Executive Summaries of Working Groups Reports

November 2021 - GPAI Paris Summit

GPAI / THE GLOBAL PARTNERSHIP
ON ARTIFICIAL INTELLIGENCE

Responsible AI

Working Group Overview

The Responsible Development, Use and Governance of AI Working Group has a mandate to "foster and contribute to the responsible development, use and governance of human-centred AI systems, in congruence with the UN Sustainable Development Goals". The Working Group brings together 35 experts from 20 countries (plus 11 Observers). It is led by Co-Chairs Yoshua Bengio, Founder and Scientific Director of MILA, and Raja Chatila, Director of the SMART laboratory of human-machine interaction at the University of Sorbonne.

Progress Report

At Summit 2020, the WG committed to focus on developing enabling environments for AI technologies to achieve the UN SDGs and other key objectives. Following a process of ideation and engagement with GPAI's Steering Committee and Council, the Working Group prioritised two projects in 2021, with a third (Drug Discovery and Open Science) being taken forward in collaboration with the AI and Pandemic Response Subgroup:

- **A Responsible AI Strategy for the Environment:** This project aims to develop a global responsible AI adoption strategy for climate action and biodiversity preservation. The WG collaborated with Climate Change AI and the Centre for AI and Climate to publish an action-oriented roadmap to guide policymakers developing climate action strategies. Through a thorough consultation process with a broad set of stakeholders, the roadmap provides actionable recommendations spanning three categories as to how governments can support the responsible use of AI in the context of climate change:

    a. Supporting the responsible use of AI for climate change mitigation and adaptation.
    b. Reducing the negative impacts of AI where it may be used in ways that are incompatible with climate goals.
    c. Building relevant implementation, evaluation, and governance capabilities for and among a wide range of entities.

- **Responsible AI for Social Media Governance:** This project responds to growing concerns about the level of misuse which can be harmful and serve to propagate disinformation, extremism, violence and many forms of harassment and abuse. It aims to identify a set of technical and democratic methods that governments could adopt to safely ask a set of agreed questions and measurements about the effects of social media recommender systems. It builds upon the Christchurch Call, with New Zealand as the first case study for the project but easily applied in any country. The project considers two related questions:

    a. How to define the concept of 'harmful' social media content. This project aims to highlight the importance of regional variations in definitions of harmful content, and to propose a possible model of regional governance for Internet platforms in relation to harmful content.
    b. The AI systems that disseminate content on social media platforms, namely recommender algorithms. Our proposed exercise involves collaborating with a social media company to study the effect of its recommender system on users' attitudes towards harmful content. Note that the proposed exercise won't have any impact on user experiences.

The Committee's Interim Report, presented for Summit 2021, shares their emerging findings and conclusions.

Forward look

In 2022, the WG has proposed to continue its two ongoing projects to build momentum and harness their potential and impact within GPAI's members:

- The **Responsible AI Strategy for the Environment** project will aim to accelerate action on the roadmap with policy makers, investors and developer communities by:
  a. Expanding the scope of the roadmap and the booklet of use-cases to biodiversity preservation
  b. Growing the booklet of uses-cases into a living repository in collaboration with relevant key stakeholders.
  c. Engaging the community by anchoring the roadmap into key global agendas, developing a more bespoke engagement program if required.
  d. Guiding the community by developing:
     ○ Strategic implementation plans for the roadmap.
     ○ Impact planning and assessment frameworks/instruments such a Global Climate & AI Index, technical benchmarks to provide an international comparative baseline for performance against the roadmap.
  e. Leading the community by piloting new mechanisms.

- The **Responsible AI for Social Media Governance** has been proposed two components:
  a. To continue the New Zealand case study with an extension to the methods it employs.
  b. Apply the methods developed for New Zealand in 2021 to other countries.

Data Governance

Working Group Overview

The Working Group consists of 35 experts, including five observers, from 22 countries with expertise in technical, legal and institutional aspects of data governance. It is led by Co-Chairs Jeni Tennison of the Open Data Institute (UK), and Dr. Maja Bogataj Jančič of the Intellectual Property Institute (Slovenia).

Its mandate is 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."*

Progress Report

The Working Group prioritized two projects for the 2021 work plan:

- **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.
- **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.

As an important first step on Data Trusts, the Working Group has produced the first international consensus statement. 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. This analysis is being shared as an Interim Report at Summit for consultation and further feedback as that analysis is finalized.

On Data Justice, the Working Group's 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 organizations representing Low- and Middle-Income Countries and three target audiences for the guidance: policymakers, developer communities, and communities marginalized by AI/ML systems. An Interim Report produced by the Alan Turing Institute outlines the provisional approach of its research (structured around 'six pillars' of Data Justice) and their progress in developing the guidelines through a global consultation process.

The Working Group and its partners have been successful in securing an additional $2m CAN from the UK Government for these two projects, helping to scale both projects from their 2021 'seed funding' and moving them towards practical interventions.

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 maximize 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 finalized data trust survey and legal review outputs.
- **A feasibility study for operationalizing climate-focused data trusts, that covers:**
- **The creation of pilot projects** (including institutional design, legal considerations, economic analysis) - centered 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).
- **Operationalization 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 marginalized communities** to further develop its efficacy and impact in organizational, 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 organizations).
- **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, 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 organizational 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.

Future of Work

Working Group Overview

The GPAI Future of Work (FoW) Working Group's mandate and scope are:

- **Conduct critical technical analysis** regarding the effects deployment of Artificial Intelligence (AI) can have on workers and working environments as well as how workers and employers can better design the future of work.
- **Address how AI can be used in the workplace** to empower workers, how employers and workers can prepare for the future of work, and how job quality, inclusiveness, and health & safety can be preserved or even improved.

The FoW working group is comprised of 34 experts and one OECD observer. This diverse community of experts broadly represents the stakeholder categories, geography and gender. The working group is divided into four committees corresponding to major themes regarding the future of work (*Training*, *Human-Machine Collaboration*, *Bias Management* and *Work Conditions*) with two umbrella committees focusing on the development of an *Observation Platform on AI at the Workplace* and a *Virtual Living Lab*.

Progress Report

During 2021, following the guidance of the steering committee, FoW experts focused their work on two main projects: "**Observation Platform of AI at the Workplace**" and "**AI for Fair Work**".

The observation of how AI is used at the workplace is a key issue in order to build a better future for workers collaborating with AI. The *Observation Platform of AI at the Workplace* project aims to build a catalog of use cases capturing the effect of AI in the workplace and on workers. In 2020 the use case collection campaign was conducted by a small group of experts using a questionnaire. From the 54 use cases collected, the FoW Working Group obtained both quantitative and qualitative information which was used to develop basic statistics concerning geographical distribution and sector of the companies involved.

In 2021, the project took three main actions:

- **Improvement of the questionnaire** by integrating the goals set by the working group committees, focusing on training, bias, and human-computer interaction
- **Creation of a student com**munity composed of "junior investigators" for GPAI assigned to interview companies
- **Organization of the survey materials around a constructive AI taxonomy**. The catalog was expanded to 84 use-cases. New qualitative findings emerged from the one described in the 2021 interviews conducted by the student community. They are summarized below:

    o Most experiments were successful, but did not continue. They are Proof Of Concepts (POC) that solve consistent problems in a satisfactory manner but do not lead to production, mainly because AI systems might destabilize organization activities, socialization and professional practices.
    o Regardless of the success or failure, each experience enriches the organization. The POC is a necessary step to understand the characteristics and potential of AI systems which induces the production of new organizational learnings.
    o Good practices and guidelines have emerged for both parties to ensure successful implementation of future use cases and to empower the worker.

A large number of initiatives regarding the ethical outcomes in association with AI at the workplace already exist. Despite the attention focused on AI unfairness, the main common issue of these

initiatives is that they are too high level with no concrete and clearly agreed-upon standards in workplaces where humans work in tandem with AI. The *AI for Fair Work* project is the specific application of GPAI's mission to bridge the gap between theory and practice, with a basis of a deeper understanding of the complex current reality. The objective is to develop recommendations for decision-makers regarding the implementation of AI to promote fair and efficient work environments. The challenge is to assist organizations in the implementation of fair, effective and decent conditions for workers through inclusive processes across regions, genders, and disabilities. These recommendations will result in a set of AI fair work principles and operationalizable processes through which can be applied, measured, and evaluated in a large-range of typical workplaces. Such principles and processes will be applicable to all AI use-cases, and the experts will be engaging with partners to apply them in their technologies and business models. The experts who contributed to the project and a post-doctoral researcher funded by GPAI and hired by Oxford University since September 2021 are currently reviewing and synthesizing existing fair/ethical AI principles, policies and benchmarks.

Forward Look

In addition to the two existing projects, a third project "*Virtual Living Lab*" will be launched in 2022 in order to design and build an artificial intelligence living laboratory at work. This new project will complement the mission and vision of the working group by increasing future perspectives and multiple experimentation opportunities.

Thus, the project activities planned for 2022 (and beyond) are:

- **Observation platform of AI at the work place**
    a. Create a prototype of an observation platform directly integrated into the *Virtual Living Lab* (see the third project described below).
    b. Disseminate this platform to the GPAI community, and more broadly, to the community of interested researchers, while ensuring complementarity with OECD's activities on AI at work
    c. Define more complete use case selection strategies based on representative standards and proposed AI taxonomy.
    d. Develop student communities with a new generation of students from new countries
    e. Conduct further analyze on the reality of the implementation of AI at the workplace.

- **Fair work for AI**
    a. Produce a document that lists the existing AI Fair Work principles and their deployment strategies.
    b. Assemble an advisory group that will offer feedback on this document in order to produce a report on the principles and processes that balance meaningful standards of fair work with effective implementation.
    c. Translate the report in a least four languages in order to disseminate it to a large audience of 200 worldwide thought leaders representing industry, labour and government.

- **Living Lab**
    Create a *Virtual Living Lab* connecting a network of national physical living labs and allowing to share applied experiments for assessing the impact of AI at both individual (by communicating their experience of AI and connecting them to people and communities with similar AI backgrounds) and company levels (by finding information about deployment of AI, virtually experimenting AI, connecting with experts, finding guidelines). The *Virtual Living Lab* will be a website that will start with an extended catalog of use cases of the *Observation Platform of AI at the Workplace* and national reports/publications/living lab initiatives related to future of work from participating member countries in GPAI. In further steps the website will become an interactive platform for experimental AI strategies as well as a collaborative platform that will allow the exchange of ideas as well as the mutual involvement in AI projects.

Innovation and Commercialization

Working Group Overview

The Innovation and Commercialization (I&C) Working Group of GPAI works to study and recommend practical tools and methods that enable private actors and research organizations to drive international collaboration on AI R&D and innovation, to develop research outputs into products and processes, and to transfer these results to industry for commercialization. It is built around a specific focus on SMEs, emphasizing their importance in the economy of GPAI's member states. The I&C Working Group is comprised of 35 Experts and 12 Observers with varied backgrounds and expertise from 20 countries (including the European Union).

This Working Group is co-chaired by Françoise Soulié-Fogelman, Scientific Advisor of Hub FranceIA; and Jean-François Gagné, founder of ElementAI and VP of AI Strategy and Product Management, ServiceNow. Both were members of the European Commission's High-Level Expert Group on AI.

In 2021, the I&C WG worked on two different ongoing projects, "**Broad Adoption of AI by SMEs**" and "**Protecting AI innovation and Intellectual Property** (IP)". The "SMEs Committee" was built around the idea that SMEs may get a critical advantage from the adoption of AI if they can overcome barriers on their way to AI. The project focuses on exposing SMEs who are "unaware" of AI (i.e., without knowledge of AI), on how AI can be used as a tool to enhance their businesses. The "IP Committee" also focused on SMEs, and worked around the goal of assisting startups or SMEs working with AI and who have limited resources in their legal and/or IP functions to understand the most important characteristics of IP protection when AI is involved. In 2022 the I&C WG will take on an additional third project, titled "Broad Adoption of AI by SMEs in the Agriculture and Farming Sector".

Progress Report

The objective of the Broad Adoption of AI by SMEs project is to assist SMEs in adopting AI by creating a portal that contains shared resources:

- **A set of outreach materials and activities** to engage AI Unaware and AI Aware enterprises (i.e., SMEs with with no or limited knowledge of AI).
- **A catalogue of AI solutions by industry verticals and functions** to help SMEs understand which benefits AI can bring to their business.
- **An AI Maturity Index** (GPAI AIMIND) to evaluate the level of maturity of an SME and thus orient it to the adequate content,
- **A service to match SMEs**, consumers of AI, with AI Solution providers based on the consumers' industry verticals and business activities.

In 2021, the SMEs Committee was able to build a template of the portal. This template is designed so that member states can download it, adapt, localize and use common materials to build and operate their own local portals. Along with this, the Committee is also collecting shared resources and activities to engage AI Unaware and AI Aware enterprises.

The idea behind the Protecting AI innovation and Intellectual Property (IP) project focuses on the fact that both the development and use of AI technologies have the potential to be hindered by several identified challenges when it comes to intellectual property rights (IPRs). SMEs and startups usually do not have the resources to understand such issues. Yet, if they make mistakes in protecting their innovations, their survival is at risk. The IP Committee addresses these factors in its *IP Primer* v1, a guide for helping SMEs and startups working with AI to understand intellectual property rights and benefit from their protection. The IP Committee was also able to conduct seven case studies with startups and SMEs working with AI to test the *IP Primer*.

The IP Primer v1 addresses:

- Current effective IP laws.
- Best practices, activities, and mechanisms related to IP.
- How individual organizations are currently handling IP.
- Differences across geographies.

Forward Look

In the SMEs Committee, now that the structure of the portal has been built, the next step in this process is to conduct field tests of the platform on existing initiatives from fellow GPAI members. This will allow the SMEs Committee to update the platform according to the needs of the users. Another of the main goals for 2022 is to develop a governance framework for the platform in order to build-in protection mechanisms for the data hosted in the portal, overall security and to ensure quality listing of AI solutions which need to be compliant with GPAI's values, as well as the OECD Principles on Artificial Intelligence. In addition to this governance framework, the SMEs Committee will work on developing an AI readiness index for AI providers.

For *the IP Committee*, 2022 will be about enriching the debate at the expert level and understanding the IP challenges to the development of AI and how some challenges can be addressed. In contrast to the *IP Primer*, the audience of the planned *IP Expert* will be business professionals and practitioners supporting them in larger companies or in SMEs and startups mature on IP issues. The IP Committee will also update the *IP Primer* v1 based on the returns obtained from the case studies and distribute it to a wider audience as *IP Primer* v2.

Broad Adoption of AI by SMEs in the Agriculture and Farming Sector is the third and newly added project that will begin work in 2022. The Agriculture & Farming (A&F) industry is an SME sector that presents specific requirements when adopting and developing AI that needs to be met with appropriate strategies in order to obtain successful results. This project will aim to support the A&F sector in addressing its two main challenges: (1) the need to standardize AI practices deployed within the sector in order to (2) improve current business models, respond to market competitive dynamics, and address consumer expectations.

The challenges will be addressed in three phases of project development:

- **An initial "Awareness" phase** with outreach initiatives to engage AI-aware A&F ecosystem members and create co-operation and collaboration for the project.
- **An "Accessibility" phase** which will catalogue successful AI solutions by verticals and commercial objectives.
- **A final "Resources" phase** where a Portal/Resources Website will be built for the A&F SMEs to access information libraries ranging from a variety of themes from "AI Readiness", "AI Best Practices" to "How to Digitize your Farm", as well as downloadable generically trained algorithms used in basic A&F AI projects. It will also aim to compile a resource library of AI companies dedicated to A&F projects and information about publicly available A&F data from local sources. This portal will reuse the structure of the portal developed in the SME Committee, with additions required by the A&F context.

AI and Pandemic Response

Working Group Overview

AI and Pandemic Response has defined its mandate as fostering and supporting the responsible development and use of AI-enabled solutions to fight COVID-19 and other future pandemics. The Working Group consists of 19 experts, including three observers, from 15 countries. The group includes insights from academia and industry, principally experts from technical backgrounds applying AI technologies to complex medical challenges.

Progress Report

Following the recommendations in Summit 2020, the AIPR subgroup agreed two projects for 2021:

- **AI for public-domain drug discovery**: This project aims to provide a 'roadmap' to accelerate (and identify challenges) drug discovery using AI technologies while creating the enabling conditions for open AI research in the development of new drugs or repurposing existing ones.

   The report outlines seven recommendations for governments:

   o   Investment in multidisciplinary AI-driven drug discovery academic research with emphasis on public health challenges with insufficient commercial interest and investment.
   o   Incentives for AI capacity building for the ecosystem.
   o   Procurement programs to stimulate stakeholders to move from academic prototypes to industrial-strength development processes and optimized drugs.
   o   Financial incentives for clinical trials for drugs with promising action in health issues sometimes neglected by the industry sector.
   o   Favour international collaboration, funding and knowledge exchange.
   o   Follow-up this roadmap with a deeper evaluation of and research on different procurement and incentive policies in particular when maximizing data sharing.
   o   Support from an international non-profit organization to coordinate and manage internationally funded projects.

- **AI-powered immediate response to pandemics**: This project aims to support impactful AI initiatives in the fight against the COVID-19 and future pandemics. It has two outputs:

   o   Update the catalogue of practical initiatives (in collaboration with The Future of Society), transforming it into a living repository.
   o   Evaluation of initiatives to identify impactful and scalable initiatives that could benefit from partnership with GPAI. The insights from these activities will help establish research/technology for fighting against future epidemics/pandemics.

Forward Look

The Subgroup has agreed to continue its two projects into next year, with a focus on collaboration and partnership. For the AI for public domain and drug discovery project, the AIPR proposes to support international collaboration and active coordination with key stakeholders. In 2022, the Project Committee will develop and deliver:

- A structured, sustained and multistakeholder public engagement program and strategic dialogue.
- An updated paper that identifies consensus positions amongst key decision makers, having developed its recommendations in response to the process above.
- Alignment of this program with an existing multilateral process and institutional effort to more broadly accelerate drug discovery.

While for the AI-powered immediate response to the pandemic project, we would identify 1-3 initiatives from the Living Repository that can most benefit from partnership. We would also want to understand the opportunities to scale these promising initiatives to more people and localities, and needs in relation to that aim. The Project Committee is testing for needs including resources, expertise, legal compliance (e.g Data Protection, Privacy and Intellectual Property), data, accessibility for vulnerable and minority groups, technical and infrastructure requirements, and user acceptance of the tool.

In H1 2022, the Working Group proposes:

- Reporting on the status of 1-3 AI initiatives to both GPAI Member States as well as other states in need in partnership with
- Update of a living document for fighting against COVID-19 and future epidemics/pandemics.
- Report and recommendations for GPAI members on feasibility for a scaled mechanism for expert-led validation of promising AI interventions.

The Subgroup would like to continue building upon its cross-Working Group collaboration as a Subgroup that provides an urgent, practical context for demonstrator and pilot initiatives, and looks forward to engaging with other Working Groups on these possibilities in the New Year.