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Twin Transitions in Data and Policy
for a Sustainable Future

BOOK OF ABSTRACTS

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¹ Leiden University

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Patrick Micheal Brock, World Bank UNHCR Joint Data Center on Forced Displacement, Denmark

Conference Programme Day 1 (12 June)

10:00 - 11:30 | Arrivals & Registration

11:30 - 12:30 | Lunch

12:30 - 12:45 | **Opening Remarks** (Room A0.06)

Sarah **Giest**, Regional Conference Chair, Leiden University
Bram **Klievink**, Regional Conference Chair, Leiden University
Zeynep Engin, Chair & Founder, Data for Policy CIC

12:45 - 13:25 | **Keynote Session** (Room A0.06): “**Digitally Powered Green Transition**”

Speaker: Andrea **Halmos**, Deputy Head of Unit at European Commission
Chair: Sarah **Giest**, Leiden University, The Netherlands

13:30 - 15:00 | **Parallel Session 1**

Session 1A (Room A0.06 – Auditorium): Panel: “**A socio-technical systems’ view on integrating resources and stakeholder networks toward long-standing challenges**”

Chair: Francesco **Mureddu** – The Lisbon Council, Belgium
Speakers: Marcella **Bonanomi** – The Lisbon Council, Belgium / Natalia **Oprea** – The Lisbon Council, Belgium / Francesco **Osimanti** – The Lisbon Council, Belgium / Luca Alessandro **Remotti** – DataPower, Italy

Session 1B (Room A2.02) – **Sp1.1: Private Sector Data for Public Interest in the EU – Government-Business Data Relations**

- “*Unravelling Tensions between Business and Government on Mandatory Business-to-Government Data Sharing for Public Interest in the EU*”; Iryna **Susha** – Utrecht University, Netherlands, Louis **Knüpling** – Utrecht University, Netherlands, Philip **Leifeld** – University of Manchester, United Kingdom. (Submission #23)
 - “*Medical data – discrepancies, half-truths and challenges*”; Jadwiga **Glanc** – UZH, Switzerland, Zbigniew **Handzel** – WSEI, Poland, Łukasz **Faber** – AGH, Poland. (Submission #91)
 - “*Governance dynamics as innovation determinants in data-enabled social innovation ecosystems*”; Federico **Bartolomucci** – Politecnico di Milano, Italy, Luca Testoni – Politecnico di Milano, Italy, Mario **Calderini** – Politecnico di Milano, Italy. (Submission #24)
 - “*From data asymmetry to alliance? Business-to-government data sharing in Europe*”; Jaime **Bernal** – Utrecht University, Netherlands, Iryna **Susha** – Utrecht University, Netherlands, Koen **Frenken** – Utrecht University, Netherlands. (Submission #25)
- Chair(s):** Iryna **Susha**, Utrecht University, Oskar J. **Gstrein**, University of Groningen

Session 1C (Room A2.03) – **Sp3.1: Security and Justice Policy in the Age of Algorithms and AI**

- “*Towards a Decolonial AI in/for Africa? Critical Analysis on Data Capitalism, Epistemic Injustice, and Ethics*”; Chikezie E. **Uzuegbunam** – Rhodes University, South Africa. (Submission #9)

- *"Code of Justice: A Sector-Specific Quantitative Analysis of Regulatory Gaps in the U.S. Federal Courts for AI Governance"*; Shruti **Kakade** – Hertie school of Governance, Germany, Abhivardhan **Abhivardhan** – Indian society of AI and Law, India. (Submission #17)
- *"(Super) Data Diversity Framework: 'Diversity through Data' and 'Diversity with Data' in Automated Decision-Making Systems"*; Mergime **Ibrahimi** – Tallinn University of Technology, Estonia. (Submission #34)
- *"Data and Advanced Data Analytics to empower SNGs in energy transition policymaking"*; Devin **Diran** – TNO, Netherlands. (Submission #86)

Chair(s): Brecht **Weerheijm**, Leiden University, Ritten **Roothaert**, VU Amsterdam

Session 1D (Room A2.04) – St1.1: Digital & Data-driven Transformations in Governance

- *"Bias by design: how political views on benefit recipients are embedded in unemployment technologies"*; Margot **Kersing** – VU Amsterdam, Netherlands. (Submission #29)
- *"Unpacking the Relational Side of Data-Informed Governance"*; Fernando **Fernandez-Monge** – Harvard University, United States, Quinton **Mayne** – Harvard University, United States, Jorrit de Jong – Harvard University, United States. (Submission #33)
- *"From Proprietary to Public Purpose: Unlocking Mobility Data for Better Urban Futures"*; Fernando **Fernandez-Monge** – Harvard University, United States. (Submission #43)
- *"The Data Agency Awakens: A New Era for Official Statistics – a New Data Hope"*; Anastasiya **Nikiforova** – University of Tartu, Estonia, Luca Di Gennaro **Splendore** – University of Malta, Malta. (Submission #66)

Chair: Alex **Ingrams**, Leiden University

Session 1E (Room A2.05) – St4.1: Ethics, Equity, and Trustworthiness

- *"Can trust be legislated? What can we learn from data altruism's challenges and how to implement these lessons in building European data spaces"*; Adrianna **Michałowicz** – University of Łódź, Poland. (Submission #28)
- *"'Healthy finances' and 'cost-efficient healthcare': a qualitative case study of values and goal displacement in AI adoption processes"*; Jinke **Oostvogel** – The Hague Centre for Digital Governance, Institute of Public Administration, Leiden University, Netherlands. (Submission #31)
- *"Issues of Privilege, Power and Policy in Publicly and Privately Collected Women's Health Data Sets"*; Kristin **Caolo** – University of Cambridge, United Kingdom. (Submission #53)
- *"The role of contextualisation for responsible research and innovation in AI"*; Sydney **Howe** – Erasmus School of Health Policy and Management, Netherlands. (Submission #58)

Chair: Masaru **Yarime**, Hong Kong University of Science and Technology

15:00 - 15:30 | Break (Tea & coffee)

15:30 - 17:00 | Parallel Session 2

Session 2A (Room A0.06 – Auditorium) Panel: AI and Data Science Revolutions: Implications for Public Benefit Research and Policy Making

Chair: Anastasija **Nikiforova**, University of Tartu, Estonia

Speakers: Oliver **Berry** – Smart Data Foundry (University of Edinburgh), United Kingdom / Magdalena **Getler** – Smart Data Foundry (University of Edinburgh), United Kingdom / Rosario **Piazza** – Joseph Rowntree Foundation, United Kingdom.

Session 2B (Room A2.02) – Sp4.1: Data Law & Governance for the Digital and Green Transitions

- “OA Book Usage Data Trust: An International Data Space for Usage Data and Beyond”; Ursula **Rabar** – OA Book Usage Data Trust, Switzerland, Christina **Drummond** – OA Book Usage Data Trust, United States, Yannick **Legré** – OPERAS, Belgium. (Submission #14)
- “How Should the EU Regulate Smart Water: Risk, Uncertainty, and the Choice of Legal Form”; Orlin **Yalnazov** – University of Hull, United Kingdom, Alberto **Quintavalla** – Erasmus Universiteit Rotterdam, Netherlands. (Submission #16)
- “Confronting Risks At the Intersection of Climate Change and Artificial Intelligence: The Promise and Perils of Rights-Based Approaches”; Barrie **Sander** – Leiden University – Faculty of Governance and Global Affairs, Netherlands. (Submission #19)

Chair(s): Enrique Santamaria **Echeverria**, Erasmus School of Law, Florin Coman **Kund**, Erasmus School of Law, Alberto **Quintavalla**, Erasmus School of Law

Session 2C (Room A2.03) – Sp3.2: Security and Justice Policy in the Age of Algorithms and AI

- “Using and designing a data driven approach to detect undermining in schools. The perilous road from intuition to intervention”; Nienke **de Groes** – Leiden University, Netherlands, Vlad **Niculescu-Dinca** – Leiden University, Netherlands, Pieter Tops – Emeritus Professor for Undermining Studies at Leiden University, Netherlands. (Submission #40)
- “Human Rights Challenges and Directions for Hash-sharing Governance”; Sarah **Scheffler** – Carnegie Mellon University, United States, Gavin **Sullivan** – University of Edinburgh, United Kingdom. (Submission #46)
- “The institutionalization of open data in Cambodia: power, synergies and tensions”; Júlia **García-Puig** – Leiden University, Netherlands. (Submission #74) (Virtual Presentation)
- “Balancing Digital Data Governance and Fraud Investigations: Proposing a Privacy-Preserving Digital Forensics Framework”; Wishnu Agung **Baroto** – Institute of Science Tokyo, Indonesia. (Submission #94)

Chair(s): Brecht **Weerheijm**, Leiden University, Ritten **Roothaert**, VU Amsterdam

Session 2D (Room A2.04) – St2.1: Technologies & Analytics

- “Enhancing the Researcher’s Data User Journey: Insights from the UK National Data Services”; Adam **Milward** – MetadataWorks, United Kingdom, David Milward – MetadataWorks, Oxford University, United Kingdom. (Submission #32)
- “Governing Risks of Generative Artificial Intelligence: A Sectoral Innovation System Analysis of Financial Services and Healthcare”; Masaru **Yarime** – The Hong Kong University of Science and Technology, Hong Kong, Hillary **Giam** – The Hong Kong University of Science and Technology, Hong Kong. (Submission #52)

- *“Causal Discovery for School Attendance – Informing Policy Decisions”*; Roman **Marchant** – Human Technology Institute, The University of Technology Sydney, Australia, Sally **Cripps** – Human Technology Institute, The University of Technology Sydney, Australia, Rebekah **Grace** – Transforming Early Education and Child Health Research Centre, Western Sydney University, Australia, Susan **Collings** – Transforming Early Education and Child Health Research Centre, Western Sydney University, Australia, Gilad **Francis** – Human Technology Institute, The University of Technology Sydney, Australia, Daniel **Waller** – Transforming Early Education and Child Health Research Centre, Western Sydney University, Australia, Kristofer **de Las Penas** – Human Technology Institute, The University of Technology Sydney, Australia, Vijetta **Bachraz** – Transforming Early Education and Child Health Research Centre, Western Sydney University, Australia, Anna **Lapatnikova** – Human Technology Institute, The University of Technology Sydney, Australia, Hadi Mohasel **Afshar** – Human Technology Institute, The University of Technology Sydney, Australia. (Submission #95)
- *“YouthView: A platform for interactive visualizations to explore youth disadvantage”*; Ujjwal **KC** – Melbourne Institute: Applied Economic & Social Research, The University of Melbourne, Victoria, Australia, Steeve **Marchand** – Melbourne Institute: Applied Economic & Social Research, The University of Melbourne, Victoria, Australia, A. Abigail **Payne** – Melbourne Institute: Applied Economic & Social Research, The University of Melbourne, Victoria, Australia. (#DAP-2025-0055)

Chair: Friso **Selten**, Leiden University

Session 2E (Room A2.05) – St4.2: Ethics, Equity, and Trustworthiness

- *“The Data-Ethics of Proactive Service Delivery: a multiple-case study on social welfare benefits in the Netherlands”*; Marten **Knol** – Utrecht University School of Governance, Netherlands, Erna **Ruijter** – Utrecht University School of Governance, Netherlands, Albert **Meijer** – Utrecht University School of Governance, Netherlands. (Submission #63)
- *“AI for Social Equity: Developing a framework for responsible AI in proactive welfare services”*; Bob **Kersten** – PhD student UU / civil servant min SZW, Netherlands, Mirko Tobias **Schaefer** – UU, Netherlands, Erna **Ruijter** – UU, Netherlands. (Submission #77)
- *“A Privacy-focused Data Solution for Understanding and Improving Indoor Environmental Quality in Social Housing From the SHINE Project”*; Joseph **Mullally** – Dublin City University, Ireland, Valesca **Lima** – Dublin City University, Ireland, Tracy Mae **Ildefonso** – Dublin City University, Ireland, Stephen **Daniels** – Dublin City University, Ireland. (Submission #79)
- *“Explainability in the EU’s legal framework for AI – a stepping stone in the path towards a digital and circular economy”*; Marie-Claire **Najjar** – European University Institute, Italy. (Submission #80)

Chair: Federico **Bartolomucci**, Politecnico di Milano

17:00 - 17:10 | Break

17:10 - 18:00 | Parallel Session 3

Session 3A (Room A0.06 – Auditorium) – Panel: Value and limits of long-term projections and practical ways forward

Chair: Thijs **Noordzij** – Dutch Ministry of Education, Culture and Science, The Netherlands

Speakers: Daniel **Van Vuuren** – Tilburg University; SEO Economic Research; Dutch State Committee Demographic Developments 205, The Netherlands / Thom **Wittebrood** – Dutch Ministry of Education, Culture and Science, The Netherlands / Sybren **Spit** – University of Amsterdam, Netherlands / Jessie **Bakens** – Research Centre for Education and the Labour Market (ROA), Maastricht University, Netherlands / Cheyenne **Ramada** – Dutch Ministry of Education, Culture and Science, The Netherlands / Meindert **Heres Hoogerkamp** – Dutch Ministry of Education, Culture and Science, The Netherlands

Session 3B (Room A2.02) – Other Focus Areas

- “*Uses of GenAI in higher education assessment: a scoping review and typology*”; Josette **Daemen** – Leiden University, Netherlands. (Submission #26)
- “*Data and Blockchain for Real Estate: The Case of Portugal*”; Fabio dos Santos **Cardoso** – Nova School of Business and Economics, Portugal, Leid **Zejniliovic** – Nova School of Business and Economics, Portugal, Bernardo Forbes **Costa** – Nova School of Business and Economics, Portugal, Joao **Santos** – Unlockedit, Portugal. (Submission #98)

Chair: Collegial chairing, Leiden University

Session 3C (Room A2.03) – Other Focus Areas

- “*Responsible Data, Responsible AI: Setting Standards for Public Data Collection*”; Dana **Mazia** – Alliance for Responsible Data Collection. (Submission #38)
- “*A Socio-Technical Perspective on Digital Twins as GovTech solutions. The Case of WiseTown*”; Ilaria **Mariani** – Department of Design, Politecnico di Milano, Milano, Italy, Marzia **Mortati** – Department of Design, Politecnico di Milano, Milano, Italy, Francesca **Rizzo** – Department of Design, Politecnico di Milano, Milano, Italy. (DAP-2025-0059) (Virtual Presentation)

Chair: Hsini **Huang**, Leiden University

Session 3D (Room A2.04) – St2.2: Technologies & Analytics

- “*Multilingual Classification of AI-Oriented Policy Documents based on Bias Types*”; George **Manias** – Department of Digital Systems, University of Piraeus, Piraeus, Greece ; Jheronimus Academy of Data Science, Tilburg University, Tilburg, Netherlands, Chrysa **Agapitou** – Department of Tourism Studies, University of Piraeus, Piraeus, Greece, Nemanja **Borovits** – Jheronimus Academy of Data Science, Tilburg University, Tilburg, Netherlands, Alenka **Guček** – Department for Artificial intelligence, Jožef Stefan Institute, Ljubljana, Slovenia, Andreas **Karabetian** – Department of Digital Systems, University of Piraeus, Piraeus, Greece, Matej **Kovacic** – Department for Artificial intelligence, Jožef Stefan Institute, Ljubljana, Slovenia, Konstantinos **Mavrogiorgos** – Department of Digital Systems, University of Piraeus, Piraeus, Greece, Tanja Zdolšek **Draksler** – Department for Artificial intelligence, Jožef Stefan Institute, Ljubljana, Slovenia, Willem-Jan **van den Heuvel** – Jheronimus Academy of Data Science, Tilburg University, Tilburg, Netherlands, Dimosthenis **Kyriazis** – Department of Digital Systems, University of Piraeus, Piraeus, Greece. (DAP-2025-0061)

- “A Rights-Based Approach to AI Governance: Recognizing Individual Rights in AI Interactions”; David Uriel **Socol de la Osa** – Hitotsubashi University, Japan. (Submission #13)

Chair: Roman **Marchant** (TBC), University of Technology Sydney

Session 3E (Room A2.05) – St1.2: Digital & Data-driven Transformations in Governance

- “Regulating Utilisation of Identity Card Data”; Sree **Shivani** – Research practitioner, India, Debayan **Gupta** – Research Practitioner, India. (Submission #72) (*Virtual Presentation*)
- “AI-Powered Evidence Synthesis for Policymaking”; Bram **Klievink** – Leiden University, Netherlands, Valérie **Pattyn** – Leiden University, Netherlands, Wolfgang **Kaltenbrunner** – CWTS, Leiden University, Netherlands. (Submission #61)

Chair: Francesco **Mureddu**, The Lisbon Council

18:00 | End of Day 1 Programme

19:00 - 22:00 | **Conference Dinner** at Beachclub Atlantis (Scheveningen)

Sponsored by **The LDE Centre for BOLD Cities**

Conference Programme Day 2 (13 June)

09:00 - 10:30 | **Parallel Session 4**

Session 4A (Room A0.06 – Auditorium) “Between Promise and Problem: Data-Driven Models in Sustainability Policy”

Chair: Jiska **Engelbert**, Director of the LDE Centre for BOLD Cities

Speakers: Jurriaan **Parie**, Co-founder of NGO Algorithm Audit / Eefje **Cuppen**, Director at Rathenau Institute / Alex **Ingrams**, Associate Professor at Leiden University

Session 4B (Room A2.02) – Sp4.2: Data Law & Governance for the Digital and Green Transitions

- “Circular by Design: The Role of Data Governance and IPRs in a Circular Economy”; Laura **Zoboli** – University of Brescia, Italy. (Submission #54)
- “Risk and Inequality in Africa’s Data-Driven Green Transitions”; Jamie **Fuller** – Research ICT Africa, South Africa, Anri **Van der Spuy** – London School of Economics, United Kingdom. (Submission #56)
- “Addressing AI’s Hidden Sustainability Costs: Challenges in the EU AI Act and Ireland’s Digital Policy”; Elizabeth **Farries** – UCD School of Information and Communication Studies, Centre for Digital Policy, Ireland, Patrick **Brodie** – UCD School of Information and Communication Studies, Centre for Digital Policy, Ireland, Alexandros **Minotakis** – UCD School of Information and Communication Studies, Centre for Digital Policy, Ireland. (Submission #59)

Chair(s): Enrique Santamaria **Echeverria**, Erasmus School of Law, Florin Coman **Kund**, Erasmus School of Law, Alberto **Quintavalla**, Erasmus School of Law

Session 4C (Room A2.03) – St6: Global Challenges and Dynamic Threats

- “Sustainable Worlds: A Comparative Analysis of Policy Discourses Regarding Green IoT in Europe, the United States, and China”; Semahat Ece **Elbeyi** – Center for Tracking and Society, Department of Communication, University of Copenhagen, Denmark, Klaus Bruhn **Jensen** – Center for Tracking and Society, Department of Communication, University of Copenhagen, Denmark, Kiran Juliana **Kappeler** – Center for Tracking and Society, Department of Communication, University of Copenhagen, Denmark, Yang **Yang** – Center for Tracking and Society, Department of Communication, University of Copenhagen, Denmark, Dechun **Zhang** – Center for Tracking and Society, Department of Communication, University of Copenhagen, Denmark. (Submission #35)
- “AI Governance and Social Equity: A Comparative Study of Regional Divides in a Global Context”; Wilson **Wong** – The Chinese University of Hong Kong, Hong Kong. (Submission #68)
- “Brokering biodiversity knowledge: the role of market-led initiatives”; Roelien **van der Wel** – Leiden University, Netherlands, Natascha **van der Zwan** – Leiden University, Netherlands, Sarah **Giest** – Leiden University, Netherlands (Submission #71)

Chair: Friso **Selten**, Leiden University

Session 4D (Room A2.04) – St1.3: Digital & Data-driven Transformations in Governance

- “Governance considerations in a time of digital and sustainability transition”; Mitzi **Bolton** – Monash Sustainable Development Institute, Australia. (Submission #21) (Virtual Presentation)
- “Proactive-by-Design: The Future of Governance Beyond Bureaucracy?”; Anastasija **Nikiforova** – University of Tartu, Estonia, A. Paula Rodriguez **Müller** – European Commission, Joint Research Centre, Spain, Luca **Tangi** – European Commission, Joint Research Centre, Italy. (Submission #87)
- “Governance through Geotagging: Interpretations from the Indian state”; Sanjana **Malhotra** – Columbia University; Jodhpur Institute of Engineering and Technology (JIET), India. (Submission #96) (Virtual presentation)

Chair: Leid **Zejnilovic**, Nova School of Business and Economics

Session 4E (Room A2.05) – Sp1.2: Private Sector Data for Public Interest in the EU – Government-Business Data Relations

- “Assessing and Operationalizing the Business Case for Business-to-Government Data Sharing in the EU: Lessons Learned and Comparative Practices”; Adam **Zable** – The GovLab, Germany, Stefaan **Verhulst** – The GovLab; New York University; Data & Policy, United States, Andrew **Zahuranec** – The GovLab, United States. (Submission #27)
- “Intervenability in Data Spaces: A Layered and Multi-Dimensional Concept”; Sophie **Stalla-Bourdillon** – University of Southampton, United Kingdom, Pablo Rodrigo Trigo **Kramcsak** – Brussels Privacy Hub - Vrije Universiteit Brussel, Belgium, Barbara da Rosa **Lazarotto** – Vrije Universiteit Brussel, Belgium. (Submission #42)
- “Data for Green. (G2B) Data Sharing and State as a Platform”; Antoine **Donne** – Université Paris Dauphine – PSL, France. (Submission #45)
- “Shaping Organizational AI Governance: Insights From An Explorative Comparative Case Study Among Four Dutch Public Sector Organizations”; Marissa **Hoekstra** – TNO / Leiden University, Netherlands, Martijn **Wessels** – TNO, Netherlands, Pippa **Jones** – TNO, Netherlands, Wouter **van der Bij** – TNO, Netherlands. (Submission #48)

Chair(s): Iryna **Susha**, Utrecht University, Oskar J. **Gstrein**, University of Groningen

10:30 - 10:50 | Break (Tea & coffee)

10:50 - 12:20 | Parallel Session 5

Session 5A (Room A0.06 – Auditorium) Panel: “Comparing notes on the progress and outlook of national data strategies in Europe. Learning from and for the Dutch Data Strategy”

Chair(s): Devin **Diran** – TNO, Netherlands, Thijmen **van Gend** – TNO, The Netherlands

- **Speakers:** Tim **Faber** - Ministry of Interior and Kingdom Relations, The Netherlands / Anne Fleur **van Veenstra** - TNO Vector; Universiteit Leiden / Anastasija **Nikiforova** - University of Tartu / Iryna **Susha** - Utrecht University / Adrianna **Michałowicz** – University of Lodź

Session 5B (Room A2.02) – Sp4.3: Data Law & Governance for the Digital and Green Transitions

- *“Balancing Digitalization, Data Protection, and Sustainability: Reconciling GDPR Principles with EU Green Objectives”*; Anna Capellà **Ricart** – Institut de Dret i Tecnologia (UAB), Spain, Andres Chomczyk **Penedo** – Institut de Dret i Tecnologia (UAB) / Law, Science, Technology and Society LRG (VUB), Spain. (Submission #62)
- *“What does Justice mean in the Twin Transitions? An analysis on the pitfalls of digitisation of the energy sector and the role justice plays in these spaces.”*; Shakya **Wickramanayake** – Tilburg Institute of Law Technology & Society (TILT), Belgium, Linnet **Taylor** – Tilburg Institute of Law Technology & Society (TILT), Netherlands. (Submission #73)
- *“Regulating Indonesia’s Digital Economy: Balancing Growth, Inclusion, and Governance”*; Wishnu Agung **Baroto** – Institute of Science Tokyo, Tokyo, Japan ; Directorate General of Taxes of the Ministry of Finance of Indonesia, Jakarta, Indonesia ; Firman **Darajat** – Directorate General of Taxes of the Ministry of Finance of Indonesia, Jakarta, Indonesia ; Andalas University, Padang, Indonesia (DAP-2025-0062)
- *“Potentials of Administrative Informatics for the Analysis of Policymaking. Notes on the Integration of Administrative Informatics into the Policy Cycle”*; Sander **Frank** – The Open Government Institute, Zeppelin University, Friedrichshafen, Germany, Jörn **von Lucke** – The Open Government Institute, Zeppelin University, Friedrichshafen, Germany. (DAP-2025-0056)

Chair(s): Enrique Santamaria **Echeverria**, Erasmus School of Law, Florin Coman **Kund**, Erasmus School of Law, Alberto **Quintavalla**, Erasmus School of Law

Session 5C (Room A2.03) – St5: Algorithmic Governance

- *“Visionary Leadership and Support for Digital Transformation: The Mediating Role of Meaningfulness”*; Friso **Selten** – Leiden University, Netherlands. (Submission #39)
- *“Implementing Algorithm Transparency”*; Hsini **Huang** – Leiden University, Netherlands, Alex Ingrams – Leiden University, Netherlands. (Submission #50)
- *“Algorithmic Collusion in EU Competition Law: Decoding the Puzzle”*; Valeria **Caforio** – Bocconi University, Italy. (Submission #78)
- *“Towards Sustainable NLP: Low-Rank Factorization for Efficient and Energy-Aware FlauBERT Inference”*; Angela **Ciocan** – IR, ESAIP School of Engineers, Angers, France, Vincent **COURBOULAY** – I3I, La Rochelle University, La Rochelle, France. (DAP-2025-0058)

Chair: Laura **Zoboli**, Università degli Studi di Brescia

Session 5D (Room A2.04) – St1.4: Digital & Data-driven Transformations in Governance

- *“Participating in and for Futures: Decentralised ‘Personal Data’ Architectures”*; Georgia **Meyer** – London School of Economics and Political Science, United Kingdom, Edgar **Whitley** – London School of Economics and Political Science, United Kingdom, Jakob **Dirksen** – London School of Economics and Political Science, United Kingdom. (Submission #99)

- “*Taking Stock of Urban Data Governance in German Small Towns*”; Leonard **Higi** – Institute for Applied Research Urban Futures, University of Applied Sciences Potsdam, Potsdam, Germany ; Institute of Urban Planning, Brandenburg University of Technology Cottbus-Senftenberg, Cottbus, Germany , Tobias **Schröder** – Institute for Applied Research Urban Futures, University of Applied Sciences Potsdam, Potsdam, Germany ; Social and Educational Sciences Department, University of Applied Sciences Potsdam, Potsdam, Germany, Silke **Weidner** – Institute of Urban Planning, Brandenburg University of Technology Cottbus-Senftenberg, Cottbus, Germany, Heike **Neuroth** – Institute for Applied Research Urban Futures, University of Applied Sciences Potsdam, Potsdam, Germany ; Information Sciences Department, University of Applied Sciences Potsdam, Potsdam, Germany. (DAP-2025-0054)
- “*Enhancing Human Rights Monitoring with AI: The Civic Space Pulse Data Transformation Framework*”; Mohamed **Elmokadem** – UN-OHCHR, Switzerland, George **Hodge** – UN-OHCHR, Switzerland, Annissa **Zahara** – UN-OHCHR, Switzerland. (Submission #76)
Chair: Wilson **Wong**, Chinese University of Hong Kong

Session 5E (Room A2.05) – Sp2: Bridging the Gap: The role of Data Intermediaries in the Creation of Urban Digital Twins

- “*Enhancing Urban Digital Twins for Heat Transition: AI-Powered Heat Demand Modeling for Municipal Policymaking*”; Nazanin **Bagherinejad** – Chair of Methods for Model-based Development in Computational Engineering, RWTH Aachen University, Germany, Jonas **Luft** – syte GmbH, Germany, Philipp **Sommer** – Department of Energy, Building, and Environment, FH Münster, Germany, Ali Razavian – syte GmbH, Germany, Julia **Kowalski** – Chair of Methods for Model-based Development in Computational Engineering, RWTH Aachen University, Germany. (Submission #65)
- “*Spatial Temporal Graph Neural Networks for Urban Digital Twin Modeling*”; Toni Rubio **Serrano** – Universitat Pompeu Fabra, Spain, Manuel Portela **Charnejovsky** – Universitat Pompeu Fabra, Spain, Vladimir **Estivill-Castro** – Universitat Pompeu Fabra, Spain. (Submission #81)
- “*Designing for the Urban Twin Transition: Data Intermediary Challenges in Prototyping Data Collaboratives – A Case Study from Milan*”; Francesco **Leoni** – Politecnico di Milano, Italy, Federico **Bartolomucci** – Politecnico di Milano, Italy (Submission #89)
Chair: Manuel **Portela**, Universitat Pompeu Fabra in Barcelona

12:20 - 13:10 | Closing Plenary (Room: A0.06): Powering the Data Transition – Rethinking Digital Sustainability

Chair(s): Frits **Bussemaker** – Dutch National Government, The Netherlands

Speakers: Karen **van der Zanden**, Chair Expert Group Sustainable Digitalization, House of ESG / Stijn **Grove**, Dutch Data Center Association / Claire **Groosman**, Top Sector Energie / Inge **Sonnenschein**, Alliander Digital Strategy

13:10 - 13:20 | **Conference Chairs' Reflections & Closing Discussion** (Room A0.06)

Sarah **Giest**, Regional Conference Chair, Leiden University

Bram **Klievink**, Regional Conference Chair, Leiden University

Zeynep Engin, Chair & Founder, Data for Policy CIC

13:20 - 14:15 | **Lunch**

14:15 | **End of Data for Policy 2025 – Europe**

Session 5B: Data Law & Governance for the Digital and Green Transitions

Balancing Digitalization, Data Protection, and Sustainability: Reconciling GDPR Principles with EU Green Objectives.

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Keywords: Data protection, green deal, digitalization, XR technologies

Abstract

At the heart of current European Union (EU) policy and lawmaking lie two key objectives: the green and the digital transitions; each of these involving different processes and technologies to achieve their goals (Celeste and Dominioni 2024). From a regulatory perspective, on the one hand, the green transition has resulted in different legislations such as the Net-Zero Industry Act, the Directive on repair of goods or the Nature Restoration Law. On the other hand, the digital transition has resulted in legislation such as the General Data Protection Regulation (GDPR), the Artificial Intelligence Act (AI Act), the Digital Services Act (DSA) or the Digital Markets Act (DMA).

While there is some overlap where both transitions can coincide, certain elements from each one may conflict and hinder the intended objectives of the other. For example, it has been pointed out that as data centres evolve into critical infrastructure for supporting the digital economy, their power consumption has reached unprecedented levels, escalating operational costs and raising environmental concerns (Veeramachaneni 2025).

In this paper, specifically, we aim to focus on the green transition's objective to prioritise energy efficiency and develop a power sector based largely on renewable sources¹ and the objective of the digital transition concerning the protection of people's rights² in the digital context.

To analyse the interplay between these two objectives, we will use a case study concerning extended reality (XR) technologies, which include virtual, augmented and mixed reality (Barfield and Blitz 2018), with the development of the metaverse at the edge of these developments (Cheng 2023). Among its many applications, XR technologies can enable remote engagement in activities beyond mere spectating through traditional audiovisual technologies. For example, besides just watching a car race on television, a person can 'sit' in an XR cockpit and pretend to be the pilot while the race is taking place. This kind of remote participation can contribute to support green objectives by reducing the carbon footprint associated with travel to and from events as well as replacing physical activities with immersive digital alternatives.

However, these digitalization activities must abide by the legal framework established for these purposes. While many EU laws have been passed in the last years, the GDPR is a crucial component of this regulatory framework (Papakonstantinou and De Hert 2022). For example, one of its core principles is data minimization, which mandates the reduction of data collection to the minimum necessary for a specific processing activity to avoid unnecessary exposure of personal data to risks (de Terwangne 2020).

Returning to the car race case, the transmission of public events where online users participate remotely might involve recording individuals who are not the focus of the activity (namely, the audience at a car race). Implementing safeguards, such as the anonymization of individuals to mitigate the processing of personal data (for example, blurring individuals' faces), might be a necessary step, depending on how this provision is interpreted. Notwithstanding this fact, adopting these safeguards could involve additional processing activities, which might require further resources, particularly energy consumption. Thereby, a potential conflict with green objectives could lay behind this decision. A similar logic might be applicable to other principles. For example, storage limitation might condition how the relevant timeframe for keeping recordings (and by extension using resources to power a data centre) for future replays is determined.

Moreover, the principle of lawfulness, fairness and transparency, that can be under pressure when trying to reconcile data protection with green objectives. In this sense,

and returning to our case study, it might be argued that the data from the public might only be processed under certain legal basis, such as legitimate interest. When addressing the balancing process in this legal basis, green objectives might steer the analysis towards one side.

In other words, the dichotomy we face is whether compliance with certain data-related provisions, particularly GDPR's principles and protection of user's personal data, might jeopardize the achievement of green objectives. To guide our analysis, we present the following research question: 'Should EU green objectives be considered when data controllers interpret and apply data protection principles?'

Given the current state of the literature, it is worth exploring how these objectives can be integrated into the application of data protection framework in specific situations. This issue should be examined in light of key judicial developments regarding the extent to which data controllers should adopt certain safeguards in designing processing activities and the existing guidance from data protection supervisory authorities as well as legal scholarship around key principles and concerning how data protection should interplay with other legal regimes, particularly the EU Green Deal regulatory framework.

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