



HOW DO YOU INVADE FACEBOOK?

MODERN WAR, TECHNOLOGICAL DECOUPLING
AND IMPLICATIONS FOR SWEDEN

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Swedish Entrepreneurship Forum is an independent foundation and the leading networking organisation for initiating and communicating policy-relevant research regarding entrepreneurship, innovation and small business.

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PREFACE

The current geopolitical landscape is under rapid transformation and challenged by changes in economy, innovation, and technology. This is the second report in a series addressing the geoeconomic tensions that follow. The Russian invasion of Ukraine illustrates how dramatically and fast our security policy situation can worsen. The aim with the series is to gain better understanding of current geopolitical challenges and their effect on small and export-oriented countries as well as the implications for research and economic policy.

This report examines the relationship between digital and economic transformation and geopolitics. Modern conflict is characterized not only by military means but also by sanctions, technology bans, and company acquisitions. This gives large technology companies not only an increasing economic importance but societal and political importance as well. The new power dynamic has given rise to protectionism and technological decoupling which divides economies and creates incompatible systems between countries. The central question is how does this affect a small, innovation driven and trade-oriented economy such as Sweden?

The author suggests drafting a National Technology Strategy that covers the whole spectrum of geopolitics, business, and competencies thus outline a plan for how the country should position itself to secure wealth and security in the decades to come.

The author takes full responsibility for the analysis and recommendations in the report. Analysis and conclusions are not necessarily shared by Swedish Entrepreneurship Forum.

Stockholm in March 2022

Johan Eklund

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CHAPTER 1

INTRODUCTION

In the fall of 2020, the Chinese tech giant Alibaba was thriving and held the position as the world's fifth largest company. Few expected what would follow. As Sino-American relations worsened, companies were quickly involved in geopolitical conflict. The U.S. delisted China Mobile and China United from the New York Stock Exchange, and Chinese authorities pressured the Chinese ride-hailing app Didi to delist as well. Because of fears over what could happen to Alibaba – either by Chinese or US authorities – Alibaba's value tumbled to now being the world's 28th largest company at the time of writing.

This is but one illustration of how geopolitical conflict has accompanied the economic transformation from an industrial economy to a digital one. Modern conflict plays out not only with tanks, artillery, and fighter jets but also through sanctions, technology bans and company acquisitions. This is driven by the increasing economic importance of technology companies as well as societal and, ultimately, political importance. As technology and technological companies have become an arena for geopolitics, there has been technological decoupling that is splintering the world. It takes place along the vectors of access to raw materials, resources, capital, and supply chains. Critical hardware and software are being locked up in sets of supplies, standards, and protocols that are not interoperable. If the nexus of modern power is at the hands of Facebook and its counterparts, how do you invade Facebook?

Technological decoupling poses notable challenges for Sweden, whose innovation-driven economy is heavily dependent on exports and trade. While this openness has been a precondition for prosperity, it has also created vulnerabilities from great powers – notably Russia and China – to

impact Sweden. In particular, China has used the momentum as a supplier, as a trade partner and as a buyer of Swedish companies. In 2018, Chinese Foreign Direct Investment (FDI) in Sweden was just 20 percent less than in the significantly larger American and British economies. At the same time, Swedish security policy is heavily dependent on the US but also partners in the EU and NATO, which are seeing a steady increase of Chinese influence as a threat. The US has explicitly encouraged other countries to ban Huawei and ZTE, as it has done domestically.

Thus, Sweden is in a squeeze between our business interests and our security interests, which is incredibly difficult to navigate. Our latest defense proposals have focused on rebuilding the military and civil defense against large-scale armed aggression but provide fewer answers to the radically changing preconditions of the technological conflicts of today (Ministry of Defense, 2020). The Swedish government has the option of being reactive and following the whims of great powers (either China or the US) or to take an approach that strengthens its foundation of technological power and charts a path that balances Swedish business and security interests and supports the long-term interests of Sweden.

For this reason, this report proposes a National Technology Strategy that guides Sweden's policy in managing a balance in key drivers of growth, the need for critical skills, interests in global governance and how to manage geopolitical conflict.

CHAPTER 2

WAR TODAY

To understand why technological decoupling is splintering the world, we need to survey the shifts in modern war. This reflects the increasing entanglement between geopolitics and geoeconomics and technology.

Two Chinese colonels, Qiao and Wang, argued that the way we think about war is fundamentally changing today. We used to think of war as uniformed soldiers bearing arms and fighting in a geographically defined space. Today, however, modern soldiers consist of a mix of hackers, criminals, private companies, diplomats, and influencers (Qiao and Wang, 1999, pt.1-2). Likewise, weapons went from devices that killed people and destroyed property to include everything from company acquisitions, computer viruses and false articles (Qiao and Wang, 1999, pt.1-2). Last, the battlefield is no longer a geographically delimited area where fighting takes place. Rather, the internet and global economic markets have given confrontation a global shape. In this way, geopolitics are less geographically determined.

Unrestricted Warfare has had a major impact on societies and is seen by many as China's blueprint for modern war. Nonetheless, it seems fitting as a description of how war has changed overall. Leading Russian military theorists have tried to understand the contours of modern war in a similar way. Russia's highest-ranking officer and chief of general staff, Valery Gerasimov, has argued that "information technology is becoming, in fact, one of the most promising types of weapons" (Gerasimov, 2019). He similarly argued that "today, it is obvious that the line between peace and war is blurring. Nonmilitary forms and means of struggle have received an unprecedented technological development and acquired a dangerous and sometimes violent nature" (Gerasimov, 2017).

The views from Gerasimov were also seen in Russia's National Security Strategy (NSS), which was approved in July 2021. The NSS is the superior document that all other strategies must align with. The NSS devoted much attention to information and communication technologies and how they are used to "interfere in the internal affairs of states, undermine their sovereignty and violate their territorial integrity, posing a threat to international peace and security" (President of the Russian Federation, 2021a:II.49). A major novelty in the NSS was how it led to warnings that transnational corporations were consolidating their control over the internet (President of the Russian Federation, 2021a:II.53). Moreover, these companies, together with the U.S., were seen to be attacking Russian values and exerting "an informational and psychological impact on individual, group and public consciousness by disseminating social and moral attitudes that contradict the traditions, beliefs and convictions of the peoples of the Russian Federation" (President of the Russian Federation, 2021a:II.87).

These views are not unique to Russia and China; rather, they are attempts to manage the increasing importance of nonmilitary means in war all over the world. Gerasimov's colleague in the UK, the British Chief of Defense Staff, Nicholas Carter, stated that Britain is "at war every day" due to cyber and information attacks, which eradicated the boundaries between war and peace (Nicholls, 2019). Former Pentagon counsellor Rosa Brooks wrote in the aptly titled book *How Everything Became War and the Military Became Everything* that "the increasingly blurred boundaries between war and 'not-war' are undermining our ability to place meaningful constraints on violence and power, both domestically and globally" (Brooks, 2017:77). Something is changing with war, but the question is exactly what the underlying forces are.

CHAPTER 3

WAR AND THE ECONOMY

The pioneering Marxist Friedrich Engels saw that the character of war changes with the character of the economy (Peralta, 2005:96). In agricultural societies, the goal of war was to capture more land; in slave-owning societies, the goal was to capture more slaves; and in industrial societies, the goal of war was to gain control of more resources and access to new markets. Using this reasoning, the question is what the character of the current economy is.

The most common answer would likely be that we are living in an innovation economy, where the greatest rewards are given to the innovators. If anything, the last decades have shown the meteoric rise of tech (technology) companies. A related way to see the modern economy is through the concept of an attention economy. In 1997, Goldhalber argued that “what counts most is what is most scarce now, namely, attention” (Goldhalber, 1997a). He wrote a critique against the idea that we were living in an information economy and rather saw that:

Information is not scarce ...Is there something else that flows through cyberspace, something that is scarce and desirable? There is. No one would put anything on the Internet without the hope of obtaining some. It's called attention. And the economy of attention - not information - is the natural economy of cyberspace (Goldhalber, 1997b).

For Goldhalber, attention is the scarcest resource, and anything that manages to capture it can be monetized. This illustrates how platforms that capture a majority of your attention – Google and Facebook – have translated it to a vast advertising business that has managed to outcompete the pre-Internet winners in the attention economy, newspapers and TV stations. Another related concept to explain the rise of big tech companies is surveillance capitalism. The core idea is that big technology companies

are accumulating as much data as possible from your online activity (surveillance), which enables microtargeting, which has a magnitude more effective than mass marketing. The microtargeting is so effective in capturing the attention of the user because it is based on copious amounts of user data and outcompetes massmarketing. This is the background to the media's structural crisis, as companies use their budgets to purchase advertisements on Google and Facebook rather than print and TV stations. Google, Facebook, and Amazon, with their microtargeted ads, outnumber advertising revenues in print and TV (Statista, 2021).

CHAPTER 4

WAR AND TECHNOLOGY

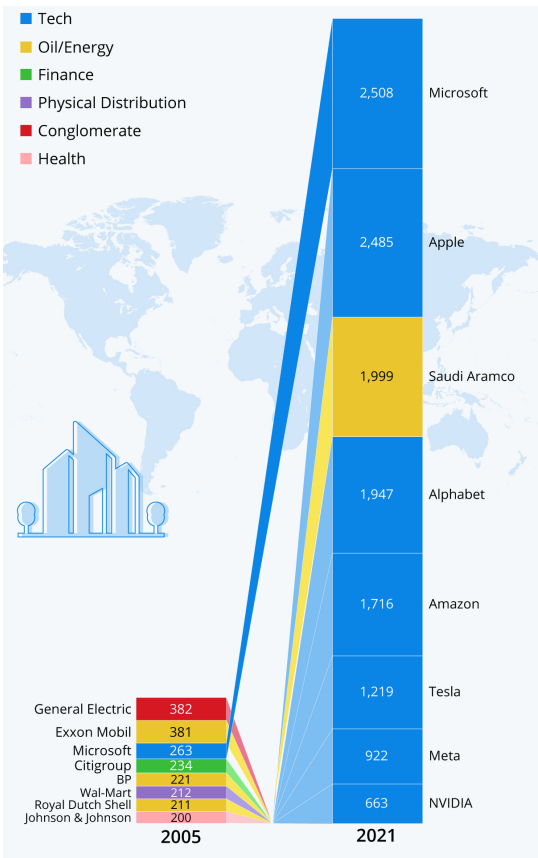
In line with Engels' statement, geopolitics of today have updated with the shape of the economy. The overall trend has been a decrease in wars between great powers; wars that have been fought have fewer battle deaths, and we have fewer severe conflicts today (Pettersson and Öberg, 2020). This does not mean that conflict and war are fading away or are in decline. As the world has been moving from an industrial to a digital economy, so have geopolitical conflict. The most important assets today are less the control of land, sea, or fossil fuels and more ownership, design, and governance of technology. Thirteen years ago, the largest companies in the world were dominated by oil and gas companies called Exxon Mobil, PetroChina and Gazprom. Today, they are called Apple, Microsoft, Google, Amazon, and Facebook. This is due to the immense power that is generated from controlling the hardware, software and algorithms that shape the way we see the world, power, and legitimacy. Indeed, "the process of collecting and organizing information is now a tremendous source of economic, political and cultural power. Data makes us more malleable, easier to predict, and extremely prone to influence" (Smyth, 2019:578).

The big tech platforms hold a vast amount of power. One illustration of this is how little you have heard from the former President Donald Trump since he was banned from Facebook and Twitter. At the time of writing, he is relegated to sending strange-looking communiques mediated through others posting them on social media. Likewise, when Google and Apple decide to ban an app – as was done with Parler, the "free speech" app used in the storming of the US capitol – the apps effectively have no way to function.

If politics and war are being played out and shaped by big tech companies, one would ask - how do you invade them? The answer is that it is quite hard to do. Nonetheless, as a state trying to influence the world, it might be possible to occupy the algorithms that shape what we see (Council of Europe, 2019). This is the background behind Russia's famous "troll factory", the

Internet Research Agency, where several hundred people were tasked with manually running multiple accounts to make certain topic trends. In essence, they sought not to occupy Facebook but at least to temporarily occupy their algorithms. It is not truly a fundamental novelty, as in the business world it is simply known as search engine optimization (SEO), but it is now a critical competency among strategists. The states that have tech giants – the US and China – will not allow another state to invade them. They do what they can to protect them and support their growth. The rest of the world will have to focus on building their own competitors and trying to influence current platforms from a distance.

FIGURE 1. THE AGE OF THE TECH GIANT – COMPANIES WITH THE WORLD'S LARGEST MARKET CAPITALIZATIONS IN 2005 AND 2021 (BILLION USD)*



* As of March 31, 2005 and November 4, 2021

Source: Martin Armstrong, Statista

CHAPTER 5

WAR AND GEOGRAPHY

The “geo” in geopolitics refers to how geography and spatial aspects impact politics and power, and geoeconomics does the same for how it impacts the economy. The key defining trend in geography’s role in modern confrontation is its relative decline in importance. When more modern power is focused on the digital domain, which is accessible globally, the physical domain matters less. Nevertheless, there is still a notable difference in how you experience and access the internet through the Great Firewall of China, through the EU’s more privacy-minded legislation or from the US’s firm-centric model. All the components needed in producing the technologies of the future – rare earth minerals, semiconductors, and processors – still exist in the physical world and have become an intense source of conflict.

The winners of the innovation and attention economy are the big technology firms, which are predominantly based in the US and China. This is as follows: “the most central nodes are not randomly distributed across the world but are typically territorially concentrated in the advanced industrial economies, and the United States in particular” (Farrell and Newman, 2019:17). This depends on the network effects and the nature of the winner takes it all-markets.

On the other hand, Europe is notably lagging and is likely to see its relative position decline. Out of the world’s largest companies by market capitalization, none of the top 15 are European, and only one is in the top 25, Moët Hennessy Louis Vuitton from France (hardly a tech powerhouse). Last, there are only four European companies in the top 50 (Companies Market Cap, 2021).

Not only is Europe in a weak position among the largest tech companies, the biggest are getting bigger. During the last three decades, we have not seen such a strong market concentration in the share of the top five companies in the S&P 500 as we are seeing today. In other words, we are looking at winner takes it all, or half, markets. In practice, this means that Google and Apple are completely dominating the app market (through App store and Play store). Android accounts for approximately 50 percent of the market share in mobile operating systems, whereas iOS (Apple) accounts for approximately 45 percent. In these fundamental cases, Europe and Sweden are nowhere to be found.

FIGURE 2. MARKET CONCENTRATION IN BIG TECH



Source: BofA Global Investment Strategy, Bloomberg

CHAPTER 6

TECHNOLOGICAL DECOUPLING

The increasing importance of owning, designing and governing technology has led into what has been termed a technological decoupling, as well as a technological arms race. Increasingly, states are viewing companies, innovations, access to markets and supply chains in a zero-sum way. It is born from a re-evaluation that the overall strategy toward China and Russia has failed. It formerly rested on a premise from liberal interdependence theory that the more Russia and China were integrated into global institutions and markets, the more Western political values would spread and “that greater economic exchange ...fragmented and decentralized power relations” (Farrell and Newman, 2019). The integration part was successful – with, for instance, China joining the WTO in 2001 and Russia in 2012 – but the values spread was nowhere to be seen.

Today, there has been a recognition in Washington and elsewhere that the logic of just more integration has failed. This has led to a rethinking of where it is reasonable and desirable to have Chinese state-influenced companies in critical infrastructure. In turn, this has given rise to sanctions, acquisitions, and legislation to limit Chinese influence. This has driven a technological decoupling where access to critical resources, supply lines and building technology companies are increasingly zero-sum. The US-Chinese rivalry is a key driver of the technological arms race, but it also has a wider scope and includes both European and Asian countries and affects the entire globe.

In one attempt to capture the economic dangers of technological decoupling, the authors note that a full-scale decoupling with trade barriers between the EU and the world would lead to €73 billion loss of real

income yearly. The authors argue that a more limited scenario of mutual decoupling between only China and the EU would lead to a loss of €70 billion in real income (one percent of GDP) for the Eurozone countries (Falbermayr et al., 2021).

An illustrative example comes from the US limiting the sale of semiconductors to Huawei through licensing (US Department of Commerce, 2020). Semiconductors have been called the oil of the 21st century and are required to build everything from smartphones, computers, and cars to weapons and network equipment. The US move targeted in particular TSMC (Taiwan Semiconductor Manufacturing Company), one of the largest chipmakers and the world’s eighth largest company. TSMC was a critical supplier to Huawei but choose to go along with the US sanctions (as 60 percent of its customers are American). The move has been estimated to set Huawei back three years in their production capacity (Blank, 2020). Potentially as compensation, TSMC announced two weeks after the restrictions that they would build a factory in Arizona and now seems firmly entrenched in the US corner (TSMC, 2020). Later, both Huawei and ZTE were designated national security threats in the US due to their collaboration with Chinese state and intelligence agencies (Shepardson, 2021).

FIGURE 3. TECHNOLOGICAL DECOUPLING

	EU	US	China
Splinternet	Divided on whether to allow Huawei/ZTE in 5G	Banning Huawei, ZTE and semiconductor sales to China	“The Great Firewall of China” that is mostly inaccessible
Software Decoupling	Digital Services Act Digital Markets Act on the way	US legislation have been permissive (home of Big Tech)	Chinese market restricted for others and restrictions on CN companies/apps
Governance Decoupling	Individual-centric	Firm-centric	State-centric
Tax Regime	Pro Digital Tax	Contra Digital Tax	Potential own Digital Services Tax
Content Moderation	DSA increasing accountability	Art.230 freeing platforms	State-control and censorship

Technological decoupling takes place on a vast array of parameters: from supply chains to hardware and from software to governance. Figure 3 is one attempt to illustrate the difference of key aspects in three centers of technological power. Those are not deterministic and unbridgeable, but they all illustrate how fundamental perceptions diverge between the EU, the US and China. If the current splintering continues, we will likely end up in a two- or tripartite technological world. In such cases, economic interactions, businesses, and data are increasingly unlikely to communicate and interact with each other. An illustration of this was brought forth when the European Court of Justice, in July 2020, declared in the Schrems II case that the transfer of European data to the US was illegal due to its invasive surveillance programs (European Parliament, 2020). In theory, it should disallow US companies transferring data from Europe to the US, but it has not yet been implemented in practice. Given the decentralized nature of internet infrastructure, it could entail the inability of US companies to even function in European markets.

CHAPTER 7

IMPLICATIONS FOR SWEDEN

The question is how Sweden – often seen as a small country in Europe’s periphery – should navigate these areas. In the time of the industrial economy and industrial conflict, Sweden’s security was focused on an overt nonalignment but covert partnership with NATO, particularly the US (Holmström, 2015). This was supported by strong armed forces and an exceptionally capable and independent defense industry. The epitome was perhaps seen in the 1950s, when Sweden had the fourth largest air force in the world. From being one of the more self-sufficient states in Europe during the Cold War, Sweden’s security policy has gone to the other end of the extreme. Today, Sweden is a member of the EU and heavily reliant on the US and NATO in providing its military security.

Sweden is one of the winners of the digital economy with a dynamic and innovative economy that is largely dependent on exports (~43 percent). However, this strength is also its weakness in this era of digital conflict. Sweden combines very strong technological innovation in established companies and startups with a laissez-faire economy vulnerable foreign state actors. For instance, three of Sweden’s most advanced semiconductor companies – Norstel, Imego and Silex - were sold to Chinese companies even though they had clear ties to the military-industrial complex (Forsberg, 2018). There is a risk that more critical companies and competencies are being purchased by foreign actors. The winner-takes-most nature of the digital economy is to a notable disadvantage for Sweden, which has zero companies among the top 200 in the world. The market cap of Sweden’s most valuable company, Atlas Copco, only amounts to two percent the size of Apple’s. Both Apple and Microsoft are individually larger than

OMX30, Sweden's thirty largest companies, together. This underlines how market incentives alone will leave Sweden without its critical technology companies.

Perhaps the clearest illustration of technological decoupling in Sweden is the Huawei case. Sweden had been planning to build its 5G networks, and Huawei wanted to participate in the bidding. However, Sweden's expert security agencies - the Security Police and the Swedish Armed Forces - recommended against their participation. Huawei and ZTE were deemed threats to Swedish security due to Chinese intelligence and surveillance as well as their ties to the Chinese state, and they were consequently forbidden to participate in the bidding.

This could have been the end of the story, but in a rare turn of events, the CEO of Ericsson, Börje Ekholm pressured the Swedish government to allow Huawei to participate in the bidding in Sweden (Fröberg and Larsson, 2021). On the surface, this seemed strange, as Huawei and Ericsson are the main competitors and among only three in the world who offer full-service 5G (the last one being Nokia). Nonetheless, Ericsson already has approximately ten percent of the significantly larger Chinese 5G market and thus incentives to keep operating in China (Fröberg and Larsson, 2021).

Adding further complexity to the issue, Sweden's most important security partner - the US - took a strong stance against Huawei and ZTE and started pressuring European states to ban Huawei. Several larger states, such as France and the UK, as well as smaller states in the Baltics and Eastern Europe forbade and eliminated Huawei from their networks. Even Germany, who has been most critical in Europe toward the Trump administration, decided to cut down on Chinese gear in its 5G system (Scott, 2021). On the one hand, Sweden is left in the middle, between its most important ally - the US - and other allies and, on the other hand, important business interests. For now, it seems that the Swedish government will proceed along with the recommendations of the Swedish security agencies and the wishes of its partners. However, Huawei has sued the Swedish government for several billion SEK.

There are less than stellar precedents from Portugal and Greece that underline the consequences of too much foreign – and in this case Chinese – ownership. After both countries sold critical infrastructure – in telecoms and shipping – they started hindering EU processes by vetoing human rights resolutions targeting China and European proposals for screening mechanisms for foreign direct investment (Emmott and Koutantou, 2017).

Sweden will be at the center of the geotechnological competition as an open country with very strong innovation but also has weak deterrence and little ability to impose major costs on the world stage. These are reasons why Sweden's competitiveness is being hollowed out by large-scale cyber espionage mainly from Russia and China, as well as by acquisitions of critical infrastructure and technology. The IT security company Truesec is estimating that Sweden is losing 20–22 billion SEK (\$~2,4 billion) in 2020 from cyber espionage and that this figure is likely to keep rising (Eklund, 2020).

CHAPTER 8

WHAT TO DO?

The international order and its institutionalization of organizations, treaties, and norms were created after the Second World War. Most of the world was engulfed in the war, and the gold standard was still used in the economy. There is little surprise that organizations created more than half a century ago are less suited to deal with the intricacies of the digital economy. Just one example is how anti-trust has focused on measuring consumer harm in dollars and cents. This makes it incredibly difficult to legislate big tech companies, as users are not buying anything, but their attention is the product being sold. The existing institutions, be it the UN, the OECD or the WTO, are seldom able or suited to deal with the complexities of technology governance, which poses challenges above the scope they were meant for. Institutions and mechanisms for technology governance require an update, as does Sweden's outlook on the world and safeguarding of its wealth and security for the future.

The first step in moving the problem set forward would be to draft a National Technology Strategy that covers the whole spectrum of geopolitics, business, and competencies. The strategy should seek to outline when business is solely business and when business is embroiled in geopolitics. Being successful in the era of digital conflict requires a whole different set of practices than the industrial era, for which most of our governance systems are still shaped.

The strategy needs to answer what the critical technologies for Sweden are and charter the course to excel in those. Technology, however, is very little without the correct human capital to develop and adopt it. The strategy thus needs to set out a credible idea for how the country should generate the correct circumstances to secure our wealth and security in the decades to come. Right now, the trends are worrisome. Sweden's universities have been

sliding in quality rankings just as its businesses have been performing in the rankings of the world's largest companies. A National Technology Strategy (NTS) could be a critical component to break this trend. The strategy should consider and outline answers, even if tentative, to a number of questions, such as:

- **Global Governance:** How can Sweden contribute to a reform of the global governance system and update it to fit the digital economy? How can Sweden influence the EU to work to revise global governance? What way should Sweden head if caught between the US and the EU in the technological domain?
- **Transatlantic Tech Policy:** The new US-EU council on Trade and Technology (TTC) holds the promise of containing the worst parts of US policy (protection of their tech giants) and amplifying the best parts of European policy (platform responsibility, data privacy). The NTS should outline the Swedish policy toward the TTC.
- **Building Swedish Tech Giants:** How can Sweden create and keep future tech giants in Sweden? In what way does the Swedish tax system support the transformation of promising startups to large technology companies?
- **Coalition-building in Tech:** Sweden's policy has been most effective by being promoted in a coalition of likeminded peers; what coalitions are most effective to further Swedish technology policy? This should include the Democratic 10¹ and the Nordic Council.
- **Supply of competencies in demand:** What reforms are needed in the Swedish higher education system to supply the appropriate talent and support them into transforming their ideas into companies? How can we attract and maintain talent with demanded skills from abroad?
- **Supply of the right technologies:** What strategic fields of technology should Sweden develop (such as AI, batteries, and semiconductors)? What

1. The EU, the US, UK, Japan, South Korea, Italy, Germany, France, Canada, Australia (Spain, Poland, Indonesia, and India has participated as observers).

are the fields in which Sweden is already strong and has a competitive advantage to develop (such as biotechnology)?

While a strategy is a useful exercise to scrutinize and harmonize national objectives, it is seldom a panacea for all the issues out there. In particular, it is not obvious how a medium-sized and open economy such as Sweden should navigate the field between the world's largest powers and companies. Rather, a broader discussion is needed regarding the changing character of the geopolitics and geoeconomics as well as its consequences for Sweden. This should bring together stakeholders from the private sector, politics, academics, as well as security and geopolitical experts. The bottom line: even though it may be tempting to ignore the geopolitics of the global economy, it will no doubt remind us of its existence.

REFERENCES

- Blank, S. (2020). "The Chip Wars of the 21st Century", *War on the Rocks*, 11 June, <<https://warontherocks.com/2020/06/the-chip-wars-of-the-21st-century/>>,
- Brooks, R. (2017). *How Everything Became War and the Military Became Everything: Tales from the Pentagon*. New York: Simon and Shuster.
- Clausewitz, C. von. (1991). *Om Kriget (On War)*. Mårtenson H, (translator), Stockholm: Bonnier Fakta Bokförlag.
- Companies Market Cap. (2021). "Largest Companies by Market Cap", <<https://companiesmarketcap.com/>> , accessed 19 September 2021.
- Council of Europe. (2019). "Council of Europe warns about the risk of algorithmic processes being used to manipulate social and political behaviours", DC 024(2019). <https://search.coe.int/directorate_of_communications/Pages/result_details.aspx?ObjectId=090000168092de6a>
- Eklund, H. (2020). "Svenska notan för cyberangrepp i år: 20 miljarder", *NyTeknik*, 29 June, < <https://www.nyteknik.se/sakerhet/svenska-notan-for-cyberangrepp-i-ar-20-miljarder-6997884>>
- Emmott, R. & Koutantou, A. (2017). "Greece blocks EU statement on China human rights at U.N.", *Reuters*, 18 June, <<https://www.reuters.com/article/us-eu-un-rights-idUSKBN1990FP>>
- European Commission (2021). "EU-US Trade and Technology Council Inaugural Joint Statement", *Press Release*, 29 September, <https://ec.europa.eu/commission/presscorner/detail/en/STATEMENT_21_4951>
- European Parliament (2020). "The CJEU judgment in the Schrems II case", *At a Glance*, September. <[https://www.europarl.europa.eu/RegData/etudes/ATAG/2020/652073/EPRS_ATA\(2020\)652073_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/ATAG/2020/652073/EPRS_ATA(2020)652073_EN.pdf)>
- Falbermayr, G. et al. (2021). "Decoupling Europe", *Kiel Institute for the World Economy*, No.153, July, < https://www.ifw-kiel.de/fileadmin/Dateiverwaltung/IfW-Publications/-ifw/Kiel_Policy_Brief/2021/KPB_153.pdf>
- Farrell, H. & Newman, A. L. (2019). "Weaponized Interdependence: How Global Economic Networks Shape State Coercion". *International Security*, 44(1), 42–79.
- Forsberg, B. (2018). "Staten sålde spjutspetsbolag till Kina – under radarn (Government sold state of the art-companies to China)",

- Svenska Dagbladet*, 12 December. < <https://www.svd.se/staten-salde-spjutspetsbolag-till-kina--trots-militara-kopplingar>>
- Fröberg, J. & Larsson, L. (2021). "Sms avslöjar: Ericssons vd pressade regeringen att rädda Huawei (Sms reveals: CEO of Ericsson pressured Swedish government to save Huawei)", 1 January, < <https://www.dn.se/ekonomi/sms-avslojar-ericssons-vd-pressade-regeringen-att-radda-huawei/>>
- Gerasimov, V. (2017) "Mir na granyakh voyny (World on the brink of war)". *Voyenno-Promyshlennyy Kuryer* 10(674). <<https://vpk-news.ru/articles/35591>>
- Gerasimov, V. (2019). "Vektory razvitiya voyennoy strategii (Development Vectors of Military Strategy)". *Krasnaya Zvezda*. 4 March. <<http://redstar.ru/vektory-razvitiya-voennoj-strategii/>>
- Goldhaber, M. H. (1997a). "The Attention Economy and the Net". *First Monday*, 2(4).
- Goldhaber, M. H. (1997b). "Attention Shoppers!: The currency of the New Economy won't be money, but attention -- A radical theory of value". *Wired* 12 January. <https://www.wired.com/1997/12/es-attention/>.
- Gramer, R. & Lynch, C. (2018). "Trump Stealthily Seeks to Choke Off Funding to U.N. Programs", *Foreign Policy*, 2 October, <<https://foreignpolicy.com/2018/10/02/trump-stealthily-seeks-to-choke-off-funding-to-un-programs/>>
- Holmström, M. (2015). *Den dolda alliansen : Sveriges hemliga NATO-förbindelser*. Stockholm: Bokförlaget Atlantis.
- Ministry of Defense (2020). "Totalförsvarsproposition 2021–2025: Inriktning av Sveriges försvarspolitik (Total Defence Proposition 2021–2025: Direction for Swedish defense Policy)", Prop 2020/21:30, <https://www.regeringen.se/regeringens-politik/forsvar/totalforsvarsproposition-20212025---inriktning-av-sveriges-forsvarspolitik/>
- Nicholls, D. (2019). "Britain is 'at war every day' due to constant cyber attacks, Chief of the Defence Staff says", *The Telegraph*, 29 September. < <https://www.telegraph.co.uk/news/2019/09/29/britain-war-every-day-due-constant-cyber-attacks-chief-defence/>>
- Peralta, A. (2005). *Med andra medel: från Clausewitz till Guevara: Krig, Revolution, och Politik I en marxistisk idétradition (By other means: From Clausewitz to Guevara; War, Revolution, and Politics in a Marxist ideational tradition)*. Munkedal, Sweden: Glänta Produktion.

- Pettersson, T. & Öberg, M. (2020). "Organized violence, 1989–2019". *Journal of Peace Research*, 57(4), 597–613.
- President of the Russian Federation (2021). "Strategiya natsionalnoy bezopasnosti Rossiyskoy Federatsii (National security strategy of the Russian Federation)". Decree 400. July 2, <<http://publication.pravo.gov.ru/Document/View/0001202107030001?index=0&rangeSize=1>>
- Qiao, L. & Wang X. (1999). *Unrestricted Warfare*, Beijing: PLA Literature and Arts Publishing House
- Scott, M. (2021). "How Trump won over Europe on 5G", *Politico*, 2 April, <<https://www.politico.com/news/2021/02/04/trump-europe-5g-466016>>
- Shepardson, D. (2021). "U.S. FCC votes to advance proposed ban on Huawei, ZTE gear" *Reuters*, 18 June <<https://www.reuters.com/technology/us-fcc-votes-launch-further-crackdown-huawei-zte-equipment-2021-06-17/>>
- Smyth, S. M. (2019). "The Facebook Conundrum: Is it Time to Usher in a New Era of Regulation for Big Tech?", *International Journal of Cyber Criminology*, 13(2), 578–595.
- Statista (2021). "Distribution of advertising spending worldwide in 2020, by medium", 2 September, <<https://www.statista.com/statistics/376260/global-ad-spend-distribution-by-medium/>>
- TSMC (2020). "TSMC Announces Intention to Build and Operate an Advanced Semiconductor Fab in the United States", 15 May, <<https://pr.tsmc.com/english/news/2033>>
- US Department of Commerce (2020). "Commerce Addresses Huawei's Efforts to Undermine Entity List, Restricts Products Designed and Produced with U.S. Technologies", May 15. <<https://2017-2021.commerce.gov/news/press-releases/2020/05/commerce-addresses-huaweis-efforts-undermine-entity-list-restricts.html>>

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Modern conflict plays out not only with tanks, artillery and fighter jets but also through sanctions, technology bans and company acquisitions. This gives large technology companies increasing economic as well as societal and political importance. The new power dynamic has given rise to technological decoupling and the building of incompatible systems. How does this affect a small, innovation driven and trade-oriented economy such as Sweden?

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