

Data Governance Working Group Report

November 2021 - GPAI Paris Summit



GPAI

THE GLOBAL PARTNERSHIP
ON ARTIFICIAL INTELLIGENCE

Please note that this report was developed by experts of the Global Partnership on Artificial Intelligence's Working Group on Data Governance..

The report reflects the personal opinions of GPAI experts and does not necessarily reflect the views of the experts' organizations, GPAI, the OECD or their respective members.

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Co-Chairs' Welcome



Dr. Jeni Tennison,
Vice-President and
Chief Strategy Adviser
Open Data Institute



Dr. Maja Bogataj Jančič
Founder and Head
Intellectual Property Institute

When we last presented our work at Summit 2020, we spoke on the values we wanted to place at the heart of our work and strive to practice in our approach: *openness, transparency, collaboration, and diversity*.

One year on, and we can say we are deeply proud of the progress we have made with our wonderful Working Group members in pursuing those values, and the results we can now show at Summit 2021.

Firstly, we have two very exciting projects with fantastic partners - both of which have secured significant additional funding from the UK's Office for AI to scale them up from the "seed funding" initially provided by GPAI's Montreal Centre of Expertise (the "CEIMIA"):

1. **Enabling data sharing for social benefit through data institutions:** supporting the creation of real-world data trusts that enable safe and equitable data sharing for social benefit and empower individuals to enact their data rights
2. **Advancing research and practice on data justice:** providing a framework for data justice research and practice and include considerations of justice in terms of access to, representation and transparency in data used in AI development

Both of these projects are already pushing the field forward. As an important first step on Data Trusts, the Working Group produced the first [international consensus statement](#) (building on the spirit of last year's Data Governance Framework Paper to agree common transnational definitions). This created a framework for understanding the special role that data trusts play in the data stewardship landscape. The Working Group has built on this, in collaboration with the Open Data Institute and Aapti Institute, to confirm that consensus and include analysis on best practices and legislative frameworks that support an ecosystem of trustworthy intermediaries. We are sharing this analysis as an Interim Report at Summit for consultation and to gather more feedback as we finalise that work. Looking ahead, we are excited to move this work towards developing practical pilot opportunities ready to operationalise in the climate space.

On Data Justice, our ambition is to create practical guidance to policymakers, developers and users on this important topic, and pilot those with partners across the Global South, which places our research at the cutting edge. The Working Group has collaborated with the Alan Turing Institute, to develop a preliminary thematic understanding of the state of the art on Data Justice research, and a set of guiding questions to be tested with 12 pilot organisations representing Low and Middle Income Countries and three target audiences for the guidance: policymakers, developer communities, and communities marginalised by AI/ML systems.

Both of these projects are a tribute to the creativity, imagination, and hard work of our Working Group colleagues and partners. We have many more ideas (demonstrated by the [Applied Research Agenda](#) we published earlier in the year), and are excited to now be bringing forward a new, more technically focused, project on Privacy Enhancing Technologies in 2022, to explore how this can help address some of the data barriers to AI for social good. That project has a practical dimension and, as with

our current projects, we would love to partner with others to scale up from the seed funding provided by CEIMIA, so if you would like to know more, please get in touch!

We go into 2022 full of excitement for what we can achieve, and appreciation for all the commitment, dedication and good humour of our Working Group experts, who have been a joy to collaborate with this past year.

Jeni Tennison

Maja Bogataj Jančič



Working Group Overview

The Working Group's mandate aligns closely with GPAI's overall mission. The Working Group aims to *“collate evidence, shape research, undertake applied AI projects and provide expertise on data governance, to promote data for AI being collected, used, shared, archived and deleted in ways that are consistent with human rights, inclusion, diversity, innovation, economic growth, and societal benefit, while seeking to address the UN Sustainable Development Goals.”*

The Working Group consists of 35 experts, including five observers, from 22 countries with experience in technical, legal and institutional aspects of data governance. All our experts have shown tremendous collaboration, creativity, commitment and, if we may say so, great humour as we advanced our work over the past year. We have also very much welcomed the new energy, expertise and insights from new members and observers joining from Brazil, Poland, Spain, Egypt and Turkey. The interdisciplinary and intercultural diversity within the Working Group continues to make the research fresh and exciting, and we look forward to building on this again next year.

In our Summit 2020 report, we stated that the Working Group wanted to be an open collaborator with other Working Groups to help advise them on the data governance aspects of their projects, in recognition of the foundational role of data in AI. A number of the Working Group volunteered to do so. We have collaborated with the Responsible AI Working Group on climate action and biodiversity and on social media governance; with the Pandemic Response subgroup on Drug Discovery and Open Science, and with the Commercialisation & Innovation Working Group on intellectual property.

Membership of GPAI's Data Governance Working Group

Working Group members

Jeni Tennison (Co-Chair) – Open Data Institute (UK)
Maja Bogataj Jančič (Co-Chair) – Intellectual Property Institute (Slovenia)
Allan Feitosa – Eldorado Research Institute (Brazil)
Alejandro Pisanty Baruch – National Autonomous University (Mexico)
Aleksandra Przegalińska – Kozminski University (Poland)
Alison Gillwald – Research ICT Africa (South Africa / UNESCO)
Anderson Soares – Artificial Intelligence Center of Excellence (Brazil)
Asunción Gómez – Technical University of Madrid (Spain)
Bertrand Monthubert – Occitanie Data (France)
Carlo Casonato – University of Trento (Italy)
Carole Piovesan – INQ Data Law (Canada)
Christiane Wendehorst – European Law Institute / University of Vienna (EU)
Dewey Murdick – Center for Security and Emerging Technology (USA)
Hiroshi Mano – Data Trading Alliance (Japan)
Iris Plöger – Federation of German Industries (Germany)
Jeremy Achin – DataRobot (USA)
Josef Drexl – Max Planck Institute (Germany)
Kim McGrail – University of British Columbia (Canada)
Matija Damjan – University of Ljubljana (Slovenia)
Neil Lawrence – University of Cambridge (UK)
Nicolas Mialhe – The Future Society (France)
Oreste Pollicino – University of Bocconi (Italy)
Paola Villerreal – National Council for Science and Technology (Mexico)
Paul Dalby – Australian Institute of Machine Learning (Australia)
P. J. Narayanan – International Institute of Technology, Hyderabad (India)



Ricardo Baeza-Yates – Universitat Pompeu Fabra & Northeastern University (Spain)
Robert Kroplewski – Minister for Digitalisation of the Information Society (Poland)
Seongtak Oh – National Information Society Agency (South Korea)
Shameek Kundu – TruEra (Singapore)
Takashi Kai – Hitachi (Japan)
Teki Akuetteh Falconer – Africa Digital Rights Hub (Ghana / UNESCO)
Te Taka Keegan – University of Waikato (New Zealand)
V. Kamakoti – International Institute of Technology, Madras (India)
Yeong Zee Kin – Infocomm Media Development Authority (Singapore)

Observers

Elettra Ronchi – OECD
Jaco Du Toit – UNESCO
Nagla Rizk – American University in Cairo
Naoto Ikegai – University of Tokyo
Zümrüt Müftüoğlu – Yildiz Technical University

Progress Report

At Summit 2020, the Working Group presented a framework for GPAI's work on data governance and a detailed investigation into the role of data in AI and committed to push forward cross-domain projects and develop cross-working groups collaborations. After rounds of ideation and prioritisation in the first few months of the year, a [research agenda](#) with seven detailed concept notes was published and two projects combining elements of those concept notes were approved to move forward:

- 1. Enabling data sharing for social benefit through data trusts:** established to support the creation of real-world data trusts that enable data sharing for social benefit. It will support new institutions that empower individuals and communities to enact their data rights, ensuring that data sharing activities reflect the diverse interests of all in society. The end goal is to help GPAI realise the potential of data trusts as a tool to promote the safe, fair, legal and equitable sharing of data, in service of the UN Sustainable Development Goals.
The first two projects from this workstrand have already started: a review of current practice in operationalising data trusts is being delivered by the Open Data Institute and Aapti Institute, and a review of legal structures to enable data trusts is being delivered by the Aapti Institute. This work is co-led by Neil Lawrence and Seongtak Oh, in collaboration with the Data Trusts Initiative.
- 2. Advancing research and practice on data justice:** established to fill a gap in Data Justice research and practice that provides a frame to help policy makers, practitioners and users to move beyond understanding data governance narrowly as a compliance matter of individualised privacy or ethical design, to include considerations of equity and justice specifically as it relates to redressing the uneven distribution of opportunities, and harms, associated with AI and ML currently. The objective is to make significant progress in getting more equitable access to, greater visibility and fairer representation of those individuals and communities marginalised from data used in the development of AI/ML systems, through the adoption of more just principles into AI policy and practice.
The project has been commissioned to the Alan Turing Institute and is co-led by Alison Gillwald and Dewey Murdick.

Enabling data sharing for social benefit through data trusts

The Aapti Institute has prepared an Interim Report on two outputs for Summit 2021 as summarised below. The first output has been produced in partnership with the Open Data Institute (the full Interim Report will also be available on the Working Group's GPAI page).

these have been published for consultation prior to their finalisation:

1. A synthesis of the 'state of the art' in the design and implementation of data trusts, based on a review of existing relevant data institutions from across the world that explores how different projects have implemented the core features of a data trust

Adopting the Global Partnership for AI's Data Governance Working Group consensus statement on data trusts, the Aapti Institute and Open Data Institute have surveyed researchers and practitioners to understand what strategies and practices can help implement the functions of a data trust. This survey has been completed by 45 organisations that are building or running data trust-like projects and individuals researching data stewardship.

The project's literature review found significant theory, interest and experimentation around new forms of 'bottom-up' data stewardship that seek to empower people to participate in the process of data collection, use and sharing. It highlights the growing interest in data trusts as a form of data stewardship, and explores some of the issues facing this nascent community of practice.

Analysis of the survey found that:

- **Data trusts are an evolving form of data stewardship;** while there is much optimism about their potential, there are also many questions about their operationalisation.
- **Consensus is growing around the unique role that data trusts play as a data institution;** data trusts can deliver a variety of functions, including enabling data use, preventing vulnerabilities from data use, and rebalancing power asymmetries in data exchanges - a distinctive feature across these functions is the concept of bottom-up engagement;
- Many of today's pilot projects exploring the role of **data trusts as a form of data stewardship seem to be driven from Europe and North America.**
- **There are different ways of operationalising data trusts, responding to different needs or challenges in different jurisdictions;** there are a number of real-world initiatives that demonstrate multiple routes to realising bottom-up data stewardship.
- The **goal of bottom-up data stewardship can differ significantly,** from supporting altruism to generating a commercial return and this defines how models design their governance mechanisms.

Case studies documented in our interim report - from three bottom-up data stewardship initiatives: Driver's Seat, Open Humans and MIDATA - represent **real-world examples of how groups can be empowered around data they've generated** and are actively making available data for broad societal benefit.

2. A review of the legal and legislative frameworks that are in place or emerging for the governance of data institutions, to analyse the current landscape of data rights, understand the legal and legislative frameworks that are required to develop data trusts, and identify areas of uncertainty or need

The Aapti Institute has reviewed recent legal developments in 11 jurisdictions, with the aim of understanding the role that legal and legislative frameworks can play in enabling the development of data trusts. Consequently, all eleven jurisdictions selected for the comparative analysis have been measured for their 'preparedness' to enable data trusts, and analysis for each has been detailed as well. While it is helpful to understand the data trust fertility across these regions, it has been a delicate balance to provide assessment while allowing for subjective interpretations of these legal landscapes, and the myriad (sociological, political and economic) nuances embedded in each region.



The result of this work is a framework for understanding the legal enablers of data trusts, and the policy building blocks that must be in place, if countries are to make use of this form of data stewardship. It finds that the ability to enact fiduciary relationships, data rights, and data sharing agreements are foundational to the establishment of data trusts. While the aim has been to encompass common law, civil code, and mixed legal systems - marrying them in a composite analysis framework is complex, as trust law and fiduciary duties feature most firmly and fundamentally in common law.

This legal review has brought forth numerous insights - on parity across jurisdictions, the need for robust digital infrastructure, and the potential to embed different models of data stewardship, optimised for different contexts.

The insights from both of these outputs are intended to start the conversation and are open to feedback before they are finalised. Once finalised, they will help inform the next stage of GPAI's data trusts workstream outlined under the Forward Look.

Advancing research and practice on data justice

For Summit 2021, the Alan Turing Institute has provided an Interim Report on its collaboration with the Working Group on two outputs:

1. **the integrated literature review and annotated bibliography** to provide needed context and identify gaps that need to be filled as we move towards a more complete view of data justice and a forward-looking research agenda, and
2. **'preliminary guides'** that will document key questions that our target audiences (developer communities, policy makers, communities and individuals potentially marginalised by AI/ML systems) should be asking based on an assessment of the critical review of the literature and practice, to be tested, refined and developed through practical pilots in real-world contexts and broad consultation with our target audiences.

The Interim Report details how the Turing has structured its provisional approach around **six pillars** that have been identified in their research so far: power, equity, access, identity, participation and knowledge. These pillars are intended to inform the framing of the integrated literature review, and shape the way that the ensuing guidance for developer, policymakers and impacted rights-holders is organised and delivered.

The **integrated literature review** has been shaped by an interdisciplinary and inclusive orientation that draws widely on the humanities, social sciences, policy literatures, activist statements and declarations, and first-hand input anchored in lived experiences.

To understand then what is missing in and can enrich the current study and undertaking of data justice, the review ranges well beyond conventional boundaries and incorporates adjacent research areas such as design justice, data feminism, data colonialism, and indigeneous data sovereignty.

The review also undertakes a broadening of the study and pursuit of data justice by making visible, and accessible, real-world practices of organisations and communities from around the world which are engaged in transformative work surrounding the advancement of data rights and just data innovation ecosystems.

The **preliminary guides** are also being developed in a way that builds upon the six pillars:

- For **policymakers**, the guide will focus on posing questions which equip policy thinking with analytical tools to engage in debates about global data governance with a critical awareness of power differentials and diverging levels of access and participation.
- For **developers**, the guide will focus on posing questions which equip researchers, project managers, technologists, and others involved in the data innovation value chain with the practical and analytic tools needed to safeguard the equity and trustworthiness of processes of designing,

developing, procuring, and deploying AI and data-intensive technologies and to ensure just and ethical outcomes in their real-world implementation. This will involve building an end-to-end awareness into research and innovation practices that every human choice and design decision made across the project lifecycle has social and ethical consequences.

- For **impacted communities**, the guide will focus on posing questions which empower affected individuals and groups with the critical, analytical, and practical tools needed to challenge and transform the socio-historically rooted patterns of discrimination, injustice, and inequality that can manifest in the production and use of data-intensive technologies and in wider processes datafication. Following the pillars, it will also enable individuals and communities to utilise mechanisms of collective empowerment, social solidarity, and democratic agency to create conditions of public accountability and transparency in the governance of AI and data-intensive technologies and in wider data innovation ecosystems.

Stakeholder involvement, engagement and consultation is a crucial element of the project, culminating in the pilot phase of the preliminary guides. The Turing is undertaking a three-pronged approach:

1. **The launch of a digital participatory platform for stakeholder engagement:** the platform includes two media of consultation: a data justice survey and a data justice sources page which allows participants to endorse content and to leave comments on the proposed themes for the integrated literature review
2. **Formation of an Advisory Board to help the research team better connect with data justice communities of practice and relevant stakeholders from Low and Middle Income Countries:** the Advisory Board is composed of individuals involved in various data communities of practice connected to human rights, modern slavery, global public health, and sustainable development. It represents diverse perspectives from the Global South(s) and those of communities that experience marginalisation in the Global North. The Advisory Board is providing guidance throughout the research process, with a particular focus on supporting outreach efforts within a variety of research and practice environments.
3. **Formation of Global Policy Pilot Partnerships:** 12 Policy Pilot Partners (PPPs) are being recruited from across the globe to move the project to pilot phase. The data justice guidelines will be tested by this set of representative partner organisations who will provide feedback and guidance. The goal is for PPPs to evaluate preliminary guidance to further develop its efficacy and impact in organisational, legal, technical and regulatory contexts. From November to March, across Oceania, Asia, Africa and the Americas, 12 workshops and 120 semi-structured interviews will be conducted to support this goal.

The full Interim Report will be available on the Working Group's [GPAI page](#).

Forward look

For 2022, we are excited to advance our current projects from their theoretical foundations towards practical interventions, with a proactive approach to partnerships that can maximise the benefits and impacts of this work.

To advance the **Data Trusts** workstream towards practical interventions, the Working Group will produce:

- **Practical toolkits and guidance on the creation of data trusts**, building on the finalised data trust survey and legal review outputs.
- **A feasibility study for operationalising climate-focused data trusts, that covers:**
 - **The creation of pilot projects** (including institutional design, legal considerations, economic analysis) - centred around a **defined set of prospective use cases** developed with the AI and climate communities
 - **A summary of findings and recommendations** on the feasibility of developing these data trusts.



- **A public launch event** by the end of March 2022.
- **Further research and feasibility studies** to assess the potential for further use cases or pilots in sectors where data trusts could play an important role in enabling data stewardship, to fill knowledge gaps around the enablers of data trusts innovation, and to identify the actions needed to support the creation of data trusts in key domains (for example, health).
- **Operationalisation strategies and support packages for pilot projects cultivated** via workstrands on climate and sectoral feasibility studies (points 2 and 3, above).

For **Data Justice**, the Working Group plans to go further and deeper in its research by continuing its collaboration with the Alan Turing Institute, in order to produce and publish:

- **the data justice pilot of preliminary guides with 12 global partners representing policy makers, developers, and marginalised communities** to further develop its efficacy and impact in organisational, legal, technical and regulatory contexts.
- **a report** that integrates the pilot findings with the assessment of the current state of research on the topic;
- **updated guidance based on the pilot findings** (including cross-jurisdictional considerations for policy makers and recommended institutional approaches for organisations); and
- **a future research agenda** on technical, institutional, economic and legal approaches that promote global data justice

The future research agenda will then guide the next steps on opportunities to go further and deeper in advancing research and practice on data justice. We expect this to be in line with the Working Group's allocated budget.

To complement these two projects, the Working Group has also proposed a third project: **Supporting the development and adoption of trustworthy privacy-enhancing technologies to overcome data barriers to "AI for social good"**. The primary objective of this project will be to demonstrate the viability of AI systems in helping achieve the UN SDGs in congruence with the OECD AI Principles, by providing a means to safely and securely develop, use and share data while preserving privacy, sovereignty and IP rights. The project also aims to overcome challenges to data usability commonly faced when working with PETs by publishing practical guidance and lessons learnt from the demonstration system. This can support innovation by helping smaller organizations or corporations to compete more effectively with large data-rich organizations that have access to massive datasets within their organisational boundaries. This will add a complementary technical dimension to its portfolio, but we propose a gradual ramping up of work, so as not to impede upon the first two projects. To support the practical ambitions of the project, the Working Group will explore a cross-Working Group collaboration on this project.

Annex 1

Committee on Enabling data sharing for social benefit through data trusts

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Paul Dalby – Australian Institute of Machine Learning
Christiane Wendehorst – European Law Institute / University of Vienna
Yeong Zee Kin – Infocomm Media Development Authority
Teki Akuetteh Falconer – Africa Digital Rights Hub
Alison Gillwald – Research ICT Africa
Josef Drexler – Max Planck Institute
Alejandro Pisanty Baruch – National Autonomous University
Iris Plöger – Federation of German Industries
Ricardo Baeza-Yates – Universitat Pompeu Fabra & Northeastern University
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Zümrüt Müftüoğlu – Yildiz Technical University

Invited specialists

Jess Montgomery – Data Trusts Initiative / University of Cambridge

Committee on Advancing Data Justice Research and Practice

Co-Leads

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