

# Civil Society as Epistemic Actors: Challenging Techno-Solutionist Assumptions in Data Center Policy

*Dr. Corinne Cath<sup>1</sup> & Barbara Simão<sup>2</sup>*

## Abstract

This talk examines how civil society organizations function as crucial epistemic actors in computer science policy formation, using data center development policies in Europe and Latin America as case studies. Through analysis of, and direct participation in, civil society responses to government consultations on data center development, we demonstrate two key contributions of these actors to identifying “undone science” in computer science: (1) challenging foundational technical assumptions through independent socio-technical analysis, and (2) highlighting political gaps that the primarily technical approaches and assumptions inherent to the government approaches to datacenter development systematically ignore. This work reveals how civil society organizations serve as essential correctives to techno-solutionist data center development that dominate contemporary digital infrastructure discourse. However, these civil society contributions remain largely ad hoc and under-resourced, lacking the institutional mechanisms necessary to systematically address the knowledge gaps they identify and challenge the dominant paradigms they critique.

<https://www.undonecs.org/2026/cfp.html>

## Introduction: Civil society as an epistemic corrective

The concept of undone science—research questions left unaddressed due to various institutional, economic, or paradigmatic factors—finds particular relevance in computer science policy where technical complexity often shields policy assumptions from scrutiny. Civil society organizations, despite often maintaining complex financial relationships with both state and corporate actors that can influence their priorities and analytical focus, nonetheless occupy a distinctive structural position in technology policy formation. Their relative autonomy from direct policy implementation responsibilities and short-term profit imperatives often enables critical socio-technical analysis that institutional actors with stronger dependencies on government approval or industry partnerships cannot pursue.

Data center development policies across Europe and Latin America provide compelling examples of how civil society interventions reveal fundamental oversights in policy frameworks rooted in technocratic and computer science approaches. Data center policy has become a critical battleground as governments worldwide grapple with the digital economy’s explosive computational demands, digital sovereignty concerns amid rising US-China tensions, and massive infrastructure investment decisions that will shape technological dependencies for decades.

We focus on two case studies, one in the EU and one in Brazil—chosen as they are key to the digital debates in these jurisdictions and subject to extensive political debate in 2025. In Europe,

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<sup>1</sup> Article 19 & Minderero Centre for Technology & Democracy, University of Cambridge

<sup>2</sup> Article 19

civil society analysis exposes that the EU’s capacity deficit assumptions are empirically wrong, while in Brazil, organizations revealed how digital sovereignty rhetoric masks policies that could deepen dependence on American tech giants.

In this talk, we will argue that these cases demonstrate that civil society organizations do not merely advocate for different values—they perform crucial analytical work that challenges the technical assumptions underlying policy design itself, bringing an important, if Cassandra-like, perspective on global data center development. Like the Trojan prophetess cursed to speak true prophecies that no one would believe, civil society organizations often accurately diagnose policy contradictions and risks that institutional actors systematically ignore or cannot acknowledge.

## **Methods**

This analysis draws from multiple forms of engagement with data center policy processes across two jurisdictions. Our methodology included analysis of civil society contributions to government requests for information in both European and Latin American contexts, with particular focus on responses to the EU’s Commission’s Cloud and AI Development Act consultation and ANATEL’s data center policy consultation in Brazil. ANATEL is Brazil’s federal authority responsible for regulating and supervising the country’s telecommunications sector, with administrative and financial independence from government agencies. Through participant observation in meetings leading up to and following these input processes, we documented how civil society organizations developed their analytical frameworks and engaged with policy assumptions.

The research also involved detailed document and technical analysis of the proposed data center plans themselves, examining the technical specifications and assumptions underlying policy proposals. Finally, we submitted responses to both processes as part of our day-jobs in civil society, conducted analysis of relevant policy documents, policy speeches, and other materials to understand the broader political aims pursued with regards to data center development, revealing how technical policy narratives align with or contradict stated political objectives.

## **Case Study 1: Europe’s phantom data center capacity crisis**

The European Union’s Cloud and AI Development Act exemplifies how data center development frameworks can rest on fundamentally flawed technical assumptions. The Act’s central premise—that Europe lacks sufficient data center capacity—is becoming policy orthodoxy without adequate empirical foundation. Government agencies, industry associations, and academic institutions all accepted this capacity deficit narrative, creating what Hess (2016) identifies as “systematic non-production of knowledge.”

Civil society analysis, particularly including by organizations and independent research initiatives, revealed this foundational assumption to be incorrect. Through independent data analysis, these organizations demonstrated that:

- European data center capacity significantly exceeds current utilization rates;
- Artificial scarcity results from anti-competitive space hoarding by hyperscale providers;
- The real challenge lies not in physical infrastructure but in software dependencies and platform integration.

This civil society intervention illustrates a crucial epistemic function: challenging policy assumptions that became naturalized within institutional discourse. While government agencies do not lack the independence or analytical capacity to question industry-provided data, the broader political agenda of economic growth, competition, and digital ‘sovereignty’ have shaped government narratives to prioritize visible infrastructure investments over more complex governance challenges, creating institutional incentives to accept industry framings that justify large-scale public expenditure while avoiding harder questions about market concentration and democratic control.

The knowledge gap here is not simply about missing information—it represented what Frickel and Moore (2006) term “institutionally structured ignorance.” Policy institutions had strong incentives to accept capacity deficit narratives that justified large infrastructure investments, while civil society actors, unburdened by these institutional constraints, could perform independent analysis revealing fundamental empirical flaws.

## **Case Study 2: Brazil’s sovereignty contradiction**

Latin American data center policies present a different but related pattern of systematic knowledge gaps. Brazil’s digital sovereignty initiatives exemplify how techno-solutionist approaches can generate internal contradictions that remain invisible without external analytical pressure.

Brazilian policy discourse surrounding data centers emphasizes digital sovereignty and reducing dependence on foreign, especially American, technology platforms. This was clear from our analysis of, and response to, the request for information published by ANATEL (Agência Nacional de Telecomunicações). Our analysis of civil society interventions and input to ANATEL’s proposed data center policy revealed that the country’s defacto data center development strategies—as visible in the Silicon Valley visits of Brazil’s Finance Minister Fernando Haddad across 2025—primarily involved attracting American hyperscale providers—Microsoft, Amazon, and Google—to establish local operations.

This approach addressed physical data center location while simultaneously deepening Brazil’s dependence on the very Silicon Valley companies that President Lula’s digital sovereignty rhetoric explicitly seeks to counter. The government offers generous tax breaks and incentives to attract American hyperscalers like Microsoft, Amazon, and Google without creating any conditions for domestic technological competition. Most tellingly, large sections of Brazil still struggle with basic connectivity issues that were never deemed urgent enough to warrant government investment—until those same infrastructure needs could serve corporate rather than citizen interests.

Civil society organizations identified this contradiction through independent policy analysis that government agencies could not openly admit. The knowledge gap emerged not from technical complexity but from compartmentalized policy development where digital sovereignty goals and infrastructure development strategies operated in separate institutional silos, with the need for attracting foreign investment trumped sovereignty ambitions. Civil society was also able to put the concerns of access and connectivity back on the table and using the policy’s focus on industry to point out its need to more deeply engage with individuals’ rights and needs for bandwidth.

## **The Governance oversight: technical solutions to political problems**

Both European and Latin American cases reveal a deeper pattern of undone science: the systematic exclusion of governance and socio-technical considerations from technical policy frameworks. This represents what Winner (1980) identified as the myth of technological neutrality—the assumption that technical architectures operate independently of political arrangements. Civil society interventions consistently highlight that data center policies treat governance and people as an afterthought rather than a fundamental design consideration. Civil society organizations contribute to knowledge production about data centers in two distinctive ways:

1/ Human impact of data centers: The computer science research approach taken by the Commission and Anatal, which consider data centers focused on technical metrics like server efficiency, cooling systems, and network optimization, systematically excluding analysis of how data centers affect local communities or the environment. Civil society organizations document displacement of residents, strain on local water resources, increased energy costs for surrounding areas, and other socio-technical impacts that technical research paradigms treat as externalities rather than core design considerations.

2 / Counter-hegemonic research agendas: By centering human rights and democratic values rather than economic efficiency or technological advancement, civil society actors identify research questions that dominant paradigms systematically exclude. As many work on the ground with impacted communities, they can bring the human impact of technology policy to the fore.

These governance dimensions remain “undone” not because they lack technical relevance, but because addressing them would require acknowledging that technical infrastructure is inherently political. Policy institutions have strong incentives to maintain the fiction of technical neutrality and blindly pursuing economic goals while equating those with human welfare, a dangerously flawed approach, as it simplifies regulatory frameworks and avoids challenging powerful industry actors.

## **Conclusion: institutionalizing civil society epistemic contributions**

The data center policy cases demonstrate that civil society organizations function as crucial epistemic actors in identifying systematic knowledge gaps in computer science policy. Their contributions extend beyond advocacy to include fundamental analytical work that challenges technical assumptions and reveals governance blind spots. However, these contributions remain ad hoc and under-resourced. Systematically addressing undone science in computer science requires institutional mechanisms that enable sustained civil society research capacity. This might include dedicated funding streams for independent technical analysis, formal roles for civil society input in policy development processes, and academic partnerships that leverage civil society expertise.

The goal is not simply to include more voices in policy discussions, but to institutionalize analytical capabilities that can identify and address systematic knowledge gaps that current institutional arrangements perpetually reproduce. Civil society organizations have demonstrated their capacity to perform this function—the challenge is creating institutional frameworks that support and sustain this crucial epistemic work.

## **References**

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