

Preface for the Proceedings of the 2nd NeXt-generation Data Governance Workshop 2025 (NXDG 2025)

co-located with 21st International Conference on Semantic Systems (SEMANTiCS 2025)

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Workshop webpage: <https://w3id.org/nxdg/2025>

Organisation of the Workshop

The second NeXt-generation Data Governance (NXDG) workshop was designed to unite experts from technical, legal, ethics, and societal research, as well as industry experts, to explore key issues surrounding data governance, the emergence of data spaces, and the impact of the European strategy for data on these. It encouraged submissions on a range of topics, including semantics and interoperability, FAIR management, AI and data governance, standards, data protection and privacy, identity, decentralisation, and policy management and enforcement.

The workshop received 9 paper submissions, of which 1 was rejected based on reviews, 6 were accepted for presentation and publication, and 2 were conditionally accepted (later on one of them was withdrawn by the authors and one accepted after the authors revised the publication and included the suggestions of the reviewers). Each submitted paper was reviewed by two members of an international program committee (full list below), with a relevant background in the technical, legal and/or societal domains promoted by this workshop and aligned with the submission. The workshop reviewing was open/non-blind – both the authors and reviewers had their identity visible, and the OpenReview platform was utilised for this purpose. The reviews for the submitted papers are available with open access at <https://openreview.net/group?id=SEMANTiCS.cc/2025/Workshop/NXDG>.

Accepted Papers

The following papers were presented at the workshop:

Paper 1: *Beyond Disclosure: Rethinking Transparency and Digital Vulnerability under the Digital Services Act* by Elif Beyza Akkanat-Öztürk. The paper describes how the transparency rules under Digital Service Act (DSA) risk reinforcing digital vulnerability through complex disclosures, and calls for user-centric and context-aware transparency to address power imbalances in platform governance.

Paper 2: *A Configurable Anonymisation Service for Semantically Annotated Data: A Case Study on REC Data* by Paul Feichtenschlager, Christoph Fabianek, Fajar J. Ekaputra, Sebastian Haas and Gabriel Unterholzer. The paper presents a privacy-preserving anonymisation service for semantic data sharing as an extension to the Semantic Overlay Architecture (SOyA). The service is intended towards ‘Renewable Energy Communities’ for enabling secure and compliant data exchange with minimal privacy risk.

Paper 3: *Prototyping an HEALTH DCAT-AP data catalogue to support population health indicator identification and quality assessment* by Rob Brennan, Junli Liang, Akila Wickramasekara. The paper

NeXt-generation Data Governance workshop 2025 (NXDG 2025), co-located with SEMANTiCS’25: International Conference on Semantic Systems, September 3–5, 2025, Vienna, Austria

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presents the prototyping experiences in a population health use case of the draft HEALTH DCAT-AP specification for governance of data catalogues under the European Health Data Space Regulation (EHDS).

Paper 4: *Semantic Conflict Resolution for Access and Usage Control* by Eugenia I. Papagiannakopoulou, Nikolaos L. Dellas, Georgios V. Lioudakis, Maria N. Koukovini and Aziz Mousas. The paper presents a semantic policy engine based on goodFlows that aligns organisational information models with DPV and ODRL; a bi-directional ODRL adaptor that translates ODRL structures into access and usage control rules; a conflict resolution mechanism based on jurisprudential precedence.

Paper 5: *Designing DCAT-AP extensions for common European data spaces: The EHDS HealthDCAT-AP Case Study* by Pascal Derycke, Beatriz J. Barros, Nienke M. Schutte, Charles-Andrew Vande Catsyne and Martina Bargeman Fonseca. The paper presents the requirements and experiences of developing the HealthDCAT-AP as the European Health Data Space (EHDS) oriented extension of the DCAT-AP standard, which is supported by a metadata editor and a SHACL-based automated validation tooling.

Paper 6: *May the FORCE be with you? A Framework for ODRL Rule Compliance through Evaluation* by Wout Slabbinck, Julián Rojas Meléndez, Beatriz Esteves, Ruben Verborgh and Pieter Colpaert. This paper introduces the Framework for ODRL Rule Compliance through Evaluation (FORCE) that assists policy development and evaluation of outputs in ODRL-based workflows. FORCE also aims to support future development of ODRL by testing new features creating a Web playground to test them.

Paper 7: *Semantic Patterns of Prohibited AI Systems in the EU AI Act* by Delaram Golpayegani, Harshvardhan J. Pandit and Dave Lewis. This paper represents the prohibited AI practices in AI Act's Art. 5 in RDF and shows how these practices can be expressed and tested as a combination of concepts using SHACL and N3, similar to prior work regarding the AI Act's Annex III high-risk conditions.

Organisation Committee

The workshop was organised by Beatriz Esteves, Harshvardhan J. Pandit, and Ruben Verborgh. The following reviewers were part of the Program Committee. We thank them for supporting this work with their time and expertise in reviewing the submissions.

- Rob Brennan (University College Dublin, Ireland)
- Ben De Meester (Ghent University – imec, Belgium)
- Michiel Fierens (KU Leuven, Belgium)
- Kimberly Garcia (University of St Gallen, Switzerland)
- Patrick Hochstenbach (Ghent University – imec, Belgium)
- Julio Hernandez (Trinity College Dublin, Ireland)
- Ross Horne (University of Strathclyde, United Kingdom)
- Jakob Merane (ETH Zurich, Switzerland)
- Renato Iannella (University of Hong Kong, Hong Kong)
- Georg P. Krog (Signatu AS, Norway)
- Anelia Kurteva (Delft University of Technology, Netherlands)
- Chang Sun (Maastricht University, Netherlands)
- Rigo Wenning (W3C Legal Counsel)
- Rui Zhao (University of Oxford, United Kingdom)

Acknowledgments

We would like to thank the program committee, the authors of the papers, and the SEMANTiCS organisers, in particular the Workshop & Tutorial Chairs, who have made this workshop possible. Furthermore, Beatriz Esteves and Ruben Verborgh are funded by SolidLab Vlaanderen (Flemish Government, EWI and RRF project VV023/10). ADAPT, the SFI Research Centre for AI-Driven Digital Content Technology, is funded by Science Foundation Ireland through the SFI Research Centres Programme (Grant 13/RC/2106_P2). The AI Accountability Lab (AIAL) is supported by grants from following groups: the AI Collaborative, an Initiative of the Omidyar Group; Luminate; the Bestseller Foundation; and the John D. and Catherine T. MacArthur Foundation.