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# "The internet and the European market" from a multidisciplinary perspective: a "round-doc" discussion

Valérie Schafer, Andreas Fickers, David Howarth, Francesca Musiani, Julia Pohle, Dwayne Winseck

David Howarth, Francesca Musiani, Julia Pohle and Dwayne Winseck were invited to discuss the main topic of this special issue, "The internet and the EU market". This conversation at the crossroads of several research areas (communication studies, sociology, science and technology studies and political science) brought together leading experts who shared their experience, research and expertise on the internet, European integration, governance issues, etc. They referred to several topics that are addressed in the papers in this issue, such as the taxation of digital services, net neutrality and the openness of networks, as they discussed questions related to the realities and limits of the notion of "Digital Europe", changing discourses on the EU's digital economy, the concept of European governance and the turning points and key events in the relationship between the internet and the EU market since the 1990s.

David Howarth is a Full Professor in Political Science (European Union studies) at the University of Luxembourg and a former Jean Monnet Chair at the University of Edinburgh. He is the author or co-author of four monographs, a textbook, over ninety journal articles and book chapters on topics related to European political economy, specifically financial regulation and Economic and Monetary Union. He has also edited or co-edited thirteen journal special editions and three books on these topics.

Francesca Musiani (PhD in Socio-economics of Innovation, MINES ParisTech, 2012) has been an Associate Research Professor at the French National Centre for Scientific Research (CNRS) since 2014. She is Deputy Director of the CNRS Centre for Internet and Society, which she co-founded in 2019. She is also an associate researcher at the Centre for the Sociology of Innovation (i3/MINES ParisTech) and a Global Fellow at the Internet Governance Lab, American University in Washington, DC. Her research work focuses on internet governance.

Julia Pohle is a senior researcher at the WZB Berlin Social Science Center within the research area "Digitalization and Societal Transformation". She holds a PhD in Communication Studies from Vrije Universiteit Brussel and a Master's in Cultural Studies, Philosophy and Computer Science from Humboldt Universität Berlin. Her research focuses on the present and history of internet policy and global communication governance. She is particularly interested in the discourses, ideas and power relations that influence internet policy-making at the national and international level. She currently serves as chair of IAMCR's Communication Policy and Technology Section and on the Steering Committee of the German Internet Governance Forum (IGF-D). Before joining the WZB, Julia worked at UNESCO Headquarters in Paris and at the Brussels-based research centre for Studies on Media, Innovation and Technology (SMIT).

Dwayne Winseck is a Professor at the School of Journalism and Communication, with a cross-appointment at the Institute of Political Economy, Carleton University. He has been researching and writing about media, telecoms and the internet in one way or another for nearly twenty years. He co-authored with Robert Pike *Communication and Empire: Media, Markets and Globalization, 1860-1930.* This book won the Canadian Communication

Association's book of the year prize in 2008. He also co-edited with Dal Yong Jin from Simon Fraser University *The Political Economies of Media: the Transformation of the Global Media Industries* in 2011. Dwayne Winseck is director of the Canadian Media Concentration Research Project and has been the lead Canadian researcher in the International Media Concentration Research Project since 2009. He also writes for the *Globe and Mail* and maintains the blog Mediamorphis.

Valérie Schafer and Andreas Fickers: It is not always easy to address questions in the field of internet studies from a Europe-wide perspective. What do you see as being the reasons for this, what issues does it raise, and what methodological and scientific challenges need to be overcome?

David Howarth: First, "internet studies" is a problematic term. There are so many potential disciplinary and sub-disciplinary perspectives on the internet – history, sociology, political science, economics, law, etc. In my own field (political science), I know of research institutes focused specifically on the internet and even on specific dimensions of the internet (e.g. social media) (as at the University of Oxford). Therefore, I find the term unhelpful. It reminds me of "European studies" or "area studies" more generally. In my own research area, "EU studies" exists and there are associations/conferences dedicated to the study of the EU from a number of disciplinary perspectives, but political science dominates these multi-disciplinary associations (EUSA in the US and UACES in the UK/EU), for better or worse. Each discipline has its own methodological and scientific (epistemological) challenges. Therefore, I have trouble identifying challenges that are specific to studying the internet per se, rather than challenges regarding specific disciplinary perspectives on studying the internet.

Dwayne Winseck: For a very long time the internet has been cast and studied as primarily an American invention. This is probably due to the reality that the US did play the leading role in its development and the outsized influence of US scholars on special topic domains. That said, even early researchers/internet historians like Janet Abbate noted that the development of the internet was not just an American or linear affair but that it also involved competing conceptions of what computer networking would/could be, and also that British, French and Swiss interests, from engineers and technical experts to telcos, computer hardware and software firms and governments, were also involved. Recent scholarship on "the French internet" (Driscoll & Mailland), "the Russian internet" (Peters), "the Chinese internet" (too many to list), "the Chilean internet" (Golumbia), "the Canadian internet" (Daniels), etc. have begun to rectify this and give us a more international/global view of the internet and its development. The distinction between the generic internet vs the desktop vs mobile internet as well the platformisation of the internet are also adding to the tendency to realise that there is more than one internet, and that these internets have and are taking shape outside the US, with wildly divergent development trajectories. Discussions of "the federated internet" (Noam) lend themselves to a similar view, and that view is now being girded by the much more aggressive approach the EU is taking to internet regulation: the GDPR,<sup>1</sup> numerous government-inspired "codes of conduct" governing internet content regulation, the RTBF,<sup>2</sup> revisions to the e-Commerce Directive revamping copyright, and the EU's unique and enduring stance on net neutrality (along with Canada, India and others) also lend support to the idea that there are new ways to think about the internet beyond US-centric views. These emergent realities will take some time to take deeper root and dislodge a kind of American hegemony over "internet studies".

Francesca Musiani: I believe this also has to do with the problematic status of the entity "Europe" as a political entity in addition to an economic one. Some avenues for dialogue on internet policy/governance issues exist at the European level (e.g. EuroDIG<sup>3</sup>) and, of course, some important directives or reforms of existing European law on the internet have entered into force in recent years (the primary example being the General Data Protection Regulation); however, Europe keeps on having a complicated time between the enduring influence of the United States as internet governance's dominant political-economic entity, the pursuit of often heterogeneous goals at the national level by Member States, and the centralising pushes of some previously more open countries such as Russia and of long-term voluntarily insulated ones such as China.

Julia Pohle: The internet is a global network of networks, which affects all parts of the world; however, much like globalisation, the digital transformation does not have the same effect in each country and for each society or community. This is particularly true at the global level, where digital connectedness has led to new modes of inclusion and exclusion. But also within the European Union, the digital transformation takes different forms in its highly developed Member States. Specific uses, developments and policies are strongly influenced by traditions, norms, values and institutions, which vary from country to country. For the field of internet regulation – my field of research – these variations have resulted in different policy struggles, actor constellations and discourses and, ultimately, in highly diverse regulatory frameworks across Europe. In order to carry out cross-country comparative research and adopt a Europe-wide perspective on internet policy, we need to take the different influencing factors and their effects into account.

#### Is the notion of "Digital Europe" an expectation, a discourse, a fantasy or a reality?

Dwayne Winseck: It is probably all four. Policy frameworks are usually aspirational and visionary as well as being technical and administrative. To my mind, the Digital Europe framework has done a number of important things. It has expanded the idea of synchronising the relationship between the EU as a political and cultural project on the one side and audiovisual media services on the other to communications services, both in terms of infrastructures, markets and what people do with the broadband internet and mobile wireless services at their disposal. EU-wide roaming, for example, and rights portability are excellent additions to what it means to be an EU citizen and nicely go beyond mere trade regimes to set out a fairly expansive set of public interests that citizens and consumers can expect from regional integration projects. In my opinion, this would bode well for the political and cultural legitimacy of the EU against charges of its technocratic elitism. Of critical importance to academics and participants in both markets and policy processes, it seems to me that the Digital Europe framework has propelled vast improvements in the coverage and availability of data on a wide range of measures with respect to mobile wireless and broadband (wireline) coverage, adoption, speeds, prices, market structure, etc. These have been more frequently published as well. They are also much easier to access, download and use then they have been in the past and relative to most of what takes place in the US and Canada. There's also stronger integration across both data from the communications and audiovisual media fields and the research studies, reports and other publications associated with them. In other words, there is a quality and coherence to data and policy documents that surpasses past standards by a long shot. Lastly, I wonder if something in the Digital Europe framework, and all of the things just mentioned, haven't girded policy-makers' spines so that they can take more aggressive stances with respect to, for example, market concentration, the role of digital platforms with respect to AVMS services, privacy and data protection, EU-wide mobile roaming and policy-making in general. In this sense, might it have helped propel the "return of the state" – at both the EU level and amongst its Member States?

Would you agree with Dwayne that the notion of "Digital Europe" is all four: an expectation, a discourse, a fantasy and a reality?

Francesca Musiani: Yes, some of all this, I believe. It is an expectation inasmuch as the notion of a "European digital sovereignty" – often cited but rarely achieved – is seen as a crucial goal to pursue if an alternative to the United-States-based internet giants is to be found. There have been cycles of European-funded research projects that pursued this objective, especially when it came to search engines (Quaero, Theseus,<sup>4</sup> etc.). It is a (performative) discourse, as this notion of European specificity and the possibility of Europe being a sovereign entity comes back regularly in the speeches and declarations of different Member States, and as such, it is the "motivational" backbone for a number of cooperation and coordination initiatives between them.

Julia Pohle: I agree that the notion of "Digital Europe" is most of the above – and even more: it is a term used by the European digital technology industry and the European Commission to frame their vision of a European digital industry built on policies and regulations that prioritise the interests of European citizens, countries and companies. It is first and foremost, therefore, an economy-centred strategy and discourse aimed at strengthening Europe's economic leadership in the digital era and creating a digital industry based on European norms and values. While such a position is still far from being the reality (and as such remains a fantasy), current usage of the term also brings the broader idea of the "digital" within the confines of the much more narrow concept of a "digital economy". It thus supports the assumption that the digital transformation is primarily an economic transformation rather than a socio-technical process of change that reaches far beyond the economic sphere.

David Howarth: This is a "slippery" term, the contours of which are far from clear. However, as an academic who is principally interested in European Union economic governance, I see the concept as – above all – an invented term to sum up a number of macro- and micro-economic policy goals, which are more or less clearly defined. Thus, "Digital Europe" is a form of discourse and an expectation. See the Digital Europe Programme.<sup>5</sup>

There is a specific EU policy goal agreed by the Council of Ministers/Commission which involves funding for projects that can be categorised (more or less precisely) into one or more broad goals: "The programme will boost investments in supercomputing, artificial intelligence, cybersecurity, advanced digital skills, and ensuring a wide use of digital technologies across the economy and society. Its goal is to improve Europe's competitiveness in the global digital economy and increase its technological autonomy." Needless to write, these policy goals – like ALL EU policy goals – beg a lot of questions. The 1992 project of the Single European Act was to complete the Single Market by 1992. Since then we have had a series of EU efforts to "complete" or, more modestly, "advance" the "Single Market". Of course the term "single" is a misnomer because we are far from a "single" market in a huge range of areas. In 2010, an Israeli colleague and I guest-edited a special edition of the high-ranking *Journal of European Public Policy* on the "never-ending completion of the European single market".

Since the Bangemann report in the mid-1990s, the internet has been full of promise for the EU. Has the discourse remained resolutely optimistic, or on the contrary has it now become more realistic and pragmatic?

David Howarth: I have not followed the development of EU (notably Commission) official discourse on the internet. However, I have followed EU (notably Commission) official discourse on the Single Market. This remains consistently optimistic but also consistently vague. At the same time, the EU insists on pragmatism but the manner in which pragmatism should delimit optimistic goals is always frustratingly vague. There are constant shifts – on the issues/policy areas emphasised – but there are also common/consistent themes. The Lisbon process, for example (both its first and second revised iterations), promised to transform Europe into the most "advanced knowledge-based economy" in the world. The central role of ICT (thus the internet) in this process is obvious but always elusively defined. A potentially useful study would be to look at all the specifically internet-related projects funded in full or in part by the EU and to look at the outcomes of these projects in terms of the stated goals of "Digital Europe". Has that ever been undertaken? A kind of academic "audit" of internet-related funded projects would help both academics and policy-makers understand the relationship with real-world developments and goals and allow a more targeted critique of both the goals and the manner in which they have de facto been interpreted to date.

Julia Pohle: At the time of the Bangemann report, citizens, governments, the private sector and the European institutions were united by their belief in the very optimistic and technodeterministic discourse about an "information society" that would bring economic prosperity and social well-being to Europe through technological progress. Today, we need to distinguish between various more nuanced discourses, which are promoted by different actors. The European Commission and many governments still primarily emphasise the benefits of the digital transformation for the European economy and its consumers. Yet they have become more pragmatic with the realisation that simply promoting technological progress and market liberalisation will not lead us into this bright future; instead we need effective policies and a strong regulatory framework in order to both protect and promote the European market. But other actors within governments and many citizens across Europe are increasingly concerned about the risks that a globalised digital economy holds for fundamental rights and for the self-determination of European countries, companies and citizens. This gives them a somewhat pessimistic view that fails to recognise the advantages of digital technology.

Dwayne Winseck: Based on the discussion above, I think that the discussion has become much more realistic and pragmatic. Policy-makers seem to be recognising reality and acting accordingly rather than turning a blind eye or wishing things like market dominance – whether in terms of mobile markets, search, shopping or operating systems – away. Of course, there are always new imaginaries of what might be that are excessively optimistic and even fantastic. Today those are being occupied by the likes of, for example, 5G, IoT,<sup>6</sup> big data, AI and ML,<sup>7</sup> etc. However, even here, the discourse and actions being taken seem better grounded, although a healthy degree of scepticism is needed on this point.

#### Can we talk about the concept of "European governance"?

Dwayne Winseck: Absolutely, and for better or worse. I've already mentioned several things above: a reasonably robust net neutrality framework (albeit with too many loopholes and blind spots), the GDPR, the four mobile wireless carrier policy, broadband extension programmes and funding, RTBF, updates and planned overhauls of the e-Commerce Directive and numerous "codes of conduct" are all evidence of this. Many of these initiatives, in my view, are desirable, but I worry a great deal about the vast increase in the use of "codes of

conduct" that lack a firm basis in the rule of law, that delegate too much power to private actors that already have too much power, and that generally jostle very uneasily with the ECHR<sup>8</sup> Article 10, UDHR<sup>9</sup> Article 19, etc. It is also the case that some European actors have far too much clout in EU policy-making, which I would say is exemplified by ETNO<sup>10</sup> in telecoms and internet infrastructure policy and regulation, and by media, publishing and cultural industry groups when it comes to audiovisual media, copyright and other such policies.

David Howarth: My answer is also yes. There is a huge body of literature on this that also reflects an even larger body of literature on the concept of "governance" in political science. Different political scientists define "governance"/the contours of governance differently. Different political scientists also define the relationship between "governance" and "governance" differently. In the European context, the concept of "governance" also has a "multi-level" nature, which can make its effective analysis/understanding even more challenging.

Francesca Musiani: While I am a little bit unsure of whether we can talk about European governance, I am quite sure we can safely talk about the notion of European digital sovereignty, which I mentioned above, as a goal towards which the EU regularly tends. I believe there is now a consensus in Europe that if the economic and political dominance of the US and China – the first established, the second emerging – is to be countered satisfactorily, European states cannot fight the battle on their own. The GDPR has perhaps been Europe's strongest action so far in grounding the control of data flows "on rules rather than force alone",<sup>11</sup> and the prime example of a project of European digital sovereignty that has turned into an actual governance action.

# What do you see as being the main turning points/key events in the relationship between the internet and the EU market since the 1990s?

David Howarth: This definitely goes beyond my knowledge. However, I would point to the Lisbon Process I and II (as I note above). Both Lisbon I and II placed digital services (the internet) at the forefront of EU internal market policy concerns. Lisbon I might then be described as a turning point by placing the internet at the heart of market developments. I would also point to EU (meaning Commission and collective Member State) efforts to reach agreements on the taxation of digital services. The precise "turning point" here is more difficult to determine but it might be the October 2017 European Council that first placed squarely on the agenda the need for an "effective and fair taxation system for the digital era" - but this followed on from the Digital Summit of September 2017. To date, there has been a failure to reach an agreement in the Council on a "digital services tax", but the issue is clearly on the agenda. Other possible "turning points" are more difficult to define. Some might relate to major EU funding decisions but the relative importance of these decisions can only be determined in the future (i.e. when we can assess their impact). EU competition policy decisions have also had a significant impact upon the internet in Europe (Microsoft and web browsers, etc.). I write as a political economist. I fully recognise that there are a number of other major EU agreements regarding the internet that must also be considered to be major turning points in other areas of concern. The General Data Protection Regulation of 2016 is of great significance (notably re human rights). However, the turning point linked to data protection and the internet came earlier (probably in November 2014) when the Commission released guidelines on the "right to be forgotten". Even before this move, Google had

eliminated hundreds of thousands of websites. Thus, the precise turning point is difficult to define but the issue is of immense importance.

Dwayne Winseck: I would point out the steady move to a stronger regulatory framework for net neutrality, beginning around 2006 and culminating in the 2016 Net Neutrality Framework/Guidelines – the 2000 to 2015 or so period in which strong intermediary liability protection rules limited the scope of copyright claimants' demands and ability to use ISPs and other intermediaries in the processes of identifying, blocking access to and taking down allegedly infringing content. The steadily increasing delegation of more and more obligations on ISPs and other intermediaries with respect to copyright since around 2011 has, as many critics feared, opened the floodgates for enrolling far more actors in such processes across a much wider purview. The updates to the AVMS Directive<sup>12</sup> in 2010 and 2016, I believe, also seemed to be well placed and reserved in their scope, i.e. they refused to sweep everything into their remit and left much scope for countries to chart their own relatively autonomous course. I thought that this was a thoughtful way of approaching audiovisual media policy "in the internet age" which stood as a smart touchstone for other countries like my own, Canada, where efforts to update AVMS policy have been much more ham-fisted and constrained to the visions and interests of industry insiders.

Julia Pohle: It is difficult to identify specific turning points, since shifts in discourses and perceptions do not occur all of a sudden but happen over time. As well as the burst of the dotcom bubble in 2000, which certainly dampened the initial enthusiasm for the digital economy, a number of other episodes have led to a more reflective and nuanced vision of a digital economy. Interestingly, several of them are related to citizens standing up for their rights in a digitally connected world, e.g. the huge protests against the Anti-Counterfeiting Trade Agreement (ACTA) in 2012 and its subsequent rejection by the European Parliament. Another such episode was initiated by Edward Snowden's disclosure of mass surveillance practices by US intelligence agencies and their European partners. The massive outcry that followed the Snowden revelations did not actually lead to more effective protections against these surveillance practices for European consumers – and it caused both the French and German governments and the European Commission to publicly call for "digital sovereignty" and to adopt economic policies and strategies that in many ways appear almost protectionist.

Debates and controversies regarding EU market integration in the area of the internet and EU-wide regulatory issues and challenges regarding the internet and the web are numerous. Is the EU market a microcosm of the tensions that the internet and its stakeholders have to face at the global level?

David Howarth: Yes! On taxation, data protection and competition policy issues (among many others). Through its policy and rule-making in intergovernmental fora (the Council) and at a supranational level, the EU can lead the way on international efforts in these areas. More generally, the role of the digital economy and the internet specifically in the context of Europe's relative economic decline (notably in relation to Asia) is an issue of considerable preoccupation, at least in the EU!

Dwayne Winseck: Yes it is, but it is also playing a lead role in showing what a more active role for the state in relation to the internet might look like within the context of market economies and liberal democracy. Its approach to all of the issues already mentioned – market concentration/dominance, privacy and data protection, copyright, AI/ML policy,<sup>13</sup> a broader conception of consumer and citizen rights (rights portability, regional roaming), etc. – all

mark out a fairly capacious view of internet policy and regulation. The lesson it offers portends a kind of EU internet that is steeped neither in Californian ideology nor in Chinese or Russian authoritarianism, to paraphrase Macron at  $IGF^{14}$  in 2018.

Francesca Musiani: The EU market is certainly an opportunity for the researcher to observe how debates unfold around critical issues of internet governance such as net neutrality, the protection of personal data and the preservation of "communication rights" and "internet rights" such as access and diversity. It is a microcosm of how these tensions take shape at the global level as, within Europe, Member States are often not in agreement about a common position that should be upheld "in the name of Europe", or about the instruments that should enforce governance on a particular issue. A clear example is net neutrality: while there is a common EU framework for it in the form of a set of directives that entered into force in the early 2000s, on net neutrality, some Member States have passed stronger national laws or are in the process of doing so, with former Commissioner Neelie Kroes famously declaring that an "uncoordinated, country-by-country basis [would] slow down the creation of a Digital Single Market".

Julia Pohle: As I said earlier, normative frameworks and societal contexts vary significantly across the EU Member States. Policy-making in Europe also involves a larger number of stakeholder groups with differing and often competing interests. Accordingly, EU policy-making on the digital economy certainly reflects many of the tensions that actors also face at the global level, whether in international organisations such as WIPO<sup>15</sup> and the ITU, in global multi-stakeholder processes, e.g. within ICANN, or during trade negotiations, e.g. within the WTO. However, in contrast to global controversies, interactions and debates at the EU level are confined by the norms and values on which the European Union is built. While actors at the global level might have to renegotiate the specific meaning of even the most fundamental principles, such as freedom of expression or privacy, the "space of possibilities" in the European field is much more clearly defined. Of course, this does not mean that there are fewer tensions in European policy debates, but the gaps between contrasting positions might be easier to bridge.

Looking more closely at the topic of this journal issue, "The internet and the EU market", what do you see as being promising avenues for future research, and what are the main scientific issues that need to be addressed?

Dwayne Winseck: A key area of research on the internet and the EU market will need to flesh out the issues above and dig deeper into the histories, development and uses of prototype computer networks and the early internet in the EU. The role of the various EU Member States and the key players in setting the terms of debates over the main issues outlined above will also be important, with particular attention needing to be paid to the tensions between internet policy and industrial policy, to the excessive influence of some business constituencies over other interests, including in business and public interest advocacy groups, to how the technocratic tendency of EU policy-making discourages wider participation in internet policy and, thereby, undercuts its own legitimacy, to how regulatory capture works in the EU context, etc.

Julia Pohle: A tendency that we can observe in recent years in Europe and other parts of the world is a growing nationalisation of internet policy. Moving away from the belief that the internet as a global network needs global policies, norms and agreements, countries are increasingly trying to regulate the digital transformation – including the digital economy – at

the national or regional level. But what does it mean for the development of the global internet if its regulatory framework becomes increasingly fragmented? What new power constellations can we observe when value-based policy issues, such as data protection, intermediary liability and freedom of expression, are part of bilateral and plurilateral negotiations between individual governments and stipulated in instruments such as trade agreements? How can democratic countries join forces against a US-dominated platform capitalism if they are primarily occupied with the protection of their national digital economy? In my view, these and similar questions are the most pressing issues that researchers interested in the political dimension of the internet need to address in the years to come.

David Howarth: The taxation of digital services is one of the major political economy issues of our time and touches upon a range of other topics of controversy – tax avoidance, growing inequalities, and more vaguely "globalisation", to name a few. Few political scientists/political economists work on tax policies at the EU – there are only a handful of book-length studies and the best known are now dated. Many are focused on the topic of so-called "harmful tax competition" or on VAT issues. There is also (more descriptive) work by legal scholars. I would love to work on this topic. Why is agreement on EU legislation in this area so elusive? What are the different preferences of the different EU Member States? But ... alas ... I only have so many hours in the day.

Francesca Musiani: Europe first has the opportunity to shape, or to further develop (along the lines of what the CAPS programme has done), a research programme that advances the state of knowledge on the sharing economy, peer-to-peer production and decentralised architectures. If researchers can be mobilised in political arenas to account for the opportunities and challenges of distributed networks, the objective should also be to produce prototypes, which take into account the social and organisational dimensions in addition to the technical dimension. Europe should also be able to consider and encourage – and good research can help in this regard – the development of companies that offer "truly" alternative systems. Faced with the dominance of centralised clouds, whose server farms are very often hosted on US territory, it would be desirable that the "technological independence" of Europe, envisaged as an integral part of its digital *habeas corpus*, includes P2P and decentralised solutions, rather than considering as an alternative the promotion … of the centralised European cloud, something that is most often put forward.

<sup>&</sup>lt;sup>1</sup> General Data Protection Regulation.

<sup>&</sup>lt;sup>2</sup> The right to be forgotten.

<sup>&</sup>lt;sup>3</sup> See <u>https://www.eurodig.org</u>

The European Dialogue on Internet Governance (EuroDIG) is an open multi-stakeholder platform created in 2008 by several organisations, government representatives and experts. It aims to foster dialogue and collaboration with the internet community on public policy for the internet.

<sup>&</sup>lt;sup>4</sup> See https://atelier.bnpparibas/en/prospective/article/age-european-search-engines-quaero-theseus-pharos

<sup>&</sup>lt;sup>5</sup> European Commission website: <u>https://ec.europa.eu/digital-single-market/en/news/digital-europe-programme-proposed-eu92-billion-funding-2021-2027</u>

<sup>&</sup>quot;As part of the next long-term EU budget – the Multiannual Financial Framework – the Commission has proposed the Digital Europe programme, the EU's programme focused on building the strategic digital capacities of the EU and on facilitating the wide deployment of digital technologies, to be used by Europe's citizens and businesses. With a planned overall budget of  $\notin$ 9.2 billion, it will shape and support the digital transformation of Europe's society and economy."

<sup>&</sup>lt;sup>6</sup> Internet of Things.

<sup>&</sup>lt;sup>7</sup> Machine Learning.

<sup>&</sup>lt;sup>8</sup> European Convention on Human Rights.
<sup>9</sup> Universal Declaration of Human Rights.
<sup>10</sup> European Telecommunications Network Operators' Association (https://etno.eu).
<sup>11</sup> See https://www.ecfr.eu/article/commentary\_reality\_bytes\_europes\_bid\_for\_digital\_sovereignty
<sup>12</sup> Audiovisual Media Services Directive.
<sup>13</sup> On artificial intelligence and machine learning.
<sup>14</sup> Internet Governance Forum.
<sup>15</sup> World Intellectual Property Organization.