

ARTIFICIAL INTELLIGENCE FOR PEOPLE

AN AUSTRALIAN
FRENCH PERSPECTIVE

HUMAN

AI will label images based on training data it has been given. In many instances this data is rooted in historical injustices which amplify certain voices and minimise others. More than often, when labelling images like the one on the cover, a certain type of 'human' is privileged.

We acknowledge, celebrate and pay our respect to all First Nations Australians on whose traditional lands we meet and work, and whose cultures are among the oldest continuing cultures in human history.

ABOUT

This report is a joined effort of the Australian National University (ANU) School of Cybernetics and the Australian French Association for Research and Innovation (AFRAN).

ANU School of Cybernetics

The ANU School of Cybernetics seeks to establish cybernetics as an important tool for navigating major societal transformations, through capability building, policy development and safe, sustainable and responsible approaches to new technological systems.

As people invent, commercialise and operationalise new technologies, we need new skills to manage them. Cybernetics offers a way of transcending boundaries, of thinking in systems and ensuring that humans, technology and the physical environment are in the frame. It is a way to imagine humans steering technical systems safely through the world.

At the ANU School of Cybernetics, we are building capability around this. Our programs blend education, research and engagement to support students, collaborators and publics to tackle the challenges posed by technology at scale. To find out more: cybernetics.anu.edu.au

AFRAN

AFRAN is an incorporated association that aims to actively promote the development of cooperation between France and Australia in the areas of research and innovation.

AFRAN stems from a merger between the French Researchers in Australia Network (FRAN), formed by the Embassy of France to Australia in 2012, and the Australian-French Association for Science and Technology (AFAS ACT Inc.).

AFRAN holds a community of around 1,000 members. The association is structured into geographical hubs and thematic communities. AFRAN is active in all Australian states and territories, as well as in France and the Indo-Pacific region. The thematic communities cover topics such as health, energy, bushfires, artificial intelligence, and more.

AFRAN implements an annual programme of activities and offers:

- networking opportunities to our community of academics, students, R&D managers, industry partners, innovators and policy-makers.
- Seed funding for collaborative projects led by our members.
- Support to our members in the organisation of community events.

FOREWORD

Artificial Intelligence (AI) is rapidly shaping the futures of our societies and environments. Its transformative potential is being seen across industries, from healthcare to climate action, which is challenging us to navigate its complexities in meaningful and responsible ways. As AI systems increasingly influence our ways of knowing, being and doing in the world, the need for global collaboration to ensure their safe, ethical, and sustainable development is vital.

Recognising the importance of international cooperation in research, innovation and education, the Australian National University (ANU) has partnered with the Australian-French Association for Research and Innovation (AFRAN) Inc. since its establishment in 2016 to foster meaningful exchanges in many domains, including AI innovations. In 2023 we have been delighted to host AFRAN in the new ANU School of Cybernetics, including AFRAN's new AI Community Hub leader Sarah Vallée from Expertise France. This AI community serves as a platform to connect researchers, innovators, and policymakers from France, Australia and beyond, and a shared space for dialogue on key local, regional and global research and innovation challenges.

This report is a testament to the early work of the AFRAN AI community, and the strength of the Australian-French partnership. Focused on the needs of the 2025 AI Action Summit in Paris, the report brings together a range of perspectives and case studies on AI from AFRAN members and event participants across key themes such as public interest AI, the future of work, responsible AI development, and the AI in creative industries. These examples show how AI can be used for positive impact, while being attentive to mitigating risks such as bias and social inequities, as well as environmental and cultural impacts.

The ANU School of Cybernetics supports imagining, designing and building new systems, including AI, that support human and ecological flourishing, across diverse places, spaces and cultural communities. Our work is based on an understanding that AI does not exist in isolation but operates as part of complex systems that include people, technologies, and environments. Similarly, AFRAN takes a broad and inclusive approach to fostering international research and innovation collaboration that focuses on interdisciplinary approaches to globally important endeavours such as the sustainable and responsible development of AI.

We hope this report and the examples of French-Australian AI research and innovation inspires the communities present at the Paris AI Action Summit, and those beyond, to embrace interdisciplinary and cooperative approaches to the challenges and opportunities posed by AI systems. We look forward to further contributing to a future where AI systems are developed in a manner that serves both humanity's and the planet's best interests.

Professor Katherine Daniell
Interim Director, ANU School of Cybernetics
President, AFRAN



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INTRODUCTION

In February 2025, France is hosting an Artificial Intelligence (AI) Action Summit¹. This global summit builds on the important milestones reached during the two previous AI Safety Summits—the Bletchley Park in November 2023 and the Seoul Summit in May 2024—while opening up its scope to answer the following question: *‘What does a society look like when AI is working well and in people’s interest?’*

The Summit addresses five primary themes:

- **Public Interest AI:** Leveraging AI in the public sector and at the service of the common good.
- **Future of Work:** Anticipating the impact of AI on current and future job markets.
- **Innovation and Culture:** Supporting the innovation and creative industries ecosystems to make AI the industry of the future.
- **Trust in AI:** Ensuring the development of safe and secure AI for our citizens.
- **Global Governance of AI:** Working towards a common framework for global and inclusive governance of AI.

At the occasion of the AI Action Summit, the Australian-French Association for Research and Innovation (AFRAN) and the Australian National University (ANU) School of Cybernetics are publishing this discussion paper to offer a unique French-Australian perspective to the main themes discussed at the Summit. This report offers a collection of case studies from the extended Australian-French research community based in the South Pacific. We are showcasing below a selection of projects led by AFRAN members and partners, focusing on three of the five main themes outlined above: Public Interest AI, Future of Work and Innovation & Culture.

We decided to showcase projects based in Australia and in the South Pacific, which received funding from AFRAN in recent years (since 2022), as well as projects whose members answered a call for contributions advertised on the AFRAN website. We also included projects from other major French-Australian collaboration initiatives, such as the Franco-Australian Centre for Energy Transition, FACET and the French-Australian joint lab on Human-Machine Interaction, IRL Crossing. We make no claim to exhaustiveness, and many more AI collaborative projects we have not yet identified may speak to the Summit’s primary themes.

¹ More information on the Summit:
<https://www.elysee.fr/en/sommet-pour-l-action-sur-l-ia>

With this report, we hope to achieve the following:

- Taking the first steps into building a dynamic AFRAN AI Community, by mapping existing Australian-French collaboration initiatives in the field of AI, both at a technical and non-technical level.
- Offering a unique Australian-French perspective on AI to policy-makers. In doing so, we believe this report constitutes an essential contribution to voice the work of Australia-based and South Pacific-based researchers and innovators.

What is AI?

The Organisation for Economic Co-operation and Development (OECD) offers the following definition: *‘An AI system is a machine-based system that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments. Different AI systems vary in their levels of autonomy and adaptiveness after deployment.’*

EXECUTIVE SUMMARY

With this report, we offer readers an overview of some of the work and reflection around AI, produced by the extended Australian-French research and innovation community, based in the South Pacific.

To answer the Summit's question, 'What does a society look like when AI is working well and in people's interest?', we will quote Dimitri Perrin, AFRAN Queensland hub leader and a Chief Investigator in Health and Biological Systems at the Queensland University of Technology (QUT) Centre for Data Science: 'AI for people, not on people' and make his expression our motto.

We summarise below the main recommendations to emerge from this report.

For AI to work in the public interest, we recommend:

- Greater interdisciplinarity to address challenges raised by AI applications.
- Greater diversity in the people that develop AI solutions, and in the data being used to train AI models.
- AI application to be driven by actual needs rather than 'technosolutionism'.
- In the Australian and Pacific context, greater involvement of Indigenous communities and design of AI systems that is respectful of the Indigenous cultures.
- The centring of environmental concerns in the development of AI systems.

To anticipate AI's impact on the workforce, we recommend:

- To conduct evidence informed research on AI adoption, to better understand AI's uptake in the workplace.
- To conduct a workers' survey to better understand their use of the technology and the impact on their working conditions.
- To raise workers' AI literacy, technical and social understanding.

For responsible innovation, we recommend:

- The use of new tools and frameworks to incorporate more proactive approaches to responsible practices into the development of AI systems.

For equitable AI innovation in the creative industries, we recommend:

- Creating an accessible and decentralised data marketplace where cultural institutions, artists, and content creators can license their works for AI training.
- Establishing AI innovation commons to ensure that the benefits and advances in AI development are distributed across borders.

1

CHAMPIONING PUBLIC INTEREST AI IN THE SOUTH PACIFIC

We decided to start this report by showcasing a number of recent initiatives, driven by AFRAN members and partners who are working with AI for social benefit, in areas such as health, energy, space, ocean and multilingualism. In Part 1, we also delve into the societal and environmental challenges posed by the unregulated development of AI, and offer, where possible, some recommendations.

An aerial photograph of a coastline. The left side of the image shows dark, deep water with white foam from waves crashing onto a sandy beach. The beach is a wide, light-colored strip of sand that curves along the coast. The right side of the image shows the ocean extending to the horizon, with a lighter, hazy blue color. The overall scene is captured from a high angle, looking down at the water and land.

With this thematic track, the AI Action Summit aims to work towards the definition, building and delivering of critical open public infrastructure for the global AI sector to drive beneficial social, economic and environmental outcomes.

AI for a Sustainable Future

A Collection of AI Applications for Public Goods and Global Commons

AI for Health

AFRAN dedicated its 2024 French-Australian Research (FAR) Conference to the future of health². One session explored various AI applications for the health sector. One panellist for this session was Dimitri Perrin, AFRAN Queensland hub leader and a Chief Investigator in Health and Biological Systems at the Queensland University of Technology (QUT) Centre for Data Science. During his talk, he presented some of the opportunities AI can offer, notably in automated image-based diagnosis, and how machine learning can help the efficient use of electronic health records to make better informed decisions.

He notably mentioned two projects his team had been working on: one on how data and AI support decision-making processes in the intensive care unit, and another on how combining electronic health records and bed data can help reduce the incidence of hospital-acquired pressure injuries. Projects like this, however, raise a number of challenges around data governance, data security and consent, bias in datasets, explainability and actionability of the outputs of the AI model as well as how it aligns with the needs of hospital staff.

Dimitri Perrin also stressed the important role of AI systems as accelerators or enablers of other technologies. He has notably developed computational tools to facilitate the design of CRISPR-Cas9 guide RNAs³, a molecular tool for gene editing applications.

Dimitri Perrin called for **increasing multidisciplinary to address the challenges of AI applications in the health sector** and insisted on the need for **increasing diversity in the people that develop AI solutions, and in the data being used**. He advocated for ‘AI for people, not on people’ and called for **AI in health to be driven by actual sector needs**, or what he described as ‘a needs-driven “pull” than rather a “technology push”’, highlighting that ‘many things are technically feasible, not all of them are desirable or needed’.

Working on increasing transdisciplinarity in the sector is Olivier Salvado, former AFRAN Queensland hub leader who recently joined QUT as a Professor of AI and is now working on establishing the QUT AI in Health Research Network.

2 The programme of the conference is available at:

<https://www.afran.org.au/single-post/far-in-the-future-of-health-26-28-march-melbourne>

3 Bradford et al., *Rapid Whole-Genome Identification of High Quality CRISPR Guide RNAs with the Crackling Method*, *The CRISPR Journal* 2022 5:3, 410-42, <https://doi.org/10.1089/crispr.2021.0102>

The network aims to bring together researchers from various faculties and research centres across QUT, notably from the Faculty of Engineering and Faculty of Health.

AI for Energy Transition

The newly established Franco-Australian Centre for Energy Transition (FACET)⁴ has awarded a grant to a multidisciplinary team of French and Australian researchers⁵ developing human-centred AI solutions for the management of complex energy systems. Nowadays, energy systems are increasingly using simultaneously multiple sources of renewable energy. The variability associated with these sources is a challenge for the efficient management of smart grids. Researchers from the French-Australian Laboratory for Humans & Autonomous Agents Teaming, IRL Crossing⁶, and University of Grenoble-Alpes are solving this challenge by developing better modelling algorithms for the resilient management of changes in energy demand consumption, taking advantage of the increased volume of energy data (sensors, smart meters, etc.), while integrating models of human behaviour.

Danny Bettay is a PhD candidate at the Australian National University (ANU) School of Cybernetics, and a smart lightning electrical engineer at OMEXOM Australia, a company of the VINCI Group. OMEXOM was contracted by the Australian Capital Territory Government to implement an AI-enabled adaptive lighting trial project in Canberra⁷. For this 6-month trial, 30,000 of Canberra's 83,000 streetlights have been fitted with smart nodes and LED globes. Streetlights were dimmed or brightened remotely to match people's needs at the time. This resulted in a significant reduction in carbon emissions by 1,085 tonnes and in light pollution by 5% for every 10% the lights are dimmed, which offered a clearer view of the skies and stars. Scientists are also hopeful reductions in streetlight pollution can minimise disruption to animals. This very project won two VINCI Environmental Awards in 2024, 1st place in the 'Challenge 1.5°' Award for Oceania and 2nd place in the 'Acting for the Climate-Mitigation' award for Oceania. Danny Bettay hopes to be able to scale and replicate this project to bigger cities, as well as utilising more AI capabilities within streetlights across a diversity of areas including water pollution monitoring, wildlife, etc.

4 More information of the work of FACET: <https://www.franceaustraliaenergy.com/about-us>

5 Anna Ma-Wyatt, Ehsan Abbasnejad and Matt Roughan from the University of Adelaide, Vincent Debuscherre, from Université Grenoble Alpes, and Jean-Philippe Diguët from CNRS.

6 IRL Crossing is a multidisciplinary international research lab, founded by CNRS (French National Centre for Scientific Research), the University of Adelaide, the University of South Australia, Flinders University, IMT Atlantique and Naval Group: <https://crossing.cnrs.fr/>

7 ABC, 'Project dimming Canberra's streetlights shows 25 per cent reduction in light pollution', 22/08/24:

<https://www.abc.net.au/news/2024-08-22/canberra-adaptive-lighting-project-reduces-pollution/104252082>

AI for Space and Earth Observation

Dr Anaïs Möller is a researcher in transient astronomical events (e.g. stellar explosions) at Swinburne University of Technology and an expert on AI applications for astronomy. She won the 2024 Women in AI Award for the Asia-Pacific region, in the Space category. She notably developed and led the publication of *SuperNNova*⁸, one of the most widespread machine learning frameworks for supernova classification and the first Bayesian Neural Network used in astronomy.

Dr Möller co-leads the project Fink⁹, founded by CNRS (French National Centre for Scientific Research) in 2019, with now over 30 members in seven countries. Fink is one of the official astronomical brokers of the Vera C. Rubin Observatory (Chile), tasked with conducting the largest optical survey of our time over the next 10 years¹⁰. Fink will process all raw data from the Vera C. Rubin Observatory, and thanks to its AI capacity, will be able to quickly single out the most promising exploding events out of the millions detected each night, so that scientists around the world can study them in real time. Processing this data will answer long-standing questions about the creation of elements and the nature of matter and gravity. Due to its geographical position and unique telescopes, Australia is the only place in the world where many of these events can be observed before fading away, moments after they have been detected by the Rubin Observatory and Fink¹¹. In 2023, the Fink project won the French government *Open Science Award for Open Source Software in Research*¹² for its prowess in real-time large datasets processing.

In 2024, Dr Daniel Price, Professor of Astrophysics at Monash University, held the 5th Joint Franco-Australian workshop on open-source computational astrophysics¹³ to better understand stars and planet formation. The workshop gathered the community of researchers using *Phantom*, a smoothed particle hydrodynamics code developed at Monash University¹⁴, and *MCFOST*, a class-leading radiative transfer code originally developed at the University of Grenoble-Alpes and at Monash University¹⁵.

8 Möller et al., *SuperNNova: an open-source framework for Bayesian, neural network-based supernova classification*, Monthly Notices of the Royal Astronomical Society, Volume 491, Issue 3, January 2020, Pages 4277–4293, <https://doi.org/10.1093/mnras/stz3312>

9 More information on the Fink project: <https://fink-broker.org>

10 Legacy Survey of Space and Time (LSST): <https://www.lsst.org/about>

11 AFRAN Blog, 'Follow-up on the OzFink workshop':

<https://www.afran.org.au/single-post/follow-up-on-the-ozfink-workshop>

12 Remise des prix science ouverte du logiciel libre de la recherche 2023 :

<https://www.enseignementsup-recherche.gouv.fr/fr/remise-des-prix-science-ouverte-du-logiciel-libre-de-la-recherche-2023-93732>

13 More information on the workshop: <https://phantomsph.github.io/workshop2024/>

14 More information on the Phantom code: <https://phantomsph.github.io/>

15 More information on MCFOST: <https://ipag.osug.fr/~pintec/mcfost/docs/html/overview.html>

In April 2024, the CSIRO partnered with the French Space Agency CNES and the New Caledonian geospatial animation – ART GeoDEV NC, a network of centres of expertise for geospatial – to deliver a workshop in Noumea on the AquaWatch initiative. This latter is about the use of Earth observation (combining data from both satellites and in situ sensors) to better monitor water quality, gathering expertise, technologies and capacities from both CSIRO and CNES. The meeting gathered experts on water quality and on remote sensing technologies and aimed to develop a proof of concept on the use of AquaWatch initiative in the context of Pacific Islands. The discussions stressed the importance of the complementary of Earth observation-based information and in situ water-based data information for improved water management¹⁶. This strengthened a pre-existent relationship between CSIRO and the ART GeoDEV, at the occasion of the organisation of the *2022 Oceania Geospatial Symposium*¹⁷.



16 'CSIRO, CNES and local communities brought together to improve water quality monitoring in New Caledonia': <https://research.csiro.au/cceo/csiro-cnes-and-local-communities-brought-together-to-improve-water-quality-monitoring-in-new-caledonia/>

17 'CSIRO in the Pacific: Oceania Geospatial Symposium (OGS)': <https://research.csiro.au/cceo/csiro-in-the-pacific-oceania-geospatial-symposium-ogs/>

AI for Water

Dr Ehsan Abbasnejad is the Director of Responsible Machine Learning at the Australian Institute for Machine Learning (University of Adelaide), and a member of the French-Australian joint lab IRL Crossing. He built a Large Language Model (LLM) to operate as a science-policy advisor, to solve international water conflicts. He uses the 1973 Afghan-Iranian *Helmand River Water Treaty* as a case study. His ‘LLM for Hydropolitics’ is trained in 16 peer-reviewed academic papers representing perspectives from either side of the conflict, and covering topics such as hydrology, climate science, the conflict’s political and social dimensions, the river’s economic value, environmental significance and legal aspects. Different attributes are incorporated into the LLM advisor: A right-wing perspective’ advocating for limited government intervention, traditional values, free-market economics and strong national defence and a left-wing perspective supporting social equality, government intervention in the economy, progressive social policies and expanded public services.

The *Algorithmic Futures Policy Lab* is an initiative of a consortium of French and Australian universities, supported by the Erasmus+ Programme of the European Union. In 2023, the ANU hosted the third workshop of the project, focusing on ‘*Water Operations for Uncertain Futures*’¹⁸. The workshop notably explored complex issues around the role of algorithms and structured decision-making in achieving efficient and innovative day-to-day management of water, including river operations, farm and irrigation district water management, and water storage.

AI for Oceans

Vic Grosjean is a French Engineer, Oceanographer and founder of Ocean Innovators, a platform aimed at connecting and empowering social and technological innovators to advance the United Nations Sustainable Development Goal 14 ‘Life Below Water’. Vic Grosjean was named Australia’s Most Innovative Engineer in 2019. His expertise is in uncrewed systems in water environments. In 2023, he organised the Ocean & AI workshop, to explore how AI can help monitor and protect our oceans¹⁹.

Paula Hatum is a Research Fellow at Ifremer²⁰, specialising in the use of probabilistic models (Dynamic Bayesian Network) to better understand and

18 Among them the ANU, the University of Canberra, the OneBasin CRC, the École nationale supérieure des arts décoratifs (Ensad, PSL University) and Laboratoire d’Analyse et de Modélisation de Systèmes d’Aide à la Décision (LAMSADE – UMR CNRS 7243, Université Paris Dauphine-PSL) : <https://algorithmicfutures.org/policy-lab/>

19 AFRAN Blog, “Ocean Innovators® event–Focus on AI Workshop in Melbourne”: <https://www.afran.org.au/single-post/ocean-innovators-event-focus-on-ai-workshop-in-melbourne>

20 French National Institute for Ocean Science and Technology.

predict marine ecosystems' resilience to extreme climate events. She is building a French-Australian multidisciplinary network (ecological modelling, marine ecosystems, coral reefs, hydrodynamic models) to create tools for the management of coral-reef ecosystems, in partnership with QUT Centre for Data Science.

The work of Dimitri Perrin, AFRAN Queensland hub leader, on computational tools to facilitate the design of CRISPR-Cas9 guide RNAs, a molecular tool for gene editing applications, also has applications beyond the health domain, and into the ocean context. His methods have been used with coral, which led to the characterisation of a gene involved in heat tolerance and of another gene involved in stony-coral skeleton formation and evolution²¹.

AI for Multilingualism

Last July 2024, a group of French and Australian researchers²² organised, in Adelaide, a workshop exploring innovative approaches to speech and language technologies for Oceania, *'the most linguistically diverse region in the world, home to less than 1% of the world's people, but 11% of its languages'*²³. The goal of the workshop was to foster the development of speech and language technologies for under-resourced languages, such as online dictionaries, online courses, e-books, apps, etc. We introduce below some of the initiatives presented during this workshop and that involve AI-based tools.

The workshop featured several projects associated with the use of C-LARA–*ChatGPT-based Learning and Reading Assistant*, an AI-based open-source platform which allows language teachers to create multimodal texts designed to improve reading skills in second languages. C-LARA can generate short stories (with text and images) as well as annotate texts in written and audio form, in all the languages supported by ChatGPT 4. The goal is to enrich C-LARA to support low-resource languages not necessarily supported by Chat GPT.

A first initiative was developed by Pauline Welby and Fabrice Wacalie from the University of New Caledonia and Manny Rayner from the University of South Australia, and stems from the need to *'mitigate the influence of cross-language orthographic conflict on pronunciation'* for indigenous languages of which writing systems were developed later on by 19th-century missionaries. Using the C-LARA platform, Welby & al. created two texts in the Kanak language Drehu, both featuring native-speaker recorded audio, pronunciation respellings based

21 See <https://www.pnas.org/doi/abs/10.1073/pnas.1920779117> and <https://www.pnas.org/doi/abs/10.1073/pnas.2216144120>

22 Belinda Chiera and Manny Rayner from the University of South Australia; Christèle Maizonniaux from Flinders University and Pauline Welby from Aix Marseille University, CNRS, Laboratoire Parole et Langage (France) and Université de la Nouvelle-Calédonie.

23 Workshop *'Innovative approaches to speech and language technologies for Oceania, the world's most linguistically diverse region'*: https://www.c-lara.org/flinders_2024_workshop.html

on French orthography and AI-generated images.²⁴ This work was an initial proof-of concept to gauge the accuracy and usefulness of the phonetic texts and AI-generated images among the Drehu speaker community; the authors hope to include more New Caledonian languages.

A second initiative was the creation of resources in the Kanak language laai. Researchers Anne-Laure Dotte and Stéphanie Geneix-Rabault from the University of New Caledonia coordinated the recording and digitalisation of seven resources from oral literature in laai, to contribute to the effort to incorporate Kanak languages onto the C-LARA platform.

Finally, it is worth noting that the workshop's exploration of innovative approaches did not restrict itself to technological advances but incorporated *'the emerging best practices to **involve communities and to design resources that are both usable and used, intuitive for non-specialists, and respectful of the speaker communities and their cultures**'*.



24 Pauline Welby, Fabrice Wacalie, Manny Rayner and ChatGPT-4 C-LARA-Instance, *T is for Treu, but how do you pronounce that? Using C-LARA to create phonetic texts for Kanak languages*, Marc 2024.

AI for a Sustainable Future

Is a Sustainable Future Possible with the Development of AI?

As the above initiatives outline, AI can be an important tool in advancing our global sustainability goals. However, AI also poses societal and environmental challenges that should be addressed.

Addressing Societal Harms

In the Australian context, addressing societal harms notably means incorporating a First Nations perspective into AI and data governance policy. In its response to the *'Mandatory Guardrails for Safe and Responsible AI' Proposal Put Forth by the Australian Department of Industry, Science and Resources*²⁵, the ANU School of Cybernetics highlights the adverse societal impacts AI systems could have on Indigenous Australians. To mitigate those, the School recommends working **with First Nations leaders and technologists in the early design and development phases of AI systems**. To address the risks to the use and preservation of First Nations knowledge and cultural protocols, the ANU School of Cybernetics insists on the need **“for any proposal to incorporate Indigenous Traditional Knowledge and/or protocols to be Indigenous-led and to include a rigorous process of Indigenous community consultation”**. The submission notably mentions the important work presented in the report *“Out of the Black Box: Indigenous Protocols for AI”*²⁶.

One of the authors of this report, Professor Angie Abdilla is currently a Board Member of Services Australia, where she is advising on operational procedures to mitigate discriminatory biases associated with the labelling/tagging of disadvantaged groups with detrimental identifiers when inputting assessments into an automated system.

The ANU School of Cybernetics also advocates for the **centering of Country in AI policy**: *“Country includes land, water and sky combined. Centring Country acknowledges that each of these elements and society are inextricably linked and should not be considered as separate issues.”* This would *“highlight the ways in which environmental damage is inextricably linked to harms to First Nations peoples”*.

25 ANU School of Cybernetics, *Response to the 'Mandatory guardrails for safe and responsible AI' Proposal*, Department of Industry, Science and Resources, October 2024:

<https://consult.industry.gov.au/ai-mandatory-guardrails/submission/view/247>

26 Angie Abdilla, Megan Kelleher, Rick Shaw, and Tyson Yunkaporta, *Out of the Black Box: Indigenous Protocols for AI*, 2021: <https://www.oldwaysnew.com/publications>

Addressing Environmental Harms

We started this report by showcasing some initiatives and projects where AI and data can help advance towards our net zero emissions goal by 2050. This goal should help in keeping global temperature increase below 1.5°C above pre-industrial levels and was outlined in the *Paris Agreement*, the outcome of the United Nations Climate Change Conference, COP21²⁷. To reach it, emissions need to be halved by 2030. This effort needs to be global and across all industries.

The recent surge in AI development, however, has led to an increase in energy consumption and greenhouse emissions linked to AI systems. The International Energy Agency (IEA) estimated that in 2020, data centres and data transmission networks were responsible for close to 1% of energy-related greenhouse gas emission and 0.6% of total emissions²⁸. The IEA estimates the global data centre electricity consumption in 2022 to be around 1-1.3% of global final electricity demand and warns that it could double by 2026²⁹. In light of this alarming trend, the IEA, however, notes that “*rapid improvements in energy efficiency have, however, helped moderate growth in energy demand from data centres and data transmission networks*”.

Energy usage is not the only issue with the development and use of AI tools. Water consumption is also a major concern, as water is needed in large quantities for the cooling systems of data centres, which emit a lot of heat. Water supply can be a challenge in populated areas where water is scarce.

Kate Crawford is an internationally leading scholar of artificial intelligence and its impacts, and notably was the inaugural Visiting Chair of AI and Justice at the École Normale Supérieure in Paris. In a talk given at UNSW earlier this year³⁰, she warned about the danger of thinking of AI as an immaterial software technology. AI requires hardware, data centres that need an enormous amount of energy and water to run, and critical raw materials. AI is therefore a “*profoundly material technology*”, an “*extractive industry*”, extractive of human labour and environmental resources.

In an opinion piece written for Nature in 2024³¹, Kate Crawford called for immediate “*pragmatic actions to limit AI’s ecological impact*”.

27 United Nations’s website, ‘*The Paris Agreement*’: <https://www.un.org/en/climatechange/paris-agreement>

28 IEA’s website, ‘*Data Centres and Data Transmission Networks*’: <https://www.iea.org/energy-system/buildings/data-centres-and-data-transmission-networks>

29 IEA, Electricity 2024 report: <https://www.iea.org/reports/electricity-2024/executive-summary>

30 More information: <https://www.unswcentreforideas.com/article/kate-crawford-conversation-toby-walsh>

31 Kate Crawford, ‘*Generative AI is guzzling water and energy*’, Nature, Vol. 626, 22 February 2024, p. 693: <https://www.nature.com/articles/d41586-024-00478-x.pdf>

Her recommendations included **prioritising a lesser use of energy, building more efficient models and rethinking the designs and uses of data centres**. She notably referred to the BigScience project³²: “As the BigScience project in France demonstrated with its BLOOM model³, it is possible to build a model of a similar size to OpenAI’s GPT-3 with a much lower carbon footprint.” She then details possible steps for industry, academia and policy-makers, among them:

- **Comprehensive and transparent environmental reporting and impact assessments**, notably on energy and water uses.
- **Prioritisation of energy-efficient hardware, algorithms, and data centres**, using only renewable energy sources.
- **Greater collaboration between computer scientists and environmental scientists** to guide the technical designs of sustainable neural network architectures

The *Interim International Scientific Report on the Safety of Advanced AI*, published in May 2024 states that “if recent trends continue, by the end of 2026 some general-purpose AI models will be trained using 40x to 100x more compute than the most compute-intensive models published in 2023”.³³ Compute-intensive models are consequently energy-intensive and the report identified “local energy capacity” as a potential bottleneck for frontier AI development, that companies will have to navigate. At the same time, the report estimates that new training methods will allow for a usage of compute 3x to 20x more efficiently. Building efficient algorithms will be key to ensure more sustainable forms of AI.

To underline this critical issue, the ANU School of Cybernetics included in its response to the “*Mandatory Guardrails for Safe and Responsible AI*’ Proposal Put Forth by the Australian Department of Industry, Science and Resources³⁴, **the need to take into consideration environmental harms in the definition of high-risk AI systems**.

32 More on the BigScience Project: <https://bigscience.huggingface.co/>

33 ‘*Interim International Scientific Report on the Safety of Advanced AI*,’ May 2024, p. 11: <https://www.gov.uk/government/publications/international-scientific-report-on-the-safety-of-advanced-ai>

34 ANU School of Cybernetics, Response to the ‘*Mandatory guardrails for safe and responsible AI*’ Proposal, Department of Industry, Science and Resources, October 2024: <https://consult.industry.gov.au/ai-mandatory-guardrails/submission/view/247>

2

ANTICIPATING THE FUTURE OF WORK

In this chapter, we focus on the work of Dr Emmanuelle Walkowiak, a Vice-Chancellor's Senior Research Fellow in Economics at RMIT and a research affiliate of the ARC Centre of Excellence for Automated Decision-Making and Society (ADM+S), who studies the impact of technologies, and more specifically generative AI on Australian workers and workplace. Our focus here is narrowed onto generative AI, a specific type of AI that can produce high-quality text, images, audios and videos, rendered popular in 2022, after the release of ChatGPT by OpenAI.

We then move onto the work of the ANU School of Cybernetics, on a mission to advance AI literacy.



This track of the Summit aims to provide a platform for dialogue on how AI can support the future of work agenda by promoting AI usage that enhances productivity and well-being.

How is Generative AI Transforming the Australian Workplace?

In 2023, the National AI Centre (NAIC) reported that 68% of Australian businesses had already implemented AI technologies, and a further 23% of businesses were planning on implementing AI in the next 12 months.³⁵ That same year, it is estimated that 37% of Australians' work was exposed to generative AI.³⁶

The FLOW-GenAI initiative (Future of Labour, Organisation and Work with Generative AI) focuses on providing evidence-based research on the transformation of the Australian labour market with generative AI.³⁷ The initiative was launched by Dr Emmanuelle Walkowiak, a Melbourne-based economist at RMIT and ADM+S.

Dr Walkowiak stresses the novelty of generative AI in terms of impact on the labour market, as this is the first technology that, at least in the short term, translates into productivity gains for less able, less skilled and less experienced workers. She argues that these changes can be shaped by adequate policy-making to ensure adoption of AI works for all workers, and there is an opportunity to make AI work for less skilled workers. Her research also measures new occupational risks associated with the use of GenAI by workers. She identifies a lack of reliable data to be able to understand trends in productivity, displacement and reinstatement of workers due to AI and generative AI adoption in Australian workplaces. She advocates for the **building of an employer-employee data infrastructure on AI adoption, which could be matched with administrative datasets on labour flows, as it exists in Europe or France.**

Dr Walkowiak further stresses the **need to conduct a workers' survey to better understand their use of the technology and the impact on their working conditions**, in the Australian context.

In 2021, the French Ministry of Labor and Inria (National Institute for Research in Digital Science and Technology) launched Labor.IA³⁸, a research initiative developed to better understand artificial intelligence and its effects on employment, skills and social dialogue. Similar initiatives could be replicated to the Australian context.

35 CSIRO, NAIC, 'Australia's AI ecosystem momentum', March 2023, p. 16.

36 Walkowiak, Emmanuelle and MacDonald, Trent, Generative AI and the Workforce: What Are the Risks? (September 12, 2023). Available at SSRN: <http://dx.doi.org/10.2139/ssrn.4568684>

37 Walkowiak, Emmanuelle, The Digital Transformation of Workplaces (June 19, 2024). Available at SSRN: <http://dx.doi.org/10.2139/ssrn.4877023>

38 <https://www.laboria.ai/>

An Inclusive Role for Technologies

Dr Walkowiak explored how inclusive neurodiversity initiatives combined with the digital transformation drive productivity gains at the workplace³⁹. The concept of neurodiversity acknowledges the combination of strengths and difficulties associated with neurological differences between individuals, including dyslexia, dyspraxia, Attention Deficit Hyperactivity Disorder (ADHD), autistic spectrum and others. Her research findings show that a coordinated implementation of neurodiversity initiatives with the digital transformation of workplaces, generates productivity gains at individual, organisational and macro levels. Taken all these transformations together, Walkowiak argues that the rebalancing between human and artificial intelligence represents a critical juncture for diversity and inclusion, with the emergence of new inclusion mechanisms to be incentivised and exclusion mechanisms to be monitored.



39 See: Walkowiak, E. (2021). Neurodiversity of the workforce and digital transformation: The case of inclusion of autistic workers at the workplace. *Technological Forecasting and Social Change*, 168: <https://doi.org/10.1016/j.techfore.2021.120739> / Walkowiak, Emmanuelle 2024, 'Digitalisation and inclusiveness of HRM practices: The example of neurodiversity initiatives', *Human Resource Management Journal*, vol. 34, no. 3, pp. 578-598: <https://doi.org/10.1111/1748-8583.12499> / Spoor, Jennifer R. & Walkowiak, Emmanuelle 2024, 'Enabling Neurodiversity in Organisations: Leveraging the HRM and Digital Technology Nexus' in Patton, Eric & Santuzzi, Alecia M. (eds.), *Neurodiversity and Work*, Palgrave Macmillan, pp. 456-463: https://doi.org/10.1007/978-3-031-55072-0_11

Mitigating Generative AI Risks in the Workplace

Dr Walkowiak modelled how AI risks can spread within the workplace and involve systemic risks for the economy if they are not appropriately mitigated⁴⁰. She offers a mapping of risks arising from workers' use of generative AI tools, and particularly LLM, ranging from intellectual property risks to physical safety risks. Dr Walkowiak's empirical research reveals how Australian workers face risks like privacy breaches, cybersecurity threats, professional standards violations, algorithmic bias, misinformation risks, accountability issues, and intellectual property concerns within the Australian workforce. When focusing on Australian cultural and creative industries, she identified five zones of job transformation highlighting the intensity, timing, and nature of risks that are questioning a responsible deployment of generative AI⁴¹.

The table below gives examples of the distribution of these new AI risks in some occupations in cultural and creative industries.

Occupations	Account	Bias	Cyber	Harm	IP	Misinfo	Privacy	Standard	GenAI
Music Professionals	8%	0%	0%	0%	23%	0%	0%	0%	8%
Photographers	35%	6%	21%	43%	32%	10%	24%	8%	27%
Visual Arts and Crafts Professionals	12%	6%	15%	14%	41%	6%	8%	6%	9%
Film, Television, Radio and Stage Directors	6%	3%	4%	4%	26%	6%	0%	9%	26%
Journalists and Other Writers	64%	63%	33%	9%	35%	75%	17%	30%	47%
Advertising and Marketing Professionals	4%	6%	33%	1%	7%	8%	3%	0%	30%
Architects and Landscape Architects	19%	0%	21%	29%	27%	9%	26%	21%	23%
Fashion, Industrial and Jewellery Designers	0%	7%	18%	7%	24%	7%	0%	0%	6%
Graphic and Web Designers, and Illustrators	12%	15%	20%	26%	58%	21%	23%	10%	8%
Interior Designers	12%	33%	3%	33%	43%	34%	11%	0%	2%
ICT Business and Systems Analysts	25%	9%	23%	10%	15%	10%	28%	8%	27%
Multimedia Specialists and Web Developers	34%	11%	58%	20%	42%	25%	32%	17%	23%
Software and Applications Programmers	25%	3%	38%	4%	8%	12%	16%	4%	15%
Graphic Pre-press Trades Workers	6%	2%	2%	6%	6%	2%	2%	2%	18%
Printers	13%	0%	3%	31%	20%	3%	0%	0%	18%
Gallery, Museum and Tour Guides	32%	10%	7%	16%	0%	3%	10%	11%	39%
Librarians	22%	2%	19%	5%	1%	2%	10%	1%	20%
Urban and Regional Planners	12%	15%	15%	6%	6%	14%	19%	3%	20%
Jewellers	2%	0%	5%	3%	12%	0%	0%	3%	2%
Signwriters	5%	0%	0%	9%	5%	0%	0%	1%	5%

Sample: Task exposure to risk aggregated at level 4-digit ANZSCO with using the ASC of December 2023 on 20 categories of occupations

These risks call for the development of mitigation strategies and upskilling of the workforce.

40 Walkowiak, E. (2023). Task interdependencies between Generative AI and Workers, *Economics Letters*, Vol. 231, 111,315, <https://doi.org/10.1016/j.econlet.2023.111315>

41 Walkowiak, Emmanuelle and Potts, Jason, Generative AI, Work and Risks in Cultural and Creative industries (May 16, 2024). Available at SSRN: <https://ssrn.com/abstract=4830265>.

In 2023, CISCO conducted a survey among 2,600 security and privacy professionals in 12 countries, among which Australia⁴². When asked about their use of generative AI tools, 48% of respondents shared they had entered non-public information about their company in various generative AI applications. This poses a serious privacy and security risk to firms.

To mitigate this risk, the Sydney-based start-up Aona AI⁴³ offers an online platform for Australian businesses to be able to gauge and monitor AI utilisation, employee interactions with generative AI platforms and the data inputted—while respecting employees’ anonymity—in order to better flag security alerts in real time.

The use of such monitoring software raises the question of workers’ surveillance and the risk of infringement on their rights and dignity. **To be deployed ethically, these tools should always be implemented with workers in the loop, so that their voice is heard and taken into account.**

Workers therefore need a basic understanding of the tools they are dealing with in their daily work like. A study published by UTS Human Technology Institute in May 2024⁴⁴ surveyed workers in nursing, retail and federal public services over their use and understanding of AI technologies. The study revealed a *‘low understanding of AI, low awareness on the ways it is being deployed and low trust that it will be implemented in the interests of workers or the public they serve’*.

There is a need to bridge this gap, and to raise workers’ AI literacy. This is one of the missions of the newly founded School of Cybernetics at the Australian National University.

42 The survey was conducted in Australia, Brazil, China, France, Germany, India, Italy, Japan, Mexico, Spain, the United Kingdom, and the United States. CISCO, 2024 Data Privacy Benchmark Study: <https://newsroom.cisco.com/c/r/newsroom/en/us/a/y2024/m01/organizations-ban-use-of-generative-ai-over-data-privacy-security-cisco-study.html>

43 <https://www.aona.ai/>

44 UTS – Human Technology Institute, *‘Invisible Bystanders: How Australian Workers Experience the Uptake of AI and Automation’*, May 2024: <https://www.uts.edu.au/human-technology-institute/news/invisible-bystanders-workers-experience-ai>

Training a New Generation of AI Practitioners

Created in 2021, the ANU School of Cybernetics aims to establish cybernetics—an approach to think about new technologies as components of larger human and ecological systems—as an important tool for navigating major societal transformations. The School builds on the pioneering work of the Autonomy, Agency and Assurance Institute, founded in 2017 by Distinguished Professor Genevieve Bell, to create a new generation of practitioners able to safely, sustainably and responsibly take AI-powered cyber-physical systems to scale. Since 2024, the new director is Professor Katherine Daniell, who is also AFRAN President.

The School offers an approach that transcends the boundaries of traditional academic disciplines, by **addressing the insufficient focus of tertiary computing and engineering programs on the skills and methods—developed by the humanities and the social, political and environmental sciences—that support critical inquiry into how AI technologies are built and used.** With this multidisciplinary approach, students are taught how to engage critically with AI technologies as systems, by highlighting the values embedded within them that shape and constrain futures⁴⁵. The School offers professionals from diverse academic and sector backgrounds greater AI literacy and technological experts a better grasp on the social, political, environmental and ethical implications of AI⁴⁶. For its innovative educational approach, the School was awarded a Bronze award in the ‘*Developing Emerging Skills and Competencies*’ category at the 2023 Quacquarelli Symonds (QS) Reimagine Education Awards.

A recent survey of more than 8,000 students from 4 Australian universities⁴⁷ reveals that 83% of students are using generative AI for their studies, and 44% are doing so weekly. 91% of them are worried about breaking university rules by doing so, and 40% admit having used generative AI in assessments when they were not supposed to.

45 ANU School of Cybernetics, *Response to the inquiry into the use of generative artificial intelligence in the Australian Education system*, July 2023: https://www.aph.gov.au/Parliamentary_Business/Committees/House/Employment_Education_and_Training/Alineducation/Submissions

46 More on the School’s learning experiences: <https://cybernetics.anu.edu.au/education/learningexperiences/>

47 The University of Queensland, Monash University, Deakin University and the University of Technology Sydney, ‘*AI in Higher Education: Student Perspectives*’, 2024: <https://aiinhe.org/results/>

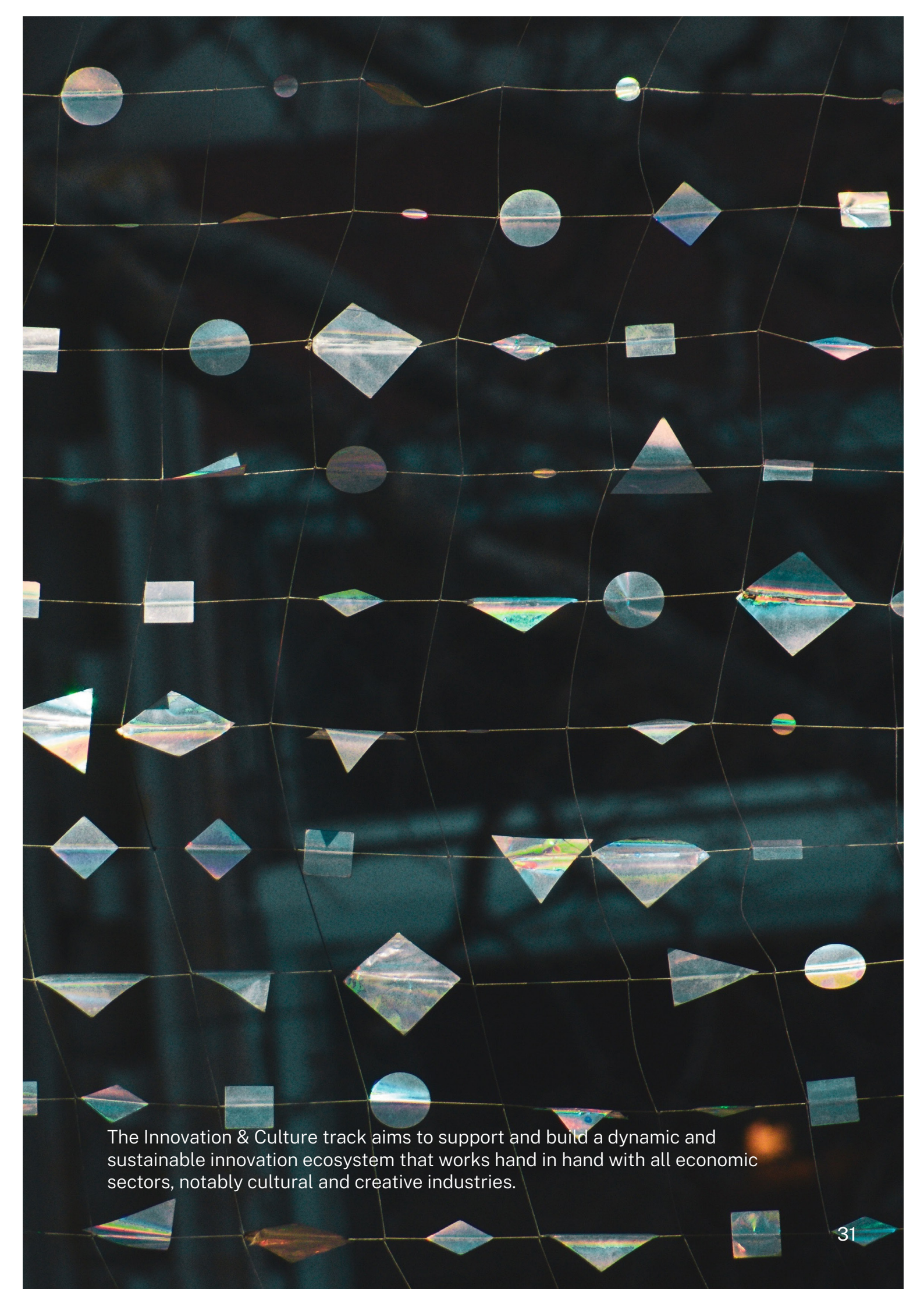
Banning generative AI probably will not solve the problem as it is already massively used by students in Australia. However, **teaching about generative AI and how to use it in a way that engages them in critical thinking seems like a better endeavour.** In fact, only 32% of the surveyed students think that their university provides them with enough guidance to effectively use generative AI in their studies, and only 23% to effectively use it in their future profession.



3

RESPONSIBLE AND EQUITABLE AI FOR INNOVATION AND CULTURE

In this chapter, we start by focusing on how start-ups can champion the development of responsible AI practice and present a series of tools and frameworks developed by Lorenn Ruster, PhD candidate at the ANU School of Cybernetics. We then explore the use of AI tools in creative industries, the challenges and opportunities, with the help of Dr Daniel Binns, Senior Lecturer at RMIT.



The Innovation & Culture track aims to support and build a dynamic and sustainable innovation ecosystem that works hand in hand with all economic sectors, notably cultural and creative industries.

Can Start-ups Lead Advances in Responsible AI Adoption?

A survey of 413 executive decision-makers responsible for AI development within their organisation demonstrated that while 78% of executives believe their organisation are developing AI systems that align with Australia's AI Ethics Principles⁴⁸, in reality, only 29% of organisations have implemented responsible AI practices.⁴⁹

These findings highlight the existence of an AI ethics principle-to-practice gap in Australia. The authors of the survey insist on **'the need for organisations to move beyond mere awareness and to actively implement robust Responsible AI practices'**.

Lorenn Ruster is a PhD candidate at the ANU School of Cybernetics, researching how early-stage start-ups can implement responsible AI principles when building their AI product or service. Her research follows the intervention research methodology, meaning that the researcher does not passively observe start-up founders but works and prototypes with them. Part of her work notably centres on translating *dignity* from principle to practice. She developed two operational tools: the Dignity Lens and a dignity-centred reflective practice.

In 2021, she began developing the Dignity Lens, a dignity analytics tool for responsible AI⁵⁰. She distinguishes the protective approach—focusing on preventing and remedying dignity violation—from a proactive approach—focusing on promoting the embodiment of dignity. She first applied the tool to the evaluation of government AI ethics instruments in Australia and found that 'dignity' is seldom mentioned in documents. She also notes a lack of proactive measures. Then, she iterated upon the tool by applying it to the development of AI systems, using it as a way to review decisions made during the development of a classification algorithm⁵¹. The tool proved notably **useful in incorporating more proactive measures in AI systems, in enabling adequate consideration of dignity in all stages of AI development, in providing a common language for discussion and debate for teams and in appropriately documenting decisions for continuous improvement.**

48 In 2019, the Australian government developed 8 AI Ethics principles: Human, societal and environmental well-being; Fairness; Privacy protection and security; Reliability and safety; Transparency and explainability; Contestability; Accountability.

49 The Australian Responsible AI Index 2024, Fifth Quadrant and National AI Centre.

50 Ruster, LP & Snow, T, 2021, *Exploring the role of dignity in government AI Ethics instruments*, Centre for Public Impact: <https://centreforpublicimpact.org/resource-hub/exploring-the-role-of-dignity-in-government-ai-ethics-instruments/>

51 Paola Oliva-Altamirano and Lorenn P. Ruster. 2022. *The ethics of automated classification: a case study using a dignify lens*, by SmartyGrants: <https://www.smartygrants.com.au/research/the-ethics-of-automated-classification-a-case-study-using-a-dignity-lens>

Lorenn Ruster also developed a dignity-centred reflective practice for entrepreneurs to responsibly shape future technology products⁵². The practice consists of a series of exercises that can be completed in 15 minutes to an hour. The practice allows for start-up founders to list past decisions and map the reasons for these decisions to their own organisational values, as well as to reflect on their relationship with themselves, their team members and their customers. The tool works as a **proactive and individual approach to dignity and responsible AI**. The practice proved to be valuable for the start-up founders individually and to also hold strategic value for the start-ups.



Hydraloops: Experiments in Ethico-Aesthetics, Emily April O'Neill, Clementine Belle McIntosh, Bridget Baskerville / ANU School of Arts and Design, 2022.

52 Ruster, Lorenn, 'Dignity centred reflective practice for responsible action in technology start-ups: a preliminary approach' (2023). ACIS 2023 Proceedings. 25.: <https://aisel.aisnet.org/acis2023/25/>

Advocating for Equitable Innovation in AI Development and Access for Creative Industries

Re/Framing is an initiative by Dr Daniel Binns, Senior Lecturer at RMIT, and Associate Investigator at the ARC Centre of Excellence for Automated Decision-Making and Society (ADM+S). The initiative brings together researchers, creatives, and industry professionals to explore the opportunities and challenges of generative AI in creative industries and workflows. The group's focus is on the potential, as well as the ethical and sustainable use, of text, audio, image, and video generators in film, TV, music, audio production, and other areas⁵³.

The group's inaugural symposium, called '*Re/Framing: Creativity, Culture, and Computation*', ran in July 2024, and featured multidisciplinary perspectives on the rollout of LLMs and generative AI. The 2024 seminar partnered with two prominent Australian start-up partners: Leonardo. Ai, leader in image generation, and Canva, the global tech giant offering their online graphic design suite. The event built on an ongoing series of online seminars across 2023 and 2024, co-organised by RMIT University, Université Paris Cité, and Université Paris 8.

Alongside this collaborative initiative, Dr Daniel Binns developed and delivered an undergraduate media course titled '*Augmenting Creativity*'⁵⁴, working with students to put generative AI through its paces across creative, academic, and everyday applications. Overall, the goal is to upskill a new generation of creatives and artists able to critically engage with generative AI and future technologies. Industry partners for Dr Binns's ongoing teaching in this space include the Australian start-up, Leonardo. Ai and the French start-up Le Wagon, offering immersive tech training.

Dr Binns's research explores the nexus of computation, creativity, and materiality. His current work considers the formal, socio-technical, and philosophical qualities of generative and agentic artificial intelligence. He is the author of *Material Media-Making in the Digital Age* (2021), and *The Hollywood War Film* (2017).

53 More information on the workshop: <https://www.reframing-ai.net/>

54 More information on the course: <https://www.mediafactory.org.au/2024-augmenting-creativity/>

Dr. Daniel Binns advocates for **equitable innovation** in AI and technology industries more broadly, **where smaller players, academic institutions, and civic organisations can play a vital role in shaping AI's future**. He proposes several actions to achieve this, such as:

- **Creating accessible platforms for cultural data**, prioritising cultural diversity in AI training datasets, and examining the ways AI might challenge traditional creative economies and intellectual property models.
- **Creating a decentralised data marketplace (or marketplaces)** where cultural institutions, artists, and content creators can license their works for AI training. This would involve setting up technical protocols for the secure sharing and usage of data, as well as transparent attribution and remuneration systems. This model draws inspiration from the existing Creative Commons licensing frameworks and from music or stock photography markets.
- **Establishing AI innovation commons**, parallel to the global digital commons seen in internet governance, to ensure that the benefits and advances in AI development are distributed across borders, not locked within individual national frameworks.

ACKNOWLEDGEMENTS

This report was coordinated by Sarah Vallée, AFRAN AI Community Lead.

Sarah Vallée is an international expert in Artificial Intelligence deployed by Expertise France. She currently is on secondment at the Australian National University, School of Cybernetics. Her goal is to foster AI collaboration between Australia and France, while creating bridges between the academic and policy worlds.

Her position is sponsored by the French Ministry of Foreign Affairs.

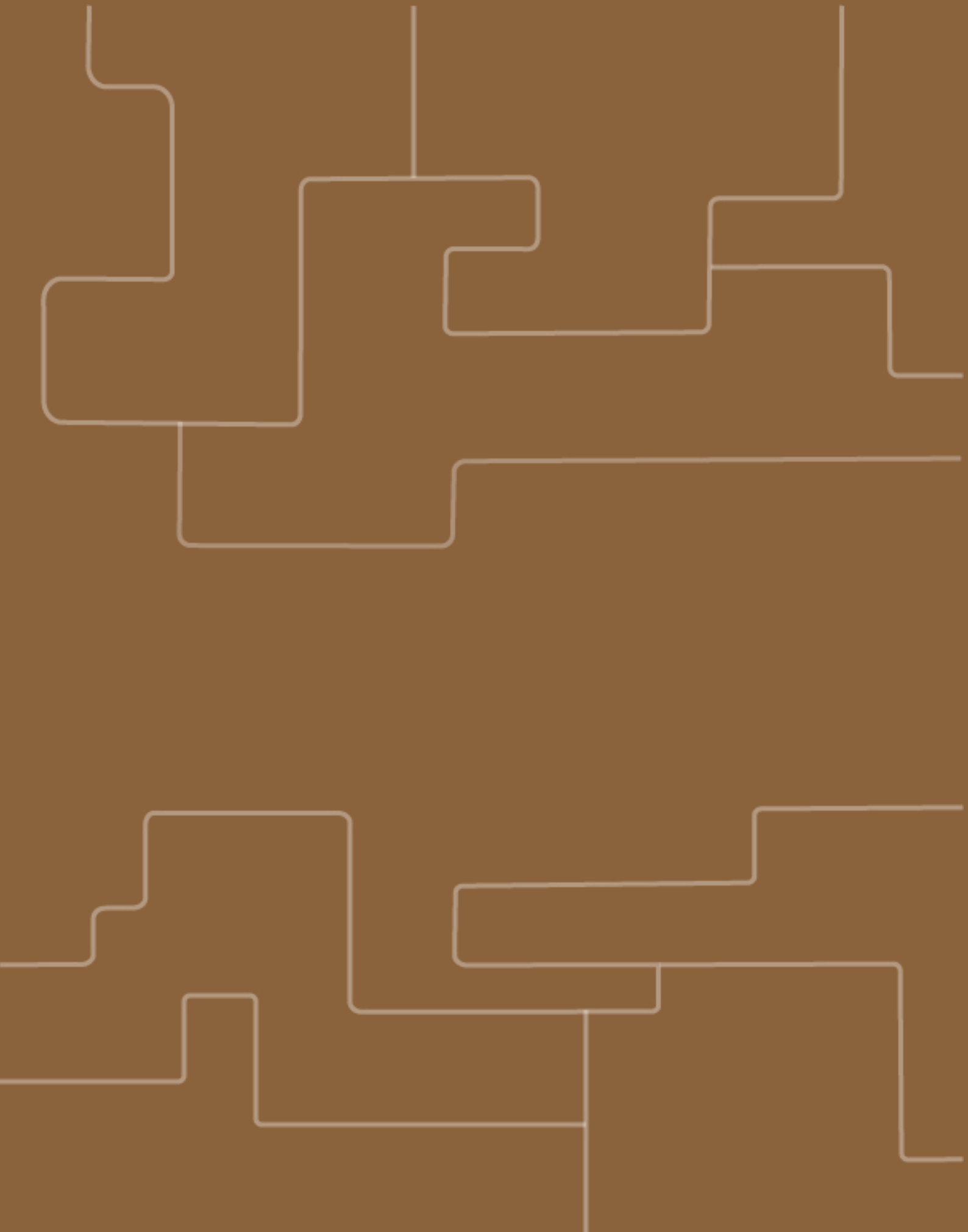
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