



WHITE PAPER

**DIGITAL COMMONS VALUES AND
PATH TO SUSTAINABILITY**

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ABSTRACT

This white paper on Digital Commons in Europe provides a synthesis of the 100-pages report [D1.1 mapping Active communities of commoners and relevant commons](#) of the NGI Commons European project on Open Source and Internet Commons for Europe's Digital Sovereignty. Based on a review of literature and 23 interviews, which transcripts are shared as open data (available on [Nakala](#) scientific data repository), this report provides a mapping based on extensive interviews as a way to better understand the diversity of the Digital Commons.

After a first dive into the history and the definitions of the concept by scholars and with regards to Free Libre Open Source Software and Digital Public, we summarise the beliefs and imaginaries we were able to identify as shared amongst multiple interviewees of 14 active communities of Digital and Internet commoners.

We then focus on the sustainability models these Digital Commons mobilize and how they customize their structures to their needs. The last section aims at understanding whether and how interviewees use the concept of Digital Commons in their practice, and what values they associate with this concept.

KEYWORDS

Digital commons, Internet commons, case studies, interviews, sustainability, values, communities, governance, innovation

SOURCES

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INTRODUCTION

Practitioners, scholars, as well as institutions in European Member States and in the European Union most often refer to Digital Commons and/or to Internet Commons to describe both digital tools and the collectives who build, maintain, and protect collectively-owned digital resources. The concept sometimes acts as a complement to Free Libre and Open Software, open data, open hardware, open knowledge or Digital Public Goods, all of which have already been well defined and studied. It also refers to the Commons per se (beyond digital technologies and processes), for which an established literature that spans the last fifty years exists as well.

This report adds a contribution to these sets of literature by questioning the concept of the “(digital) commons” via an exploration of the resources and communities that subtend it, to comprehend their inner workings and their needs, what constitutes “Digital Commons” on the ground, in daily, mundane interactions and practices.

We also analyse the relationship actors have to the concept of Digital Commons, the understanding of it but also question the values that are often associated with Digital Commons. Do the actors effectively share those values and how do they try and operationalise them in their organisations? This report also focuses on the sustainability models of these Digital Commons. As many actors have told us, they like what they are doing but also need to make a living. The idealised vision of contributors freely giving their time still exists, but most of the projects we looked at rely on full-time contributors, who need to be compensated for their work.

The report is grounded on 23 interviews from members representing 14 projects among 17 organisations that address, leverage or produce Digital Commons, and to discuss their shared values. We therefore look at Digital Commons with practitioners from multiple EU countries organising around Free Libre Open Source software, open data, open hardware, open knowledge, open standards and platform cooperatives.

OUTLINE OF THE REPORT

This first section of the report provides a literature critical analysis of the concepts of Digital Commons, Internet Commons, open source software, digital public good and digital public infrastructure. It then presents the methodology which was defined to select the interviewees, in order to have a representative panel of the commons considered. This led us to study : Software Heritage, Framasoft, Zum, Mastodon, Gaia-X, Frictionless data, Forgefed, Europeana, Matrix, Openwifi, Blender, Tzoumakers, Goteo and Coopcycle.

After this conceptual and methodological first section, the report provides a detailed analysis of the contributions of our interviewees, with the expectation to understand more about their values and beliefs when choosing to develop their projects as open (section 2), how they reached economic sustainability, with a discussion on public and private funding (section 3), and finally, what is their definition of the commons (section 4).

MAPPING DIGITAL COMMONS IN EUROPE

DEFINING DIGITAL COMMONS

Section 1 presents the various definitions of Digital Commons and cognate concepts, their evolution over time and the importance of community structures, rules and governance: from tangible to Knowledge commons, Internet commons and Free Libre and Open Source Software and finally, Digital Public Goods and Infrastructure. We then describe the methodology and criteria to select case studies for interviews, in order to reach diversity according to a set of criteria such as the type of resources available to them, the degree of openness of their licensing, the implication of contributors, the size of the communities, the country of origin of members and their prior obtention of NGI funding or not.

Digital Commons (DCs) is all at once a concept to describe different digital resources, open and shared collectively, and their governance. The definition of the concept is sometimes considered fuzzy or obscure, even to those who produce those digital resources. This deficit of knowledge also encompasses the values and representations of the actors, at a time there is need from the European Commission and the academic, activist and practitioner communities to identify the state and maturity of the field.

This enquiry relies on desk research to map the definitions chronologically and shows the evolution from the scholarly definition of Digital Commons, based on the openness as a refutation of copyright's enclosures, to a definition involving the communities and their self-organisation (which is more aligned with the original concept of commons) and a political purpose (related to digital rights and the right to access to knowledge and information online).

This research also demonstrates that political definitions follow the same chronological movement, and helps us to distinguish between Digital Commons, the Free Libre and Open Source movement and the Digital Public Good movement.

“Digital Commons are digital resources which are defined by distributed and communal production, ownership and governance. The governance includes access and sharing rules to ensure the development and sustainability of the resource and the community against exclusive use, exclusive profit or value extraction.”

DC EDIC definition

The Free Libre Open Source movement is characterised by the open licenses on the content and the 4 freedoms; The Digital Public Good embeds a form of political purpose by adding the requirement to support Sustainable Development Goals (SDGs), but none of them focus on governance as Digital Commons do. Studying the concepts helps providing clarity in the analysis and our work isn't suggesting any hierarchy between these different approaches.

This report is the deliverable for the first task of the NGI Commons project, entitled “Digital Commons / Internet Commons (DC/IC) Mapping”. This exercise of definition and conceptual framing is useful in several respects in order to provide an overarching scientific framing to the project. Since “mapping” relates to both the concepts and the actors, we chose to study the evolution of the concept in time. We also examine whether it is a uniformly understood concept or its definitional variations,

SUSTAINABILITY AT HEART, CUSTOMISATION AS A PROCESS

This report is mapping how Digital Commons relates as a concept to other, cognate ones (mainly Free Libre Open Source Software and Digital Public Goods), while attempting to understand how the concept is already used, conceived and “practiced” by the individuals and organizations that produce them. To this end, we rely on interviews to better understand the inner workings of the projects but also to explore their beliefs and shared knowledge.

INTERNET UTOPIAS

Section 2 presents the core beliefs and shared utopias of the contributors we interviewed. They are related to openness as a techno-political ideal, with the recent emergence of the need to moderate it by certain restrictions to sharing for a greater good, and to the contribution to key features of the Internet: standardisation, the development of protocols and the contribution to decentralisation. We find that many of them share an ethos of freedom and free access to information that is often related to the Internet itself. Other successful large projects are also used as references by the respondents.

“It’s something that benefits everyone... In fact, it’s something that shouldn’t belong to anyone. Because the incentives are not aligned with ownership and control by anyone. For example, Wikipedia is a digital commons, because it is knowledge, and this knowledge must not be controlled or owned by anyone, because otherwise knowledge is more neutral. And knowledge, at one time or another, can or will be used, will be modified to serve certain interests”.

Alexandre*, Mastodon

One interesting findings is that whereas openness is broadly shared, many actors have introduced conditions, delays or clauses in the licenses or their practice, for a variety of reasons often revolving around community or financial sustainability. Other values that are commonly associated with the Internet are also expressed like the importance of (open) standards and the importance of decentralisation.

The other contribution of this mapping is to question political coherence and objectives achieved by the actors who choose the

particular economic model called peer production, or internet collaboration, instead of traditional firms or start up structures. By studying the purposes and political projects of Digital and Internet Commons, we also tackle a critique of the concept of commons, addressing its supposed ‘fuzziness’ and taking the opportunity to consider related concepts which are useful because they rely on different axioms, reflects multiple objectives, and are used in different public arenas.

This report shows that for-profit and nonprofit organisations are often both used in the same project for different purposes, and that the funding schemes are very different from one Digital Commons to another. However, we notice a strong implication of the public bodies (the EU and Member States, but also local authorities and agencies) as client, user, contributor, funder, prescriber. We show that communities are a struggle for the actors, either to create them, to have people contributing to them, or to integrate them. In this respect, investigating governance of the various communities is paramount, and will be the topic of our next report (D3.3) due at the end of 2025.

LONG LASTING DIGITAL COMMONS

Section 3 focuses on the search for financial sustainable models, and shows that a major concern for those projects who continuously rely on public grants is the uncertainty of their duration and amount over time. Some projects might have the opportunity to build services and sustain themselves economically this way, but others are really designed to remain open, and will not be able to create a direct or an indirect stream of income out of their activity (for example producing standards), which calls for some longer-term support of such activities. In order to mitigate that risk, we identified several practices which could deserve further research to better understand and maybe improve State involvement to support the financial sustainability of digital and internet commons. Of course, these suggestions should be discussed by the stakeholders on both sides to avoid unwanted side effects, being a stiffening of innovation or a control on the values and directions.

INVOLVEMENT OF THE STATES

First, it could be interesting to identify if some criteria could be established to prioritise support at the end of a period when funding (e.g. European) was successfully obtained, or if this is not a good idea, what other public support mechanisms could be designed. Another problem of relying on grants is that they have to be managed, which requires bureaucratic time and skills. It could therefore be examined if and how lighter, more simple funding schemes, along the lines of what is proposed by NGI and NGI Zero, could also be offered by States. The transposability of the models of sub-granting, inspired by Platoniq or NLnet, could also be explored.

Another feature to be considered is the provision of coaching, the contribution beyond financing, to develop skills related to accessibility and licensing, and the need to extend such mentoring and support to other aspects of product development, such as design and user experience. The French DINUM or the German Zendis model could be the focus of further research, as they offer such extra professional services and organisational guidance to their grantees. It was also identified in the literature, and confirmed in the section of this report that is focused on governance, that these young organisations also face legal, financial, tax and HR employment questions. These may require training or mentoring to ensure not only financial but legal and human sustainability of the projects, which may require changing status in order to improve governance or solve an administrative or tax issue.

Second, if selling to public entities appears to some entities to be more ethical, or more aligned with their values, the dependence to States as clients can also be problematic, because public finance rules are not always compatible with the need to design specific subscription models to stretch the funding to cover more fundamental work, such as maintenance, dependencies, infrastructure and future improvements on the software, which is separate and complementary from the sysadmin work on their instance. If public finance principles are at odds with financial and technical sustainability, it would be interesting to study the direct contribution to the Digital Commons by States, the motivations for States to directly contribute to such initiatives, such

[...] for all that touch to funding, two problems arise: there is the issue of dependence, and the official or non-official expectations which can be linked to a funding. Our independence and capacity of action, and our freedom of speech is really important for us. Besides, there is another issue, which is the complexity of the grant application [...]. Many non-profits have then to specialise in the funding application process. The last huge problem we see with public funding is the disappearance of operating grants for project grants. [...] Mechanically depend on this type of funding would lead us toward permanent innovation or bullshit-writing".

Camille, Framasoft

as the legal mandates to not use closed software, or the increasing need to rely on sovereign solutions.

Finally, it would be useful to study the difficulties States have to collaborate with private companies, due (albeit not exclusively) to the gap between what the State can pay for and what parts of open and free software development are uncovered, therefore unsustainable. Such study would make it possible to identify possible solutions and propose recommendations in that direction, to also cover other costs, from maintenance to usability and ergonomics, or financing more easily freelance status work and subcontracting. Ways to fund maintenance could be inspired by the current work of the Sovereign Tech Fund and the French DataGouv team. The model of subscription, very attractive for many, as it secures a regular and foreseeable income, could also be further researched and its suitability for public entities enquired.

This report calls for further research on the role that the digital ecosystem can play for public agencies and institutions, whose appearances are recurring in this study; the way public and private seem to interact in novel ways could be interesting to explore. The report also shows that funding such as the European Commission's Next Generation Internet (NGI) programme are particularly well adapted for the actors and the SMEs that constitute the ecosystem of the Digital Commons. This type of cascade funding should be extended, beyond the initial requirement to innovate, to integrate further concepts, like improving user interface, supporting community organisation, etc.

In many ways, supporting SMEs and individuals producing Digital Commons is contributing to achieve digital sovereignty, understood as autonomy and self-determination of the digital tools our digitalised societies (individuals, organisations, public entities) rely on. This report could be extended with a clear focus on the ways in which States are involved in this movement, what it allows them to do, and the opportunities that lay in front of them.

A subsequent report of the NGI Commons project, D3.3 Governance frameworks for the Digital Commons, to be released at the end of 2025, will further explore factors of success for digital and Internet Commons and provide "a set of governance recommendations for DC initiatives, covering governance models with a proven track record for realising maximum societal impact and sustainability of DC initiatives".

A third avenue to explore for States support of digital/internet commons is mutualisation of development costs. Based on the example of Matrix, French and German public administration could interconnect these messaging apps thanks to the federated protocol to have a transnational messaging system for public bodies. The model of sponsorship by private partners, with a fee to attend a meeting and access to transparent information, could also be explored to gather different States.

ORGANISING DIGITAL COMMONS

Section 4 presents the multiple definitions of the commons according to the actors. We found that they do not fit in a single definition, some developing certain aspects more than others, and do not comply with all elements of the academic definition with a shared resource, a community, a collective governance and political values.

More importantly, even if some actors refer to the commons and Digital Commons, many actors also refer to other, sometimes multiple cognate concepts: publicly available, public goods, open, free, sharing, translating political values such as privacy, trustworthiness, but also social and solidarity economy and the proximity with cooperatives, with comparable democratic governance and political objectives. Many also referred to the specificities of free

and open source software, the sharing of knowledge as a professional practice and the importance of decentralisation.

Still, the existence of multiple competing concepts is accompanied by a substantial overlap of practices, values and needs, and it should not be instrumentalised as a reason for States to not support the commons in light of an alleged “fuzziness” of the concept or because there are already sectoral policies in favour of social and solidarity economy and open source software which might benefit Digital Commons, internet commons or Digital Public Goods and infrastructure.

A key element of Digital Commons are communities, and for most projects, the community was built afterwards; that is to say, after the initiative had been started by an individual, a few people, or an organisation, following a certain objective. This may explain a difference of values between founders and users in some projects.

One project was created not by the workers but by people interested in setting up a collective organisation for them to own their tools of production. Openness doesn’t guarantee that a community will form, or have contributors. One interesting finding was that although there are exceptions, when the resource is embedded in an organisation and tailored to its needs and inner workings, it is not obvious that it could be reused.

Worse, when it is actually reused, it is largely modified and there is no contribution that can be made useful for multiple users. This is largely because here, the resources, in these cases, are part of a larger economic and social organisation and not products in themselves. A shared digital resource isn’t enough to make a social organisation around it and the social aspects are often way less documented by the community. Some communities decided to remain at the same time close to ensure stability and coherence and open based on meritocracy and cooptation, which has already been observed by the literature.

[...] what I observe in a lot of open source projects and not only open source projects, I think projects in general, is that sometimes when they're successful, it's also because there is a very charismatic leader that is there to bring them forward. And Jack was definitely that. He was super charismatic, super convincing. He really managed to gain traction for a lot of those projects. But a lot of the time I find that in the long term, those kind of people that then become the magnet of the whole thing it's not healthy. And it's not really sustainable in the long term. I think it also upsets people because then everything is centralised in one person. And when you invest your time in a project, then you also want your say. I don't know if this is what happened with Jack, to be honest. I know that some people were upset with him at the time. I don't know why, because I was not around. But it's like Python, you know, this kind of illuminated dictatorship. Sometimes it works, sometimes it doesn't work. Personally, I think there's a reason why tyranny didn't work, you know!

Adriana*, Open Knowledge Foundation

This impacts governance, and the traditional figure of the Benevolent dictator for life, which does not only question democratic decision-making, but human sustainability, a problem also identified in other organisations including non-profits and start-ups, and the need to replace individuals with broad knowledge and document history and the original mission political vision. The paradigmatic figure of the Benevolent Dictator for Life (BDFL) appears to sometimes be a driving force when creating the projects, but also has to organise a form of transition (for multiple reasons) toward a collective organisation.

We also show that customisation of the governance models and

structures seem to be an important characteristic of the field, making it difficult to envisage the creation of standardisation bodies related to Digital Commons (while it is more feasible for Free, Libre, Open Source Software or Digital Public Goods, where there is more uniformity because it is mostly considered from the perspective of property laws). Different organisational statutes have been adopted to fit their needs, cooperatives, associations, foundations, social enterprises, non-profit companies, charities – for practical, legal and administrative, but also

ideological reasons. This choice impacts governance, and rights ownership, allowing creative management of assets and dual licensing practices described in section 2, and requires time and guidance. The point of these organisations is not to conform to a given status, but to align the organisational models to the requirements and the capacities of the collectives, but more importantly to the values they intend to carry.

The values of the commons which we studied are ecological, social, building infrastructure and questioning innovation, and what lays behind, such as maintenance. Many of these projects consider themselves as infrastructure for society and the people (rather than for the digital world itself) which also comply with the fact they often think of themselves as public goods.

Some question this infrastructural aspect as they rather use this concept to describe machines and cables. Innovation is probably one the values that is the most debated between the respondents: some praise innovation and want to innovate, others use the term to refer to social innovation, while some would rather use other concepts, specifically leaning toward a vision of a more sustainable and human-friendly future. Indeed, many question the ecological impact of their digital and material activities, while most concede that they don't have actually done much to implement these values. This last question of the values of the commons brings us back to the research question raised by section 3 of the role of the public sector, and the possibility to also support tasks adjacent to those awarded in grants, product development or service subscription, in order to fulfil those values, which are also public service missions.

CONCLUSIONS

This report concludes a one-year research aiming to map Digital Commons in Europe. This mapping supports the conclusion that there seems to be a coherent definition of Digital Commons, which is however rarely used, or endowed with multiple meanings by the actors. To clarify, few projects studied in this report are actually fitting all criteria of the definition of Digital Commons we found. This report did not mean to assess conformity to a definition, nor to find a definition that could describe them all, that would only be a highest common denominator lacking relevance.

However, the focus on the commons helped spot some of the struggles some projects encounter with managing (or even building) a community, or the importance of the governance. This governance should be further studied and specifically introducing multiple layers of governance: according to the theory of the Commons, governance over the resource and of the community are known and well-established, but our research made quite clear that the venture and its administrative form (for-profit, nonprofit or sometimes the way these are intricate) have to be considered as well.

Focusing on the Digital Commons aspects allows us to go beyond free and open licenses, that are only defining modality of ownership or access over the digital resources.

Unlike Digital Public Goods, for which a standardisation entity exists and assesses the conformity to a given standard, there is no standard for Digital Commons. While we see that some models seem to work and have been reproduced in other projects for specific parts of the governance over the resource, others are customised to fit the needs and political values of the projects.

Following the literature on tangible Commons, we argue that there should very likely not be a standard for Digital Commons, but rather a few rules deduced from the analysis of the projects. While this study is not enough to determine with certainty such rules, a few patterns seem to occur, for example:

- There is a separation of the for-profit and nonprofit parts of the initiative (when both are present, which is not the case of all projects): the non-profit secures the commonality aspects, while the for-profit allows people to live from their work,
- Most projects are started by individuals or organisations that will not spontaneously create a community. The goal is, ultimately, to achieve a collective governance over the whole commons.
- The EU and its Member States are very present in the life and evolution of several projects, either for-profit or nonprofit. Public entities use, buy, sponsor, support and sometimes produce digital resources that can be qualified as Digital Commons – and at times, indeed, they are labelled explicitly as such.

While this mapping showed the diversity of the Digital Commons in Europe, we can also conclude on the fact that national origins are hard to define with digital resources as they can be developed across borders. Most Digital Commons have contributors across multiple countries to continents. This work could be usefully complemented by similar studies in other regions of the world.

Finally, many actors challenge a border-based definition of digital sovereignty to rather focus on the freedoms of the users, and the European values they are enabling by offering digital resources for the people rather than extractive proprietary solutions, wherever they come. The definition of (digital) sovereignty seems therefore to encompass autonomy and self-determination (for the software and online service uses: the ability to move away from them, data portability and interoperability, etc.), and moves beyond the original connotation related to States, to invest possible prerogatives or claims of firms and organisations, but above all of citizens, both as individuals and organised civil society.