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# ‘Algorithmic nations’: seeing like a city-regional and techno-political conceptual assemblage

Igor Calzada 

## ABSTRACT

There are changing dynamics among political regionalization processes and the rescaling of nation-states in Europe. However, updated and timely research remains scant, ambiguous and unable to meet the challenges of data-driven societies and uneven borders. Nations’ physical boundaries matter as much as political borders in their pervasive and growing algorithmic, stateless, liquid and metropolitan citizenship patterns. This paper explores these new ‘connectographies’ from a regional science perspective, introducing the term ‘algorithmic nations’ as a city-regional and techno-political conceptual assemblage. A case study is presented of the small stateless city-regionalized European nation of the Basque Country through its analytical and transitional lens, locally known as ‘Euskal Hiria’ (Basque city-region in the Basque language). This paper questions whether the Basque Country could evolve by (1) modifying its governmental logics and (2) merging its three separate devolved administrations (3) while enabling their direct interactions with citizens (4) through blockchain technologies as the small state of Estonia is implementing and employing cutting-edge algorithmic governance frameworks. In doing so, this paper suggests how four drivers – metropolitanization, devolution, the right to decide and blockchain – may be respectively invigorating four dynamics – geoeconomics, geopolitics, geodemocracies and geotechnologies – in this transition towards the algorithmic nations. Ultimately, this paper concludes with an algorithmic nations research and policy agenda decalogue of how these geotechnological changes might determine the future position of small stateless city-regionalized nations in the European Union.

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## INTRODUCTION: ALGORITHMIC, STATELESS, LIQUID AND METROPOLITAN CITIZENSHIP RESCALING NATION-STATES IN EUROPE

People today are increasingly digitally connected unwittingly through artificial intelligence (AI) and machine-learning devices that remain unevenly and pervasively distributed, fuelling a liquid sense of global and algorithmic cosmopolitan citizenship (Bridle, 2016; Morozov, 2018). Nonetheless, it can be argued that borders still matter as much as nations despite the fact that, currently, the European significance of both might be rapidly shifting through a sort of algorithmic, liquid, metropolitan and stateless pattern of citizenship, particularly in small stateless city-

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regionalized nations such as the Basque Country and in Scotland and Catalonia (Cetrà & Harvey, 2018; Dasgupta, 2018; Wilson, 2018).

Europe invented the nation-state when the principle of fixed territorial integrity and sovereignty was agreed upon in the 1648 Treaty of Westphalia. Arendt (1949) distinguished between nation and state as she traced the beginning of the mass phenomenon of statelessness to the decline of the nation-state: *nation* referred to the dominant group's culture, language and shared history living in a bounded territory, whereas *state* referred to the legal status of persons living in a territory and considered citizens with legal rights. From the time of the origins of the modern nation-state there was tension between nation and state regarding which persons were 'true' members of a nation – whether those living in a territory were counted as citizens with legal rights or were excluded as non-citizens. Arendt inferred that there was simply no effective international or state mechanism to protect the rights of stateless citizens or minorities (Bernstein, 2018, pp. 15–17). As such, nation-states were homogeneous entities with uniform attributes familiar today – in particular, a set of fiercely enforced nation-state monopolies (e.g., defence, taxation and law) that gave governments substantial mastery of the national destiny. In return, a moral promise was made: the development (spiritual and material) of citizens and nation alike.

Amidst city-regional tensions in Europe's nation-states, contemporary technological systems based on 'algorithmic citizenship' through blockchain decentralized ledgers implemented in the small state of Estonia might offer models for rethinking 'stateless citizenship' in other European locations (Bridle, 2016; Cheney-Lippold, 2011; Sassen, 2008). A societal plurality pattern has increasingly begun to claim recognition and demand equal treatment for minorities and stateless citizens. This powerfully affects the political, social, cultural and economic terms of two key attributes of the nation-state: group homogenization (with 'blood and soil' identification) and language standardization. As Bauman (2000) suggested, these solid bodies of European nation-states are abruptly liquefying. This form of 'liquid citizenship' can be delinked from territory while being shaped by a 'metropolitan citizenship' claiming devolution aspirations and more fairly distributing its advantages as long as small stateless city-regionalized nations can ensure a fully geodemocratic 'right to decide'. This driver may be interpreted as the 'right to have rights' in nations to hold a secession referendum by citizens regardless of fixed uniformity and as a result of the rescaling of the nation-state (Brando & Morales-Gálvez, 2018; DeGooyer, Hunt, Maxwell, & Moyn, 2017). A rooted democratic environment, which has marked the Scottish and Catalan experience since 2014, represents a crucial difference in forthcoming years in the backdrop of this debate (Bianchini, 2017, p. 184). Given the ongoing experiences in Europe as useful lessons about the contentious nexus of citizenship and democracy, this paper explores the novel notion of 'algorithmic nations', which goes beyond internal discord around plurinationality and quasi-federalism by presenting the ongoing transition of the Basque Country in the hopes of a post-violence era (Calzada, 2018b; Sanso-Navarro, Sanz-Gracia, & Vera-Cabello, 2018).

In a broader European context, 'liquid citizenship' is a two-sided coin that involves blurred meanings and ambiguous political interests. Europe is an area where incompatibility between the nation-state legacy and the demands for a transnational governance is escalating, with potentially far-reaching consequences in terms of social and political conflicts – not only between nations but also (and most probably) across nations. In a speech to the 2016 Conservative Party conference, British Prime Minister Theresa May made the following statement: 'If you believe you are a citizen of the world, you are a citizen of nowhere. You do not understand what the very word citizenship means' (Marsili & Milanese, 2018, p. 213). We could reverse this statement to argue that we are all already citizens of the world; however, until we invent forms of politics beyond borders, we will remain liquid and stateless citizens without political agency. Furthermore, in the recent post-Brexit scenario, May's statement resonates clearly among the European Union (EU) liquid nationals living in the UK by provoking an ongoing geographical divide produced by many, but not all, non-metropolitan voters who claim they

want ‘their country back’ (Johnston, Manley, Pattie, & Jones, 2018). This points to the non-metropolitan condition of these ‘left-behind’ voters in some city-regions. The outcome of this situation has been a growing sense of disempowerment and alienation among those who are not ‘part of the system’. This political standpoint, shared by many English citizens, differs slightly from the Scottish sense of pro-European openness (Keating, 2005; Orwell, 2017). Thus, despite so-called ‘post-nationalism’, the reality depicts a rather more nuanced and diverse political city-regional picture inside the same nation-state (Berezin, 2007). Therefore, we see city-regional spaces beyond nation-states as constitutive fields of ‘tensions between different spatial policy representations, discourses, and practices, embodied by different action rationales and with potentially different scalar effects’ (Fricke & Gualini, 2017, p. 6).

Paralleling the pervasive side effects for ‘liquid citizens’ and given the ongoing devolution debate in some city-regions in Europe (Calzada, 2015a), nation-states are being rapidly rescaled, characterized by a pattern of ‘metropolitan citizenship’ that stems from the metropolitanization trend (Katz & Bradley, 2013; Nelles, Gross, & Kennedy, 2018; Sellers & Walks, 2013). This trend can be defined by the distinction between a more visible, articulate and metropolitan class and those in the more peripheral, less articulated, non-metropolitan (rural) and often less-developed areas (Rodriguez-Posé, 2018). This distinction has led to a formidable struggle to influence national politics and policies. The nature of metropolitanization in nation-states and the emergence of a ‘metropolitan citizenship’ are now being challenged by three main processes (Brenner, 2009; Herrschel & Newman, 2017; Jonas & Wilson, 2018):

- A growing urban/metropolitan awareness and assertiveness in pursuing self-interests.
- An awakening of more explicit city-regional identities defined around particular characteristics, especially where distinct historical and/or cultural identities (nationhood) exist – thus, a push to define and pursue self-interest more explicitly within an existing nation-state and prominently beyond it, promoting full membership in the EU to be recognized as autonomous political players.
- A new metropolitanized regional identity, a ‘metropolitan citizenship’ based on a combination of the above two processes – in such cases, the metropolitan and (small) stateless national imaginations, discourses and political agendas may overlap, intertwine and even fuse into an imagination of nationhood through the metropolitan lens in terms of identity and perceptions of belonging.

Under the surface of a discursive homogeneity of democratic representation in nation-states, deep divides are revealed, such as that between the ‘metropolitan’ and the ‘rest’ (Becker, Fetzer, & Novy, 2016). These divides not only are the outcome of unevenness in perceived opportunities and a stake in political decisions about state development directions but also they shape those very divisions and borders. In one form or another, three dynamics push for greater representation of these differences at the nation-state level (Calzada, 2017): (1) socioeconomics driven by a ‘metropolitan citizenship’ (geo-economics); (2) devolution claims and a sense of belonging to a nation through a ‘liquid citizenship’ (geopolitics); and (3) democratic representation and the right to decide through the exercise of referenda by ‘stateless citizenship’ (geodemocratics). Such dynamics may lead to perceived underrepresentation or even voicelessness – the condition of ‘stateless citizens’. Hence, one might question whether the term and notion of ‘nation-state’ in this combination is still appropriate or even useful (Grant, 2018). This is especially true when considering (1) the pervasive rescaling of nation-states and the self-perception of a ‘stateless citizenship’ among some citizens; (2) the increasing European and global mobility patterns of ‘liquid citizenship’; (3) the emergence of a ‘metropolitan citizenship’ phenomenon emphasizing city-regional dynamics confronting the nation-state; and (4) potential ‘algorithmic citizenship’ that stems from existing geotechnological experimental governance systems based on direct

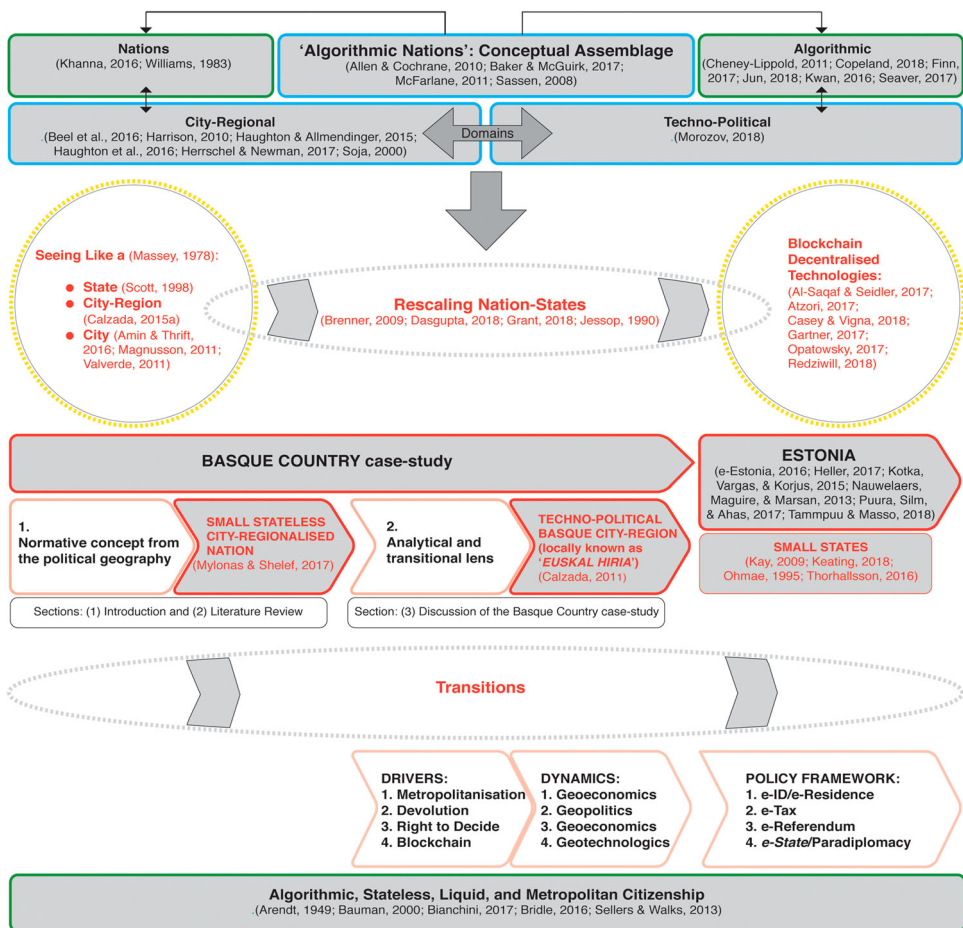
democracy through a blockchain infrastructure, giving citizens control of their data and their techno-political rights in European cities (Barcelona Initiative for Technological Sovereignty (BITS), 2016; Coletta, Heaphy, Perng, & Waller, 2017).

Are the 19th-century analogic categories of the nation-building processes and the freedom of people (however contradictory) still valid and applicable in the 21st century characterized by a liquid, metropolitan, stateless and potentially algorithmic citizenship (Bianchini, 2017)? Ultimately, we must ask whether the metropolitanization trend and the evolution of the nation-state are an inspiring (and inevitable) source of rescaling and reconfiguration through the impact of globalization on nationhood and statehood under transformation. Small stateless city-regionalized nations – Basque Country, Catalonia and Scotland – are catalysts of these self-determination phenomena. However, it remains to be seen whether the transitional, city-regional and techno-political phases require the fulfilment of their own independent state or if there is room for another type of experimental pathway, such as algorithmic nations, under the EU umbrella as long as citizens' geodemocratic rights are ensured.

By examining the aftermath of Scottish independence and the UK's continued membership in the EU (Brexit) as well as the political struggle in Catalonia and the resulting territorial crisis in Spain, we can determine how (1) the metropolitanization trend, (2) devolution claims and (3) the right-to-decide discussions have triggered wider debates on citizenship, changing patterns in geographies, political and democratic governance challenges, and more generally the organization and legitimation of nation-state power institutionally and territorially as well as politically and democratically (Calzada, 2014; Jessop, 1990; Rodon & Guinjoan, 2018). By contrast, current transitions towards algorithmic discoveries embodied in e-state blockchain government cases, particularly in the small state of Estonia, might open up new research pathways for small stateless city-regionalized nations such as the Basque Country (Heller, 2017; Tammpuu & Masso, 2018). Thus, this paper explores how small stateless city-regionalized nations such as the Basque Country could reimagine and rethink their city-regional nationhood strategy by considering the potential techno-political infrastructure based on blockchains developed by Estonia. Such an approach may provide an extensive algorithmic instrumentarium, thereby enhancing the current fiscal devolution scheme, reinforcing home rule and articulating future aspirations with reference to Spain (and France) and the EU. This paper defines algorithmic nations as follows: (1) a non-deterministic city-regional and techno-political conceptual assemblage (2) for a transitional strategic pathway (3) towards the nation-state rescaling (4) through three drivers – metropolitanization, devolution and the right to decide.

Intertwined citizenship forms – algorithmic, liquid, metropolitan and stateless – are significant not only because they are novel, dynamic and real-time representations within nation-states or because they can provide governance advancements through blockchain technologies, but also because they are constantly in flux and rescaling nation-states. Citizenship has combined the right of soil (*jus soli*), the right of blood (*jus sanguinis*) and now the right of the algorithm (*jus algoritmi*) (Finn, 2017). Will techno-political disruption offer transitional alternatives for citizenship? Nation-states have never been a sufficient container of identity. However, our technology has caught up with our situation, illuminating the many and varied failures of historical models of citizenship to account for myriad ways in which people live, behave, belong, connect with others and travel around the planet's surface (Bridle, 2016).

The paper is structured as follows. In the following section, a literature review structured in three subsections will disentangle the term 'algorithmic nations'. A city-regional and techno-political conceptual assemblage will be presented and applied in the third section to the case study of the Basque Country. The paper methodologically frames the case study of the Basque Country in two complementary ways, referring to (1) a 'small stateless city-regionalized nation' (a normative concept from the political geography perspective) and (2) the 'techno-political Basque city-region' (an analytical and transitional lens, known locally as 'Euskal Hiria') (Calvo, 2015;



**Figure 1.** Seeing like a city-regional and techno-political conceptual assemblage: 'algorithmic nations'.

Calzada, 2011; Larrea, 2012) (Figure 1). Insofar as the fuzzy city-regional level is altering or rescaling – not eroding – the Westphalian order of nation-states beyond the notions of plurinationality and claims for secession or independence, the third section will shed a light on three drivers of transition (metropolitanization, devolution and the right to decide) and three stand-points that influence the current momentum in the EU. Ultimately, the paper concludes with a decalogue of how the term 'algorithmic nations' can inspire potential geotechnological governance schemes of small stateless city-regionalized nations in the EU (Jun, 2018; Matias, 2017; Pentland, 2015).

## LITERATURE REVIEW: SEEING LIKE A CITY-REGIONAL AND TECHNO-POLITICAL CONCEPTUAL ASSEMBLAGE

A broad literature on regional studies, international relations and comparative political sciences has separately studied how the rescaling of nation-states has effectively formed new small states. Yet despite that, small stateless city-regionalized nations – at least in Europe, such as Scotland, Catalonia and the Basque Country, with different intensities, procedures and socio-political contexts – are increasingly pushing the devolution agenda in the EU (Brenner, 2009; Calzada,



2018a; Thorhallsson, 2016). These small stateless city-regionalized nations are spatially bounded Westphalian order and seem to be pervasive and increasingly reconfigured through techno-politically mediated liquid citizenship in some city-regions. In the global political arena driven by the extractive algorithmic kind of governance, big data companies such as Google and Facebook have already assumed many functions previously associated with the nation-state, from cartography to the surveillance of citizens, which deterritorialized liquid citizenship. While liquid citizens remain highly distributed in a global network of networks, the data they produce are concentrated in the hands of a few companies. In this global context characterized by the newly released General Data Protection Regulation (GDPR), some small states are using (and small stateless city-regionalized nations are claiming) their 'data and technological sovereignty' by employing infrastructures such as blockchain that may require a new interpretation from the regional science perspective (BITS, 2016; Miscione, Ziolkowski, Zavolokina, & Schwabe, 2018; Radziwill, 2018). Given the new pathway by which small states (such as the former Soviet Republic of Estonia) have taken the lead in the EU and worldwide (Kotka, Vargas, & Korjus, 2015; Puura, Silm, & Ahas, 2017; Tammppuu & Masso, 2018), this paper explores the extent to which small stateless city-regionalized nations may follow this techno-political pathway. The Basque Country – empowered by its existing devolved and subnational institutional apparatus and acting as a quasi-state resulting from multilevel governance instrumentarium – is a perfect example of such a small stateless city-regionalized nation. Regardless of its statelessness – insofar as devolution, metropolitanization and the right to decide are the main three city-regional drivers (Table 1) currently triggering a redefinition of what nation could mean in a stateless city-region – this exploration depicts strategic political manoeuvres by modifying EU interplay in the coming years once political violence has ended after years of unrest. In light of this paper, the term 'algorithmic nations' may invite an abstract notion of nation (Williams, 1983, p. 81) in the current complex context characterized by an almost invisible but path-dependent algorithmic era for its liquid citizens (Brauneis & Goodman, 2018; Coletta & Kitchin, 2017; Kwan, 2016).

In a world that increasingly operates online, geography and physical infrastructure remain crucial to control and manage borders through undersea fibre-optic cables that trace liquid (legal or 'illegal') citizens. According to the World Bank, approximately 1.1 billion 'illegal' citizens do not have official recognized documents to prove their identities (Desai, 2017). A scattered geography brings a different reality into focus, one in which political decisions and national laws transform physical space into virtual territory. However, this virtual and analogic merger does not occur automatically and has even less respect for fixed territorial borders. City-regional spaces blend with techno-political infrastructures and algorithmic protocols by modifying the established notion of 'nationhood'. Economies are more integrated, populations are more mobile, and the cyber- or techno-political domain is merging with physical reality or the city-regional domain. Figure 1 shows this conceptual assemblage examined in the literature review.

### The city-regional domain: seeing like a city-region

Within geography, there have been a series of parallel debates and discussions regarding how city-regions are theorized. Massey (1978) began to question how regions are now comprehended within contemporary geography, though without using the language of current geographical debates. These discussions have wrestled with conceptualizing the bounded or unbounded socially constructed spatiality of the city-region (Beel, Jones, & Jones, 2016; Haughton, Deas, Hincks, & Ward, 2016). The debates have real significance for positioning the city-region, especially for the way we epistemologically and ontologically place it in reference to nation-states. This involves two broad approaches to conceptualizing city-regions: territorially or relationally. Both allow the city-region to move forward to think through the fuzziness of territory with

the rigidity of the nation-state while considering the spatiality of flow, porosity and connectivity of a city-region.

'City-region' has increasingly become a buzzword in debates on urban and regional development, especially in debates about competitiveness and globalization processes. But what is a city-region? How is it managed and governed, and what is its role in a state structure? Such questions have become increasingly more urgent in the wake of the general resurgence of the 'region' after the demise of its use during the 1980s in favour of 'locality' (Neuman & Zonneveld, 2018). City-region, by its very terminology, means a combination of city-regional qualities both in functional and institutional-governmental terms.

Despite ambiguity regarding the term 'city-region', which could be localized in different European and global territories, it has become a hotly debated topic in urban and regional studies (Tewdwr-Jones & McNeill, 2000). Notwithstanding the centrality of city-regions to modern-day accounts of economic success (Scott, Agnew, Soja, & Storper, 2001, p. 289), this paper reinforces what other authors have advocated (Haughton et al., 2016; Haughton & Allmendinger, 2015): new city-regionalism overlooked how city-regions are constructed techno-politically – even more pervasively, algorithmically – beyond the state-centric standpoint and nation-state Westphalian order's borders (Keating, 2018). Thus, this paper provides the following working definition for the city-region:

- City-regions are widely recognized as pivotal societal and techno-politic-economic formations that (1) are key to national and international competitiveness and (2) rebalance political restructuring processes into nation-states, even changing their geoeconomic, geopolitical, geodemocratic and geotechnologic dynamics beyond and between them (Jonas & Ward, 2007; Ohmae, 1995; Wills, 2018).

Hence, city-regions are neither static territorial entities nor isolated geographical areas inside (pluri)nation(al) states (Harrison, 2010; Paasi & Metzger, 2017). In an attempt to expand the scope of the subject and the focus of this analysis, Soja (2000) stated that "the city-region is not just an expression of globalization but also represents a more fundamental change in the urbanization process. This change arises from the regionalization of the modern metropolis and involves a shift from the typically monocentric dualism of the dense city and sprawling low-density suburbanization to a policentric network of urban agglomerations of relatively high densities throughout the urbanized region." As such, the case presented in the following section fits this pattern. Likewise, Jessop's (1990) notion of the (nation-)state can be complemented in the reference to a techno-political Basque city-regional configuration by a more contemporary dynamic interpretation of how metropolitanization is inevitably forcing pervasive rescaling processes within the Westphalian nation-states' current order.

"According to Scott (1998), to 'see like a state' means viewing the spatiality of politics through the territoriality of sovereignty. A world constituted of cohesive territories with claims to internal sovereignty emerges in which subjects are beholden to the authority of a final arbiter – usually the nation-state – and disciplined by the arts of spatial governmentality. In contrast, several prominent scholarly interventions argue that 'seeing like a city' opens a plethora of diverse political and socio-spatial possibilities that themselves undermine appeals to territorial authority (Valverde, 2011). For Magnusson (2011), 'seeing like a city' presents a political world characterized by multiplicity, the presence of diverse knowledge and a decentred web of politics 'in becoming'. Amin and Thrift (2016) 'see like a city' as presenting the urban environment as a vital, messy, machine-like infrastructural space. The city appears as a living thing built from the agency of numerous human and non-human actors that actively power urban life.

The territoriality and relationality of city-regions, however, defy the simple machine-like transfer of either the spatial or the ontological politics proscribed by seeing 'like a state' or 'like



a city' (Jones & MacLeod, 2004; Paasi & Metzger, 2017). Alternative techniques of spatialization and techno-political modalities are required to find coherence within the 'fuzziness' of regional space. This is true even in present times when the algorithmic revolution is altering the policy frameworks that affect digital and liquid citizens' daily lives by adopting new forms of real-time technological sovereignty (BITS, 2016). Significantly, the ability to produce and claim city-regional space is uneven and unequal. City-regions are experienced over variegated scalar frames and understood differently by diverse social groups, often in partial and fragmented ways (Jonas & Ward, 2007). As frames for techno-political activity, city-regions look and function very differently relative to from where they are viewed. This has distinct ramifications for understanding how real and existing city-regions are rendered visible, experienced and governed." Addie, 2017)

### The techno-political domain: seeing from the blockchain decentralized and borderless infrastructure

Gartner (2017) noted that, despite the novelty and experimental nature of blockchain, the increasing awareness by city-regional governments in the context of the GDPR release in May 2018 shows that this promising new techno-political paradigm has recently emerged – and been adopted by the EU, led by Estonia – as a technological decentralized and borderless infrastructure subject to provide 'unwritten' solutions. These solutions include (1) voting, (2) complex data records for virtual currency or cryptocurrency (such as Bitcoin), (3) connecting identities through 'Decentralized Autonomous Organizations' (DAOs) (Greenfield, 2017, p. 161) and (4) self-sovereign wallets through smart contracts. A brief prospective analysis suggests that the strength lies in the option to build a decentralized network; the weakness lies in the lack of skilful human capital; the opportunity lies in the reduction of systemic risks; and, ultimately, the threat lies in the hostility of nation-state political actors (Gartner, 2017, p. 7). Greenfield (2017, p. 157) clearly notes the political tension that could stem from the nation-state actors:

The blockchain and many of the concepts that orbit it may well have been devised and developed by a coterie of renegade libertarian thinks, who themselves held decentralization as a virtue and individual privacy as a matter of unswerving principle. They did so, however, in a world in which the nation-state and similarly scaled actors yet wielded substantial power and retained the means to protect the wellsprings of that power.

According to Jun (2018, p. 1), blockchain (invented by Nakamoto and Buterin) is a technology directly related to social organization, a consensus mechanism formed by the following principle: autonomous agents or DAOs (where the decision-making authority is diffused across such an organization via the use of multiple-signature technology, requiring a predetermined number of parties to sign before a course of action can be enacted). Blockchain seems to be a cutting-edge social and physical technology that simultaneously makes possible an immutable and tamper-proof system (Jun, 2018, p. 2). The domain of self-sovereign identity has been one of the most hyped in the realm of non-Bitcoin applications of distributed ledger technology (Bratton, 2017). As such, it is an aspect that directly affects the central term of this paper: algorithmic nations. Nonetheless, Al-Saqaf and Seidler (2017) clearly address eight potential pitfalls of blockchain: (1) individual autonomy limited length; (2) risks of re-centralization from the nation-states; (3) central government resistance; (4) equality in design, divides in practice; (5) unequal access worldwide; (6) trust in code and coders; (7) transparency, accountability, and the limits of anonymity; and (8) new efficiencies and risks of fragmentation.

Admittedly, the applications of blockchain technology are numerous because they allow disintermediation in ways that can potentially empower people in trade, expression, democratic participation, social interaction and financial freedom (Al-Saqaf & Seidler, 2017). All these

functionalities assist small states (proven by Estonia and they might assist small stateless city-regionalized nations such the Basque Country) in data-rich services in highly concentrated metropolitan areas through e-residence platforms, fiscal devolution schemes and direct democracy, as will be shown in the next section (Opatowsky, 2017; *The Verge*, 2018).

Nonetheless, the main principle of the techno-political domain amidst technologies such as blockchain involves explicitly improving access to the authority's data, respecting privacy, and evaluating the ethical and political risks of smart cities and large databases by establishing a code of ethical technological practices that includes legal compliance with data protection regulations and defining a data strategy that benefits citizens (Morozov, 2018). Therefore, an algorithmic society is a society wherein the coercive force of algorithms is generalized in society as a whole for its citizens (Jun, 2018, p. 5). In human history, three trust techno-political machines can be identified: (1) the reputation system linked to social networks and social capital; (2) the nation-state (including government and bureaucracy); and now (3) blockchain technology, which ensures trust among anonymous citizens by creating a true peer-to-peer society. Thus, this new disruptive algorithmic paradigm might techno-politically mediate different city-regional challenges by avoiding a static and analogic articulation of the 'nation'.

In 1991, Estonia restored its independence as a sovereign small state, defeating the Soviet Union (Kotka et al., 2015; Nauwelaers, Maguire, & Marsan, 2013; Puura et al., 2017). In 2000, the government declared internet access to be a human right. In 2014, it became the first country to offer electronic residency to people from outside the country, moving towards the idea of a country without borders. e-Estonia (2016) refers to a movement by the government of Estonia based on blockchain technology to facilitate citizen interactions with the state through the use of electronic solutions (Table 1): e-Voting, e-Tax board, e-Business, e-Banking, e-Ticket, e-School, University via internet and the e-Governance academy. Undoubtedly, Estonia has been the leader in the use of blockchain technology to issue e-ID for identity verification for its citizens, electronic voting systems and digital currency.

According to Bridle (2016), "ironically, Estonia has one of the largest stateless populations in Europe. In common with its Baltic neighbours, a significant proportion of the population is effectively stateless due to naturalization laws passed after the fall of the Soviet Union (Bianchini, 2017, p. 213). These laws required members of ethnic groups from Russia or elsewhere in the Soviet Union to reapply for citizenship in the newly independent republics. For reasons of politics, bureaucracy, history, family or any number of other causes, many failed to apply or pass, resulting in thousands of 'non-citizens' who are still subject to restricted democratic rights, limits on movement and multiple forms of discrimination. It remains to be seen whether technological innovations (such as e-residency) will benefit those with the most to gain from reengineered systems of citizenship or, like so many other digital products, merely augment the agency of those who already have first-class passports, first-class access to information and first-class opportunities that flow from these privileges."

This comparative case of the small state of Estonia could be applied to the transformational settings of the current nation-states being fragmented in several city-regions through devolution and driven by metropolitanization (Khanna, 2016). Devolution brings us much closer to the optimal scale of city-regions than suggested by our present political and post-Westphalian order map. Devolution should be understood in binary-interdependent terms as a devolution-aggregation through para-diplomatic activities. In fact, there are already small states (e.g., Estonia, Singapore, Switzerland and the United Arab Emirates) and small stateless city-regionalized nations (e.g., the Basque Country, Catalonia, Scotland, Quebec and Flanders) that, despite their small populations and size, thrive in and innovate at the top of the algorithmic curve due to their civic inclusiveness, good governance and (para)diplomatic connections worldwide.

We could therefore argue that the techno-political domain is constantly emerging by forming a new layer with geographies. How does this layer or domain overlap and fuse with the city-

regional domain (Cheney-Lippold, 2011)? How can city-regions without national-state sovereignty implement policies that transform bureaucratic national-states' structures towards more decentralized/devolved institutional infrastructures? What is the role of blockchain through a consensus algorithm with human intervention for current trends such as metropolitanization (fostering polycentric networked administrations), devolution (establishing data literacy and transparency of fiscal/tax policy regimes), and, ultimately, the right to decide (direct democracy voting systems by avoiding post-truth and fake news) (Jun, 2018, p. 1) (Table 1)? The emergence of blockchain technology will change the roles of the nation-state and governments that have functioned as trust machines until now and, with them, the bureaucracy's mode of operation (Atzori, 2017; Jun, 2018, p. 8). Blockchain technology promises to be a great tool for social innovation, not only for the enhancement of government effectiveness but also for society from the accomplishments of grassroots innovation. The e-state of Estonia consists of a triad made up of the e-ID, the e-residence (more than 27,000 citizens from 143 countries have applied, and 4272 companies have been established since 2015), and para-diplomacy (Figure 1).

### Algorithmic nations: the conceptual assemblage

Algorithmic nations is presented as a conceptual assemblage, blending techno-political and city-regional imaginaries, infrastructures and agencies. An assemblage is not just a mixture of heterogeneous elements. The notion of the 'assemblage' has long been established by Allen and Cochrane (2010), Baker and McGuirk (2017), Brenner, Madden, and Wachsmuth (2011), McFarlane (2011) and Sassen (2008), among others. McFarlane (2011, p. 228) argues that the concept of assemblage can illuminate some neglected intricacies of urban spatiality. Assemblage emphasizes the different processes that historically produce nation-state rescaling and the possibilities for those conditions for devolution to be reimagined and reimplemented.

Very little has been explored with regard to the mediation of what the algorithmic disruption may mean for city-regional politics and its internal nation-building processes in terms of nation-states being assembled and reassembled by different actors who jostle one another to gain advantage. Sassen (2008, p. 63) sees 'global civil society' assemblages between the binary national and global while overlooking the emergent city-regional techno-political manifestations by stateless and liquid citizens supplied with decentralized access, interconnectivity and simultaneity of transactions demanding direct representation in international fora, even bypassing national-state authority. This is a longstanding cause that has been significantly enabled by global electronic decentralized networking and increasingly filtered through blockchain ledgers. The concept of algorithmic nations points to the emergence of a particular type of territoriality in the context of imbrications of digital and non-digital conditions, the fusing of the 'algorithmic' with the 'national' (seen from a metropolitan rather than an ethnic standpoint).

City-regional institutional assemblages, rather than a series of regional institutions that are territorially fixed in some way (Allen & Cochrane, 2010), are increasingly mediated by techno-political imperatives of data literacy and privacy that clearly affect the citizenship status of stateless citizens and a loss of legitimacy of national citizenship (Sassen, 2008). In the case of the Basque Autonomous Community (BAC), one of the administrative entities of the Basque Country, a permanent renegotiation with Spain's central government about self-government driven by home rule has taken place since 1978 and is characterized by fiscal devolution interplay (Uriarte, 2015). This suggests that city-regional political demands may articulate devolution data and citizens' digital and political rights under another governance scheme.

In the next section, the algorithmic nations conceptual assemblage will be examined through the case of the Basque Country by speculating that it may affect (1) the understanding of its ongoing nation-building process; and (2) the need (or not) to set up a new state in the EU. Could the algorithmic nations be the new city-regional and techno-political assemblage that can bring together a global citizenship from the nexus of territory-authority-rights (Sassen,

2008)? Furthermore, algorithmic nations emerges amidst the reworked geography of nation-state power through a diverse set of city-regions where different techno-political data, bits and pieces of their liquid and metropolitan citizens evolve as a geographical assemblage of decentralized authority, continually negotiated and renegotiated within the nation-state and through supranational multi-governance instrumentarium.

## DISCUSSION OF THE BASQUE COUNTRY CASE STUDY: THE TECHNO-POLITICAL BASQUE CITY-REGION AS AN ANALYTICAL AND TRANSITIONAL LENS ('EUSKAL HIRIA')<sup>1</sup>

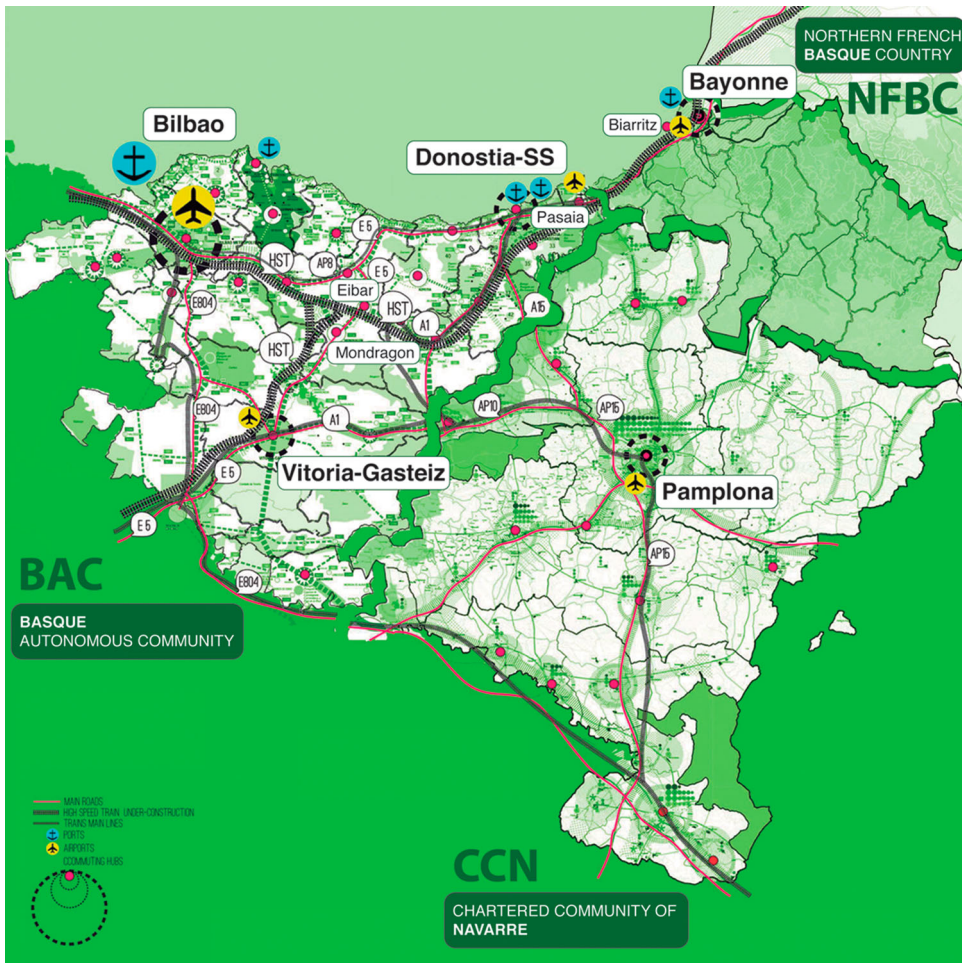
From the historical path-dependency perspective, following General Francisco Franco's death in 1975, Spain entered a period of transition to democracy that entailed an open-ended process of asymmetric fiscal devolution. It is through this process that the south of the techno-political Basque city-region, encompassing two administrative entities within Spain – the BAC and the Chartered Community of Navarra (CCN) – acquired their Statutes of Autonomy. These statutes included a provision ensuring the protection and safeguarding of the historical rights of the so-called 'Statutory Territories'. The updated Basque Statutory structure establishes (with regard to the BAC) a quasi-co-federal multilevel government system based on two pillars. The first is the territorial representation system outlined in the Law of the Historic Territories (LHT), enshrining the political autonomy of the BAC's three historic territories of Araba, Bizkaia and Gipuzkoa, which also applies to Navarre (CCN) as a historic territory. The second keystone of the system is the 'Economic Agreement' (Convenio/Concierto Económico) that established the fiscal devolution pattern for the relationship between the Spanish and Basque systems of public finance (Uriarte, 2015). This agreement made the BAC and CCN the only regions in Europe to have their own public finance system without being sovereign states. The north techno-political Basque city-region encompasses the Northern French Basque Country (NFBC) in France, which recently acquired a municipal-driven, bottom-up commonwealth structure to coordinate policy.

This paper defines the techno-political Basque city-region simply as 'Euskal Hiria', the fuzzy, locally used term to systematize the complex fragmentation of a city-regional assemblage. Despite the diverse set of analogies used to describe Euskal Hiria, as extensively stated in previous research by the author (Calzada, 2011, 2015a), this paper analyzes the highly metropolitanized (Figure 3), complex, fragmented and extensive political geography of Euskal Hiria (Figure 2). Furthermore, given the conflictual social relations that emerged from the traumatic context and side effects of political violence during this historic episode, territorial narratives and political rhetoric have been extremely influenced by emotionally charged and socio-politically combative landscapes. Euskal Hiria can be described as being in opposition to or as an extension of the Spanish and French states, a choice that affects not only its interpretation but also its political game that stems from rational, antagonistic or even imagined territorial dialectics.

Notwithstanding the dramatic historical path, in a new context that could be called the 'Basque political era of post-violence', Basques increasingly embrace social capital as far as bridging simulative actions to re-establish a social moral fabric that had been gradually damaged. This momentum encourages the coexistence of diverse (and often antagonistic) political strategies from two extremes: recentralization and independence.

In the past, some maximalist and analogic interpretations of the potential evolution of state-building as a collective action through remedial, unilateral and formal secession have been presented as the norm, a fact that needs reinterpretation in the light of the recent chaotic outcome in Catalonia. In contrast, current city-regional transitions worldwide, opposing the global threat of algorithmic monopolies, are claiming self-determination and the independence of cyberspace (Barlow, 2014). This may suggest that city-regions could rethink their nationhood, their nation-



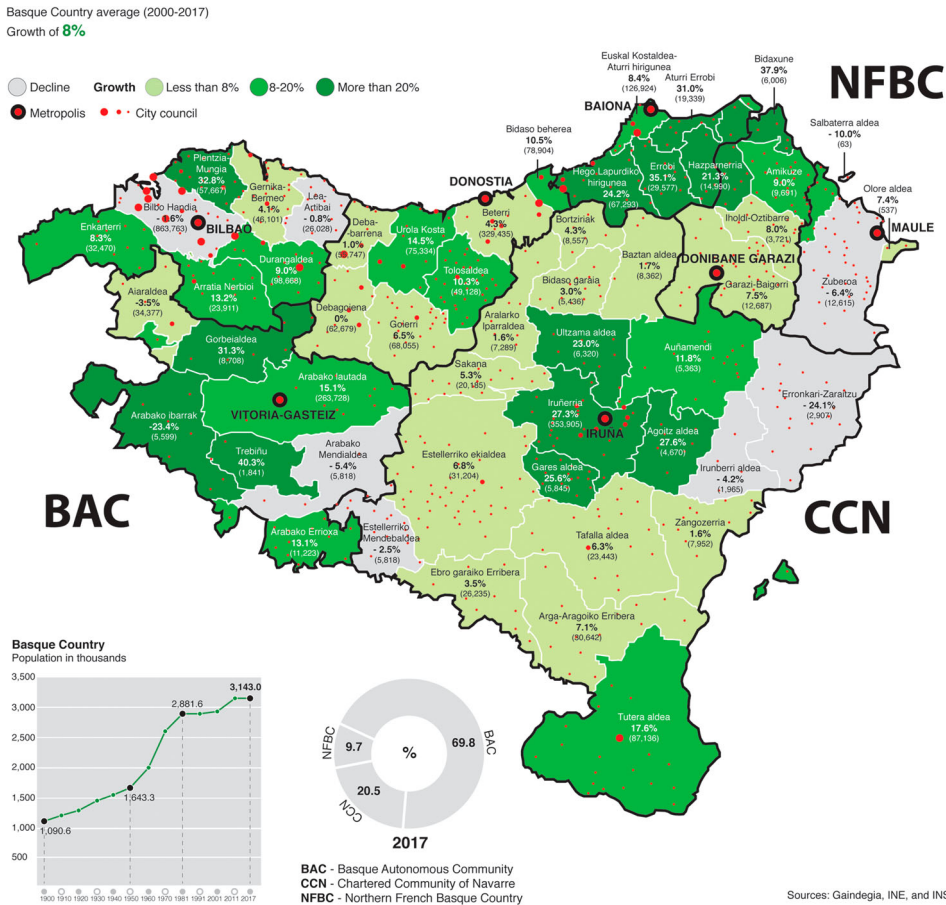


**Figure 2.** Techno-political Basque city-region or 'Euskal Hiria' map: three administrative divided entities: Basque Autonomous Community (BAC), Chartered Community of Navarra (CCN) and Northern French Basque Country (NFBC) (Calzada, 2015a).

Source: [www.cityregions.org](http://www.cityregions.org).

building processes and their (para)diplomacy given an interdependent connectography throughout the algorithmic disruption consisting of AI, computational thinking, social physics, social machines, data labs, blockchain technologies and data commons. The consequences of these new artefacts are the reflection upon claims for technological sovereignty rooted in the city-regional locus that have direct consequences beyond the Westphalian order of nation-states for (1) liquid and digital citizenship and migration schemes, (2) a debate on changing city-regional geographies and (3) democratic and political governance challenges in data-driven and hyperconnected societies.

Previous analyses of Euskal Hiria did not consider this networked configuration and, even less, the asymmetric composition of the city-region divided into three separated administrative entities (two in Spain and one in France; Figure 2), which is closely connected to the techno-political blockchain governance imaginary likely to stem from cooperation among the three separated and cross-border Basque administrations with a certain degree of devolution from their referential nation-state (Calvo, 2015; Larrea, 2012). Similar cases have been broadly researched



**Figure 3.** Metropolitanization trend in the techno-political Basque city-region or ‘Euskal Hiria’: evolution of the population, 2000–2017.

Sources: Social and Economic Observatory of the Basque Country (Gaindegia), Instituto Nacional de Estadística (INE) and Institut National de la Statistique et des Études Économiques (INSEE).

in Europe, such as the cross-border cases of the former Oresund and the latter Greater Copenhagen, connecting Malmö and Copenhagen (Calzada, 2015b). This paper includes Estonia, connecting Tallinn and Helsinki (Heller, 2017; Nauwelaers et al., 2013) (Table 1). Both cases have implemented cross-border common policy frameworks by exploring notions related to algorithmic and liquid citizenship. This suggests an interesting point of comparison with Euskal Hiria, which mutually shares the cross-border nature and goal of connecting citizens through blockchain technologies in several policies (such as migration, transport, currency, tax revenue, direct democracy and labour policy) even beyond two nation-states in Europe. This trend shows the vital importance of big data regarding not only the direct effect on digital citizenship but also in the new state configurations ruled by algorithms that may challenge our understanding of a nation and how this techno-political interpretation could shape (and foster) future self-determination claims in experimenting societies (Guibernau, Rocher, & Adam, 2014; Matias, 2017; Schou & Hjelholt, 2018).

Hence, Euskal Hiria in Europe can be defined as an assemblage for spatial articulation that blurs the traditional borders between city and territory (countryside) in favour of new and timely, internally articulated and externally connected, more complex spaces that can connect with future



devolutionist aspirations within the EU (Table 1). This relatively small territory affords a well-articulated urban system led by three attractive and dynamic cities in the BAC with complementary profiles in addition to the metropolitan hubs in the CCN (Pamplona-Iruñea) and in the NFBC (Bayonne–Anglet–Biarritz conurbation; Eusko Jaurlaritza, 2012, 2018). Over the last years, a remarkable aspect has been overcoming sterile competition and instead working towards reinforcing the complementarity among Bilbao, San Sebastián and Vitoria-Gasteiz, including Pamplona-Iruñea and Bayonne, drawing on the territorial cohesion that provides strength. Different interpretations – from a more institutional competitiveness-driven orientation (Vegara & De las Rivas, 2009) to the more dystopic, pessimistic and critical perspectives (Calvo, 2015; Larrea, 2012) – demonstrate the lack of a common city-regional frame that would allow a deeper analysis of the socially innovative processes, with direct implications for the techno-political realm by its actors (Calzada, 2011). Before addressing three different standpoints as this paper's contribution to the debate, two main trends based on three drivers of transition are needed to frame the conceptual assemblage of algorithmic nations (Table 1):

- In the broader context of globalization, a new political pattern of regionalism characterized by devolution and self-determination claims expressed and embodied via geodemocratic practices such as the right to decide has been consistent since Franco's dictatorship (Cagiao y Conde & Ferraiuolo, 2016; Guibernau et al., 2014; Khanna, 2016). This is particularly true in Euskal Hiria, where the two 20th-century dictatorships (those of Primo de Rivera, 1923–1930; and Franco, 1936–1975) and the Spanish Civil War (1936–1939) are seen as direct consequences of the struggles over the liberalization of Spain and unsuccessful attempts to resolve intercultural and interregional tensions.
- Likewise, the driver of this transition in Euskal Hiria stems from metropolitanization insofar as a small stateless city-regionalized nation advocates for a new socially progressive political agenda based on multilevel governance around 'civic nationalism' in Europe. This appeals to universal values, such as freedom and equality, in contrast to 'ethnic nationalism', which is zero-sum, aggressive and draws on race or history to set the nation apart. Broader citizenship regimes – encompassing metropolitan, liquid, stateless and, ultimately, algorithmic citizenship – would need to be articulated through geotechnologic dynamics (potentially using blockchain) towards an e-state configuration (e.g., Estonia).

Against this backdrop, let us examine in more detail Euskal Hiria by suggesting three drivers and three standpoints of its transition towards algorithmic nations:

- *Metropolitanization*: The case of Euskal Hiria makes a claim for strengthening cosmopolitan identities, which in turn can shape the future of the Basque national project through metropolitanization. Urban areas can constitute unique and essential peace-building resources to transcend ethnic nationalist divides by establishing the seeds of a metropolitan citizenship. The city-regional and techno-political conceptual assemblage (Figure 1), separated into three administrative entities (Figure 2), shows a changing metropolitan trend in favour of a population concentration of the hinterland (Figure 3), particularly around the main capital cities and metropolitan hubs. This requires smart political views beyond the traditional understanding of the regional space. Moreover, sooner than later, the algorithmic disruption driven by blockchain technologies will alter the understanding of citizenship and thus the configuration of a new data-driven governance system, undoubtedly affecting political and territorial interdependencies.
- *Devolution*: A metropolitan-centric rescaling of national identity may take on specific forms in small, stateless, city-regionalized nations. Here, the scope for devolution adopts a greater focus on metropolitan push and bottom-up deliberations rather than state-

**Table 1.** Mapping out transitions in the Basque Country ('Euskal Hiria'): towards the 'algorithmic nations'?

1. Domains in transition				Policy (Bratton, 2017; Opatowsky, 2017)	
Seeing like a ...	2. Drivers of transition	3. Dynamics	4. Citizenships	5. Framework	6. Functionalities (e-Estonia, 2016)
1a. City-region (influenced by techno-politics)	2a. Metropolitanization (Brenner, 2009; Fricke & Gualini, 2017; Katz & Bradley, 2013)	3a. Geoeconomics	4a. Metropolitan	5a. e-ID/ e-Residence	6a1. Self-sovereign identity registered through a proof-of-authority model as an alternative to a nationalized identity 6a2. Citizens would benefit as smart citizens from the metropolitan assets and services provided
1b. Small stateless city-regionalized nation	2b. Devolution (Khanna, 2016)	3b. Geopolitics	4b. Liquid	5b. e-Tax	6b. Fiscal devolution: ubiquitous and transparent accountability
1c. Algorithmic nations?	2c. Right to decide (Cagiao y Conde & Ferraiuolo, 2016)	3c. Geodemocratics	4c. Stateless	5c. e-Referendum	6c. Direct democracy for holding decentralized referendums through the InterPlanetary File System (IPFS)
	2d. Blockchain (Al-Saqaf & Seidler, 2017; Jun, 2018)	3d. Geotechnologies	4d. Algorithmic	5d. e-State	6d. e-Governance; e-Tax; X-road; Digital ID; i-Voting; public safety; blockchain; e-Health; e-Residency; cyber security; data embassy and para-diplomacy; intelligent transportation; Reporting 3.0; cross-border data exchange; Healthcare 4.0; digital transformation in education; real-time economy; and Industry 4.0

orchestrated, territorially based fixity and hierarchical structures (Geller, Rucki, & Fisher, 2015). Khanna (2016, p. 79) argues that ‘devolution embodies local nationalisms in the short term, but itself brings about aggregation in the long term. ... Devolution-aggregation is how the world comes together by falling apart’.

- *The right to decide:* We have long believed that nation-states rely on the holding of physical territory. Blockchain may be the technical key to dividing nation-states into states within nations. The nation-state’s physical border (its territory) no longer coincides with the domain of its authority and the guarantee of citizens’ rights. What we soon might experience is a governance that occupies a territory within cyberspace with little national–metropolitan nexus identity of its constituents beyond the common language of shared computer code: algorithmic nations. Can the city-region (so far a stateless entity) self-organize as a new techno-politic assemblage by using decentralized blockchain technologies and empowering citizens, thus allowing it to respond to metropolitan challenges and strategic decisions beyond borders but without blurring them?

The current issues affecting regional studies will bump into a tsunami of data that will be operated by blockchain technologies – at least in the EU after the GDPR – to provide further devolved decision-making processes in which citizens will be the basic unit to decide and to establish the direction of new public policy. It may seem odd to imagine such a sci-fi implementation in Euskal Hiria given the separation of administrative entities. However, in 2018, more than 100 blockchain projects are being conducted in more than 40 countries around the world, and IBM has reported that nine in 10 regional governments worldwide will invest in blockchain projects as decentralized decision-making algorithmic governance processes (Jun, 2018). With the prospect of a digital revolution that will shift the understanding of a regional space by its citizens and governments, how will Euskal Hiria – with its networked, highly fragmented, decentralized, complex and confederal geopolitical sum of parts – evolve? This paper presents three standpoints on the debate about Euskal Hiria:

1. The assumption of the univocal meaning of Euskal Hiria as technocratic, neoliberal and institutionally driven seems to be rather biased, adding the same critique given to the buzzword ‘smart city’ (Calzada & Cobo, 2015). The sum of the parts of the three-sided structure – the BAC, CCN and NFBC (Figures 2 and 3) – responds to an evolving dynamic of interaction rather than to a fixed structure of isolated territories. Furthermore, the simplification of Euskal Hiria with the ‘Y’-shaped high-speed train large-scale project or the institutional brand flagged by the Euskal Hiria Congress, annually held since 2002 by the Basque regional government, cannot be taken seriously as the only self-articulative evidence (Eusko Jaurlaritza, 2012). By contrast, it can be argued that the complex regional policy interplay among many stakeholders internationally embarked upon in para-diplomatic activities (Figure 1) is an opportunity to enhance the policy framework and the functionalities developed (Table 1). It is true that the multilayered infrastructural and institutional links among the capitals of the BAC’s three provinces are different from each other, but Euskal Hiria cannot be solely understood as a large, homogeneous metropolitan area with the symbolic high-speed train as a flagship. The social innovation approach suggests that the city-region is being articulated worldwide by multiple stakeholders without relying on a single actor. With regard to a systemic and social constructivist approach, there is permanent interplay among multiple stakeholders, including the grassroots movements that permanently claim the right to decide, such as Gure Esku Dago (Geller et al., 2015), or the review of the ‘neoliberal’ spatial planning guidelines, such as Desazkundera (2018).
2. The given neoliberal ideological attachment of the Euskal Hiria project is taken for granted by some interpretations. It goes without saying that the competitiveness-driven

industry 4.0 strategy (based on the advanced manufacturing sector) in the context of the RIS3 Smart Specialisation Strategy in the EU has been hegemonized by the industrial policy of the BAC government. There are different concerns among different grassroots stakeholders, particularly regarding the economic viability of the high-speed train project (Desazkundera, 2018). However, it is presumptuous to link the Euskal Hiria brand and project with arguments about competitiveness and to associate them with a strong neoliberal agenda. The political economy of the current Euskal Hiria (through its regional innovation system, institutional thickness, cluster policy, information and knowledge, and financial and production of capitals) cannot be explained with fixed categories when new socio-political players are already modifying their strategies. Thus, Euskal Hiria can be seen as fitting into a spatially integrated EU dominated by nodes of key metropolitan areas and citizenship. Nonetheless, some authors emphasize an apparent ideological cleavage and contradiction between two confrontative city-regional projects: on one hand, the institutional project led by the BAC government and, on the other, the alternative project coming from the grassroots movements (Gure Esku Dago and Desazkundera). Despite the existence of two opposing versions, neither fits the nation-state ideal-type and cannot be easily identified as traditional, modern or post-modern because both are highly integrated into global symbolic and material networks and thus not practically confrontational at the local level. Hence, Euskal Hiria could reflect not only the priorities in the EU policy agenda in terms of the ongoing data-driven and algorithmic regulations but also the local specificities, agendas and conflicts resulting from the global integration of circuits of capital. In summary, Euskal Hiria is a city-regional, strategic, socio-territorial vision in transition to another political regional configuration within the unknown and unpredictable federal shape of the EU in its current post-Brexit momentum.

3. Techno-political city-region is a transitional and irreversible momentum in the rescaling process of nation-states. While the concept of belonging to the nation exists more on a meta-level (it is less formalized and has meanings open to negotiation among diverse ideological stakeholders), the techno-political city-region is a transitional and irreversible socio-territorial entity rescaling nation-states through drivers of transition (Table 1). Moreover, this difference in national politics and attitudes towards devolution (invigorated by the ongoing metropolitanization process) has resulted in diverse political responses to the tensions between territorial statehood and spaces of historical identity and future secessionist aspirations, such as the Basque case (through Euskal Hiria). Nonetheless, four potential strategic outcomes should be distinguished, none of which is deterministic in the transitional nature of Spain (or even France) as the nation-state: (1) status quo as a tension per se, (2) recentralization, (3) plurinational federalism as an asymmetric territorial de facto implementation and (4) devolution as a self-government or self-rule scheme by allowing an opt-in independence referendum. The transition from being a city-region through a small stateless city-regionalized national subject towards an algorithmic nation policy framework and functionalities seems as feasible as it is unpredictable (Figure 1 and Table 1).

## CONCLUSIONS: TOWARDS 'ALGORITHMIC NATIONS'?

The previous section leads us to consider diverse degrees of complexity in political regional scenarios in Europe. This increasing level of complexity is also altering the main way of building nations and the role of geotechnologies in these processes.

Perhaps people will be able to subscribe to the digital algorithmic nation that best benefits their lifestyle. Will an algorithmic nation be formed by government identities that could be

distributed in that way? What prevents liquid, stateless, metropolitan and, ultimately, algorithmic citizens from assuming the identity of their choice rather than the one with which they were born (Asgardia, 2018; FreeSociety, 2018)? Timely evidence – such as Estonia’s e-Residency, liquid civic nationalisms (Calzada, 2017), nation-state partitions in Europe (Bianchini, 2017), the Brexit vote, or the Scottish and Catalan uneven procedure to sort a referendum together – lead us to rethink how the technology we are building today shapes the future of decentralized geopolitics through blockchain as a present reality and a short-term promise. Are nations being built in a diverse algorithmic realm? How should we rethink the techno-political city-regions by blending geoeconomic, geopolitical, geodemocratic and geotechnologic dynamics driven by increasingly pervasive big data pushes worldwide (Table 1)? How can data science and AI enrich democratic and political decision-making processes? Which data transparency governance schemes should be foreseen given the complex territorial diversities worldwide? How will stakeholders in such diverse city-regions cope with predictive, anticipative and insightful provisions to their territorially changing trends, politically and democratically? Is the nation-building process already evolving towards a new paradigm called algorithmic nations?

In debates on regional studies, the interpretations of nations that have primarily stemmed from the fields of political science and international relations have been relatively absent and have been intrinsically replaced with further ‘objective’ categories such as city-regions. Given the current disruptive techno-political context that is questioned entirely by dynamic interpretation through city-regions, between nation-state rescaling and economic regional studies, this paper invites readers to rethink the delicate and entirely liquid category of *nation* through citizenships, necessarily including the predictive competences that are increasingly being developed by data science research blended with interrogations to better examine the changing nature of the regional world.

This paper concludes with an algorithmic nations research and policy agenda decalogue that, sooner than later, will be discussed in techno-political regional studies to interpret and intervene better in strategic pathways in city-regions:

1. A city-regional networked assemblage and systemic territorial understanding through the techno-politics of data.
2. Cohesive articulation of nations through city-regional intensive dynamics in e-states under supranational institutions such as the EU, understanding the e-state as a digital political infrastructure and architecture built through blockchain technologies.
3. Requirements for models of shared sovereignty and interdependence between city-regions and nation-states in federal supranational configurations such as the EU.
4. Data-driven city-regions and policy implications for citizens’ status in migration, residency, taxation, entrepreneurship, health, mobility, energy, voting etc.
5. Privacy, technological ownership and data commons claims in the establishment of a more human-centred algorithmic governance in cities and regions.
6. Ensuring accountable and transparent devolution schemes based on data literacy for citizens.
7. New bottom-up democratic mechanisms to conduct decentralized and networked decision-making and deliberation processes through blockchain and the InterPlanetary File System (IPFS).
8. Attention to the marginalizing power of big data in regional studies.
9. The practical implications of blockchain technology for local authorities and (smart) citizens.
10. Ultimately, a self-sovereign national-metropolitan nexus identity for a new pattern of liquid, metropolitan, stateless and algorithmic citizenship.

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## NOTE

<sup>1</sup> This section uses the local term ‘Euskal Hiria’ to refer to the techno-political Basque city-region. This is an analytical and transitional lens through which to examine the case study of the Basque Country. To present this case study, the paper has avoided using the term ‘Basque Country’ as it has been referred to previously as the small stateless city-regionalized nation (a normative concept from the political geography perspective). In sum, before the third section, the paper refers to the Basque Country as a ‘small stateless city-regionalized nation’ (a concept from the political geography perspective), and in the third section itself, the Basque Country case study is examined as the ‘techno-political Basque city-region’ (locally known as Euskal Hiria, which is translated from the Basque as ‘Basque City-Region’) (analytical and transitional lens) (Figure 1).

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