¿Qué es la Transformación Digital y Cómo Está Cambiando Nuestras Vidas?

Orígenes, Procesos, Promesas y Riesgos

Dr Igor Calzada, MBA, FeRSA

Cardiff University,
WISERD (Wales Institute for Social and Economic Research and Data)
Research Fellow

University of Oxford, Future of Cities and Urban Transformations ESRC
Senior Research Affiliate

UN-Habitat, People-Centrred Smart Cities
Senior Adviser

European Commission
DG Joint Research Centre (JRC), Digital Economy Unit & Centre for Advanced Studies (CAS)
Former Senior Scientist

www.igorcalzada.com
@ICalzada

#IntoEU
February 2, 2021
10:45-1145

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February 2, 2021
10:45-11:45
OUTLINE

1. INTRO: DIGITAL TRANSFORMATIONS & THE (SMART) CITY

2. RESEARCH PATHWAY

3. REPLICATING SMART CITIES? H2020-SCC-REPLICATE

4. FINAL REMARKS
1. INTRO: DIGITAL TRANSFORMATIONS & THE (SMART) CITY
We are already becoming tiny chips inside a giant system that nobody really understands.

Harari (2017)
Smartness in cities cannot be more technocratic than democratic

(Habermas, 2015)
Being digitally connected/plugged in is no guarantee of being smart (Evans 2002: 34)
Technology is never neutral, and it has the potential and capacity to be used socially and politically for quite different purpose.

(Williams 1983: 128)
Evolution of the ‘Smart City’ term

1960s
Wired cities
Cyber cities
Digital cities
Intelligent cities etc.

mid-1990s
Term emerges in newspapers

2008
Corporations begin to stake their claim

2011
Critical discourse gains momentum

Source: based on Kitchin 2015, Soderstrom et al 2014, Vanolo 2014
FOUR IMAGINARIES
1. REPLICABILITY
2. EFFICIENCY
3. LIFE PROMISES
4. ALGORITHMIC DREAMS
‘The trouble with modern theories of behaviourism, is not that they are wrong but that they could become true’

(Hanna Arendt)
Unplugging: Deconstructing the Smart City

Igor Calzada and Cristobal Cobo

Abstract This paper explores the subtle notion of unplugging to critically analyze the technological determinism of the Smart City. This exploration suggests that being digitally connected should not be perceived as gaining social capital. This article critiques the assumptions of the Smart City and proposes a 10-dimension conceptual framework. The first section of this article explores hyper-connected societies and how unplugging could be beneficial. The main subjects, Digital Natives, are discussed in the second section of this article. The third section is a decalogue on deconstructing the Smart City, and the final section presents key ideas and questions for future analysis.

Keywords unplugging; social innovation; smart city; hyper-connected societies; digital & social divide

5,952 Views // 78 Citations // 102 Altmetric

5th Most Read Article / Top Cited Article of JUT
Unplugging is a novel trend that offers a corrective from the corporate, top-down direction of the ‘Smart City’ mainstream in favour of a transition towards the critical use of digital technologies enabling the construction of a more democratic citizenship.

(Calzada et al., 2015: 2)
To get out from the ‘smart city-in-the-box’ approach
We need a ‘New Deal on Data’: putting citizens in control of data that is about them and also creating a data commons to improve both government and private industry.

Pentland (2014)

Without related data ecosystems at city-regional level, Europe might lose its opportunity to establish a pan-European post-GDPR AI strategy.

Calzada (2019)
2. RESEARCH PATHWAY
RESEARCH INTERESTS

GENERICALLY:

My research and policy work has revolved around urban, digital and political transformations.

SPECIFICALLY:

My specific research interest currently draws on:
• how digital transformation processes driven by AI disruptions in the post-COVID-19 and post-GDPR current context
• are altering socio-economic conditions of new pandemic citizenship regime (Calzada, 2020)
• in European (smart) cities and regions
• by paying special attention to the interplay of stakeholders and the creation of data cooperatives and platform co-operatives as a resilient response to the COVID-19 crisis.
RESEARCH PATHWAY

1. 2012-2020: Benchmarking City-Regions
2. 2015-2017: Smart City-Regions
3. 2017-2019: Data Commons, Barcelona case-study
5. 2017-2019: Smart Rural Communities
6. 2015-2019: MSc in Global Sustainable Cities

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1. 2019-2020: Platform & Data Co-operatives/Pandemic Citizenship
2. 2019-2020: Cities Coalition for Digital Rights
3. **2016-2021: H2020-SCC-Replicate**
4. **2021< New Emerging Citizenship Regimes**
Taxonomy of Emerging Citizenship Regimes in the Post-COVID-19 era: Pandemic Citizenship

• The Post-COVID-19 era, on the one hand, has dramatically slowed down several mundane routines for citizens such as mobility patterns while (Calzada 2020b, 2020e),

• on the other hand, have exponentially emerged new demanding professional pressures, emotional fears, life uncertainties, algorithmic exposure, data privacy concerns, health-related direct risks, and socio-economic vulnerabilities depending eminently on the material and living conditions (foundational economy) shared by a wide range of citizens regardless of their specific geolocalisation in Europe.

• Which inevitably is affecting the civic stratification and will require resilient responses to gain civil repair (i.e. platform and data co-operatives).

Calzada, I. (2020e), Platform and Data Co-operatives Amidst European Pandemic Citizenship Sustainability. ACCEPTED.
Mondragón Co-operative Corporation (MCC) is an entrepreneurial socioeconomic entity with deep cultural roots in the Basque Country, created by and for the people, inspired by the Basic Principles of our Co-operative Experience, committed to the community, to the improvement of competitiveness and to the satisfaction of customers, to create wealth within society through entrepreneurial development and job creation, preferably membership-jobs in co-operatives.

1. DigiTranScope: Autumn Institute 2020

DigiTranScope Spring Institute: Governance of Digitally Transformed Societies
Florence (Firenze), Italy
11-15 May 2020

Call for Abstracts

DigiTranScope is a research project of the Autumn Institute 2020, an initiative from the European Commission looking at the governance of digitally transformed societies. The project aims to address the challenges facing society over the next decades.

1. Data Governance: This is a key battleground to find a European way to Artificial Intelligence (AI) and Digital Transformation. We need to find new ways of sharing data between the public sector, commercial sector, and civil society so that the values created out of data analysis and new algorithms is balanced between dignity and safety in the service of the European citizen.

2. AI in the Public Sector: AI Watch aims to provide a multi-disciplinary understanding of the impact of artificial intelligence on people and society. We look at different topics such as fairness, accountability and transparency of AI systems, human-robot interaction, algorithm-supported decision-making, economic impact, diversity and the impact of AI on arts, creativity and wellbeing.

3. Pandemic Citizenship: Platform & Data Co-operatives

Welcome to DigiTranScope

DigiTranScope Spring Institute 2020
Governance of Digitally Transformed Societies
Florence (Firenze), Italy
11-15 May 2020

The Call for Participation, DigiTranScope Spring Institute 11-15 May 2020, Florence (Firenze) is open. Abstract submission deadline extended to: February 15th, 2020.

DigiTranScope is a 3-year research project (2019-2022) of the B7T Centre for Advanced Studies, focusing on the governance of digitally transformed human societies.

“Social perspective

The debate about ethical and social implications of AI for individuals and societies needs to move forward fast.”

It is crucial to think how the concepts of autonomy and identity of individuals as well as security, safety and privacy issues might change under the influence of AI.

AI WATCH aims to provide a multi-disciplinary understanding of the impact that artificial intelligence has on people and society. We look at different topics such as fairness, accountability and transparency of AI systems, human-robot interaction, algorithm-supported decision-making, economic impact, diversity and the impact of AI on arts, creativity and wellbeing.

Related links

Knowledge service

2. AI Watch

AI in the Public Sector

3. Pandemic Citizenship

Platform & Data Co-operatives
3. Pandemic Citizenship: Platform & Data Co-operatives

Article

Platform and Data Co-Operatives Amidst European Pandemic Citizenship

Igor Calzada 1,2

1 Urban Transformations ESRC & Future of Cities Programmes, COMPAS, University of Oxford, 58 Banbury Road, Oxford OX2 6QS, UK; igr.calzada@compas.ox.ac.uk; Tel.: +44-7887-661925
2 Digital Economy Unit & Centre for Advanced Studies (CAS), DG Joint Research Centre (JRC), European Commission, Via Fermi 2749, 21027 Ispra, Italy

Received: 24 August 2020; Accepted: 7 October 2020; Published: 9 October 2020

Abstract: Many European pandemic citizens will likely be unemployed during the COVID-19 crisis. This article explores whether it is possible to alter existing data governance extractivist models to incentivize the emergence of platform and data co-operatives to protect European pandemic citizens’ labor and digital rights. As such, this article aims to decipher the rationale behind the proliferation of platform and data co-operatives by responding to how new forms of co-operatives using digital technologies can provide feasible socio-economic alternatives to improve post-COVID-19 working conditions for vulnerable or already empowered pandemic citizens. This article is structured as follows. First, the European “pandemic citizenship” term is described. Second, the rationale of this article is consequently presented. Third, the research question, two hypotheses, and the action research triangulation are described. The deployment of the triangulation methodology based on action research, mixed methods and social innovation reveals the main findings through (i) Delphi study results, (ii) a taxonomy for platform and data co-operative cases, and ultimately, (iii) fieldwork research conducted in Glasgow, Barcelona and Tallinn. This article concludes that co-operatives (platform-based or data-driven), stemming from the potential resilient response of European pandemic citizens, may currently portray a feasible alternative to data governance extractivist models.

Keywords: pandemic citizenship; co-operatives; COVID-19; GDPR; platform co-operatives; data co-operatives; social innovation; action research; digital rights; foundational economy

• Historically, co-operatives have been created when people work together—now with the help of technology—to respond with collective resilience to complex crises, and to mobilize a wider range of information, ideas, labor, and insights to address structural social transformations through disruptive economic innovations [Calzada, 2013; International Co-operative Alliance, 2015].

• The co-operative movement began in the UK and France in the 19th century. Remarkably, though, several unique regionally rooted experiences with strong communitarian identities have flourished in Europe since then, such as the Mondragon case in the Basque Country (Spain) in the 1950s [Gupta, 2014; Bengu, 2020; Clamp, 2010; Ellerman, 2017; Heales et al., 2017] and the Emilia Romagna case (Italy) in the late 1970s [Apolitical, 2020; Battilani, et al., 2012; Borzaga et al., 2012; Gonzales, 2010; Menzani et al., 2010].
• This article aims to decipher the rationale behind the platform and data co-operatives by providing evidence-based research and policy analysis, and by responding to how new forms of co-operatives using digital technologies can provide a framework to rethink, renew, and offer alternatives to the way policies on digital transformations and AI can help enhance pandemic citizens’ well-being and thus improve the post-COVID-19 working conditions of vulnerable and already empowered pandemic citizens [71].

• This article thus reflects upon how democratic and participatory platforms can offer new non-capitalist labor environments in a post-COVID-19 world.
2. RATIONALE

1. Arguably, the current pandemic crisis and democracy are pervasively related to data governance issues, exposing citizens’ vulnerability in a potential surveillance state [Morozov, 2020; Lucas, 2020; Pickard, 2008; Aho et al., 2020; DPO, 2020; Gekker et al., 2019; Hintz et al., 2017; MAIEI, 2020].

2. Should European governments protect citizens from being infected even if doing so might mean establishing a new digital non-privacy norm?

3. Will this pandemic crisis become an algorithmic crisis, with serious side-effects for governments in Europe?

4. Could these rapidly changing times for European pandemic citizenship be seen as an opportunity to foster digital co-operatives in Europe in pursuit of a Tech New Deal, to allow citizens and communities to own and govern their own data and platforms [Schneider, 2020]?

3. RESEARCH QUESTION

Whether it is possible to alter existing data governance extractivism to incentivize the emergence of platform and data co-operatives, to further democratize and thus protect pandemic European citizens' labor and digital rights.

### 3. METHODOLOGY

Table 1. Delphi Method: P2P/Communs, Platform Co-operatives, and Data Co-operatives.

<table>
<thead>
<tr>
<th>Co-operative notion</th>
<th>P2P/Communs</th>
<th>Platform Co-operatives</th>
<th>Data Co-operatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expert</td>
<td>Michel Bauwens</td>
<td>Trebor Scholz</td>
<td>Thomas Hardjono</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nathan Schneider</td>
<td>Alex Pentland</td>
</tr>
<tr>
<td>Co-operatives</td>
<td><strong>Co-operatives</strong> just like other businesses, rely on a proprietary logic and, while internally democratic, still engage in capitalist market competition through two main drawbacks: (i) worker capitalism [79] and (ii) managerialism.</td>
<td><strong>Platform co-operatives</strong> are transitions to regain some control by digital citizenship in the post-COVID-19 scenario. They aim to create social change through ethical and cooperative businesses.</td>
<td><strong>Data co-operatives</strong> are member-owned data management storages (e.g., credit unions) with fiduciary obligations to members, where all data usage is for the benefit of members and done only with their consent; it is driven by privacy-preservation. Ultimately, it offers insights to negotiate better deals for members.</td>
</tr>
<tr>
<td>Analysis</td>
<td>He suggests an open co-operativism as a possible synthesis between common-based models and co-operatives. Open co-operatives could use common-based reciprocity licenses that continue to offer outputs free of charge as a common for non-commercial uses but demand a license fee for any commercial usages. This proposal links the commons to an entrepreneurial coalition of ethical market entities (co-operatives and other models) and keeps surplus value entirely within the sphere of commoners/cooperators/citizens, instead of leaking out to multinationals.</td>
<td>The mission of platform co-operatives is to diversify the digital economy as Polanyi suggested with the great transformation, by regulating and providing incentives. The idea does not destroy platform capitalism but rather suggests introducing tech-taxing, like in France, while creating a solidarity economy. The most difficult aspect about setting up platform co-operatives is self-organizing their activity and establishing the organizational model. Ownership and governance matter; the largest issue is not technical.</td>
<td><strong>Data co-operatives</strong> focus on data interactions among citizens and not essentially in the core social value behind them. Data co-operatives could be seen as a variation or a typology of platform co-operatives (shown in the next subsection)</td>
</tr>
<tr>
<td>Economic paradigm</td>
<td>Ethical economy</td>
<td>Entrepreneurial economy</td>
<td>Data-driven economy</td>
</tr>
<tr>
<td>Good practices</td>
<td>Enspiral (New Zealand)</td>
<td>Fairmonduk (UK)</td>
<td>MyData (Finland)</td>
</tr>
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<td></td>
<td>Fora do Eixo (Brazil)</td>
<td>Upandgo (USA)</td>
<td>Salus (Catalonia/Spain)</td>
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<tr>
<td></td>
<td>Ethos Foundation (Switzerland)</td>
<td>Eva (France)</td>
<td>Cozy (France)</td>
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<tr>
<td></td>
<td>Smart.coop (Spain/Belgium)</td>
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</tbody>
</table>
### 3. METHODOLOGY

**Table 2. Definitions: Platform Co-operatives and Data Co-operatives.**

<table>
<thead>
<tr>
<th>Platform Co-Operatives</th>
<th>Data Co-Operatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>A platform cooperative, or platform co-op, is a cooperatively owned, democratically governed business that establishes a computing platform, and uses a website, mobile app or a protocol to facilitate the sale of goods and services. Platform cooperatives are an alternative to venture capital-funded platforms insofar as they are owned and governed by those who depend on them most—workers, users, and other relevant stakeholders.</td>
<td>Cooperative structures could enable the creation of open data and personal data stores for mutual benefit; they could rebalance what many perceive as an asymmetric relationship between data subjects (people with personal data) and data users (people who use data to develop services and products). Members of a community voluntarily pool their data to create a commons pool for mutual benefits. This common pool of data acts as a commons resource of collective ownership upon a framework which is collectively discussed and agreed upon.</td>
</tr>
</tbody>
</table>
### 3. METHODOLOGY

#### Table 3. Taxonomy for Platform Co-operatives and Data Co-operatives.

<table>
<thead>
<tr>
<th>Oriented to</th>
<th>Flow</th>
<th>Typologies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. Producer-led Platform</td>
<td>2. Producer</td>
</tr>
<tr>
<td></td>
<td>4. Data Consortia Platform</td>
<td>4. Data</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Store</th>
<th>Data Co-operatives</th>
<th>Data aggregation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>
### 3. METHODOLOGY

#### Table 4. Case Identification by Typology.

<table>
<thead>
<tr>
<th>Platform Coops</th>
<th>Data Coops</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Worker</strong> (29:19%)</td>
<td><strong>Producer</strong> (36:24%)</td>
</tr>
<tr>
<td>Co-operativizing Work</td>
<td>Co-operativizing Exchange</td>
</tr>
<tr>
<td>Mobility</td>
<td>Culture, agriculture, food, software, websites, hosting, start-up support, videoconferencing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Co-operativizing Work and Exchange</th>
<th>Community Services</th>
<th>Data Coops</th>
</tr>
</thead>
<tbody>
<tr>
<td>34. <a href="http://www.locimpact.org">www.locimpact.org</a></td>
<td>34. <a href="http://www.affinityworks">www.affinityworks</a></td>
<td>34. <a href="http://www.affinityworks">www.affinityworks</a></td>
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<tr>
<td>42. <a href="http://www.locimpact.org">www.locimpact.org</a></td>
<td>42. <a href="http://www.affinityworks">www.affinityworks</a></td>
<td>42. <a href="http://www.affinityworks">www.affinityworks</a></td>
</tr>
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<td>44. <a href="http://www.locimpact.org">www.locimpact.org</a></td>
<td>44. <a href="http://www.affinityworks">www.affinityworks</a></td>
<td>44. <a href="http://www.affinityworks">www.affinityworks</a></td>
</tr>
<tr>
<td>47. <a href="http://www.locimpact.org">www.locimpact.org</a></td>
<td>47. <a href="http://www.affinityworks">www.affinityworks</a></td>
<td>47. <a href="http://www.affinityworks">www.affinityworks</a></td>
</tr>
</tbody>
</table>
### 3. METHODOLOGY

**Table 3. City-Regional Fieldwork Action Research [52]**

<table>
<thead>
<tr>
<th>City-Regional Fieldwork Action Research [52]</th>
<th>Tallinn (Estonia)</th>
<th>Barcelona (Catalonia, Spain)</th>
<th>Glasgow (Scotland, UK)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potentially Pushed by</td>
<td>Public Sector</td>
<td>Civil Society</td>
<td>Private Sector</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Context</strong></td>
<td></td>
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<tr>
<td>• Estonia has developed an efficient, secure, and transparent digital society that provides online government services in service to citizens, resulting in time and cost savings.</td>
<td></td>
<td></td>
<td>• A range of initiatives is currently working on digital transformations, particularly around Glasgow and its metropolitan surroundings.</td>
</tr>
<tr>
<td>• This society is made possible by a data exchange layer called X-Road, which lets government agencies gather citizens' data just once and securely exchange them among agencies instead of requesting them from citizens many times.</td>
<td>• Barcelona has demonstrated since 2015 how the smart city policy agenda could be mobilised by fostering citizen-centric strategies.</td>
<td>• Preliminary fieldwork research evidence reveals that key stakeholders could promote this phenomenon as emerging due to the historical grass-roots movements in the urban environment of Glasgow, and the existing traditional co-operative ecosystem.</td>
<td></td>
</tr>
<tr>
<td>• Nonetheless, how are citizens responding to this leading role of the public sector?</td>
<td>• However, how sustainable are the initiatives implemented under the banner of platform and data co-operative?</td>
<td></td>
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<tr>
<td>• Besides, has the snowball effect of the country’s innovators investing money into Estonian start-ups included any kind of cooperative experience from below?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Key stakeholders</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• University of Tallinn: School of Digital Technologies</td>
<td>• Barcelona City Council: Social and Solidarity Economy</td>
<td>• Scottish Tech Army</td>
<td></td>
</tr>
<tr>
<td>• Estonian Cooperation Assembly</td>
<td>• Barcelona City Council: Technology and Digital Innovation Office (Citizen Council for Digital Rights (CCDR))</td>
<td>• Scotland 5G Centre</td>
<td></td>
</tr>
<tr>
<td>• University of Tallinn: School of Digital Technologies</td>
<td>• DLQOM/DECIMAMUT/DECIM</td>
<td>• Glasgow City Council</td>
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<td></td>
<td></td>
<td>• The DHALab</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>• Scottish Cities Alliance</td>
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<td></td>
<td></td>
<td>• Sitra Big Data Centre</td>
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<td></td>
<td></td>
<td>• Data-Divided Innovation</td>
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<td></td>
<td></td>
<td>• Edinburgh International Data Facility</td>
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<td>• John Smith Centre</td>
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<td>• Dataverse 2020</td>
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<td>• Scotland’s AI Strategy</td>
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<td>• EDINA</td>
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<td></td>
<td></td>
<td>• Edinburgh Futures Institute</td>
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</tr>
</tbody>
</table>

**Sustainability 2020, 12, 8300**

Table 3. Cont.
4. 4 CONCLUSIONS/ 2 CAVEATS

1. The need to reactivate European civil societies

2. Very little understanding about the scope and functioning of co-operatives.

3. Procurement and public incentives are required to push ahead, enhance, and reinforce platform and data co-operatives beyond extremely marginal experiments aligned with data donation and altruism.

4. Initiatives around platform and data co-operatives need to find their own strategic pathways amidst the digital and social economy policy agenda of the EC.

A. Co-operatives portray a potential alternative for altering existing extractivist data governance models in cities and regions through technological sovereignty and inter-connected data ecosystems.

B. It remains to be seen, however, whether the promises and perils of platform and data co-operatives permit European pandemic citizenship in at least the regaining of human DIGNITY.
City Examples of Digital Rights in Times of COVID-19

Submitted by milou-jansen on Wed, 05/13/2020 - 11:15

As cities around the world try to cope effectively with the COVID-19 crisis, we are witnessing a wide variety of digital technology responses. Mobile phones, social media, and artificial intelligence can play a substantial role in dealing with the COVID-19 spread. This includes the development of contact tracing apps and the use...
3. REPLICATING SMART CITIES?

H2020-SCC-REPLICATE PROJECT
Replicating Smart Cities: The City-to-City Learning Programme in the Replicate EC-H2020-SCC Project

Igor Calzada 1,2

1 Urban Transformations ESRC & Future of Cities Programmes, COMPAS, University of Oxford, 58 Banbury Road, Oxford OX2 6QH, UK; igor.calzada@compas.ox.ac.uk or igor.calzada@ec.europa.eu; Tel: +44-7887-661-925
2 Digital Economy Unit & Centre for Advanced Studies (CAS), DG Joint Research Centre (JRC), European Commission, Via Fermi 2749, 21027 Ispra, Italy

Received: 31 July 2020; Accepted: 3 September 2020; Published: 8 September 2020

Abstract: This article addresses the problem of replication among smart cities in the European Commission’s Horizon 2020: Smart Cities and Communities (EC-H2020-SCC) framework programme. This article initially sets the general policy context by conducting a benchmarking about the explicit replication strategies followed by each of the 17 ongoing EC-H2020-SCC lighthouse projects. This article aims to shed light on the following research question: Why might replication not be happening among smart cities as a unidirectional, hierarchical, mechanistic, solutionist, and technocratic process? Particularly, in asking so, it focuses on the EC-H2020-SCC Replicate project by examining in depth the fieldwork action research process implemented during 2019 through a knowledge exchange webinar series with participant stakeholders from six European cities—three lighthouse cities (St. Sebastian, Florence, and Bristol) and three follower-fellow cities (Essen, Lausanne, and Nijmegen). This process resulted in a City-to-City Learning Programme that reformulated the issue of replication by experimenting an alternative and an enhanced policy approach. Thus, stemming from the evidence-based policy outcomes of the City-to-City Learning Programme, this article reveals that a replication policy approach from the social innovation lenses might be enabled as a multidirectional, radial, dynamic, iterative, and democratic learning process, overcoming the given unidirectional, hierarchical, mechanistic, solutionist, and technocratic approach.

Keywords: smart cities; social innovation; replication; city-to-city learning; policy; Europe; action research; GDPR; COVID-19; solutionism

H2020-EC-SCC
Smart Cities & Communities
17 Lighthouse Projects

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<td>CITYkeys</td>
<td>GrowSmarter</td>
<td>SHARINGcities</td>
<td>RUGGEDISED</td>
<td>MATCHUP</td>
<td>+CITYxCHANGE</td>
</tr>
<tr>
<td>ESPRESSO</td>
<td>triangulum</td>
<td>SMARTER TOGETHER</td>
<td>MY SMART Life</td>
<td>IRIS smart cities</td>
<td>Making City</td>
</tr>
<tr>
<td>REMO</td>
<td>smarter ci-y</td>
<td>REPPLICATE</td>
<td>Stardust</td>
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<td>atelier</td>
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</tr>
</tbody>
</table>
“The 'urban' is not 'science'. It cannot be measured, replicated and forecast like other sciences. The urban is an imaginary, a relationship between multiple spaces and scales from the personal to the global, a site of politics and governance. The urban is much more than 'science'."

Ayona Datta
‘It is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail’

(Maslow, 1966)
According to a policy report on Replication by the EC in 2018:

• *Replication is like the quest for the Holy Grail: everyone is searching but no one seems to be able to find it* (IRIS project, Gothenburg, 2019)

• The replication of smart urban energy, mobility and ICT solutions for an European urban future may be difficult to achieve.

• Nevertheless, replication can be FACILITATED through a network of lighthouse and follower/fellow cities’ stakeholders by putting them learning from each other.

• It is what we have been implementing for the whole year 2019.

• Starting from February 2016, engaging Follower/Fellow cities’ representatives and stakeholders.
THE GIVEN POLICY DESIGN:

- UNIDIRECTIONAL
- HIERARCHICAL
- MECHANISTIC
- SOLUTIONIST
- TECHNOCRATIC
The main objective of REPLICATE project is the development and validation in three lighthouse cities:

- **San Sebastián** - Spain,
- **Florence** – Italy and
- **Bristol** – UK

a sustainable *City Business Model* to enhance:

- energy efficiency,
- sustainable mobility, and
- ICT/Infrastructure.

In addition, the Model features the replicability of the solutions and their scale up in follower cities:

- **Essen** – Germany,
- **Laussane** - Switzerland and
- **Nilüfer**-Turkey).
RESEARCH QUESTION

Why might replication not be happening among smart cities as a

• unidirectional,
• hierarchical,
• mechanistic,
• solutionist, and
• technocratic process?
Empowering Fellow Cities in REPLICATE:

Since the early beginning of the project in 2016
How have we proceeded?

Five Transitions (from Social Innovation)

Table 2. Conceptual evolution of replication from the social innovation perspective: Five Transitions. Source: www.replicate-project.eu/city2citylearning.

<table>
<thead>
<tr>
<th>From (Pure) Replication</th>
<th>To City-To-City-Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unidirectional</td>
<td>Multidirectional</td>
</tr>
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<td>Radial</td>
</tr>
<tr>
<td>Mechanistic</td>
<td>Dynamic</td>
</tr>
<tr>
<td>Solutionist</td>
<td>Iterative</td>
</tr>
<tr>
<td>Technocratic</td>
<td>Democratic</td>
</tr>
</tbody>
</table>

THE EXPERIMENTED POLICY DESIGN:

- MULTIDIRECTIONAL
- RADIAL
- DYNAMIC
- ITERATIVE
- DEMOCRATIC

Lighthouse Cities

- San Sebastian (Spain)
- Bristol (UK)
- Florence (Italy)
- Essen (Germany)
- Lausanne (Switzerland)
- Nilüfer (Turkey)

Learn from each other

Follower/Fellow Cities
The **Main Objective** was to reach replicable and adaptive solutions for the Fellow Cities.

**Specific Objectives** were:

2016: Task 1. **SINGULARITY**
To assess Fellow Cities’ **Critical Factors**

2017-2018: Task 2. **SCALABILITY**
To analyse Fellow Cities’ **Multi-Stakeholders composition (via Penta Helix*)**

2019: Task 3. **ADAPTABILITY**
To promote a sharing participative environment organising networking activities particularly among all Replicate Cities’ (Lighthouse and Fellow) stakeholders:

Outcome > [https://replicate-project.eu/city2citylearning](https://replicate-project.eu/city2citylearning)

2020: Task 4. **REPLICABILITY**
To finally enable formulating **REPLICATION PLANS** by the three Fellow Cities (Ongoing).
T8.1: Critical Factors' Assessment
3 Workshops

2016: M1-M12

Task 1. Achieved

T8.2: Multi-Stakeholders’ Composition
Survey + 3 Validation Workshops

2017-2018: M13-M36

Task 2. Achieved

T8.3: City-to-City Learning Programme
6 Webinars

2019: M37-M48

Task 3. Achieved

T8.4: Replication Plans

2020: M49-M60

Task 4. Ongoing

D8.4: Report

D8.5: Weblink
www.replicate-project.eu/city2citylearning
1. While Essen focused substantially on Energy policies, as a consequence of being appointed European Green Capital, Lausanne and Nilüfer showed rather more diversified picture.

2. Lausanne’s preferences blended Mobility and Energy.

3. Nilüfer, ultimately highlighted its singular context characterised by a strong Legal, Political/Institutional, and Economic/Financial path-dependency.
1. **SURVEY:** 35 QUESTIONS

- Data collection time-frame:

2. **VALIDATION WORKSHOPS:** 10 + 1 QUESTIONS

- Essen: 19th September 2017. 14 participants
- Lausanne: 12th December 2017. 8 Participants
- Nilüfer: 29th May 2018. 41 participants
Objective:

1. To **measure** the multi-stakeholders’ composition for each F-F City

Rationale:

1. The main focus is on the **interdependencies of stakeholders**

2. Methodology: **Multi-stakeholders** framework called **Penta Helix**

3. Two aims:
   1. Analyse the multi-stakeholders’ **composition** in each follower city
   2. Map out the **strategic preferences** per group of stakeholders or helix.
      1. Who is *participating/contributing to* this strategic preferences
      2. Who is *influencing*
      3. Who is *being influenced*
Option 1: Public sector
Option 2: Private sector
Option 3: Academia
Option 4: Civic Society
Option 5: Entrepreneurs/Activists

Essen: 56%, 42%, 15%, 27%, 7%
Lausanne: 47%, 42%, 15%, 21%, 13%
Nilüfer: 13%, 7%, 15%, 27%, 17%

Option 1: Public sector: Local, regional, national authorities and/or...
Option 2: Private sector: Firms, companies and corporations
Option 3: Academia: Science, technology and knowledge centre (...
Option 4: Civic Society: NGO, associations, civic groups (any kind...
Option 5: Entrepreneurs/Activists/ Bricoleurs/Assemblers working dire...
(2): Influential (%)

- Option 1: Public sector
  - Essen: 80
  - Lausanne: 44
  - Nilüfer: 30
- Option 2: Private sector
  - Essen: 44
  - Lausanne: 28
  - Nilüfer: 13
- Option 3: Academia
  - Essen: 12
  - Lausanne: 7
  - Nilüfer: 0
- Option 4: Civic Society
  - Essen: 16
  - Lausanne: 7
  - Nilüfer: 0
- Option 5: Entrepreneurs/Activists
  - Essen: 19
  - Lausanne: 0
  - Nilüfer: 0
## (3): Strategic Smart City Actions

<table>
<thead>
<tr>
<th>Action</th>
<th>GLOBAL</th>
<th>ESSEN</th>
<th>LAUSANNE</th>
<th>NILÜFER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building retrofitting</td>
<td>9</td>
<td>10</td>
<td>8</td>
<td>9</td>
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<tr>
<td>Public transportation</td>
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<td>15</td>
<td>13</td>
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<tr>
<td>Smart city platform</td>
<td>8</td>
<td>4</td>
<td>3</td>
<td>14</td>
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<tr>
<td>District heating</td>
<td>8</td>
<td>9</td>
<td>13</td>
<td>4</td>
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<tr>
<td>Electric vehicles</td>
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<td>11</td>
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<td>6</td>
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<td>Control rooms / Centre of operations</td>
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<td>0</td>
<td>6</td>
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<tr>
<td>Smart lighting</td>
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<td>2</td>
<td>8</td>
<td>7</td>
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<tr>
<td>E-bikes</td>
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<td>Urban apps</td>
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<td>3</td>
<td>3</td>
<td>4</td>
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<tr>
<td>Smart grids</td>
<td>8</td>
<td>6</td>
<td>13</td>
<td>7</td>
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<tr>
<td>Sharing economy</td>
<td>6</td>
<td>8</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>Smart metering</td>
<td>5</td>
<td>3</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Transport infrastructures</td>
<td>9</td>
<td>11</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Urban co-operatives</td>
<td>8</td>
<td>11</td>
<td>8</td>
<td>4</td>
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</tbody>
</table>

| Total                                 | 100    | 100   | 100      | 100     |
City-To-City-Learning Programme as the key activity for sharing participative environment through 6 webinars

6 networking events during 2019 delivered through webinars that will connect the 6 cities involved in Replicate

- Adaptability
- Scalability
- Singularity

Replicate EU lighthouse project (#ReplicateEU) is working on its Replication main activity entitled 'City-to-City-Learning' Programme (#City2CityLearning) led by the University of Oxford with the participation of the lighthouse (San Sebastian, Florence, and Bristol) and follower/fellow (Essen, Lausanne, and Nilüfer) cities and their related multistakeholder framework that would take place during the whole year 2019.

Within this #City2CityLearning programme a wide range of activities will be shared among stakeholders in the aforementioned cities in internal sessions via webinars. Further information:  

[www.replicate-project.eu/city2citylearning](http://www.replicate-project.eu/city2citylearning)
3. ADAPTABILITY

2019: M37-48

T.8.3: City-to-City-Learning Programme
Through 6 Webinars

1/1. PUBLIC SMART LIGHTING
1/2. LINKED OPEN DATA
1/3. SMART MOBILITY PLATFORM

2/1. START-UP PROMOTION (CAMP ESSEN)
2/2. IMPACT HUB RUHR
2/3. ESSEN 51

3/1. E-TAXIES
3/2. E-RECHARGING SYSTEM
3/3. SMART CITY PLATFORM

4/1. PLAINES-DU-LOUP ECO-DISTRICT
4/2. PLAINES-DU-LOUP: GEOTHERMAL ENERGY
4/3. EQUIWATT, ENERGY EFFICIENCY PROGRAMME: ECO-SOCIAL OPERATIONS

5/1. METHODOLOGIES TO CO-DESIGN
5/2. OPEN DATA MOVEMENT
5/3. ONE CITY APPROACH

6/1. GRASSROOTS EMPOWERMENT
6/2. BOTTOM-UP ENERGY EFFICIENCY
6/3. INDUSTRIAL SPIN-OFF ECOLOGIES

www.replicate-project.eu/city2citylearning
### 3. ADAPTABILITY

**T.8.3: City-to-City-Learning Programme Through 6 Webinars**

<table>
<thead>
<tr>
<th>Replicate city</th>
<th>Lighthouse/ Follower- Fellow</th>
<th>Smart City Actions</th>
<th>Impact</th>
<th>Stakeholders Actively Involved In/Presenting: Penta Helix</th>
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</thead>
<tbody>
<tr>
<td></td>
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<td>Public</td>
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<td>L</td>
<td>Public Smart Lighting</td>
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<td></td>
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<td>Linked Open Data</td>
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<td>Smart Mobility Platform</td>
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<td>Essen</td>
<td>F</td>
<td>Start-up Promotion</td>
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<td>29</td>
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<td></td>
<td>Impact Hub Ruhr</td>
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<tr>
<td></td>
<td></td>
<td>Essen 51</td>
<td></td>
<td></td>
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<tr>
<td>Florence</td>
<td>L</td>
<td>E-Taxies</td>
<td>27</td>
<td>37</td>
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<tr>
<td></td>
<td></td>
<td>E-charging system</td>
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<td></td>
<td></td>
<td>Smart City Platform</td>
<td></td>
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<tr>
<td>Lausanne</td>
<td>F</td>
<td>Plaines-du-Loup Eco-District</td>
<td>10</td>
<td>16</td>
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<tr>
<td></td>
<td></td>
<td>Plaines-du-Loup Geothermal Energy</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Equiwatt: Energy efficiency programme, eco-social operations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bristol</td>
<td>L</td>
<td>Methodologies to Co-Design</td>
<td>17</td>
<td>20</td>
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<td></td>
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<td>Open Data Movement</td>
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<td></td>
<td></td>
<td>One City Approach</td>
<td></td>
<td></td>
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<tr>
<td>Nilüfer</td>
<td>F</td>
<td>Grassroots empowerment</td>
<td>-</td>
<td>20th Nov</td>
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<tr>
<td></td>
<td></td>
<td>Bottom-up energy efficiency</td>
<td>-</td>
<td>20th Nov</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Industrial spin-off ecologies</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4. REPLICABILITY

T.8.4: Replication Plans of the Fellow Cities

* young lighthouses and * do fellow cities.

** P represents the number of participants during the session and V represents the number of offline views.

*** The Penta Helix framework [49] distributes stakeholders in five categories: 1 represents the public sector, 2 represents the private sector, 3 represents academia, 4 represents the civil society, and 5 represents social entrepreneurs and activists.

**** This column depicts the identification made by fellow cities’ representatives in the General Assembly that took place in Florence on 30 October 2019. The potential fellow cities’ replication plans have effectively selected these smart city initiatives in close collaboration with stakeholders of the Replicate cities, regardless of being lighthouse or fellow cities. E represents smart city initiatives related to energy, M represents mobility, I represents ICT, and C represents citizens’ engagement.

www.replicate-project.eu/city2citylearning
# Generic Benchmarking on Replication H2020-SCC

<table>
<thead>
<tr>
<th>Lighthouse Project</th>
<th>City/Network</th>
<th>Competition</th>
<th>Route Visit Details</th>
<th>Replication Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. GrowSmartCity</td>
<td>Sheffield, ES</td>
<td>City-Town</td>
<td>2015-2019</td>
<td>25M €</td>
</tr>
<tr>
<td>2. Research</td>
<td>Nottingham, UK</td>
<td>Town-Town</td>
<td>2015-2019</td>
<td>25M €</td>
</tr>
<tr>
<td>3. TriCity</td>
<td>Strasbourg, NO</td>
<td>Leasing, DE</td>
<td>2015-2019</td>
<td>25M €</td>
</tr>
<tr>
<td>4. RepliCity</td>
<td>San Sebastian-Donostia, ES</td>
<td>Leasing, IE</td>
<td>2015-2019</td>
<td>25M €</td>
</tr>
<tr>
<td>5. SharingCities</td>
<td>London, UK</td>
<td>Leasing, UK</td>
<td>2015-2019</td>
<td>25M €</td>
</tr>
<tr>
<td>6. SmartCityTogether</td>
<td>Vienna, AT</td>
<td>Leasing, DE</td>
<td>2015-2019</td>
<td>25M €</td>
</tr>
<tr>
<td>7. SmartCityTogether</td>
<td>Munich, DE</td>
<td>Leasing, DE</td>
<td>2015-2019</td>
<td>25M €</td>
</tr>
<tr>
<td>8. MyLiFE</td>
<td>Vanves, FR</td>
<td>Leasing, DE</td>
<td>2015-2019</td>
<td>25M €</td>
</tr>
<tr>
<td>9. RapidCC</td>
<td>Bilbao, ES</td>
<td>Leasing, ES</td>
<td>2015-2019</td>
<td>25M €</td>
</tr>
<tr>
<td>10. IRH</td>
<td>Vantaa, FI</td>
<td>Leasing, FI</td>
<td>2015-2019</td>
<td>25M €</td>
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<tr>
<td>12. Excel</td>
<td>Palestinians-Gaza, ES</td>
<td>Leasing, ES</td>
<td>2015-2019</td>
<td>25M €</td>
</tr>
<tr>
<td>13. MakingCity</td>
<td>Ghent, NL</td>
<td>Leasing, NL</td>
<td>2015-2019</td>
<td>25M €</td>
</tr>
<tr>
<td>14. CityExchange</td>
<td>Limassol, BE</td>
<td>Leasing, BE</td>
<td>2015-2019</td>
<td>25M €</td>
</tr>
<tr>
<td>17. Sprees</td>
<td>Lappeenranta, FI</td>
<td>Leasing, FI</td>
<td>2015-2019</td>
<td>25M €</td>
</tr>
</tbody>
</table>
Two methodological advancements from the Social Innovation Perspective

1. City-to-City-Learning Programme

2. Penta Helix Multistakeholder

(i) a unique multistakeholder composition,
(ii) diverse preferences on business/social models,
(iii) a regular presence of the social entrepreneurs/activists (fifth helix) as intermediaries,
(iv) and the willingness to experiment with democratic arrangements beyond the hegemonic PPP.

www.replicate-project.eu/city2citylearning

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</tr>
</tbody>
</table>


4. FINAL REMARKS
Unidirectional replication strategies may not be readily adopted by FC primarily because of the lack of adaptability to local contexts and possibly due to the fact that cities require more complex and elaborated interventions to achieve broad social acceptance.

The given hierarchical model might, not necessarily, but even unwittingly, exclude the perspectives and interests of citizens and particular groups of stakeholders.

The identification of a different typology of stakeholders and, particularly, specific stakeholders in each city now allows FC to follow a dynamic approach.
Due to the iterative process beyond the solutionist logic, FC have included two main aspects in their RPs:

(i) **Data governance** and how to protect citizens’ digital vulnerabilities
(ii) Specific **pandemic measurements**

There is significant room for manoeuvre for local stakeholders in their ability to pick and choose, adapt, and prototype between innumerable intervention models and networks.

ISBN: 978-0-12-815300-0.
SMART CITY CITIZENSHIP

Prologue. DECONSTRUCTING Smart City Citizenship: Data Ecosystems and Democracy
Chapter 1. UNPLUGGING Smart City Citizenship: Beyond the Hyperconnected Societies
Chapter 2. DECRYPTING Smart City Citizenship: Techno-politics of Data and Urban Co-operative Platforms
Chapter 3. DEMOCRATISING Smart City Citizenship: Penta Helix Multi-stakeholder Policy Framework from the Social Innovation Perspective
Chapter 4. REPLICATING Smart City Citizenship: City-to-City Learning Programme
Chapter 5. DEVOLVING Smart City Citizenship: Smart City-Regions, Data Devolution, and Technological Sovereignty
Chapter 6. COMMONING Smart City Citizenship: Data Commons through (Smart) Citizens
Chapter 7. PROTECTING Smart City Citizenship: Citizens’ Digital Rights and AI-Driven Algorithmic Disruption
Epilogue. RESETTING Smart City Citizenship: Amidst the Post-COVID-19 Hyperconnected-Virtualised Societies

Smart City Citizenship

Igor Calzada. Senior Scientist at the European Commission (EC), DG Joint Research Centre (JRC), Centre for Advanced Studies & Digital Economy Unit; Senior Researcher and Policy Adviser, Urban Transformations ERRIC and Future of Cities programmes, University of Oxford; Lecturer at the UDL University, Former Lecturer/Researcher at the following universities: Strathclyde, Aston, Nevada, Ikerbasquex, Creato, Iceland, Malmö, Helsinki, and Mondragon; Former director at the Basque regional government (public sector) and Mondragon Co-operative Corporation (private sector).

Available November 2020

Rigorous, cutting-edge, interdisciplinary resource on the present and future techno-political challenges of citizenship in data-driven global smart cities from the social innovation perspective.

KEY FEATURES

- Utilizes ongoing, action research fieldwork, comparative case studies for examining current governance issues, and the role of citizens in smart cities.
- Provides definitions of new key citizenship concepts, along with a techno-political framework and toolkit drawn from a community-oriented perspective.
- Shows how to design smart city governance initiatives, projects and policies based on applied research from the social innovation perspective.
- Highlights citizen’s perspective and social empowerment in the AI-driven and algorithmic disruptive post-COVID-19 context in both transitional and experimental frameworks.

DESCRIPTION

Smart City Citizenship provides rigorous analysis for academics and policymakers on the experimental, data-driven, and participatory processes of smart cities to help integrate ICT-related social innovations into urban life.

Unlike other smart city books that are often edited collections, this book focuses on the business domain, grassroots social innovation, and AI-driven algorithmic and techno-political disruptions, also examining the role of citizens and the democratic governance issues raised from an interdisciplinary perspective.

As smart city research is a fast-growing topic of scientific inquiry and evolving rapidly, this book is an ideal reference for a much-needed discussion.

The book drives the reader to a better conceptual and applied comprehension of smart city citizenship for further democratic hyper-connected-viralised post-COVID-19 societies.

In addition, it provides a whole practical roadmap to build smart city citizenship inclusive and multi-stakeholder interventions through intertwined chapters of the book.

Users will find a book that fills the knowledge gap between the purely critical studies on smart cities and those further constructive and highly promising socially innovative interventions using case study fieldwork action research empirical evidence drawn from several cities and regions that are advancing and innovating smart city practices from the citizenship perspective.

SOCIAL SCIENCE Smart Cities Book Series
www.elsevier.com/books/smart-city-citizenship/calzada/978-0-12-815300-0
References

Thank you very much

Muchas gracias

Moltes gracias

Eskerrik asko