# AI PLAYBOOK
# FOR SMALL STATES

Published 22 September 2024


#SALMANQADIR

INFOCOMM MEDIA DEVELOPMENT AUTHORITY

#DigitalFOSS FORUM OF SMALL STATES

Republic of Rwanda
Ministry of ICT and Innovation

# TABLE OF CONTENTS



# WHO WE ARE

## FORUM OF SMALL STATES (FOSS) AND DIGITAL FOSS

Small states often share common interests and concerns due to their population size, geographical and economic circumstances. In order to offer a platform for small states to discuss and foster common issues, Singapore helped to establish an informal and non-ideological grouping in New York known as the Forum of Small States (FOSS) in 1992. FOSS now comprises 108 countries across all geographical regions and at all levels of development. The FOSS community meets several times a year to discuss issues relevant to the community. Apart from New York, FOSS Chapters have also been established in Geneva, Vienna and London.

Given the increased global interest in digital technologies and growing discussions surrounding the use of these technologies in key platforms such as the UN and ITU, Digital FOSS was introduced as a new pillar of engagement in October 2022. The intention of Digital FOSS, as a community and a movement, is to facilitate the exchange of views among digital policy leaders from small states on pressing digital challenges. Digital FOSS members support one another in our digital transformation journeys, building a common and inclusive digital future for all.

Scan the QR codes below for information on FOSS and Digital FOSS.

**About FOSS[1]:**

**About Digital FOSS[2]:**

[1] https://www.mfa.gov.sg/SINGAPORES-FOREIGN-POLICY/International-Issues/Small-States
[2] https://www.imda.gov.sg/about-imda/international-relations/digital-forum-of-small-states

## SINGAPORE'S INFOCOMM MEDIA DEVELOPMENT AUTHORITY (IMDA)

At IMDA, we see ourselves as the Architects of Singapore's Digital Future. We cover the digital space and are unique as a government agency in having three concurrent hats — as Economic Developer (from enterprise digitalisation to funding R&D), as a Regulator (building a trusted ecosystem from data/AI to digital infrastructure) and as a Social Leveller (driving digital inclusion and making sure that no one is left behind). Hence, we look at the governance of AI not in isolation, but at the intersection with the economy and our broader society. By bringing the three roles together, we hope to better push boundaries, not only in Singapore, but in Asia and beyond, to make a difference in enabling the safe and trusted use of this emerging and dynamic technology.

## RWANDA'S MINISTRY OF ICT AND INNOVATION

The Government of Rwanda through the Ministry of ICT and Innovation is dedicated to position Rwanda as a technology hub in the region. As a progressive country, we are embracing the digital age to boost our economy, improve the delivery of services to the people, and ensure that no one is left behind. Rwanda has been at the forefront in the use of emerging technologies to solve societal challenges and spur innovation in various domains. In alignment with our national AI policy's goal to become a global leader in responsible and inclusive AI, we are committed to create a stable and safe environment for innovation and digital transformation in which government policy can play a significant role. Hence, as advocates of inclusive digitization, we are collaborating on both the regional and the international level to define the best approaches for the regulation of artificial intelligence.

# ACKNOWLEDGEMENTS

We express our sincere appreciation to the following countries and organisations for their valuable feedback and contributions to the content of the Playbook, as well as support for this initiative:

- Bhutan
- Bosnia and Herzegovina
- Brunei
- Cambodia
- Costa Rica, particularly the *Ministry of Science, Innovation, Technology, and Telecommunications*
- Denmark
- Estonia, particularly the *Consumer Protection and Technical Regulatory Authority and Ministry of Economic Affairs and Communications*
- Fiji
- Finland
- Lao PDR
- Lesotho
- Libya
- Lithuania
- Malta
- Mauritius, particularly the *Mauritius Emerging Technologies Council*
- New Zealand, particularly the *Department of Internal Affairs, Ministry of Business, Innovation and Employment and Office of the Privacy Commissioner*
- Papua New Guinea
- Sierra Leone
- Slovak Republic
- Suriname
- Switzerland
- Timor-Leste, particularly the *TIC TIMOR I.P. (Information, Communication & Technology Agency of Government of Timor-Leste)*
- Trinidad and Tobago
- Zambia
- International Telecommunication Union
- United Nations Development Programme

## WHAT FOSS COUNTRIES HAVE TO SAY ABOUT THE PLAYBOOK

> Bhutan is advancing its digital transformation by **leveraging data for intelligence and innovation**, focusing on artificial intelligence (AI), business intelligence (BI), decision intelligence (DI), and the National Digital Identity (NDI). The NDI initiative is a cornerstone, providing secure digital identities to all citizens, streamlining access to government services, financial platforms, and other digital offerings. Bhutan is also developing a national AI strategy, establishing an open data-sharing platform, and creating formal data-sharing protocols to ensure security, privacy, and responsible usage. Efforts include identifying a single source of truth for consistent data across sectors, developing a National Language Large Language Model (LLMJ to support local language processing, and fostering a data-driven economy. Data is placed at the core of Bhutan's digital transformation, emphasizing seamless integration, interoperability, and improved service quality to **maximize the potential of digital technologies for both the public and private sectors**.
>
> *GovTech Agency, Bhutan*

> Artificial Intelligence plays a **pivotal role in the development of Small States**, enabling them to maximize limited resources, boost efficiency in key sectors such as healthcare, education, and the economy, and drive technological innovation that positions them competitively on the global stage. To fully realize these benefits, it is crucial to promote **inclusive access to technology**. This can be achieved by offering localized content in multiple languages and crafting region-specific case studies that address distinct challenges and solutions. Such efforts will not only help **bridge the digital divide** but also ensure that AI is **implemented equitably across regions**, fostering social inclusion and providing marginalized communities with fair access to AI technologies.
>
> *Ministry of Science, Innovation, Technology, and Telecommunications, Costa Rica*

> Small states often **lack key capabilities** such as high-performance computing or cutting-edge R&D capabilities. By collaborating with other countries and the private sector and ensuring that what we create is open-source and reusable across borders and sector, we can effectively build an **AI-powered society**.
>
> *Ministry of Economic Affairs and Communications, Estonia*

AI development is crucial for small states like Fiji, offering transformative opportunities to overcome unique challenges. Fiji views the AI Playbook as a **valuable guide to harness AI's potential and maximize benefits** to small states on the digital highway.

*H.E. Luke Daunivalu, Ambassador and Permanent Representative, Permanent Mission of Fiji to the United Nations Office and Other International Organisations in Geneva, Fiji*

With the great development witnessed by technology, there is a **noticeable disparity** between small countries regarding the **extent of progress** made in the field of artificial intelligence and related sectors and technologies, and there are several reasons for this disparity, including (finance, experience, culture). While countries continue to make broad and rapid leaps in this regard and look forward to global competition and competing with the big ones in the future, other countries are **still feeling their way** in this context, and it seems that there are different attempts and a clear desire from some small countries to develop their capabilities in the field of artificial intelligence. But there must be cooperation between countries that have made progress in the field of artificial intelligence and those that are still lagging behind in this context, through individuals, institutions and major companies, by exchanging visits to gain experience and awareness and help in adopting such technologies.

*Mr Hamza Ammar Maatoq, Head of Spectrum System Unit, General Authority of Communications and Informatics, Libya*

> AI has the potential to be a **game-changer** in New Zealand (both in our private and public sectors) and is something the Government is increasingly focused on.
>
> *Ministry of Business, Innovation and Employment, New Zealand*

> Papua New Guinea recognizes the transformative potential of AI in **driving national development**, particularly in key sectors such as land management, which will serve as our first use case. By focusing on enhancing precision and sustainability in land use, we aim to demonstrate the value of AI while **investing in critical policies, legislation, and technology** to support its responsible and secure adoption.
>
> *Department of Information & Communication Technology, Papua New Guinea*

> Small states play a crucial role in bringing other states and international players together. In the field of AI governance, such **consensus building** increases not only their visibility and relevance, but also enables them to **broaden interoperable markets** for their businesses.
>
> *Ministry of Investments, Regional Development and Informatization, Slovak Republic*

> Collaboration among small states is crucial for **leveraging our collective strengths**. Switzerland believes the AI Playbook, highlighting initiatives such as the Swiss co-founded International Computation and AI Network (ICAIN), will empower us to address unique challenges and innovate together for a sustainable future.
>
> *H.E. Alexandre Fasel, Secretary of State, Swiss Foreign Ministry of Federal Affairs, Switzerland*

> The AI Playbook highlights the potential of AI to **revolutionize sectors** like agriculture, healthcare, education, and governance in Timor-Leste. This presents a **unique opportunity for small states to overcome traditional development challenges** and create a more prosperous and inclusive future.
>
> *Information, Communication & Technology Agency, Timor-Leste*

# PREFACE

AI, as a technology, has been with us for some time, although most of us may not have realised it. Over the decades, AI development has occurred in waves. In recent years, developments in big data, improved algorithms, transformers and increased computational power have led to breakthroughs in machine learning, deep learning and neural networks. A seminal development has been the advent of generative AI and large language models.

Generative AI has led to tremendous opportunities for all parts of society. AI's potential transcends economic value, as it also has the power to uplift individuals, communities and societies. It therefore plays an important role in contributing to the achievement of all 17 UN Sustainable Development Goals.

As with all new technologies, the adoption of AI may be uneven. It is often driven by the capabilities of countries, industries or communities, as well as their readiness to embrace new technology. Within FOSS, small states have also raised questions on how to better capture the opportunities within this fast-moving space while ensuring inclusive and sustainable development. In particular, small states face constraints in expertise and reaping economies of scale to tap on the benefits of AI. They have also sought guidance on how to tackle AI's risks and how to address potential social inequality issues arising from the use of AI.

The Digital Forum of Small States (Digital FOSS) was mooted in 2022 to bring the digital policy leaders from small states together, to exchange views on pressing digital challenges. AI was naturally an important topic of discussion. Through this platform, Digital FOSS leaders recognised that there is a growing interest in a "playbook", or compilation of best practices, of how policymakers in different parts of the world have implemented AI strategies and policies in their countries.

The Digital FOSS network has the unique strength of being able to bring together the diverse perspectives of small states from different geographical regions and at varying stages of digital development. Leveraging this, as the convenor, Singapore reached out to all members of the Digital FOSS community to gather information on specific challenges they face as small states, as well as areas of support that they need to effectively harness the benefits of AI.

We are happy to receive feedback from Digital FOSS countries across all the geographies. The challenges faced by small states can generally be grouped into the following broad areas:

a) Access to resources and funding;
b) Limitations of small domestic markets and hence, inability to tap on economies of scale or have a significant voice in international AI development;
c) Access to data, either within the country or from outside sources; and
d) Need for expertise and AI talent.

These challenges could have several implications, including:

a) **Within government**
Government officials need to develop policy understanding of AI development and governance.

b) **Within industry**
The adoption of AI, especially by small companies, could be uneven and episodic.

c) **In the international arena**
Global discourse on AI governance norms may not take adequate account of the views and circumstances of small states.

The small states also indicated that it will be helpful to have access to resources and information:

a) **Strategies to grow AI adoption and development**

Given that AI will alter the nature of many jobs today, workers must be upskilled to be ready for an AI-enabled economy. It is also important for small states to ensure adequate access to key infrastructural resources such as compute and data, while managing sustainability concerns due to the high resource drain from AI.

Small states have limited resources and may need to prioritise their AI efforts for important sectors of their economies. It will be useful to have greater insight on how to focus efforts, as well as the role of government itself as a sector. In addition, micro, small and medium-sized enterprises (MSMEs) that comprise the majority of small states' industries will likely face the greatest challenges in AI adoption. Small states, therefore, need support on how best to drive AI development for these MSMEs.

b) **AI governance and safety**

Building a safe and trusted AI ecosystem is multi-faceted. Small states may find a collective sharing of principles and frameworks that can be applied to governance of AI as well as the tools that can assist with this useful. Small states also recognise that with AI development accelerating, discussion on the different regulatory and governance approaches can be helpful.

c) **Addressing the societal impact of AI**

Small states recognise and can strongly identify with the importance of bridging the digital divide arising from AI. As AI technologies become increasingly integrated into various aspects of society, it is essential for the public to understand the potential benefits and risks associated with AI. Public literacy on AI can help individuals protect themselves from AI-generated harms.

There was an overwhelming sense that the Digital FOSS platform can bring small states together to help one another with the adoption of AI. We have therefore collated the experiences of FOSS members and put them together as a Playbook. It is designed as an initial "seed" for discussion and sharing within the Digital FOSS community. Rwanda partnered with Singapore, as convening chair, to compile the initial version of this Playbook.

The chapters that follow are individually segmented into "Focal Points", which are basic sets of queries that came from the feedback received from members, followed by considerations on how to move forward.

Given the rapidly evolving nature of AI, from which new concerns and global best practices will continue to emerge, we aim to periodically update the Playbook as a living document, so that it is reflective of Digital FOSS's collective efforts in harnessing AI for the public good. In the process, Digital FOSS members can explore how to partner one another to share resources and build capacity, given the resource constraints faced by individual small states. We can also work together to amplify our collective voice in the international arena, to shape AI outcomes in a more concerted and inclusive manner.

Through this endeavour, we hope to build a community of small states and other stakeholders to create the space for inclusive discussions on topics such as AI.

CHAPTER 1

# LAYING KEY BUILDING BLOCKS

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A good place to start in fostering the growth of AI is to pay attention to the building blocks of human resources and robust infrastructure. These will lay a strong foundation for all other AI initiatives.

## HUMAN RESOURCES

To build a vibrant AI ecosystem, it is typically important to have people with the capabilities to develop and deploy AI. Investing in the people living and working in small states can help to ensure the long-term sustainability of the ecosystem. While growing these essential capabilities is multi-faceted, a suitable starting point may be to grow a competent workforce. Such a workforce comprises both the technological professionals who are driving AI development and deployment as well as the broader workforce who will need to understand and adapt to AI.

### Focal Point: Nurturing technological professionals

A key factor is to nurture technological professionals who are capable of developing and deploying AI systems. One method to nurture professionals is to work with local universities and Institutes of Higher Learning to develop specialised AI curricula that are carefully designed to meet the evolving needs of the industry, ensuring that students gain not only theoretical knowledge but also practical skills that are directly applicable to real-world scenarios and use-cases. Over time, this will create a steady pipeline of technological professionals.

## Estonia: AI-Related Programmes in Universities and the Public Sector

Estonia has formulated its third national AI Strategy for 2024-2026, which focuses on enhancing skills and competencies in AI through reforms in formal education and training systems. These reforms include the introduction of a Master's programme in data science and AI, the promotion of elective AI courses in postgraduate disciplines and vocational education, as well as an increase in AI-related PhD scholarships. It also includes society-wide upskilling and retraining programmes, an established online learning platform digital academy and extensive public sector training programs, where 10% of public sector employees are trained each year. These initiatives aim to cultivate a continuous stream of entry-level professionals equipped with AI expertise, preparing them for the workforce and providing them with essential skills.

The Ministry of Economic Affairs and Communications has also developed AI training courses and instructional materials tailored for managers and developers in the public sector. Specialised courses targeting data stewards and upper management have also been designed to support AI development efforts. In conjunction with the Ministry of Education and Research, training is provided to teachers and students, including on how to leverage generative AI in classrooms.

The Ministry of Economic Affairs and Communications is currently working on a society-wide AI and data literacy programme to ensure that everyone in society has the necessary skills and knowledge. The goal is that by 2030, there will be 80% elementary AI and data skills attainment within broader society, 100% AI deployment by the public sector and 75% AI deployment by the private sector.

Beyond developing an upstream pipeline through pre-employment training, it is also helpful to consider upskilling the existing technological workforce by equipping them with the right skills for AI-specific roles. Such upskilling can take the form of on-the-job trainings, specialised workshops and company attachment schemes.

**Focal Point: Broad-based Training**

There is merit in conducting broad-based training for the general workforce, including those who may not use AI in their daily work. This upskilling will equip them with essential skills to leverage and use AI at work to enhance productivity and decision-making.

## Singapore: Upskilling the Workforce

The SkillsFuture initiative is a national lifelong learning movement established under the Singapore Ministry of Manpower's Continuing Education and Training (CET) Masterplan. SkillsFuture aims to provide targeted programmes and incentives that support the upskilling of Singaporeans in preparation for jobs of the future.

Upskilling and reskilling digital programmes are coordinated under the TechSkills Accelerator (TeSA) initiative. Through TeSA, nearly 18,000 locals have been placed and trained in tech areas such as AI and Analytics, Software and Applications, 5G, Cloud as well as Cybersecurity. To date, 243,000 individuals have been successfully upskilled.

The Singapore Government has also developed Industry Digital Plans (IDPs) and Sectoral Manpower Plans (SMPs) that work in tandem to ensure that digital transformation and workforce development efforts are comprehensive and effective. The IDPs provide sector-specific guidance and support to businesses on digital adoption, while the SMPs focus on addressing current and future skills gaps through training programmes and workforce planning that are aligned with digital transformation needs within the sectors.

## Rwanda: Prioritising 21st Century Skills and AI Literacy

Rwanda has made efforts to upskill the workforce with 21st-century skills and AI literacy. The country has established multiple universities and other higher-education learning institutions focusing on teaching and conducting research in information technology and AI. In 2011, Rwanda partnered with Carnegie Mellon University to establish Carnegie Mellon University Africa[3], located in Kigali Innovation City, offering master's level education in AI, ICT and Computer Engineering.

Additionally, through the digital ambassadors programme[4], Rwanda has committed to upskilling over 5 million Rwandan citizens with digital literacy to bridge the digital divide across the country. With the strengthening of digital and AI skills as the first priority in the country's National AI Policy, the government of Rwanda continues to prioritise literacy at the core of its ambition to become a global centre for AI research and innovation.

## INFRASTRUCTURE

In tandem with investing in human resources, access to infrastructure is similarly needed for the effective development and deployment of AI systems. Compute and data are often seen as two key components to help power development. Countries may have to balance this against the high resource load and environmental impact of these components.

[3] https://www.cmu.edu/global/partners.html
[4] Ministry of ICT and Innovation. Digital Ambassadors Program. https://www.minict.gov.rw/projects/digital-ambassadors-programme

**Focal point: Access to high performance compute**

Reliable access to high performance compute is generally recognised as a key building block for AI development. Compute resources enable the processing of large datasets, training complex models and running intensive algorithms. As AI continues to scale and evolve, the demand for compute infrastructure is projected to grow. There are different ways for small states to secure compute infrastructure for local use and decisions can be guided by national needs and priorities. Building dedicated data centres tailored to national needs, such as for national security-related applications, offers the advantage of enhanced control and security. For non-sensitive applications, leveraging on cloud service providers presents a flexible and cost-effective alternative.

## Switzerland: ICAIN as Resource Sharing Network for Compute, Data and Capabilities

The International Computation and AI Network of Excellence (ICAIN) was launched in January 2024 by Switzerland's Federal Department of Foreign Affairs (FDFA), ETH Zurich, EPFL and international partners. ICAIN is a resource sharing network dedicated to broadening access to supercomputing, data and software infrastructures, as well as AI know-how. The aim is to facilitate international research projects and AI development that benefit society as a whole and promote the UN Sustainability Development Goals (SDGs).

By leveraging global supercomputing power, ICAIN optimises resource utilisation and enhances technological efficiency. This in turn helps to promote knowledge sharing and advancements in AI research and education to ensure that the latest developments are accessible worldwide. The outcomes of the projects supported by ICAIN will be made publicly available and must be transparent in terms of both the AI models and training data used. The network is on track to become fully operational by early 2025.

**Focal point: Access to high quality data**

Data is recognised as an indispensable component to power AI systems, serving as the fuel that drives machine learning algorithms and decision-making processes. It is not merely the quantity of data that matters, but also its quality and relevance to the local context. High-quality, contextualised data is essential so that AI systems are tailored to local needs. This may require curating data from various sources within the ecosystem, such as industry databases and research institutions. One option to consider is government-held datasets. By selectively granting private sector access to appropriate datasets, governments can encourage innovation.

## Denmark: Accessing Government-Held Datasets

In 2019, Denmark launched its National AI Strategy, which included developing a common Danish Language resource to support the development of Danish-language AI solutions. The effort aims to gather relevant, existing language resources and make them freely available to all. It further aims to develop and give access to new language resources that can reduce barriers and strengthen the development of language technology solutions in Danish.

In 2022, Denmark launched the Danish Data Portal, a catalogue of publicly significant public datasets. The aim of the Danish Data Portal is to provide access for these datasets to Danish companies, researchers, public authorities and citizens in order to contribute to the development of AI solutions in both public and private sectors.

Both efforts are testaments to the Danish approach, which stresses the importance of data accessibility and sharing to support AI development and implementation. The overall Danish approach is to leverage AI to drive innovation, economic growth, societal progress and enhance the quality of the public sector while upholding ethical and human-centric principles.

**Focal point: Sustainability concerns**

The environment impact of utilising compute and data resources should be taken into consideration as the infrastructure needed to support AI systems often requires significant computational power, which in turn demands large amounts of electricity and water cooling resources. One way forward is for industry and government to partner technology providers who are committed to implementing best-in-class energy-efficient practices and utilising sustainable hardware for sustainable AI development.

CHAPTER 2

# DRIVING AI DEVELOPMENT AND USE

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Even as we lay the key building blocks within the local ecosystem, careful attention ought to be paid towards AI's development and use to accrue its benefits across all segments of society. Today, opportunities for AI's adoption have been catalysed by the availability of a large variety of proprietary and open-sourced models. Nonetheless, our collective experience points towards initiating targeted interventions to drive development within industry and government.

## INDUSTRY

### Focal point: Prioritising areas of focus

As small states face resource constraints, it is helpful for them to prioritise specific areas of focus for AI development and use. Each government has their own set of priority industries within the economy which can serve as natural starting points to apply AI for growth and innovation. In Mauritius, for example, the use of AI in agriculture through precision farming and water management led to increased crop yields and reduced water usage. In Rwanda, investing in AI within the healthcare sector has led to more accurate levels of disease surveillance, prediction and response.

## Mauritius: Using AI Solutions to Strengthen Agriculture as Priority Sector

Agriculture is a key pillar of Mauritius' economy. With the assistance of the United Nations, Mauritius is seeking to secure its food system due to climate change, with a focus on efficient irrigation techniques and climate-smart agriculture practices. To address these challenges, Mauritius is adopting various technologies, including AI.

The Mauritius Cane Industry Authority now employs drones in agriculture to detect, monitor and spread products in cane fields and other plantations. Through AI-driven precision farming, agricultural productivity is enhanced, resource utilisation is optimised and the impact of climate change on farming practices is mitigated. By integrating high-resolution images and sensor data, precision farming enables the identification of plant stress levels, facilitating proactive interventions to maintain crop health and yield.

Planters and farmers are also tapping on mobile applications to integrate with AI platforms. The Mokaro app is one such example where a planter can extract key information to assist his decision-making in sowing, irrigation and other field activities. Farmers also receive weather information and agricultural news and alerts that may be useful for agricultural production and management.

## Rwanda: AI in Healthcare

In Rwanda, as there is approximately one doctor per 10,000 patients, it is important for healthcare professionals to be able to prioritise the people most in need of urgent care. AI-assisted chatbots support call-centre nurses in making these decisions by guiding them through a series of questions to ask the patients and then facilitating triaging critical cases based on patient responses. This increases nurses' productivity and shortens effective response time, enhancing overall care provision.

In 2020, the World Economic Forum, working with a global community led by Mitsubishi Chemical Holdings, created a governance framework to facilitate the responsible use of AI in healthcare. C4IR Rwanda adapted this framework for its Chatbots RESET when the country launched its first AI-enabled triage service in its public healthcare institutions.

**Focal point: Driving MSME Usage of AI**

Typically, majority of businesses in small states are MSMEs. They fuel the local economy and provide employment opportunities. However, MSMEs may lack the expertise to deploy AI in their products and solutions. One way to bridge this gap can be through developing platforms, such as sandboxes, that allow for greater experimentation of AI without the risks associated with full-scale deployment. These sandboxes can provide curated solutions to MSMEs, with support from larger tech firms and the government. Through such support, MSMEs can gain greater confidence in their interaction with AI and be equipped with the expertise needed to expand the use of AI beyond the sandbox environment.

## GOVERNMENT

Besides the different priority sectors of the economy, the government can itself act as a priority sector for AI development and use to demonstrate its utility and benefits. This has a salutary effect on industry adoption.

### Focal point: Piloting AI applications for government services

One way to kickstart government adoption of AI is by initiating pilot projects that deploy AI applications in key areas of public service. These projects enable the government to test and showcase the effectiveness of AI in real-world scenarios. By focusing on services that have a direct impact on citizens, such as healthcare, transportation and public safety, these pilots can demonstrate the tangible benefits of AI. At the same time, they allow government officials to learn more about successfully deploying AI at a smaller scale within government and help refine their approach before broader implementation.

## Finland: Integrating AI into Government Services – Piloting Projects for the Public Good

Finland's Digital Compass initiative is based on EU's Digital Decade 2030 programme. It guides Finland's digital transformation efforts, including key objectives for advancing the digital transformation of society, divided into four categories: competence, infrastructure, public services and businesses. It facilitates digitalisation and the usage of AI in many areas of life, including education, training and public services.

The Ministry of Transport and Communications is working with the Finnish Innovation Fund Sitra and Finnish technology consulting firm Futurice to leverage generative AI to improve the efficiency of legislative drafting. The pilot project took place in the first half of 2024 and used the EU Data Act and related legislation as a test material. In addition to streamlining legislative work, the project enhanced Finland's strategic autonomy in the field of AI technology, as only Finnish large language models were evaluated and used for the pilot.

**Focal point: Building AI literacy and proficiency**

Another dimension is to build up AI capabilities within the public sector workforce. This increases both their competence and confidence to use AI-based solutions. These capabilities can be built through targeted training courses to increase AI literacy and proficiency. Where possible, the training should be tailored to the specific roles and responsibilities of officials to ensure that the knowledge acquired is applicable to their day-to-day work. For example, data analysts within government may receive training on advanced data analytics and machine learning, while communication departments may focus on applying AI tools to sharpen government messaging.

CHAPTER 3

# FOSTERING A TRUSTED ENVIRONMENT

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Even as we drive AI's development and use in the various sectors of the economy, it is just as important to build a trusted environment. Such an environment allows stakeholders to confidently embrace the technology, assured that it operates as intended and serves the public good.

### Focal point: Holistic framework to unpack ecosystem

It is generally recognised that risks from AI systems are multi-faceted – both inherent to the AI model (e.g. hallucination, bias, toxicity) and those that arise from the use of AI systems (e.g. misinformation, cyber-attacks). To effectively address these risks and build trust, it may be helpful to reference a holistic framework that articulates an approach to address the various concerns as well as to lay out dimensions of governance principles to consider. The framework should consider dimensions both within the model development life cycle (e.g. input data that is fed to the model, the deployment and disclosure process), as well as those outside the life cycle (e.g. how can different players across the development chain be accountable to end-users). Such a framework could guide governments to develop targeted interventions and help prioritise efforts.

**Focal point: Practical testing tools**

Beyond frameworks, practical tools go a long way to help the industry ensure that its systems are safe for deployment and use. Testing and evaluation of AI systems help surface gaps that need to be addressed. It also assures end-users that the risks identified have been mitigated and the safeguards are adequately in place. However, testing can be expensive and challenging for businesses to implement. Open-source testing resources and toolkits help to lower the barriers to entry for end-users, particularly in terms of cost. In addition, they facilitate access and reduce friction, especially when they integrate different testing frameworks and methodologies in a single product. We can also form communities of practice among industry players to support discussions regarding testing and evaluations to facilitate knowledge transfer and sharing of best practices.

## Singapore: Model Governance Framework for Generative AI

Singapore's Model Governance Framework for Generative AI takes an ecosystem approach to understanding the various dimensions needed to address risks. It recognises that no single intervention is a silver bullet and that a trusted ecosystem needs to be built up incrementally in nine different dimensions. These include elements within the AI development life cycle (input data, model development and deployment, post-deployment incident reporting, 3rd party testing and assurance), as well as elements outside of and above the life cycle (accountability, security, content provenance, safety and alignment R&D, harnessing AI for the public good).

## Singapore: AI Verify and Project Moonshot as Toolkits to Test AI Systems

AI Verify and Project Moonshot are open-sourced toolkits that allow industry to test for traditional AI and generative AI systems respectively. They serve as umbrella tools that integrate across different testing frameworks and methodologies. AI Verify incorporates algorithmic tests based on the latest state-of-the-science, as well as process checks for other ethical principles such as transparency, accountability and reproducibility. Project Moonshot brings the latest evaluation methods for generative AI (benchmarking and red-teaming) together, including a repository of benchmarks that are useful across different contexts and cultures.

As open-sourced toolkits, both AI Verify and Project Moonshot are continuously developed and enhanced by the broader international community, crowding-in expertise across the ecosystem.[5]

[5] For further information and queries on AI Verify and Project Moonshot, write into info@aiverify.sg.

## New Zealand: Joint Leadership on Interim Generative AI Guidance

In July 2023, New Zealand's Digital, Data, Information Security, Procurement and Privacy System Leaders published joint interim guidance on responsible and trustworthy use of Generative AI[6]. This guidance supports New Zealand government agencies to make more informed decisions about using generative AI, balancing benefits and risks. It will be updated as AI evolves, as well as when risks and opportunities are better understood.

The guidance is part of a broader programme of work led by New Zealand's Digital System Leader, the Government Chief Digital Officer, to support public service agencies to safely adopt and innovate with AI. In addition to developing and sharing lessons and guidance, this work programme supports agencies to share with and learn from each other, build needed AI skills, and appropriately manage risk. The interim guidance will be updated as AI evolves and risks are better understood.

It is important that governments safely use AI in ways that maintain public trust and confidence. The New Zealand Government's strategic approach to adopting AI will be in accordance with the OECD's AI Principles, include respecting the rule of law, human rights and democratic values, including fairness and privacy, as well as robustness, security and safety.

[6] New Zealand Digital Government. (2023) https://www.digital.govt.nz/standards-and-guidance/technology-and-architecture/artificial-intelligence/interim-generative-ai-guidance-for-the-public-service.

**Focal point: Leveraging on existing regulations**

As AI continues to develop as a technology and expands its uses, countries will naturally consider the most suitable regulatory and governance approaches to address key risks.

One approach is to start by relying on existing legislation and regulation (e.g. misinformation laws, personal data protection laws) to tackle specific concerns (e.g. heightened misinformation driven by AI, sensitive data disclosure from AI). These regulatory instruments likely pre-date generative AI in many jurisdictions and regulate outcomes rather than the technology per se. These existing levers can be examined if they are adequate to tackle risks from AI, or if they need to be updated. This can also be complemented by broader industry guidelines to address technology specific concerns. Overall, such an approach could help to build up responsible practice and trust in the ecosystem incrementally.

## New Zealand: Advisory Guidelines on Using AI Tools in Relation to Personal Data

In 2023, New Zealand's Office of the Privacy Commissioner issued advisory guidelines on how entities can ensure that their use of AI meets the obligations set out under their Privacy Act 2020.

The "Artificial Intelligence and Information Privacy Principles" guidelines set out the legal requirements on how entities can collect, use and share personal information in relation to AI systems. It references the 13 principles that are outlined in the Privacy Act and how they can be applied to various stages of the model development lifecycle, from collecting training data, to training a model, taking user input, receiving a response and taking action. These guidelines give businesses and individuals clarity on how they can use AI in their daily lives while at the same time maintaining the proper levels of privacy required under law.

**Focal point: Building up digital literacy**

AI should be accessible to all members of society. To achieve this ideal, we need to address the fact that there are varied levels of digital literacy amongst the population. A population with a high degree of digital literacy will also be able to better immunise itself from various AI-generated harms, such as misinformation.

Uplifting digital literacy typically requires working with specific segments of society. Often, these segments include the elderly, students, as well as the general public. For students, this can include developing education programmes on using AI safely that are embedded in school curriculum. For the elderly, tapping on community networks to equip seniors with basic AI and digital literacy skills can be beneficial. Awareness campaigns related to specific harms such as scams are also a good way to build literacy for the general public.

## Malta: AI Education in National School Curriculum

Malta launched its AI Strategy and Vision in 2019 and a Digital Education Strategy in 2024, which aims to drive digital transformation in the education sector by prioritising digital literacy as a fundamental skill in the 21st century. The government has integrated AI Ethics into its national school curriculum, aiming to equip students with essential knowledge and skills in AI. A nationally funded AI application has been developed to pilot the use of AI to support and adapt to the different mathematical aptitudes of the students. Complementary bootcamps and summer schools have been launched across different regions and age groups. These initiatives are designed to provide students with insights into fundamental AI concepts, ethical considerations and practical applications. At the same time, upskilling support is provided to teachers and educators to enhance their knowledge and awareness of AI in education.

By integrating AI education across different subjects, Malta aims to cultivate a holistic understanding of AI's societal impact, fostering critical thinking and creativity while preparing students to responsibly leverage AI for problem-solving and innovation.

CHAPTER 4

# FORGING GLOBAL PARTNERSHIPS AND COOPERATION

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The earlier chapters provided some key focal points that small states can consider in thinking about building a trusted environment that can also drive AI's development and use. Nonetheless, implementation of these suggestions can be challenging, especially for small states that may have limited resources. One way to overcome domestic constraints is for small states to come together and partner one another and also with international organisations to harness collective advantages and economies of scale.

Typically, this involves mutual capacity building, where small states leverage on each other's strengths in building a vibrant local ecosystem. It also involves coming together to increase overall heft, allowing small states to more effectively shape global governance norms in an inclusive manner. This in turn helps amplify the voice of small states internationally. As a start, platforms like the Digital FOSS network can be the seed for a community for small states to build a strong culture of resource and knowledge exchange.

## Slovak Republic: Building Consensus at OECD

Slovakia, a member of the European Union since 2004, has successfully focused its political, diplomatic and expert efforts on building a consensus on AI governance at the Organisation for Economic Cooperation and Development (OECD) and beyond.

In 2019, it presided over the adoption of the OECD AI Principles, the first inter-governmental document on AI governance, by the Council of the OECD. These principles have subsequently influenced the G20 principles on AI, adopted also in 2019. In 2024, Slovakia presided on a working level group (AIGO OECD) over a successful update of those principles. The updated OECD AI Principles, including AI definitions, inform binding or voluntary AI governance frameworks around the globe, e.g. the first international treaty on AI adopted at the Council of Europe (Framework Convention on Artificial Intelligence and Human Rights, Democracy and the Rule of Law) and the EU AI Act, both adopted in 2024.

As of the summer of 2024, Slovakia co-chairs (together with India) an integrated partnership between the Global Partnership on AI (GPAI) and the OECD, further broadening and deepening its actions in international AI governance.

## Digital FOSS Fellowship and Executive Programmes

The Digital Forum of Small States (Digital FOSS) was introduced by Singapore's Infocomm Media Development Authority (IMDA) as a new pillar of FOSS in October 2022. Within the Digital FOSS community, Singapore has organised various initiatives to promote the sharing of best practices and building of collective capacities in key digital issues (e.g. data, digital utilities, emerging technologies such as AI and quantum standards). These include the Digital FOSS Fellowship Programme (DFFP), targeted at senior government officials in FOSS capitals and Permanent Representatives/ senior diplomats to the United Nations, as well as the Digital FOSS Executive Programme (DFEP), targeted at mid-level government officials in FOSS capitals.

Since their inaugural launch in 2023, more than 25 countries across various geographical regions have participated in the Digital FOSS Fellowship and Executive programmes. In these one-week programmes, topics such as cross border data flows have been covered to enhance understanding on how small states can leverage opportunities to advance data protection domestically and internationally. Beyond capability building, the Fellowship and Executive programmes also facilitate networking between FOSS member states and allow participants to share ideas and best practices from their own jurisdictions with one another, driving a culture of resource and knowledge exchange.

## International Telecommunication Union (ITU): AI for Good

ITU's AI for Good, co-convened with Switzerland, in partnership with 47 UN entities, is the UN's leading platform on AI. Since its inception in 2017, AI for Good has transitioned to an 'All Year, Always Online' format, hosting over 150 online webinars per year on emerging technologies. The platform's flagship event is the annual AI for Good Global Summit. The summit brings together high-level participants from governments, industry, civil society, international organisations, academia and UN partners to harness the transformative potential of AI and identify solutions to help advance the Sustainable Development Goals (SDGs).

AI for Good has paved the way for associated technical standardisation efforts that aim to address industry needs as they emerge, foster public-private partnerships, facilitate knowledge exchange and assist developing countries in achieving sustainable development through the practical application of high potential AI use cases. On the capacity development front, ITU is working with countries through programmes such as the AI for Good Innovate for Impact, which is designed to elevate global AI literacy, share best practices and foster innovation aligned with the SDGs.

## United Nations Development Programme (UNDP): AI for Sustainable Development

UNDP supports developing countries in leveraging AI's potential for accelerating sustainable development while mitigating risks. This includes AI Landscape Assessments with countries to map their AI ecosystems and evaluate cross-sector expertise to identify opportunities for enhancing national AI readiness, while UNDP's Accelerator Labs drive local AI innovations such as smart anti-epidemic robots in Rwanda, real-time monitoring of digital violence against women in Uruguay and automated soil health advice for farmers in the Caribbean.

In addition, UNDP advances AI solutions like iVerify, an automated fact-checking tool that assists national stakeholders in identifying and combating misinformation, disinformation, and hate speech. Countries including Honduras, Liberia, Sierra Leone and Zambia have utilised this tool to reinforce their information ecosystems, crucial for promoting peace and ensuring high-quality electoral processes. In 2024, UNDP co-led the design of the AI Hub for Sustainable Development with the G7 Presidency, working with countries in Africa to strengthen the AI foundations of data infrastructure, green computational power and talent development

# CONCLUSION

This Playbook is a living document and an ongoing effort that brings together the best practices collated from various FOSS states on how to build an ecosystem where AI can be harnessed for the Public Good. It is also a call to action to Digital FOSS members to not just learn from the experiences shared by others in the Playbook, but to build upon these experiences and contribute to this anthology. We welcome further contributions on a continuing basis from all Digital FOSS members.

**AI PLAYBOOK FOR SMALL STATES**

Published 22 September 2024