DIGITAL CAPITALISM

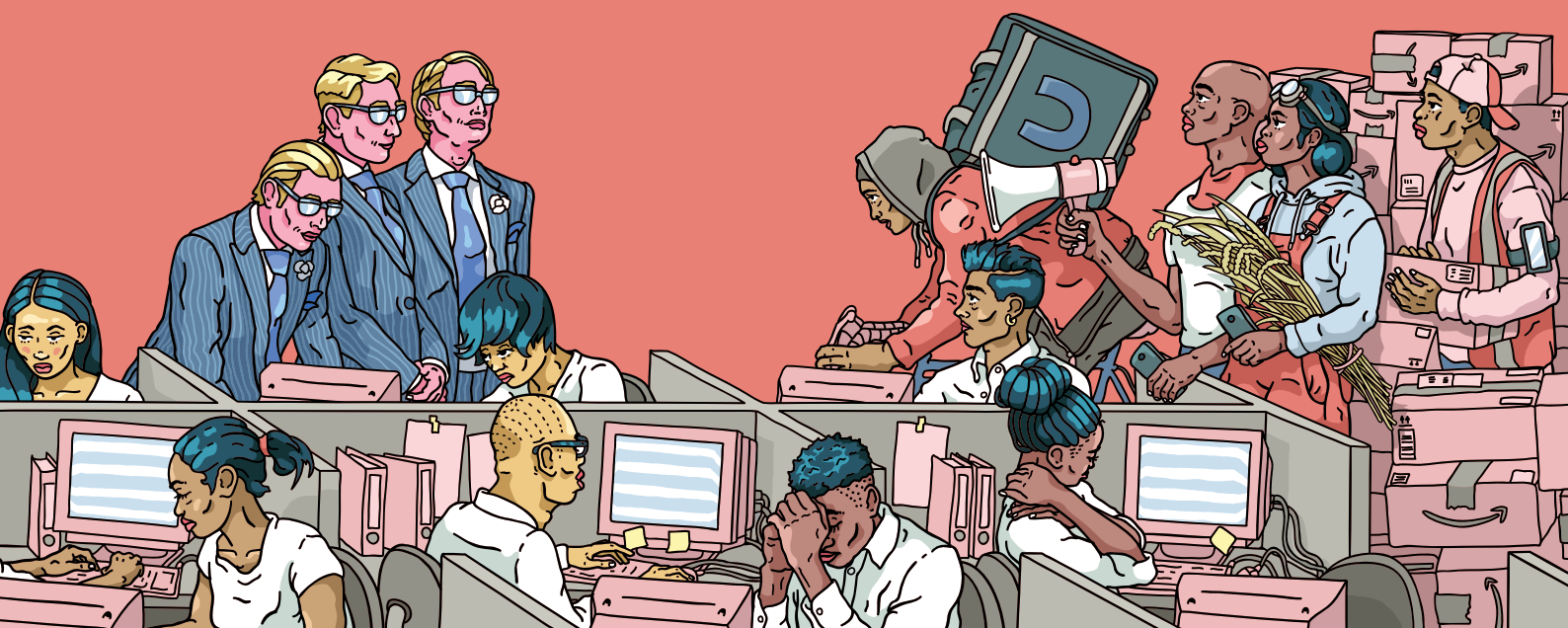
6 week essential course for activists to understand how digitalisation is shaping our world

tni 50 years 1974 - 2024

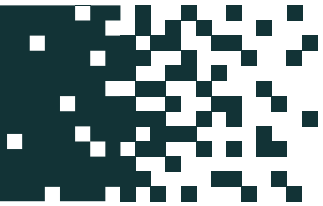
WEEK 6

What's the alternative?

The digital world we want to live in



1 Introduction



In an era where digital landscapes dominate and the voracious appetite of capitalism extends its reach into every byte of data, a pivotal question emerges: How do we forge a path that not only understands the intricate web of digital capitalism but actively seeks to dismantle its foundations?

The following exploration is not just a critique but a strategic map for reclaiming popular sovereignty over our digital spaces. It delves into the fervour and philosophy of movements such as Free and Open Source Software (FOSS), cyberhackers, digital privacy advocates, and proponents of a Decentralized Internet and Digital Commons. Each of these movements challenges the current paradigms of intellectual property rentiership and the enclosure of the commons, advocating for a digital world that is open, equitable, and truly accessible to all. This pursuit is essential, for to break free from the chains of digital capitalism, we must first understand its mechanisms deeply—only then can we smash them and chart our escape.

In a world increasingly dictated by digital forces, this exploration serves as a clarion call to fundamentally rethink and reshape our interactions with technology. It goes beyond mere critique, envisioning a future where we seize control from the jaws of digital capitalism and rethink our digital infrastructure. This means socialising the means of feedback production, embracing popular climate scenario planning, and advocating for digital degrowth. By integrating these strategies, we aim to foster a digital landscape where technology serves the common good, aligns with environmental sustainability, and supports inclusive, community-focused governance.

This introduction sets the stage for a detailed discussion on how we can transition from passive consumers in a capitalist digital economy to active participants in a democratically controlled digital commons. Through examining radical case studies and innovative practices around the globe, we explore the potent possibilities for redefining our digital future, showcasing the fertile ground for the growth of a truly ecosocialist paradigm.

2 Historical alternatives to digital capitalism

To explore how we might reclaim popular sovereignty over the internet and challenge or even end digital capitalism, intellectual property rentiership, and the enclosure of the commons, this section delves into the history and principles of several key movements: Free and Open Source Software (FOSS), cyberhackers, digital privacy movements, but also those movements that are pushing for a Digital Common approach, or a Decentralised Internet. These groups in different ways are advocating for an open, accessible, and equitable digital environment, standing against the monopolisation of digital resources and technologies.

Free and Open Source Software (FOSS)

The Free and Open Source Software movement emerged in the early 1980s, spearheaded by the GNU Project and later supported by the creation of the Linux kernel, a computer operating system. FOSS advocates for the freedom to use, study, modify, and distribute software without restrictions, challenging the proprietary software model that restricts access and fosters dependency on software corporations. By promoting collaboration and sharing, FOSS embodies a direct opposition to digital capitalism by undermining the notion of software as a commodity exclusively controlled and profited from by corporations. Software, as a tool for societal advancement, they argued, should be a common good accessible to all, not a means for generating excessive profits for a few. Nonetheless, corporations like Microsoft have sought to leverage FOSS to reduce their operating costs, to innovate and engage feedback to make profits, exemplified by organising hackathons and opening its databases during the COVID-19 pandemic. This involvement, while boosting Microsoft's image and development capabilities, also raises concerns about potentially undermining the core ethos of FOSS by prioritising corporate interests. According to different estimates, the demand-side financial value of widely used Open Source Software is $8.8 trillion, suggesting companies would spend 3.5 times more on software without FOSS's contributions.

Cyberhackers

This is a diverse movement with different ideologies and practices, but there is a substantial group aligned with the ethos of "hacktivism," who use their technical expertise to expose vulnerabilities in digital systems, often to highlight issues of privacy, freedom of information, and digital rights. Emerging prominently in the 1980s and evolving through groups like Cult of the Dead Cow and Anonymous, hacktivists challenge the centralization of digital power and the surveillance practices of both corporations and governments.

Their roots are deeply intertwined with their non-digital origins such as occupied houses, social centres, and various autonomous spaces that have historically served as hubs for counter-cultural and anti-establishment movements. Often reclaimed by activists and used as communal living spaces, DIY concert venues, free schools, and hacklabs, these spaces have provided fertile ground for the growth of a radical ethos that combines direct action with a do-it-yourself philosophy. It is within these physical spaces that the spirit of hacktivism was nurtured, blending traditional forms of activism with the emerging digital realm. Just as occupied houses challenge the private ownership of property and advocate for communal living and resource sharing, hacktivists challenge the privatisation of digital information and the monopolistic control of digital infrastructures.

Digital Privacy Movements

These movements, led mainly by consumer organisations in the Global North, oppose the commodification of personal data by tech giants and the intrusive surveillance practices endorsed by Silicon Valley. They fight against the collection, sale, and misuse of personal information, which is often done without consent and for profit. By advocating for strong encryption, data protection laws, and restrictions on data collection, they challenge business models that rely on data exploitation. Even if these movements are sometimes Eurocentric, focusing on the political rights of citizens from the North rather than the economic rights of those in the South, they also resist the enclosure of the commons by promoting a digital environment where personal data is not treated as a commodity but as a private and protected asset.

Decentralised Internet Movements

Movements advocating for a decentralised or federated internet, such as those inspired by blockchain technology and peer-to-peer networks, aim to dismantle the centralised control of information and services by major tech corporations. Projects like Ethereum, IPFS (InterPlanetary File System), and Mastodon promote a vision of the internet that is open, decentralised, and resistant to censorship. They enable direct peer-to-peer interactions and transactions without the need for central authorities, thus embodying the principle of the digital commons by fostering environments where communities can freely share resources and information without the constraints of corporate control.

Digital Commons Projects

Digital Commons projects, such as Wikimedia Foundation initiatives (including Wikipedia) and the Creative Commons licensing framework, by providing platforms for collaborative knowledge creation and sharing, challenge the notion of information as a proprietary commodity. Creative Commons licences, in particular, offer a flexible range of protections and freedoms for authors, artists, and educators, facilitating the legal sharing and reuse of cultural, educational, and scientific works. These projects undermine the traditional copyright system, advocating for a more equitable distribution of knowledge and cultural resources.

3 Taming digital capitalism, what's the answer?

To effectively address the challenge of digital capitalism, a multifaceted approach is necessary, encompassing regulation, anti-monopoly actions, enforcing interoperability, and localising infrastructure. Current efforts, particularly those by the European Union and the United States, offer useful case studies in both ambition and limitations of current efforts to tame digital capitalism.

US approach

The United States has taken various steps to regulate the technology sector, focusing on limiting the power of big tech companies through antitrust investigations, privacy laws, and legislative proposals. These efforts aim to address concerns over monopolistic practices, protect consumer data, and promote competition and accountability within the tech industry. Agencies like the Federal Trade Commission (FTC) and the Department of Justice (DOJ) have started to scrutinise corporate behaviour, with a keen eye on mergers, acquisitions, and practices that threaten consumer rights and market fairness.

Additionally, there's a push towards more robust regulations on data privacy and the ethical deployment of emerging technologies, reflecting a broader desire to ensure that technological advancements serve the public interest without compromising individual rights.

Contrasting these regulatory attempts with discursive critiques offered by progressives such as Elizabeth Warren reveals a deeper lack of analysis regarding the challenges in curbing Big Tech's influence.The issues with Big Tech are not solely due to monopolistic practices, regulatory missteps or lack of enforcement but are also deeply intertwined with the global capitalist system that is both financialised and militarised. The dominance of Big Tech is closely linked to the interests of Big Money (like Wall Street and investment giants) and the Big State (including the Pentagon's defence needs and the NSA's surveillance operations), creating a triad that perpetuates the status quo.

Regulatory focus within the U.S. misses the global economic and political dynamics that fundamentally drive the necessity for large tech firms. These companies are seen as essential not just for economic returns but also for maintaining America's geopolitical power, especially in light of competition from countries like China. Consequently, any meaningful attempt to reduce the size and power of Big Tech would also require addressing these broader systemic forces, a daunting task that challenges the very foundations of America's role in the global order and its strategic interests. In reconsidering the regulation and future of technology, it's pivotal to transcend the "big tech vs. small tech" binary, focusing also on the distinction between corporate and non-corporate technology.

This shift recognizes that the core issue isn't the size of tech companies but who controls the digital infrastructure—sensors, networks, data, and services—that underpins our society. In this context, technology should be understood as a public good, managed and governed in ways that promote inclusivity, democratic participation, and the protection of personal and communal sovereignty over data.

European approach

The European approach to digital sovereignty offers a critical perspective on the effectiveness and limitations of the European Union's attempts to carve out a "Third Way" in the realm of digital capitalism between the laissez-faire approach of the United States and the state-centric model of China. This approach is manifested through efforts to regulate the digital market, protect data privacy, and promote fair competition.

Firstly, it involves establishing a legal and regulatory framework for what is termed the Digital Single Market—a vision of digital capitalism delineated by the political and ethical parameters of the EU, significantly shaped by lobbying groups in Brussels. Secondly, aware of its inability to compete with the US and China in economic and technological terms directly, the EU is leveraging soft power to propagate its digital economy vision through supranational regulations, including public and private data management, communications, taxation, and labour conditions. These initiatives aim to set international standards in privacy, AI ethics, and digital rights, thus highlighting the battleground over the legal, political, and discursive foundations of the digital economy. Lastly, the EU aspires to a qualitative leap in its production model through the green or digital industrial transformation, striving to preserve sovereignty while adhering to market principles.

Nonetheless, the European Union's attempts to regulate the digital economy and contend with the dominance of tech giants such as Google, Amazon, Microsoft, Facebook, and Apple reflect a strategic ambition fraught with inherent challenges. Despite the establishment of a legal and regulatory framework designed to define a Digital Single Market, these efforts have been insufficient to curb the entrenched power dynamics that favour these corporate behemoths. These companies for example have spent €21 million on lobbying activities in Brussels to influence the adoption of key regulations such as the General Data Protection Regulation (GDPR). They have fought to block the ePrivacy Directive, delay new competition rules, and to undermine and weaken the contentious Digital Services Act. This underscores the significant hurdle of corporate influence in policy-making, which undermines the potential for a socially cohesive Europe. Let's recap how this played out.

First of all, the GDPR, while setting a global precedent for privacy rights, highlights the EU's attempt to wield soft power in governing the digital economy. However, the prospect of achieving greater economic autonomy appears dubious, given the United States' reluctance to develop a federal privacy regime akin to the European model.

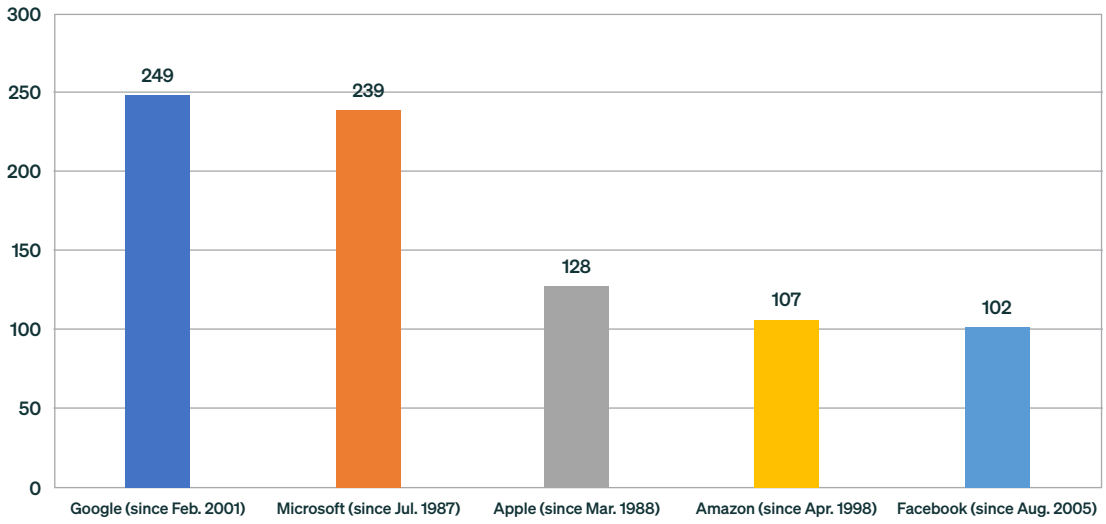
Furthermore, the lack of transparency inherent in the business models of tech firms—exemplified by the "black box" nature of algorithms—pose enormous obstacles to truly effective community regulation. Can regulation, no matter how ambitious, exercise any real oversight over capitalist tech firms driven by the extraction, monitoring, and manipulation of user behaviour?

Moreover, European tech companies' reliance on American computational capabilities and technology for competitive operation reveals a dependency paradox. While the EU may curb the most atrocious practices of companies, it fails to address the fundamental issue of European firms operating within ecosystems dominated by these tech giants. This dependency underscores the limitations of fines and the pursuit of "national champions" as solutions, suggesting that a more radical approach akin to China's might be necessary to dislodge Silicon Valley's grip on the European market.

Thus, the European Commission's proposals, which primarily demand transparency requirements for online advertising without imposing substantive restrictions on the practices themselves, reflect a critical problem: the current regulatory framework does not sufficiently challenge the monopolistic control exerted by foreign tech giants over the means of production and consumption in the digital economy.

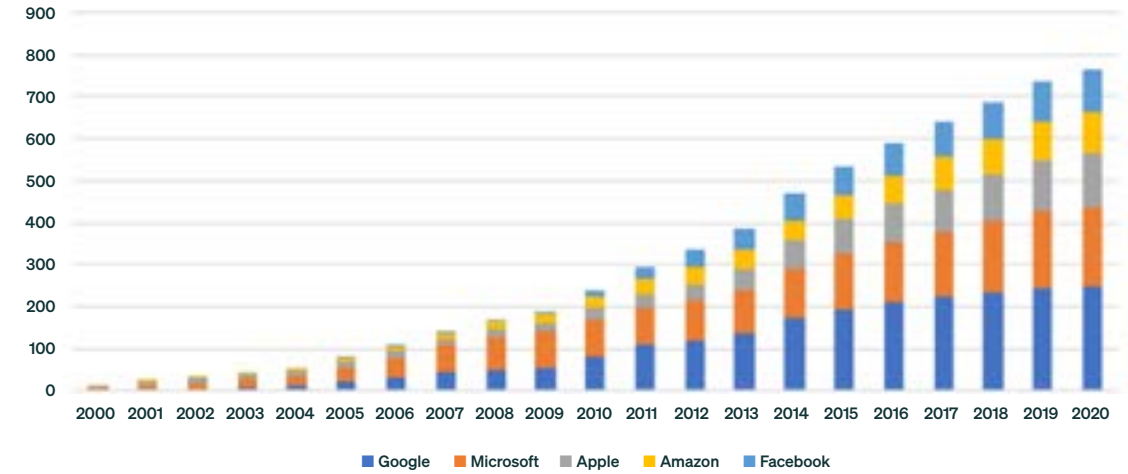
In conclusion, Brussels' ambition to foster greater competition in hopes of nurturing European tech giants is fraught with issues. First, it arrives a decade too late after US and Chinese corporations have already reorganised their production processes and secured irreversibly dominant positions. Second, it has triggered intense intra-corporate conflict within the European Union with firms engaging in mergers between massive conglomerates and by purchasing or acquiring other companies, thus consolidating the monopolisation of the means of production in the digital age, and directly or indirectly eliminating smaller competitors, such as small and medium-sized enterprises (SMEs). For instance, in the first half of 2018, nearly three trillion dollars' worth of corporate mergers were announced all over the world, driven by fears of Silicon Valley's ambitions across virtually all markets. Four of the top ten merger or acquisition deals were conducted in response to the intense competition from US tech firms (Google, Amazon, Facebook, Apple and Microsoft), who to date have made 825 acquisitions.

Figure 1: 825 mergers and acquisistions by GAFAM from 1987–2020: Google 30%, Microsoft 29%, Apple 16%, Amazon 13%, Facebook 12%



Source: Bruegel.

Figure 2: Cumulative number of GAFAM mergers and acquisitions, 2000–2020



Source: Bruegel.

This situation underlines a stark reality: the driving forces of capitalism, the unrelenting quest for profitability by firms, and the brutal competition among all system actors (especially among nations) have placed the European Union at a serious crossroads. To secure and even enhance the well-being of its citizens, the EU must move beyond models based on corporate confrontation. Considering the limited public budgets of most countries, it's unrealistic for any innovation policy to rival the R&D spending of the biggest Chinese and American firms. The leading five firms in Silicon Valley alone allocate around $52 billion annually to R&D. With the global markets and users under their substantial influence and control, the notion of displacing these companies is impractical.

The most effective approach involves redefining the relationship between Europe and the Global South to focus on digital internationalism and cultural and social cooperation, rather than on trade or economic frameworks. This relationship should be grounded in science and knowledge, utilizing open access technologies and other tools to explore new, more planetary ways of self-organisation that move away from market-driven models. This strategy calls for a significant overhaul of the EU's digital policy to prioritise collaboration and solidarity over competition and extractivism, aiming to build a digital economy that is robust, inclusive, and capable of countering the influence of tech behemoths and defending basic digital needs and rights.

4 Case-studies of alternatives

CASE STUDY 1:
Barcelona's Quest for Data Sovereignty

The **Decidim** platform embodied Barcelona's commitment to technological sovereignty, offering a model for participatory democracy that extends beyond traditional software boundaries by engaging a broad societal spectrum, challenging centralised, profit-driven digital infrastructures.

In recent years, Barcelona has emerged as a leading city in redefining the relationship between technology, data, and citizenship. Influenced by activists and the 15M/Indignados movement, it seeks to prioritise citizens' control over digital infrastructures. Under the guidance of Barcelona en Comú and Francesca Bria, its approach to digital public infrastructure marked a radical shift from traditional models dominated by large technology corporations. The city's strategy, deeply rooted in the concept of data commons, emphasises the city as a fundamental right and a collective asset rather than merely a commercial place to provide services.

By prioritising citizen involvement, open-source software, and the ethical use of data, Barcelona is not only challenging the status quo of data management and technological sovereignty, but is also setting a new standard for how cities worldwide can leverage technology for social and economic innovation, sustainable development, and enhanced democratic participation, thus confronting digital capitalism.

Decidim: A Digital Infrastructure for Technopolitical Democratization:

The flagship project of Barcelona's technological sovereignty agenda is Decidim, a digital platform for participatory democracy. Launched by the city council, it serves as a participatory democracy software facilitating hybrid online and offline democratic processes. Developed in open-source, the software is now used by over a million users worldwide. Its ambition extends beyond the limitations of conventional closed or proprietary software models and even surpasses the open-source paradigm by inviting participation from a broad spectrum of society, including those without technical expertise. This approach positions Decidim as a counterforce to the centralised, corporate-dominated infrastructure that underpins capitalist social networks and digital platforms.

Experimenting with and Scaling Up the Public-Common

By framing data as a common good, Barcelona challenged the dominant paradigm of data as a commodity to be exploited for profit and put forward a model where the control and benefits of data were distributed among citizens. This is how Barcelona's city council embarked on an initiative, envisioned as a "New Social Pact on Data," that sought to recognise data as a fundamental asset for the city. The initiative aimed to foster a more informed, innovative, and democratic urban environment, thereby enhancing public services and empowering citizens. Parallel to this, the city undertook measures to cultivate an open technological ecosystem that would bolster a digital economy rooted in social solidarity and common values, notably through platform cooperativism. This included a fund to support the development of open, privacy-conscious, and socially impactful technologies and infrastructures.

Furthermore, this Digital Social Innovation program was designed to foster collaboration between the City Council and an expansive network of around 3,000 small businesses and cooperatives, demonstrating Barcelona's commitment to an alternative model to that of digital capitalism which is inclusive, cooperative, and ethically grounded.

Coalition of Cities for Digital Rights

Driven by its commitment to a broader state-wide and international municipalist ethos, Barcelona sought to connect with cities worldwide under a shared vision for digital governance. This vision led to the creation of the "Cities for Digital Rights" initiative, a collaborative network that includes cities like Amsterdam, Berlin, and São Paulo. The network's mission focuses on safeguarding digital rights across both local and international arenas, advocating for a collective approach to democracy in the digital age and tackling common challenges such as the impacts of digital platform dominance and environmental concerns.

Public Infrastructure and Algorithmic Systems

Plataforma DD is another pioneering open-source educational platform developed collaboratively by Xnet, the City of Barcelona, and the Barcelona Education Consortium. Launched in response to the growing need for digital education, it prioritises transparency, data sovereignty, and ethical use of technology. It also represents a pioneering approach to education that actively

challenges the norms of digital capitalism through its commitment to digital public infrastructure. By utilising auditable and open-source software, it also ensures that the handling of student data is transparent, accountable and safeguarded, directly countering the often opaque practices of digital capitalism, in particular in the EdTech sector, that obscure data management and use. Equally, by offering a user experience on par with mainstream platforms, Plataforma DD dismantles the notion that alternatives to commercial software must sacrifice usability or functionality. This approach democratises access to high-quality educational tools, making advanced digital learning accessible to all, without the compromises typically demanded by proprietary platforms.

Incorporating a legal framework is another innovative aspect of Plataforma DD, providing educational institutions with the necessary guidance to navigate the complex landscape of digital rights. This ensures that the adoption of new technologies does not come at the expense of the expropriation of the data of students, teachers and families. Furthermore, the platform's expansion, supported by the City of Barcelona, into additional municipal facilities like libraries and civic centres for broader educational activities, underscores the role of municipal support in fostering educational innovation. This expansion not only broadens the platform's reach but also reinforces the idea that public institutions can and should play a central role in developing digital public infrastructure that serves the community's educational needs while upholding non-capitalist values in the digital age.

CASE STUDY 2:
Hamburg's Urban Data Initiative

In Hamburg, the Urban Data Challenge initiative and The New Hanse collaboration have paved the way for transformative urban development through innovative use of digital data. The Urban Data Challenge encourages open collaboration and shared resources to enhance sustainable urban growth, moving beyond traditional data hoarding. Similarly, The New Hanse, in partnership with Hamburg's civic bodies, focuses on leveraging urban digital infrastructures for public good, with pilot projects that address real-world challenges like mobility data management. These initiatives not only aim to improve life in Hamburg but also serve as blueprints for other European cities, demonstrating the potential of a citizen-centered, digitally advanced, and environmentally conscious urban future.

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In the quest to navigate and counteract the forces of digital capitalism within urban realms, cities are increasingly turning towards cybernetic approaches that emphasise sustainability, communal governance, and the democratisation of digital resources. This evolving narrative underscores the potency of Digital Public Infrastructure (DPI), Digital Public Goods (DPG), and digital commons in constructing ecosystems that not only challenge the capitalist model but also promote sustainable urban development.

The Hamburg Urban Data Initiative serves as a beacon for cities aiming to resist the encroachments of digital capitalism by championing the communal management of urban data. By positioning micro-mobility data as a public good, the initiative showcases how shared data can significantly enhance urban mobility, environmental sustainability, and inform comprehensive public policy. This commitment to treating data as a collective resource is a

critical step towards realising sustainable urban planning and development. Moreover, the initiative's emphasis on collaboration over competition marks a departure from the profit-driven motives that often underpin digital capitalism, thus maximising communal benefit.

Fostering Collaboration Over Competition

The Urban Data Challenge, a cornerstone of the initiative, cultivates an environment of open collaboration and mutual learning T. By encouraging diverse stakeholders to share knowledge and resources, the initiative moved beyond the zero-sum game of data hoarding. It also underscores the importance of a unified technical vocabulary, a comprehensive data-sharing grammar, and the development of a use case repository. Such tools are critical for enhancing the efficiency and effectiveness of future data-sharing projects. They serve not only to streamline the process of data sharing but also to embed the values of collective problem-solving and innovation in the pursuit of sustainable urban development.

CASE STUDY 3:

Plataforma Digital del Sector Público Nacional in Argentina

The Plataforma Digital del Sector Público Nacional (National Public Sector Digital Platform) embodies a strategic move by the Argentine State towards creating a digital public infrastructure that veers away from the capitalistic tendencies of data commodification, aiming instead to prioritise public welfare and accessibility. As an all-encompassing management tool, it integrated various governmental services, fostering a more cohesive and user-friendly experience for citizens.

In Argentina, the integration of digital public infrastructure with material technological assets was exemplified by the strategic role of ARSAT, a public company that owns an impressive array of physical digital infrastructure, including two data centres, three satellites, a submarine cable, and 44,000 kilometres of fibre optic network. This expansive and robust physical infrastructure forms the backbone of the country's digital landscape, providing the essential connectivity and data management capabilities that underpin the operation of digital platforms like the Plataforma Digital del Sector Público Nacional.

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This integration not only enhances the reliability and reach of digital services across the nation but also reaffirms the importance of leveraging state-owned digital assets to serve public interests, setting a compelling precedent for the alignment of physical and digital public infrastructures as a counterbalance to digital capitalism.

Integration with Welfare Services and Ethical Governance

This platform stands as a model of interoperability, seamlessly connecting with public applications. This interoperability not only facilitates a unified digital government framework but also underscores the former Argentine government's dedication to creating an inclusive digital ecosystem. By facilitating a robust digital identity and data retrieval system, it ensures that personal and demographic information serves to enhance citizen interactions with public services, rather than to commodify personal data. This aligns with the ethical considerations necessary for Digital Public Infrastructures as an alternative to digital capitalism, where the focus remains steadfastly on improving public welfare and maintaining the material conditions of citizens.

The platform also stands as a testament to the values of egalitarianism and universalism characteristic of welfare state ideals. It offers a freely accessible interface that simplifies interactions with government services, and democratises access to information and public services, ensuring that digital advancements benefit all citizens equally.

Countering Digital Alienation Through Participation

The Plataforma Digital del Sector Público Nacional counters the phenomenon of digital resignation — the passive acceptance of digital services without critical engagement — by actively involving citizens in the digital ecosystem. Its design, focusing on user-friendliness, invites active participation and fosters a sense of ownership and trust in digital public services. This platform distinguishes itself by offering free access and a user-friendly interface, ensuring all citizens can easily navigate through various government services.

CASE STUDY 4:
The Open Food Network (OFN)

Open cooperativism champions a model of digital ownership and governance that is inclusive, community-focused, and aligned with ethical market practices. This approach not only challenges the dominant neoliberal economic frameworks but also offers a blueprint for creating digital ecosystems that serve the public good. It emphasises open protocols, supply chains, and licensing to ensure transparency, fairness, and accessibility in digital and agricultural sectors. In this sense, with 7000+ producers in 20 countries worldwide, The Open Food Network represents a pioneering initiative in leveraging digital commons for agricultural advancement. By establishing Short Food Supply Chains (SFSCs), OFN embodies a practical application of open cooperativism, contributing to a significant systemic shift in agriculture.

Technical and Operational Insights

- Economic Model Evolution: OFN illustrates the potential evolution of economic models within the digital age, adopting a framework that integrates commons-based peer production, ethical market entities, and supportive state partnerships.
- Open Cooperativism Model: By embracing open protocols, supply chains, and bookkeeping, alongside copyfair licensing and a localised manufacturing approach, OFN also sets a precedent for transparent and inclusive economic practices.

Unlike digital capitalist models that prioritise profit maximisation, OFN emphasises eco-socialist principles such as sustainability, equity, and community welfare, positioning itself against the commodification of nature and digital spaces. Also, by decentralising the food supply chain, OFN not only challenges the centralization typical of digital capitalism but also democratises access to the market, empowering small-scale producers and consumers to participate directly in the economy. Its model fosters environmental sustainability by promoting local food systems, reducing carbon footprints, and challenging the global supply chains that dominate digital capitalism and contribute significantly to ecological degradation.

Other pioneering case-studies

Challenging Centralised Control through Democratic Governance Platforms:

Initiatives like **Pub Hubs** and Decidim represent a direct challenge to the monopolistic tendencies of digital capitalism by promoting open digital spaces and participatory democracy. These platforms decentralise digital governance, allowing community-driven dialogue and decision-making, thus undermining the centralization of power typical in digital capitalist models. **Liquid Feedback** and **Pol.is** are other innovations in democratic participation and consensus-building that challenge centralised decision-making processes by leveraging technology for more inclusive governance.

Securing Identity and Data Sovereignty Against Surveillance Capitalism:

Platforms like **BrightID** and **D-CEN** offer solutions to the pervasive surveillance and commodification of personal data in digital capitalism. By providing secure, verifiable identity services, these initiatives reclaim privacy and identity as public goods, not commodities.

Decentralizing Communication and Data Storage:

Tools like Matrix and Syncthing represent a move towards decentralised communication and storage solutions, directly opposing the centralization of data storage and management seen in digital capitalist enterprises. These technologies empower users to control their data and communication, fostering a more equitable digital landscape. Matrix, Rocket Chat, Jami, Tox, and Jitsi also offer alternatives to mainstream communication platforms, emphasising privacy, open-source development, and community governance.

Enhancing Public Welfare with Open Data and Public Service Media:

The transformation in Norway's digital prowess, through platforms like Altinn (a government digital services platform) and initiatives for open data sharing, have set a precedent for using digital tools to enhance public services rather than for corporate gain. This approach challenges the data monopolies of digital capitalism by prioritising public access and utility over private profit.

Promoting Sustainable and Community-Centric Economies:

The Open Food Network and **Coopcycle** foster direct, sustainable connections between producers and consumers and prioritise local, cooperative business models over global e-commerce giants. DigitalTransport4Africa and Eusko support sustainable development and local economic resilience by providing alternatives to global financial systems and promoting local currencies.

Redefining Public Infrastructure with Digital Commons and Cooperative Models:

The embrace of digital payment systems like Pix and community-driven initiatives like the Smart Citizen Wallet in Bologna or **the Mumbuca in Marica**, Brazil, illustrate a broader move towards digital commons and cooperative models. These examples challenge the capitalist framework by promoting systems that prioritise social welfare, community engagement, and sustainable practices over profit.

Digital Platforms for Public Media and Cultural Heritage:

The Spanish Film Archive and digital initiatives by national libraries in France, Spain, and the Library of Congress in the U.S. modernise access to cultural heritage, advocating for public access to information and culture over proprietary restrictions.

5 There's no Alternative to Digital Ecosocialism

So far, the debates on imagining an ecosocialist alternative have fluctuated between the approaches proposed by advocates of degrowth and those of ecosocialist planning. But it is important to glean insights from both schools of thought, situating them within the context of transformations brought about by digital technologies and other fields like cybernetics, in order to conceive viable alternatives to capitalism.

While neoclassical economics' reliance on market mechanisms and instruments clearly impedes substantial engagement with planning, so too can an inclination towards localism and community focus. The question arises: how can digital technologies be utilised to address both the environmental crisis and the need for better public planning for the common good?

Decommodifying the internet & AI as digital degrowth.

The structure of the Internet is fundamentally designed to aggregate and direct user data towards expansive advertising networks. Research indicates that the carbon emissions solely associated with the use of browser cookies, specifically from the one million most frequently visited websites, have a major impact. These cookies are responsible for approximately 11,442 metric tons of CO2 emissions monthly. Additionally, the development of artificial intelligence models has been identified as a contributor to environmental degradation. For instance, the operations of OpenAI's ChatGPT, which demands around 500 millilitres of water for every 5 to 50 prompts it processes, exemplify this issue.

This situation necessitates a critical evaluation of the commodification of the Internet and artificial intelligence. The prevailing market mechanisms and their inherent push towards centralization exacerbate these environmental impacts and contribute to a range of socio-economic issues. The focus on consumer-driven models not only intensifies resource consumption but also fosters a digital landscape marked by significant data monopolies.

The pursuit of digital degrowth emerges as a compelling solution to these challenges. It involves advocating for the abolition of commodification of data and the digital domain. By prioritising community governance, open-source development, and sustainability, it is possible to envisage a digital infrastructure that serves public interest over private gains.

Decentralising the Stack

The centralization of data, capital, and resources in the hands of large technology corporations has significant environmental consequences. Data centres, which are crucial to the operations of cloud computing, annually consume an estimated 200 terawatt-hours (TWh) of electricity. This surpasses the energy consumption of densely populated nations, underscoring the unsustainable nature of current digital architectures. Decentralising data centres can significantly reduce the global energy footprint by distributing the load across a wider, more efficient network of smaller, locally managed servers.

This approach not only lessens the reliance on the infrastructure of a few dominant companies but also paves the way for slower, more sustainable telecommunications architectures. These architectures would prioritise the free exchange of knowledge over the unrestricted flow of financial capital, aligning more closely with the principles of digital equity and environmental sustainability.

Physical infrastructures, designed to integrate seamlessly into urban environments, could serve dual purposes. By resembling clouds distributed among different cities, these structures would not only harvest energy from renewable sources but also house community-centric facilities such as apartments, markets, gyms, and local food production hubs. This concept of 'organic data centres' integrates information technology with sustainable practices, envisioning a future where digital and ecological footprints are minimised.

Moreover, creating alternative server farms and data centres, strategically placed offshore to recycle electronic waste, challenges the current paradigm of electronic waste management. This initiative not only addresses the environmental impact of discarded electronics but also the social injustices faced by less wealthy populations burdened with the waste of affluent nations.

Low & pro-commons Tech rather than Big Tech

There is also a shift towards principles of "low technology" against the prevailing "high technology" ethos championed by major tech conglomerates. This involves a paradigm shift from energy-intensive solutions to methodologies that harness solar, wind, passive human energy, or direct non-electrical energy sources. Low technology, characterised by its minimal reliance on electricity or fossil fuels, emerges as a sustainable alternative and challenges

conventional perceptions of technology's role. It redefines technology not merely as a tool for problem-solving but as a vital component in fostering self-organisation and ensuring human sustainability.

It also implicates a broader reconsideration of technological infrastructure and its environmental impact. The current trajectory, dominated by Big Tech's centralised digital architectures, forecasts a significant increase in energy demand and greenhouse gas emissions. By 2030, digital technologies could account for 21% of global electricity demand, with their emissions potentially surpassing those of the entire transportation sector by 2040. In this context, the information technology sector already consumes about 7% of the world's electricity.

The proposal to adopt low-tech methodologies is not merely a technical adjustment but a philosophical realignment towards collaborative value creation and sustainable community development. By integrating technologies such as additive manufacturing and web-based interfaces for co-creation, this approach advocates for a digital degrowth paradigm. It emphasises the commons and free technologies as foundational to a sustainable digital ecosystem, challenging the centralised, consumption-driven models of Big Tech.

Popular climate scenario planning

Expanding on the idea of popular modelling and taking inspiration from former Chilean President Salvador Allende's initiative, Project Cybersyn, which aimed to empower workers with the capability to plan and manage production in their factories, there's a compelling opportunity to adapt these principles for empowering citizens in scenario planning under climate change.

The critiques of current models, such as those from the Intergovernmental Panel on Climate Change (IPCC), often centre around their singular focus on growth, reliance on cost-benefit analysis, technocratic approach, and underlying colonial assumptions. These models, while useful, may not fully encompass the multifaceted challenges of climate change or consider the diverse needs and voices of global populations.

Project Cybersyn, which used cybernetics and the thinking of Stafford Beer to enhance industrial management and worker participation, provides inspiration for envisioning a model that incorporates citizens' input into climate change scenario planning. This approach would democratise the process, allowing for a broader range of perspectives and knowledge systems to influence policy and decision-making. Such a model could leverage real-time data and participatory technologies to create a more inclusive and adaptive framework for addressing climate challenges.

The Centro de Previsión Meteorológica y Estudios Climáticos (CPTEC) from the Brazilian Instituto Nacional de Investigaciones Espaciales (INPE) provides an example of a regional effort to model climate phenomena with significant societal impacts. By integrating local knowledge and scientific expertise, CPTEC demonstrates the value of combining diverse data sources and perspectives in climate modelling.

These initiatives of participatory data collection, community-based scenario development, and local adaptation strategies recognise the importance of grassroots knowledge in complementing scientific research and emphasise the need for models that are not only predictive but also reflective of the collective aspirations and concerns of global citizens.

Visualising Democratic Ecosocialism

In the face of global heating and increasing world complexity, leveraging technology for real-time data analysis is not just advantageous but essential. This goes beyond traditional uses of technology for problem-solving by positioning computers and networks as fundamental to comprehensively manage the planet's dynamics. Crucially, these technologies can serve as pivotal tools for visualising economic scenarios in a way that is accessible and democratic. They enable citizens to engage in the economic discourse, allowing them to grasp the intricacies of economic systems and their environmental impacts. By making complex economic data understandable and visually accessible, they also empower people with the knowledge of what is happening in real-time. This approach fosters a more informed populace that can participate actively in shaping a future that aligns with the principles of ecosocialism.

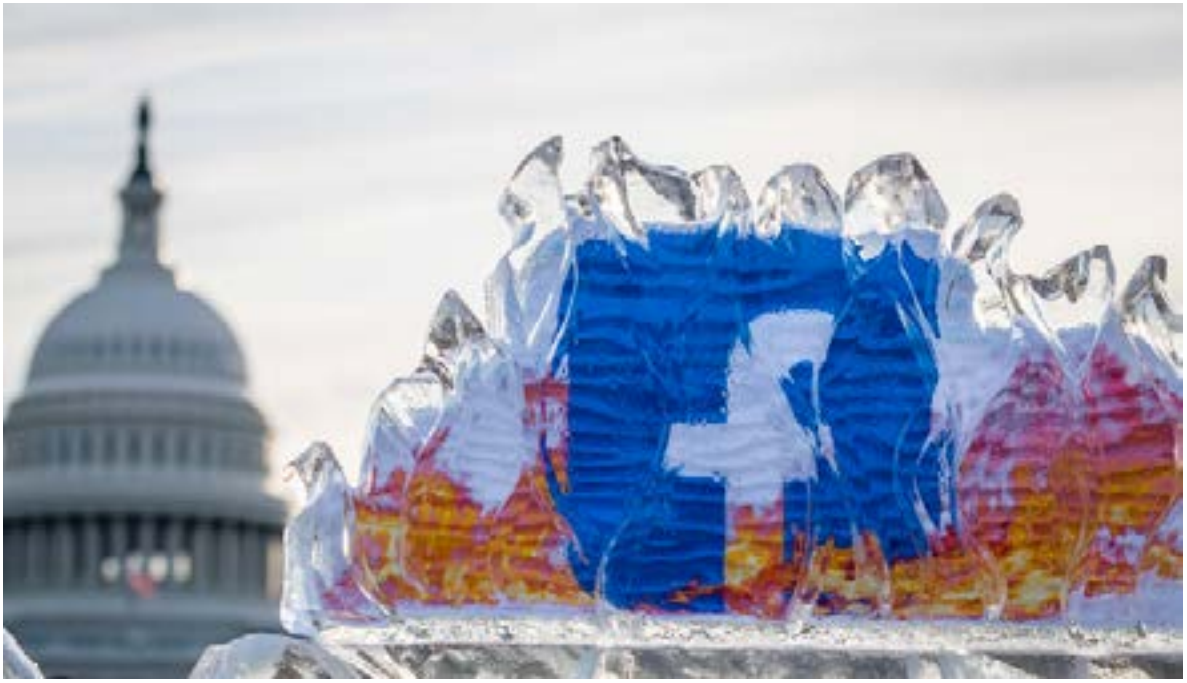
Visualising democratic ecosocialism through a kind of 'Google Earth for the people' approach epitomises this shift. Such platforms can transform access to information infrastructure, moving away from a centralised model—where a few entities like Amazon monopolise planning and decision-making based on data—to a more distributed and participatory framework. By employing design elements that communicate social functions, community values, and impacts on living standards, these visual tools can significantly influence our understanding and implementation of a sustainable and equitable economic model.

Socialising the Means of Feedback Production

The idea of socialising the means of feedback production extends the concept of democratising production to the realm of data. Just as the socialisation of the means of production is central to socialist thought, the socialisation of feedback mechanisms signifies a pivotal shift towards an inclusive, participatory approach in addressing data governance as well as climate change and environmental management.

This involves creating open, accessible platforms where the data generated by individuals and communities can inform collective decisions. By leveraging this real-time data, society can adapt more dynamically to evolving environmental conditions, enabling a more responsive and flexible approach to climate change mitigation and adaptation.

The socialisation of feedback production fosters a collaborative environment where decision-making is grounded in the collective intelligence and experience of the community. It represents a move towards a more equitable distribution of power and resources, ensuring that the voices and needs of all are considered in the journey towards sustainable and just futures. Through these mechanisms, technology becomes a cultural device, not only for envisioning but also for actualising non-capitalist ecosocialist scenarios, embodying the principles of democracy, sustainability, and social justice in the digital age.



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