

University of the Basque Country

# Towards an Algorithmic Nation?

## Dilemmas Around Synthetic Citizenship in the Northern Ireland

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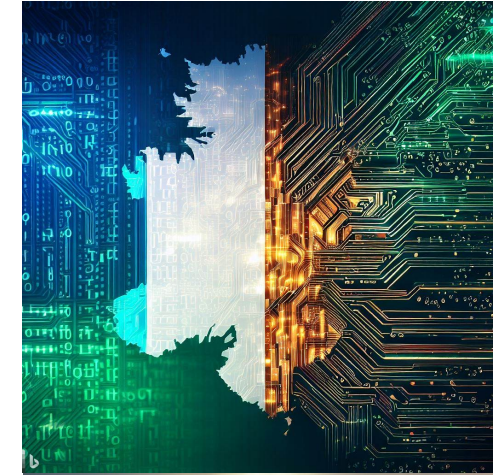
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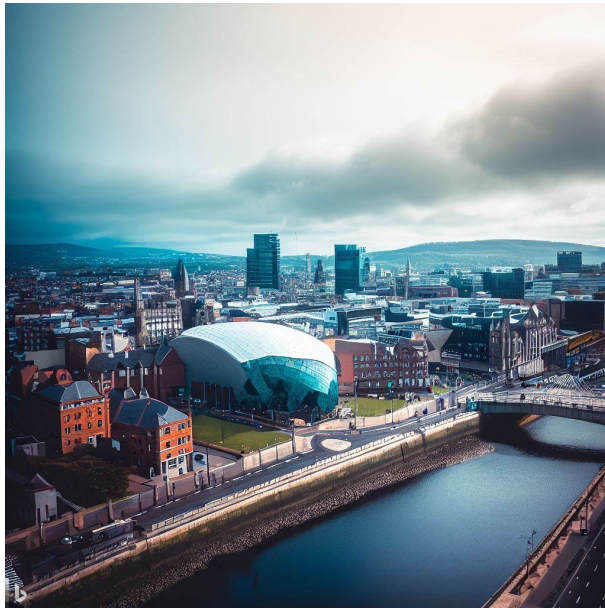
## Abstract

1. Northern Ireland (NI): fragile/disputed city-regional nation.
2. Despite NI's majority favouring EU membership, *de facto* Brexit, post-pandemic challenges, and the Northern Ireland Protocol (NIP) have unveiled a profound dilemma: individuals across political lines are questioning aspects of their citizenship.
3. Simultaneously, **AI-based applications** like ChatGPT and DAOs, alongside decentralized technologies such as blockchain ledgers and data co-operatives, are **reshaping the border space** between NI, Ireland, and the UK leading to a synthetic citizenship regime.
4. This regime signals a shifting relationship between citizenship, city-regionalised nation, and state sovereignty.
5. **Algorithmic mediation** pervades smart cities and digital platforms in data-driven urban environments.
6. This article suggests the **'Algorithmic Nations'** approach to articulate this synthetic citizenship regime, where **blockchain** technology may facilitate identity borders and devolution.





# Introduction



1. This article explores synthetic citizenship in NI using the 'Algorithmic Nations' (AN) framework, addressing
  1. [\(i\) cross-bordering,](#)
  2. [\(ii\) critical awareness,](#)
  3. [\(iii\) digital activism, and](#)
  4. [\(iv\) post-pandemic realities.](#)
2. The article concludes with a discussion of three dilemmas and how AN could integrate NI's synthetic citizenship.
3. This paper aims to spark debate to anticipate technopolitical challenges surrounding synthetic citizenship in NI, Ireland, the UK, and the EU.
4. It draws on a published articles, as follows:
  1. *Citizenship Studies*
  2. Special Issue, *Citizenship Studies*
  3. *Regional Studies Regional Science*



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# Algorithmic Nations: Research Programme

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## The dilemmas around digital citizenship in a post-Brexit and post-pandemic Northern Ireland: towards an algorithmic nation?

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### ABSTRACT

Northern Ireland (NI) has pervasively been a fragile and often disputed city-regional nation. Despite NI's slim majority in favour of remaining in the EU, *de facto* Brexit, post-pandemic challenges and the Northern Ireland Protocol (NIP) have revealed a dilemma: people of all political hues have started to question aspects of their own citizenship. Consequently, this article suggests an innovative approach called 'Algorithmic Nations' to better articulate its emerging/complex citizenship regimes for this divided and post-conflict society in which identity borders and devolution may be facilitated through blockchain technology. This article assesses implications of this dilemma for a city-regionalised nation enmeshed within the UK, Ireland and Europe. This article explores digital citizenship in NI by applying 'Algorithmic Nations' framework particularly relating to intertwined (i) cross-bordering, (ii) critical awareness, (iii) digital activism and (iv) post-pandemic realities and concludes with three dilemmas and how 'Algorithmic Nations' framing could better integrate NI's digital citizenship.

### ARTICLE HISTORY

Received 19 September 2021  
Accepted 3 December 2021

### KEYWORDS

Northern Ireland; digital citizenship; algorithmic nations; devolution; Brexit; COVID-19

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### Introduction

The uneven algorithmic advances across geopolitical boundaries experienced in the current technological epoch are profoundly changing how pandemic citizens connect, engage, discuss and explore their identities and realities (Bridle 2016; Calzada 2021a, 2020c). At the heart of this activity is a growing proliferation of investment and deployment of the so-called smart city framework, articulating artificial intelligence (AI) and programmatic machine learning towards harnessing elements of human experience in ways that reach further, faster and far beyond previous notions of media actions through private interests bypassing citizenship concerns (Calzada 2021b; Kim et al. 2018).

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# Algorithmic Nations: Research Programme

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OPEN ACCESS [Check for updates](#)

## '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 Herria' (Basque city-region in the Basque language). This paper questions whether the Basque Country could evolve by (i) 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.

### ARTICLE HISTORY

Received 24 February 2018; Accepted 31 July 2018

### KEYWORDS

algorithmic nations; Basque Country; blockchain; city-regions; devolution; rescaling nation-states; stateless citizenship; techno-politics

## 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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Calzada, I. (2018), Algorithmic Nations: Seeing Like a City-Regional and Techno-Political Conceptual Assemblage. *Regional Studies, Regional Science* 5(1): 267-289. DOI: 10.1080/21681376.2018.1507754.

SPACE AND POLITY  
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## How digital citizenship regimes are rescaling European nation-states

Igor Calzada

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### ABSTRACT

This provocation shows how five emerging digital citizenship regimes are rescaling European nation-states through a taxonomy: (i) the globalised/generalisable regime called *pandemic citizenship* that clarifies how post-COVID-19 datafication processes have amplified the emergence of four digital citizenship regimes in six city-regions; (ii) *algorithmic citizenship* (Tallinn); (iii) *liquid citizenship* (Barcelona/Amsterdam); (iv) *metropolitan citizenship* (Cardiff); and (v) *stateless citizenship* (Barcelona/Glasgow/Bilbao). I argue that this phenomenon should matter to us insofar as these emerging digital citizenship regimes have resulted in nation-state space rescaling, challenging its heretofore privileged position as the only natural platform for the monopoly of technopolitical and sensory power.

### ARTICLE HISTORY

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Accepted 26 April 2022

### KEYWORDS

Rescaling; nation-states; digital citizenship; datafication; COVID-19

## Rescaling European nation-states in postpandemic technological democracies

The flagship Big Tech firms of surveillance capitalism (Zuboff, 2019), such as Google and Facebook, have already assumed many functions previously associated with the nation-state, from cartography to citizen surveillance, which has deterritorialised, liquified, and *datafied* citizenship (Amoore, 2021, 2022; Aradau & Blanke, 2021; Calzada, 2020a, 2021a; Orgad & Baiböck, 2018) and thus posed the question around the need to better articulate postpandemic technological democracies in Europe (Calzada & Aheho, 2021; Goodman, 2022). At the same time, this pervasive process has resulted in nation-state space rescaling, undermining its heretofore privileged position, so far, the only natural platform and geographical expression for the monopoly of sensory power (Isin & Ruppert, 2020; Moisiso et al., 2020), and further creating technopolitical and city-regional

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Calzada, I. (2022), [How Digital Citizenship Regimes Are Rescaling European Nation-States, Space and Polity](#) 26(1), 44-52. DOI:10.1080/13562576.2022.2072197.

CITIZENSHIP STUDIES  
<https://doi.org/10.1080/13621025.2022.2147262>



INTRODUCTION

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## Data-Driven Citizenship Regimes in Contemporary Urban Scenarios: An Introduction

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### ABSTRACT

This Special Issue presents new perspectives on the idea of digital citizenship by delving into the nexus between its emerging concepts, the consequences of the global pandemic crisis, and the urban environment. It does so by addressing a wide range of case studies from three continents and developing two main hypotheses. First, the COVID-19 outbreak has expanded the impact of digital technologies on citizens' everyday life. Second, the urban realm is the environment where new citizenship regimes are emerging through platformization, datafication, and the rescaling of the state. To introduce the Special Issue, this article: (i) examines recent scholarship about the effects of the pandemic on digital citizenship; (ii) discusses and expands concepts of digital citizenship through case studies; and (iii) assesses how emerging forms of digital citizenship are fostered by uneven 'pandemic citizenship' regimes worldwide.

### ARTICLE HISTORY

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### KEYWORDS

Digital citizenship; pandemic citizenship; nation-state rescaling; datafication; platform urbanization; techno-politics; inequalities; urban citizenship

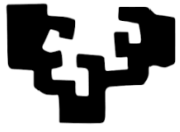
This Special Issue aims to rethink the concept of digital citizenship by connecting it to the increasing digitalization of the urban scenario as a corollary of the pandemic crisis. This aim is based on two leading assumptions. First, the COVID-19 outbreak has generally expanded the impact of digital technologies on our everyday life and experience as citizens. Second, the urban realm is the environment where new standards for digital development are set and deployed: it therefore provides the focus for exploring the evolution of digital citizenship. Based on these assumptions, the Special Issue delves into the manifestations and transformations of digital citizenship in a world shaped by processes of 'planetary urbanization' and rescaling of nation-states as well as by the new strategies and practices of digital governance fostered by the pandemic crisis.

Along the fault lines of citizenship that are manifested in the identities of religion, class, gender, and geographies, and on questions of techno-political and city-regional rights, this Special Issue opens up a debate on the growing digitization of our urban environment, citizenship and related implications of the global pandemic crisis. The

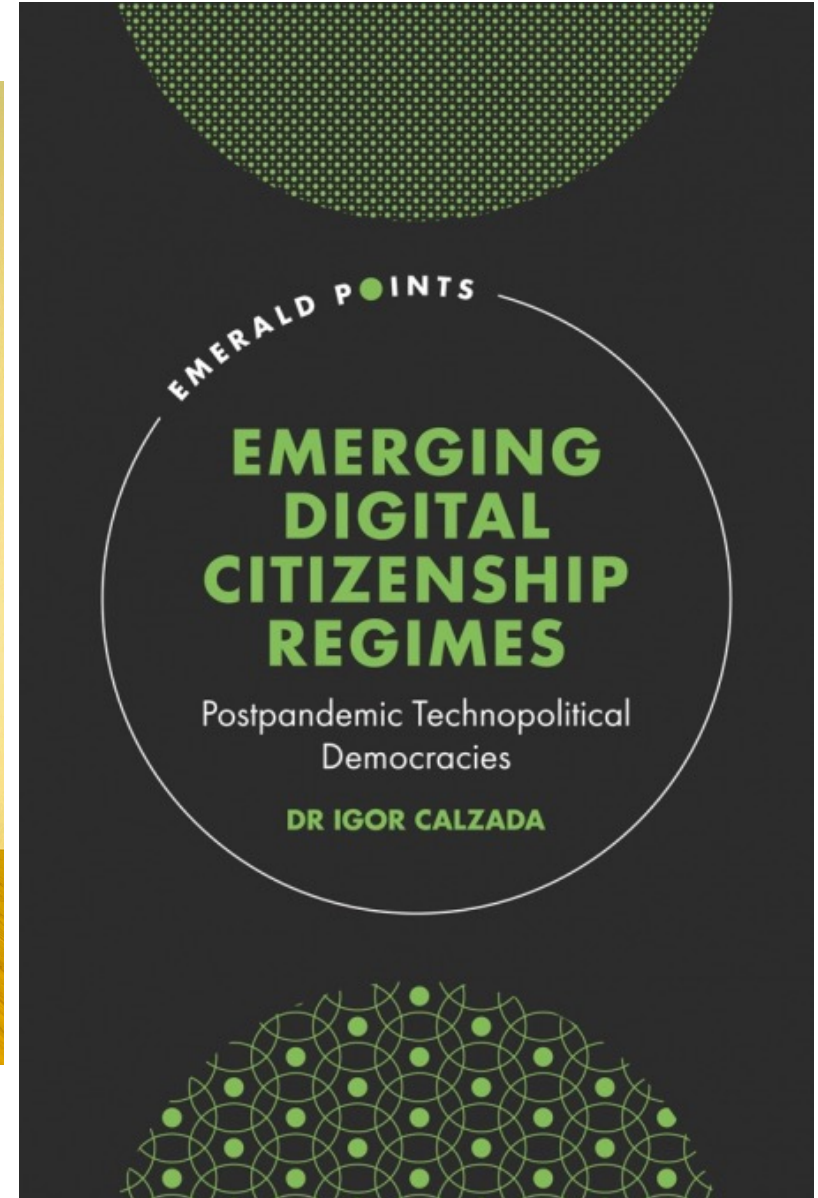
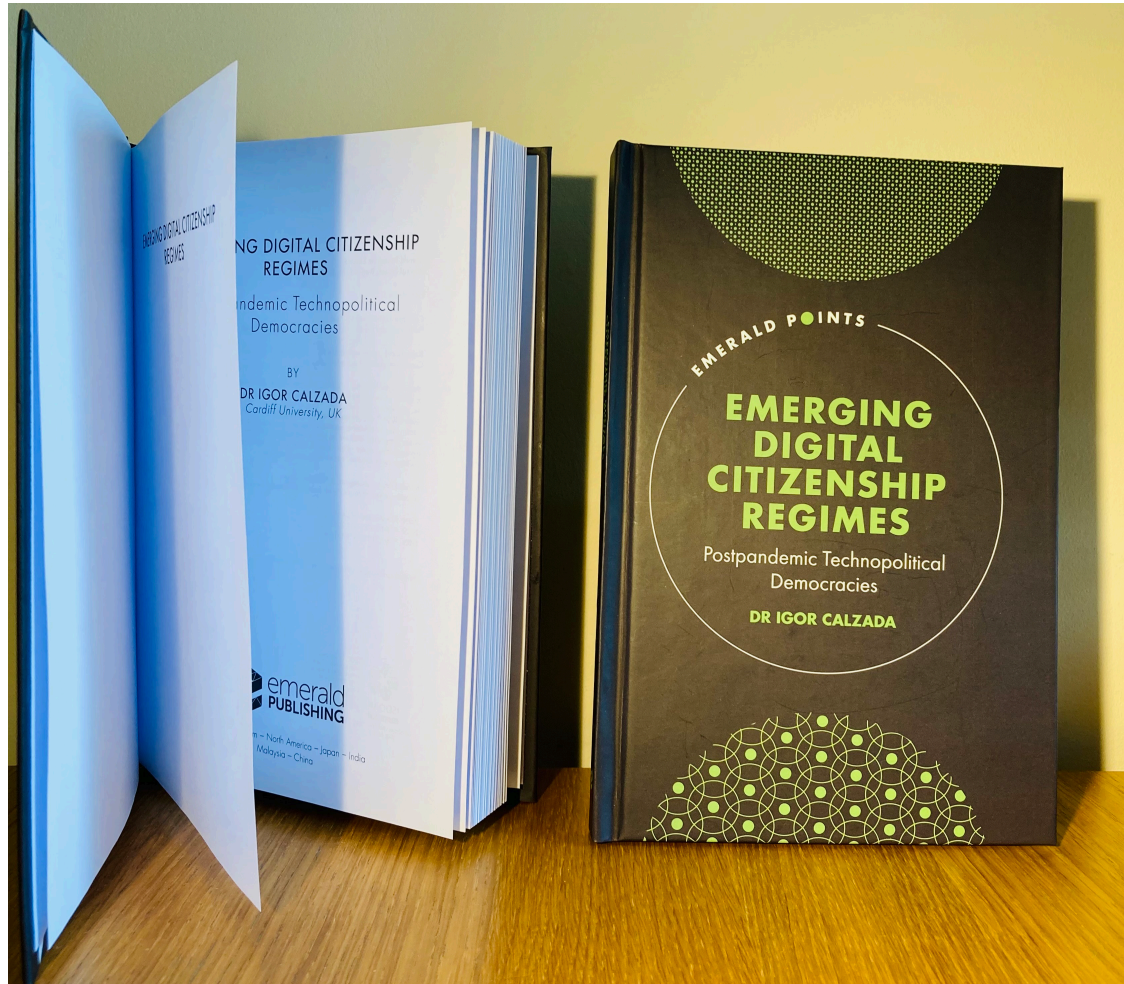
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Bignami, F., Calzada, I., Hanakata, N., & Tomasello, F. (2023), [Data-Driven Citizenship Regimes in Contemporary Urban Scenarios: An Introduction. Citizenship Studies](#) 27(2), 145-159. DOI:10.1080/13621025.2022.2147262.





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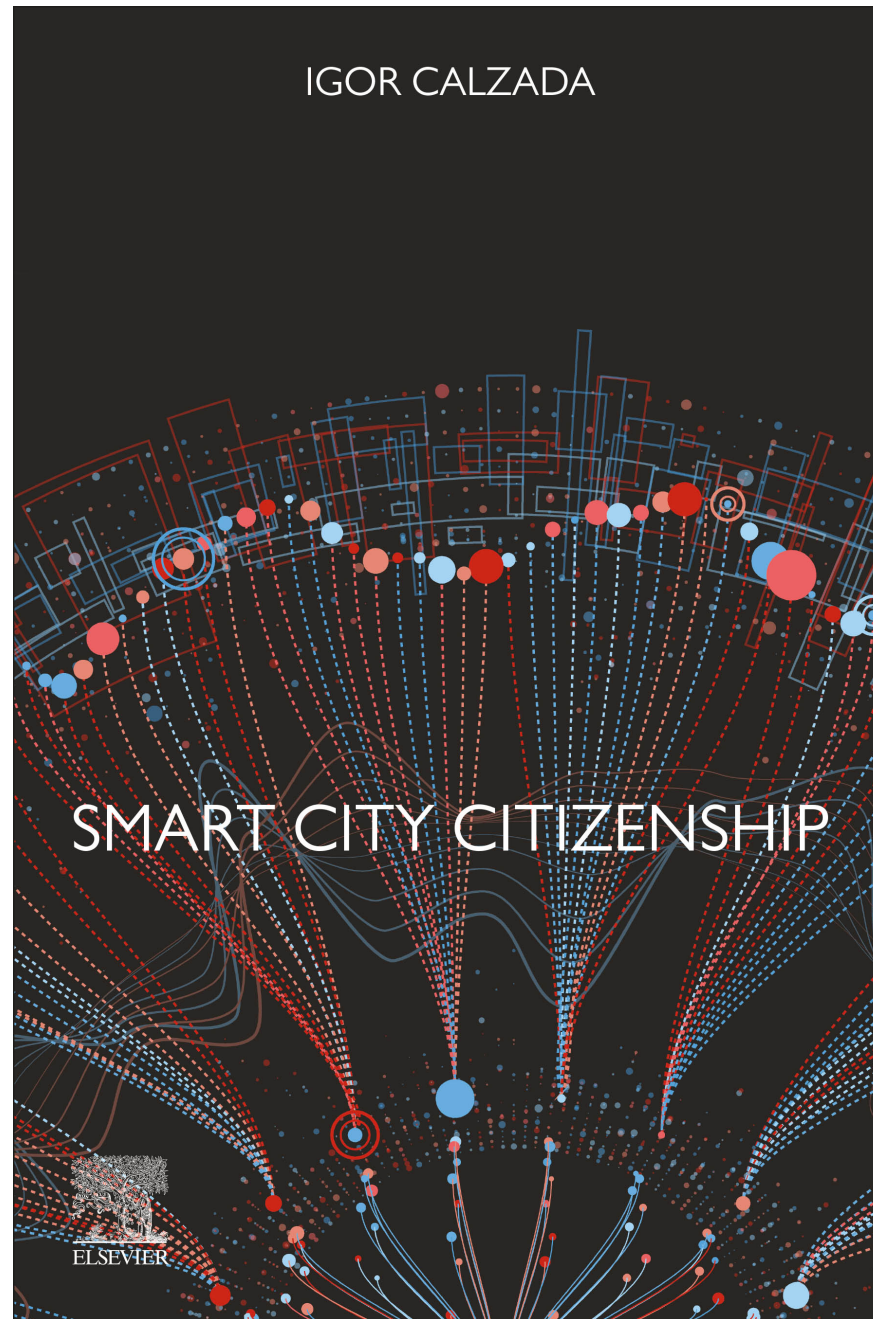
Calzada, I. (2022), [Emerging Digital Citizenship Regimes: Postpandemic Technopolitical Democracies](#). Bingley: Emerald Publishing Limited, Emerald Points Series. ISBN: 9781803823324.



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IGOR CALZADA



# SMART CITY CITIZENSHIP

ELSEVIER

Calzada, I. (2021) *Smart City Citizenship*,  
 Cambridge, Massachusetts: Elsevier Science Publishing Co Inc.  
 ISBN: 978-0-12-815300-0.

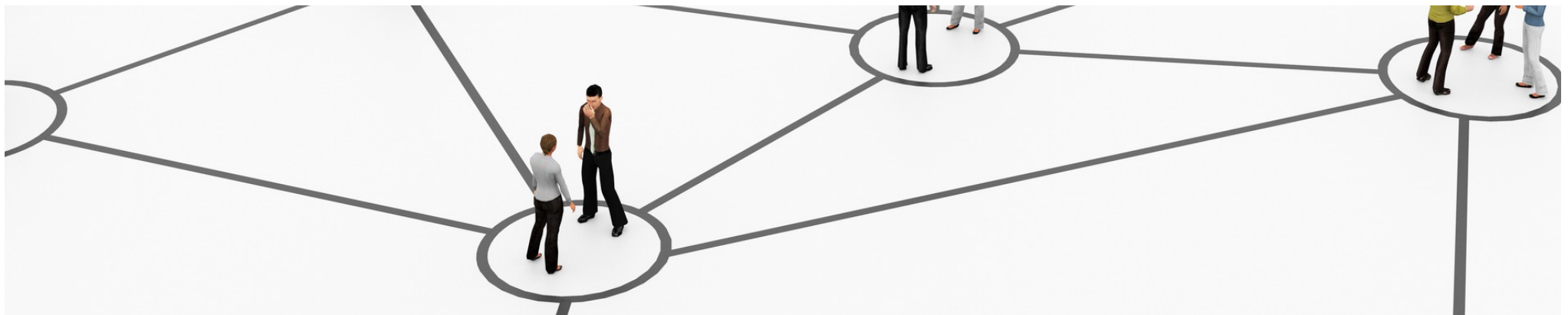




## 2. Context (1)



The uneven algorithmic advances across geopolitical boundaries experienced in the current technological epoch are profoundly changing how pandemic citizens connect, engage, discuss and explore their identities and realities (Bridle 2016; Calzada 2021a, 2020c).



Calzada, I. & Bustard, J. (2022),


[The Dilemmas Around Digital Citizenship in a Post-Brexit and Post-Pandemic Northern Ireland:](#)

[Towards an Algorithmic Nation? \*Citizenship Studies\* 27\(2\), 271-292. DOI:10.1080/13621025.2022.2026565.](#)

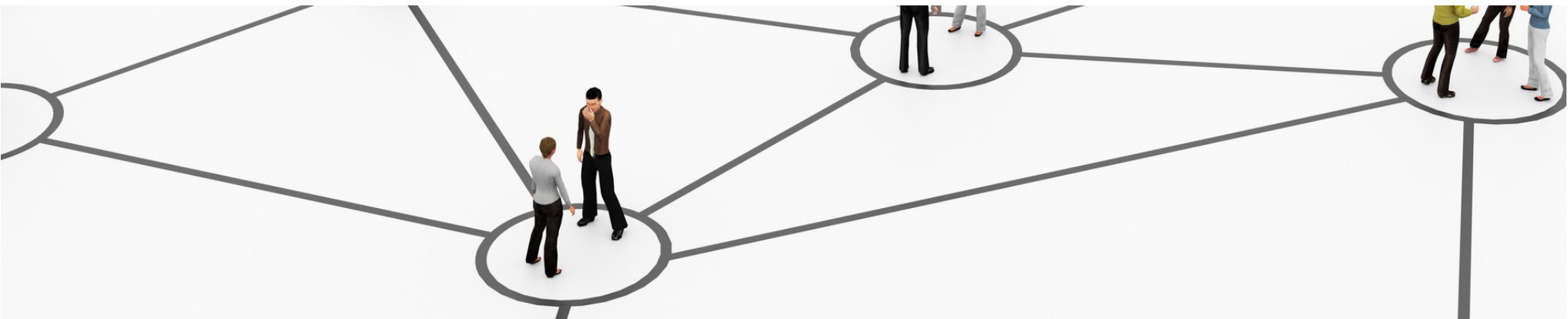




## 2. Context (2)



Amidst the perils and promises in the uptake and the adoption of these **algorithmic technologies** for **city-regional tensions and dilemmas**, more democratic, open and transparent digital processes could provide potential of disintermediation **towards empowering citizens.**



Calzada, I. & Bustard, J. (2022),

[The Dilemmas Around Digital Citizenship in a Post-Brexit and Post-Pandemic Northern Ireland:](#)

[Towards an Algorithmic Nation? \*Citizenship Studies\* 27\(2\), 271-292. DOI:10.1080/13621025.2022.2026565.](#)



## RESEARCH QUESTION:

How the AN conceptual assemblage (Calzada 2018a) may help to frame current dilemmas in NI by employing decentralized technology such as blockchain (alongside DAOs and data co-operatives; Bühler et al., 2023; Calzada, 2020, 2021) to deal with challenges associated with digital/synthetic citizenship in the post-pandemic era (Bignami et al., 2022)?

A photograph showing the words "POST COVID 19" spelled out using wooden beads on a blue background. The beads are arranged in a single row, with each letter on a separate bead. The background is a solid, deep blue color.

Calzada, I. & Bustard, J. (2022),

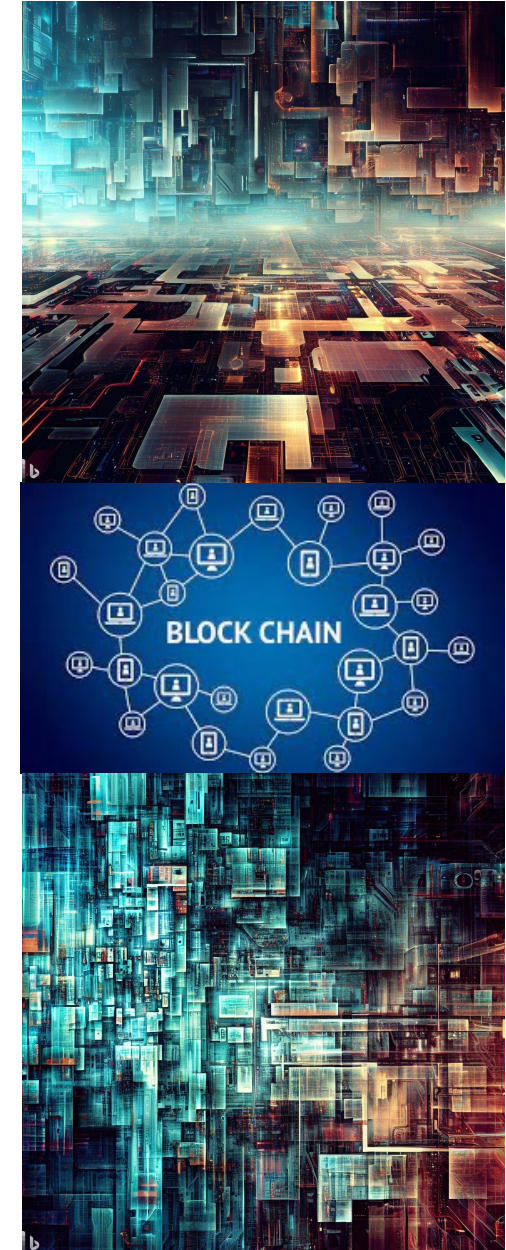
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[Towards an Algorithmic Nation? \*Citizenship Studies\* 27\(2\), 271-292. DOI:10.1080/13621025.2022.2026565.](#)



## AN Definition

- Definition: AN (Calzada, 2018, 270) as
  - '(i) a non-deterministic city-regional and technopolitical conceptual assemblage
  - (ii) for a transitional strategic pathway
  - (iii) towards the nation-state rescaling
  - (iv) through three drivers – metropolitanization, devolution and the right to decide’.
- This can be achieved through devolving power catalysed through open governance initiatives based on new technologies such as AI and blockchain to enable more direct interactions with citizens (Data Justice Lab, 2021).
- AN as a potential framework to the ongoing challenges of a post-Brexit and post-pandemic NI impacting citizens.





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## 2. Four Contextual Insights

1<sup>st</sup>: Since 1998, **Belfast/GFA**, NI has seen 27 years of relative stability in a post-conflict period following the 'Troubles' (Dupont, 2017).

2<sup>nd</sup>: GFA allowed further **devolution** of powers to local assemblies.

- Synthetic/digital citizenship challenges current interpretations of fixed borders.
- AN hold that citizen realm should be entirely sovereign to exercise the right to decide the political future of the nation as an outcome of deliberative democracy.

3<sup>rd</sup>: By a narrow majority, the UK voted for **Brexit**.

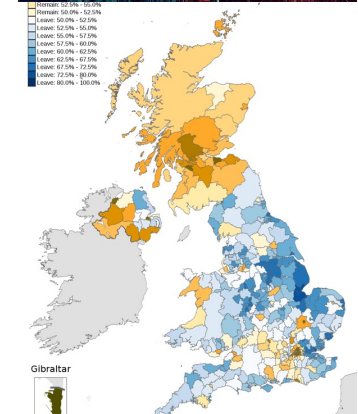
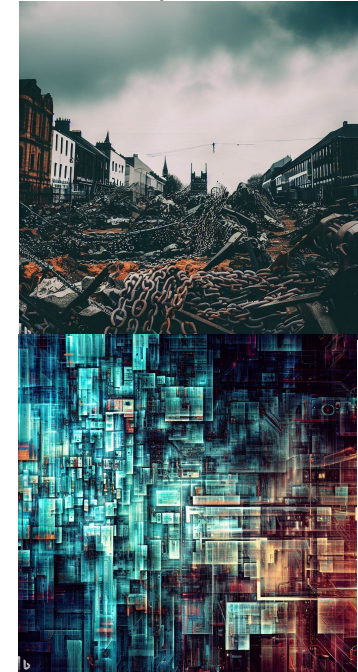
4<sup>th</sup>: Added to these post-Brexit and post-pandemic realities, citizens in NI are further challenged by consequences **NIP**.

Calzada, I. & Bustard, J. (2022),

[The Dilemmas Around Digital Citizenship in a Post-Brexit and Post-Pandemic Northern Ireland: Towards an Algorithmic Nation? \*Citizenship Studies\* 27\(2\), 271-292. DOI:10.1080/13621025.2022.2026565.](#)

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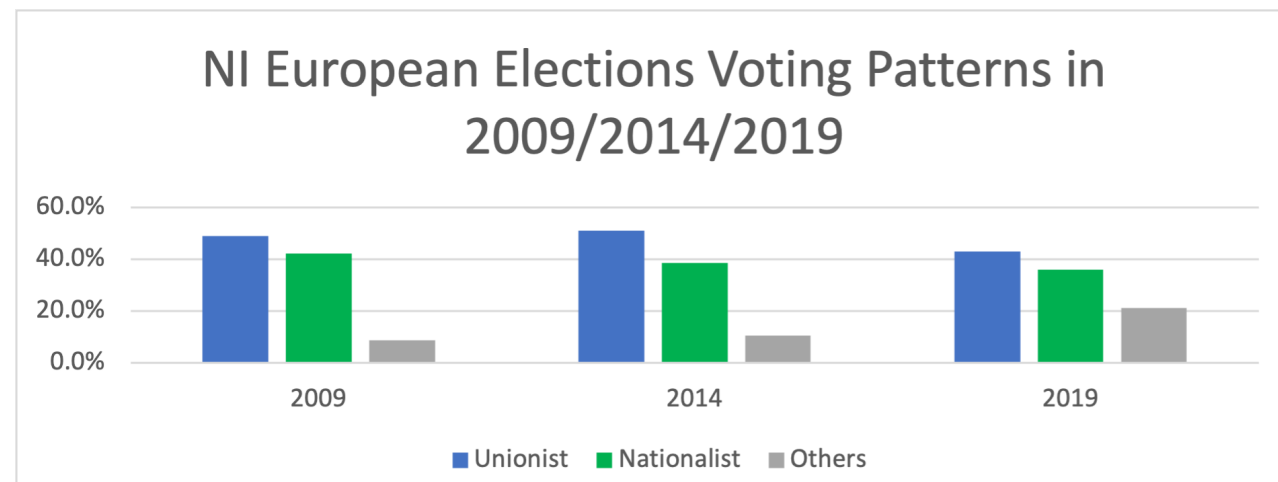
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## 2. New Technopolitical/Democratic Mechanisms Amid Digital/Synthetic Citizenship

1. GFA: As the **outworking** of much effort to secure peace and stability in a city-region fraught with political violence since its inception (Duhart, 2017).
2. Success: Enshrinement of the **European Convention on Human Rights into Law in NI** (Lagana, 2020).
3. **Brexit**: Disruption in the GFA (Geague, 2019).
4. **Technical and geopolitical facets of citizenship further in flux** based on personal notions of nationhood (Kampmark, 2020).
5. This trend producing **trackable daily geoeconomic routines**.
6. GFA allowed dual citizenship: '27% of Catholics and 29% of Protestants feel **'Northern Irish'**, an indicator of a **more liquid/synthetic/digital citizenship** (Garry & McNicholl, 2015).
7. How the increase of the **third way** and the request to **Irish discourse on unity** will evolve (Garry et al., 2020, Hayward, 2020)? Jhon Hume, 'third way' bridge-builder (Cunningham, 2023).
8. Article's approach: **New democratic mechanisms enabling citizens' multiple national identities through digital means could further underpin regional stability** (Calzada, 2018; Hayward and McManus, 2019).



Calzada, I. & Bustard, J. (2022),

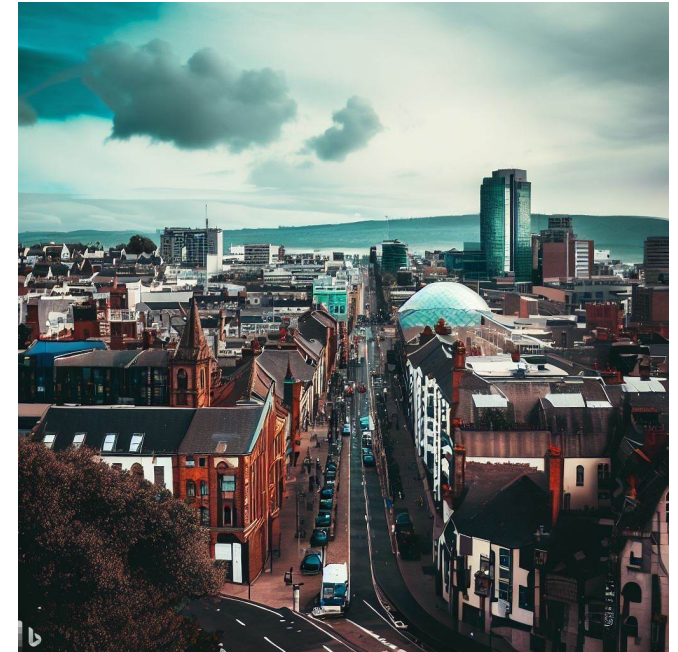
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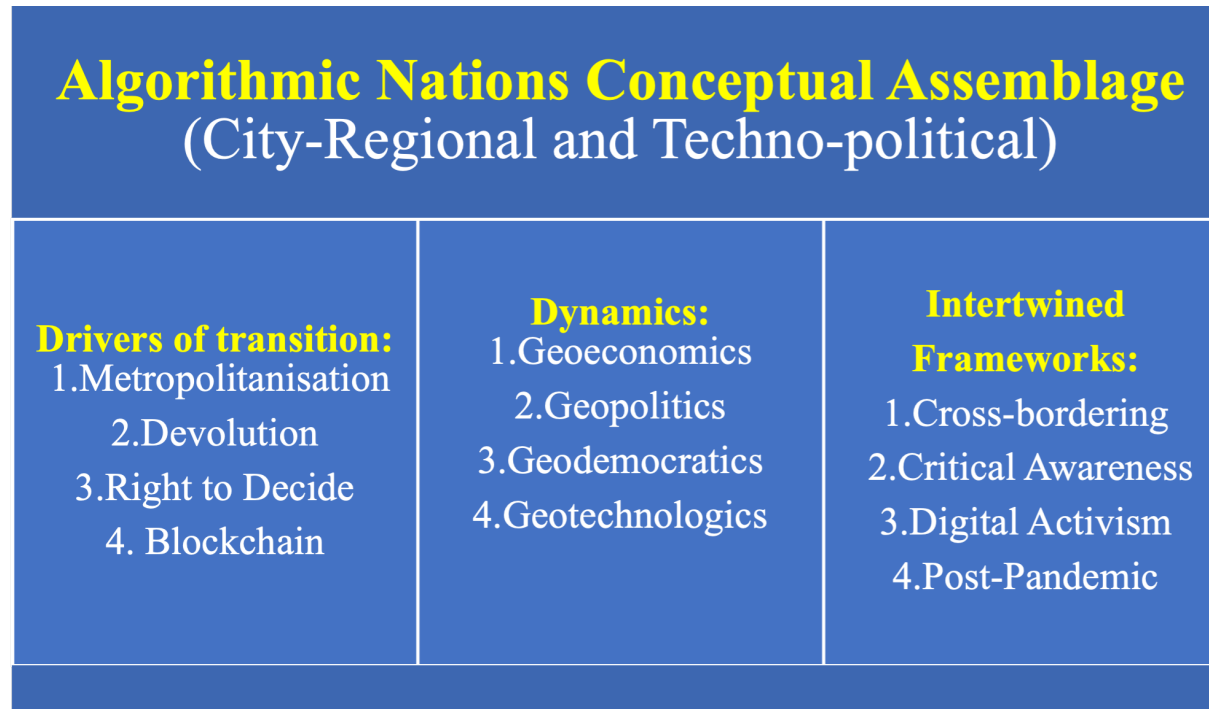


## 2. New Technopolitical/Democratic Mechanisms Amid Digital/Synthetic Citizenship

1. **Bottom-up** integration
2. **Decentralized decision-making**: blockchain, DAOs, and data co-operatives (Calzada, 2023, forthcoming).
3. **Citizens' Assemblies** could offer useful insights in public views (Garry et al., 2021).
4. **Digital literacy**: Better engaged beyond social media.
5. Dialogues around algorithmic decision-making may well create the opportunity for a **third way** to emerge: a liquid form of nationhood.
6. **Cross-bordering**: Porous geographies.
7. **NI's dilemma**: to resolve its post-Brexit position for its citizens with consideration for new governance attributed to the NIP.
8. Consequently, the potential for digital technology to maintain pluralism and to offer democratic participation equally may serve to extend politics and technology to its benefit.



### 3. Nexus between AN and Digital/Synthetic Citizenship through four Intertwined Frameworks



- The appetite for different engagements with citizens (i.e. Citizen Assemblies) as supplements to representative democracy through digital technologies is at the core of the notion of *Algorithmic Nation*.



### 3. Nexus between AN and Digital/Synthetic Citizenship through four Intertwined Frameworks

#### 1. Cross-bordering:

- Cross-bordering citizenship (physical, virtual, perceived, and real) (Cunningham, 2023)
- GFA/Two forms of cross-border relationships: N/S+E/W.



Figure 1. Rate of political deaths on the Irish border per year, 1970-94). Source: Sutton Database of Troubles Deaths hosted by CAIN (Conflict Archive on the INternet), 2022; NISRA Northern Ireland Census Grid Square Product for 1971 and 2001.

#### 2. Critical awareness:

- Relies on underpinning through the technical skills to exploit modern information flows towards engaging and understanding the realities and the discourse around people.

#### 3. Digital activism:

- Political activism + Online Civic Engagement + New Forms of Digital Participation
- Nonetheless, wake up call: Data (un)sustainability/extraction/privacy
- A need for Emancipatory Datafication Strategies (Calzada, 2023, forthcoming)
- Web3 and decentralized architectures (Blockchain) are being adopted to revert impacts of da-opolies (Stucke, 2022)
- Voter anonymity/transparency/political accountability/public scrutiny > DAOs
- Digital Rights: CCDR/Barcelona: Decidim/Metadecidim/Decode (Calzada et al., 2021; Calzada, 2018)

#### 4. Post-pandemic lens:

- Algorithmic exposure (track and trace apps) and data privacy.





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## 4. DISCUSSION: NI: Towards an AN?

1. Article explores how AN may help to frame current dilemmas in NI by employing blockchain.
2. NI Civic Forum (as envisaged in Strand 1 of the GFA)
3. Digital NI ecosystem
4. Irish diaspora
5. Digital access through blockchain technology: Irish agri-food industry.





## 5. CONCLUSION (1)

1. In the city-regional context where Belfast and Derry/ Londonderry as **smart cities** offer potential for integrating new logics and approaches towards governance and management through their infrastructure and ports, i.e. such as the case of Radox (Calzada 2018c).
2. As suggested, the tension created through the perceived **Irish Sea Border** – produced by the **NIP**– could be reduced by integrating an *Algorithmic Nation's* approach to assist NI in meeting its twin challenges of supporting cross- border citizenship both within and between the UK and Ireland as well as the growing necessity to develop infrastructure to support citizens and their will to connect and contribute to sociopolitical discourse more generally (Whysall 2021).
3. The **reduction in trust** around devolved governance now requires stakeholders from the UK, EU and RoI to support solutions to reduce post-Brexit tensions in the city-regionalised nation and investment in *Algorithmic Nationhood* approaches is evidently feasible through policy unfolding in areas such as health (Radox), economy (agrifood), energy and governance (ICC 2020).



## 5. CONCLUSION (2)

4. New technological approaches using **blockchain** to resolve challenges such as those exposed by the **NIP**, such as extensive delays and costs caused in cross-bordering, could be further addressed as part of a new investment by stakeholders from the UK and EU and other stakeholders who seek to redress the challenges created in a post-pandemic NI.
5. This would assist in **reducing anxieties with over 50% of NI residents who believe that their views are not being heard and addressed by the UK, EU and Irish governments** (Hayward and Phinnemore 2021).
6. Indeed, engaging digitally in **civic forums, democratic deliberative mechanisms and citizens' assemblies** offers an interesting means to begin to engage in this important aspect of Strand 1 of the Belfast Agreement.
7. The challenges and dilemmas faced by NI are suited to finding solutions through framing as an *Algorithmic Nation*, where the devolved nature of this **more liquid nation** in its modern context and the requirement to appropriately and maturely engage in the right to decide principle as implemented within the Belfast Agreement show that new and more integrated approaches and logics to governance are found to support important dialogues around future evolution of sovereignty issues in NI.



## 5. CONCLUSION (3)

# Main findings: Responding 3 Dilemmas

(i) Post-Brexit dilemma

(ii) Sociopolitical dilemma

(iii) Algorithmic and Post-Pandemic dilemma



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# Thank you very much Go raibh míle maith agat

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