, contain the following chapters. This (first) chapter mostly entails the introduction and academic debate. Hereafter, the second chapter covers the geoeconomic and geopolitical context of the EU's collective securitisation of the chip ecosystem. Chapter three will then exposit the analytical and, importantly, methodological framework for the main analysis that will subsequently be performed in chapter four. Finally, the conclusion and closing deliberations of this thesis will be served up by chapter five.

Chapter 2 - Geopolitical and geoeconomic context

In order to gain a comprehensive understanding of the chip ecosystem and the reasons the policies pertaining to it have shifted from emphasizing globalisation to being based on techno-nationalism, it is essential to be aware of the overarching geopolitical and geoeconomic[48] context pertaining to the chip ecosystem. This chapter therefore aims to provide this geopolitical and geoeconomic context to the extent it is explicitly relevant concerning the EU's collective securitisation of the chip ecosystem.[49]

2.1. Thucydides' trap and the EU's role

The western liberal world order, formed after the second world war, is eroding. The foundations of globalisation have been gradually but structurally undermined since the 2010s - with 2012 being the most mentioned year of origin - by the hardening competition among major powers.[50] The aforementioned securitisation of ICs should be viewed in the wider context of this increasingly hostile global geopolitical landscape. It is a symptom of, and has evolved in parallel with, these tensions. More specifically, a geopolitical landscape that centres around a Sino-American struggle for hegemony. It pits the *challenger* China against the *champion* (for now) America. The United States, namely, have been the world's number one in terms of economic, military and political might since the second world war.[51] However, China is truly developing into its main adversary in this battle for global hegemony.[52] In this context, renowned Harvard scholar Graham Allison has popularised the (ancient old) term *Thucydides trap*[53] to illustrate the recent Sino-American power struggle.[54] It describes an apparent tendency towards war when an emerging power threatens to displace an existing great power as a regional or international hegemon. China's ambitions, meanwhile, are clear. Chinese president Xi Jinping aims to have overtaken the US as the world's superpower by 2049, while he has set an intermediate goal of being the world's technological leader in 2035.[55] Alarmingly, China was projected to overtake the US in 2029 in terms of gross domestic product (GDP)[56] - but issues of governance, Covid, property market turmoil and rising debt have pushed this back to 2033.[57]

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[48] The term geopolitics commonly refers to the study of the impact of geographical factors on political decisions and IR in general, while 'geoeconomics' focuses more on employing economic policy to safeguard national interests and ensure adequate geopolitical results.

[49] I.e.: insofar as it will help answering the central research question.

[50] See, for instance, Teer & Bertolini 2022, p. 36-56 or (more specifically on Sino-American tensions: CFR Timeline 2024.

[51] See Cox 1981, for example. Cox gives the main reasons for the rise of the so-called *Pax Americana*, along with some relevant background information. For more context, see also CFR 2023, How Did the United States Become a Global Power? | CFR Education.

[52] See, for instance, De Wijk 2023.

[53] The term originates from a passage by the ancient Athenian historian and military general Thucydides in his work *History of the Peloponnesian War*. He suggested that "*it was the rise of Athens and the fear that this instilled in Sparta that made war inevitable*."

[54] See Allison 2017.

[55] Xi Jinping, 'Secure a decisive victory in building a moderately prosperous society in all respects and strive for the great success of socialism with Chinese characteristics for a new era', presented on the 19th national congress of the communist party in China, 18 October 2017, www.xinhuanet.com.

[56] GDP is the monetary value (in USD) of all goods and services within a country during a specific period – usually a year. GDP provides an economic 'screenshot' of a state which is then used to estimate the size of an economy and its subsequent growth rate compared to previous years (or periods).

[57] See Magnus 2021; not that this purported difference of four years makes a tremendous difference of course.

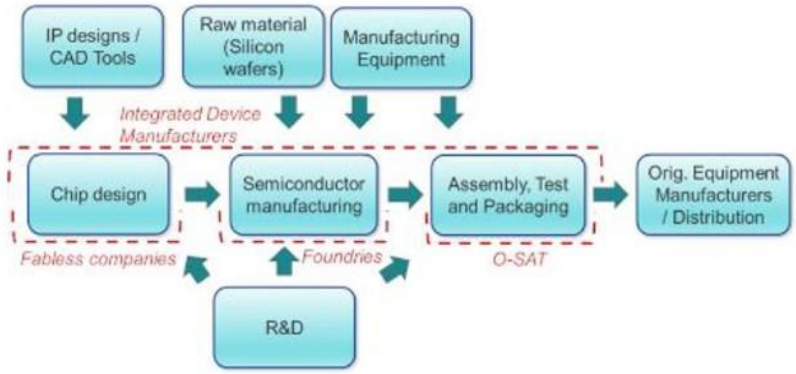
The ensuing 'trade war'[58] and 'technology war'[59] between the US and China should be seen as a manifestation of the Sino-American geopolitical competition,[60] which unmistakenly influences the rest of the world – including the EU, as the following chapters will show. Thus, geopolitical competition among the two major powers has intensified greatly since 2012.[61] This does not, however, only include the US and China. Other 'main players'[62] such as Russia, India, France and Germany are starting to see and act upon these ever evolving geopolitical tensions as well, creating a rather escalating snowball effect in world politics. Couple this outlined unremitting geopolitical struggle with the fact that chips and the materials and technologies related to it have been labelled the world's most critical resource(s) by governments worldwide and the highly relevant background for the increasingly strained chip ecosystem becomes crystal clear. The EU, often touted as a big economic power but lacking geopolitical clout, has to determine its course in this changing geopolitical landscape.

This paragraph has set out the relevant geopolitical context for the main analysis of chapter four. It is especially essential in understanding the overarching context with regards to the increasingly hostile and politicised global chip ecosystem - which constitutes one of the two longer-term precipitating trends that will be discussed in paragraph 4.2.[63]

2.2. Mapping the chip ecosystem

The aforementioned global value chain pertaining to the chip ecosystem has been rather abstract so far. *Figure 1* down below therefore aims to map and clarify all the parts that constitute it.

Figure 1 – The semiconductor value chain



Source: European Commission, SWD(2021)352. CAD: computer assisted design. IP designs: intellectual property designs (reusable components designs or 'IP blocks'). O-SAT: outsourced assembly and test firms.

Figure 1 - The semiconductor value chain.

[58] Since January 2018, an economic conflict has been unfolding between China and the United States, which began when U.S. President Donald Trump implemented tariffs and other trade barriers against China. The goal was to compel China to address what the U.S. perceives as longstanding unfair trade practices and intellectual property theft (of, among others, chip designs etc).
[59] Chapter four will deal with this aspect of the power struggle more extensively.
[60] Flint & Xiaotong 2019, p. 322.
[61] De Wijk 2023, pp. 11-35.
[62] In terms of economic, military and political might.
[63] See paragraph 4.2.

The semiconductor GVC is highly specialized, concentrated, and capital-intensive.[64] Fabrication, a critical production stage, demands significant expertise and billions in capital expenditure, creating substantial barriers for new firms to entry. Only Samsung and TSMC residing in respectively South Korea and Taiwan can produce the most advanced chips (7nm and below),[65] while the United States leads in semiconductor design. The US controls critical intellectual property, enabling it to impose (secondary) sanctions, but views the dominance of non-US companies in fabrication as a strategic vulnerability. Consequently, the US aims to increase its share of fabrication. Although China is the largest producer of electronic hardware, it does not manufacture the chips needed for high-end ICT goods domestically, making Chinese companies reliant on imports and vulnerable to American sanctions. Therefore, a key priority of China's industrial strategy is to become the world's leading chip producer.[66] See *Figure 2* down below for an example of the fragmented and clustered chip ecosystem.

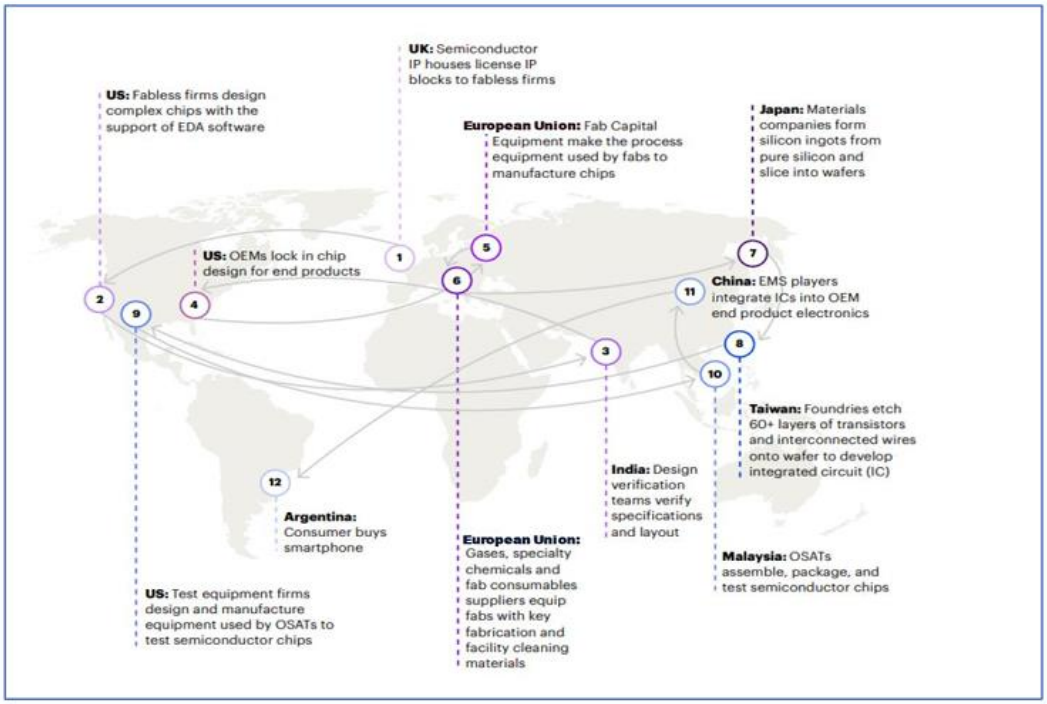


Figure 2 Illustrative example: Global Semiconductor Supply Chain for Smartphone (Source: Accenture. 2022)

The EU, then, produced less than 10% of global chips as of June 2023.[67] It has also faltered in securing an appropriate market share in CRM, which are the basic component of most chips. Russia and especially China are extremely dominant concerning the global CRM mining and production market. In 2020 the two controlled more than 70% of global cobalt, gallium, germanium and silicon production (i.e.: mining) - materials that are all used in the production of semiconductors. Although the supply of critical raw materials (CRMs) from or via China to

[64] EU Chips Act briefing (starting positions).pdf, p. 3.
[65] In the fourth quarter of 2023, Taiwan Semiconductor Manufacturing Company (TSMC) recorded a whopping market share of 61.2 percent in the global chip foundry market, while Samsung recorded a market share of 11.3 percent. See Top semiconductor foundries market share 2023 | Statista.
[66] Poitiers & Weil 2021, p. 2
[67] EU Chips Act briefing (starting positions).pdf, p. 3.

Europe has been maintained so far, the deteriorating relationship between China and technologically advanced democracies poses significant risks of 'reaching breaking point' within this decade.[68]

[68] Teer & Bertolini 2022, p. 4, 21, 48. The cobalt supply, for instance, has remained stable despite increased political instability in the Democratic Republic of Congo (DRC) and other Southern African nations, as well as the dominance of Chinese state-owned companies in refining and controlling mines in the DRC. The political instability in a state like the DRC or rather between the EU and China form two of the most pressing European concerns with regards to global supply chain disruptions of CRM.

Chapter 3 - Analytical Framework: Theory & Methodology

This chapter will set out the theoretical and methodological framework. Sperling and Webber's theoretical model of collective securitisation will be outlined in paragraph 3.1, which also takes into account the unique characteristics of the EU that complicate the analysis of its securitisation process compared to that of a single nation state. The second paragraph of this chapter will then put forth the related methodological framework, including the (types of) primary sources to be used in the main analysis of chapter four.

3.1. Towards Sperling and Webber's model of (the EU's) collective securitisation

Now it is time to exposit Sperling and Webber's analytical model of collective securitisation that is to be utilised in the main analysis of chapter four. As mentioned above, Sperling & Webber's model contains six stages and will form the theoretical (and chronological) basis for the analysis. Collective securitisation requires that the involved actor represents the interests of other empowered actors, each with their own specific security concerns. This involves consolidating these diverse security considerations and providing them with an authoritative expression, and is typically carried out by formal international organisations.[69] It includes both thin and thick variants.[70] Haacke and Williams describe that the former occurs when a state, or a group of states, present(s) its security concerns to an international organization. This leads to other member states sympathizing with the issue, after which they empower the international organization to address the security matter publicly and implement practical policy measures accordingly.[71] With this form of collective securitisation, there is no assumption of true agency or autonomy by the international organisation, only surface-level actorness.[72] It functions as a bargaining site. With regards to the thick variant of collective securitization, the concept of actorness is still tied to its primary role of aggregation, yet the international organization holds a degree of independence and authority distinct from its member states. In essence, it can be viewed as a securitising actor with discernible (or: authoritative) agency.

The first stage, then, of Sperling and Webber's model deals with the ruling security discourse and practice (status quo) concerning the chip ecosystem before it was collectively securitised by the EU (in the case of this study). The second stage involves a single precipitating event, or a series of galvanising events, substantial enough to disrupt the existing security status quo discourse and practice of said ecosystem. Such a precipitating event causes a perception among both the securitising actor (EU) and the audience (member states) that the 'qualitative' character of the internal or external security environment has significantly deteriorated.[73] This perception can then cause the event(s) to be perceived as a security threat, laying the basis for the securitising move. In the context of this study it is also essential to understand that a precipitating event can also be understood as a long term trend or dynamic that slowly but surely alters the perception of either the audience or the securitising agent – or both. A fine example of such a precipitating trend is the increasingly assertiveness Chinese foreign policy towards

[69] Sperling & Webber 2019, p. 236.
[70] Idem, p. 236-238.
[71] Haacke & Williams 2008, p. 785-787.
[72] Sperling & Webber 2019, p. 236.
[73] Chen & Gao 2021, p. 198.

the EU and other states, which altered the EU's perception of China leading to (multiple) securitising moves by EU institutions.[74]

The third and fourth stages, subsequently, are intertwined. The former entails the securitising move(s). Usually the securitising move is a speech act (including the underlying rhetorical framework) that frames the precipitating event(s) as a (security) threat. Moreover, multiple securitising moves can intertwine with multiple policy frames (i.e. multiple speech acts can aim to securitise the same sector through invoking multiple policy frames, such as military, economic or political security).[75] Partly from this flows the fact that (collective) securitisation can be applied to 'various referent objects' that are all intertwined.[76] EC proposals for new legislation are, as Hyttinen & Heinikoski have illustrated, excellent (primary) source material for extracting securitising moves.[77] The main (securitising) actors in our case are the EC, EP and the Council. Stakeholders can also have a discernible role in the EU's collective securitisation process, which is the case in this study as well (e.g.: ESIA, ASD and Bruegel). The latter (fourth stage), then, is all about the audience response to the securitising move. As explained above, the term audience – within the context of this study at least – mostly points to state representatives of the 27 member states.[78] So, in Sperling and Webber's version of collective securitisation, the securitising actor is taken to be a supranational EU, while the audience is mainly understood as being composed of the member states. But the distinction between securitising actor and audience is frequently blurred,[79] which is also the case with the chip ecosystem.[80] The response of the audience can be to either accept, empower, amend, reject, or even initiate the securitising speech act.[81] The member states can also have rather diverging threat perception – or a shared threat perception but differing opinions on the measures to be taken.[82] The audience thus has a bigger and more multi-faceted role than in the Copenhagen School's version of securitisation theory that mostly deals with the securitisation process of (single) nation states. Recursive interaction thus refers to the repeated bargaining processes and substantive exchanges between a security actor (the organisation) and its audience (the organisation's constituent members), even though the distinction between them is often blurred in the case of the EU. These interactions involve discussions about the nature and form of threats, as well as the appropriate policy responses to mitigate them. The audience adopts a specific role and significance; it is not external to the securitizing actor but an integral part of it.[83] Also, difference in opinion between the securitising actors (EU institutions) and audience (mostly EU member states) can prevent the EU's translation of securitising moves into concrete policy outputs.[84]

The fifth stage entails the phase in which consequent policies are formulated and subsequently carried out by the relevant authorities after the securitising move by the securitising agent that

[74] See for this example: Chen & Gao 2021, p. 201-202.
[75] As is the case in Chen & Gao's study on the EU's collective securitisation - across multiple policy domains - of China as an existential threat; see Chen & Gao 2021.
[76] Chen & Gao 2021.
[77] Hyttinen & Heinikoski 2019, p. 824-827.
[78] Sperling & Webber 2019, p. 242.
[79] See Bengtsson & Rhinard 2019, p. 357.
[80] The Council (of the EU), for instance, is an institution of the EU made up by representatives of the member states, therefore creating an overlap between actor and audience in the sphere of the EU's collective securitisation.
[81] See Sperling & Webber 2017, p. 26 and Sperling & Webber 2019, p. 242-243.
[82] Like in the studies of Chen & Gao 2021, Hyttinen & Heinikoski 2019 or that of Christou 2019.
[83] Sperling and Webber 2017, p. 26.
[84] Chen & Gao 2021, p. 207.

has rendered an issue a threat. Successful securitisation necessitates a change in the policy actions of the relevant actor (in the case of this thesis: the EU). These actions do not always have to be emergent in nature. The logic of securitisation is evident when 'the action taken is justified by the securitizing actor with reference to the threat identified and declared in the securitising move'.[85] A shared threat perception remains the crucial basis for such a translation. Importantly, securitisation theory provides two distinct approaches to the (political) choice by which a topic is selected for a securitising move and subsequently framed to the audience: the politics of exception and the politics of routine. The former, associated with the Copenhagen School, focuses on existential threats and survival.[86] The politics of routine focuses more on managing second-order risks through routine security measures, emphasizing efficiency and risk mitigation over emergency responses.[87] Thus, the traditional notion of a speech act initiating securitization is replaced by a technocratic focus on risk management. This thesis considers – in line with Sperling and Webber - that securitising policies need not have emergency characteristics: the politics of exception and routine may well interact and coexist, as is the case in this study.[88] For the EU, namely, dealing with crises is partly institutionalised, while security practices often routinise the subsequent policy outputs. This duality concerning the politics of exception and routine, moreover, is especially attributable to international organisations.[89] Here, policies created in response to securitisation are embedded in the organization's modus operandi, rather than being treated as exceptions. Interestingly, concrete policy outputs discussed in this fifth stage do not need to be strictly EU-centred, but can also be new or adjusted national policies to harmonise national law with the new policy outputs on EU level.[90] Lastly, while major precipitating event(s) can prompt the EU to urgently reconsider the growing threat and review its approach with regards to a certain issue or topic, new policy initiatives can also develop gradually, rather than as a result of emergency actions outside the EU's usual political processes, as is the case with the two precipitating trends to be discussed in paragraph 4.2. Furthermore, the discourse around threat and risk can persist beyond the initial policy responses, running parallel to subsequent actions and initiatives.[91]

Lastly, the sixth stage describes the consolidation of the new status quo security discourse. The main indicators for such a new, or altered, status quo on a certain issue are the related policy agenda, strategic vocabulary and discourse and practices.[92] In Sperling & Webber's model, stage one and six (old and new status quo security discourse and practice) are in the same circle because the 'new' status quo automatically becomes the 'old' status quo that serves as the starting point for another (new) cycle of collective securitisation in the form of a benchmark.[93]

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[85] Floyd 2016, p. 679.
[86] This perspective is particularly relevant when external shocks disrupt the routines and certainties that provide actors with a sense of stability and identity. Although socially constructed, this process is grounded in real events.
[87] See Corey 2012, p. 245 & Huysmans 2011, p. 377-378. The politics of routine is about managing conditions that could potentially lead to harm. Security efforts here are cumulative (not crisis-based), justified on grounds of efficiency and often handled by professionals without public involvement.
[88] See Kaunert & Leonard 2019, p. 263.
[89] Such as the EU, NATO or UN.
[90] See Hyttinen & Heinikoski 2019, p. 827-829. Hyttinen & Heinikoski, namely, specifically analysed new Finnish legislation in order to analyse how, and to what extent, an EU Directive on terrorism related money laundering was incorporated by Finland in its national system of criminal law in order to look into harmonisation following collective securitisation of the issue.
[91] Christou 2019, p. 278-295.
[92] Sperling & Webber 2019, p. 247.
[93] See Hyttinen & Heinikoski 2019, p. 821 and Sperling & Webber, p. 246-247.

'Successful' collective securitisation, then, occurs when the securitizing actor gains the acceptance of the audience, leading to the adoption of (proposed) policies. Eventually, this results in a new status quo that becomes normalised through the integration of new strategic vocabulary, policy agendas, and practices. In this regard, measures that result from securitisation can simply encompass a change in behavior, and do not have to be particularly extraordinary but usually entail relatively substantial changes in discourse and practices.[94] Collective securitisation should thus be seen as a causal process, and its success hinges on the perception of the EU itself, in the case of this study. See *figure 3* down below for an illustration of Sperling & Webber's model of collective securitisation, containing all the above discussed stages.

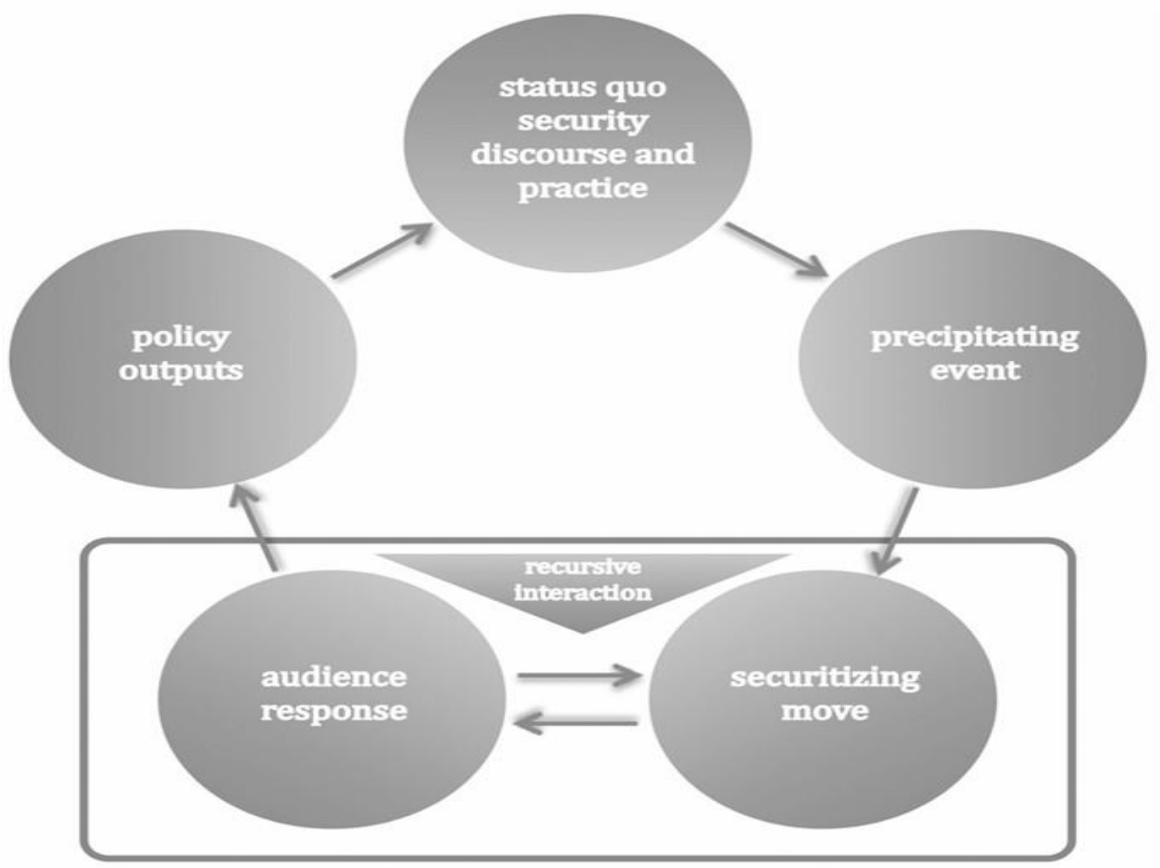

Figure 3 – Sperling & Webber's model of (the EU's) collective securitisation. Reproduced from: Sperling & Webber 2019, p. 246, fig. 1.

3.2. Methodological Framework

Theoretical approach has thus been conceptualised by outlining Sperling & Webber's applicable model of collective securitisation in paragraph 3.1. The methodological approach and its subsequent framework will now be set out by this paragraph. The six stages of collective securitisation as outlined above will be set out and analysed in the order that *figure 1* illustrates, (the old) status quo security discourse and practice being the first stage. Chapter four will, thus, analyse all six stages put forth in the previous paragraph. So, what types of primary sources

[94] Floyd 2016, p. 684-692. See also Sperling & Webber 2016.

will it use for this analysis? This thesis aims to fill the previously identified analytical gap[95] by examining the EU's securitisation process concerning the chip ecosystem. The study will specifically employ the method of content analysis, utilising various types of primary sources such as (public) declarations by EU officials and officials of member states, speeches, policy proposals, debates on these proposals and passed regulation official announcements and debates from EU institutions, diverse policy papers, and media coverage related to the chip ecosystem. Additionally, secondary sources, including think tank policy reports and scholarly publications, are occasionally incorporated to provide further depth and alternative perspectives to the analysis. Many relevant statements and speeches from important EU officials like Josep Borrell,[96] Industry Commissioner Bréton and Competition Commissioner Verstager will also be sifted through during the period 2013-2023 (mainly 2018-2023), in order to extract their authoritative opinions as EU-officials (and representatives of their respective member states).

To see what was the EU's status quo on chips before securitisation this study will search for key policy documents, strategies and public statements and speeches by (EU) officials to discover what the EU made of the (security of the) chip ecosystem before the supply chain disruptions and chip shortages of 2020-2024. Also, in this sense, all of the annual EC President State of the Union (SOTEU) speeches will be analysed (since its inception in 2010) in order to discover what was on the agenda for the EC and EU. These annual speeches, namely, cover the previous and coming year, and exposit the main themes that the EU is dealing with. Interestingly, chips were named in a SOTEU for the first time in 2021. The EC's New Industrial Strategy of 2013 will serve as starting point for this analysis.

The precipitating events will then be sought through a (secondary) literature review and through thorough review of the key debates, statements, policy proposals of the EP, EC, and the Council from 2018 onwards. The author will look for references to threats or key security challenges to the chip ecosystem. These precipitating events will initiate one or multiple securitising moves. The underlying speech acts will be sought from published policy proposals, reports, papers, records of debates and issued declarations by the EC, the Council, and the EP, since these are the EU's lawmaking body's. It also considers informal lobbying (where data is available) and public statements and declarations by politicians and EU officials. The author will mainly look for securitising moves in and around the EC's official policy proposal concerning the EU Chips Act, since this seems to be the result of a period of increasing threat perception (presumably caused by the supply chains disruptions thanks to COVID-19). This research design enables this study to analyse the securitising moves and the proposed policy outputs in a comprehensive manner. The subsequent audience response will primarily be sought through votes on the proposed policies, but also through debates between the EC, EP and the Council. Moreover, key amendments to the proposal will have to be traced to their originators in order to deduce the reaction of the originator. For instance, an amending audience response by the EP can be deduced from a significant change in the tone or scope of the policy proposal thanks to a sent in statement by the EP to the proposing EC. The new status quo security discourse must primarily be uncovered through searching for changes and new routines in terms of newly integrated strategic vocabulary, policy agendas, and practices in published strategies and policy outputs. The specific primary (and secondary) sources that chapter four uses for its analysis can

[95] See chapter one.
[96] High Representative of the European Union for Foreign Affairs and Security Policy / Vice-President of the European Commission.

be easily found in *Annex A*, while they are also referenced in the related footnotes and subsequent bibliography.

A possible disadvantage of the chosen (types of) primary sources, is that they do not include the archival sources so beloved by historians. Archival sources, however, have no part in this thesis. This has two crystal clear reasons. First of all, this research – as mentioned – covers the period 2013-2024. Logically, archives have not been declassified concerning such a recent period. Secondly, while it would have provided more insight into the considerations of the EU officials and policymakers alike, collective securitisation is an explicitly public process. It is not done in secret meetings or private, one-on-one phone calls. It is a process that centres around the relationship between the international organisation and its member states. Archival sources are therefore irrelevant in the context of this study.

Chapter 4 - The EU's collective securitisation of the chip ecosystem

This chapter will analyse the shift in the EU's perception and subsequent policy outputs with regards to the chip ecosystem through the model of collective securitisation, outlined in the previous chapter. It will do so through analysing how chips got moved from the sphere of a liberal, globalised and interdependent market approach to an increasingly techno-nationalist and economic security-based stance, while simultaneously uncovering the specific (rhetorical and institutional) mechanisms behind the move. The analysis of this chapter will also pertain to the EU's degree of authoritative agency in the process to determine whether it was a driver of EU-wide securitisation (thick collective securitisation), or just as a bargaining site between its members and a vehicle for communicating the agreed upon policies (thin collective securitisation).

4.1. The EU's status quo security discourse and practice concerning the chip ecosystem (before 2018)

As set out in paragraph 3.2, the first analytical stage in the process of collective securitisation concerns the status quo security discourse and practice (before securitisation). This paragraph will therefore analyse this EU-wide status quo specified on the chip ecosystem up to the year 2018.[97]

As mentioned by chapter one, chips have been around since 1958. Were they always high on the policy agenda and linked to geopolitics and national security like in 2024? The answer is no. For years a liberal market approach based on interdependency,[98] cost efficiency[99] and globalisation has been the modus operandi for the EU (and the rest of the (western) world). It is in this context that the chip ecosystem evolved, giving birth to the aforementioned global supply and value chains. As long as there are no military conflicts or festering geopolitical tensions, global supply and value chains are indeed very cost-efficient while they also ameliorate political relations, foster economic interdependence and support continuous technological innovation.[100] For a long time, these beneficial aspects of such a fragmented production line and scattered knowledge of a technology so important and complex prevailed over protectionist arguments for national self-sufficiency.

A relative shift in discourse and subsequent policy came in May 2013 when the EC proposed the 'New European Industrial Strategy for Electronics' (NEISE).[101] The proposal entailed a campaign focused on coordinated public investments in micro- and nano-electronics, such as semiconductors and computer chips with the goal of boosting Europe's advanced IC manufacturing industry. This marked the first time the EC had an interest in industrial chip policy.[102] EC Vice President Neelie Kroes, in her speech about the proposal, stated the proposal

[97] As the following paragraph will argue, the year 2018 is when the precipitating events start to gain traction. The period up to 2018 therefore constitutes the 'old' status quo security discourse and practice.
[98] In order to mitigate or prevent future conflicts, for instance.
[99] It is, for example, cheaper to manufacture chips in Taiwan or South Korea than in the US or the EU, mainly because of lower labour costs.
[100] See Donnelly 2023, p. 130-132, 135-136 and Teer & Bertolini, p. 5.
[101] European Commission 2013, 'Commission proposes New European Industrial Strategy for Electronics', May 23, 2013, https://ec.europa.eu/commission/presscorner/detail/en/IP_13_455.
[102] Donnelly 2023, p. 132.

aimed to 'double our chip production to around 20% of global production'. For reference, the EU's market share in global IC production was around 10% in 2013.[103] The proposal, to this end, aimed to mobilise €100 billion in investments from 2013 to 2020. However, the EC's press release did not mention terms like national security or strategic autonomy. Interestingly, it even stated successful implementation of the strategy would ensure 'An expanded supply chain and eco-system'.[104] Those terms are, as the rest of this chapter shows, expressly absent from policy documents and EU-official statements in the 2020s. The NEISE also identified microelectronics as one of the six Key Enabling Technologies (KET), crucial for future industrial development. Due to its limited independent resources and lack of taxation authority to offer subsidies, the EU primarily tried to support its chip ecosystem by permitting national governments to grant state aid, which would otherwise be prohibited. The EC established criteria to permit such state aid within the single market through introducing Important Projects of Common European Interest, in 2014.[105] IPCEI enabled member states to augment private funding for transnational projects in strategically important sectors for the EU. In 2018, microelectronics was designated as one of these eligible sectors. The IPCEI initiative was coupled with the strategy for a Digital Single Market (DSM). The DSM's liberal focus, however, downplayed the EU security community's longstanding arguments about the urgent and beneficial need for investment in independent production capacity, infrastructure, and R&D, especially given the dual civilian and military applications of most technologies. Already in 2009, the European Union Institute for Security Studies asserted that technology transfers from the EU to China should be evaluated in terms of the interconnectedness of technology, economic power, and security.[106]

Besides, in 2013, the EU Council called for a focus on enhancing domestic technological capabilities through the European Defence Technological and Industrial Base, a call that had to be reiterated in 2015. Later, in 2018, the EC approved a joint research and development initiative by Italy, Germany, the UK and France, for microelectronics by permitting state aid.[107] However, efforts to promote chip development continued to be associated with broader economic and technological capacity. At the same time these new initiatives and marginal shift in discourse point to a discernible, gradual increase in attention to chips and policies related to it.

Thus, integrated circuits, and the CRM needed to manufacture them, have been subjected to increasing attention by EU policy makers in the 2010s. Before 2018, however, no evidence indicates a (drastic) shift in perception of the EU or its member states in the sense that it did not see certain external events or nation states to be a threat or key security challenge towards the chip ecosystem – or did any of these actors initiate shifts in policy for other (pressing) reasons. Neither did it perceive an internal crisis in any sense.

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[103]European Commission 2013, 'Commission proposes New European Industrial Strategy for Electronics', May 23, 2013, https://ec.europa.eu/commission/presscorner/detail/en/IP_13_455., p. 1.

[104] European Commission 2013, 'Commission proposes New European Industrial Strategy for Electronics', May 23, 2013, https://ec.europa.eu/commission/presscorner/detail/en/IP_13_455., p. 2.

[105] European Commission 2014, European Commission, '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' , 2014/C 188/02, *Official Journal of the European Union*.

[106] See Stumbaum 2009.

[107] European Commission 2018b, 'State aid: Commission approves plan by France, Germany, Italy and the UK to give €1.75 billion public support to joint research and innovation project in microelectronics', December 18, 2018, State aid: Commission approves support for joint research and innovation project in microelectronics (europa.eu).

4.2. Multiple precipitating events (2018 – 2022)

The second stage of collective securitisation entails a precipitating event or a series of cascading events 'of gravity sufficient to disrupt this status quo and prompt a perception by the securitising actor (and its audience) that the qualitative character of the internal or external security environment has worsened'.[108] This paragraph argues that there is no single precipitating event (or 'big bang'), but rather an intricated mixture of four partially overlapping and inter-related precipitating events in the form of two developing trends (increasingly geopolitical chip ecosystem and an exponential European increase in demand for chips), and two perception-altering shocks (the COVID-19 pandemic and the Russo-Ukrainian war) that altered the EU's perception of (the security of) the chip ecosystem.

The first developing trend to alter the perception of the EU with regards to (the security of) the chip ecosystem is the global (and EU-wide) exponential rise in demand for chips. The semiconductor value in electronic systems soared to an unprecedented 33% in 2021, up from 26% in 2010 and 22.5% in 2000. Modern smartphones now utilise approximately 160 different chips, while hybrid electric vehicles can contain up to 3,500.[109] Within this context, an EC staff working document has noted that virtually all sectors are increasingly reliant on semiconductors for their 'competitive edge'.[110] Besides this general (developmental) growth in demand, need for semiconductors and related CRM has also grown significantly on a global scale due to the aim (and need) of transitioning to 'greener economies', which are heavily reliant on (rare earth) metals which will be replacing fossil fuels like coal, oil and natural gas.[111] Besides, chips are needed in solar panels, EV-batteries and a range of other 'green' alternatives. A drastic impact can also be attributed to the COVID-19 pandemic, which has ensured an unprecedented rise in demand for ICs. The virus proved to be the catalyst for an unprecedented digital transformation across global sectors and services.[112] Demand for chips logically skyrocketed due to this metamorphosis. *Figure 4* succinctly sets out the explained growth in demand in recent years.[113]

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[108] Sperling & Webber 2019, p. 245.

[109] European Parliamentary Research Service 2023, 'BRIEFING EU Legislation in Progress The EU chips act Securing Europe's supply of semiconductors', June 2023, EU Chips Act briefing (starting positions).pdf, p. 2.

[110] European Commission 2022b, 'COMMISSION STAFF WORKING DOCUMENT A Chips Act for Europe', May 11, 2022, SWD_2022_147_F1_STAFF_WORKING_PAPER_EN_V2_P14_1979809_ejlHFfUCmTniXeamwT2OgHriSg_86690 (1).pdf, p. 6.

[111] Blondel et al. 2022, pp. 5, 6 & 8.

[112] Ricart 2023, https://www.realinstitutoelcano.org/en/analyses/policy-orientations-on-eu-china-relations-in-semiconductors-an-outlook-on-bilateral-and-multilateral-agendas/.

[113] This drastic increase in demand should be seen in relation with the (relative) decrease in the EU's general market share of the global chip (production) market. As of June 2023, the EU's share in global fabrication capacity was below 10%; 'well below its economic standing'. See European Parliamentary Research Service 2023, 'BRIEFING EU Legislation in Progress The EU chips act Securing Europe's supply of semiconductors', June 2023, EU Chips Act briefing (starting positions).pdf, p. 3 & Joint declaration 2020: 'Declaration A European Initiative on Processors and semiconductor technologies', Signed remotely on electronic version in the English language for the Informal videoconference of the Ministers of Telecommunications on 7 December 2020, ms_joint_declaration_on_processor_and_semiconductor_technologies__22ms_91C9063F-EEEF-CDA5-B51D08E5BA9950B8_73940.pdf, p. 3. In this regard, the EC noted that its earlier 2013 goals of doubling its chip production to around 20% of global production had failed, and that it should do better. See European Commission 2022b, 'COMMISSION STAFF WORKING DOCUMENT A Chips Act for Europe', May 11, 2022, SWD_2022_147_F1_STAFF_WORKING_PAPER_EN_V2_P14_1979809_ejlHFfUCmTniXeamwT2OgHriSg_86690 (1).pdf, p. 60-61.

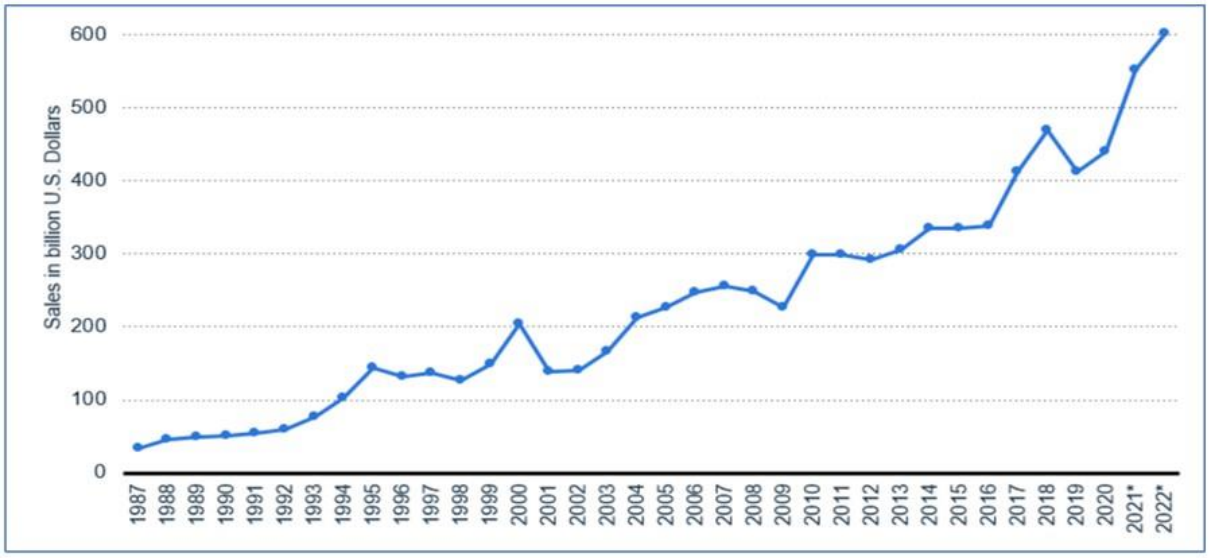

Figure 14. Semiconductor Industry Sales Worldwide 1987-2022 (Source: WSTS)

The second long(er)-term dynamic to generate a shift in the EU's discourse concerning the chip ecosystem constitutes the increasingly hostile and politicised chip ecosystem. Chips (policy) and geopolitics increasingly go hand in hand, which mainly centres around the aforementioned power struggle between the US and China.[114] While these tensions are not new, this section specifically concerns the 'chip war'[115] between the two. In 2018, the Trump Administration cut off Chinese chipmaker Fujian Jinhua Integrated Circuit from its US suppliers after the US Justice Department indicted the state-backed corporation for stealing proprietary knowledge. This initially started as a dispute between (US-based) Micron Technology and the Chinese enterprise. Trump's move, however, escalated it into the realm of an international trade conflict between China and the US.[116] From there on, the US and China have almost gone blow for blow in their battle for chip supremacy. The Biden administration has to a large degree continued this geoeconomic battle since he took office in 2021. In August 2022, President Biden signed off on The Chips and Science Act, dedicating 53 billion USD in federal funds to enhance chip manufacturing within the United States (in order to be more self-sufficient).[117] The Biden administration has also placed emphasis on slowing down Chinese innovations regarding its semiconductor manufacturing process.[118] China, in response, has adopted similar tariffs and trade embargo's, especially targeting and exploiting its almost monopolistic role in the CRM market. Moreover, as *early as 2010, China began focusing its economic policies towards the growth of 'strategic emerging industries'*.[119]

Related shifts in perception concerning the chip ecosystem caused by this geopolitical conflict gained traction in parallel with the outlined developments (from 2018 onwards). The US,

[114] See paragraph 2.1.
[115] Being an integral part of the Sino-American struggle for technological supremacy.
[116] The Economic Times 2023.
[117] U.S. Senate Committee on Commerce, Science, & Transportation 2022, "The CHIPS and Science Act of 2022," U.S. Senate Committee on Commerce, Science, & Transportation, July 29, 2022, https://www.commerce.senate.gov/2022/8/view-the-chips-legislation.
[118] It focuses especially on the technology needed to manufacture the utmost advanced chips (3nm and 5nm chips).
[119] Brinza et al. 2024, p. 56.

widely regarded as 'the elephant in the room' with regard to EU-China relations,[120] has influenced the EU's perception of China in this regard.[121] Notably, in its 2019 strategic outlook on EU-China relations, the EC noted 'a growing appreciation in Europe that the balance of challenges and opportunities presented by China has shifted'. The EC subsequently named China 'a leading technology power', while it also labelled China a 'systemic rival' for the first time in a 2019 Joint Communication.[122] The US influence on the EU is also corroborated by multiple scholarly contributions.[123] Concerning the above described increasingly hostile chip ecosystem, a December 2020 EU member states joint declaration stated:

> "*A new geopolitical, industrial and technological reality is redefining the playing field. In what has long been a global business, major regions are reinforcing their local semiconductor ecosystems with a view to avoiding excessive dependencies on imports*."[124]

This new reality is not only caused by the US and China, as a number of the world's (largest) economies increasingly adopt nationalist industrial policies,[125] of which the resulting regulatory barriers, import and export laws, and sanctions have effectively weaponized supply chains.[126]

The first perception-altering shock, then, entails the COVID-19 pandemic. This watershed event took the world by surprise in 2020, and has had a drastic impact on EU-wide perception of the global chip ecosystem (aside from the aforementioned increase in demand through the COVID-induced digital transformation). Namely, the pandemic exposed over-dependencies and long-standing extreme vulnerabilities in global supply chains – creating unprecedented shortages, as the EP has underscored.[127] Those vulnerabilities include 'geographic concentration and specialisation'.[128] This exposing role of the pandemic is also underscored by various think tank reports and academic papers.[129] Also, the COVID-induced chip shortage

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[120] Christiansen et al. 2018, p. 8.
[121] EU concerns over China were (mildly) existent before 2018 - especially concerning the rule of law and economic and trade friction with China (see Donnelly 2023, p. 202). But after the Trump administration announced its harsh measures in 2018, the EU gradually began seeing China as a threat, instead of partner – which was the case from 2003 up until then, with the establishment of the EU-China strategic partnership.
[122] European Commission 2019, 'EU-China - A Strategic Outlook', March 12, 2019, p. 1.
[123] Donnelly 2023, p. 132-135 and Chen & Gao 2019, p. 201-202.
[124] Joint declaration 2020: 'Declaration A European Initiative on Processors and semiconductor technologies', Signed remotely on electronic version in the English language for the Informal videoconference of the Ministers of Telecommunications on 7 December 2020, ms_joint_declaration_on_processor_and_semiconductor_technologies__22ms_91C9063F-EEEF-CDA5-B51D08E5BA9950B8_73940.pdf, p. 3.
[125] E.g.: India, Russia, Taiwan, South Korea.
[126] Besides, the EU also perceived China specifically to be worsening the qualitative character of the internal chip ecosystem (thus: internal security environment) by its aggressive state-led foreign direct investments in Europe, an aspect EC President Von der Leyen referenced in her 2021 EC State of the Union speech. See U. Von der Leyen, *2021 State of the Union Address by President von der Leyen*, European Commission, 15 September 2021.
[127] See European Parliamentary Research Service 2023, 'BRIEFING EU Legislation in Progress The EU chips act Securing Europe's supply of semiconductors', June 2023, EU Chips Act briefing (starting positions).pdf, p.3. But also, for example, Piotrowski 2023, p. 65.
[128] European Parliamentary Research Service 2023, 'BRIEFING EU Legislation in Progress The EU chips act Securing Europe's supply of semiconductors', June 2023, EU Chips Act briefing (starting positions).pdf, p. 3. For instance, as mentioned in paragraph 2.2, all of the cutting-edge chips (3nm and 5nm) are manufactured in East-Asia - in either Taiwan or South Korea. If something happens in these countries (like a pandemic or military conflict) the EU would have a major problem.
[129] See, for example, Poitiers & Weil 2021, p. 11 or Teer & Bertolini 2022, p. 2.

frustrated global production of virtually any (electrical) product - including essential medical devices and cars, limiting global economic growth.[130]

The other exogenous shock to alter the EU's perception of the degree to which its chip ecosystem is threatened constitutes the Russo-Ukrainian war, that started – or escalated - in February 2022. The European Parliamentary Research Service (EPRS) has stated the war in Ukraine has raised new concerns within the semiconductor industry. According to the EPRS the event poses a significant threat to the supply of semiconductor-grade neon, an essential gas used in chip lithography. These worries were also coined by a EC staff working (concerning the EU Chips Act) document dating from May 2022.[131] Approximately half of the world's neon supply, a gas needed in the production of semiconductors, came from two Ukrainian companies residing in Mariupol and Odessa.[132] Moreover, a side-effect of the war is that US insistence on a link between chips and (military) security gained traction in the EU.[133] Related to this, worries about a Chinese blockade or invasion of Taiwan increased drastically, mostly because of the Russo-Ukrainian war.[134] This is relevant because of the big role TSMC has in global production of cutting-edge chips (as explained in chapter two).

In short, then, the unprecedented multi-faceted rise in demand, the increasing geopolitical tensions (and related increasingly nationalistic chip policies) in conjunction with the COVID-19 pandemic and the Russo-Ukrainian war (including its related trade disruptions and geopolitical side effects) have led to a drastic shift in the EU's perception concerning the qualitative character of the internal and external (security) environment that pertains to the chip ecosystem.[135]

[130] See, for instance, Frans van Houten, "Global Chip Shortages Put Life-Saving Medical Devices at Risk," World Economic Forum, 2022, https://www.weforum.org/agenda/2022/05/global-chip-shortages-put-life-saving-medical-devicesat-risk/. The pandemic's role as a catalyst cannot be overstated with regards to the drastic shift in threat perception concerning chip-related strategic dependencies and vulnerable global supply chains. In this regard, some argue that the COVID-19 pandemic has highlighted and sped up certain ongoing developments in the role of a catalyst, watershed event - and exposed (over)dependencies concerning already vulnerable global supply and value chains. This element was also underscored by Josep Borrell (High Representative of the European Union for Foreign Affairs and Security Policy / Vice-President of the European Commission) in December 2020. See Borrell Fontelles, J. (2020) 'Why European Strategic Autonomy Matters' , *EEAS blog*, 3 December, European External Action Service.

[131] European Commission 2022b, 'COMMISSION STAFF WORKING DOCUMENT A Chips Act for Europe', May 11, 2022, SWD_2022_147_F1_STAFF_WORKING_PAPER_EN_V2_P14_1979809_ejlHFfUCmTniXeamwT2OgHriSg_86690 (1).pdf, p. 20.

[132] European Parliamentary Research Service 2023, 'BRIEFING EU Legislation in Progress The EU chips act Securing Europe's supply of semiconductors', June 2023, EU Chips Act briefing (starting positions).pdf, p. 3.

[133] See Mügge 2023 for more context on this.

[134] See, for instance, Köckritz 2023 who refers to these worries, or Mügge 2023.

[135] These paradigmatic shifts especially relate to the vulnerability of the previously lauded globalised, cost-efficient and interdependent value and supply chains, a more strained and scarce ecosystem and (strategic) overdependencies on other (adversarial) states (e.g. China and its CRM or Taiwan through TSMC). Semiconductor shortages have opened the eyes of the EU and its member states. Besides, the US-China rivalry and the Russo-Ukrainian war have also caused the EU to perceive the chip ecosystem through a more geopolitical lens.

4.3. Recursive interaction and policy outputs: A period of incremental securitisation (2020-2023)

The third and fourth stages of collective securitisation, subsequently, entail the securitising move and the audience response, combined into the interdependent (bargaining) process of recursive interaction.[136] This study underpins Sperling and Webber's argument that the process of collective securitisation is made up of six chronological stages that are overlapping rather than separate.[137] The precipitating events discussed in the previous section are not just one-day events that only have consequences after they have happened, but should be seen as trends[138] and events[139] that are either ongoing or take time to unfold. Consequently, their consequences are felt over an extended period, and may reinforce – and interact with – each other. The discourse of threat and subsequent securitising move(s) can thus run in parallel with the triggering events they are describing (and in parallel with, or even beyond, policy initiation). This paragraph will exposit and underscore these dynamic and interdependent aspects of the EU's securitisation process specified on the chip ecosystem. Because the stages in this specific process of collective securitisation have such a high degree of overlap, the securitising moves and the audience response will both be handled in this paragraph, also outlining the relevant policy proposals and eventual outputs that flow from it (or rather constitute it) - thus blurring the lines between stages three, four and five. This only increases the quality and comprehensiveness of this study since it allows for a mapping and subsequent analysis of the overlapping stages – rather than harshly delineating between the three where they are clearly interdependent and run in parallel. Within this context, this section will focus specifically on the processes that has led to the EU Chips Act, since this is the main policy output that has resulted from the multiple securitising moves, and that is complemented by other initiatives.

The digital decade and ensuring industrial competitiveness

Let us start at the beginning. On March 10, 2020, the EC introduced a New Industrial Strategy for Europe, specified on the 'digital decade' that was to come.[140] This strategy aimed to strengthen Europe's industrial and strategic autonomy by reducing the EU's dependence on critical technologies, including microelectronics, which are classified among the 14 'key enabling technologies' essential for the EU's industrial future.[141] It is quite significant since it coins the term 'strategic autonomy' in relation to (among other sectors) microelectronics (thus:

[136] See Sperling & Webber 2019, p. 242-247.
[137] See Sperling & Webber 2019, p. 247, for their argument.
[138] The unprecedented increase in demand and the increasingly hostile and politicised chip ecosystem, as outlined in paragraph 4.2.
[139] In the form of the two perception altering shocks: the COVID-19 pandemic and the Russo-Ukrainian war, as outlined in paragraph 4.2.
[140] European Commission 2020b, 'Communication from the Commission: A New Industrial Strategy for Europe', March 10, 2020, IMMC.COM%282020%29102%20final.ENG.xhtml.3_EN_ACT_part1_v7.docx (europa.eu).
[141] European Commission 2020b, 'Communication from the Commission: A New Industrial Strategy for Europe', March 10, 2020, IMMC.COM%282020%29102%20final.ENG.xhtml.3_EN_ACT_part1_v7.docx (europa.eu), under 4. Each of these 14 key industrial ecosystems are identified in the strategy for 'close monitoring' by the EC. The strategy is 'entrepreneurial in spirit and in action', and it focuses on (normal) economic and industrial competitiveness rather than signalling a threat and vying for policy measures to address it.

chips).[142] Strategic autonomy is the common denominator in many EU documents on chips from there on. However, it is a broad and vague term and can refer to many policy frames while different member states also interpret the term differently leading to ambiguity in the EU.[143] It is thus essential to first contextualise the term and exposit what is means for the EU.[144] The EC, in the document outlining its new industrial strategy, states strategic autonomy is about reducing dependence on others for the things the EU needs the most – hence the classification of the 14 key industrial ecosystems.[145] Borrell crucially cleared up the context and underlying meaning of the term in December 2020:

> "*(….) the weight of Europe in the world is shrinking. (….) If we do not act together now, we will become irrelevant as many have argued cogently. Strategic autonomy is, in this perspective, a process of political survival*."[146]

The EU thus viewed chips as a part of maintaining or acquiring strategic autonomy, which in its most far-sighted and extreme form, is an essential element to (political) survival. Strategic autonomy, however remains an ambiguous term, meaning different things to different actors and states. Also, at this point we cannot yet speak of a securitising move specified on chips concerning the New Industrial Strategy for Europe. Not in the least because chips and threatened strategic autonomy were not linked by the EC's New Industrial Strategy for Europe document.

Multiple moves across differing policy frames

This had clearly shifted in the wake of the COVID-19 pandemic. December 7, 2020 marked the day of the first securitising move, when, after the 'Informal videoconference of the Ministers of Telecommunications' of the Council, 22 EU member states issued a joint declaration called: 'A European Initiative on Processors and semiconductor technologies'.[147] The statement named 'key technological, security and societal challenges', and was therefore issued in order to commit the signatory states to enhancing the semiconductor ecosystem and supply chain to tackle these challenges. The signatories also pledged to leverage and bolster the EU's strengths, aiming to establish advanced EU chip design capabilities and production facilities for cutting-

[142] European Commission 2020b, 'Communication from the Commission: A New Industrial Strategy for Europe', March 10, 2020, IMMC.COM%282020%29102%20final.ENG.xhtml.3_EN_ACT_part1_v7.docx (europa.eu), under 4 & 5.
[143] See Poitiers & Weil 2021, p. 15. Concerns regarding 'strategic autonomy' surfaced in 2013, mostly pertaining to the defence industry. Its notion has recently been broadened to include economic and technological considerations.
[144] The closest the EU has come to a definition is in the November 2016 Council conclusions, which stated the interpretation of the term to be: "*capacity to act autonomously when and where necessary and with partners wherever possible*."
[145] European Commission 2020b, 'Communication from the Commission: A New Industrial Strategy for Europe', March 10, 2020, IMMC.COM%282020%29102%20final.ENG.xhtml.3_EN_ACT_part1_v7.docx (europa.eu), under 4.
[146] Borrell Fontelles, J. (2020) 'Why European Strategic Autonomy Matters' , *EEAS blog*, 3 December, European External Action Service.
[147] Joint declaration 2020: 'Declaration A European Initiative on Processors and semiconductor technologies', Signed remotely on electronic version in the English language for the Informal videoconference of the Ministers of Telecommunications on 7 December 2020, ms_joint_declaration_on_processor_and_semiconductor_technologies__22ms_91C9063F-EEEF-CDA5-B51D08E5BA9950B8_73940.pdf.

edge nodes. The declaration also mentioned the fact that 'a new geopolitical, industrial and technological reality is redefining the playing field'.[148]

Later, on March 9, 2021, the EC's '2030 Digital Compass' communication to the EP, the Council The European Economic and Social Committee and the Committee of the Regions empty, set a target for the EU to achieve at least 20% of the global semiconductor production market (especially of sustainable and cutting-edge semiconductors) by 2030.[149] The communication stated that 'the COVID-19 pandemic has radically changed the role and perception of digitalisation in our societies and economies, and accelerated its pace', while it also highlighted the supply chain disruptions and all-around chip shortages that the pandemic had caused.[150] In May 2021, the EC's update to the aforementioned New Industrial Strategy for Europe highlighted the EU's also underscored the need to address strategic dependencies in semiconductors, exposed by the COVID-19 pandemic.[151] It also noted the vulnerability of the EU chip supply chain due to high entry costs, significant subsidies in producing countries, trade tensions, and reliance on Asia for advanced manufacturing and the US for chip design tools. The strategy concluded that the EU must bolster its industry to mitigate these risks.

On July 7, 2021, the EP called for diplomatic contacts on chips with Taiwan regarding the trade-related aspects and implications of COVID-19, through a resolution forwarded to the Council and the EC.[152] The EP, related to this, subsequently initiated a securitising move through its resolution on a new EU-China strategy, on September 16, 2021. The EP stated it felt increasingly uneasy over Chinese assertiveness and that it should strive for strategic autonomy (and related to this: technological sovereignty) in order to become less reliant on China and in order to counter the nation's progressively assertive (geopolitical) stance.[153] The EP thus also talked of the chip ecosystem in terms strategic autonomy and technological sovereignty, but interestingly framed it more through a political security frame, relating it directly to China's (political and technological) assertiveness. This resolution was forwarded to the Council, the EC and, specifically Borrell.[154] It was also sent to the Government of the People's Republic of China, 'for information'. Thus, the EP wanted to share its sincere worries with the other EU institutions and, indirectly, with the European citizenry. However, this resolution also had a political reason, with the aim of deterring further Chinese assertiveness. This secondary political goal was touched upon numerous times during the debate on the content of the

[148] Joint declaration 2020: 'Declaration A European Initiative on Processors and semiconductor technologies', Signed remotely on electronic version in the English language for the Informal videoconference of the Ministers of Telecommunications on 7 December 2020, ms_joint_declaration_on_processor_and_semiconductor_technologies__22ms_91C9063F-EEEF-CDA5-B51D08E5BA9950B8_73940.pdf.

[149] European Commission 2020b, 'Communication from the Commission: A New Industrial Strategy for Europe', March 10, 2020, IMMC.COM%282020%29102%20final.ENG.xhtml.3_EN_ACT_part1_v7.docx (europa.eu), under.

[150] European Commission 2020b, 'Communication from the Commission: A New Industrial Strategy for Europe', March 10, 2020, IMMC.COM%282020%29102%20final.ENG.xhtml.3_EN_ACT_part1_v7.docx (europa.eu), under.

[151] European Commission 2020b, 'Communication from the Commission: A New Industrial Strategy for Europe', March 10, 2020, IMMC.COM%282020%29102%20final.ENG.xhtml.3_EN_ACT_part1_v7.docx (europa.eu).

[152] Texts adopted - Trade related aspects and implications of COVID-19 - Wednesday, 7 July 2021 (europa.eu).

[153] European Parliament resolution of 16 September 2021 on a new EU-China strategy, Texts adopted - A new EU-China strategy - Thursday, 16 September 2021 (europa.eu), consideration 41.

[154] In his capacity as the Vice-President of the Commission and High Representative of the Union for Foreign Affairs and Security Policy.

resolution between Members of the EP (MEPs) on September 14, 2019.[155] Examples of MEPs that underscored this during the debate included MEPs Bert-Jan Ruissen[156] and Anna Bonfrisco.[157]

Thus, the multiple securitising moves outlined above all framed the chip ecosystem to be threatened. With regards to the underlying rhetorical framework, all of these securitising declarations, strategies and communications refer to a threatened chip ecosystem in the form of a jeopardised strategic autonomy, technological sovereignty and (over)dependencies on other (adversarial) states. The initiatives and statements outlined above reveal the multifaceted aspect of semiconductors, since a shortage of which is able to be framed with regards multiple policy frames. Contextually, it is important to remember the nature of the chip, which can be framed as threatening virtually all thinkable referents because of the fact that it is a GPT.[158] In this sense, the three EU institutions have articulated societal, political, economic, technological and security challenges with regards to the chip ecosystem. Moreover, the threats that the three EU institutions present through their rhetorical frameworks, boil down to three of the aforementioned precipitating developments: the COVID-19 pandemic (being the catalyst), the unprecedented rise in demand (e.g. through digitalisation), and an increasingly geopolitical chip ecosystem. The three threats and threatened object (chip ecosystem), thus, are the same for all three EU institutions. Interestingly, the Council and the EC explicitly framed the supply chains disruptions and chip shortages through an economic policy frame, referring to industrial competiteveness and manufacturing capacity. The EP, however, opted for a political security frame, explicitly mentioning Chinese aggressiveness as a threat to the EU's strategic autonomy and technological sovereignty, labelling chips as a part of this autonomy and sovereignty. However, while all three EU institutions announced concrete goals and implored (diplomatic) actions, no concrete policy proposals were put forth yet.

Towards the EU's Chips Act

Then, on 15 September 2021, EC President von der Leyen set the vision for Europe's chip strategy in her annual State of the Union speech: to jointly create a state-of-the-art European chip ecosystem.[159] This would include production, as well as connecting the EU's world-class research, design and testing capacities. Von der Leyen's State of the Union speech introduced the EU Chips Act, with a mention to 'tech-sovereignty' and reduced production caused by semiconductor shortages. It is in no sense a securitising move though, since it does not introduce a frame or threat in a clear manner. This changed with the official EU Chips Act policy proposal of February 8, 2022.[160] The proposal, the culmination of the previous securitising moves into a move with a concrete legislative measure, stated the need to establish a framework of measures for strengthening Europe's semiconductor ecosystem. In this (securitising) document the EC's

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[155] See: A new EU-China strategy: MEPs debate, 14 September 2021, A new EU-China strategy: MEPs debate - Multimedia Centre (europa.eu).
[156] MEP representing the European Conservatives and Reformists Group.
[157] MEP representing the Identity and Democracy Group.
[158] Since they are essential for all digital devices, it is inherently possible to frame a (e.g.) shortage of semiconductors in a multitude of ways relating to a multitude of referents.
[159] U. Von der Leyen, *2021 State of the Union Address by President von der Leyen*, European Commission, 15 September 2021.
[160] European Commission 2022a, 'A Chips Act for Europe', February 8, 2022, https://digital-strategy.ec.europa.eu/en/library/european-chips-act-staff-working-document.

clearly frames the European chip ecosystem to be threatened, signalling the COVID-19 crisis, the recent and expected increase in demand, and increasing geopolitical tensions as the main threats in the sense that they had caused supply chain disruptions and shortages of chips, thus threatening the sovereignty and degree of autonomy of the European chip ecosystem.[161] It also mentioned that global semiconductor shortages forced factory closures in a range of sectors, from cars to healthcare devices, and that this exposed the extreme global dependency of the semiconductor value chain on a very limited number of actors in a complex geopolitical context. The EC's proposal for the EU Chips Act therefore clearly entails a securitising move. Interestingly, it frames the threats in relation with an economic policy frame:

> "*The impact of the chips shortages on the European economy has highlighted the urgency of taking further steps. Efforts must start now (….)*."[162]

The proposal thus urgently calls for action because of the chip shortages, caused by the pandemic, increase in demand and the increasingly geopolitical chip ecosystem. The proposal stated the need for 'strengthening Europe's technological leadership', which the EC believed to be achievable through three main pillars. First, through the Chips for Europe Initiative, which aimed to bolster large-scale technological capacity building and innovation. Secondly, a framework to incentivise public (state aid) and private investments in manufacturing facilities that would ensure the security of supply and resilience of the Union's semiconductor sector. The third pillar, then, entailed a coordination mechanism, facilitated by the European Semiconductor Board, that would serve as the central platform for collaboration between the EC, Member States, and stakeholders.

Eight days after the proposal for the EU Chips Act was launched, on 16 February 2022, the EC launched a targeted stakeholder survey with the goal of gathering preliminary information on current and future demand for ICs, to better understand the complexity of the global value chain and 'as a first step to help understand the impact of the chip supply crisis on European industry'.[163] The subsequent European Chips Report, presented to the EC in July 2022, analysed the findings of the Chips Survey. In total, 141 responses were sent in by stakeholders (mainly big firms). A majority of them expected demand to double between 2022 and 2030.[164] These findings influenced the eventual Chips Act because the goal of obtaining a global chip manufacturing market share of 20% by 2030 would have to be derived from the total (expected) IC market by 2030. The European Chips Act was thus also based on the Chips Survey's findings, illustrating the impact and influence of this transnational network of stakeholders (mostly big tech firms). This also highlights the dynamism of the process of recursive interaction, in the case of the chip ecosystem, with many actors involved in the legislative process of the EU Chips Act.

After the initial policy proposal the tone gradually increased in urgency again. To supplement the proposal, the EC's Staff Working Document (SWD) aimed to explain the pressing need for

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[161] See European Commission 2022a, 'A Chips Act for Europe', February 8, 2022, https://digital-strategy.ec.europa.eu/en/library/european-chips-act-staff-working-document, p. 1, 3 & 5.

[162] European Commission 2022a, 'A Chips Act for Europe', February 8, 2022, https://digital-strategy.ec.europa.eu/en/library/european-chips-act-staff-working-document, p. 3.

[163] European Commission 2022d, 'European Chips Survey', August 4, 2022, European Chips Survey | Shaping Europe's digital future (europa.eu).

[164] European Commission 2022c, 'European Chips Survey Report', July 2022, European_Chips_Report_yFsC6FEfMwZiRpia7osXFiDuM_89124 (1).pdf, p. 3, 5, 10 & 12.

Europe to address deficiencies in critical chip design and manufacturing capabilities. The SWD was published for this purpose on May 11, 2022. The document specifically mentioned a 'chip crisis'.[165] The intensification in tone is also illustrated by a published online update concerning the legislative process of the EU Chips Act by the EP in February, 2023:

> "In a world facing a crisis due to lack of semiconductors, the European Chips Act aims to secure the EU's supply by boosting domestic production."[166]

The phraseology of this discourse is noteworthy since it explicitly mentions a crisis. This intensification can mostly be attributed to the Russo-Ukrainian war, that broke out (or intensified) in February 2022. As mentioned in paragraph 4.2, approximately half of the world's neon supply (a gas needed in chip manufacturing) came from two Ukrainian companies residing in Mariupol and Odessa. Both of which were eventually forced to cease production, causing worldwide shortages. In June 2022, Russia further exacerbated the situation by restricting the export of helium, neon, palladium and C4F6.[167] Various think tank reports also noted the shortages the war had (indirectly) caused, and the impact it made on policy makers and their actions.[168]

Audience response

The deadline for the submission of reasoned opinions on grounds of subsidiarity was April 25, 2022. Strikingly, no such opinions were sent in.[169] This uniformity in opinion and audience response should in part be seen in the context of the clustered supply and value chains since every state has to get, for example, their cutting-edge ICs at the same place (TSMC and Samsung), while the US owns a majority of worldwide intellectual property blocks[170] concerning chip design.[171] The audience response was thus so unified partially because the market is so clear – and the entry-barriers are so high, but also because of the shock that the pandemic caused concerning supply chain disruptions and chip shortages, as was also illustrated by the previous section.

Thus, the EU and its member states were quite unified on the EU Chips Act that was proposed by the EC in February 2022, notwithstanding minor proposed changes. However, a split was discernible between a more geopolitically inclined approach and a stance based on liberal globalisation. This split and the ongoing debate over strategic autonomy in 2022 were highlighted by the conflict between Industry Commissioner Thierry Breton and Competition

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[165] See European Commission 2022b, 'COMMISSION STAFF WORKING DOCUMENT A Chips Act for Europe', May 11, 2022, SWD_2022_147_F1_STAFF_WORKING_PAPER_EN_V2_P14_1979809_ejlHFfUCmTniXeamwT2OgHriSg_86690 (1).pdf, e.g.: p. 14.

[166] European Parliament 2023b, 'Chips Act – the EU's plan to overcome semiconductor shortage', July 11, 2023, Chips Act – the EU's plan to overcome semiconductor shortage | Topics | European Parliament (europa.eu).

[167] See European Commission 2022b, 'COMMISSION STAFF WORKING DOCUMENT A Chips Act for Europe', May 11, 2022, SWD_2022_147_F1_STAFF_WORKING_PAPER_EN_V2_P14_1979809_ejlHFfUCmTniXeamwT2OgHriSg_86690 (1).pdf, p. 20.

[168] See, for example, Villoslada & Saz-Carranza 2023, p. 13, 15 & 20 or Köckritz 2023.

[169] European Parliamentary Research Service 2023, 'BRIEFING EU Legislation in Progress The EU chips act Securing Europe's supply of semiconductors', June 2023, EU Chips Act briefing (starting positions).pdf, p. 7.

[170] I.e. patents.

[171] See paragraph 2.2.

Commissioner Margrethe Vestager regarding state aid for chip development and production.[172] While the Directorate-General for Competition had previously issued block exemptions more readily during financial crises, Vestager cautioned against taxpayer subsidies for chip manufacturers, advocating instead for European dependence on foreign producers. Breton, on the other hand, emphasized the importance of independence from global supply chains, considering both national and EU projects essential to achieving this goal. EC President von der Leyen seemed to initially support Breton's stance, citing disruptions to market functioning due to COVID-19 rather than aligning with his strategic autonomy or national security arguments. In this sense, she highlighted the allocation of 200 billion euros from the historic *NextGenerationEU* fund (totalling 750 billion euros for COVID-19 recovery) towards boosting digital industrial capacity during her visit to ASML, the world's leading producer of extreme ultraviolet chip lithography equipment, in 2021. The aforementioned split was also visible at member state level. Germany, for instance, remained quite divided across its national bureaucracies, and an approach based on liberalism seemed to be a bit more dominant when the country's 2023 Integrated Security Strategy neglected semiconductor development as a security challenge.[173] However, in contrast, the German government did block a Chinese takeover of chip producer Elmos (by Silex) in 2022 arguing that it would harm the integrity of its critical infrastructure.[174] France, on the other hand, is not divided at all on the subject and has been more geopolitically inclined from the outset of the chip shortages. It has resolutely secured domestic chip production for French companies on grounds of self-sufficiency, and firmly opposes any foreign (adversarial) takeovers of its chip firms.[175] Many other EU member states are in between, often torn between economic and geopolitical interests.

The aforementioned split ensured it was impossible for more ambition plans to gain traction, thus translating into an EU Chips Act that is not always clear and unequivocal about the need to be selective in the EU's economic collaboration and interdependence due to security threats of a geopolitical nature. But since the EU and its member states were unified on the proposal itself, the EU Chips Act passed on 21 September 2023, after approval by the EP and the Council without any significant amendments. Also, years ago a EU Chips Act dominated by state aid would have been unthinkable altogether, further highlighting the incremental securitisation of the chip ecosystem from 2020 onwards.

Additional context

The EU Chip Act, furthermore, should not be seen in isolation but viewed in the context of the CHIPS and Science Act of the US, signed into law by the Biden administration on August 9,

[172] See for more context, Donnelly 2023.
[173] Federal Ministry of the Interior and Community, 2023, *Intergrierte Sicherheit für Deutschland: Nationale Sicherheitsstrategie* [Integrated security for Germany: National security strategy]. https://www.bmi.bund.de/SharedDocs/downloads/DE/veroeffentlichungen/2023/nationalesicherheitsstrategie.pdf .
[174] Andreas Rinke and Miranda Murray 2022, "Germany blocks Chinese stake in two chipmakers over security concerns", *Reuters*, November 10, 2022, Germany blocks Chinese stake in two chipmakers over security concerns | Reuters.
[175] Pamela Barbaglia 2022, "France's Thales considers move for Atos cybersecurity arm BDS", *Reuters*, February 2, 2022, https://www.reuters.com/technology/exclusivefrances-thales-considers-move-atos-cybersecurityarm-bdssources-2022-02-02, and Donnelly 2023, p. 135.

2022.[176] This new policy line of the US - and similar policy outputs by China, Taiwan, Korea and Japan - generated concerns in the EU that these states might enhance domestic chip manufacturing and re-industrialisation (and manipulate supply and value chains) at the expense of the EU. An analysis of Clingendael, for example, concluded the policy change could threaten the EU's strategic autonomy.[177] These concerns were therefore another incentive to proceed with a governance framework on chips and its constitutive ecosystem. Moreover, although the European Chips Act was a response to the supply shortages that started in 2020, it is likely that the EC would have eventually adopted a similar industrial policy.[178] For many governments, the key lesson from the COVID-19 pandemic and the Ukrainian War has been the need to shift away from a globalised economic system heavily reliant on foreign imports. Instead, there is a growing emphasis on developing a more self-reliant economic model that is less susceptible to disruptions in global supply chains.

So, from 2020 onwards, the precipitating trends and events described in paragraph 4.2 began to be translated into what this study refers to as a period of incremental securitisation, constituted by multiple cascading securitising moves by the Council, the EP and (mostly) the EC. A drastic shift in the EU's perception of the security (environment) of the chip ecosystem thanks to the four precipitating events and trends discussed in the previous paragraph, led to multiple securitising moves that highlighted different policy frames in reference to multiple threats.[179] These multiple securitising moves culminated into the EU Chips Act proposal of February 8, 2022. The proposal passed on 21 September, 2023, which seems to indicate a strikingly unified audience response. While this is generally true, member states remain divided over more ambitious plan, and the conflict between Euro Commissioners Breton and Vestager also highlitghts a remaining split between a more geopolitically inclined approach and a stance based on liberal economic values, even though the EU and its member states have clearly been subject to a period of incremental securitisation of the chip ecosystem.

4.4. New status quo security discourse and practice

As established in paragraph 4.1, the EU's perception of the chip ecosystem before 2018, was one based on normal industrial and technological policy. Economic comptetitiveness was the foundation for this perception. After 2018, this changed. The EU's 'new' status quo security discourse and practice has proven to be a stance leaning more towards techno-nationalism, since European security and chips are increasingly linked amidst an increasingly geopolitical and strained chip ecosystem.

We can, furthermore, speak of successful thick collective securitisation that has led to the EU Chips Act. Multiple securitising moves by the EC, EP and Council (referring to the precipitating events) have eventually culminated into the EU Chips Act proposal, which eventually (including the SWD) specifically mentioned the precipitating events as the reasons for the need for a governance framework on chips.

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[176] US CHIPS and Science Act, August 9, 2022, PLAW-117publ167.pdf (congress.gov).
[177] New US chip rules threaten European strategic autonomy | Clingendael spectator.
[178] Also corroborated by, for instance, Villoslada & Saz-Carranza 2023, p. 23 and Poitiers & Weil 2021.
[179] The EP emphasised on political security as opposed to economic security, in reference to a specific threat in the sense of China.

Chapter 5 – Conclusion and final deliberations

The introduction of this thesis culminated into the central research question: *How can the European Union's shift in chip policy (from globalisation to techno-nationalism) be explained through collective securitisation (2013-2023)?* To answer this question one must start at the beginning. After the cold war, the EU's economic doctrine had been one of open, globalised ecosystems, which in terms of the chip ecosystem meant a globalisation without borders, illustrated by the GVCs and global supply chains. However, since chip manufacturing, design etc. is incredibly costly and requires whopping amounts of R&D-money, these chains became clustered along certain hotspots. In this context, TSMC and Samsung manufacture virtually all cutting-edge chips while the US dominates in chip design, for example. Another aspect of the global supply chain is the fact that China and Russia have a virtual monopoly on a lot of CRMs. These aspects illustrate the innate vulnerability of the chip ecosystem which was exposed in a shocking manner through the COVID-19 pandemic. However, increasing geopolitical tensions and techno-nationalist tech-policies were making governments worldwide increasingly aware of these potential vulnerabilities already. The pandemic therefore acted as a catalyst and amplified these concerns. Also, the unprecedented increase in chip demand (caused by technological innovations, the pandemic etc.) made the EU aware of the need to be strategically autonomous during the 'digital decade'. The Russo-Ukrainian war further shocked the EU, and only increased concerns of geopolitical nature, but also increased the threat to the sovereignty of the chip ecosystem. The EU therefore initiated multiple gradually developing, incremental securitising moves between 2020 and 2022, that eventually culminated into the EU Chips Act proposal of February 8, 2022. The audience response was quite unified, notwithstanding the difference of opinion between Euro Commissioner Breton and Verstager and disunity on more ambitious legislation. In any case, the main product of the securitising moves by the EU (mainly through the EC, the EP and the Council) is thus the EU Chips Act, passed on September 21, 2023. Successful thick securitisation has therefore taken place since the Act passed, and its existence was justified and explained through the securitising moves that specifically argued the negative impact of the precipitating events on the security of the chip ecosystem. As stated above, the content of the measures is not really relevant in this regard, only that certain policies are initiated before, and justified after, through referring to the precipitating events. The EU's status quo security discourse and practice concerning the chip ecosystem, moreover, has discernibly shifted from a strategy based on liberal-based globalisation to a strategy that emphasizes more on techno-nationalism. In short then, a gradual development is discernible concerning the EU's policy concerning the chip ecosystem, which had not been on the policy agenda at all (end of the cold war until 2013), to putting out industrial strategies in the sense of normal competiteveness (2013-2018), towards increasingly linking chips to national (or European) security, and seeing it as a part of strategic autonomy which was perceived to be threatened as a result of the aforementioned four precipitating events and trends (2018-2023).

Sperling and Webber's model of collective securitisation offers a good foundation for analysing the EU's process of collective securitisation. It can be used to analyse shifts in status quo security discourse and practice (of international organisations such as the EU) as a result of a shift in perception of the (external or internal) security environment which is caused by one or multiple precipitating events or dynamics. The choice of primary sources, as explained in paragraph 3.2, moreover, has enabled this thesis to analyse that shift in a comprehensive manner, since all relevant documents have been sifted through, leading to the conclusion outlined above.

The added value of this research lies primarily in the fact that it aims to fill the gaping hole in research, described in the introduction. This thesis has innovatively used the model of collective securitisation to fill in that hole, something that has not been done before. It also finally produces a coherent overview and subsequent analysis of the EU's strategy concerning semiconductors, while analysing exactly how chip policy got moved from the realm of 'normal politics' towards the area of 'security'. Academically, understanding how a technologically advanced continent like Europe navigates the complex intersection of CRM and semiconductor strategies contributes to the broader scholarly discourse on global value and supply chain dynamics and strategic resource management. It offers insights into how nations and organisations can adapt their policies to maintain technological prowess, economic resilience and strategic autonomy. Also, with concern to the European Union, the process of securitisation and the epistemological politics involved in it have always been shrouded in mystery and obscurity. Not in the least because it is quite complex to unwind the intricate power dynamics of the European Union. The institutions of the European Union form a unique interplay with a decision-making system that is subject to change. Investigating the securitisation process and the knowledge politics involved specifically with regards to the chip ecosystem can therefore also operate as a sort of case study, illuminating on the security governance and politics of the European Union. This is innovative and adds onto scholarly contributions because it has not been done up until now, while uncovering this process is also extremely relevant to understand international politics since the EU is a major player in this realm, and has the ability to influence economies and security perceptions on a global scale while its policy on the chip ecosystem is also relevant with regards to its influence on the balance of power in the international. Lastly, this research adds valuable considerations with regards to the question how, and in what form(s), the EU enjoys authoritative agency within the realm of collective securitisation concerning the chip ecosystem.

An interesting possibility for future research would be an analysis of whether the EU's collective securitisation of the chip ecosystem was just, through Rita Floyd's Just Securitisation Theory (JST). Another prospect for future research entails one into new cycles of (collective) securitisation of the chip ecosystem. The EC's pending Economic Security Strategy (proposed on 20 June 2023), for instance, seems an interesting direction of enquiry.

List of Abbreviations

AI: Artificial Intelligence

ATP: assembly, testing and packaging (of microchips)

CRM: Critical Raw Materials

EC: European Commission

ECA: European Chips Act

EP: European Parliament

EU: European Union

GDP: Gross Domestic Product

GPT: General Purpose Technology

GVC: Global Value Chain

IC: Integrated Circuit

IPCEI: Important Projects of Common European Interest

IR: International Relations

NEISE: New European Industrial Strategy for Electronics

PLA: People's Liberation Army

SOTEU: (EC President's annual) State of the Union

SWD: Staff Working Document

TSMC: Taiwan Semiconductor Manufacturing Company

Bibliography

Primary

Documents

Andreas Rinke and Miranda Murray 2022, "Germany blocks Chinese stake in two chipmakers over security concerns", *Reuters*, November 10, 2022, Germany blocks Chinese stake in two chipmakers over security concerns | Reuters.

Council of the EU 2018, 'Enhanced EU Security Cooperation in and with Asia', 2018, https://www.consilium.europa.eu/media/35456/st09265- re01-en18.pdf.

European Commission 2013, 'Commission proposes New European Industrial Strategy for Electronics', May 23, 2013, https://ec.europa.eu/commission/presscorner/detail/en/IP_13_455.

European Commission 2014, European Commission, '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' , 2014/C 188/02, *Official Journal of the European Union*.

European Commission 2015, 'Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions', May 6, 2015, eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52015DC0192.

European Commission 2018a, 'Connecting Europe and Asia—Building blocks for an EU Strategy', September 19, 2018, https://www.eeas.europa.eu/sites/default/fles/joint_communication__connecting_europe_and_asia__building_blocks_for_an_eu_strategy_2018-09-19.pdf.

European Commission 2018b, 'State aid: Commission approves plan by France, Germany, Italy and the UK to give €1.75 billion public support to joint research and innovation project in microelectronics', December 18, 2018, State aid: Commission approves support for joint research and innovation project in microelectronics (europa.eu).

European Commission 2018c, 'Report on Critical Raw Materials and the Circular Economy', 2018, 09_report-of-CRM-and-CE.pdf (eitrawmaterials.eu).

European Commission 2019, 'EU-China - A Strategic Outlook', March 12, 2019.

European Commission 2020a, 'Communication on "Shaping Europe's Digital Future"', 19 February 2020. https://www.europeansources.info/record/communication-on-shaping europes-digital-future/.

European Commission 2020b, 'Communication from the Commission: A New Industrial Strategy for Europe', March 10, 2020, IMMC.COM%282020%29102%20final.ENG.xhtml.3_EN_ACT_part1_v7.docx (europa.eu).

European Commission 2021, 'COMMISSION STAFF WORKING DOCUMENT Strategic dependencies and capacities', May 5, 2021, eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021SC0352.

European Commission 2022a, 'A Chips Act for Europe', February 8, 2022, https://digital-strategy.ec.europa.eu/en/library/european-chips-act-staff-working-document.

European Commission 2022b, 'COMMISSION STAFF WORKING DOCUMENT A Chips Act for Europe', May 11, 2022, SWD_2022_147_F1_STAFF_WORKING_PAPER_EN_V2_P14_1979809_ejlHFfUCmTniXeamwT2OgHriSg_86690 (1).pdf.

European Commission 2022c, 'European Chips Survey Report', July 2022, European_Chips_Report_yFsC6FEfMwZiRpia7osXFiDuM_89124 (1).pdf.

European Commission 2022d, 'European Chips Survey', August 4, 2022, European Chips Survey | Shaping Europe's digital future (europa.eu).

European Parliament 2021a, 'A new EU-China strategy: MEPs debate', 14 September 2021, A new EU-China strategy: MEPs debate - Multimedia Centre (europa.eu).

European Parliament 2021b, 'European Parliament resolution of 16 September 2021 on a new EU-China strategy', September 16, 2021, Texts adopted - A new EU-China strategy - Thursday, 16 September 2021 (europa.eu).

European Parliament 2023a, 'Verbatim report of proceedings', July 11, 2023, Verbatim report of proceedings - European Chips Act (debate) - Tuesday, 11 July 2023 (europa.eu).

European Parliament 2023b, 'Chips Act – the EU's plan to overcome semiconductor shortage', July 11, 2023, Chips Act – the EU's plan to overcome semiconductor shortage | Topics | European Parliament (europa.eu).

European Parliamentary Research Service 2023, 'BRIEFING EU Legislation in Progress The EU chips act Securing Europe's supply of semiconductors', June 2023, EU Chips Act briefing (starting positions).pdf.

European Union 2023, 'REGULATION (EU) 2023/… OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of … establishing a framework of measures for strengthening Europe's semiconductor ecosystem and amending Regulation (EU) 2021/694 (Chips Act) (Text with EEA relevance)', 14 July 2023, pdf (europa.eu).

Federal Ministry of the Interior and Community 2023, *Intergrierte Sicherheit für Deutschland: Nationale Sicherheitsstrategie* [Integrated security for Germany: National security strategy]. https://www.bmi.bund.de/SharedDocs/downloads/DE/veroeffentlichungen/2023/nationalesicherheitsstrategie.pdf.

Josep Borrell Fontelles 2020, 'Why European Strategic Autonomy Matters' , *EEAS blog*, 3 December, European External Action Service.

Joint declaration 2020: 'Declaration A European Initiative on Processors and semiconductor technologies', Signed remotely on electronic version in the English language for the Informal videoconference of the Ministers of Telecommunications on 7 December 2020, ms_joint_declaration_on_processor_and_semiconductor_technologies__22ms_91C9063F-EEEF-CDA5-B51D08E5BA9950B8_73940.pdf.

Pamela Barbaglia 2022, "France's Thales considers move for Atos cybersecurity arm BDS", *Reuters*, February 2, 2022, https://www.reuters.com/technology/exclusivefrances-thales-considers-move-atos-cybersecurityarm-bdssources-2022-02-02.

U.S. Senate Committee on Commerce, Science, & Transportation 2022, "The CHIPS and Science Act of 2022," U.S. Senate Committee on Commerce, Science, & Transportation, July 29, 2022, https://www.commerce.senate.gov/2022/8/view-the-chips-legislation.

U. Von der Leyen, *2021 State of the Union Address by President von der Leyen*, European Commission, 15 September 2021.

Xi Jinping, 'Secure a decisive victory in building a moderately prosperous society in all respects and strive for the great success of socialism with Chinese characteristics for a new era', presented on the 19th national congress of the communist party in China, 18 October 2017, www.xinhuanet.com.

All EU State of the Union speeches are retrievable here:

State of the Union - European Commission (europa.eu)

Secondary

Triolo 2024: Paul Triolo, 'A New Era for the Chinese Semiconductor Industry: Beijing Responds to Export Controls', American Affairs Journal, Spring 2024 - Volume VIII, Number 1, A New Era for the Chinese Semiconductor Industry: Beijing Responds to Export Controls - American Affairs Journal.

Köckritz 2023: Angela Köckritz, 'How tomorrow never comes: Russia's war against Ukraine and its impact on Taiwan', European Council on Foreign Relations, August 2023, How tomorrow never comes: Russia's war against Ukraine and its impact on Taiwan | ECFR.

Mügge 2023: Daniel Mügge, 'The securitization of the EU's digital tech regulation', Journal of European Public Policy, 30(7), 1431–1446, January 2023.

Stumbaum 2009: May-Britt U. Stumbaum, M.-B., 'Risky business? The EU, China and dual-use technology', EUISS Occasional Paper No. 80, European Union Institute for Security Studies, 2009, f_0017699_15178.pdf (columbia.edu).

The Economic Times 2023: [*Author unknown*], 'Timeline of US actions against China's chip industry', The Economic Times, Last Updated: Jun 30, 2023, Timeline of US actions against China's chip industry (indiatimes.com).

CFR 2023: [*author unknown*], 'How Did the United States Become a Global Power?', Council on Foreign Relations, Last Updated: February 14, 2023, How Did the United States Become a Global Power? | CFR Education.

Cox 1981: Robert Cox, 'Social Forces, States and World Orders: Beyond International Relations Theory', Peacebuilding Vol. 1, Pages 41-76, Los Angeles : SAGE, 2014.

Flint & Xiaotong 2019: Colin Flint, Zhang Xiaotong, 'Historical–Geopolitical Contexts and the Transformation of Chinese Foreign Policy', *The Chinese Journal of International Politics*, Volume 12, Issue 3, Autumn 2019, Pages 295–331, https://doi.org/10.1093/cjip/poz011.

CFR Timeline 2024: Council on Foreign Relations, 'Timeline: U.S.-China Relations', accessible via Timeline: U.S.-China Relations (cfr.org).

Miller 2022: Chris Miller, 'Chip War',

Rizzi 2023: Andrea Rizzi, 'Understanding the geopolitics of the microchip', El País 2023, accessed on May 17 2024, Understanding the geopolitics of the microchip | International | EL PAÍS English (elpais.com).

Flint & Xiaotong 2019: Colin Flint & Zhang Xiaotong, 'Historical–Geopolitical Contexts and the Transformation of Chinese Foreign Policy', The Chinese Journal of International Politics, Volume 12, Issue 3, Autumn 2019, Pages 295–331, https://doi.org/10.1093/cjip/poz011.

Kannan & Feldgoise 2022: Vishnu Kannan & Jacob Feldgoise, 'After the CHIPS Act: The Limits of Reshoring and Next Steps for U.S. Semiconductor Policy', 2022, After the CHIPS Act: The Limits of Reshoring and Next Steps for U.S. Semiconductor Policy - Carnegie Endowment for International Peace.

Magnus 2021: George Magnus, 'From economic miracle to mirage – will China's GDP ever overtake the US?', *The Guardian*, December 28 2021,

Brinza et al. 2024: 'EU-China relations: De-risking or de-coupling - the future of the EU strategy towards China', EXPO_STU(2024)754446_EN.pdf (europa.eu).

Cave 2023: Damien Cave, 'How 'Decoupling' From China Became 'De-risking'', The New York Times, 20 June 2023, What's De-risking and How Does It Compare to Decoupling - The New York Times (nytimes.com), accessed on 17-05-2024.

Dabrowski 2024: Marek Dabrowski, 'To become a geopolitical player the European Union needs Treaty change', Bruegel,17-01-2024, accessed on 15-05-2024, To become a geopolitical player the European Union needs Treaty change (bruegel.org).

Bobba et al. 2020: Bobba, S et al., 'Critical Raw Materials for Strategic Technologies and Sectors in the EU A Foresight Study', 2020, https://data.europa.eu/doi/10.2873/58081.

Park 2023 (HCSS): June Park, 'Semiconductors in Key European and Indo-Pacific Economies Geopolitical Risk in the Supply Chains into 2030 and Beyond', HCSS, October 2023.

Villoslada & Saz-Carranza 2023: Joan Villoslada Camps and Angel Saz-Carranza 'The European Chips Act: Europe's Quest for Semiconductor Autonomy' ESADEgeo POLICY NOTE, August 2023, Chips_Act_ESADE.pdf.

Teer & Bertolini 2022: Joris Teer, Mattia Bertolini, 'Reaching breaking point The semiconductor and critical raw material ecosystem at a time of great power rivalry', HCSS, October 2022.

De Wijk 2023: Rob de Wijk, 'De nieuwe wereldorde - Hoe China sluipenderwijs de macht overneemt', Balans, Januari 2023.

Piotrowski 2023: Szymon Piotrowski, '*Critical Raw Materials in the Semiconductor Industry: Current Challenges and Perspectives*', Conference Paper, April 2023.

Blondel et al. 2022: Dr. Elise Blondel, dr. Rene Kleijn and Dr. Merel Engelsman, 'CRITICAL MATERIALS, GREEN ENERGY AND GEOPOLITICS: A COMPLEX MIX', Leiden-Delft-Erasmus Centre for Sustainability Circular Industries Hub, 2022.

Dams & Veldkamp 2024: Ties Dams & Joan Veldkamp, 'Hoe China tussen de geopolitieke puinhopen aanstuurt op een nieuwe wereldorde', Clingendael Institute, 23 February 2024.

Blengini et al. 2017: Gian Andrea Blengini, Philip Nuss, Jo Dewulf, Viorel Nita , Laura Talens Peirò, Beatriz Vidal-Legaz, Cynthia Latunussa, Lucia Mancini, Darina Blagoeva, David Pennington, Mattia Pellegrini, Alexis Van Maercke, Slavko Solar, Milan Grohol, Constantin Ciupagea, 'EU methodology for critical raw materials assessment: Policy needs and proposed solutions for incremental improvements', Resources Policy 53 (2017), pp. 12–19.

Dalio 2021: Ray Dalio, '*Principles for Dealing with the Changing World Order: Why Nations Succeed and Fail*', Avid Reader Press / Simon & Schuster, 2021.

Ricart 2023, https://www.realinstitutoelcano.org/en/analyses/policy-orientations-on-eu-china-relations-in-semiconductors-an-outlook-on-bilateral-and-multilateral-agendas/.

Nivelle 2023: https://moderndiplomacy.eu/2023/08/03/china-and-critical-raw-materials-a-strategy-of-domination/.

Shuai et al. 2023: Jing Shuai, Yujia Zhao, Chuanmin Shuai, Jingjin Wang, Tian Yi, Jinhua Cheng, 'Assessing the international co-opetition dynamics of rare earth resources between China, USA, Japan and the EU: An ecological niche approach', Resources Policy 82 (103446), 2023, https://doi.org/10.1016/j.resourpol.2023.103446.

Zanardi 2022: Claude Zanardi, 'European Foreign and Security Policy towards China', Palgrave Macmillan, 2022, https://doi.org/10.1007/978-3-031-12259-0.

Poitiers & Weil 2021: Niclas Poitiers, Pauline Weil, '*A new direction for the European Union's half-hearted semiconductor strategy*', Bruegel, Brussels, 15 July 2021.

Poitiers & Weil 2022: Niclas Poitiers & Pauline Weil, 'Is the EU Chips Act the right approach?', PubAffairsBruxelles, Bruegel, 2022, Is the EU Chips Act the right approach? - PubAffairs Bruxelles.

Park 2023: Seohee Park, 'Semiconductors at the Intersection of Geoeconomics, Technonationalism, and Global Value Chains', Soc. Sci. 2023, 12(8), 466; https://doi.org/10.3390/socsci12080466.

Fang & Hwang 2023: Tianyu Fang & Tim Hwang, 'The Rise of Techno-Nationalism', Open Technology Institute, 2023, The Rise of Techno-Nationalism (newamerica.org), Accessed on 09-03-2024.

Van Manen et al. 2021: Hugo van Manen, Tobias Gehrke, Jack Thompson, Tim Sweijs, 'Taming Techno-Nationalism A Policy Agenda', HCSS, September 2021, https://hcss.nl/wp-content/uploads/2021/09/Taming-Techno-Nationalism-Sept.-2021.pdf.

Seric & Tong 2019: Adnan Seric and Yee Siong Tong, 'What are global value chains and why do they matter?', What are global value chains and why do they matter? | Industrial Analytics Platform (unido.org), August 2019, accessed on 10-03-2024.

Morgenthau 1962: Morgenthau HJ (1962) Politics in the Twentieth Century. Chicago, IL: Chicago University Press.

Walt 1991: Walt S (1991) The renaissance of security studies. International Studies Quarterly 35(2): 211–239.

Pepermans 2023: Pepermans, Astrid. '*The EU's indecisiveness on China is also a decision, and it is not a smart one*', European Council Experts' Debrief July 2023: What should be the EU's China strategy. 8. ed. European Union, 2023. pp. 9-10.

Allison 2017: Allison, Graham. *Destined for War: Can America and China Escape Thucydides's Trap?* Houghton Mifflin Harcourt, 2017.

Eroukhmanoff 2017: Clara Eroukhmanoff, "Securitisation Theory", In *International Relations Theory*, Edited by Stephen McGlinchey, Rosie Walters & Christian Scheinpflug, pp. 104-109. Bristol, England: E-International Relations Publishing, 2017.

Hagmann 2014: Hagmann, Jonas. 2014. *(in)Security and the Production of International Relations : The Politics of Securitisation in Europe*. London: Taylor & Francis Group. Accessed March 19, 2024.

Balzacq 2011: Thierry Balzacq, '*Securitization theory : how security problems emerge and dissolve*', London; New York: Routledge, 2011.

Balzacq et al. 2016: Thierry Balzacq, Sarah Léonard & Jan Ruzicka, ''Securitization' revisited: theory and cases', International Relations 2016, Vol. 30(4), pp. 494–531.

Buzan & Waever 2003: Buzan, Barry and Ole Waever, *Regions and Powers: the Structure of International Security*, Cambridge: Cambridge University Press, 2003.

Buzan & Hansen 2009:

Waever 1995: Waever, Ole, 'Securitization and Desecuritization', in Ronnie Lipschutz (ed.), On Security. New York: Columbia University Press, 1995, 46–86.

Weldes et al. 1999: Weldes J, Laffey M, Gusterson H and Duvall R, 'Cultures of Insecurity: States, Communities and the Production of Danger', Minneapolis, MN: University of Minnesota Press, 1999.

Ciuta 2009: Ciuta, Felix, 'Security and the Problem of Context: Hermeneutical Critique of Securitization Theory', Review of International Studies, 35:2, 2009, 301–326.

Floyd 2011: Rita Floyd, 'Can Securitization Theory be Used in Normative Analysis? Towards a Just Securitization Theory', Security Dialogue, 42:4–5, 2011, 427–39.

Floyd 2016: Rita Floyd, 'Extraordinary or Ordinary Emergency Measures: What, and Who, Defines the "Success" of Securitization?', Cambridge Review of International Affairs, 29:2, 677–94.

Sperling & Webber 2016:

Sperling & Webber 2017: James Sperling & Mark Webber, 'NATO and the Ukraine Crisis: Collective Securitisation', 2 European Journal of International Security, 2017.

Lucarelli et al. 2020: Sonia Lucarelli, James Sperling & Mark Webber, 'Collective securitisation and security governance in the European Union', London : Routledge, 2020.

Sperling & Webber 2019: James Sperling & Mark Webber, The European Union: security governance and collective securitisation, West European Politics, 42:2, 228-260, 2019. DOI: 10.1080/01402382.2018.1510193.

Kaunert & Leonard 2019: Christian Kaunert & Sarah Leonard, 'The collective securitisation of terrorism in the European Union', West European Politics 2019, Vol. 42, No. 2, 261–277, https://doi.org/10.1080/01402382.2018.1510194.

Christou 2019: George Christou, 'The collective securitisation of cyberspace in the European Union', West European Politics 2019, Vol. 42, No. 2, 278–301, https://doi.org/10.1080/01402382.2018.1510195.

Ceccorulli 2019: Michela Ceccorulli, 'Back to Schengen: the collective securitisation of the EU free-border area', West European Politics 2019, Vol. 42, No. 2, 302–322, https://doi.org/10.1080/01402382.2018.1510196.

Hofmann & Staeger 2019: Stephanie C Hofmann & Ueli Staeger, 'Frame contestation and collective securitisation: the case of EU energy policy', West European Politics 2019, Vol. 42, No. 2, 323–345, https://doi.org/10.1080/01402382.2018.1510197.

Bengtsson & Rhinard 2019: Louise Bengtsson & Mark Rhinard, 'Securitisation across borders: the case of 'health security' cooperation in the European Union', West European Politics 2019, Vol. 42, No. 2, 346–368, https://doi.org/10.1080/01402382.2018.1510198.

Dupont 2019: Claire Dupont, 'The EU's collective securitisation of climate change', West European Politics 2019, Vol. 42, No. 2, 369–390, https://doi.org/10.1080/01402382.2018.1510199.

Floyd 2019: Rita Floyd, 'Collective securitisation in the EU: normative dimensions', West European Politics 2019, Vol. 42, No. 2, 391–412, https://doi.org/10.1080/01402382.2018.1510200.

Lucarelli 2019: Sonia Lucarelli, 'The EU as a securitising agent? Testing the model, advancing the literature', West European Politics 2019, Vol. 42, No. 2, 413–436, https://doi.org/10.1080/01402382.2018.1510201.

Chen & Gao 2021: Xuechen Chen & Xinchuchu Gao, 'Analysing the EU's collective securitisation moves towards China', Asia Europe Journal (2022) 20:195–216, https://doi.org/10.1007/s10308-021-00640-4.

Hyttinen & Heinikoski 2019: Tatu Hyttinen & Saila Heinikoski, 'Justification of supranational criminal law–analysis of collective securitization in the EU-level harmonization of money laundering provisions', Maastricht J Eur Comp Law 26(6):815–832, 2019.

Huysmans 2006: Jef Huysmans, *The politics of insecurity: fear, migration and asylum in the European Union*, Routledge, Abingdon, 2006.

Sezal 2023: Mustafa Ali Sezal, 'Security-defence nexus in flux: (De)securitisation of technology in the Netherlands', DEFENCE STUDIES 2023, Vol. 23, No. 4, 665–686, https://doi.org/10.1080/14702436.2023.2277456.

Haacke & Williams 2008: Haacke, Jurgen, and Paul D. Williams, 'Regional Arrangements, Securitization and Transnational Security Challenges: The African Union and the Association of Southeast Nations Compared', *Security Studies*, 17:4, 2008, 775–809.

https://www.pewresearch.org/global/2023/07/27/chinas-approach-to-foreign-policy-gets-largely-negative-reviews-in-24-country-survey/

Securitization, competition at odds with globalization, says chip manufacturing pioneer (aa.com.tr): Securitization, competition at odds with globalization, says chip manufacturing pioneer

us-tmt-semiconductor-industry-outlook-2024v2.pdf.

How the chip war could break apart China and the West (gisreportsonline.com)

Who Invented the Microchip? (thoughtco.com)

PaG 11 (4) - Semiconductor and ICT Industrial Policy in the US and EU_ Geopolitical Threat Responses.pdf

How European security is changing | Chatham House – International Affairs Think Tank

Making EU Foreign Policy Fit for a Geopolitical World - Carnegie Europe - Carnegie Endowment for International Peace

preprints202211.0131.v1.pdf

Frans van Houten, "Global Chip Shortages Put Life-Saving Medical Devices at Risk," World Economic Forum, 2022, https://www.weforum.org/agenda/2022/05/global-chip-shortages-put-life-saving-medical-devicesat-risk/.

EU Chips Act, the debate goes on- Geopolitics: remaining open for business : Aeneas (aeneas-office.org)

https://carnegieeurope.eu/2022/04/14/making-eu-foreign-policy-fit-for-geopolitical-world-pub-86886

From economic miracle to mirage – will China's GDP ever overtake the US? | Chinese economy | The Guardian, accessed on May 17 2024.

Goswami, Namrata (2023). China prioritizes 3 strategic technologies in its great power competition. Retrieved from https://thediplomat.com/2023/04/chinaprioritizes-3-strategic-technologies-in-its-great-power-competition/ .

Li, Zhuoran (2023). The Future of the China-US Chip War. Retrieved from https://thediplomat.com/2023/03/the-future-of-the-china-us-chip-war/.

Schmidt, Eric (2023). Innovation power. Why technology will define the future of geopolitics. Retrieved from https://www.foreignaffairs.com/united-states/ eric-schmidt-innovation-power-technology-geopolitics.

Wang, Dan (2023). China's hidden tech revolution. How Beijing threatens U.S. dominance. Retrieved from https://www.foreignaffairs.com/china/ chinas-hidden-tech-revolution-how-beijing-threatens-us-dominance

Wei, Shang-Jin, Xie Zhuan, and Xiaobo Zhang (2017). "From "Made in China" to "Innovated in China": Necessity, prospect, and challenges". Journal of Economic Perspectives, 31(1): 49–70.

Suhail Abboushi, '*Trade protectionism: Reasons and outcomes*', Competitiveness Review An International Business Journal incorporating Journal of Global Competitiveness, October 2010, file:///C:/Users/tomsp/Downloads/7.2010TradeProtectionism-ReasonsandOutcomes.pdf.

Xue Mi, 'Strategic cultures between the EU member states: convergence or divergence?', European Security, Volume 32, 2023 - Issue 4.

US-China Relations in the Biden-Era: A Timeline - China Briefing News (china-briefing.com)