EUROPE'S DIGITAL FUTURE:
PERSPECTIVES FROM NORTHERN EUROPE

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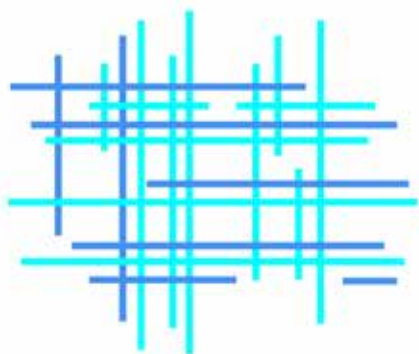
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Europe's
Digital Future

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Introduction

The concept of 'digital sovereignty' has emerged as a prominent new theme in European digital policy, and is one which may have important implications for the future of the EU and its Member States.

The full scope and detail of the concept remain poorly defined, but European Commission President Ursula von der Leyen has written that digital sovereignty "describes the capability that Europe must have to make its own choices, based on its own values, respecting its own rules." The European Commission's *2030 Digital Compass: the European way for the Digital Decade* sought to flesh out the concept further, outlining the need to develop policies and technological capabilities that empower it to achieve a "sustainable and more prosperous digital future" while addressing Europe's digital "strategic weaknesses, vulnerabilities and high-risk dependencies."

While it is clear that the issue of digital sovereignty is one that could have far-reaching consequences for the EU, to date it has engendered only limited debate at national level in many EU Member States. As such, in early 2021, the Institute of International and European Affairs (IIEA) launched the *Europe's Digital Future* project, which is supported by Google, to explore what the concept of digital sovereignty means, and what future it might herald for the EU and for Europe's small, open economies, in particular.

In pursuit of this goal, the IIEA has convened a transnational network of institutions, initially comprised of think tanks and universities, from Denmark, Estonia, the Netherlands and Sweden, in addition to Ireland.

This is the first joint report published by this network[1]. It seeks to highlight the perspectives of some of Europe's 'digital frontrunner' states. This report consists of short papers outlining the national perspectives of each participating Member State. These short papers seek to assess whether and to what extent these Member States have national debates or strategies on the topics that are related to digital sovereignty; to identify key issues or interests in the debate that are particularly relevant for each Member State; and to offer an initial assessment of the possible implications of a digitally sovereign EU.

First, Jan Høst Schmidt of Think Tank Europa outlines Denmark's view of the topic. He notes his country's more sceptical view of the concept of European digital sovereignty, but identifies important European digital policy priorities which Denmark supports. Dr Adrian Venables of the Tallinn University of Technology (TalTech) highlights the positive contribution Estonia may be able to make to the development of European digital sovereignty by drawing on Estonia's experience as a leader in digitalisation. Séamus Allen of the Institute of International and European Affairs (IIEA) in Ireland describes how European digital sovereignty may have implications for many of Ireland's key interests, although to date the concept itself has received little attention in Ireland's public discourse. Brigitte Dekker of the Clingendael Institute presents the prominent discussion on digital sovereignty taking place in the Netherlands and outlines how the Netherlands is playing an active role in shaping Europe's digital policies. Finally, Gunnar Hökmark, of the Stockholm Free World Forum, provides a perspective from Sweden, noting his country's preference for a Europe that is open and competitive, and which does not close itself off from an increasingly digitalised world.

In a world in which digital technology plays an increasingly vital role across all aspects of society, the direction in which European digital policy develops will have significant implications for Europe's prosperity and society. The emerging nature of European digital sovereignty and the role this concept will play in shaping Europe's digital policy may thus have great importance for Europe's future and for the role of Europe in the world. This report is intended to provide a framework to promote further discussion, debate and research on this vital subject.

The IIEA would like to express its gratitude to the participating authors and their respective organisations for their work on this report, and for their ongoing participation in this project.

As an independent forum, the IIEA does not express opinions of its own. The views presented in this report are those of the authors alone.

DENMARK

The limited Danish debate on EU Digital Sovereignty reveals clear scepticism about the concept of digital sovereignty.

Jan Høst Schmidt, Think Tank Europa

Introduction

The concept of EU Digital Sovereignty was launched by European Commission President Ursula von der Leyen in her first State of the Union speech on 16 September 2020. Referring to Europe's need for a digital transformation with emphasis on more data production and protection, European production of Artificial Intelligence (AI) and a strengthened digital infrastructure in the EU, the President announced that "None of this is an end in itself - it is about Europe's digital sovereignty, on a small and large scale".[2]

The term 'digital sovereignty' is widely used in EU policy circles and refers to the EU's ability to obtain a sense of independence from third-country providers of key technologies.[3] But it is also an unclear concept.

To the Danish Government, for example, the concept of digital sovereignty includes a risk of protectionism and loss of innovative industrial capacity. In several exchanges with the Danish Parliament on the German and Portuguese Presidencies' programmes on the Single Market and digitalisation, the Government has supported a strengthening of the EU's capacity to develop new digital technology and to ensure that the Digital Single Market operates on European values and rules. But the Danish Government also expresses concern that such a strategy must not lead to a closed-off Internal Market.[4] In addition it should be noted that the use of the term 'sovereignty' in an EU-context is in itself sensitive in Denmark, where research has documented the prevalence of a strong public perception of EU-integration leading to the erosion of national sovereignty.[5]

The Danish Prime Minister together with the political leaders of Germany, Estonia and Finland co-signed a letter to Ursula von der Leyen ahead of the European Council on digitalisation in the EU, which took place ahead of the March EU Summit. In the letter, the four Prime Ministers call for the EU to build on its strengths and reduce its strategic weaknesses in digitalisation, but to avoid a protectionist approach.[6]

In March 2021, the Danish Government launched a Commission on Digital Partnership with Danish business, social partners and experts to maintain Danish digital leadership and improve Danish businesses' competitiveness. The mandate of the Partnership Commission has no reference to the concept of EU Digital Sovereignty, although the Partnership Commission is asked to take account of international experiences in the digital area and EU digital initiatives.[7]

In June 2021, the Government launched a debate on regulation of the tech-giants on the basis of a White Paper. This White Paper calls for more responsibility for the tech-giants on data protection, more regulatory powers for the public authorities with respect to dominant positions of major platforms and a fairer tax contribution from the tech-giants.[8]

Despite scepticism about the term "EU digital sovereignty", the Government generally supports the regulatory line in the proposed Digital Services Act and Digital Markets Act as well as the proposal on AI.[9]

Denmark is amongst the top performers with respect to digital transformation

According to the European Commission scoreboard on digital performance, Denmark ranks amongst the four best performing EU-countries, with Finland, Luxembourg and Netherlands, and on top of the global list over the period 2015-18, cf. Figure 1.[10]

Figure 1. Digital performance 2015-18 of EU Top 4 against the rest of the world, according to the European Commission's overall scoreboard for digital performance
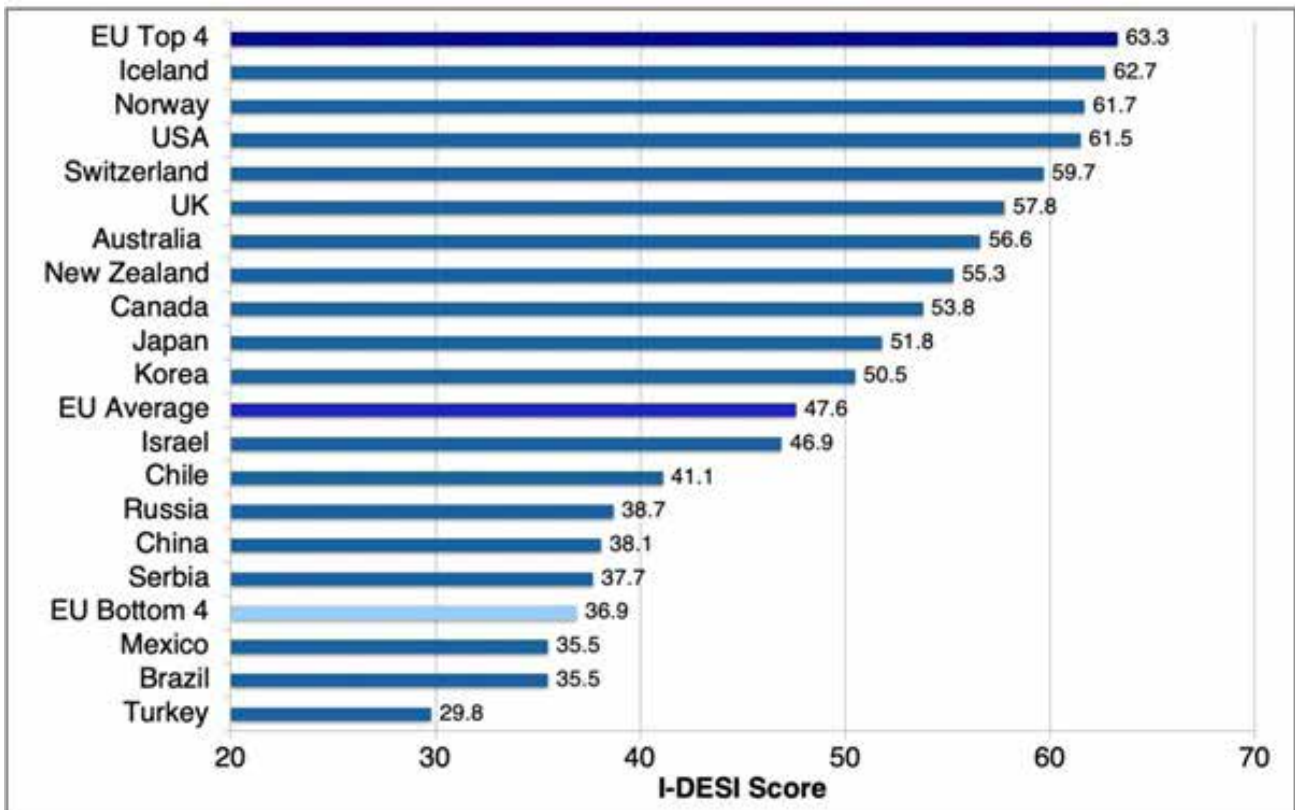
Note: Denmark is in the EU top 4 category every year of the period and with the highest 4-year average together with Finland cf. International DESI 2020 final study report, Annex 3 table 6.

Source: International Digital Economy and Society Index 2020, European Commission 2020 - https://digital-strategy. ec.europa.eu/en/policies/desi

ICT plays an increasing role for Danes according to a study based upon a survey conducted by *The Danish Statistical Office*.[11]

According to the 2020 report, 3.8 million Danes were e-shoppers in 2019, corresponding to approximately 80% of the population between 16-89 years. Compared to 2011, there were 900,000 more e-shoppers in 2019. The share of e-shoppers has increased especially in the elderly population, where it has tripled since 2011.

At 23%, Denmark is the EU country with the highest proportion of citizens who have used 'smart home' products, and at 81% is the EU country with the largest proportion of the population between the ages of 16 and 74 years who use social networking services such as Facebook or Instagram.

In 2014, all communication with public authorities was made digital with exceptions for elderly people and people with special disabilities. In 2019, 90% of Danes used the obligatory public mailbox for communications with the public authorities, while 9% were exempted. To the question 'To what extent do you trust public authorities to take good care of your personal information?' most people responded 'high' or 'to some extent' (27% and 49%, respectively). 23% have lesser or no trust that the public authorities take good care of their personal information.[12]

Key issues in the Danish debate on digital transformation

The debate in Denmark to a large extent focuses on how to further improve the national digital capacity of public and private sectors, including how to secure high-speed fiber and 5G in all parts of Denmark, how to improve the digital skills of the Danish population and how to secure continued trust in digital solutions and in the use of data, including how to regulate the tech-giants.

The Government's mandate to the Commission for Digital Partnerships covers five broad areas: The future digital public sector; the future of digital businesses and workplaces; a better public-private partnership and innovation; a data-driven society; and Denmark in the future.[13] These broad areas are to a large extent comparable to the four areas outlined by the European Commission in its Communication "2030 Digital Compass: The European Way for the Digital Decade".[14]

According to its mandate, the Danish Commission shall take account of ongoing work on a digital strategy for the entire public sector, for relations between the public and private sectors, on a national strategy for cyber- and information security and on a strategy for better coverage of remote areas of Denmark.[15]

The Association of Danish Industries, DI, that will be a key player in the work of the Partnership Commission, has presented 46 proposals to improve digital transformation in Denmark. The DI's plan to a large extent focuses on simpler regulation through digitalisation of the regulation, securing better competences in digital skills in the workforce plus support to Danish SMEs to develop smart digital solutions and use new technologies such as AI. The DI plans to launch a large debate amongst Danish businesses to discuss the individual parts of its plan to deliver input to the Digital Partnership Commission.[16]

As part of the Danish digital transformation process, the Danish Recovery and Resilience Plan (RRF-plan) reserves spending of €0.4 billion for digitalisation projects, mostly in the public sector, corresponding to 25% of the plan. €0.2 bn is for a project to establish a digitalised carbon emissions tax in Denmark as part of its ambition to reach 70% CO2-reduction in 2030. The Recovery and Resilience Plan in addition supports the digital transition through investments in strengthened connectivity and increased digital export opportunities for SMEs plus an upgrade of digitalisation in the health care sector.[17]

On top of EU-funds for investments in spreading ultra-fast fiber to remote areas of Denmark, the Government has agreed with the main telecom companies operating in Denmark to secure a roll out of 5G to 75%. of the Danish population by 2025. This agreement has been reached in the context of the auctioning out of frequency allowances for the 3.5 GHz-band to the companies.[18]

Irrespective of its concern about the term "EU Digital Sovereignty", the Government recognises the need, in certain cases, for support to strengthen critical technologies with identified high risk dependencies. But in such a case the identification of those technologies should take place on the basis of a transparent analysis with clear identified criteria.[19]

The Government has, in exchanges with the Danish Parliament in May 2021, announced that it will work for an EU regulation of platforms, which in accordance with the general thrust of the Commission's proposals, will have clear and simple rules for platforms' responsibility with respect to illegal content. For AI, the framework should take account of the risks associated with the use of the technology, but also make it easier to innovate in this area and scale up cross-border wise. Finally, the Government supports new instruments to limit the market power of mega-platforms to ensure that they

do not prohibit other platforms from entering the market. In this context the Government is open for suggestions to target regulation of mega-platforms, for example, by preventing them from promoting their own services at the expense of other services.[20]

This line on the regulation of the platforms is repeated in the Government's White Paper on the better regulation of the tech-giants. The paper launches nine principles for debate, including more transparency on the platforms' business models and algorithms, more responsibility from the firms concerning content on the platforms, clearer limits on the platforms' dominant positions and a better contribution of the tech-giants via taxation.[21]

The DI advocates that Denmark should take an active part in the EU discussion on digital transformation, using best practice to make this regulation fit much better for the digital age.[22]

Recently the President of the IT-workers' Association, Prosa, criticised the GDPR for being too complicated, calling for a review of the policy. Prosa wants a system giving each citizen the possibility to decide who, for what and when the citizens' data will be used, and that the use of data is prohibited unless consent from the citizen has been given.[23] So far this has not been taken up at the political level in Denmark. However, MEP Karen Melchior (Renew Europe) has raised the issue of continued reductions in the resources for the Danish Data Authority leading to a reduced capacity to act swiftly.[24]

On an EU digital tax, the former Danish Liberal Prime Minister, after having blocked the proposal together with other Member States in November 2018, changed course and adopted a favorable position - if the tech-giants did not, on a voluntary basis, pay more taxes in Denmark and the EU.[25] The present Social-Democratic Government in its White Paper seems to await the result of the negotiations in the OECD, hoping for an international solution after US-President Biden's proposal of a minimum corporate tax of 21%.[26]

Key elements for a better digital transformation of the EU and Denmark

From a Danish perspective, to have positive implications, the EU strategy on digital transformation would have to focus on a number of elements, some of which are already part of the Commission's strategy for an EU digital compass, some of which have been developed by independent analysts, including Think Tank Europa[27]. First of all, EU businesses would have to cooperate and compete with global industries to be innovative. Direct support for development of technologies such as AI would have to take place on the basis of clear and transparent criteria. More EU and national resources would have to be devoted to developing new technologies and standards for these technologies.

An *ex-ante* risk-based regulation of AI as proposed by the Commission may work if based on clear criteria and rules. Details of that regulation should preferably be discussed with global partners.

Open and interoperable standards both off-line and online should be the rule, and standards should be developed in cooperation with important global partners. Besides technical criteria, energy efficiency and sustainability criteria will also have to be developed for a more green and sustainable European economy.

Regulation of platforms should ensure compliance with the rules of content and rules ensuring a fair and high level of competition among all platforms operating in the EU. To this effect a special set of rules for mega-platforms or gatekeepers, as proposed by the Commission, would seem appropriate. But it should not discriminate, and should be for all mega-platforms including EU-based ones.

It will be important for the EU to have the means to break-up big tech companies in

case of abuse of dominant positions, but the European Commission should allow tech and telecommunication companies in the EU to scale-up, especially via cross-border mergers, in order to leave room for more private investments in connectivity and innovation.

More EU resources, including more financial support from the structural funds, and national resources will also have to be allocated to promote the faster roll-out of ultra-fast fiber and 5G in the EU and to support digital skills in the population. Following the Danish experience, it might be envisaged that plans could include targets with respect to the timing and percentage of the population who will benefit from the roll-out of 5G in connection with contracts for licenses for radio spectrums.

Intra-EU cooperation of data centres should be developed. The GDPR, which has been a success, should nevertheless be reviewed to improve clarification and reduce complexity. To this effect the regulation should focus less on individual consent and more on *ex-ante* responsibility for data use and liability for reasonably foreseeable harms for data users. Collection of data like traffic data and to a certain extent car data should be allowed, whereas use of health data should be prohibited unless explicit permission is given by the individual citizen. Reference to sex, race and religion should not be processed, unless explicit consent has been given by the citizen.

The devil will be in the details of the proposals which will be part of the strategy. In a Danish context, it is at this stage clear that the term EU digital sovereignty is not mobilising Danish support. However, the elements highlighted above will, if implemented in practice, lead to big benefits for EU societies and for business competitiveness.

Endnotes

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ESTONIA

An enthusiastic proponent of digital sovereignty, which offers much to this highly digitised nation.

Dr Adrian Venables, Tallinn University of Technology

Key issues in the Estonian debate on digital transformation

Since it achieved independence in 1991, Estonia has arguably become best known for its rapid digital transformation, which began with the 'Tiger Leap' programme in 1996. Launched by President Lennart Meri, this connected all schools to the Internet by the year 2000 and was combined with large government-backed investments in computer networks and infrastructure.[28] The culture of innovation resulted in Estonia being hailed as the 'world's most digital society' by Wired magazine in 2015.[29] Estonia became known for technology-based start-ups, with Skype, Taxify (now Bolt), and Transferwise becoming global brands.

Although other countries have since caught up with Estonia in terms of digital transformation, the country still ranks highly in the European Commission's Digital Economy and Society Index (DESI).[30] Most notably, Estonia ranks first in the digitisation of public services with over 99% of transactions with the government authorities available online, 24 hours a day. This is possible due to a national identification card, which is paired with a digital signature that has the same legal status as a hand signed written document. This enables Estonians to pay taxes, vote, conduct banking transactions and access their health records online. The advantages of this system is acknowledged by the population, with 95% of taxes filed online using information stored in a pre-filled form.[31] E-services are only unavailable for marriages, divorces and real estate transactions, although as a result of COVID-19, there is an initiative to conduct some of the initial procedural elements remotely as well.[32]

The introduction to the digital society starts at school with web applications enabling parents, teachers and students to collaborate and organise information. Teachers enter grades, attendance information, homework and message individual pupils or entire classes. This information is also accessible by parents who stay closely involved with their children's progress. Due to this technology, Estonia was able to quickly switch to remote learning during the COVID pandemic and as a result fared better than many other countries.[33] With a quarter of a century of digital innovation and a culture that constantly seeks to improve and modernise, Estonia is in a prime position to lead Europe's path to digital sovereignty.

Estonia's contribution to Europe's digital sovereignty

With a society already well aware of the benefits of digitalisation, Estonia has been quick to recognise and promote the advantages of European digital sovereignty. From a national perspective, the country will benefit significantly from more Europe-wide digital transactions. As a small nation of only 1.3 million situated on the north-eastern edge of Europe, Estonia is disadvantaged in several ways. Although space for manufacturing industries is plentiful, geographically long supply chains and limited personnel resources provide unfavourable conditions when competing in traditional markets against other central European countries. With time and space constraints not an issue in the supply of digital services, Estonia is in a prime position to exploit the opportunities presented by greater European digital sovereignty.

Keen to increase the progress towards what has been termed a 'digital single market', in March 2021, the Prime Minister of Estonia joined Heads of State of Finland, Denmark and Germany in writing a joint letter to the President of the European Commission. Highlighting that Europe is falling behind its international competitors, the letter emphasised the advantages of greater digital transformation. Drawing parallels to the established norms in the trade of physical goods between nations,

the Prime Ministers emphasised the need for digital policies involving governments, society, and the economy.[34] With its co-signatories, Estonia highlighted three key steps to strengthen the EU's digital sovereignty. First is to identify the critical technologies and strategic sectors that will clarify the EU's strengths and weaknesses in the digital environment. Secondly, the EU must strengthen its approach to critical technologies and strategic sectors. This requires open markets and supply chains to prevent dependencies on single suppliers. Finally, the leaders noted the need for a monitoring system that should be permanent, repetitive, and based on social, scientific, and economic principles. This would encourage innovation and development in order to ensure European sovereignty, security, and competitiveness in the development of digital technologies.[35]

At the same time that the Estonian Prime Minister signed the joint letter to Ursula von der Leyen, the EU itself presented a vision for its digital transformation by 2030.[36] Termed the 'digital compass' due to its four components (Skills, Government, Infrastructures and Business), the Tallinn government has been a strong supporter of its proposals as they already align with Estonia's own digital ambitions. The first aim of the EU's vision is an increase in Information Communication Technology (ICT) specialists and to ensure that a minimum of 80% of the population have basic digital skills. Estonia has had a programme to attract more young people into ICT running since 2012. Termed the 'ProgeTiger', this programme aims to improve the technological literacy and digital competencies of teachers and younger students. Courses available include robotics, 3D technology and programming with pre-schoolers learning the basics of coding.[37] Familiarity in all forms of ICT is encouraged, with increasing emphasis on cybersecurity a feature of more recent programmes.

The second component of the digital compass is having secure and sustainable digital infrastructures. This is a particularly important issue for Estonia, which has fallen behind its competitors in this area. Although the DESI report indicated that Estonia has more than 120 mobile subscriptions per 100 people, the introduction of 5G technology is lagging. While some European cities already have deployed the technology, Estonia's 5G roadmap seeks to introduce the capability by 2023.[38] The same is true to a certain extent in the introduction of Gigabit internet speeds. Despite having almost universal Internet access, Estonia's low population density outside of the main cities has resulted in a reduced programme of network upgrades in the countryside. In 2020 the country was only rated as 47th in the world in terms of fixed broadband speeds.[39] This factor may also explain the state of digital transformation of some of Estonia's businesses. The digital compass refers specifically to EU companies using so called 'cloud' services as well as Artificial Intelligence (AI) and the use of 'Big Data'. However, the DESI report noted a 'relative weakness' as regards connectivity and the digitisation of Estonia's businesses, hindered perhaps by the lack of high-speed services.[40] The final component of the digital compass is the digitalisation of public services in which Estonia excels. In a June 2021 meeting of EU telecommunication ministers, the Estonian minister of entrepreneurship and IT commented on the use of digital services across Europe. He stated that the digital services of EU Member States must be made available to all European citizens – a principle at the heart of digital sovereignty.[41] Significantly, he also emphasised that digitisation is not a goal in itself but creates practical solutions and added value from which businesses and citizens will benefit. Supporting this view, the European Commission also introduced its own vision for the newly announced European Digital Identity. This will enable EU citizens in one country to access the same e-services that are available to other European nationals and vice versa.

Of particular relevance to Estonia's contribution to Europe's Digital Sovereignty programme is the European Commission's recently presented framework for a trusted and secure digital identity for all Europeans.

This includes the provision of a digital wallet for Member States' citizens and businesses. This will enable the digital identification to be linked to other forms of identification and facilitate the switch from paper documents to digital ones. As the intention is for the digital wallet to be built on existing digital identities issued by Member States, Estonia's own ID cards and electronic ID solutions would not be replaced. Instead, all states would be obliged to make their own compatible digital forms of identification available to their citizens. To assist with this aspect of digital sovereignty, Estonia has unique experience and capability in the form of the 'X-tee'. This system is at the heart of Estonia's digital society and is based on the premise that data is only stored once in a single location at its point of creation. When needed, other approved agencies can access the data without having to download or create their own versions, which could then become outdated if the original data changes.

Estonia's X-tee environment includes the full range of public and government services with each having its own information system connected to the network. Currently there are nearly 3000 different services that can be used by the X-tee and in 2020 over 1.5 billion data requests were made.[42] To ensure that all transactions are secure, outgoing data is digitally signed and encrypted and incoming data is authenticated and logged. As well as enabling citizen to readily access public services, it also provides a high level of trust in the system. This is because all users are able to identify which agencies have accessed their personal data. Although the X-tee is currently only used by a small number of countries, it is an ideal system to support the EU's wider data sharing aspirations. This is due to its compatibility with multiple types of information systems, its ability to transmit large data sets, and its capability to perform searches across several information systems simultaneously.[43] The X-tee software was designed to be scaled up as new e-services and platforms become available, as multiple instances can be federated. Members of federated systems can publish and consume services with each other as if they were members of the same ecosystem. This enables easy and secure cross-border data exchange between these networks and ecosystems.

Finally, no discussion of digital sovereignty can be complete without including another unique Estonian contribution - that of the Data Embassy. This is an extension of the government's network infrastructure, but the server resources are located outside the country's territorial boundary and is protected at the highest accreditation level for data facilities.[44] In June 2017, the governments of Estonia and Luxembourg entered into a bilateral agreement in which Estonian data and associated systems were to be stored in Luxembourg's government-owned data centre.[45] Luxembourg was chosen as the first data embassy location because of its facilities and willingness to enter into what was then a new concept in national security. By protecting essential national data that is only available in digital form, this initiative mitigates the risk of loss due to natural disaster or cyber, terrorist, or military attack. As this is not an embassy in the traditional diplomatic sense, it is a completely new concept under international law, but does take into account the Vienna Convention on Diplomatic Relations. This includes having the same rights as physical embassies, such as diplomatic immunity from interference. Based on this model, a future component of Europe's digital sovereignty could be leveraging further bilateral relationships to increase the community's data resilience through the use of data embassies.

Conclusions

Estonia was one of the first nations to embrace digital transformation and the country has reaped the economic and social benefits of the progress that has been made. Estonia's transformation was the result of both the foresight of its leaders and a population willing to accept the surrender of their personal data in return for improved public services. Europe's own digital sovereignty will need similar inspired leadership, particularly as countries that are

more reluctant to transform may require some persuasion. Estonia is rightly proud of its digital society and is keen to export its knowledge and technology to the rest of the EU as part of its programme of digital sovereignty. A digitally sovereign EU will lay the framework for increased economic growth, reduced bureaucracy and a more convenient and secure form of data exchange. A commonly recognised form of digital identification will reduce cross-border crime and illegal migration as well as improve access to time sensitive services such as in medical facilities.

A more connected Europe will bring potential benefits to Estonia as a digital free market will enable data driven services to be marketed throughout the community. Thus, any initiative to encourage and promote European digital sovereignty is one that will be fully supported by the Estonian Government. As a leading digitised nation, Estonia can expect to enhance its reputation as a digital nation by providing advice and it will benefit from a wider implementation of digital services. However, for European digital sovereignty to be widely accepted, it must be trusted by its citizens. This requires confidence that personal data will not be abused by official authorities and that it cannot be accessed or interfered with by unauthorised parties. As such, Europe's digital democracy cannot be rushed and should be sufficiently funded in its implementation, while security concerns must be foremost in the considerations of its developers. A single data breach, poor configuration incident or successful cyber-attack by a state actor or criminal group may cause an irrevocable loss of trust. However, achieved properly, a combination of the European Commission's policy directives, with Estonia's experience and technology, bodes well for the future digital sovereignty of the EU.

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IRELAND

Although the term "digital sovereignty" has received limited attention in Irish public discourse to date, this concept may have important implications for many of Ireland's key interests.

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Introduction

In Ireland's public discourse to date, there has been little public commentary on the concept of European digital sovereignty by Irish politicians or officials. This is despite the phrase's increasing prominence among many EU policymakers.[46] While the concept lacks a precise definition, European Commission President Ursula von der Leyen has written that digital sovereignty "describes the capability that Europe must have to make its own choices, based on its own values, respecting its own rules."[47] Nonetheless, there are some significant policy topics associated with the term "digital sovereignty" which are particularly important for Ireland or upon which an official Irish perspective exists. Throughout, Ireland has consistently emphasised the importance of Europe's digital and economic openness, favouring an 'open' model of strategic autonomy, and sought to ensure that digital sovereignty does not lead to a protectionist approach for Europe.

Irish policymakers have made little explicit commentary on the concept of European digital sovereignty, and the country's most recent digital strategy dates from 2013. Nonetheless, it is possible to identify aspects of digitalisation related to EU digital sovereignty which are particularly relevant for Ireland's interests or upon which an official Irish view exists. First, this paper will examine Ireland's approach to the promotion and regulation of digitalisation where this is relevant to EU policy. Then three key topics of particular relevance to Ireland's interests will be examined. The first is freedom of cross-border data flows between the EU and the rest of the world, particularly the US and UK, Ireland's two largest trade partners. A second subject is Ireland's special regulatory responsibility for the data protection of European citizens, a special role which is now increasingly challenged. Third is the European Commission's proposal for a digital levy, which may disproportionately affect more companies based in Ireland than elsewhere in Europe. Overall, the developing concept of European digital sovereignty and the role it may play in shaping European digital policy may have important implications for the future of Ireland's society and economy.

Key Topics of Relevance for Ireland

Promoting and Regulating Digitalisation

Ireland has a clear position on the importance of investing in digital technologies both nationally and at EU-level.[48] In Ireland's domestic policy this is reflected by initiatives such as the "Disruptive Technologies Innovation Fund", worth €500 million (which invests in digital technologies in addition to non-digital technologies)[49] or in Ireland's plans to use 32% of its EU-supported National Recovery and Resilience Plan - €295 million - for "accelerating and expanding digital reforms and transition."[50] This figure is significantly more than the minimum of 20% that Member States are required to invest in digitalisation. Ireland's plan focuses on six digital priorities: (i) a shared government data centre to support the digitalisation of public services; (ii) ensuring broadband connectivity and ICT equipment for schools; (iii) establishing an online census option; (iv) promoting 5G technologies; (v) supporting eHealth initiatives and (vi) a grants scheme to support the digitalisation of businesses and digital innovation hubs throughout Ireland. The importance of digital inclusion and digital skills is also emphasised in this plan. Despite this focus on digitalisation however, Ireland's most recent national digital strategy dates from 2013 and is now clearly outdated.[51] A public consultation on developing a new national digital strategy was held in 2018, but as of early 2021 no new national digital strategy has been released.[52] Nonetheless, an Irish AI strategy has recently been published and Ireland has a 2019-2024 national Cyber Security strategy.[53] Ireland also supports ambitious spending at a European level. In June 2021, the Taoiseach (Irish Prime

Minister), Micheál Martin, described Europe's current funding for innovation and the digital and green transitions as inadequate and he expressed support for an even more ambitious European approach.[54]

Broadly, with regard to the regulation of digitalisation, Ireland supports a regulatory environment that it deems innovation-friendly and which would avoid over-burdensome regulation. This focus is prominent in Ireland's submissions on the Digital Services Act package and on the EU White Paper for Artificial Intelligence.[55] Both of these submissions demonstrate the Irish concern that the European proposals could risk overregulating and harming innovation. With regards to the Digital Services Act, a joint letter by Ireland, Sweden and Finland in June 2021 raised concerns regarding free speech implications about certain aspects of the proposed Act.[56]

Domestically, Ireland has been particularly active regarding the regulation of harmful online content. In Ireland, numerous pieces of legislation (including an Online Safety Bill among others) are seeking to address issues including online harassment, intimate imagery, hate speech, and transparency for online political advertising. However, concerns have been raised by a variety of stakeholders about conflicts or problematic interactions between domestic Irish legislation and upcoming European legislation when it comes to online content regulation.[57] Recently, cybersecurity has become a more prominent topic in Ireland, following a major cyberattack against Ireland's healthcare system which caused major disruption.[58] Overall, Ireland has a clear position on the importance of promoting and investing in digitalisation and in ensuring an effective and innovation-friendly regulatory framework.

Ireland and cross-border data flows between the EU, US and UK

A critical issue for the European digital sovereignty initiative is personal data flows between the EU and the rest of the world. It was following the Edward Snowden leaks concerning the misuse of personal data in 2013 that "digital sovereignty" became a prominent term in European policy discourse.[59] In accordance with the EU's GDPR, generally, the transfer of personal data outside of the EU is highly restricted, unless the third country in question is deemed to have equivalent levels of data protection, or unless a special mechanism exists to uphold the data protection rights of European citizens. For Ireland, the flow of personal data between the EU and two of the EU's most important partners, the United States and the United Kingdom, is a particular concern, as these countries are Ireland's two largest trading partners.[60]

The EU-US Privacy Shield framework that facilitated the transfer of personal data between the EU and the US was invalidated by the Court of Justice of the European Union in July 2020, creating serious difficulties for transatlantic data transfers.[61] The Court's judgement was prompted by concerns regarding domestic US legislation and mass US security surveillance.[62] Currently, many companies continue to transfer personal data between the US and the EU using Standard Contractual Clauses (SCCs). However, there is ongoing legal debate regarding the validity of SCCs to transfer personal data in this way and the future use of SCCs is actively challenged.[63]

Following Brexit, an initial European Commission draft data adequacy decision which proposed enabling free flows of personal data between the EU and the UK[64] was met with significant concerns in the European Parliament and by the European Data Protection Supervisor.[65] When the European Commission finally adopted the data adequacy decision in June 2021, it came with significant caveats. Most importantly, the data adequacy decision can be reviewed if UK data protection law is changed, and the data adequacy decision will automatically expire after four years.[66] As leading British policymakers have openly discussed diverging from the GDPR following Brexit, difficulties for UK-EU data flows may follow in the future.[67]

Impediments to the free flow of personal data between the EU and the US or UK could have negative consequences for a wide range of economic sectors in Ireland.[68] This is particularly true for Ireland's digital sector which accounts for approximately 13% of Ireland's GDP and 26% of Ireland's exports according to Technology Ireland.[69] The value of digitally-enabled service exports from Ireland, which frequently rely on data transfers, was estimated to be $171.9 billion in 2018 (€145 billion) - the second highest figure in the EU after Germany.[70] In 2020, Host in Ireland had predicted €7 billion of investments in data centres in Ireland over the next five years; however some of this investment may be predicated on the continued free flow of cross-border data.[71]

Some studies have estimated that the total prevention or major restriction of data flows for the EU could cost the EU economy as a whole as much as €300 billion.[72] While, such an extreme loss may be unlikely in practice, these figures show the potential scale of the economic impact. A 2021 global study by the Irish law firm William Fry found that for data-related investments, investors ranked the data-related regulatory regime as the most important investment factor to consider - and more important than talent, ease of doing business, and taxation policy, even though taxation policy was the most important consideration for investors in 2016.[73] The continuing uncertainty regarding personal data transfers thus poses particular risks for the Irish economy.

Ireland's Data Protection Role

Under the GDPR's "One Stop Shop Mechanism", Ireland is effectively the lead data protection regulator of the world's largest digital technology companies for their conduct throughout the EU, as many of these companies are headquartered in Ireland. Politico has thus described Ireland as "the Western world's first line of defence against misuses of people's data."[74] Since the implementation of the GDPR, Ireland's data protection regulator,

the Data Protection Commission (DPC), has experienced one of the largest increases in staff relative to population in the EU,[75] however due to its cross-border responsibilities it faces a disproportionately high number of cases to regulate. In the Irish Government's Budget 2021, the DPC received an allocation of €19.1 million in funding, an increase of €2.2 million over the previous year.[76] The additional funds, however, were just over half of the €4.16 million that the DPC had requested.[77] Ms Dixon had stated that the DPC needed these additional resources because it sits at the "frontline of EU data protection regulations" and is acutely strained by the "disproportionate resources" of the multinational corporations it must regulate, warning that the DPC's ability to operate effectively would affect Ireland's credibility on the world stage.[78] Privacy activists both in Ireland and abroad, and other European data protection regulators, have criticised the Irish DPC claiming that the DPC's processes and procedures are inefficient and hinder adequate GDPR enforcement.[79] Despite hundreds of complaints on cross-border data cases, some by other European regulators, as of mid-2021 the DPC had only ever issued one cross-border GDPR fine.[80] Commissioner Dixon has argued that enforcement is difficult due to the DPC's constrained resources, the complexity of the cases and the bureaucracy involved with the "one stop shop mechanism", in which other regulators in Europe have allegedly been slow in cooperating with and providing required information to the DPC.

Both the Irish and European parliaments have recently begun scrutiny of the Irish DPC. Privacy activists have warned the Irish parliament that the alleged inefficacy of the Irish DPC poses significant reputational risks for Ireland.[81] In May 2021, the European Parliament passed a resolution calling upon the European Commission to take infringement proceedings against Ireland because of what it deemed to be an "insufficient level of enforcement of the GDPR."[82] National data protection regulators in other EU states have also sought the capability to launch cases of their own against Irish-based companies.[83] As

a result of such steps, in June 2021 the Court of Justice of the European Union clarified that in certain specified circumstances, data protection supervisory authorities can take cases against firms located in other countries for cross-border GDPR cases.[84] It is likely that as Europe focuses on digital sovereignty and citizens' control over their data, Ireland's role in data protection will come under increasing scrutiny and pressure.[85]

Ireland and the European Digital Levy

The European Commission's work to develop a proposal for a European digital levy is premised on the view that many digital corporations produce revenues and profits online in countries in which they are not physically present and therefore do not pay the same level of tax as their physical counterparts.[86] The European Commission proposal for a digital levy had previously been expected for July 2021 but is now postponed until at least Autumn 2021 to prioritise a focus on the OECD-led international talks on corporation tax reform.[87]

In the OECD-led international talks on corporation tax reform, Ireland's corporate tax policy has provoked some controversy. Ireland considers its corporate tax policy to be an important attraction for foreign investment in Ireland, and corporate tax paid by multinational corporations, including digital multinationals, is a major source of Irish government revenue.[88] Under proposals discussed in the ongoing OECD-led tax talks, the Irish Department of Finance has predicted that Ireland could lose out on over €2 billion of revenue per year, or a fifth of Ireland's corporate tax intake.[89] Ireland has expressed considerable reservations on aspects of proposals emerging in the OECD-led talks.

Ireland is similarly concerned about the implications of a European digital levy, which might potentially either reduce Ireland's attractiveness as an investment location or reduce Ireland's corporate tax revenues. A previous European Commission proposal for a digital services tax in 2018 was blocked by a number of Member States including Ireland.[90]

However, some individual EU Member States have introduced digital taxes or levies, which has prompted tensions with the US, which believes that such taxes disproportionately target American companies. The US has threatened trade tariffs against a number of individual European nations for the introduction of digital services taxes or levies, prompting concerns of a potential trade war.[91] In contrast, the European Commission has indicated that the digital levy would apply to hundreds of companies, most of which would be European.[92] In March 2021, Ireland argued that the timing of the EU's move towards a digital levy risked undermining the OECD-led international tax talks and could rekindle trade tensions with the US.[93] In June and July, the US likewise urged the EU to delay the release of its digital levy proposal, arguing that the European initiative could undermine the OECD-led talks on corporate taxation reform.[94]

The international context of ongoing OECD-led international tax talks potentially makes the upcoming EU digital levy proposal even more sensitive for Ireland, as it comes at a time of possible disruption to Ireland's corporate tax policy. However, the precise details of this levy, and how it will interact with the OECD-led corporate reforms, remains to be seen.

Conclusion

The digital policies that Europe pursues in the years ahead may have a significant impact on the future of the Irish economy and society. The precise nature and role of digital sovereignty in shaping Europe's approach to digital policy may thus have important implications and potentially poses both possible risks and benefits for Ireland.

One possible risk is a reduction in Europe's openness. Key European policymakers have highlighted that they seek an EU that is both digitally open and digitally sovereign. They have argued that there is no contradiction between these goals. Nonetheless the risks of increased digital or trade barriers between the EU and its partners could arise as an unintended outcome of other policy goals.

For example, the divergence in data protection standards between the EU and its British and American counterparts could potentially result in obstacles for cross-border data flows, effectively creating unintentional *de facto* trade barriers. Europe's move towards a digital levy might potentially mean that Ireland risks becoming less attractive as an investment location or risks a reduction in corporate tax revenues. However, it could also potentially create EU-US trade tensions.[95] An increasing European focus on data protection enforcement also poses potential risks for Ireland, including reputational risks, the possibility of infringement proceedings or the possibility of Ireland's regulatory role being undermined. With regards to the regulation of online content, possible contradictions or conflicts may arise between Irish and European legislation.

However, other aspects of European digital sovereignty may well be more positive for Ireland. Major European investments and support for digital innovation have been strongly supported by Ireland. Improvements in Ireland or Europe's capabilities to supervise and enforce the GDPR might enhance data protection for all European citizens. Ireland could potentially play a role in finding a solution that enables certainty of free data flows from the EU to the US and UK while maintaining data protection standards. Regardless of the outcome, Ireland may be well positioned to become a competitive data centre hub for firms seeking to ensure GDPR compliance. Elsewhere, Ireland has welcomed European digital initiatives that will enhance the capabilities of Member States to cooperate on and address challenges such as cybersecurity threats or harmful online content. This is particularly welcome for Member States like Ireland that may be otherwise too small to act alone.

Overall, the emerging shape of Europe's digital sovereignty paradigm will play an important role in influencing the future of Ireland's digital economy and digital society. Ireland could benefit from developing this discussion nationally, to facilitate its active role in influencing the emerging shape of the European digital sovereignty agenda.

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NETHERLANDS

Netherlands is trying to find a balance between stakeholders and interests concerning national security, economic security and digitalisation, thereby becoming a digital polder power within the EU.

Brigitte Dekker, the Clingendael Institute

Introduction

The impact of digitalisation has moved high up the agenda in the Netherlands. In the run up to the Parliamentary elections of March 2021, every political party acknowledged the impact of digitalisation on major themes such as sustainability, economic growth, education and employment. The consequences of digitalisation are visible throughout the Netherlands and are still in full development. A lack of attention to, and knowledge of, the digital domain resulted in the establishment of a permanent Parliamentary Committee on Digital Affairs in 2021, whose main goal is to provide parliamentarians with new and necessary knowledge on digitalisation, within their specific portfolio and beyond.

"Digital sovereignty" has become a frequently used buzzword in Dutch politics, especially when recapitulating the EU's aspiration to enter the digital geopolitical arena. The term encompasses numerous dimensions in national security, economic security, democracy and the rule of law. Without detailing numerous interpretations of digital sovereignty, the quest for digital sovereignty is a goal shared by policy-makers, citizens, businesses and non-governmental organisations in the Netherlands.

This not only demonstrates the comprehensive scope of the concept, but also its complexity. The European Parliament refers to digital sovereignty as "Europe's ability to act independently in the digital world and should be understood in terms of both protective mechanisms and offensive tools to foster digital innovation (including in cooperation with non-EU companies)".[96] For the Dutch Cabinet, it is "the ability to act as a global player, in cooperation with international partners, on the basis of our own insights and choices, to safeguard the Dutch public interests in the digital world and to be resilient in an interconnected world".[97] While these definitions are comparable in wording, the differences of detail and emphasis reflect how the interests of the EU and the Netherlands are not always completely aligned.

A Dutch Digitalisation Vision

The Netherlands is still exploring its precise course of action. The Netherlands' Digitalisation Strategy (NDS), first adopted in 2018 and annually reviewed, emphasises the digitalisation opportunities for the Dutch economy and society, including public interest, constitutional rights, and digital trust. It prioritizes Artificial Intelligence (AI), digital connectivity, data transfer, digital skills and inclusion, digital government and digital resilience.[98] Furthermore, the Dutch government details its specific position on various EU digitalisation policies in the publications of the Working Group for the Assessment of New Commission Proposals. This interdepartmental working group discusses every new Commission proposal among all ministries, and the publication (a 'fiche') stipulates the Dutch position, and the way forward for the Netherlands. For example, the Dutch government states in a fiche about the EU's Digital Compass 2030, that it welcomes the EU's efforts to create a digital single market and it highlights the increasing geopolitical dimension of digitalisation. In particular, attention is given to privacy breaches and national security issues caused by dependencies on foreign actors. Based on this focus, the government endorses the efforts of the European Commission concerning the Digital Compass 2030. Nevertheless, the fiche also mentions the government's regret that the White paper on AI[99] and the EU Cybersecurity strategy[100] are omitted from the Compass. In addition, the Dutch government strongly supports the EU's emphasis on international partnerships based on the core values of the EU. However, the Dutch government considers civil society organisations to be slightly overlooked in the Compass, despite their crucial role in signalling early warning signs on the impact of new technological applications.

In addition to a fiche on the Digital Compass 2030, the Dutch government also wrote fiches on the Digital Services Act (DSA) and the Digital Markets Act (DMA). The DSA in particular has been subject to public debate in the Netherlands, with the government publishing a non-paper on the DSA package and the short-term holiday rental market for residential spaces. While the Dutch government supports the opportunities arising from the platform economy, there is a need to restore the balance between economic freedoms on the one hand and public interests on the other. Therefore, the Dutch government welcomes the updates that the DSA includes in the e-commerce guidelines of the EU concerning the role, responsibility and liability of intermediaries concerning the dissemination of illegal content. However, there are still too many uncertainties regarding the rules that can be imposed on platforms and the Dutch government desires a clarification and reconsideration of the EU legal framework.[101] Secondly, the DMA has also been positively perceived within the public Dutch debate and by the Dutch government. Within the EU, the Dutch government, together with France and Belgium, pushed for regulations for platforms with a gatekeeper function in 2020.[102] Numerous elements that these countries pushed for were adopted in the DMA, including the authority to *ex ante* impose obligations on platforms with a gatekeeper function, adjustments to European competition guidelines and adjustments to the threshold for reporting mergers and acquisitions at the Commission to include digital mergers and acquisitions that are currently evading supervision. The Netherlands, Germany and France are now taking this one step further by proposing an amendment to the DMA to assess all digital mergers and acquisitions "by large digital platforms with a gatekeeper position".[103] One side note to the DMA from a Dutch perspective is the lack of focus on companies that acquire a gatekeeper function by combining various services. Therefore, the Netherlands has specifically asked the European Commission to detail how the individual companies' ecosystems are included in the identification of gatekeepers.[104]

Key issues in the Netherlands

Three key issues concerning digital sovereignty have arisen from the national debate on digitalisation.[105] First, is the ability of the government to govern national digital infrastructure, in particular 5G networks. Secondly, the balance between national and economic security interests, the use of industrial policies and a strong liberal market tradition. Thirdly, the dominant position of foreign platforms and their use of citizen's data, although this is less extensively discussed compared to the first two topics.

The first of these issues involves the ability to govern the use of critical infrastructure in order to protect national security interests. Electricity, access to the internet, drinking water and payment transactions are examples of critical processes, and if these processes fail it could lead to large-scale social disruption. Government, industry and emergency services are working closely to continuously improve and guarantee the protection of such vital products, services and processes.[106] Since 2019, the roll out of 5G networks have been under close scrutiny, as it will be critical infrastructure for the next generation of technology. In an EU context, the Dutch government called for increased cooperation and coordination between EU Member States. The publication of the EU's 5GToolbox in 2019 was well-received within the Netherlands.[107] In 2020, three large telecom providers (KPN, Vodafone and T-Mobile) acquired frequencies through the Dutch mobile communication auction. While it seems that only national parties have acquired the frequencies, KPN's network is still largely dependent on Huawei technology – and Huawei employees have certain user rights on the KPN networks.[108] Two elements seem to be key in the debate: espionage risks from foreign entities providing the specific technological know-how and financial considerations.

From a Dutch citizens' perspective, addressing espionage risks is deemed to be a government responsibility. They consider it a primary task of the Government to protect citizens, and 43% of Dutch citizens agree that the government should not buy equipment for the Dutch telecom networks from Chinese companies, because the Chinese Government may use it to spy on Dutch citizens.[109] Thirty six per cent were neutral in this regard and 21% disagreed. On the contrary, only 27% of the Dutch citizens would change their consumption behaviour. They would rather not have a Chinese phone, because of the risk that the Chinese Government could use it to spy on them. Forty-one per cent of the Dutch citizens do not mind having a Chinese mobile phone and 32% answered 'neutral'. This shows the discrepancy between individual and government responsibility in the Dutch debate on 5G providers. This directly corresponds with the second element; financial considerations. While consumers may purchase a Chinese phone based on their competitive prices and advanced technological applications, companies must compare their risk analyses against the actual costs of mitigating these risks. KPN, for example, stated that it could attract more in-house administrators or analyse codes and implement strict monitoring of logfiles to determine the exact procedures and identify possible breaches. While such measures can mitigate the risks, they are also time and resource consuming, making it a less attractive option for profit-driven companies.[110] In other words, digital sovereignty is not only about the will to be less dependent on foreign actors, but also about the financial capabilities of companies and governments to actually take steps to create less dependency.

Secondly, the Netherlands is still finding its way in balancing national and economic security interests, the use of industrial policies and a strong liberal market tradition. The Netherlands has a strong liberal market tradition with little to no market interference. However, economics and politics have become significantly intertwined due to the state-backed enterprises that are largely headquartered in China. In response to hostile mergers and acquisitions from both the US and China, the Netherlands State Secretary of Economic Affairs Mona Keijzer, tried to break the taboo surrounding industrial policies in the Netherlands in 2020. Stating that *the Netherlands must discard its fear for industrial politics*, she advocated for provisional public investments in key private sectors that are essential to the competitiveness of the Dutch economy. She underlined her statement by allocating €25.5 million for quantum technology.[111] This complements the efforts outlined in the Knowledge and Innovation Covenant (2020-2023), representing business, knowledge partners and government. In this covenant, the partners confirm their commitment to invest €4.9 billion (€2.05 billion from private and €2.85 billion from public funds) in key innovation themes.[112] The multi-stakeholder model is characteristic of the Dutch political landscape, oftentimes referred to as the consensus-based 'polder model'. In identifying opportunities and challenges concerning digital sovereignty, the polder model can be a driving force and an additional challenge. With the inclusion of a more diverse palette of actors, challenges can be better identified and corresponding solutions and opportunities can be better executed with sufficient support and cooperation from all parties. However, the diverging interests of stakeholders and the consensus-based model can also impede effective and decisive decisions in this domain.

Lastly, the dominant position of multinational (social media) platforms and the use of citizen's data is becoming a subject of discussion in the Netherlands. The US business model depends on the free flow of data, thereby enabling companies to use large data sets to innovate, scale-up and expand their business. On the other end of the spectrum, China strictly regulates all data and numerous popular Western platforms are banned for state security reasons. Currently, the EU is trying to establish its position in the debate by introducing a third way. In the words of Margrethe Vestager: "The point, of course, is to push for real global standards, standards that build on privacy, on the integrity of digital and the dignity of the individual as the starting point."[113]

While there is no call to ban platforms that spread illegal or harmful content in a similar way as the Chinese government, there is a call for regulation within the Netherlands. Especially after the storming of the US Capitol, and the subsequent Twitter ban imposed on former US President Trump, the discussion of whether social media platforms could and should self-regulate became an issue of concern.[114] Besides the question of who should regulate and what can or cannot be published, the (mis)use of data collected by platforms is also gaining prominence in the Dutch debate. For example, the Dutch Data Protection Authority is analysing TikTok and whether the app provides enough information to the users about their privacy.[115] In addition to analysing large platforms, the impact of the GDPR on small and medium sized enterprises is central in the debate. The GDPR has been successfully implemented, however, for citizens and for small- and medium sized enterprises compliance remains a challenge.[116]

The intentions underpinning the GDPR have been clear. Consumers need to provide consent to companies to use their data, and companies need valid reasons to keep the personal data of consumers. In addition to this, every citizen can request access to companies that keep their data and can demand that the data be deleted if there is no necessity to keep it for their services (and, of course, assuming that there is no legal obligation to keep the data). In practice, it has led to 64,857 complaints, 72,031 known data breaches, 5,880 interventions, and 142 investigations resulting in 12 actual fines in the Netherlands in the period of 2018-2020.[117] These numbers show that the system works and is flexible enough to adjust to new technologies or to a massive increase in internet usage such as the surge during the COVID-19 pandemic.[118] Nevertheless, the discussion remains as to whether the data of Dutch consumers is properly protected. With an average of four fines per year, a company does not seem to run excessive risks. Two conclusions can be drawn from this number; either companies adhere strictly to GDPR regulations or the data of Dutch citizens is still not adequately protected. [119]

How to focus on the digital issues of tomorrow?

The EU has been a pioneer in the field of digital policies, with the GDPR as the flagship of the EU's internationally established authority. That said, all of the adopted policies have been initiated to mitigate undesirable effects rather than to prevent the undesirable effect from happening in the first place.[120] To secure its position as the leading digital regulator, now is the time to focus on imminent issues. Creating synergies and cooperation with leading tech companies is key in the race for 6G development. Currently, China holds around 35 per cent of 6G-related patents and is striving to be the global leader of 6G development in the coming years.[121] The European Commission has already earmarked €900 million, matched by co-funding from industry, for research and development of 6G.[122]

The first set of 6G projects will form the basis for a human-centred Next Generational Internet (NGI) and address the Sustainable Development Goals (SDGs) to contribute to the twin transition.[123] The Commission intends to closely involve Member States in discussing the course of action and its flagship Smart Networks and Services project (SNS). The Netherlands needs to call for more attention to be given to the commercialisation of 6G rather than focusing solely on paving a path towards 6G. While tackling technological, societal and economic challenges and building 6G networks from a human-centred perspective is a first step; not losing the companies developing 6G networks through foreign mergers and acquisitions is a second and vital step in reclaiming EU dominance in this field.

Early funding to boost the commercialization of innovation will be key, as will be funding for scale-ups. One approach to explore is to set up a venture capital firm similar to IN-Q-Tel in the US. This firm invests in start-up companies to support US Intelligence capabilities and was established once government agencies recognised they were no longer the innovation

leader.[124] In the Netherlands, the national growth fund (or the so-called Wopke-Wiebes-fund, after the two ministers who initiated the fund) is similar to this. This fund is dividing €20 billion in a period of five years among projects that will boost the growth capacity of the Dutch economy. For example, the QuantumDeltaNL is one of these projects that receives €615 million to invest in quantum computers, quantum networks and quantum sensors.[125] It is important to ensure that not only must the research and development side of these projects be financed, but that the commercialization of innovation and scale-ups is also considered.

Secondly, the Netherlands needs to push for a broader adoption of the EU's digital identity. The eID provides EU citizens with a tool to control their online identity and data as well as access to public, private and cross-border services.[126] By putting the consumer centre-stage instead of companies, the EU can establish a true human-centric system with one digital identity that enables consumers to easily shift from company to company or platform to platform with one identity and e-wallet, instead of having individual logins for every site or application.

In conclusion, the Netherlands is already positioning itself as a digital frontrunner. Its digitalisation strategy is ambitious and the non-paper with France and Germany shows its willingness to be a European driving force. Now, it is key to press ahead to ensure that the fruits of digitalisation are felt at every level.

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SWEDEN

In splendid isolation you can always be the one and only. First but also last.

Gunnar Hökmark, Stockholm Free World Forum

Introduction

Digitalisation in Sweden has not been a controversial issue, although the various consequences and risks have always been discussed, not least the issues surrounding data privacy. Those issues have, perhaps, been more tense in Sweden than in many other countries due to the principle of public access to official records.[127] The principle is a part of how Sweden is governed, with all official documents available to the public unless there are special reasons for secrecy, which then must be proved. This hasn't hindered the fact that digitalisation is not only widely accepted but also welcome as a matter of modernity, efficiency, productivity and simplification of daily life.

This normalisation of digitalisation is also the reason that Sweden, as well as other Nordic countries, has been hesitant in accepting the idea of a special digital tax that would shift taxing rights to the country of the consumer or user. For Sweden, this is considered a deviation "from internationally established principles"[128] - the digital economy should be treated no differently from the traditional economy in this regard, with taxation occurring where value is created. This approach is also characterising the Swedish approach to AI, in which the Government's stated goal is to make Sweden a leader in harnessing the opportunities that the use of AI can offer - with the aim of strengthening Sweden's welfare and competitiveness.[129] Emphasis is also placed on the need for cooperation and developing international partnerships both within the EU and globally.

A Perspective on the Swedish Approach

There are a number of reasons for this way of looking upon digitalisation and AI as natural parts of the technological development of our society. Sweden is a technology-friendly society and industry combined with individual curiosity and awareness of international development. Quite soon after their development, automatic data processing and computers came into use in Swedish industry, which itself was often technology driven, and during the 1980s taxation rules made it easy to have a computer or later a laptop at home.

The IT-development gathered pace via the telecom-company Ericsson and the cluster of start-ups and companies around its rapid development. The following dotcom boom resulted not only in a bubble but also in an environment full of entrepreneurs, programmers and engineers developing new start-ups and new industries, such as Spotify, Klarna and other fintech, and the emergence of e-sport, gaming companies and video-games, as well as a rapid digitalisation of media, banks, travelling companies and so on.

Digital sovereignty has from this perspective never been an issue in the Swedish debate, rather there is an emphasis on the need to safe-guard competitiveness and to be open to new innovations driving digitalisation or growth. On the international market there has been no demand to restrict or hinder others or require digitalisation to be of Swedish origin. Developments from all over the world have been welcome and have contributed to the Swedish digitalisation, new innovations and competitiveness. Our main question has been and is how to lead globally and to facilitate this through the internal market.

Sweden and the EU in the digitalised world

The reasons are simple. In a digitalised world you are always competing with the whole world, unless you choose to compete only with yourself. In reality that means you are destined to end up last, because without competition and the contribution from the best you will never be the best.

The logic of the digitalised world is that you are not on your own but together with everyone else, without any boundaries or borders. If you choose to withdraw from the world, or to build barricades between you and the rest, you will not only become less competitive, you will also lose out on the benefits of the digitalised world.

Digitalisation means full access 24/7 to all the information, news, knowledge, goods, services and markets in the world. But full access to the world is only one part.

The other part is the best possible capacity and capability to analyse information, process data, steer production, supervise systems, manage activities and distribute services in the widest sense. It is the information, the data, the production, the systems and the services that are the core essentials. If you decouple yourself from that you will lose the best of it.

It is like in many other areas of society. The important thing is not where the car is produced but wherefrom you can go and whereto, and how your traffic system develops. It is not where the powerplant is situated that determines if the economy is advanced and competitive, but the access to electricity and how you utilise it.

While the car industry is advanced, the mobility in your society is defined by the number of cars, the roads, the infrastructure, and the number of skilled car drivers. And it is of course not at all a bad thing to have plenty of power production in your country but in the end it is a matter of transforming oil, gas, wind, hydro or nuclear into electricity. And the crucial thing is how you use it.

The ongoing debate about digital autonomy or sovereignty, ironically enough driven by the same Commission that is supposed to defend, uphold and deepen competition, is a way to decouple or shield European companies from global competition. The goals regarding digital sovereignty or digital autonomy feed a logic that makes it more important where capacities and capabilities come from, and what country of origin they have, rather than having the best and using them the best way.

That is the wrong way to go. If we are to be digital leaders, we need to attract and secure the best capacities and capabilities in Europe, integrate the most advanced digital services into our businesses and use the best platforms for them. The best clouds, the best software, the best word processors, the best search engines, the best business models - all in Europe. We shouldn't settle for second best.

The right way to foster European champions and global leaders is by competition and development in a vital internal market.

There is at least one strong argument for this approach: The rapid development of digital services is day by day leaving a surprised world in its wake.

Forecasters, experts, politicians and businesspeople have time after time underestimated not only the speed and the magnitude of change but also the disruptive character of the development. We have all heard of early forecasts about the number of computers needed in future or about the speeds of these machines.

This has mainly to do with the fact that digital technologies are not only developing exponentially but also changing their character. What was once used for calculation or word processing, and at that time fantastic as such; became e-mail, at that time fantastic as such; and search engines, fantastic as such, and social forums, fantastic as such, have now developed into a world with a web so wide it includes people, companies, scholars, countries, media, universities, Internet of Things, algorithms, AI and all new dimensions of this that change the world from over time.

The point is that what we see is not one defined by any gradual linear development, not even a gradual exponential one, but a number of parallel and exponential developments in new areas turning into new services and new opportunities that are beyond what was forecasted yesterday. That's why forecasting has proved to be so wrong.

Another point is that we are doing new things with new speeds, services and products, replacing old ones or even making them obsolete. All these new services are increasingly a function of growth, enterprising and economic activities out there in the real world.

That's why it is not any more about the telecom sector or about the digital sector. It is about our societies and economies becoming digital, as such establishing fundamentally new logics in sector after sector in our economy.

Europe taking the lead in 5G development would have an impact on European competitiveness and innovation, the development of the single market and new global companies, and on Europe's attractiveness for investments. It would give us a global lead in research, development and sciences and would enhance the inclusive character of Europe. The world's biggest economy can achieve the world's best consequences of leading in an area that will define competitiveness and speed of innovation for a long time.

This is not about leadership in an industrial sector, such as telecom, or digital development, this is about industry and development. This is about the whole of our society. We can't have one set of rules for the digital and another set for the rest of the society, because digital will be the norm in all parts of society.

Once upon a time there was a discussion about electricity as a single phenomenon that could be useful, some thought, for medical purposes or for lighting up houses. The development of electricity was considered a special issue. Today it is not. The production of electrical power is of course important, but more as one of very many industrial sectors. The real change is the electrification of our society.

Today our entire society is based on electricity and it is not possible to think about a modern society without taking electricity for granted. We are electrified, so to say. It is not the electrical industry we talk about today; it is the society that has developed through electricity.

When discussing issues about digital sovereignty, digital autonomy or digital taxes we need to understand that we have already entered a phase where The Digital is not about the future, not even about a sudden development in the present but rather the result of a long development in a short period of time. This changes the logic of digitalisation. A short look back in time is illustrative.

If 3G was modernisation by digitalisation, 4G was the digitalisation of services and 5G now will be the industrialisation of digital technologies - or maybe better the normalisation of digitalisation - meaning that the normal in all sectors of society and economy will be based on digitalisation. Just as electricity is normal and was once part of a wave of industrialisation, digitalisation now marks a new wave of industrialisation and change of our societies.

It will define competitiveness, the emergence of new services and products, production, marketing, sales and distribution. Health care, transports, communications, participation and what have you.

We led in 3G. We proved that we could be world leaders, setting the global standards.

In 4G, we lagged behind, in a way that had very clear consequences for the competitiveness of our economy. Digital services developed with impressive magnitude in US, from all the platforms to social networks and apps. So now American companies are dominant in huge parts of the markets of digital services.

This is the fundamental reason for the present strive to regulate the entrepreneurial and competitive preconditions for European companies. And it is the wrong reason. It is based on the vain hope that regulating platforms and social media will give European companies better chances if we press the Americans back. But in reality, we are rather undermining the opportunities for new emerging European

companies by thresholds that only the already big American companies can master.

When it comes to the launch and the development of 5G and the Internet of Things, our strategy and goals must be based on a broad economic and societal perspective.

Now it is about the European economy as a whole. We won't be global leaders if we go for autonomy or sovereignty because we risk being shielded off from the rapid development in the global economy and forcing our companies to stay within the European markets. And at a time when everything is digital, this is not only about the digital companies themselves. It is about everything.

A strategy for openness

As outlined above, the Swedish approach to digitalisation has been less a matter of a strategy outlined by politicians and more of following a track of industrial development, innovation and openness to new technologies.

The leadership Sweden gained in this area in the 1990s was more a consequence of positive political leadership, structural reforms of competition between different service providers and networks, investments in fiber and the opening up of spectrum to allow for mobile broad band as well as the affirmative attitude to the use of IT and digitalisation rather than support to individual companies or special technologies.

It was a very market-oriented and market lead development where Government and politicians advocated the use of IT. Less political attention and hesitance regarding spectrum allocation has slowed down the development. The ongoing efforts to speed up can be described as follows.

The Swedish digital strategy[130] addresses the capacities and capabilities in Sweden more than the origin of companies or algorithms, or the ownership of software or clouds.

- **Digital skills** is a matter of individuals' opportunities to utilize the digital transformation. It is about participation, modernisation of education, development of the labour market and public digital competence.

- **Digital security** is not just about cyber security but also safeguarding individual privacy and a digital identity for everyone, securing functioning digital markets and making it possible to navigate and take full use of the digital services that become the new normal.

- **Digital innovation** is about entrepreneurship, supporting the development of innovation and the transformation of them into companies. Sweden should be a leading country developing the digital technologies – for example payment services and other parts of fintech - but also in transforming them into business, investments, e-sport, public services, health care and all other areas up for modernization. Swedish companies must gain increased competitiveness through digitalization and IT companies in the widest meaning - from Ericsson to Spotify – should prosper.

- **Digital management** is about securing the management of Government, and about public services and institutions being as efficient as possible.

- **Digital infrastructure** is about access for everyone in all parts of Sweden to rapid broadband, stable mobile services and the best capacities to use and contribute to digitalisation. Maybe this is the most important goal - and at the same time the easiest to define and achieve - because it gives the opportunities and the precondition for a broad and rapid development in all parts of society driven by individual demand and entrepreneurial force.

The group of D9+ countries – the group of digital frontrunners including Belgium, Denmark, Ireland, the Netherlands, Portugal, Sweden, the Czech Republic, Estonia, Luxembourg, Poland, Spain and Finland – recently expressed support for the same approach. In their

meeting in Helsinki, Finland on 27 January, the countries agreed on a resolution with a number of key principles. Among other things, they emphasised the need to engage in global competition and strengthen the European competitive edge; enhance the Single Market while avoiding burdensome regulation; develop digital competence and invest in key enabling technologies that support European competitiveness and accelerate the digital transition; and support technological and digital openness through regulatory cooperation with international partners and ambitious rules in trade agreements.

It is with such an open mind and global perspective that we will become world leaders. It is about capacities and capabilities and about transforming the European economy into a vital digital economy.

This open perspective is something we need to share with the US rather than standing alone in conflict with American companies. We need the transatlantic link for innovative digitalisation in order to develop the values of the free world into standards and ethics of the global economy. By setting the agenda together we can face the threats and the aggressive policies of China without dividing the global economy.

Isolated you are not so splendid as you might believe. On the global scene, an openness to all the inspirations, changes, innovations and competition you may meet, can make you a global leader.

Endnotes

127. *Public access to information and secrecy - The legislation in brief*, Government of Sweden https://www.regeringen.se/4a76f3/contentassets/2c767a1ae4e8469fbfd0fc044998ab78/public-access-to-information-and-secrecy.pdf

128. *Global cooperation is key to address tax challenges from digitalization*, Government of Sweden https://www.government.se/statements/2018/06/global-cooperation-is-key-to-address-tax-challenges-from-digitalization/?TSPD_101_

129. *National approach to artificial intelligence*, Government of Sweden https://www.government.se/4a7451/contentassets/fe2ba005fb49433587574c513a837fac/national-approach-to-artificial-intelligence.pdf

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