¿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

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February 2, 2021
10:45-1145

Digital Transformations and How It Is Changing Our Lifes: Origins, Processes, Promises & Perils

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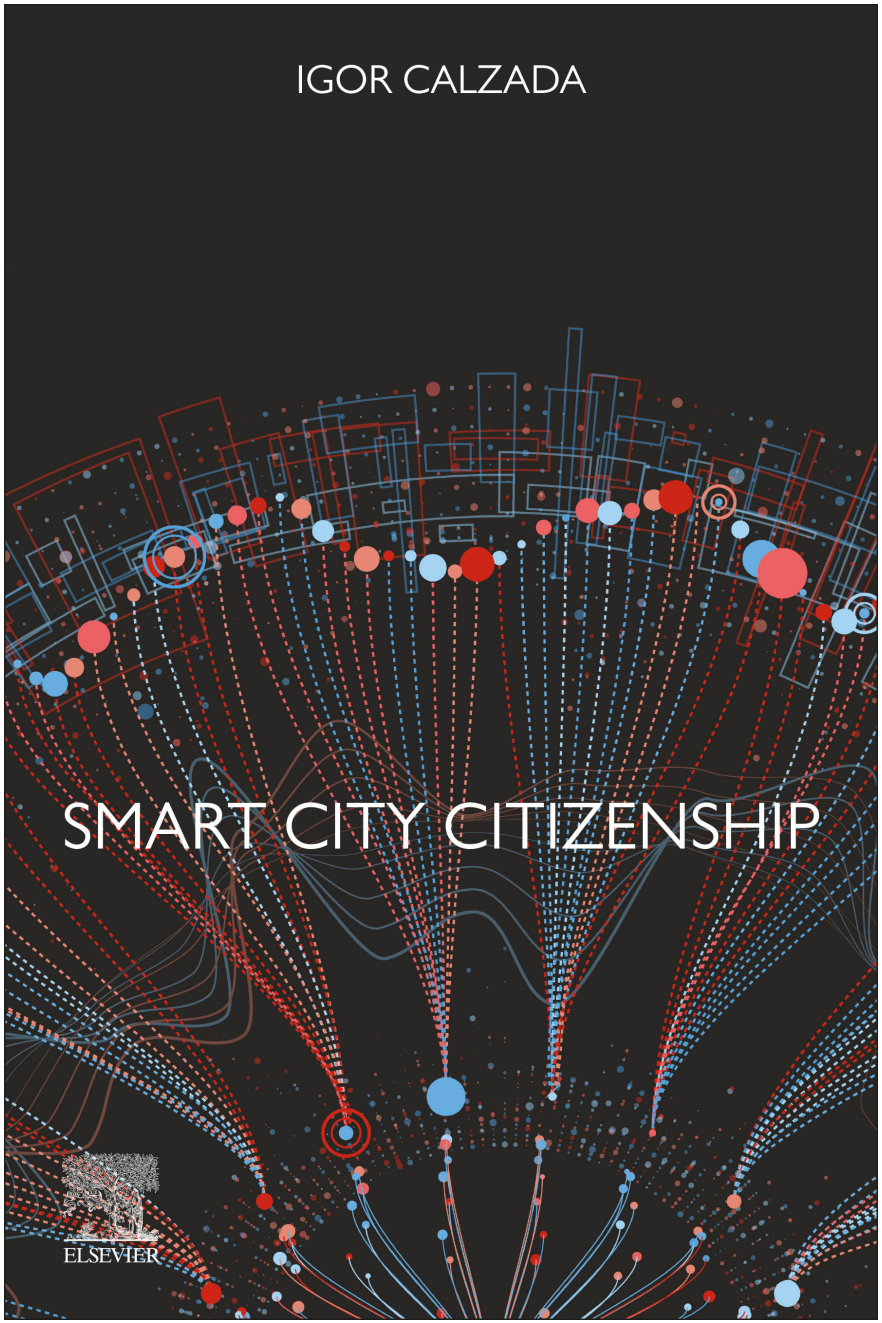


Calzada, I. (2021) *Smart City Citizenship,* Cambridge, Massachusetts: Elsevier Science Publishing Co Inc.
ISBN: 978-0-12-815300-0.

OUTLINE

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

2. **RESEARCH PATHWAY**

3. ***REPLICATING* SMART CITIES?** H2020-SCC-REPLICATE

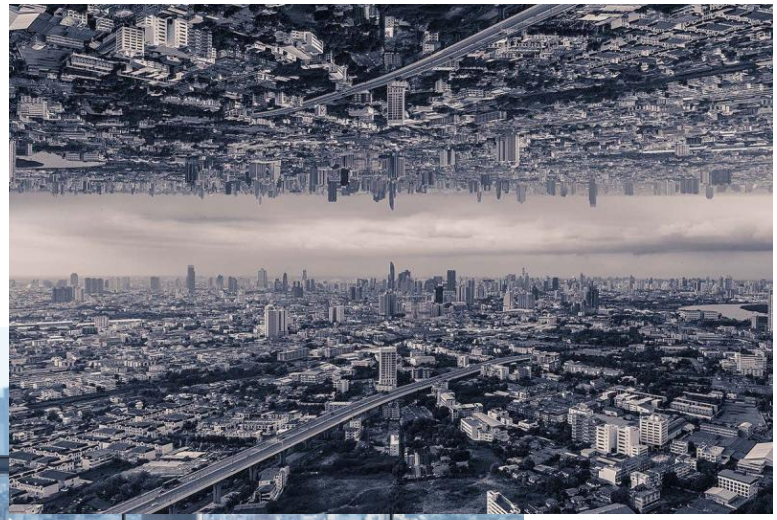
4. **FINAL REMARKS**

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



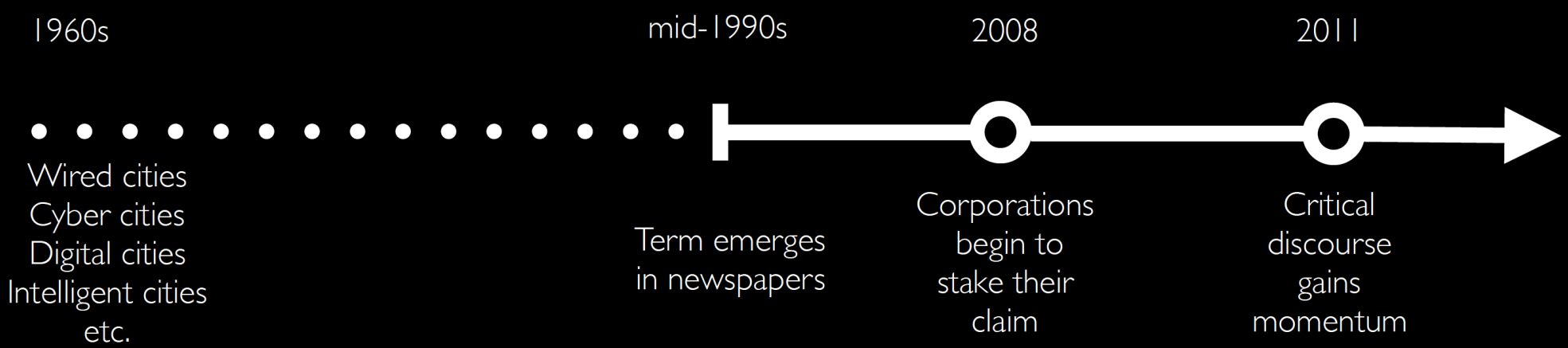
(Habermas, 2015)

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

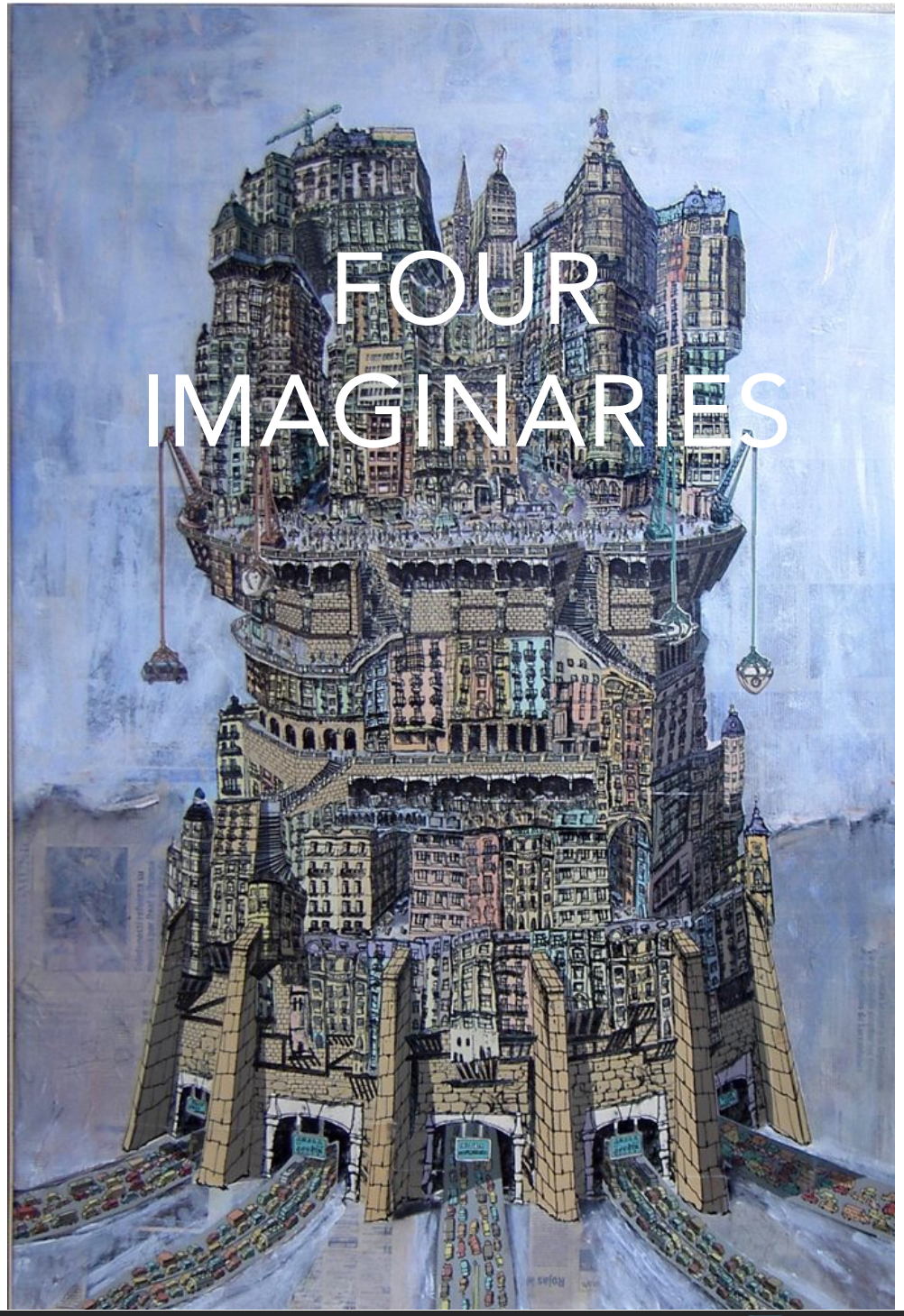
(Williams 1983: 128)

Evolution of the 'Smart City' term



Source: based on Kitchin 2015, Soderstrom et al 2014, Vanolo 2014

FOUR IMAGINARIES



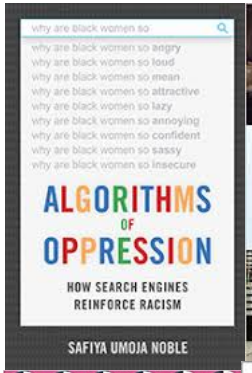
1.REPLICABILITY

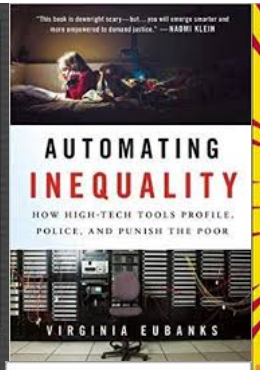
2.EFFICIENCY

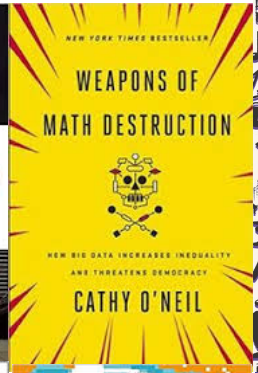
3.LIFE PROMISES

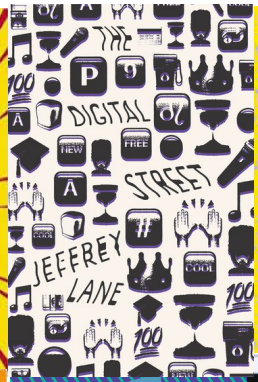
4.ALGORITHMIC DREAMS


TIM CAMPBELL
BEYOND SMART CITIES
HOW CITIES NETWORK, LEARN AND INNOVATE
SMART CITIZENS, SMARTER STATE
The Technologies of Expertise and the
FUTURE OF GOVERNING
BETH SIMONE NOVECK
THE TRANSPARENCY SOCIETY
BYUNG-CHUL HAN
BENJAMIN R. BARBER
author of Jihad vs. McWorld
IF MAYORS RULED THE WORLD
Dysfunctional Nations, Rising Cities
Inside Smart Cities
Place, Politics and Urban Innovation
CREATING SMART CITIES
Regional Studies Association
REGIONS AND CITIES
EDITED BY CLAUDIO COLETTA, LEIGHTON EVANS, LIAM HEAPHY AND ROB KITCHIN
SMART URBANISM
UTOPIAN VISION OR FALSE DAWN?
EDITED BY SIMON MARVIN, ANDRÉS LUQUE-AYALA AND COLIN MCFARLANE
SMART ABOUT CITIES
VISUALISING THE CHALLENGE FOR 21ST CENTURY URBANISM
Maarten Hajer & Ton Dassen
THE DARK SIDE OF INTERNET FREEDOM
THE NET DELUSION
EVGENY MOROZOV
"[B]RILLIANT AND COURAGEOUS...."
–NEW YORK TIMES BOOK REVIEW
Yuval Noah Harari
New York Times Bestselling Author of Sapiens
Homo Deus
A Brief History of Tomorrow
"Provocative. . . . The handiwork of a gifted thinker."
Katharine S. Willis and Alessandro Aurigi
Digital and Smart Cities


why are black women so
why are black women so angry
why are black women so loud
why are black women so mean
why are black women so attractive
why are black women so lazy
why are black women so annoying
why are black women so confident
why are black women so sassy
why are black women so insecure
ALGORITHMS OF OPPRESSION
HOW SEARCH ENGINES REINFORCE RACISM
SAFIYA UMOJA NOBLE


AUTOMATING INEQUALITY
HOW HIGH-TECH TOOLS PROFILE, POLICE, AND PUNISH THE POOR
VIRGINIA EUBANKS


NEW YORK TIMES BESTSELLER
WEAPONS OF MATH DESTRUCTION
HOW BIG DATA INCREASES INEQUALITY AND THREATENS DEMOCRACY
CATHY O'NEIL


THE DIGITAL STREET
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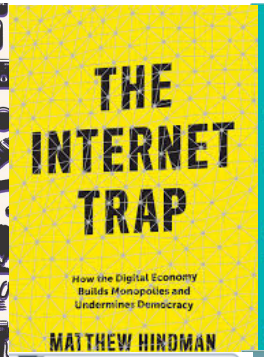
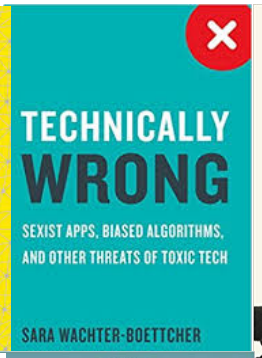
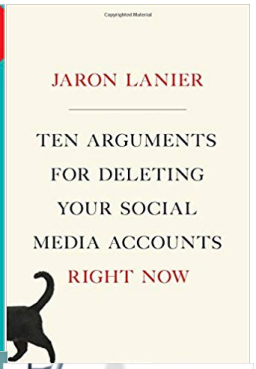
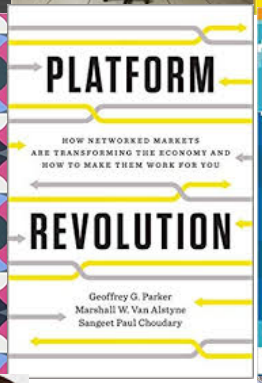
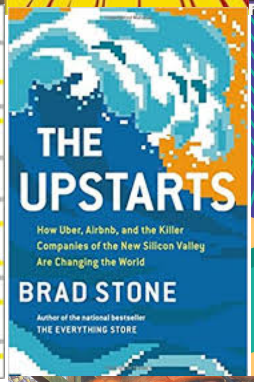

THE INTERNET TRAP
How the Digital Economy Builds Monopolies and Undermines Democracy
MATTHEW HINDMAN


TECHNICALLY WRONG
SEXIST APPS, BIASED ALGORITHMS, AND OTHER THREATS OF TOXIC TECH
SARA WACHTER-BOETTCHER

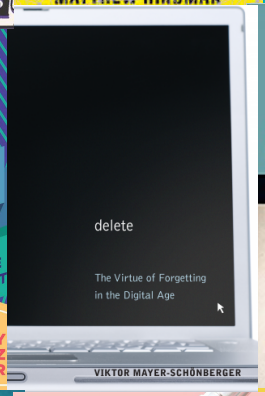

JARON LANIER
TEN ARGUMENTS FOR DELETING YOUR SOCIAL MEDIA ACCOUNTS RIGHT NOW


Platform
Capitalism
Nick Srnicek


PLATFORM
REVOLUTION
Geoffrey G. Parker
Marshall W. Van Alstyne
Sangeet Paul Choudary


THE UPSTARTS
How Uber, Airbnb, and the Killer Companies of the New Silicon Valley Are Changing the World
BRAD STONE
Author of the national bestseller THE EVERYTHING STORE


OURS TO HACK AND TO OWN
THE RISE OF PLATFORM COOPERATIVISM, A NEW VISION FOR THE FUTURE OF WORK AND A FAIRER INTERNET
EDITED BY TREBOR SCHOLZ AND NATHAN SCHNEIDER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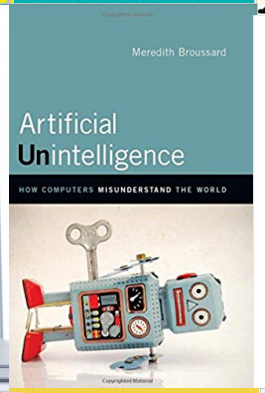
The Virtue of Forgetting in the Digital Age
VIKTOR MAYER-SCHÖNBERGER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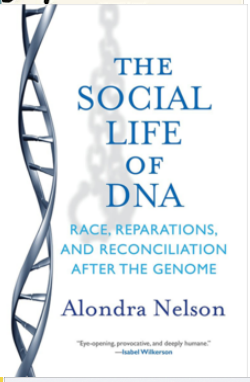
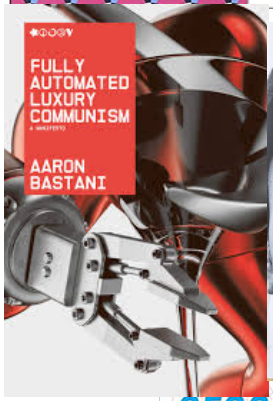
Artificial Unintelligence
HOW COMPUTERS MISUNDERSTAND THE WORLD


THE SOCIAL LIFE OF DNA
RACE, REPARATIONS, AND RECONCILIATION AFTER THE GENOME
Alondra Nelson


FULLY AUTOMATED LUXURY COMMUNISM
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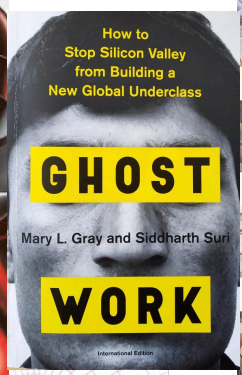
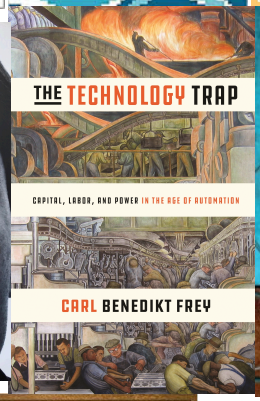

How to Stop Silicon Valley from Building a New Global Underclass
GHOST WORK
Mary L. Gray and Siddharth Suri


THE TECHNOLOGY TRAP
CAPITAL, LABOR, AND POWER IN THE AGE OF AUTOMATION
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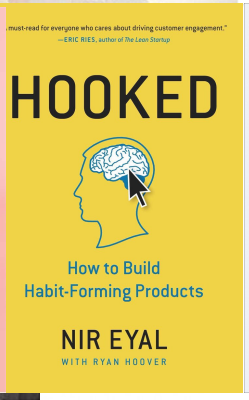
DATA SELVES
DEBORAH LUPTON


John Danaher
AUTOMATION AND UTOPIA
Human Flourishing in a World without Work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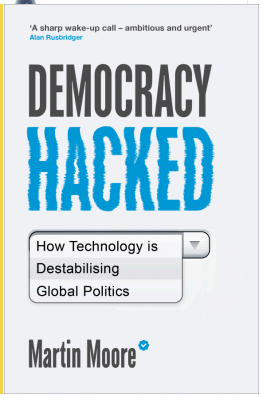
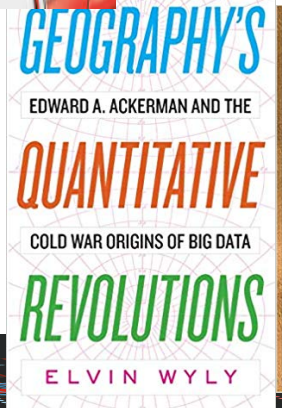
How to Build Habit-Forming Products
NIR EYAL
WITH RYAN HOOVER


'A sharp wake-up call – ambitious and urgent' Alan Rusbridger
DEMOCRACY HACKED
How Technology is
Destabilising
Global Politics
Martin Moore


GEOGRAPHY'S
EDWARD A. ACKERMAN AND THE
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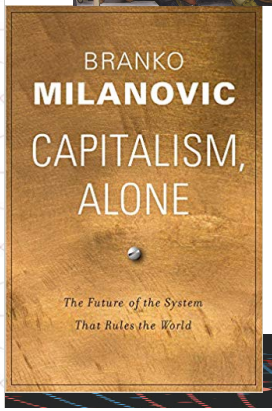
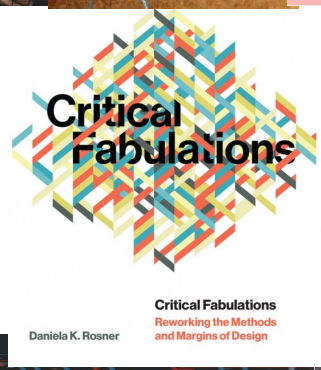
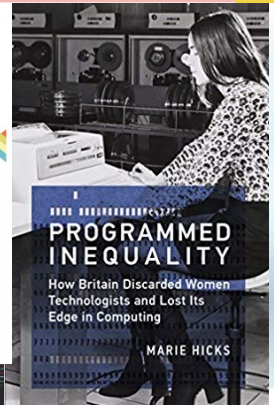
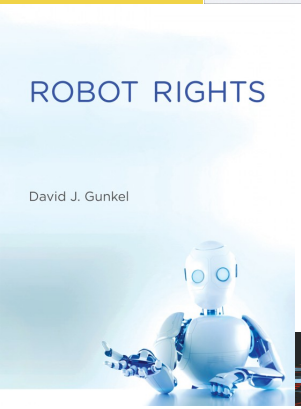
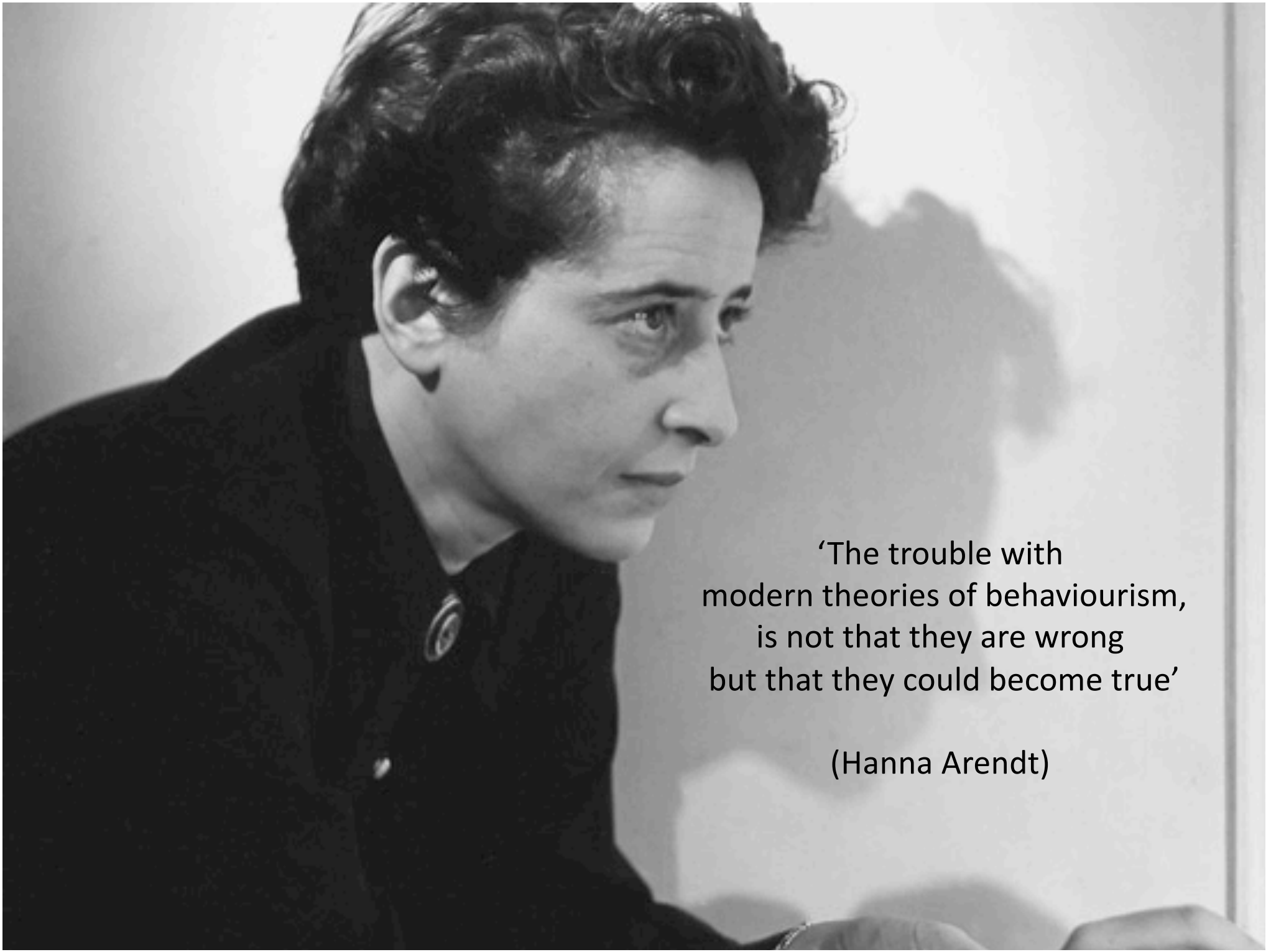
COLD WAR ORIGINS OF BIG DATA
REVOLUTIONS
ELVIN WYLY


BRANKO
MILANOVIC
CAPITALISM, ALONE
The Future of the System That Rules the World


Critical Fabulations
Critical Fabulations
Reworking the Methods and Margins of Design
Daniela K. Rosner


PROGRAMMED INEQUALITY
How Britain Discarded Women Technologists and Lost Its Edge in Computing
MARIE HICKS


ROBOT RIGHTS
David J. Gunkel


‘The trouble with
modern theories of behaviourism,
is not that they are wrong
but that they could become true’
(Hanna Arendt)

Journal of Urban Technology, 2015
http://dx.doi.org/10.1080/10630732.2014.971535

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*

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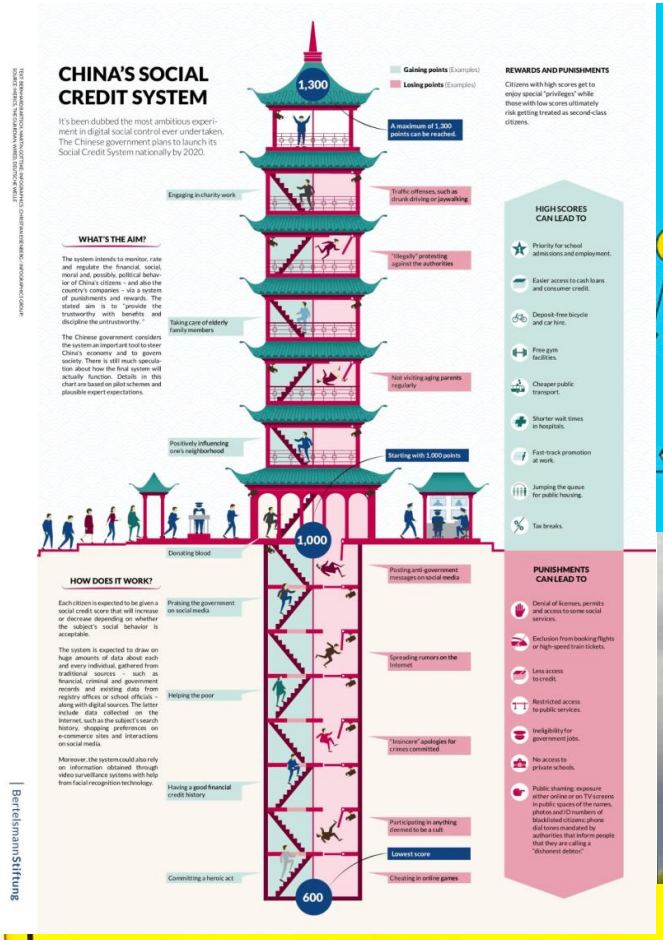
Unplugging is a novel trend that offers a corrective from the corporate, top-down direction of the 'Smart City' mainstream in favour of a transition towards the critical use of digital technologies enabling the construction of a more democratic citizenship.

(Calzada et al., 2015: 2)

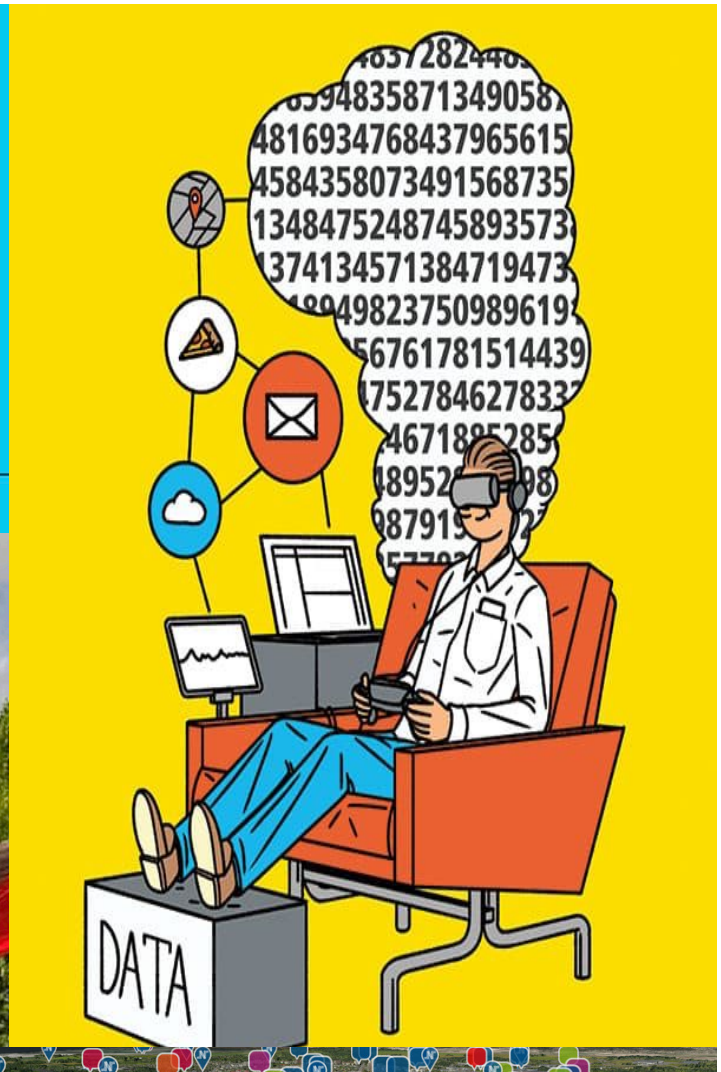
By @EU_H2020

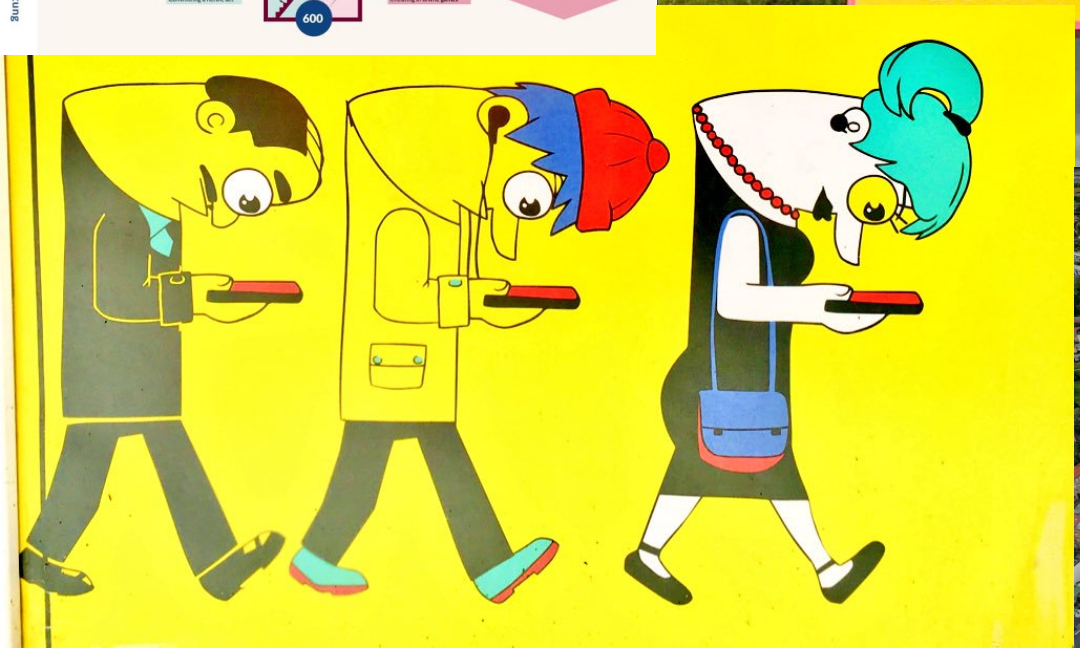
To get out from the ‘smart city-in-the-box’ approach


CHINA'S SOCIAL CREDIT SYSTEM
It's been dubbed the most ambitious experiment in digital social control ever undertaken. The Chinese government plans to launch its Social Credit System nationally by 2020.
1,300
1,000
600
Gaining points (Examples)
Losing points (Examples)
A maximum of 1,200 points can be reached.
Starting with 1,000 points
Lowest score
Engaging in charity work
Traffic offenses, such as drunk driving or jaywalking
"Illegally" protesting against the authorities
Taking care of elderly family members
Not visiting aging parents regularly
Positively influencing one's neighborhood
Donating blood
Posting anti-government messages on social media
Praising the government on social media
Spreading rumors on the Internet
Helping the poor
"Insincere" apologies for crimes committed
Having a good financial credit history
Participating in anything deemed to be a cult
Committing a heroic act
Cheating in online games
WHAT'S THE AIM?
The system intends to monitor, rate and regulate the financial, social, moral and, possibly, political behavior of China's citizens – and also the country's companies – via a system of punishments and rewards. The stated aim is to "provide the trustworthy with benefits and discipline the untrustworthy."
The Chinese government considers the system an important tool to steer China's economy and to govern society. There is still much speculation about how the final system will actually function. Details in this chart are based on pilot schemes and plausible expert expectations.
HOW DOES IT WORK?
Each citizen is expected to be given a social credit score that will increase or decrease depending on whether the subject's social behavior is acceptable.
The system is expected to draw on huge amounts of data about each and every individual, gathered from traditional sources – such as financial, criminal and government records and existing data from registry offices or school officials – along with digital sources. The latter include data collected on the Internet, such as the subject's search history, shopping preferences on e-commerce sites and interactions on social media.
Moreover, the system could also rely on information obtained through video surveillance systems with help from facial recognition technology.
REWARDS AND PUNISHMENTS
Citizens with high scores get to enjoy special "privileges" while those with low scores ultimately risk getting treated as second-class citizens.
HIGH SCORES CAN LEAD TO
Priority for school admissions and employment.
Easier access to cash loans and consumer credit.
Deposit-free bicycle and car hire.
Free gym facilities.
Cheaper public transport.
Shorter wait times in hospitals.
Fast-track promotion at work.
Jumping the queue for public housing.
Tax breaks.
PUNISHMENTS CAN LEAD TO
Denial of licenses, permits and access to some social services.
Exclusion from booking flights or high-speed train tickets.
Less access to credit.
Restricted access to public services.
Ineligibility for government jobs.
No access to private schools.
Public shaming: exposure either online or on TV screens in public spaces of the names, photos and ID numbers of blacklisted citizens; phone dial tones mandated by authorities that inform people that they are calling a "dishonest debtor."
BertelsmannStiftung


DATA
555

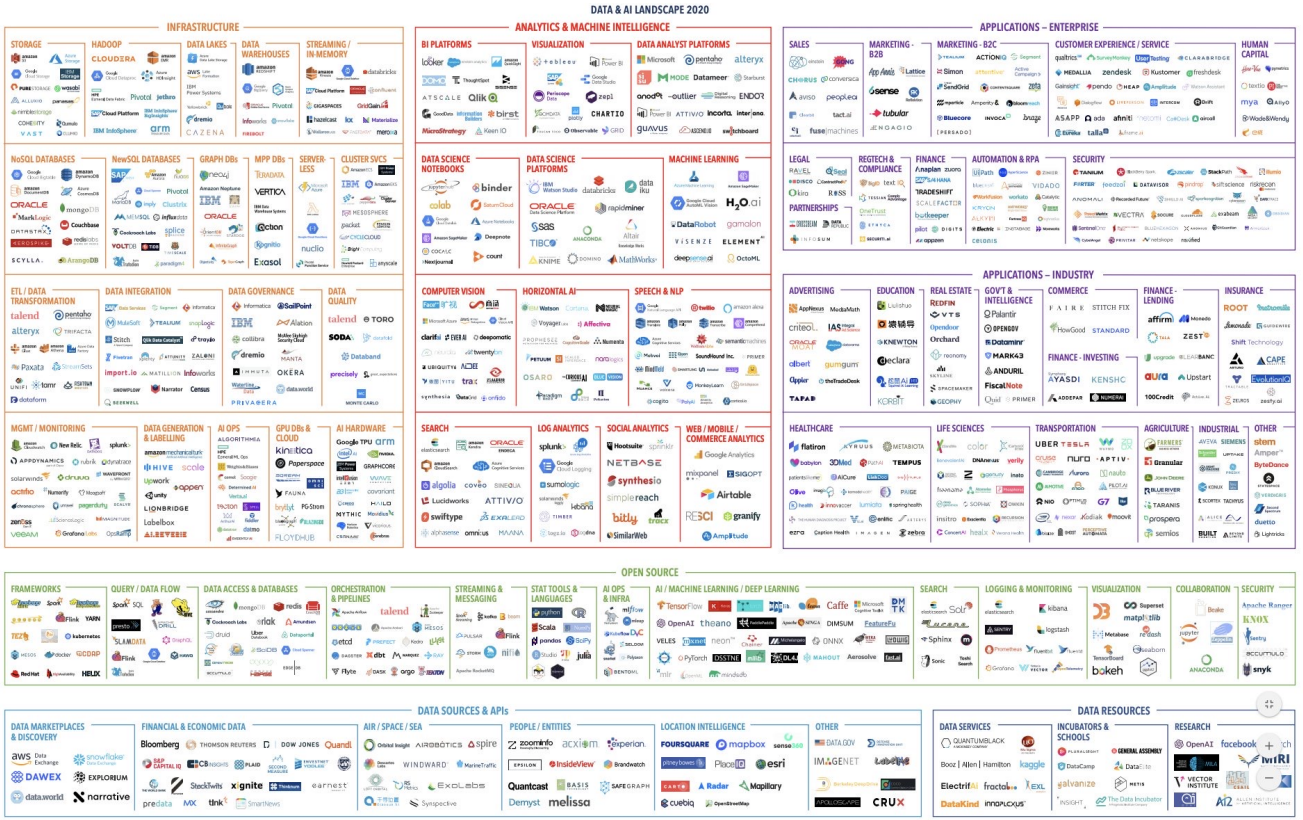

BEWARE OF
SMARTPHONE
ZOMBIES


DATA



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
4. 2016-2018: ESRC Bridging European Urban Transformations/VuB
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. (2020b), *Will Covid-19 be the end of the global citizen?* Apolitical. DOI: 10.13140/RG.2.2.11942.27208/1.

Calzada, I. (2020e), Platform and Data Co-operatives Amidst European Pandemic Citizenship, *Sustainability*, ACCEPTED

MISSION

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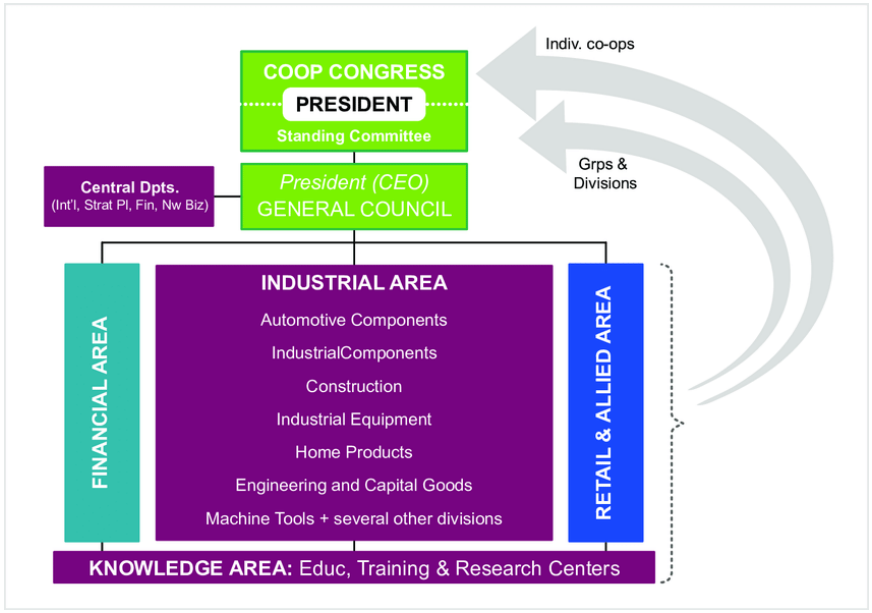

MONDRAGON HUMANITY AT WORK

www.mondragon-corporation.com

Calzada, I. (2013), *Knowledge Building & Organizational Behaviour: Mondragon Case*, In Moulaert, F., MacCallum, D., Mehmood, A. and Hamdouch, A. International Handbook of Social Innovation. Social innovation: Collective action, Social learning and Transdisciplinary research. Cheltenham: Edward Elgar (UK) Publishing. 219-229. DOI: 10.13140/RG.2.2.30748.69766.

https://ec.europa.eu/jrc/communities/en/community/digitranscope

European Commission > JRC Science Hub > Communities > Digitranscope - Digital Transformation and the Governance of Human Society

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Welcome to Digitranscope

DigiTranScope Spring Institute 2020

Governance of Digitally Transformed Societies

Fiesole (Florence), Italy

11-15 May 2020

The Call for Participation, Digitranscope Spring Institute 11-15 May 2020, Fiesole (Florence-Italy) is open! Abstract submission deadline extended to: **February 15th, 2020.**

Digitranscope is a 3-year research project (2018-20) of the JRC Centre for Advanced Studies focusing on the governance of digitally transformed human societies.

1. DigiTranScope: Autumn Institute 2020

European Commission

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

Call for Abstracts

DigiTranScope is a research project of the JRC (Joint Research Centre), Centre for Advanced Studies, at the European Commission, focusing on the governance of digitally transformed human societies. The project aims to provide a deeper understanding of key aspects of digital transformation to help policy-makers address the challenges facing European society over the next decades.

Core Topics of the Spring Institute:

- **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 value created out of data analytics and new algorithms is redistributed more equitably across all stakeholders to the benefit of European society.
- **New Forms of Policy Design, Policy Learning:** This is a topic exploring how we can develop new forms of more participative policy design, monitoring, feedback/assessment, learning loops that exploit the characteristics of digital transformation including, smart cities, gaming, digital twins, and personalisation.
- **Digital Empowerment and Social Inequalities:** How can we develop/design/foster a new path exploiting the benefits of digital transformation so that it is aimed at reducing existing social, economic, and spatial inequalities rather than exacerbating them? What is the role of local data ecosystems and co-operatives, and in general more geographically diversified policy measures, in tapping into the intrinsic characteristics of European regions and cities?

If you are interested in participating in the **DigiTranScope Spring Institute**, please send (i) an abstract (up to 500-word) of your research relevant to the topics highlighted above, together with (ii) a short BIO/CV (up to 300-words), and (iii) a motivation letter (up to 300-words) to Massimo.Craglia@ec.europa.eu

Abstract submission deadline: 1 February 2020
Acceptance/rejection notification: 1 March 2020
Scientific Committee:
Dr Max Craglia, Dr Marina Micheli, Dr Igor Calzada, Jiri Hradec, Dr Gianluca Misuraca
[European Commission DG Joint Research Centre (JRC), Ispra, Italy]
Prof Henk Scholten [Free University of Amsterdam, Netherlands]
Dr Cristina Capineri [University of Siena, Italy (local organiser)]

Format: The Spring Institute is about critical thinking and mutual learning in a multi-disciplinary environment. It is "slow food for thought" as inspired by the slow food movement, of which practical tasting will be daily experience. It will encourage informal sharing and constructive feedback, focusing on participants' research projects, ideas, and critical and interdisciplinary perspectives around the pivotal applied digital social sciences practices and theories.
Venue: Fattoria di Maiano, Via Benedetto da Maiano, 11, 50014 Fiesole (Florence), Italy
Nearest airports and railway station: Florence and Pisa; Florence, respectively.
Language: English
Number of Participants (max): 30
Who should attend: PhD candidates, post-doctoral researchers, policymakers, and practitioners from inter-disciplinary backgrounds coming from the academia, industry, government, and civic society who are interested in exploring the trends and related societal challenges of digital transformations in the governance of future societies.
Fees: No registration fees. Lunch provided but participants will have to pay for their own accommodation and travel and evening meals. A number of hotels and a camping site are available in Fiesole or surroundings.

Joint Research Centre

Social perspective | Knowledge

https://ec.europa.eu/knowledge4policy/ai-watch/topic/social-perspective_en

European Commission | English EN | Search | Search

European Commission > Knowledge for policy > AI Watch > Social perspective

Knowledge for policy

TOPIC

Social perspective

> *"The debate about ethical and social implications of AI for individuals and societies needs to move forward and 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.

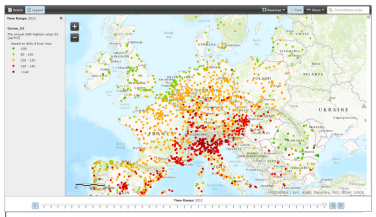
AI WATCH aims to provide a multidisciplinary understanding of the impact that artificial intelligence has on people and society. We look at different topics such as fairness, accountability and transparency of AI systems, human-robot interaction, algorithm-supported decision making, economic impact,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

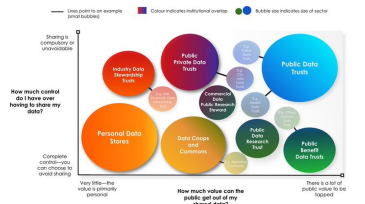
2. AI Watch: AI in the Public Sector

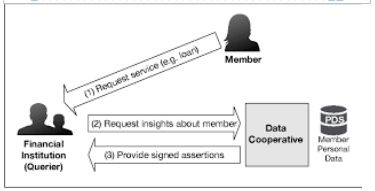
Related links

Knowledge service | AI Watch

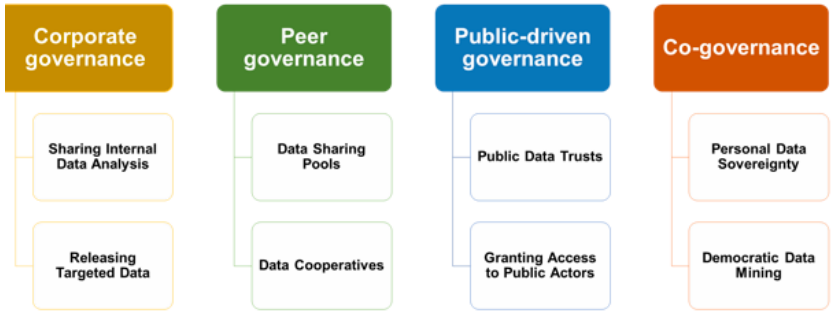
3. Pandemic Citizenship: Platform & Data Co-operatives

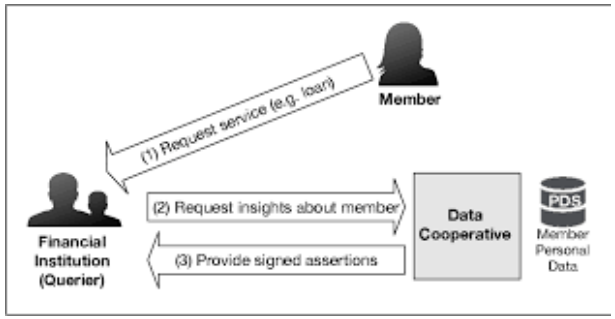






3. Pandemic Citizenship: Platform & Data Co-operatives





Platform Coops			Data Coops
Worker (29; 18%)	**Produser** (38; 24%)	**Multistakeholder** (49; 31%)	**Data** (39; 25%)
Co-operativising Work	***Co-operativising Exchange***	***Co-operativising Community Services***	***Co-operativising Data***
Mobility	Culture, agriculture, food, software, websites, hosting, start-up support, videoconferencing	Healthcare, delivery riders, media, rental, housing, land	Health, finance, security
1. www.greentaxico-op.com 2. www.Fairmondo.de 3. www.Loconomics.com 4. www.upandgo.coop 5. www.start.coop/ 6. www.coopcycle.org/en/ 7. www.eva.coop/ 8. www.enspiral.com/ 9. www.reservation.alphataxis.fr/ 10. www.co-optaxi.com/ 11. www.aarhusmakers.com/ 12. www.applicolis.com 13. www.casa-comuna.coop 14. www.codesolid.com 15. http://www.nesta.org.uk/sharelab-fund-meet-grantees/driver-co-op 16. www.eyemole.io 17. www.crowdfunder.co.uk/faircab 18. www.gildedsplinters.coop 19. www.indycube.community 20. www.lowimpact.org 21. www.means.tv 22. www.themobilityfactory.eu 23. www.modo.coop 24. www.noncorporate.org 25. www.ridygo.fr 26. www.staffing.coop 27. www.taxiapp.uk.com 28. www.wechange.eco 29. www.wordjammers.com	1. www.Resonate.is 2. www.stocksy.com 3. www.foradoeixo.org.br/ 4. www.smart-ib.coop/ 5. www.agrilyst.com 6. www.ampled.com 7. www.ampliativeart.org 8. www.cleanenergycu.org 9. www.en.goteo.org 10. www.ccor.org 11. www.cosmos.coop 12. www.darkpeak.org 13. www.docservizi.it 14. www.dorg.tech 15. www.driversseat.co 16. www.drutopia.org 17. www.eten.com 18. www.guerrillatranslation.org 19. www.hcoop.net 20. www.interchanges.io 21. www.joinus2eat.be 22. www.kostaki.id 23. www.marketers.coop 24. www.mayfirst.coop 25. www.membersmedia.net 26. www.org.meet.coop 27. www.openfoodnetwork.org/ofn-local/open-food-network-scandinavia/ 28. www.about.openfoodnetwork.org.uk 29. www.originclub.org 30. www.partago.be 31. www.thephone.coop 32. www.smart-eu.org 33. www.social.coop 34. www.sofcoop.org 35. www.vngrd.online 36. www.webarchitects.coop 37. www.webhosting.coop 38. www.webtv.coop	1. www.saltspacecoop.co.uk/ 2. www.formandfunction.coop/ 3. www.graphics.coop/ 4. www.taskrabbit.com/ 5. www.fairbnb.coop/ 6. www.equalcare.coop/ 7. www.mensakas.com/ 8. www.savvy.coop/ 9. www.thenews.coop/global/ 10. www.banyanproject.coop/ 11. www.libretaxi.org/ 12. www.ethoscharity.co.uk/ 13. www.coopdescommuns.org/en/the-coop/ 14. www.snowdrift.coop/ 15. www.ampliativeart.org/ 16. www.fair.coop/ 17. www.incubator.coop 18. www.affinity.works 19. www.anyshare.coop 20. www.bhive.coop 21. www.brave.coop 22. www.coopsource.org 23. www.collective.tools 24. www.cooby.io 25. www.networks.coop 26. www.pittsburgh.covivi.us 27. www.demcra.com 28. www.doma.city 29. www.encode.org 30. www.francebarter.coop 31. www.freedomcoop.eu 32. www.gebiedonline.nl 33. www.highplainsfood.org 34. www.kabelan.id 35. www.nearnow.org.uk/stories/re-imagining-childcare-introducing-kidoop 36. www.knowledgeatlas.com 37. www.mediacoop.ca 38. www.newscoopyyc.coop 39. www.lesoiseauxdepassage.coop 40. www.parti.coop 41. www.positivenews.org.uk 42. www.pueblo.global 43. www.share.coop 44. www.signco.io 45. www.sommobilitat.coop 46. www.tapazz.com 47. www.vientos.coop 48. www.weco.io 49. www.wehelpen.nl	1. www.culedger.com 2. www.MiData.coop 3. www.Salus.coop 4. www.cozy.io 5. www.mydex.org 6. www.aqdatacommons.org 7. www.Openhumans.org 8. www.decodeproject.eu 9. www.decidim.org 10. www.meta.decidim.org 11. www.mydex.org 12. www.opendatamanchester.org.uk 13. www.thegooddata.org 14. www.healthbank.coop 15. www.ubiquitouscommons.org 16. www.datacommons.coop 17. www.nordicdei.org/ 18. www.givememydata.com 19. www.waze.com 20. www.citydataexchange.com 21. www.airbus.com/aircraft/support-services/skywise.html 22. www.agproexchange.com 23. www.bankofthecommons.coop 24. www.cupay.coop 25. www.datavest.org/ 26. www.divvydao.org 27. www.market.fair/coop 28. www.find.coop 29. www.gisc.coop 30. www.ledgerback.coop 31. www.mainst.market 32. www.moeda.in 33. www.opencredit.network 34. www.patientcritical.com 35. www.privacyco-op.com 36. www.rchain.coop 37. www.robinhoodcoop.org 38. www.somconnexio.coop 39. www.zerodark.coop

Calzada, I. (2020), Seeing Platform and Data Co-operatives Through the European Post COVID-19 Citizenship, In VV.AA., *DigiTranScope: A Project on the Governance of/with the Digital Transformation*, EUR XXXXX EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-79-XXXXX-X, doi:10.2760/XXXXXX, JRCXXXXXX [Forthcoming] DOI: 10.13140/RG.2.2.12722.22729/1.

Calzada, I. (2020) Platform and Data Co-operatives Amidst the European Pandemic Citizenship. *Sustainability*. Forthcoming.

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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; igor.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

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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

Calzada, I. (2020), Platform and Data Co-operatives Amidst European Pandemic Citizenship, *Sustainability* **12**(20): 8309. DOI: 10.3390/su12208309.

- 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].

Calzada, I. (2020), Platform and Data Co-operatives Amidst European Pandemic Citizenship, *Sustainability* **12**(20): 8309. DOI: 10.3390/su12208309.

- 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 oer new non-capitalist labor environments in a post-COVID-19 world.

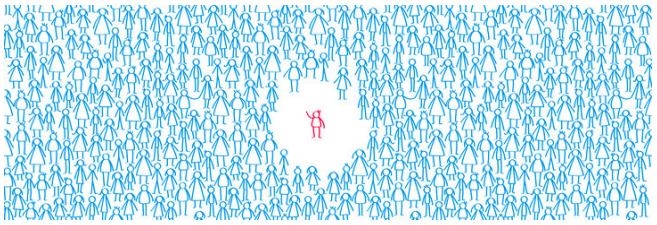
2. RATIONALE

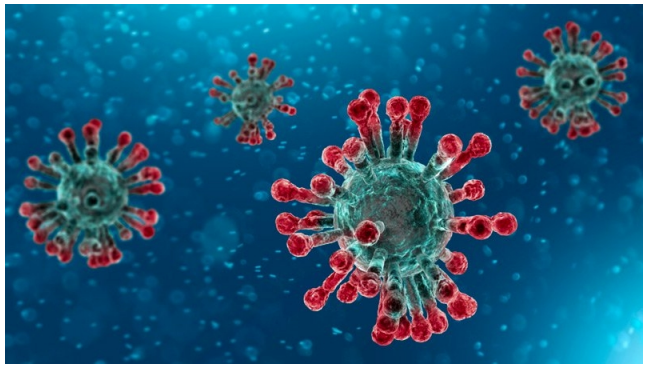
1. Arguably, the current pandemic crisis and democracy are pervasively related to data governance issues, exposing citizens' vulnerability in a potential surveillance state [Morozov, 2020; Lucas, 2020; Pickard, 2008; Aho et al., 2020; DPO, 2020; Gekker et al., 2019; Hintz et al., 2017; MAIEI, 2020].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

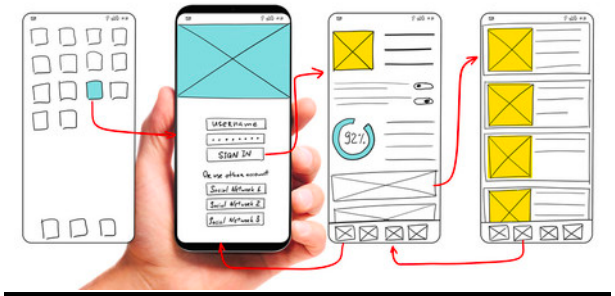
Calzada, I. (2020), Platform and Data Co-operatives Amidst European Pandemic Citizenship, *Sustainability* **12**(20): 8309. DOI: 10.3390/su12208309.

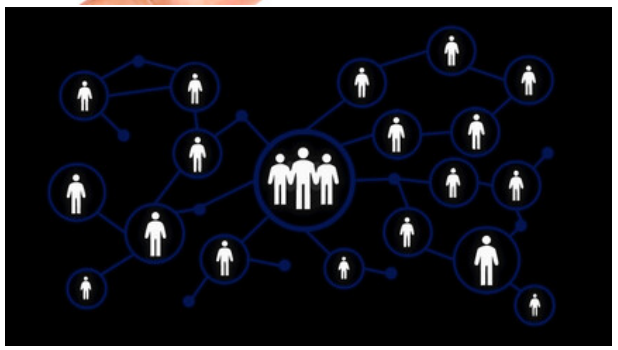
3. RESEARCH QUESTION

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









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3. METHODOLOGY

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

Delphi Method			
Paradigm	**P2P/Commons**	**Platform Co-Operatives**	**Data Co-Operatives**
Expert	**Michel Bauwens**	**Trebor Scholz** **Nathan Schneider**	**Thomas Hardjono** **Alex Pentland**
Co-operative notion	• **Co-operatives**, 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.	• **Platform co-operatives** 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.	• **Data co-operatives** 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. • Utimately, it offers insights to negotiate better deals for members.
Analysis	• 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.	• 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.	• **Data co-operatives** 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)
Economic paradigm	• Ethical economy	• Entrepreneurial economy	• Data-driven economy
Good practices	• Enspiral (New Zealand) • Fora do Eixo (Brazil) • Ethos Foundation (Switzerland) • Smart.coop (Spain/Belgium) • Coop des Communs (France)	• Fairmonduk (UK) • Upandgo (USA) • Eva (France)	• MyData (Finland) • Salus (Catalonia/Spain) • Cozy (France)

3. METHODOLOGY

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

Platform Co-Operatives	Data Co-Operatives
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.	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.

3. METHODOLOGY

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

Oriented to			Flow	Typologies	
Business	**Platform Co-operatives**		Labor exchange	1. Consortia Worker Platform1. 1.1. Co-operatively Owned Online Labor Brokerages and Market Places 1.2. Union-Backed Labor Platforms	**1. Worker**
			Content distribution	2. Producer-led Platform	**2. Producer**
				3. Multistakeholder/Community Platform 3.1. City-Owned Platforms 3.2. Co-operatives from Within	**3. Multistakeholder**
Store		**Data Co-operatives**	Data aggregation	4. Data Consortia Platform	**4. Data**

3. METHODOLOGY

Table 4. Case Identification by Typology.

Platform Coops			Data Coops
Worker (29; 19%)	**Producer** (38; 24%)	**Multistakeholder** (50; 32%)	**Data** (39; 25%)
Co-operativizing Work	*Co-operativizing Exchange*	*Co-operativizing Community Services*	*Co-operativizing Data*
Mobility	Culture, agriculture, food, software, websites, hosting, start-up support, videoconferencing	Healthcare, delivery riders, media, rental, housing, land	Health, finance, security
1. www.greentaxico-op.com	1. www.Resonate.is	1. www.saltspacecoop.co.uk/	1. www.culedger.com
2. www.Fairmondo.de	2. www.stocksy.com	2. www.formandfunction.coop/	2. www.MiData.coop
3. www.Loconomics.com	3. www.foradoeixo.org.br/	3. www.graphics.coop/	3. www.Salus.coop
4. www.upandgo.coop	4. www.smart-ib.coop/	4. www.taskrabbit.com/	4. www.cozy.io
5. www.start.coop/	5. www.agrilyst.com	5. www.fairbnb.coop/	5. www.mydex.org
6. www.coopcycle.org/en/	6. www.ampled.com	6. www.equalcare.coop/	6. www.aqdatacommons.org
7. www.eva.coop/	7. www.ampliativeart.org	7. www.mensakas.com/	7. www.Openhumans.org
8. www.enspiral.com/	8. www.cleanenergycu.org	8. www.savvy.coop/	8. www.decodeproject.eu
9. www.reservation.alphataxis.fr/	9. www.en.goteo.org	9. www.thenews.coop/global/	9. www.decidim.org
10. www.co-optaxi.com/	10. www.ccor.org	10. www.banyanproject.coop/	10. www.meta.decidim.org
11. www.aarhusmakers.com/	11. www.cosmos.coop	11. www.libretaxi.org/	11. www.mydex.org
12. www.applicolis.com	12. www.darkpeak.org	12. www.ethoscharity.co.uk/	12. www.opendatamanchester.org.uk
13. www.casa-comuna.coop	13. www.docservizi.it	13. www.coopdescommuns.org/en/the-coop/	13. www.thegooddata.org
14. www.codesolid.com	14. www.dorg.tech	14. www.snowdrift.coop/	14. www.healthbank.coop
15. http://www.nesta.org.uk/sharelab-fund-meet-grantees/driver-co-op	15. www.driversseat.co	15. www.ampliativeart.org/	15. www.ubiquitouscommons.org
16. www.eyemole.io	16. www.drutopia.org	16. www.fair.coop/	16. www.datacommons.coop
17. www.crowdfunder.co.uk/faircab	17. www.eten.com	17. www.incubator.coop	17. www.nordicdei.org/
18. www.gildedsplinters.coop	18. www.guerrillatranslation.org	18. www.affinity.works	18. www.givememydata.com
19. www.indycube.community	19. www.hcoop.net	19. www.anyshare.coop	19. www.waze.com
20. www.lowimpact.org	20. www.interchanges.io	20. www.bhive.coop	20. www.citydataexchange.com
21. www.means.tv	21. www.joinus2eat.be	21. www.brave.coop	21. www.airbus.com/aircraft/support-services/skywise.html
22. www.themobilityfactory.eu	22. www.kostaki.id	22. www.coopsource.org	22. www.agproexchange.com
23. www.modo.coop	23. www.marketers.coop	23. www.collective.tools	23. www.bankofthecommons.coop
24. www.noncorporate.org	24. www.mayfirst.coop	24. www.cooby.io	24. www.cupay.coop
25. www.ridygo.fr	25. www.membersmedia.net	25. www.networks.coop	25. www.datavest.org/
26. www.staffing.coop	26. www.org.meet.coop	26. www.pittsburgh.covivi.us	26. www.divvydao.org
27. www.taxiapp.uk.com	27. www.openfoodnetwork.org/ofn-local/open-food-network-scandinavia/	27. www.demcra.com	27. www.market.fair/coop
28. www.wechange.eco	28. www.about.openfoodnetwork.org.uk	28. www.doma.city	28. www.find.coop
29. www.wordjammers.com	29. www.originclub.org	29. www.encode.org	29. www.gisc.coop
	30. www.partago.be	30. www.francebarter.coop	30. www.ledgerback.coop
	31. www.thephone.coop	31. www.freedomcoop.eu	31. www.mainst.market
	32. www.smart-eu.org	32. www.gebiedonline.nl	32. www.moeda.in
	33. www.social.coop	33. www.highplainsfood.org	33. www.opencredit.network
	34. www.sofcoop.org	34. www.kabelan.id	34. www.patientcritical.com
	35. www.vngrd.online	35. www.nearnow.org.uk/stories/re-imagining-childcare-introducing-kidoop	35. www.privacyco-op.com
	36. www.webarchitects.coop	36. www.knowledgeatlas.com	36. www.rchain.coop
	37. www.webhosting.coop	37. www.mediacoop.ca	37. www.robinhoodcoop.org
	38. www.webtv.coop	38. www.newscoopyyc.coop	38. www.somconnexio.coop
		39. www.lesoiseauxdepassage.coop	39. www.zerodark.coop
		40. www.parti.coop	
		41. www.positivenews.org.uk	
		42. www.pueblo.global	
		43. www.share.coop	
		44. www.signco.io	
		45. www.sommobilitat.coop	
		46. www.tapazz.com	
		47. www.vientos.coop	
		48. www.weco.io	
		49. www.wehelpen.nl	
		50. www.kolyma2.de	

Table 5. City-Regional Fieldwork Action Research.

City-Regional Fieldwork Action Research [32]			
	Tallinn (Estonia)	**Barcelona (Catalonia, Spain)**	**Glasgow (Scotland, UK)**
Potentially Pushed by	**Public Sector**	**Civil Society**	**Private Sector**
Context	• Estonia has developed an efficient, secure, and transparent digital society that provides online government services (e-services) to citizens, resulting in time and cost savings. • 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. • Nonetheless, how are citizens responding to this leading role of the public sector? • Besides, has the snowball effect of Skype's founders investing money in emerging Estonian start-ups facilitated any kind of co-operative experience from below?	• Barcelona has demonstrated since 2015 how the smart city policy agenda could be modified by formulating citizen-centric strategies. • However, how sustainable are the initiatives implemented under the banner of platform and data co-operatives?	• A vast landscape of institutions is currently working on digital transformations, particularly around Glasgow and its metropolitan surroundings. • Preliminary fieldwork research evidence reveals that key stakeholders could perceive this phenomenon as emerging due to the historical grassroots movements in the urban environment of Glasgow, and the existing traditional co-operative ecosystem.
Key stakeholders	• University of Tallinn: School of Digital Technologies • Estonian Co-operation Assembly • Open Knowledge Estonia	• Barcelona City Council: Social and Solidarity Economy • Barcelona City Council: Technology and Digital Innovation Office/Cities Coalition for Digital Rights (CCDR) • DECODE/DECIDIM/METADECIDIM • UOC: IN3 • UOC: Digital Commons (DIMMONS) • Federación de Co-operativas de Trabajo de Catalunya	• Scottish Tech Army • Scotland 5G Centre • Glasgow City Council • The DataLab • Scottish Cities Alliance • Urban Big Data Centre • Data Driven Innovation • Edinburgh International Data Facility • John Smith Centre • DataFest 2020 • Scotland's AI Strategy • EDAS • Edinburgh Futures Institute

3. METHODOLOGY

Table 5. *Cont.*

City-Regional Fieldwork Action Research [32]			
	Tallinn (Estonia)	**Barcelona (Catalonia, Spain)**	**Glasgow (Scotland, UK)**
Potentially Pushed by	**Public Sector**	**Civil Society**	**Private Sector**
Historical path-dependency	• Tallinn is remarkable in showing the way to lead in public service provision and in the interaction with citizens. • But how active are citizens in Tallinn as regards self-organizing data-driven activities such as platform and data co-operatives?	• The libertarian municipal spirit, now branded as *new municipalism*, within the metropolitan networked city of Barcelona, has always been the seed for grassroots-driven resilient initiatives.	• While the data and platform ecosystem is spreading out and growing rather quickly, platform and data co-operatives remain so far as niche experiments.
Current and active co-operatives	• Fieldwork revealed that it could expect ab rand new generation of co-operatives due to the abundant local kickstartups, design labs, hackathons, and initiatives at the district level being pushed by several key stakeholders.	Fieldwork revealed several initiatives: • www.saluscoop.org • www.colectic.coop • www.prosume.io • www.sommobilitat.coop • www.coopdevs.org • www.katuma.org • www.somosconexion.coop • www.femprocomuns.coop	• Fieldwork revealed these initiatives: • www.formandfunction.coop • www.graphics.coop • www.saltspacecoop.co.uk

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.

Exploring Digital Rights in the CCDR Cities

47 Global Cities

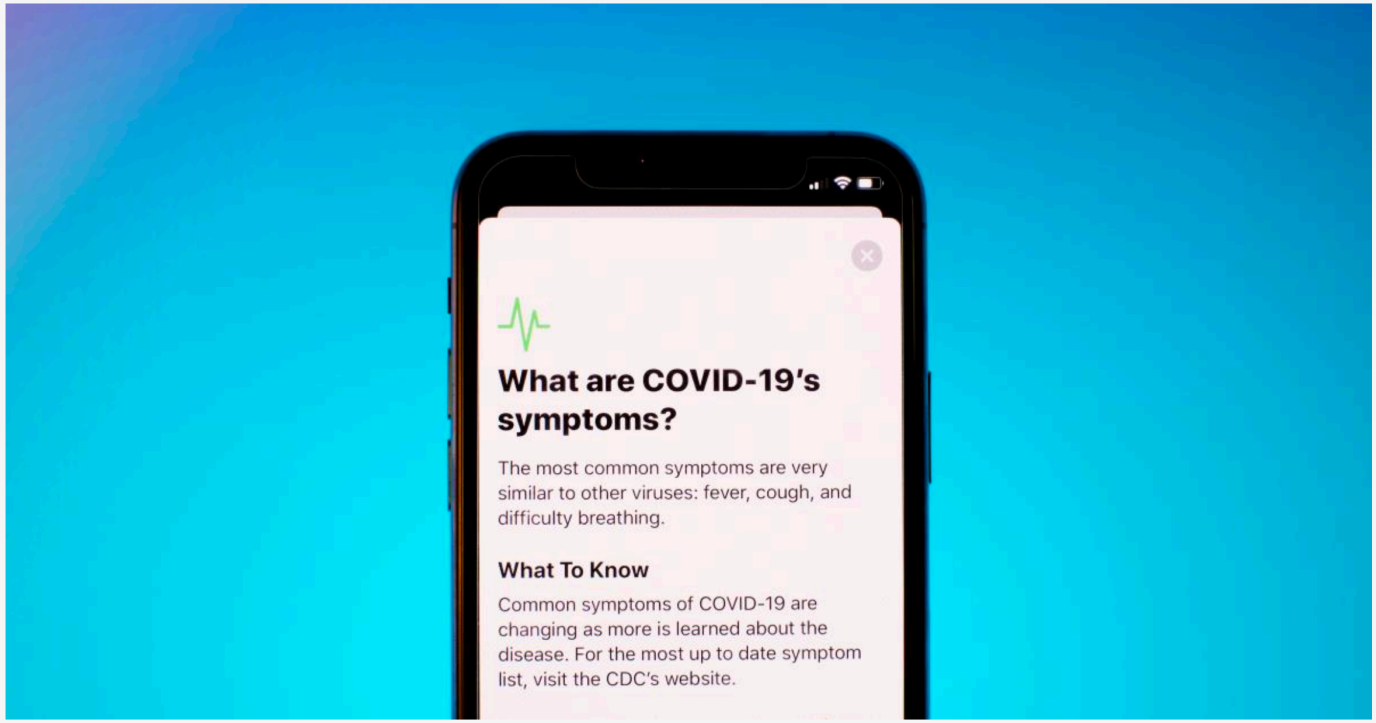
https://citiesfordigitalrights.org/

CITIES FOR DIGITAL RIGHTS

Cities Blog Download the declaration

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

Smart City Expo World Congress 2020: 18th November

3.
REPLICATING SMART CITIES?

H2020-SCC-REPLICATE PROJECT

smart cities

MDPI

Article

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 6QS, 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

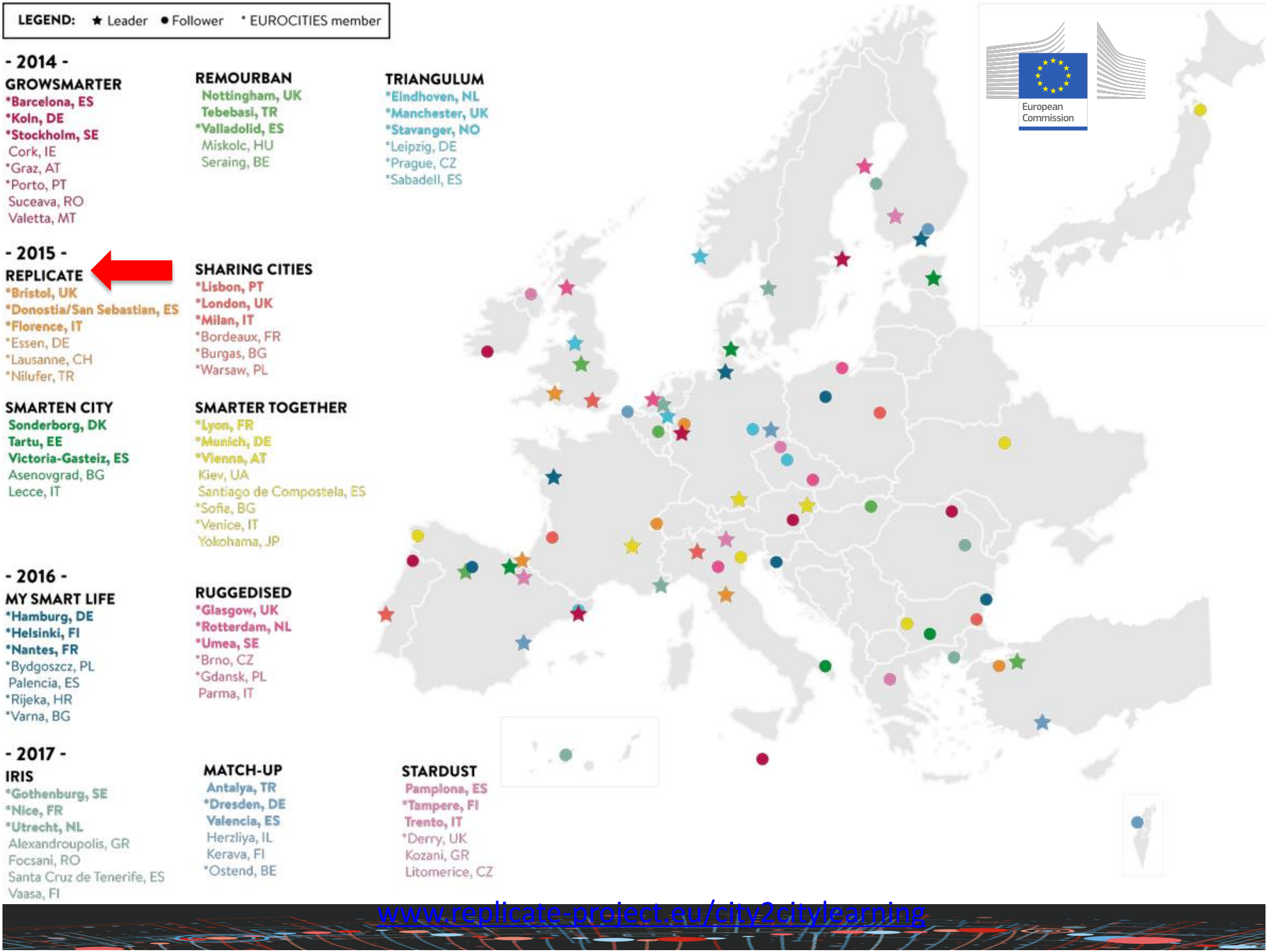
Received: 31 July 2020; Accepted: 3 September 2020; Published: 8 September 2020

check for updates

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 Nilüfer). 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

Calzada, I. (2020), Replicating Smart Cities: The City-to-City Learning Programme in the Replicate EC-H2020-SCC Project, *Smart Cities* 3(3): 978-1003. DOI: 10.3390/smartcities3030049.



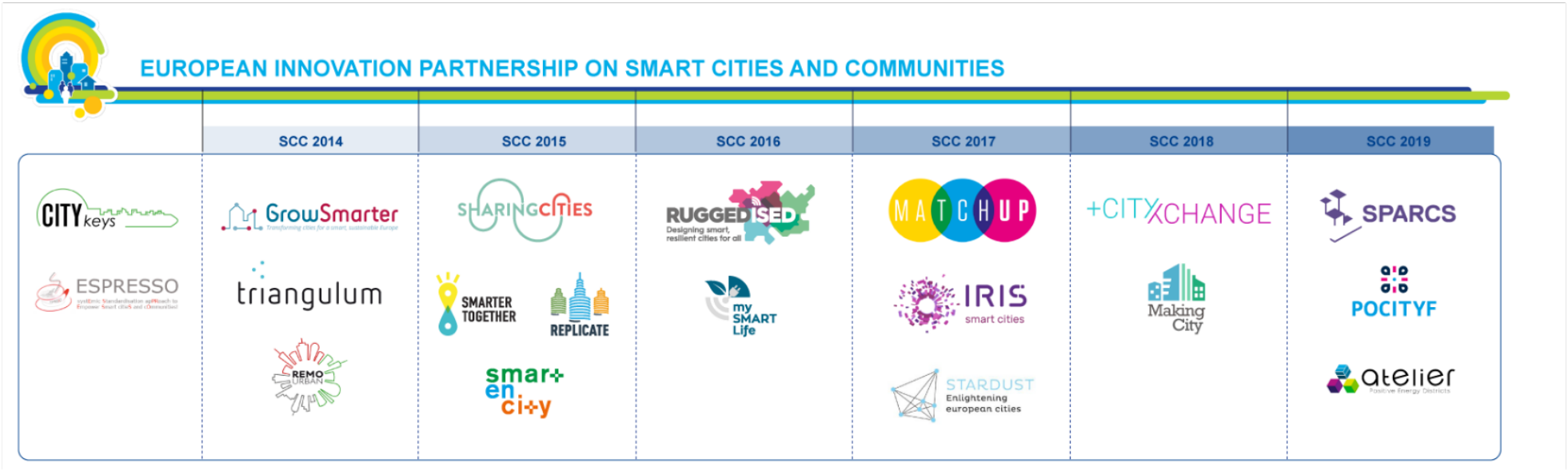
www.replicate-project.eu/city2citylearning

EC-H2020-Smart Cities and Communities

REPLICATE Project

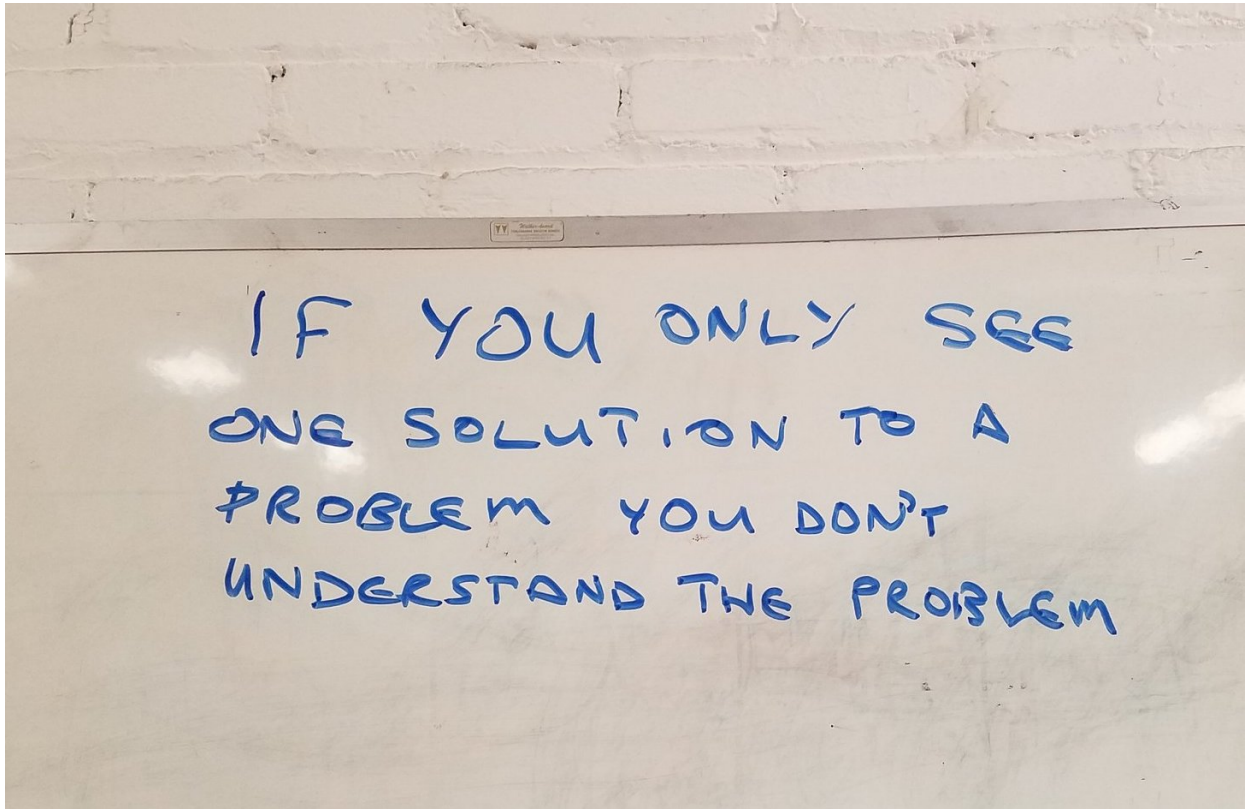
Calzada, I. (2018), Deciphering Smart City Citizenship: The Techno-Politics of Data and Urban Co-operative Platforms. *RIEV, Revista Internacional de Estudios Vascos/International Journal on Basque Studies* 63(1-2):42-81. DOI: 10.13140/RG.2.2.24498.35524/6.

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



“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)

Rationale

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.

Lighthouse Cities

Illuminate/copy-paste

Follower/Fellow Cities

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.

REPLICATE

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

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

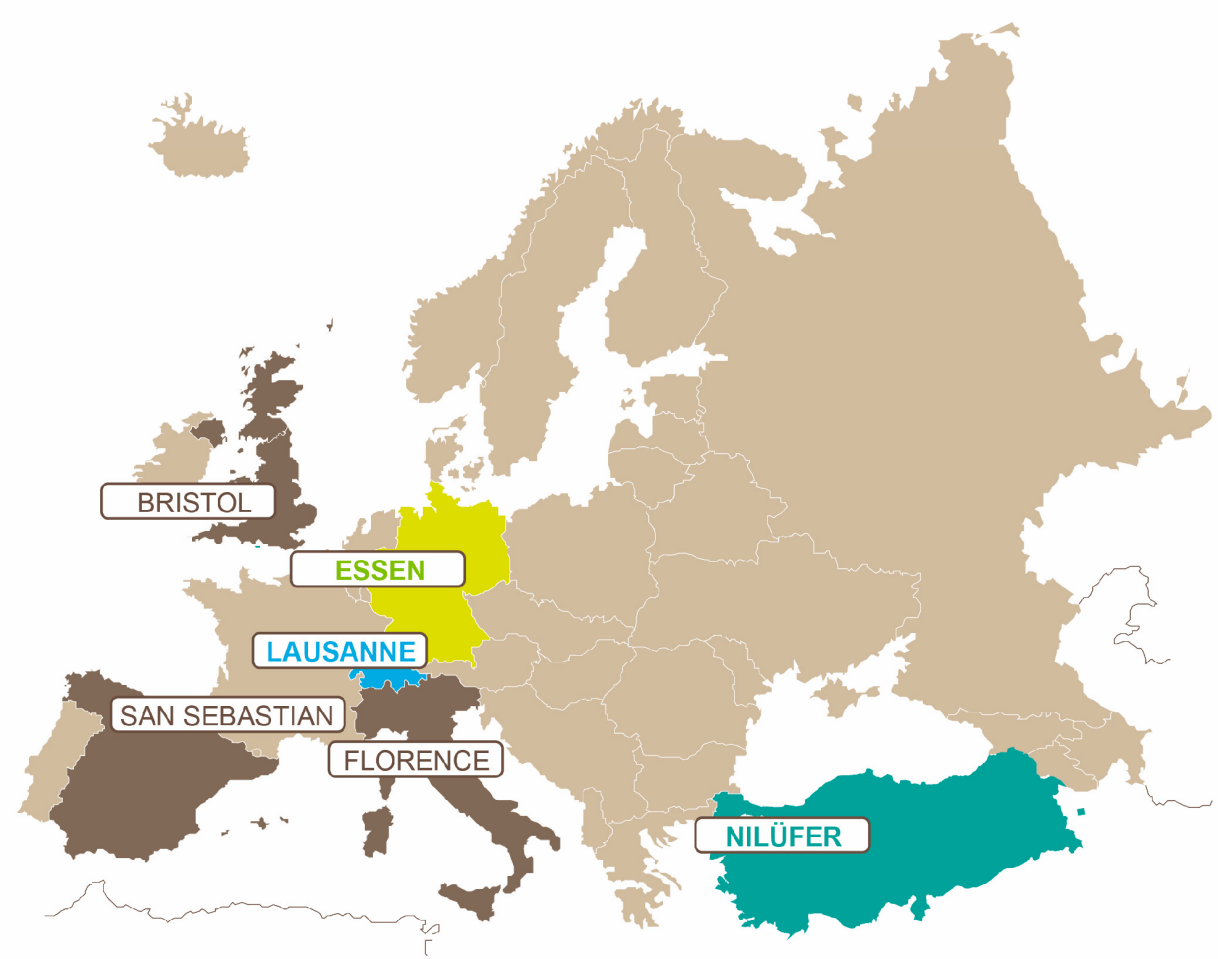
RESEARCH QUESTION

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**.

[21,41,42,43,44]	
From (Pure) Replication	**To City-To-City-Learning**
Unidirectional	Multidirectional
Hierarchical	Radial
Mechanistic	Dynamic
Solutionist	Iterative
Technocratic	Democratic

Calzada, I. (2020), Replicating Smart Cities: The City-to-City Learning Programme in the Replicate EC-H2020-SCC Project, *Smart Cities* 3(3): 978-1003. DOI: 10.3390/smartcities3030049.

Lighthouse Cities

Learn from each other

~~Follower~~/Fellow Cities

THE EXPERIMENTED POLICY DESIGN:

MULTIDIRECTIONAL

RADIAL

DYNAMIC

ITERATIVE

DEMOCRATIC

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

Specific Objectives were:

2016: Tast 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

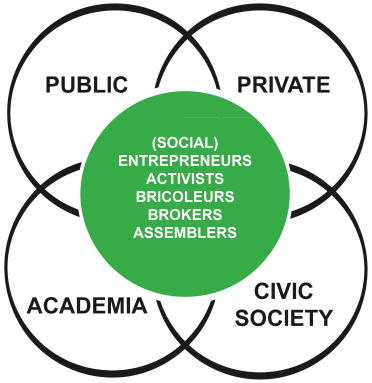
To promote a sharing participative environment organising networking activities particularly among all Replicate Cities' (Lighthouse and Fellow) stakeholders:

Outcome > https://replicate-project.eu/city2citylearning

2020: Task 4. REPLICABILITY

To finally enable formulating **REPLICATION PLANS** by the three Fellow Cities (Ongoing).

	PENTA HELIX FRAMEWORK: MULTI-STAKEHOLDERS' NETWORK BEHAVIOUR				
	PRIVATE SECTOR	PUBLIC SECTOR	CIVIL GROUPS	SCIENCE & ACADEMIA	SOCIAL ENTREPRENEURS
SMART CITY SECTOR					
ICT					
Energy					
Mobility					



1. SINGULARITY

T8.1: Critical Factors' Assessment
3 Workshops

D8.1 Essen CFA
D8.2 Nilüfer CFA
D8.3 Lausanne CFA

2016: M1-M12

Task 1. Achieved

2. SCALABILITY

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

2017-2018: M13-M36

Task 2. Achieved

D8.4: Report

3. ADAPTABILITY

Task 3. Achieved

2019: M37-M48

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

D8.5: Weblink
www.replicate-project.eu/city2citylearning

City to City Learning
San Sebastián - Essen - Florence - Lausanne - Bristol - Nilüfer

4. REPLICABILITY

Task 4. Ongoing

2020: M49-M60

D8.6 **Essen** RP
D8.7 **Nilüfer** RP
D8.8 **Lausanne** RP

T8.4: Replication Plans

1. SINGULARITY

2016: M1-M12

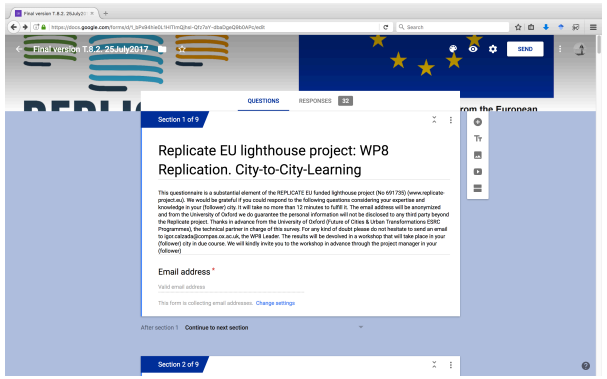
T.8.1: Critical Factors' Assessment (through 3 Workshops): **OUTCOME**

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 highligthed its singular context characterised by a strong Legal, Political/Institutional, and Economic/Financial *path-dependency*.

2. SCALABILITY

2017-2018: M13-M36

T.8.2: Multi-stakeholders' Composition:
Through Survey & 3 Validation Workshops



1. SURVEY: 35 QUESTIONS

- Data collection time-frame:
  - 25 July 2017 – 25 July 2018.

2. VALIDATION WORKSHOPS: 10 + 1 QUESTIONS

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

2. SCALABILITY

2017-2018: M13-M36

T.8.2: Multi-stakeholders' Network Behaviour:
Through Survey & 3 Validation Workshops

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*

Penta Helix Multistakeholder

RESEARCH DESIGN
Action Research Fieldwork: Mixed Methods

Duration February 2017 - December 2018

TRIANGULATION

(i) Desk Research: Conducting LIterature Review on

Table 3.1: Rethinking Multi-stakeholders´ Helix Framework from the Social Innovation

Table 3.2: Resulting Business/Social Models in Smart Cities

Replicate-H2020 Follower Cities	Essen	Lausanne	Nilüfer
2/ In-depth interviews (25/7/17 - 25/7/18)	25	25	25
3/ Validation Workshops	25	25	25
	19/9/17	12/12/17	29/5/18

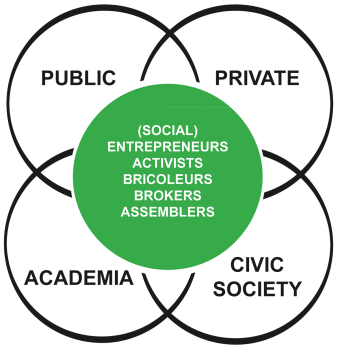
(ii) 75 In-depth Interviews 1 Year: 25th July 2017 - 25th July 2018

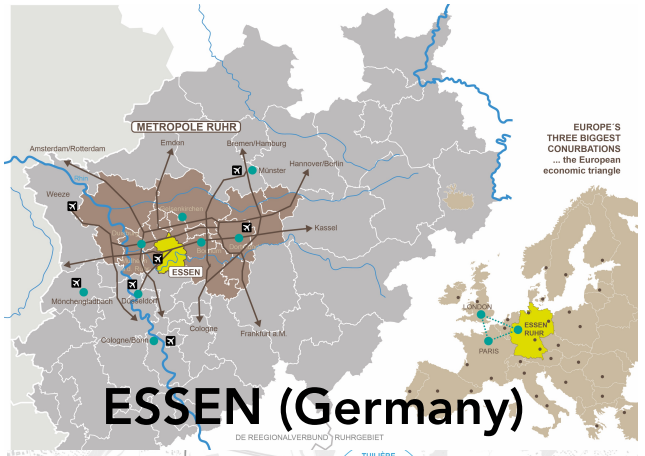
(iii) Three Validation Workshops in Essen, Lausanne, and Nilüfer

EMPIRICAL RESULTS:

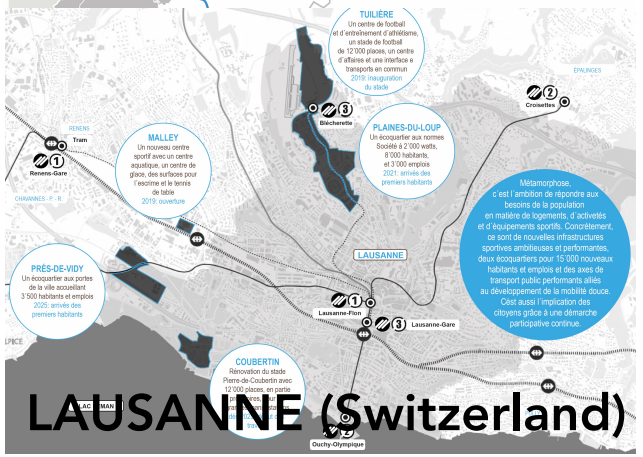
Five Strategic Dimensions

1. **PENTA HELIX MULTI-STAKEHOLDERS´POLICY FRAMEWORK**
   - 1st Strategic Dimension. Composition of stakeholders per helix in each follower city
   - 2nd Strategic Dimension: the most influential stakeholder-helix in eacth follower city
   - 3rd Strategic Dimension: The most proactive stakeholder-helix in each follower city
2. **RESULTING BUSINESS/SOCIAL MODEL**
   - 4th Strategic Dimension. Knowledge about the PPP in each follower city
   - 5th Strategic Dimension: The most suitable business/social model (per smart city sectors) in eacth follower city





ESSEN (Germany)

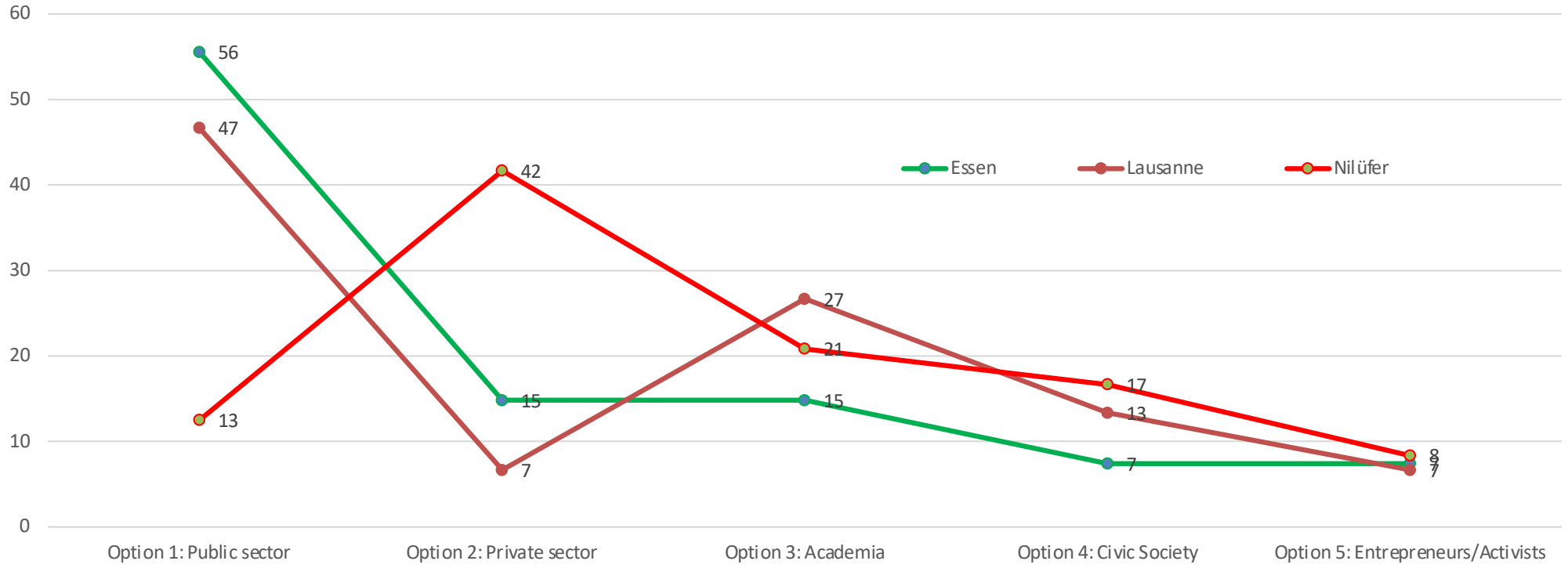


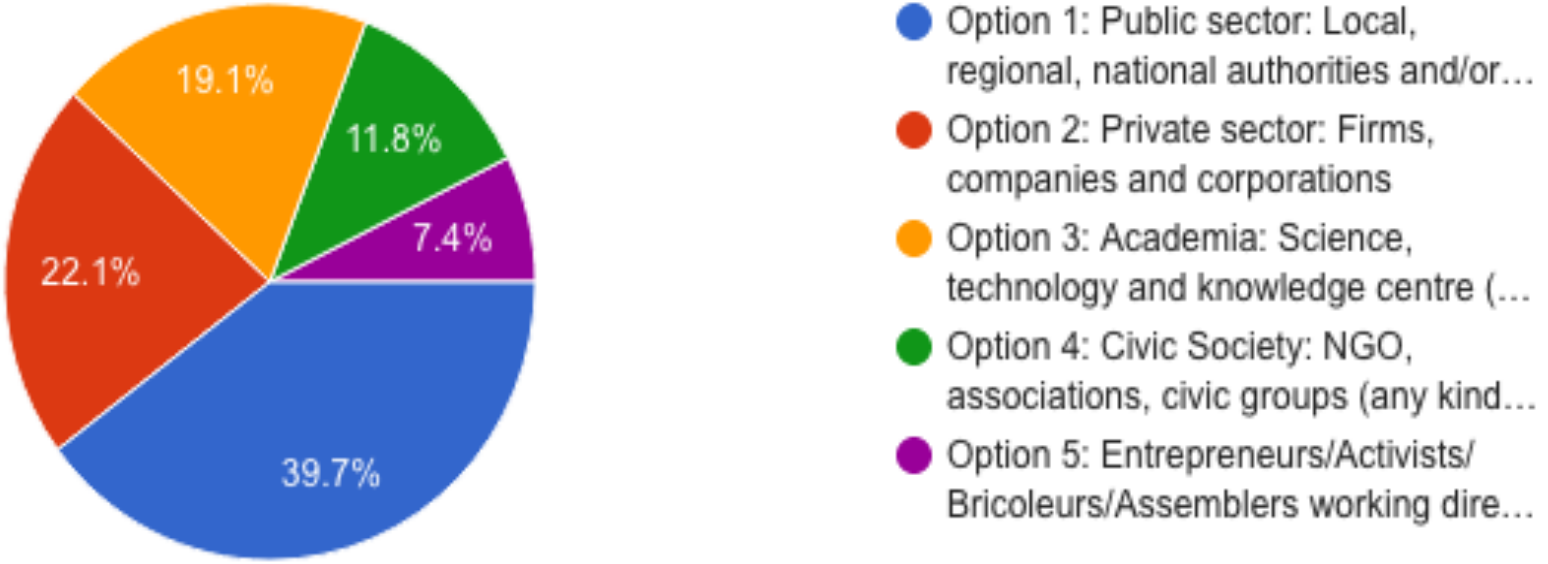
LAUSANNE (Switzerland)

NILÜFER (Turkey)

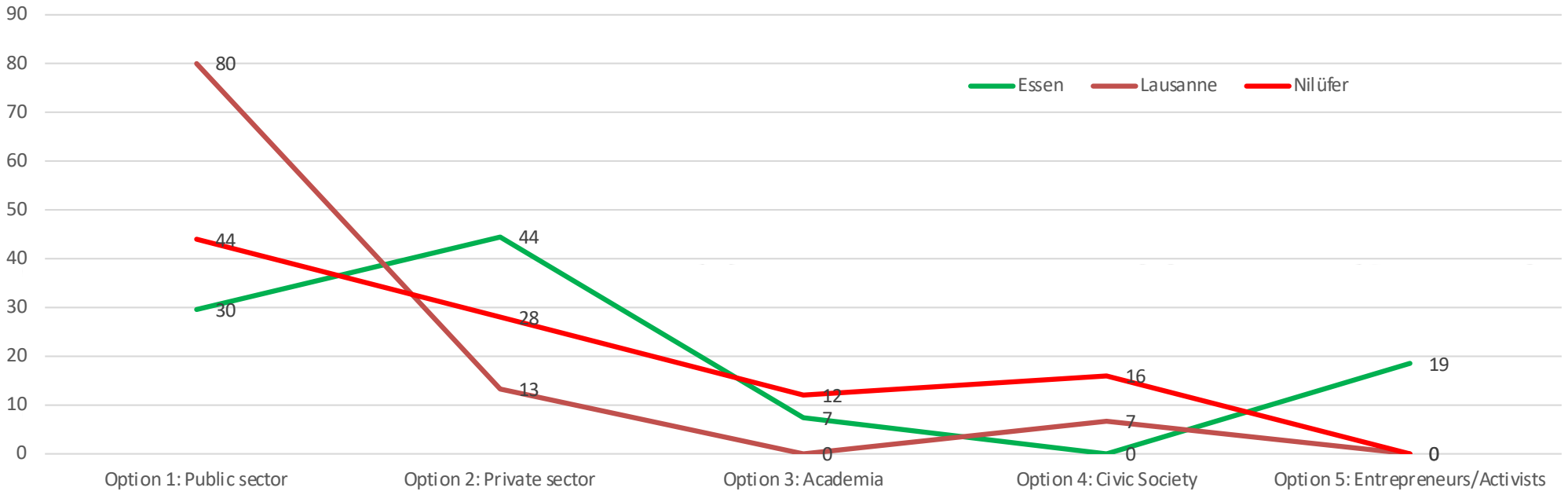
Calzada, I. (2020). Democratising Smart Cities? Penta-Helix Multi-Stakeholder Policy Framework. *Smart Cities.* Forthcoming.

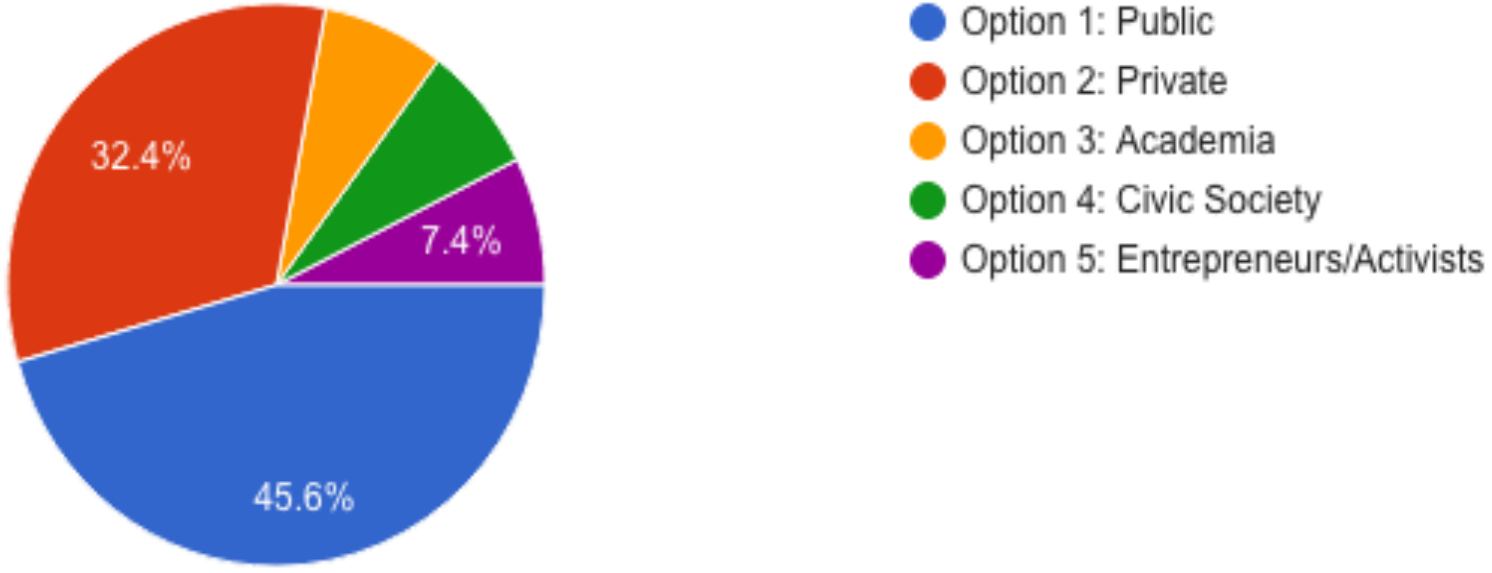
(1): Composition (%)





(2): Influential (%)





(3): Strategic Smart City Actions

	GLOBAL	ESSEN	LAUSANNE	NILÜFER
1 Building retrofitting	9	10	8	9
2 Public transportation	14	14	15	13
3 Smart city platform	8	4	3	14
4 District heating	8	9	13	4
5 Electric vehicles	8	11	3	6
6 Control rooms / Centre of operations	3	1	0	6
7 Smart lighting	5	2	8	7
8 E-bikes	6	6	6	6
9 Urban apps	3	3	3	4
10 Smart grids	8	6	13	7
11 Sharing economy	6	8	8	3
12 Smart metering	5	3	8	7
13 Transport infrastructures	9	11	3	10
14 Urban co-operatives	8	11	8	4
	100	100	100	100

REPLICATE

RENAISSANCE OF PLACE WITH INNOVATIVE CITIZEN AND TECHNOLOGY

City to City Learning 2019

Co-funded by the Horizon 2020 Framework Programme of the European Union

#City2CityLearning

SAN SEBASTIÁN	ESSEN	FLORENCE	LAUSANNE	BRISTOL	NILÜFER
February 5th	March 21st	Mary 7th	July 9th	September 26th	November20th

- **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

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

2019: M37-48

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

Replicate city	Lighthouse/ Follower-Fellow	Smart City Actions	Impact		Stakeholders Actively Involved In/Presenting: Penta Helix				
			Participants	Views	Public	Private	Civic. Society	Academia	(Social) Entrepeneurs/ Activists
SS	L	Public Smart Lighting	19	142	SSCC	Leycolan + FSS	U.P.M.		
		Linked Open Data			SSCC	Eurohelp+FSS			
		Smart Mobility Platform			SSCC	Ikusi+FSS			
Essen	F	Start-up Promotion	17	29	CE	RAG			EUREF
		Impact Hub Ruhr			CE+S N-R W	eON+IRE+EDA	U.D-E		IHR
		Essen 51			CE+S N-R W	eON+IRE+EDA	U.D-E		IHR
Florence	L	E-Taxies	27	37	CF+MCF	ED+TA+H+N+R	U.F	Ass.	M
		E-charging system			CF+MCF	EK	U.F		
		Smart City Platform			CF+MCF	GSP+AVR+T+C	U.F.		
Lausanne	F	Plaines-du-Loup Eco-District	10	16	CCL				
		Plaines-du-Loup Geothermal Energy			CCL				
		Equiwatt: Energy efficiency programme, eco-social operations			CCL				
Bristol	L	Methodologies to Co-Design	17	20			U.B.		KWMC
		Open Data Movement					U.B.		KWMC
		One City Approach			BCC				
Nilüfer	F	Grassroots empowerment	- *20th Nov*	- *20th Nov*	NCC		U.N.	Ass.	E.
		Bottom-up energy efficiency			NCC		U.N.	Ass.	E
		Industrial spin-off ecologies			NCC	C.C.	U.N.		E.

4. REPLICABILITY

2020: M48-60

T.8.4: Replication Plans of the Fellow Cities

City-to-City Learning Programme **as a Multidirectional, Radial, Dynamic, Iterative, and Further Democratic Replication Strategy among EC-H2020-SCC Replicate Project's Cities**

Replicate Cities	L/F (*)	Smart City Action	Impact (**)		Stakeholders Directly Involved: Identified through Penta Helix Multiple Stakeholders' Policy Framework (***)					Potential Fellow Cities' Replication Plans (****): Selected Actions to be Replicated, Scaled Up, and Adapted												
			P	V	1 Public	2 Private	3 Academia	4 Civil Society	5 Entrepreneurs/ Activists	Essen				Lausanne				Nilüfer			
										E	M	I	C	E	M	I	C	E	M	I	C
(SS) San Sebastian	L	SS.1.	30	149	X	X				X				X							
		SS.2.			X	X															
		SS.3.			X	X					X				X						
(E) Essen	F	E.1.	22	33	X	X	X		X									X			
		E.2.			X	X			X												
		E.3.			X	X								X							
(F) Florence	L	F.1.	35	40	X	X	X		X	X											
		F.2.			X	X	X				X				X						
		F.3.			X	X	X		X												
(L) Lausanne	F	L.1.	10	20	X	X		X	X	X											
		L.2.			X				X												
		L.3.						X	X												
(B) Bristol	L	B.1.	23	40	X		X		X		X					X			X		
		B.2.					X		X			X								X	
		B.3.			X		X	X					X				X	X			X
(N) Nilüfer	F	N.1.	30	18	X		X	X													
		N.2.			X		X	X	X				X								
		N.3.			X	X			X												
			150	300																	

* L represents lighthouse cities and F does fellow cities.

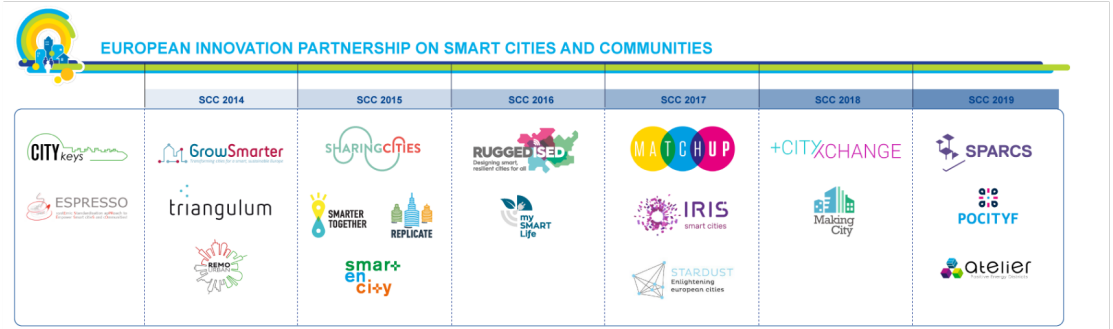
** P represents the number of participants during the session and V represents the number of offline views.

*** 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

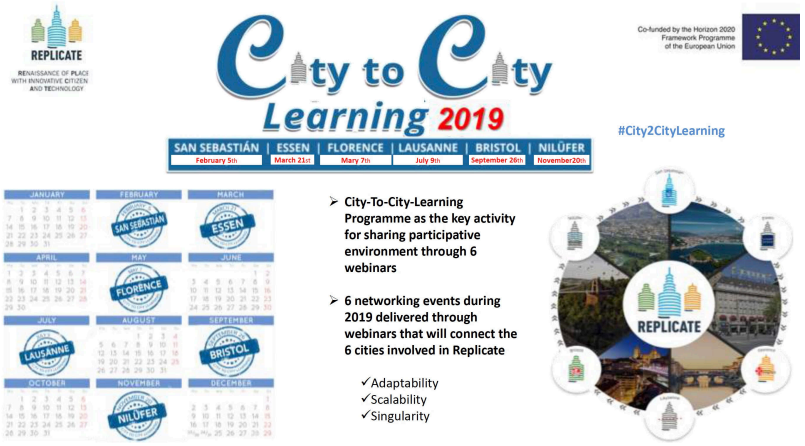
Generic Benchmarking on Replication H2020-SCC



17 Lighthouse Projects (up to 2019)	City-Network-Composition		Round/Period/Budget/ Website	Replication Strategy: (LC=Lighthouse Cities; FC=Follower-Fellow Cities)
	Lighthouse Cities (46)	Follower-Fellow Cities (71)		
1. **Growsmarter**	**Stockholm, SE** Barcelona, ES Koln, DE	Cork, IE Graz, AT Porto, PT Suceava, RO Valetta, MT	SCC1-2014 2015-2019 34M € https://grow-smarter.eu/home/	Based on 'twelve groups of smart solutions entirely developed by the LC to be, thereafter, tested and adopted by the FC' [62] (p. 3).
2. **Remourban**	**Nottingham, UK** Tebebasi, TR Valladolid, ES	Miskolc, HU Seraing, BE	SCC1-2014 2015-2019 23M € http://www.remourban.eu/	Based on LC supply to FC demands' being entirely separated procedures [67] (p. 4).
3. **Triangulum**	**Stavanger, NO** Eindhoven, NL Manchester, UK	Tianjin, CHN Leipzig, DE Prague, CZ Sabadell, ES	SCC1-2014 2015-2019 29M € http://www.triangulum-project.eu/	Based on 'a replication tool shown as a smart city decision-making tool, which stores the smart solutions achieved by the LC' [61] (p. 1).
4. **Replicate**	**San Sebastian-Donostia, ES** Bristol, UK Florence, IT	Essen, DE Lausanne, CH Nilüfer, TR	SCC1-2015 2016-2021 29M € www.replicate-project.eu	Based on the *City-to-City Learning Programme* adopting a multidirectional approach jointly among the LC and FC' from the early beginning of 2016 [45].
5. **Sharing Cities**	**London, UK** Lisbon, PT Milan, IT	Bordeaux, FR Burgas, BG Warsaw, PL	SCC1-2015 2016-2020 28M € http://www.sharingcities.eu/	Based on 'the ambition being not less than making each follower city to be treated and make them act as a fellow city' [68] (p. 6).
6. **SmartenCity**	**Vitoria-Gasteiz, ES** Sonderborg, DK Tartu, EE	Asenovgrad, GB Lecce, IT	SCC1-2015 2016-2021 32M € https://smartencity.eu/	Based on 'capacity building workshops and thematic webinars from the LC to FC' [66] (p. 51).
7. **Smarter Together**	**Lyon, FR** Munich, DE Vienna, AT	Santiago de Compostela, ES Sofia, BG Venice, IT Yokohama, JP Kiev, UA	SCC1-2015 2016-2021 29M € https://www.smarter-together.eu/	Based on 'enablers, key problems and challenges and solutions of the LC to be reproduced in the FC by gradually engaging them in the process' [63] (p. 7).
8. **My Smart Life**	**Nantes, FR** Hamburg, DE Helsinki, FI	Bydgoszcz, PL Palencia, ES Rijeka, HR Varna, BG	SCC1-2016 2016-2021 21M € https://www.mysmartlife.eu/	Based on 'stage 2, after LC interventions, where FC will be involved, which are going to be learning during the project from the LC, and will apply their replication plans' [65] (p. 8); [109].
9. **Ruggedised**	**Rotterdam, NL** Glasgow, UK Umea, SE	Brno, CZ Gdansk, PL Parma, IT	SCC1-2016 2017-2021 19M € https://ruggedised.eu/	Based on '32 smart solutions in the LC and 27 follower solutions in the FC being entirely autonomous procedures' [58] (p. 1).
10. **IRIS**	**Nice, FR** Gothenburg, SE Utrecht, NL	Alexandroupolis, GR Focsani, RO Santa Cruz de Tenerife, ES Vaasa, FI	SCC1-2016 2017-2022 20M € https://irissmartcities.eu/	Based on 'processes for scaling the solutions both inside and outside of the consortium' [64] (p. 38).
11. **Matchup**	**Valencia, ES** Antalya, TR Dresden, DE	Herzliya, IL Kerava, FI Ostend, BE Skopje, MA	SCC1-2016 2017-2022 19M € https://www.matchup-project.eu/	Based on 'active involvement organising events' [56] (p. 1).
12. **Stardust**	**Pamplona-Iruñea, ES** Tampere, FI Trento, IT	Derry, UK Kozani, GR Cluj-Napoca, RO Litomerice, CZ	SCC1-2016 2017-2022 21M € http://stardustproject.eu/	Based on 'FC will take into consideration the actions carried in the LC'. [60]
13. **Making City**	**Groningen, NL** Oulu, FI	Vidin, BG Bassano del Grappa, IT Lublin, PL Poprad, SK León, ES Kadikoy, TR	SCC1-2017 2018-2023 20M € http://makingcity.eu/	Based on 'the concept of Positive Energy District (PED) that will be tested and validated in two LC, and later will be replicated in 6 FC' [55].
14. **City Exchange**	**Limerick, IE** Trondheim, NO	Smolyan, BG Pisek, CZ Voru, EE Alba Iulia, RO Sestao, ES	SCC1-2018 2018-2023 24M € https://cityxchange.eu/	Based on 'the demonstration projects [that] are developed in the LC and will be replicated in five FC' [54].
15. **Atelier**	**Bilbao, ES** Amsterdam, NL	Copenhagen, DK Budapest, HR Riga, LV Krakow, PL Matosinhos, PT Bratislava, SK	SCC1-2018 2019-2024 21M € http://www.smartcity-atelier.eu/	No information provided on replication strategy yet [53].
16. **Pocityf**	**Evora, PT** Alkmaar, NL	Hvidovre, DK Ioannina, GR Ujpest, HU Bari, IT Celje, SI Granada, ES	SCC1-2018 2019-2024 22M € https://pocityf.eu/	No information provided on replication strategy yet [57].
17. **Sparcs**	**Espoo, FI** Leipzig, DE	Kladno, CZ Kifissia, GR Reykjavik, IS Maia, PT Lviv, UA	SCC1-2018 2019-2024 23M € https://www.sparcs.info/	Based on 'LC proving the urban energy transformation while FC demonstrates the smooth transferability of this transformation model' [59].

Two methodological advancements from the Social Innovation Perspective

1. City-to-City-Learning Programme



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.

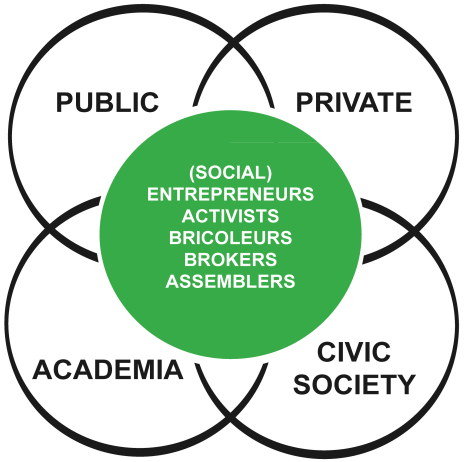
Within this #City2CityLearning programme a wide range of activities will be shared among stakeholders in the aforementioned cities in internal sessions via webinars. Further information: www.replicate-project.eu/city2citylearning

www.replicate-project.eu/city2citylearning

From (Pure) Replication	To City-to-City Learning
Unidirectional	Multidirectional
Hierarchical	Radial
Mechanistic	Dynamic
Solutionist	Iterative
Technocratic	Democratic

Bartels 2020; Terstriep, Rehfeld, and Kleverbeck 2020; Mihci 2019; Moulaert and MacCallum 2019; Pel et al. 2019.

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.

Calzada, I. (2020). Replicating (Smart) Cities: The City-to-City Learning Programme in Replicate EC-H2020-SCC Project. *Smart Cities* ***3***(3): 978–1003. doi: 10.3390/smartcities3030049.

Calzada, I. (2020). Democratising Smart Cities? Penta-Helix Multi-Stakeholder Policy Framework. *Smart Cities* ***3***(4): 1145–1172. doi: 10.3390/smartcities3040057.

4.
FINAL REMARKS

Unidirectional < Multidirectional

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**.

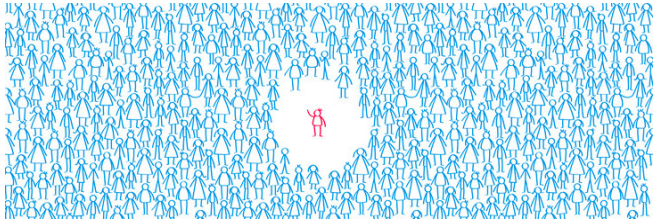
City to City Learning

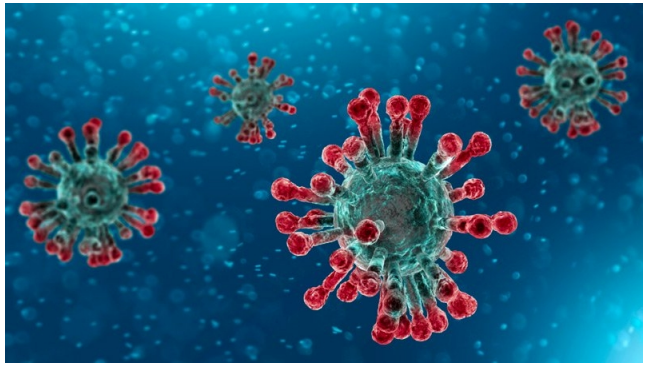
San Sebastián - Essen - Florence - Lausanne - Bristol - Nilüfer

Calzada, I. (2020), Replicating Smart Cities: The City-to-City Learning Programme in the Replicate EC-H2020-SCC Project, *Smart Cities* 3(3): 978-1003. DOI: 10.3390/smartcities3030049.

Hierarchical < Radial

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





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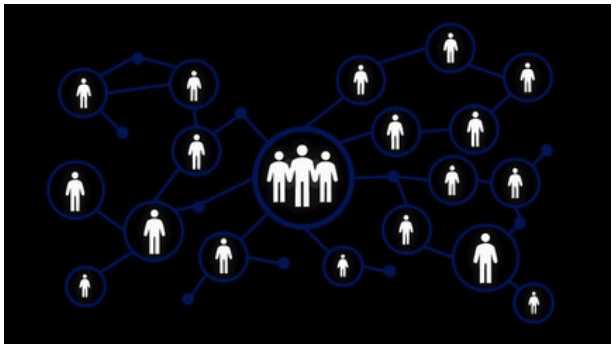
Mechanistic < Dynamic

The **identification of a different typology of stakeholders** and, particularly, specific stakeholders in each city now allows FC to follow a dynamic approach.



Calzada, I. (2020), Replicating Smart Cities: The City-to-City Learning Programme in the Replicate EC-H2020-SCC Project, *Smart Cities* 3(3): 978-1003. DOI: 10.3390/smartcities3030049.

Solutionist < Iterative

Due to the iterative process beyond the solutionist logic, FC have included two main aspects in their RPs:

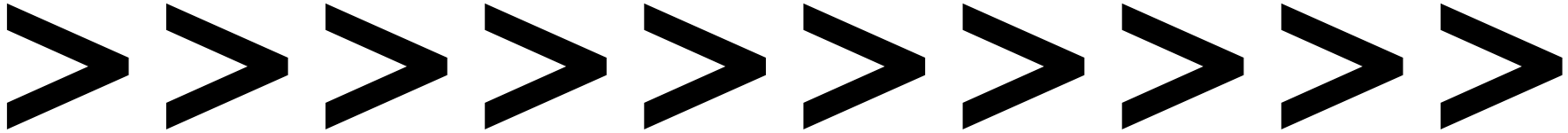
(i) **Data governance** and how to protect citizens' digital vulnerabilities
(ii) Specific **pandemic measurements**

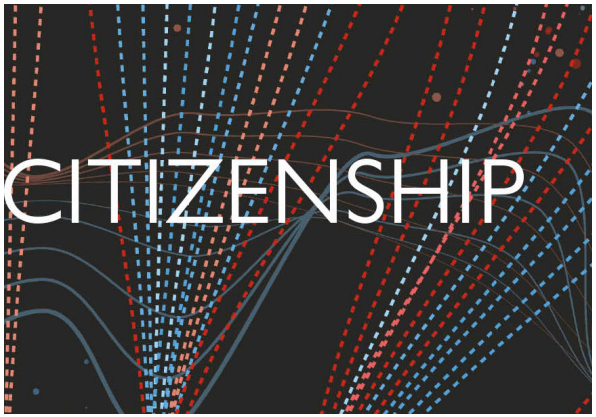
Calzada, I. (2020), Replicating Smart Cities: The City-to-City Learning Programme in the Replicate EC-H2020-SCC Project, *Smart Cities* 3(3): 978-1003. DOI: 10.3390/smartcities3030049.

Technocratic < Democratic

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.

Calzada, I. (2020), Replicating Smart Cities: The City-to-City Learning Programme in the Replicate EC-H2020-SCC Project, *Smart Cities* 3(3): 978-1003. DOI: 10.3390/smartcities3030049.

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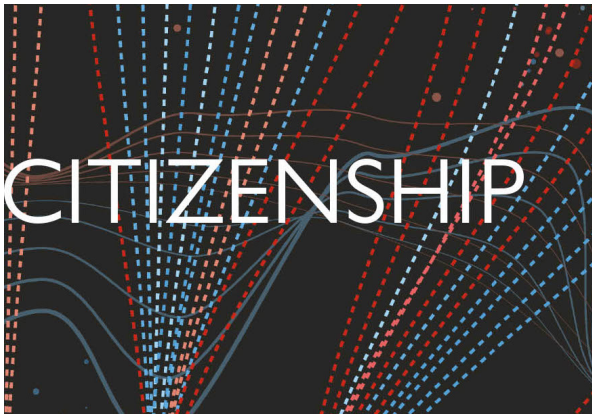
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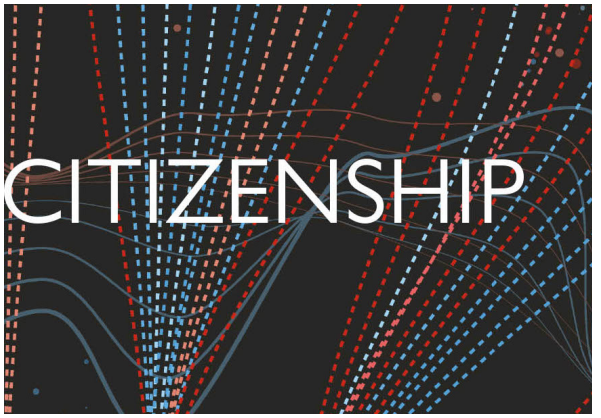
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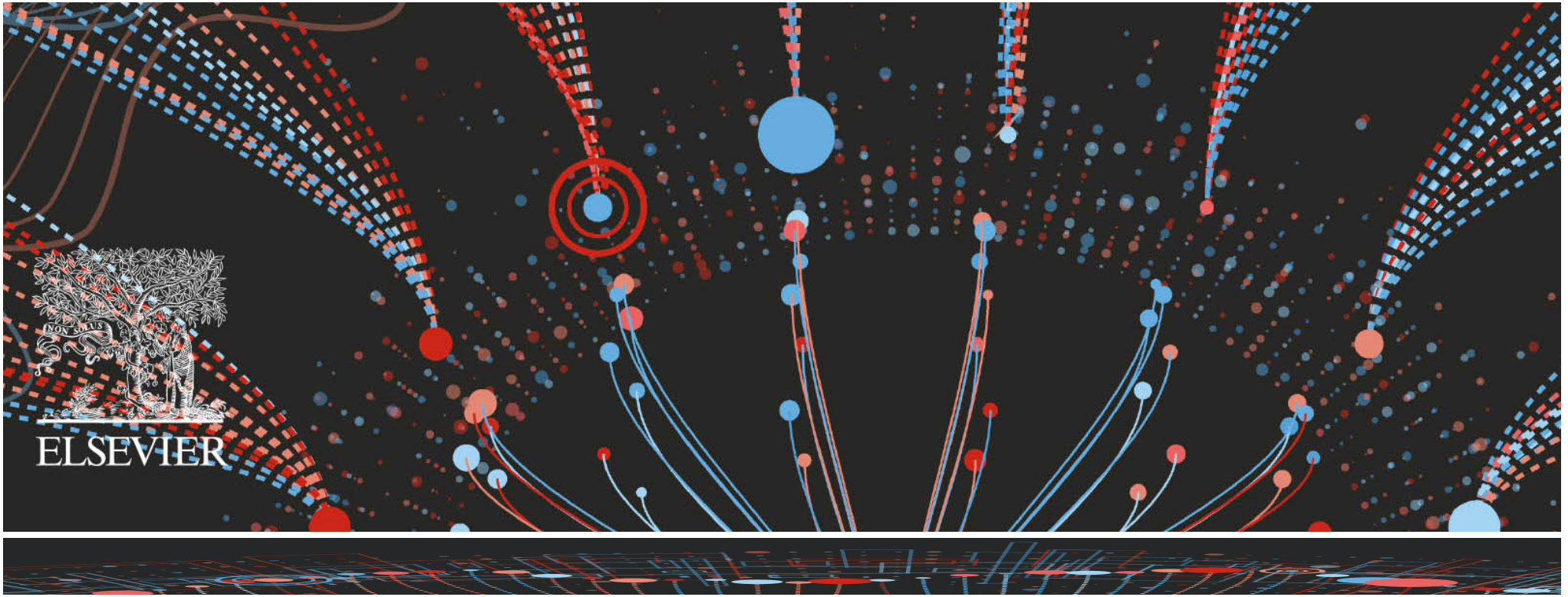
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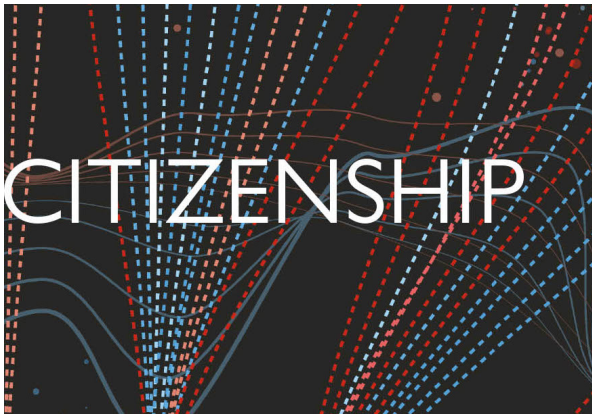
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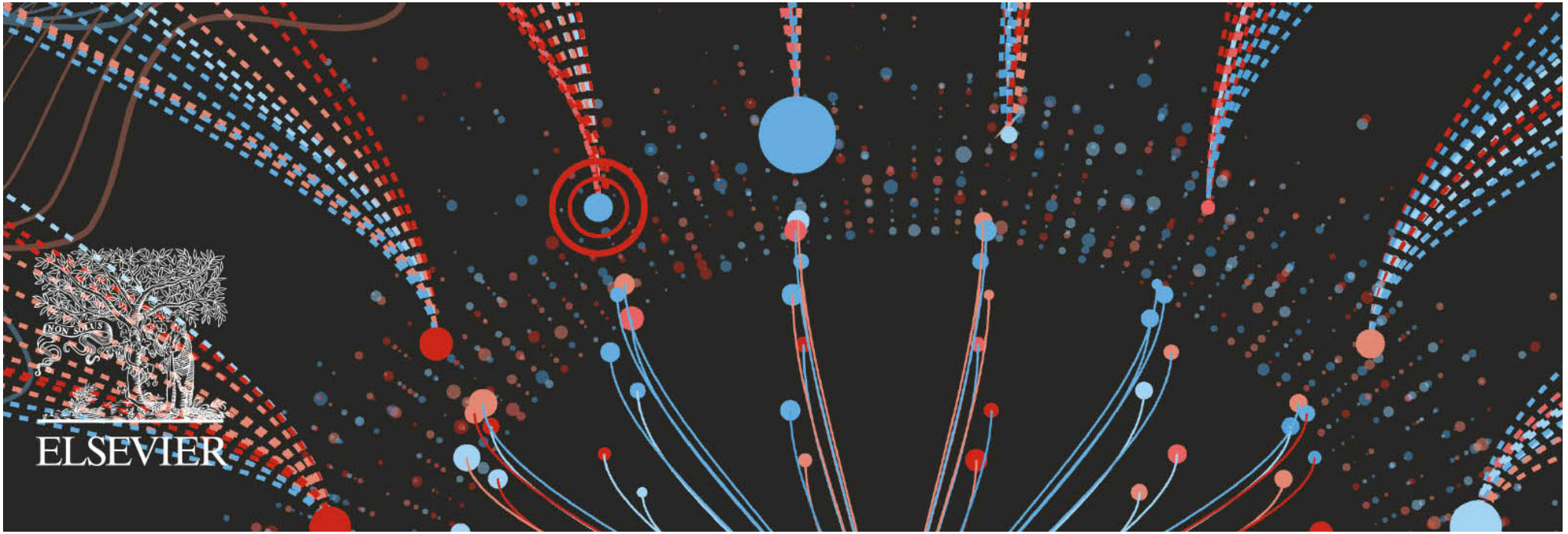
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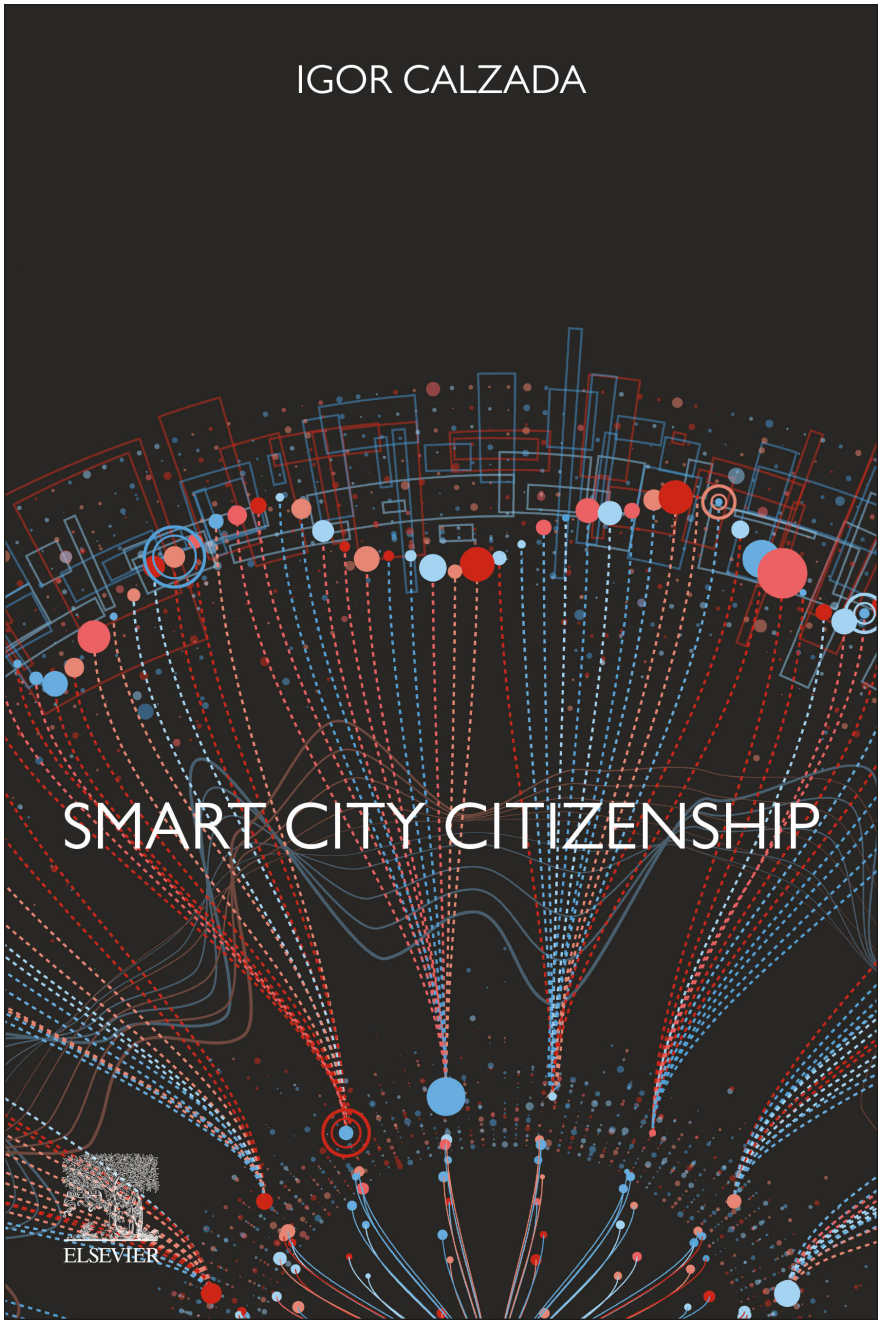
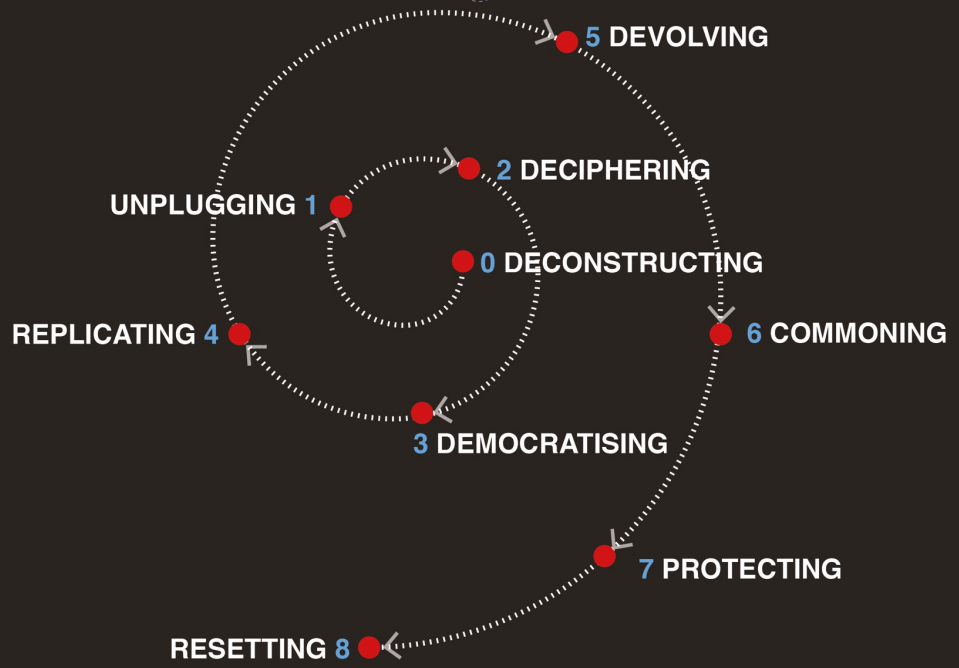


Calzada, I. (2021) *Smart City Citizenship,* Cambridge, Massachusetts: Elsevier Science Publishing Co Inc.
ISBN: 978-0-12-815300-0.

SMART CITY CITIZENSHIP



citizenship

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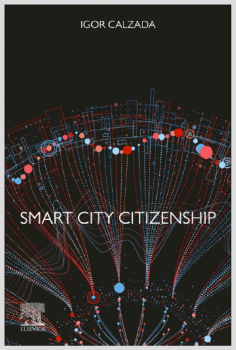

Smart City Citizenship

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 ESRC and Future of Cities programmes, University of Oxford; Lecturer at the UOC University; Former Lecturer/Researcher at the following universities: Strathclyde, Aston, Nevada, Ikerbasque, Deusto, Iceland, Malmö, Helsinki, and Mondragon; Former director at the Basque regional government (public sector) and Mondragon Co-operative Corporation (private sector).

Available November 2020

ISBN: 978-0-12-815300-0
PUB DATE: Nov 01, 2020
AUDIENCE: Smart cities, data science, AI, digital transformation, and applied social science lecturers, researchers, scientists, and graduate students; academics and policy makers working in several data and digital domains such as data analytics, AI, data governance, data labs, and office of data analytics (ODA); postgraduate students in global digital humanities, global sustainable cities, governance, and SDGs; architects, engineers, practitioners, and government officials working on smart city projects related to sustainability, transport, energy, environmental science, engineering, economics, public policy, behavioural science, ICT, and urban, metropolitan, and regional planning departments; smart city planners and engineers involved in research, consultancy, project management, funding, and distribution of services, products, technologies; civic groups and NGOs; city policy makers in government, EU projects, and development agencies; social entrepreneurs, urban activists, and social innovators.

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-virialised 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

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Thank you very much

Muchas gracias

Moltes gracias

Eskerrik asko