Fieldwork

*Hosting Cultures: Placing the Global Data Centre “Industry”*

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**ABSTRACT**

**Background:** The article uses fieldwork conducted among data centre professionals in Ireland to theorize the relationship between “hosting” and local business culture at the heart of data supply chains.

**Analysis:** There has been a growth in data centres in Ireland since the 2007–2008 financial crisis, and technology companies have overtaken finance in the country’s business cultures and strategies. Companies and semi-state institutions use conferences, promotional materials, and knowledge dissemination events to advertise Ireland as a place to host data and business.

**Conclusion and implications:** This article concludes that the logics by which local culture and global business cooperate can be better understood by looking at middle managers and the facilitators of data supply chains in addition to macro-scale processes.

**Keywords:** media infrastructure; telecommunications policy; data centres; supply chains; Ireland

**RÉSUMÉ**

**Contexte :** Cet article se base sur un travail de terrain effectué parmi les professionnels de centres de données en Irlande afin de théoriser la relation entre « hébergement » et la culture d’entreprise locale qui est au cœur des chaînes d’approvisionnement de données.


**Conclusion et implications :** L’article conclut que les logiques de coopération entre la culture locale et les entreprises mondiales peuvent être mieux comprises si l’on s’attache aux gestionnaires intermédiaires et à ceux qui facilitent les chaînes d’approvisionnement de données en plus des processus à l’échelle macro.


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Introduction

Early one winter morning during my fieldwork in Dublin, Ireland, I took the 151 bus to Profile Park, an enclave within a sprawling industrial region at the western edge of County Dublin. I was one of only three passengers to disembark at the entrance to Grange Castle Business Park, a partnership between the Industrial Development Authority (IDA) and South Dublin County Council. Grass mounds surround the wide access road on both sides, and from my many visits out to this area I knew that one side masks a Pfizer plant undergoing expansion and the other an unmarked Equinix data centre. Further up the road, I had previously been overwhelmed by the massive—also unmarked—Microsoft data centre campus, the core of the company’s cloud computing infrastructure in the country. Its heavily securitized gate, which more resembles a military base than an office park, displays U.S., Irish, and EU flags (see Figure 1). Farther along, among pharmaceutical manufacturing sites, empty fields, and the ruins of medieval Grange Castle, the park’s namesake, there is an Interxion data centre. It is situated on a manicured landscape butting up against the Grand Canal. This canal, now a scenic relic, used to make up an industrial corridor between Dublin and the River Shannon in the

Figure 1: A small portion of Microsoft’s data campus in Grange Castle

Source: Photo by author, 2019
west of Ireland. But now, if you follow the canal from Grange Castle a few kilometres into the heart of Dublin, it eventually connects with the “Silicon Docks.” These formerly industrial docklands host the headquarters of tech companies such as Facebook, Google, and Airbnb, drawn by Ireland’s 12.5 percent corporate tax rate (against an EU average of 22.5%), lax regulatory environment, and planning structures to fast-track corporate developments (see Kelly, 2014). That day, I was not walking north to Microsoft or Interxion, nor along the canal to the docks. I was making my way a few kilometres farther south, away from the city centre, to Grange Castle Business Park South, host to Google’s flagship European data centre, and to Profile Park, which uses the slogan: “Where data needs to be” (see Figure 2).

Figure 2: Profile Park, “Where data needs to be”

This is just a snapshot of one of my many visits to “data centre country,” or the ring of industrial parks circling the city of Dublin along the M50 motorway and the bundled T50 fiber-optic cable route. Drawn by a low corporate tax rate, available infrastructure, and the “cool” natural climate, data centres in Ireland are far from a natural development (see Brodie, 2020a). This territorial formation represents the fruit of the labour of hundreds of men and women in the tech industry and their partners in the state to make the country a strategic destination for data capital, especially following crises such as the 2007–2008 financial crash and Brexit. The presence of data centres also demonstrates longer processes of financialization and now the dominance of U.S. companies and other tech multinationals in the
country. At a basic level, the growth in data centres has been driven by Ireland’s ongoing reliance on foreign direct investment (FDI), acquiescence in corporate tax evasion, and endorsement of “green capitalism,” fostering a kind of corporate hospitality, the most recent consequence of which has been the growing hegemony of U.S. technology companies. The presence and creeping dominance of companies such as Amazon Web Services (AWS) and Microsoft, among the biggest cloud and data hosting providers both nationally and globally, fundamentally alters the cultural and industrial landscape of a small country such as Ireland.

This article will develop the concept of “hosting” by articulating how various state and non-state actors in the industry leverage a particular postcolonial “structure of feeling” (see Mayer, 2020, p. 2) to paint Ireland as a welcoming place to do business. The “host” relationship, including the terms’ fraught etymology signifying a range of meanings from “enemy” to “guest,” is complex. This article will trace “hosting” in relation to economic liberalization, hospitality, and, more recently, data hosting, which engages with various historical and ongoing structures of dependency and (lack of) reciprocity. Ireland’s contemporary political economies are inseparable from the histories of the postcolonial state, which, beginning in the mid-twentieth century, began to liberalize its economy and invite FDI through organizations such as the Industrial Development Authority (IDA), which placed particular importance on U.S. multinationals. Economic development in the country has long been ideologically entangled with tourist imaginaries and their colonial legacies, which see Ireland as an infinitely malleable landscape to do business in (James, 2014; Mulhall, 2013). During the Celtic Tiger, the period of exponential economic growth in the 1990s spurred by a perfect storm of globalization, progressive de-regulation, tax incentives, and increasing political stability, the country’s economy became largely dependent on multinational businesses, as financial services and tech companies flocked to the country. In the wake of the 2007–2008 financial crisis, during which punishing debt and austerity implemented by the European “troika” (European Commission, European Central Bank, and the International Monetary Fund) compelled the government to take drastic steps toward “recovery,” the state instituted aggressive measures to draw in low-tax multinational investment (Regan, 2019, para. 4) and, as I argue, leaned into its branding as a tax-friendly enclave for extractive tech business, inviting many of the largest tech multinationals to build out the data infrastructures required to power their global operations (see also Brodie, 2020a).

This article will articulate the factors through which not only the spatial and built environment are fundamentally affected by macro-scale processes but also the very sociocultural fabric of how people live and relate to one another. Small-and medium-scale industrial actors play a constituent role in facilitating the large-scale economic and infrastructural transformations of the tech industry. While the state is crucial, the interface between industrial managers and lobbyists and
the state is where certain goals and structures are reproduced. As Asta Vonderau (2019) argues, the scalar dimensions of data centres as global infrastructure are crucial to understanding how they are developed and operate. This extends beyond understanding just how big and just how powerful these companies and their facilities are at both hard and soft levels of power and influence. The state remains a powerful presence in how these global industries operate, even if in the realm of “soft power,” a coin termed by political scientist Joseph Nye (1990) to describe how the U.S. attempted to leverage non-coercive power abroad through culture and policy. While not a particularly useful term for actual analysis, Ireland consistently ranks highly in this abstract metric, referring to cultural institutions and diplomacy, tourism, and place-branding and also traditionally harder factors such as supranational politics, economics, and society. Civil society, corporate spokespeople, and semi-state institutions are critical in this landscape, operating at a smaller scale to spread the good word of Ireland’s business environment. Treating the mid-level company managers, industry boosters, and governmental policy operators in Ireland as the foot soldiers of data centre development and operation, this article investigates some of the manifold sites and practices through which Ireland comes to “host” multinational business and data. Industry figures act as on-the-ground hosts, agents for the arrival and management of global digital commerce in a particular location. State and semi-state bodies, such as the IDA, as well as civil society organizations, such as the data centre lobby group Host in Ireland, host investors, capital, and data. During the COVID-19 pandemic, in fact, the IDA was particularly worried about capital growth because it could not physically bring investors to sites, put them up in hotels, and “sell” them on hosting their “FDI” operations in Ireland (Halpin, 2020). Martin Shanahan, the CEO of the IDA, has said that FDI is a “contact sport” (quoted in Irwin-Hunt, 2020, para. 8) requiring boots-on-the-ground visits on Irish soil. Host in Ireland, similarly, has been hosting virtual seminars responding to these ongoing issues for investors, managers, and workers in the data centre “industry.” With these and other concerns, these organizations respond in real time to new obstacles such as Brexit, General Data Protection Regulation (GDPR), energy regulations, and COVID-19. Without these men and women, the cloud, as Jennifer Holt and Patrick Vonderau (2015) put it, could never “touch the ground” (p. 75), and data would be hosted elsewhere.

Using fieldwork conducted in Ireland between June 2017 and June 2019, this article examines the transnational industry of data centre investment, development, and management in Ireland. Like many technology-based industries, data centre companies use the structural diversity of a global system that requires a dispersed chain of middle managers, subcontractors, freelancers, civil society groups, and their partners in government in order to ensure cost-efficient development, construction, and operations. Semi-state bodies and mid-level facilitators in Ireland’s data centre “industry” work in tandem to invoke and deploy a financial-
ized idea of “Irish culture” to attract tech multinational, and particularly data centre, investment to Ireland. Adding to work that critically analyzes the social and cultural politics of data centres (Burrell, 2020; Hogan & Vonderau, 2019; Johnson, 2019; Maguire & Winthereik, 2019; O’Neill, 2019; Vonderau, 2019), this article draws on methodologies from corporate ethnographies (Ho, 2009), science and technology studies of infrastructure and industry (Parks & Starosielski, 2015), and production cultures approaches to industry self-theorizing (Caldwell, 2008).

As Anna Tsing (2009) has influentially articulated, supply chain capitalism does not represent a one-way process of value extraction across routes of logistical management and governance. However, this does not mean that the capital produced does not largely filter back to and accumulate in Silicon Valley and other centres of global capital’s gravity. Rather, the arrays of actors within the data centre industry generate the conditions of ideological reproduction that ensure the dominance of an overarching system of business development in Ireland, endorsed by the state. Tracing the hard and soft factors of this de- and re-centralization, this article interrogates the cultures of data centre development and the logics through which it operates in the particular context of Ireland.

**Finance, tech multinationals, and local cultures of business**

Since the 2007–2008 financial crisis, the tech industry in Ireland, including data centres, has exploded. While Ireland has long hosted the operations of U.S. technology companies, their power to influence matters within the Irish state has emerged more prominently after the financial crisis. Microsoft first received planning permission to build a data centre in Ireland in 2007; AWS, the software and data hosting wing of Amazon, opened its first “Infrastructure Region” in Ireland the same year; Facebook set up in Dublin’s “Silicon Docks” in 2008 and built its first data centre in 2016; and Google built its first data centre to support its European headquarters in Dublin in 2012 and expanded into its Grange Castle facility in 2016. Overall, there are now about sixty data centres in the Dublin region, and that number is growing. AWS has rather quietly become infrastructural to the countries in which it operates, contracting its services out for various governments and public organs, not to mention other enterprises (some of its biggest clients are Netflix, Facebook, Twitter, and LinkedIn). The implications, externalities, and even locations of these data centres are often not made public, even though public bodies serve as clients (see Figure 3). But despite this lack of transparency, these are infrastructures that use enormous amounts of energy and public infrastructural resources. Many public and private sector organizations in Ireland have done reports on the benefits of data centres, and yet most admit that there are not many jobs involved and the energy demands are astronomical (Government of Ireland, 2018; IDA Ireland, 2018; Sustainable Energy Authority of Ireland, 2017). In spite of this, Ireland continues to go all in on the data centre gamble. The *Planning and Development Act* of 2000 was amended in 2017 to include private data centres as
strategic infrastructure, allowing them to skip local planning. A Supreme Court ruling in 2019 in favour of dodgy environmental impact assessments for a proposed Apple data centre in Athenry by An Bord Pleanála, the Irish state body in charge of spatial planning, sets further deregulatory precedent (Brodie, 2020b).

Figure 3: Screenshot of an Irish government website with an AWS IP address marked “govieassets” (top of image)

The data centre “industry,” similar to other industries, reproduces itself through an array of conferences, networking events, and knowledge dissemination activities. Civil society industry boosters such as Host in Ireland, semi-state industrial development agencies such as the IDA and Enterprise Ireland, and Irish data services companies maintain a prominent presence on this circuit, advertising Ireland as a place to do business and host cash and data. Patrick Bresnihan, a critical geographer, has argued that Ireland is a “soft power superpower,” in that despite its relatively minor status in global relations, the Irish state has managed to leverage influence via cultural goodwill and diplomacy, a robust transnational civil society, and a diverse array of semi-state organizations designed to ensure continued investment in the country’s service sector. Ireland’s promotion of itself as a data “hosting” hub, tied into its longer relationships with U.S. companies and FDI-driven strategies of growth, also relates to cultural and tourist imaginaries of Ireland as a place of welcome and hospitality (James, 2014). Ireland’s diaspora has traditionally been seen as a crucial vehicle for this “soft power” (McWilliams & Murray, 2018), but institutions such as Enterprise Ireland and the IDA—not to mention more directly cultural institutions such as Culture Ireland—are semi-state, enacting governmental remits to leverage influence abroad to generate interest and investment in Irish goods, services, and industries. Business and tourism cultures intersect in the space of Irish development, whether
through Fáilte Ireland (the Irish tourism body) initiatives such as “Meet in Ireland” (2021), designed to attract business events and tourism, or in the direct language of “hosting” put forth in reports and promotions by data centre industry bodies such as Host in Ireland and Bitpower (Reddan, 2019). Part of a longer history of Irish-U.S. relations and liberalization in the country (Grimes & White, 2005), U.S. tech companies have long been a presence in Irish culture and life (Nagle, 2015), and this is predicated on a transnational (largely transatlantic) relationship with U.S. investment.

The sociocultural elements of this reliance on big tech (and FDI more generally) in Ireland—however imagined the actual reliance is—cannot be discussed without acknowledging the structural role of financialization. After the Irish government guaranteed the banks during the 2007–2008 crisis, the country spiralled into a crippling sovereign debt crisis. Thus, in the immediate aftermath, the population distrusted financial markets and the state’s role in them (Linehan & Crowley, 2013). However, the measures instituted by the European troika forced the government to double down on neoliberal modes of economic development (O’Callaghan, Kelly, Boyle, & Kitchin, 2015), deepening financialized ways of living and doing business and leading to an environment where renewed growth has relied on mostly U.S. FDI in the tech sector. Arguably, since the financial crisis, the dominance of the tech industry in Ireland has come to the foreground as the role of finance has receded.

Thus, the idea of “hosting” multinational tech companies and their infrastructures may usefully engage with structures of dependency that arose post-financial crisis. As Cian O’Callaghan, Mark Boyle, and Rob Kitchin (2014) have noted, the “institutionalization” of dependency implemented by austerity along with the official state response of collective guilt revives particular postcolonial feelings, as an external force enacted its will on the populace under the guise of economic “rescue.” In this uncertain and unsteady period, tech multinationals became infrastructural to how the state operated and imagined its economic development, as recovery plans and programs foregrounded privatization and the role of “FDI companies.” During times of renewed crisis, as Naomi Klein (2007) has influentially argued, the state and capital tend to pounce on the opportunity to implement reform programs and crystallize certain political formations. Companies established data centres in this environment, as Ireland opened its doors even wider to tech multinationals and other “inward” industries such as tourism. Ireland thus found itself host to swathes of energy-hungry data centres, with infrastructural shortages and far-off energy targets looming and no way to remove or even properly regulate them (Bresnihan & Brodie, 2020).

Thus, it is apparent how the tech industry may have benefitted from the regulatory vacuum and financialized environment of the Irish recession post-2008, activating its development by capitalizing on the neoliberal common sense of jobs
and investment in a time of austerity and lack. But this was not only a unilateral colonization by U.S. tech capital—it required the participation of Irish planning bodies, companies, and entrepreneurs, many of whom found a living through the growth of this particular tech infrastructure. Of course, the global tech industry has its own unique cultures and ideologies arising largely from the U.S. and Silicon Valley (Barbrook & Cameron, 1996; Hu, 2015), which are discrete from the finance industry (Haiven, 2014; Ho, 2009; LiPuma & Lee, 2004). But the undeniable global scale of big tech and its infrastructures point to far deeper market ideologies. As popular critics have begun to warn, the tech industry’s irresponsible business practices risk provoking yet another global financial crash (Foroohar, 2019). To counter this grand narrative of technology and markets, which drives the logics of economic development in Ireland and elsewhere, the intersection of technology with other industries along the supply chain needs to be countered with emplaced experiences of how financial investment, policy, planning, and other state and corporate mechanisms interact with communities of practice within apparently self-contained industries as well as along a wider supply chain. This emplacement refers to the ground-level spatial phenomena of data centre development as well as cultural logics that operate through specifically place-centred development strategies. Data centres represent a confluence of geopolitical, property, planning, and civil society logics and factors in how companies choose locations, gain permissions, and interact with local communities.

In Karen Ho’s (2009) research on the “institutional cultures and arrangements” of financial firms and their workers—“spokespeople for the market”—she argues that understanding bankers’ actions and “accessing investment banking ‘culture’ can give us insight into the workings of ‘the market’” (pp. 184–185). This ideological reproduction defines how certain norms come to affect a given environment, within which massively influential decisions and transactions are made within and in response to a lived market logic. Ho’s (2009) focus on ground-level—or high-rise level—phenomena allows an insight into how the larger systems work, continue, or break down. Following the work of Ho (2009) and other anthropologists such as Llerena Guiu Searle (2016), this research accounts for the work of middle managers and semi-state officials in the data centre “industry” as they, to quote Searle, “attract partners, change their behavior, and thus, construct markets,” in order to understand how they constitute “a range of capitalist practices rather than one, unitary capitalist ‘system’ and helps us to understand the contours and limits of capitalists’ power” (pp. 9–10). In short, this research tries to understand the “work that people are doing to forge routes of accumulation” (p. 9), which involves both ideological (re-)production and material practices. In environments of crisis and indebtedness, as those doing empirical studies of “financialized subjects” have articulated (Beggs, Brian, & Rafferty, 2014; Mulcahy, 2017), how people see and relate to themselves, their communities, the state, and the market responds to par-
ticular conditions of what is materially available and how to make claims on it (Gago, 2017). Whether expressed through entrepreneurialism (and other pro-business ideologies and activities) or political upheaval, industrial formations, workers, and populations are constantly relating to global processes of capital, state programs, and more emplaced conditions of availability at the same time.

Jerry Sweeney, CEO of Cork Internet Xchange, was one such entrepreneur, who usefully laid out his own idea of the data centre landscape, noting that he filled a market gap in his native Cork when he realized that having Apple’s corporate headquarters there meant infrastructure capacity was being underutilized. He argued that there is actually no “data centre industry” (see also Brodie, 2020a). Data centres are part of a wider internet ecosystem of providers, infrastructure companies, data management firms, and content producers, potted across the world in an assemblage of interests and sovereignties that was—until very recently—difficult to regulate. What appeared as an industry was, to Sweeney, made up of a wider chain of businesses, services, and solutions providers, with data centres attached to the wider industrial formations within a longer history of telecommunications (leading up to and including the internet). “It’s a supply chain,” Sweeney said. Within his own data centre building, he hosted content data, internet services infrastructure (such as content distribution networks), business cloud services, and even government data (which was locked behind further security). He detailed the several types of data centres: co-location (companies such as Equinix, Interxion, and Digital Realty); cloud computing providers (AWS, Microsoft); platform providers (Facebook, Ebay); and edge data centres (required for smart city operations [Warrington, 2018]). Outlining the tiers and types of companies in the space, he labelled data centres as the “hotels” where they all meet, hosted in the same place, demonstrating the metaphorical value of “hosting” and hospitality at the level of both data and business.

This messier part of the spectrum is where this research found the most productive articulations of industry logics. While it is easy to focus on the hegemony of “giants” such as AWS, Microsoft, Facebook, and Google, even these companies’ “hyperscale” data centres are part of a wider supply chain of data storage and circulation, security and extraction, as well as facility design, construction, and management. This less-studied “ecosystem” is populated by companies, individuals, and organizations latching on to circuits of big data and capital. They squeeze value out of different routes and links within the supply chain, whether by optimizing data storage, usage, or hosting data themselves. Some of the companies within this less-studied “ecosystem” are quite large and multinational in themselves, such as Digital Realty, Equinix, and Interxion, which are all multinational data service, co-location, and realty providers operating multiple data centres on Irish soil. Taking a closer look, this apparently coordinated system is deeply fragmented and subcontracted, and it relies on a messy array of knowledge dissemi-
nation events, networking practices, and other modes of formal and informal social formations within the industry (Lobato & Thomas, 2015). While these companies own and operate server space, they also often subcontract security, software, and maintenance. Some companies provide full-service data centre provision, while some essentially act as real estate brokers for computing.

These more spatial logics of computing demonstrate the overlap of the data economy with real estate and property markets, as evidenced by the metaphor of “hotels” hosting diverse business and data operations and also by companies such as Digital Realty (the data centre wing of multinational private equity firm GI Partners) and Keppel Corporation (2019) (a Singapore-based multinational that describes itself as an “ecosystem of companies” providing anything from data centres to energy, real estate, and fibre-optic infrastructure). Looking at a data centre and all of the infrastructural resources that go into one, the entanglement of data and real estate comes as no surprise. Key to how spatial development, value extraction, and data management function in Ireland is a business environment that has long been eager to attract FDI. While this has been a development strategy in Ireland since the late fifties, it is important to understand how the current formations of the Irish industrial landscape, from IDA to Host in Ireland, are designed to “host” companies and their operations.

As the following sections argue, publicity heralding Ireland’s ability to “host” tech business, which I encountered at many points across my field work and the grey literature of Irish capitalism, claims that Ireland is somehow uniquely suited for data centre development. This is a cultural argument going far beyond the usual refrains: good tax rate, skilled workforce, cool climate, and friendly business environment. Its proponents claim that it cuts across the very sociocultural fabric of the country. This was said to me quite directly by one of my interlocutors, a data centre engineer at Interxion, who claimed that there was something about Irish culture that made it a good place to do business and, in particular, set up data centre operations. This type of claim is familiar across literature on other data centre locales—Asta Vonderau’s (2019) research on Facebook in northern Sweden points out the Swedish state slogan about a “climate of innovation” (p. 698), and Alix Johnson’s (2019) research describes the political, cultural, and environmental entanglements of data centres in Iceland. This “cultural extraction” (Meade, 2017, p. 387) is achieved through the coordination of state policy, planning, and supposedly “natural” factors occurring in the country, from climate to heritage to some kind of inherent pre-disposition to FDI (see Brodie, 2020a). But no matter to what degree so-called “Americanization” has come to grip the island of Ireland, and whatever the economic and cultural consequences of such intense U.S. investment, one nonetheless activates certain old essentialisms by claiming that a formerly colonized country is actually overtly and enthusiastically suited for foreign incursion and influence. However, this is exactly what the state and corporate
developers do. The next section of the article analyzes how these essentialisms have crept into state and corporate promotional literature, which then feeds directly into the built and natural environment of the country with the growth of data centre operations through the everyday discourse of the industry.

“The Irish advantage” and strategic planning

In 2017, Enterprise Ireland started its “Irish Advantage” campaign. The campaign utilizes certain recognizable cultural touchstones of “Irishness,” but re-appropriates them to point to certain ways in which the Irish are more flexible, malleable, and intelligent by nature. An early press release advertised the Irish workforce thus: “The world’s most adaptable workforce means strong partnerships” (Irish Advantage, 2018, para. 1). Another such advertisement proclaims the “luck of the Irish,” which, far from being mere magical luck, extends into the very being of the Irish themselves, somehow making them excellent workers and businesspeople who are also trustworthy at personal and macroeconomic levels (Enterprise Ireland TV, 2017). This logic is being put out there by the organizations designed to attract investment to benefit the Irish economy and benefit its workforce. However, as mentioned above, data centres do not actually employ many people; they are simply infrastructural machinery for the broader operations of moving capital in and out of the country. A year later, in 2018, the Irish Advantage initiative would term 2018 “The Year of the Data Centre,” employing an all-Ireland image sandwiched between rows of server stacks (see Figure 4).

Figure 4: Screenshot from Enterprise Ireland/Irish Advantage website

As troublingly suited to the present moment as such strategic essentialisms may be, it is important to remember that this has been the modus operandi of Irish economic development in recent memory. As with another industry designed
entirely around transnational movement and FDI—tourism—the environmental and cultural conditions of Ireland are posed as somehow uniquely coalescing to provide a hospitable place for data capital. As Kevin James (2014) articulates, the earliest tourism imaginaries of Ireland (and its rural milieus in particular) were concerned with the culture of “hospitality” and how innately receptive Irish people were to foreign visitors. When Brendan O’Regan established the first duty-free and later free-trade zone in Shannon, County Clare, in the late fifties, the most prominent images circulated globally were those of Irish coffees and other commodified touchstones of Irish life for global consumers (Callanan, 2000; O’Connell & O’Carroll, 2018). But it was not only tourist dollars that O’Regan and his enthusiastic partners in the postcolonial Irish state wanted. This was seen as a way of promoting FDI—if you could get people to stop over (whether for fuel or tourism), you could sell them on keeping their money there. This template, which is of course familiar, continues in initiatives to promote business tourism and events (such as “Meet in Ireland” [2021]).

Today, tourism and FDI in Ireland exist in a tangled symbiosis of state agencies and entrepreneurial logics designed to get visitors and capital into the country at any cost. As the Irish Advantage campaign illustrates, Ireland promotes itself as somewhere that is naturally suited for these infrastructural arrangements and the capital invested in and generated by them. But with the financial crisis a conveniently distant memory to those in the global business mindset, the emerging cultural crisis of Brexit has occupied the psyche of Irish politicians, planners, and policymakers. Just a few years after the EU forced Ireland to surrender the economic reins to manage the financial crisis, leading to the environment of austerity and intensified FDI driving the current recovery, Ireland has become the EU’s greatest bargaining chip, a position that it is more than happy to wield at both state and business levels. In 2016, the IDA released a campaign of post-Brexit advertisements parroting the arguments outlined above, emphasizing the country’s devotion to the EU and FDI in general (Irish Times, 2016), while simultaneously forwarding essentialist statistics and imagery (see Figure 5): “We are 9% redhead. We are 33.3% under 25. We are a 12.5% corporate tax rate. We are 100% committed to the EU. Ready to talk about locating in Ireland? We are. You can count on it.” Besides recourses to trust and stability, the advertisement directly associates the Irish people with profit. This coupling of pro-globalist sentiment and genetic imaginaries is revealing of a particular set of cultural and governmental pathologies that (re-)emerged after the financial crisis. If the 2007–2008 crash set off a sociocultural crisis in the country as much as an economic one (Linehan & Crowley, 2013), leading to the return of these repressed dynamics of dependence and independence, colony and post-colony, then it becomes clear that many of the pro-development logics that continue in the country centre culture as a vehicle for profit, whether in terms of an imagined business culture or the very being of the “Irish”
after globalization. Figure 5 shows how these two spheres exist in a supposedly natural and symbiotic way, where the machine of growth is powered by promotional touchstones of “Irishness.”

**Figure 5: The IDA’s association of labour force with FDI**

These types of materials and advertisements, which circulate among investors, entrepreneurs, and policymakers and are also seen in airports, on billboards, and advertised on websites, perform transnational work toward influencing decisions and organizing resources (whether business boosters, state figures, or even just basic infrastructure). Not only do they erase the spatial and lived contingencies that do not already strengthen the case for spatial and economic development Ireland and its populace, these conditions are sold as mere generators of profit for the world-making enterprises of finance, tech, and other corporate interests.

Newsletters from *Enterprise Ireland* representative Karin Angus, who operates from an Enterprise Ireland business development office in Stockholm, provide data centre-related information. These newsletters are directed explicitly to foreign investors: “If you are seeking a design, build or fit-out partner for a smart data centre project, I would be delighted to help you identify the right company from Ireland’s world-class data centre sector. Irish companies have an unequalled track
record delivering some of the largest and most sophisticated projects in Europe in recent years.”

The state itself, through its semi-state arms such as IDA and Enterprise Ireland, becomes a middle manager in this complicated landscape of operations at home and abroad, requiring an array of workers and institutions to facilitate and promote the business environment. Looking at these workers and the events they organize and attend, these cultural logics are robust and influential, reproduced through face-to-face interaction and presentation as much as reports and promotional materials.

“The future and potential of Ireland’s technology sector”

Back in Dublin on the aforementioned winter day in 2019, I was on my way to attend a panel at a data centre in Profile Park owned by U.S. multinational co-location provider Digital Realty (see Figure 6), which runs data centre operations on four continents. The event was called “The Future and Potential of Ireland’s Technology Sector.” It was “exclusive,” an industry event that had gathered a superficially impressive panel, where government and industry shared the stage: John Bruton, “former Taoiseach and Prime Minister” (which are the same thing, so the press release was not written by someone from Ireland); Dr. Michael Phelan, “lead data scientist at Johnson & Johnson, as well as the winner of the Data Scientist of the Year 2018 award”; Simon McGarr, “highly-respected EU data lawyer”; and Val Walsh, “SVP Portfolio with Digital Realty.”

Figure 6: Digital Realty’s Profile Park data centre

Source: Photo by author, 2019
When I arrived, the UK- and US-based Digital Realty employees were surprised to hear I had taken a bus. None of the non-resident employees, who told me they travelled to Ireland quite often, knew that a bus went all the way out there. Passing into the data centre itself required special authorization and two layers of security. After going through the automatic gate—complete with a no-tailgating system and biometrics—an employee pointed me toward the staircase that led to the conference space. The tech-blue reception room (see Figure 7) contrasted with the grey day and green fields outside the panoramic windows. The room was purpose-built for hosting events, and the hills of south Dublin were visible out the south window, showing off the landscape for visiting clients. A full array of breakfast foods, juices, and refreshments was laid out in the room, including a full barista station. Most of the clients milling about seemed to work in the tech space, whether in data, software, or platforms, participants in ecosystems along digital supply chains that extended far beyond data centres. There was a palpable buzz around the room, and I overheard several people mention that this was their first time at a data centre, despite dealing frequently with cloud and data hosting services. A banner read “Welcome to Profile Park – Digital Realty: Powering your digital ambitions,” with an abstract, organic tangle of tubes, pipes, and wires held in place by electric roots shooting out into nothing. This was where the tech industry came to learn about the infrastructures that supported it, and all the ideological touchstones—the social, flexible environment; the organic, naturalizing metaphors; the impressive events and free stuff—were on full display.

Figure 7: The Digital Realty reception space (left), and an auditorium at the 2019 Dublin Tech Summit (right), both lit “tech-blue”

Source: Photos by author, 2019

The resources put behind data centres by state and corporate partners were apparent, both from the private sector sponsors and public sector participants, not to mention the strategic mediation of the whole event (involving a business journalist from the Irish Independent). The panel took place in a panoramic room separate from the reception space, this one filled with couches in front of a stage. In the discussion, the panelists emphasized the sheer scale of the “data” industry
in Ireland, which constituted the entire supply chain of data companies and was estimated to be worth €10 billion to the country at the time. Comparisons to industries and resources of modernity, from sea shipping to coal to oil, abounded. Industry officials heralded the proliferation of data enterprise, the boundless potential of tech, and the necessity of data centres to activate this potential and support capital growth, and addressed concerns about GDPR and data protection regulations. By these arguments, the data centre industry is strategic and necessary for Ireland to maintain its competitiveness in the modern world.

Justifications for the importance of data centres do vary slightly, depending on the more specific role someone plays in the industry. Host in Ireland founder Garry Connolly acts as a kind of mouthpiece for the Irish data centre industry, mediating between investors abroad and interested industry groups at home. In his talks and events, he engages in the myth-making required to maintain a robust common sense argument about the need for data centres in Ireland. However, in near opposition to the Digital Realty panel, Connolly said that data centres were essentially just vehicles for FDI. But he also noted that each centre was itself an automated “software factory.” This way of speaking metaphorically, and in relation to older forms of production, was typical of how industry practitioners translated their operations to non-experts—such as Sweeney’s “data hotel” idea, the comparison of data to coal and oil, or the natural metaphors of Digital Realty’s promotional imagery. Connolly referenced the World Economic Forum’s report on the “fourth industrial revolution” (Schwab, 2016), where data-driven industries and practices were forging a new worldwide industrial environment. First it was steel, then steam, then the electron, and now the “oxygen” of the industrial revolution 4.0 would be that of the cloud. The physicality of this industrial revolution lived in data centres.

Connolly reiterated that Ireland is a gateway to Europe for these global operations, acting as a threshold for American businesses to enter European markets and vice versa. In this way, he saw its potential as a pressure gauge for the tech economy, especially now that Ireland was a “data centre centre.” Companies “trust” Ireland. This was something that was reiterated to me across many of my field visits and conversations. Bruton, on the Digital Realty panel, argued that “confidence” between U.S. multinationals and Irish business culture came from diasporic links across the Atlantic, between “people who crossed the Atlantic” and those who “stayed at home,” even if those at home had not quite built the local entrepreneurial culture required for this to be a totally two-way benefit—as the Irish state and its businesses have been hospitable to multinationals while the local sector plays second fiddle. Ireland uses its indigenous creative power, American goodwill, and friendly relations with Europe to ensure its place in the global economy, even as crises such as the financial downturn and subsequent recession may have reduced faith in homegrown capabilities. Bresnihan’s idea of the “soft power superpower”
describes Ireland’s ability to occupy any promotional mould—as reflected in the above-mentioned identity-based campaigns to attract FDI and promote Irish business culture. It is no coincidence, then, that Taoiseach Leo Varadkar’s Strategic Communications Unit, the spin department of Fine Gael (the ruling party at the time of writing), came under fire as “Goebbels-territory” (Clarke & Leahy, 2018, para. 1) propaganda by opposition critics and was forced to dissolve.

Connolly’s self-conception of the industry situates data centres within older forms of investment, economic development, and industrial organization, despite their increasing modularity (short life cycle, purpose-built for obsolescence), exponential drain on public infrastructure (enormous energy demands and need for roads, cables, pipes), and automation (meaning less workers) (Irish Advantage, 2017). In spite of these obvious limitations, the data centre sector has been put forth by state-commissioned reports as a post-crisis recovery success story (IDA Ireland, 2018; see also Allen, 2019). Pro-business attitudes, policies, and planning frameworks have attracted a strategic industry generating so much investment that it should be even further deregulated to ensure its robustness, as is the case with the proposed 2017 Planning and Development Act data centre amendment (Government of Ireland, 2017). In this way, Digital Realty’s business model demonstrates an overlap of property market logics (at the heart of the 2007–2008 financial crash) and the digital economy. It is a company that builds available space, with the capacity for hosting technical equipment, which is then built out by companies renting this space. And despite having secured planning permission to build an additional facility in the lot adjacent to the one hosting the event, several of the server rooms remained completely empty when we toured them, conjuring disturbing ghosts of Ireland’s previous vacant property crisis (O’Callaghan, Boyle, & Kitchin, 2014).

What was remarkable about the Digital Realty event more broadly is the projection of how “hosting” and hospitality cut across lived and technical worlds, from the manufactured warmth of the event to the warm hum of data in the active server stacks. Not only does Digital Realty host company data but it can also host other companies’ employees, who are often in Ireland only part-time or occasionally for quality control, in offices, technical stations, and conference rooms. Whatever the case for the companies hosting there, there were reportedly less than ten staff on hand at any time in 8,000 square feet of data centre space. Compared to the level of investment and infrastructural resources required to power a data centre, and the fact that jobs are put forward as a strong argument for the data economy, this lack of workers is stark. With such obvious vacuity, policy reports praising the jobs and opportunities created by data centre development seem clearly misguided. But within the aforementioned “industry,” the dispersed network of actors have in fact generated quite a sophisticated—if dis-
tributed—ideological apparatus that facilitates the reproduction of these arguments.

**Soft power and education in corporate environs**

Events such as “The Future and Potential of Ireland’s Technology Sector,” similar to the IDA and Enterprise Ireland’s advertising, institutionalize a particular view of industry through the lens of the Irish nation-state formation. However, Digital Realty is not an Irish company (except for tax purposes), and most of the employees that day had come from offices abroad. The transnational arrangement of an industry posited as *Irish* reminds us of the concrete ways in which people, ideas, and services travel across national jurisdictions, and how the particular formations of power that are enacted and often crystallized through these travels represent the residual structures of the nation-state as the determining formation of the economy, power, and subjectivity. The “industry” is here mobilized as something that can come under the umbrella, however conveniently, of the Irish state. However, as outlined above, the data centre “industry” is dispersed, and requires knowledge mobilization to coalesce its tangled strands in order to harmonize with constantly changing state (or supranational) regulations, standards, and practices. This knowledge sharing occurs at events, conferences, and through emerging educational systems.

Sleepless, a data management company based in a shopping centre in Galway, acts as a middle agent between companies and Dublin-area data centre providers such as Equinix. They rent out a significant amount of space for their clients, all while using Microsoft cloud platforms. These small companies serve as rental agents for server space, acting as a middle agent in a supply chain of data facilitation, all the while existing in the crosshairs of increasingly stringent data protection laws in the EU (e.g., GDPR). Some of these companies and data centre providers, at least in their statements to me, are not highly concerned, despite Ireland’s traditionally lax data protection laws (Vincour, 2019). Rather, they see the GDPR as forcing a disorganized industry to standardize, which for better or worse, will prevent costly uncertainties and mistakes across companies and clients in the future. GDPR and Data Protection Compliance Officers are becoming more in-demand positions at companies and as independent contractors, and Ireland is under pressure to become a data protection hub at the state level with so many tech companies hosting their European operations there.

In a resonant case, the U.S. government demanded that Microsoft turn over emails held in its Irish data centre (Lillington, 2017), violating Irish “territorial sovereignty” but also a familiar stretching and variegation of boundaries along strategic lines for powerful government and corporate interests. Industry groups like Host in Ireland form to aid companies in adapting to the complex and changing data landscape, as an “industry-led initiative specifically developed to generate
awareness and recognition of Ireland’s benefits as an optimum location to host digital assets.” CEO Connolly himself presents on panels at industry conferences, on topics ranging from basic data centre investment to Ireland’s special benefits to the impacts of Brexit, GDPR, and, more recently, COVID-19. At the 2019 Dublin Tech Summit at the Royal Dublin Society in Ballsbridge, Dublin, there were similarly several current and former government officials and company representatives presenting on GDPR regulations, and how to get around them. Attendees were told ways in which to get around the measures put in place to ensure the (more) ethical use of consumer data and repeated throughout the conference were claims that data is the new gold, oil, or other kind of natural resource. If you did not innovate and optimize your usage of data, you would be left behind, but make sure not to get caught doing anything unsavory.

These strategies—enacted through semi-state organizations, transnational civil society, and liberal media organizations—have very particular effects, and industry conferences may be one of the most telling examples of how soft power is enacted across state and private spheres (see Johnson, 2019). Take not only the yearly Dublin Tech Summit (supported by both semi-state and private funders) and the like but also the more specifically data centre-orientated expos, trade shows, and conferences held by transnational organizations such as Datacloud across the world (with yearly events in Dublin). These companies and conferences explicitly geared toward data and tech are only part of a larger landscape of subcontractors and services, constituting both state and corporate actors, and replicating the imagery and rhetoric of these industrial initiatives more broadly. Connolly urged me to attend the 2019 National Construction Summit at Citywest Business Park, a data centre hub, to get a real sense of how the industry actually operated, demonstrating the recognition of the construction and engineering sector beyond the usual tech entrepreneurs and investors. But logics operating across Irish governmental and semi-state organizations promote as much as from private interest groups and corporate propaganda, which coalesces to further the vision of Ireland as a space ripe for capital.

Industry events are places where the industry shares information with itself, and oftentimes they are places to publicize new developments. But it is in the education sector that the data centre industry has been seeing its most significant reproduction of a specialized workforce. Programs have been established, such as the Bachelor of Engineering in Data Centre Facilities offered at the Institute of Technology Sligo, designed with input from Google, Microsoft, and Facebook, or the AWS Educate program that partners with local technical universities (often literally across the street from data centres, as in programs funded by AWS at the Institute of Technology Tallaght) to increase cloud proficiency and train a workforce of data centre engineers. The robustness of these programs is up for debate, and the job metrics have yet to be released, although it would seem doubtful that
there are enough jobs in the sector (considering the low employment per data centre operation) to merit such an educational roll-out. Regardless, the number of these programs has grown in recent years.

So while many argue that such a heavy reliance on FDI into tech services is a fragile strategy of attracting companies through pro-business planning, tax incentives, and an often enthusiastically collaborative array of companies and institutions to facilitate landing in Ireland, the reality is far more complicated than mere tethering to the US. The fact is, these big tech companies have been in Ireland for a long time, Apple since 1980 and IBM since 1956. While these relationships have been explicitly extractive, this tethering nonetheless goes both ways. Their corporate culture has permeated the social and political fabric of the country, but their particular operations are also tied into long-term contracts with Irish energy producers (see Bresnihan & Brodie, 2020), rely on the training programs and labour of many Irish institutions, and have deep knowledge and connections within the regulatory environment. These “incursions” are not somehow fully external to the Irish state, parachuting in unannounced; rather, their myriad partnerships, pushes, and negotiations with the Irish state mean that their presence has become somehow endemic to how the state operates, not to mention to how people do business there and how people learn to work in an increasingly data-driven marketplace.

Despite the pervasive naturalization of these logics, keeping track of how they directly instantiate lets us see the “operations of capital” (Mezzandra & Neilson, 2017, p. 187) as they play out, allowing us to see this as capital hitting the ground. But as this article demonstrates, this is not a unilateral process. The expertise, the training programs, and the contracts these companies have with the state tie them into a longer-term relationship. The so-called ripple effects are not only some manner of prosperity or global hopefulness but rather a pervasive logic of entrepreneurialism at the mid-level of data solutions providers, managers, semi-state organizations, construction and engineering firms, and the other actors and agencies that populate this transnational landscape, exerting their own influences and employing Irish “soft power” to leverage more.

Conclusion

At first glance, some of the information presented here may map out an industry similar to any other industry, and in many ways this is true. However, the low and mid-level managers and entrepreneurs—the on-the-ground figures of the data economy—are integral to how the field is conditioned to accept data centres as a necessary and even beneficial business venture for a particular place. Fieldwork, while a useful method for muckraking and mapping out stakeholders, cannot answer for all of the nuances of subjectivity, the messiness of politics, nor the ways in which value is extracted from an environment. Echoing Lisa Parks, Lindsay Palmer, and Daniel Grinberg’s (2017) reflections, “fieldwork coincides with an interest in understanding how material conditions, location, difference, and power
hierarchies function as part of media cultures” (p. 99, emphasis in original). While they turn their focus to a more traditional ethnographic subject, those who lack access to reliable technological infrastructure, this research tries to understand how the emplaced and cultural factors among those working as mid-level managers in wider tech supply chains—somewhere between the super-rich/ultra-powerful and the quite poor/marginalized—affect how they work within and engage with the culture of tech and data centre development. This is a study not from below, nor a view from on high, but of somewhere in the middle.

This pervasive middle operates across the diverse locales of supply chain capitalism. Yet, there tends to be a kind of top-down or ground-up dialectic to how global economic formations function. With obvious exceptions, there is still the tendency to either look at how a company such as Microsoft is planning to corner a market or unleash a new “green” strategy, and/or look at how vulnerable communities or consumers feel, relate to, or react to these top-down strategies and technologies. But this mid-level comprises the foot soldiers of the data economy, and their training programs, corporate cultures, and the everyday reproduction of these logics and knowledge has enormous implications for the global circulation of data and the extraction of value from its operations.

The stakes of the knowledge and material conditions produced and reproduced through these logics have massive and deeply felt effects and affects. From Sweeney’s description of data centres as “hotels” to Digital Realty’s framing of tech within a specifically Irish industrial formation to Connolly’s insistence on data centres as factories—each instance articulates a particular way in which data centres could benefit not only data hosting companies but how they provided crucial services somehow beyond their metaphorical value. They employ and benefit from formations such as soft power and direct state partnership. However, as this article also argues, culture, knowledge, and subjectivity are not as formally set-in-place as state and corporate metaphors present them. Unpacking the top-down view of a global industry and where it hits the ground is crucial, and it is what this research sets out to map, analyze, and define. But sometimes this global picture is too complex, and its actors too tenuously (if impactfully) interconnected to productively map, setting them into place discursively while the relations of state and capital adapt to innovate and optimize their control and management of an increasingly turbulent set of environmental conditions through the manipulation of the social and the cultural. Understanding the logics by which these processes occur promotes a project that both understands how powerful they are in shaping productive and social forces. The stakes of speaking with executives and officials go beyond knowledge mapping. They concern the stakes of knowledge (re-)production and the spatial, political, and environmental transformations this knowledge can enact.
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Notes

1. Ireland’s “liberal” society and its influence abroad via cultural and migratory legacies contributes to this high ranking (Soft Power 30, n.d.).
2. This concept came about in a personal conversation.
3. Enterprise Ireland promotes the Irish business environment abroad, while the IDA aids and facilitates foreign direct investment in Ireland. Culture Ireland promotes Irish cultural production and funds events like festivals, talks, and conferences abroad.
4. Sustained analytical literature on this transformation is short, but see Smart MBS (2018) for a statistical analysis. See also Allen (2019).
5. Personal conversation with the author.
6. For example, the Wild Atlantic Way—a tourism campaign promoting the west of Ireland as a scenic route for tourists—also mobilizes essentialisms of the country’s fundamental “wildness” coupled with warm hospitality and deep cultural heritage. The campaign was masterminded by John Concannon, former head of Varadkar’s Strategic Communications Unit.
7. List email to personal email address.
8. Info forwarded in personal email exchange.
9. Personal conversation with the author.
10. The number of workers on-hand was overheard in murmurs by attendees and employees. The 8,000-square-feet number was taken from Digital Realty’s website. The website does not list workers besides 24/7 security staff.

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