

Playbook for National AI Strategy and Implementation

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JICA DXLab focuses on advancing responsible and inclusive AI for development. It helps partner countries design and implement national AI strategies, strengthen AI infrastructure and capabilities, and engage in global AI partnerships. These efforts aim to scale practical AI use cases that improve public services and local industries.

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Executive Summary

Artificial Intelligence (AI) is no longer a distant pursuit, it is a foundational technology with significant implications for national development. AI's impact across key development domains including healthcare, agriculture, education, etc., at scale, further underscores its socio and economic transformation potential. For countries in the Global South, AI presents a pathway to leapfrog development constraints, provided its adoption is strategic, inclusive, and systematic. The playbook reflects lessons learned from multiple national contexts and is designed to support governments in independently designing and implementing their own national AI strategies. It should not be interpreted as an expression of JICA's commitment to undertake specific cooperation activities in any individual country.

JICA proposes a five-pillar framework for building national AI ecosystems:

1. AI in Policy and Global Partnership
2. AI Competitiveness
3. AI Enablers
4. AI Infrastructure
5. AI Safety and Governance, and AI Enablers as cross-cutting piece

This report addresses a critical angle of readiness, offering design principles, implementation pathways, and global best practices across each of these five pillars.

AI Policy and Global Partnership is the foundational pillar. Countries are encouraged to anchor AI strategies in national development outcomes and define clear timelines and targets while establishing necessary governance structures. The case study from Vietnam exemplifies how successful strategies align AI deployment with industrial policy, national sectoral priorities, and institutional leadership.

AI Competitiveness spans both foundational technology development and high-impact applications. Countries must decide whether to develop indigenous models or adapt global ones, supported by public-private collaboration. Effective application deployment requires coordinated governance and prioritisation, identification of institutional mechanisms for operational sustainability, and exhaustive ecosystem alignment. Examples like Egypt's AI strategy or Telangana's (a state in India) challenge-based pilots highlight how prioritisation, funding, and institutional engagement enable scale.

AI Enablers, namely skilling and financing, are pivotal to long-term success. National skilling strategies must operate across education levels and geographies, using industry partnerships and employment-aligned curricula. Vietnam's AI Talent Development Programme exemplifies this multilayered approach. On the financing front, ecosystem-specific gap assessments, targeted interventions (like 'fund of funds'), and sustainability models are necessary. Initiatives in Singapore¹ and Vietnam provide templates for startup acceleration and public-private capital blending.

¹. Open Innovation Network | Startup SG Equity



AI Infrastructure is focused on unlocking data and compute capabilities. Governments need to decide whether to build centralised, federated or hybrid data repositories, while ensuring regulatory readiness and incentivising inter-agency data sharing. Compute infrastructure design should weigh centralised vs. distributed models, democratise access, and be financially sustainable. India's hybrid data repository model and Telangana's Data Exchange-cum-AI Sandbox (TGDeX) approach exemplify how strategic public investment can build inclusive AI infrastructure.

AI Safety and Governance is treated not as a peripheral concern, but as a core pillar. This includes developing national ethical frameworks aligned with international norms (OECD, UNESCO), establishing governance structures (e.g., The National Council for Artificial Intelligence of Egypt), and building or sourcing safety tools. Countries must choose among hard law, soft guidance, or co-regulation, and balance local relevance with global alignment. India's Safe and Trusted AI pillar of the IndiaAI mission and Indonesia's smart city pilots illustrate how operational safeguards can be embedded.

To translate strategy into action, the report introduces a "Prepare-Execute-Sustain" framework. Preparation involves securing high-level sponsorship, establishing dedicated AI units to drive the programmes, and mirroring governance structures in line with local set-ups. Execution is focused on agile build-iterate-rollout cycles, cross-functional operating models, and strategic partnerships with global institutions to ensure local capability build. Sustainance depends on continuous feedback loops and transparent public reporting to ensure alignment and trust.

The report concludes with a call to action for governments, development partners, academia, and the private sector. It urges the integration of AI into national plans, establishment of empowered AI missions, strategic international partnerships, and co-development of solutions with shared infrastructure. Development partners are encouraged to support data and compute infrastructure, blended financing, and benchmarking. Academia could anchor talent development and research, while the private sector can play a vital role in responsible deployment and localised innovation.

Ultimately, AI represents a rare opportunity for the Global South to catalyse inclusive and sustainable development. But seizing this opportunity will require coordinated system-building, clear policy, robust infrastructure, skilled talent, and shared execution. This playbook offers a practical and adaptable roadmap for nations to not only define strategic visions but realise them at scale.

It is important to note that the AI landscape is evolving at an unprecedented pace. Advances in foundational models, compute availability, regulatory approaches, and global governance frameworks may significantly alter the assumptions under which national AI strategies are formulated. As such, this playbook should be treated as a living reference, to be periodically revisited and adapted in line with technological and societal change.



CHAPTER 1

Introduction

Artificial Intelligence (AI) has moved from experimental pilots to a strategic imperative for governments across the globe. As policymakers consider how to optimally harness AI for national development they face critical choices around AI governance models, ecosystem investments, and public-private roles. To ensure the success of AI at scale, which is no longer a futuristic aspiration but a present-day catalyst, there is a need to develop a unified national agenda, underpinned by clear policy frameworks, robust data and compute infrastructure, and enduring collaboration among government bodies, multilateral partners, and the industry. This report offers a strategic guide for Global South nations, leveraging JICA's experience, accumulated through its initiatives across several countries, to provide practical insights and real-world examples for developing context-specific AI roadmaps.

1.1 The Significance of AI in Development for the Global South

AI holds the potential to directly tackle several of the Global South's most pressing challenges. Notable examples where AI has begun to make significant progress have been described below:

1. Healthcare and Public Health: High costs, limited access, and quality gaps remain pressing challenges in healthcare across many parts of the world. AI tools are beginning to make a meaningful difference here, bridging prevailing gaps and improving both access and outcomes. For example, AI-enabled telemedicine has the potential to significantly improve access to diagnostic services across Africa², especially in Sub-Saharan regions where doctor-to-patient ratios may be as low as 1 per 10,000³.

2. Agriculture and Food Security: In agriculture, AI holds considerable potential to create meaningful value. One example is smallholder farmers in rural India adopting AI-enabled weather forecasting tools, which help them make more informed planting decisions with some farmers reportedly cutting their debt burdens by as much as half and increased savings by up to 10% of their annual income⁴.

3. Education and Skills Development: Access to quality education remains uneven across geographies, and AI is opening new frontiers in personalised, scalable, and cost-effective learning. In India, an initiative by the Rajasthan School Education Department, resulted in an AI-driven system to help teachers deliver personalised instruction using real-time student data and improved outcomes for over 400,000 students, reducing learning gaps by 18%⁵.

4. Climate Resilience and Disaster Management: AI can help slow down climate change as well as minimise the impact of disasters. For example, Google's Flood Hub, powered by ML models and trained in partnership with the World Meteorological Organization (WMO), now provides forecasts up to 7 days in advance⁶ across 80+ countries, compared with the typical 24-hour window of traditional systems. This enables governments, emergency responders, and local communities to pre-position relief supplies, and conduct risk-reduction activities days earlier than was previously possible.

Realising this potential requires sustained, coordinated efforts over multiple years, guided by government support and a cohesive strategy. The gap between technologically advanced nations and the rest is rapidly rising – BCG's 2024 AI Maturity Matrix, covering 73 economies, revealed that over 70% fall below the global average in ecosystem participation, talent readiness, and R&D investment, placing them firmly in the “nascent” stage of AI maturity⁷. Many Global South countries exhibit low startup activity, acute skills gaps, and minimal funding for AI research, highlighting the urgent need for coherent national strategies to mobilise resources and build capacity.

2. Artificial intelligence to transform public health in Africa | The Lancet Infectious Diseases

3. Top 10 African countries with the fewest doctors per 10,000 population | Business Insider Africa

4. How empowering smallholder farmers with AI tools can bolster global food security | Reuters

5. AI Leading to Greater Educational Outcomes in India | BCG

6. An improved flood forecasting AI model, trained and evaluated globally | Google Research

7. Which Economies Are Ready for AI? | BCG

1.2 Contours of a National AI Strategy

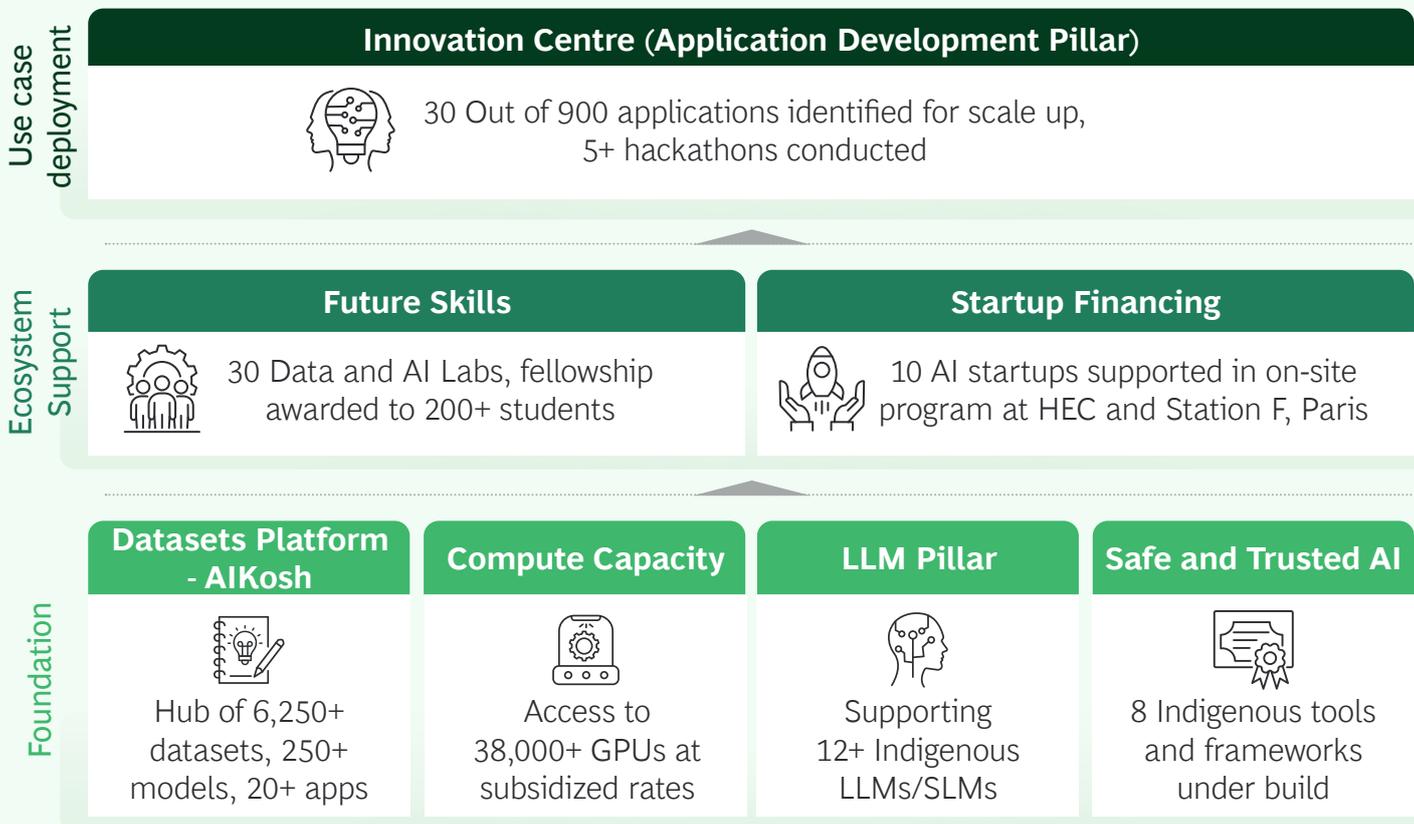
Through its AI strategy and implementation efforts across five cross-country initiatives, JICA has uncovered practical insights, reflecting both recurring patterns and distinct national perspectives. A government-led national AI strategy should provide the essential framework to align AI initiatives with social and economic priorities, mobilise multi-stakeholder partnerships, and create a cohesive foundational roadmap serving the following objectives:

- **Set a Unified Vision.** Define a comprehensive AI plan that prioritises high-impact AI use-cases (e.g., health, agriculture, education) and aligns upstream elements, such as R&D, talent pipelines, data and compute infrastructure, regulatory frameworks and governance models, with national development objectives.
- **Nurture Ecosystem by Mobilising Resources.** While governments can drive significant progress, achieving holistic outcomes requires clearly defined public–private roles and co-financing models to catalyse private-sector innovation. Targeted financial and technical support, through dedicated fund allocations, accelerator programmes, and strong domestic and international partnerships, is essential.
- **Build Enabling Infrastructure.** It is imperative to support the ecosystem with necessary building blocks such as secure data-sharing frameworks, compute resources, and pilot environments (e.g., Sandbox IDE in Telangana's TGDEx (Telangana Data Exchange) in India to accelerate the pace of innovation.
- **Enhance Skills and Literacy.** Identification of skill-gaps and implementing multi-tiered skilling programmes targeted at prioritised gaps can reduce prolonged external dependencies. International academic partnerships, promoting public trust through digital literacy campaigns, and affordable, relevant upskilling programmes can help bridge the skill gaps.
- **Embed Ethical Principles.** Institutionalising fairness, transparency, and accountability is essential for AI. Integrating global norms such as the OECD AI Principles and G7 Hiroshima Guidelines into national policy, alongside safeguards like bias-detection tools and audits, can ensure transparency and accountability.

A national AI strategy transcends policy – it becomes the blueprint for sustainable social transformation, providing key building steps to initiate execution for maximised and accelerated benefits.

IndiaAI Mission: Serving the National AI Strategy of India

Launched by the Indian government in 2024, the mission is led by the Ministry of Electronics and Information Technology (MeitY). It is aimed at enabling India to become a hub for the development of AI technology and applications and has established an exhaustive AI strategy framework comprising seven pillars.



- 1. IndiaAI Application Development:** To support the design and implementation of impactful AI solutions that address priority challenges identified by government and industry, driving socio-economic transformation through AI adoption and scaling in critical sectors.
- 2. IndiaAI Future Skills:** To build a robust AI talent pipeline by expanding AI education across undergraduate, postgraduate, and doctoral levels, and establishing data and AI labs in Tier 2 and Tier 3 cities; supporting ecosystem via fellowships, research infrastructure, and mentorship programmes.
- 3. IndiaAI Startup Financing:** To provide seamless access to funding and other support as needed by AI startups to realise future-oriented AI projects. This may include support for access to global markets, technical mentorships, and funding via suitable mechanisms.
- 4. IndiaAI Datasets Platform (AIKosh):** To establish a unified data platform providing seamless access to high-quality, non-personal datasets for Indian startups and researchers, serving as a central hub for datasets, models, use cases, tools, and collaboration to foster AI innovation and community engagement.
- 5. IndiaAI Compute Capacity:** To establish a scalable AI computing ecosystem by deploying 38,000+ GPUs through public-private partnerships, supporting startups, and encouraging research. This includes creating a marketplace for AI-as-a-service and developing robust infrastructure to ensure equitable GPU access for innovation and R&D.
- 6. IndiaAI Innovation Centre:** To advance indigenous AI capabilities by developing and deploying Large Multimodal Models (LMMs) and domain-specific foundational models tailored to critical sectors.
- 7. Safe & Trusted AI:** To promote responsible and ethical AI development and adoption by ensuring transparency, safety, and fairness. This includes creating indigenous tools, guidelines, and governance frameworks to support the deployment of Responsible AI.



CHAPTER 2

Building Blocks of the National AI Strategy

Introduction to JICA's AI Framework

As AI transitions from niche experimentation to a core enabler of national development, countries, especially across the Global South, must confront a key challenge: How can AI be scaled to achieve measurable development outcomes through coordinated, inclusive, and effective implementation?

To support this transformation, a structured, multi-pronged approach is essential. Many countries currently pursue disparate pilot projects or isolated digital initiatives, which, while valuable, lack the scale, integration, and governance required to generate systemic impact. A comprehensive national framework helps bridge the emerging disparity between advanced and emerging nations, ensuring that all key enablers are addressed in tandem.

This chapter introduces JICA's AI Framework - a unified approach based on the experience of multiple engagements across nations, designed to help countries build AI ecosystems that are inclusive, future-ready, and aligned with national development goals.

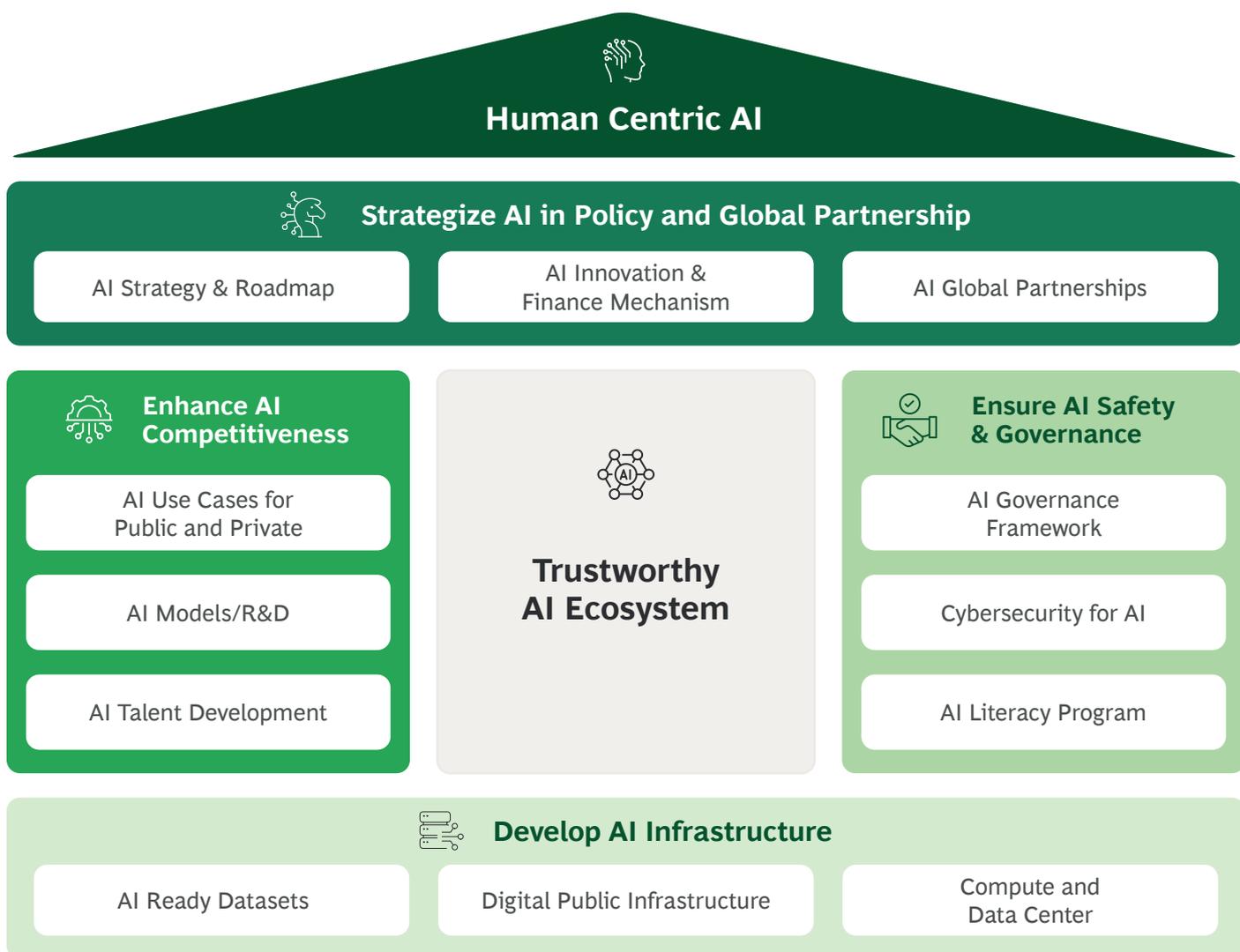
JICA's AI Framework: JICA has formulated a structured co-operation framework built on five key pillars to help partner countries systematically develop AI for inclusive and sustainable development. The five pillars are:

- 1. AI in Policy and Global Partnership:** Formulating national AI strategies and roadmaps, while aligning with international best practices and national priorities. This pillar ensures that countries have a clear vision and phased plan for AI adoption.
- 2. AI Competitiveness:** Strengthening AI competitiveness through the development of high-impact AI 'Use cases' in priority sectors and 'Foundational AI models'. The aim is to apply AI to local problems and build indigenous AI solutions that give countries a competitive edge.
- 3. AI Enablers:** Developing the enablers for an AI ecosystem, notably human capacity (AI talent and literacy) and financing (startups and ecosystem support).
- 4. AI Infrastructure:** Establishing the necessary data and technology foundations—"AI-ready datasets",

data exchange platforms, and adequate "Compute Resources" (cloud and high power compute infrastructure). Without data and compute, AI initiatives cannot scale.

- 5. AI Safety and Governance:** Ensuring AI governance and security through frameworks for ethical AI, regulations, and technical safeguards. This pillar addresses the risks of AI, ensuring that its development and use are safe, trustworthy, and aligned with societal values.

These pillars reflect not just global best practices but JICA's practical experience supporting digital development in partner countries - including its work in Indonesia, Vietnam, Egypt, and India. The framework is intended as a guide for decision makers to evaluate gaps, prioritise initiatives, and build a cohesive, country-specific AI strategy. In the following sections, we detail each pillar, lay out the key questions for policymakers, underscore the key factors to consider, and share some case studies illustrating how countries are putting these into practice.



2.1 AI in Policy

Key questions Examined

AI STRATEGY

- 1 What national outcomes are we trying to achieve with AI?
- 2 Which sectors or societal challenges should AI address first?
- 3 What is the timeline and what target should be set for AI adoption?
- 4 Who will lead and coordinate the AI agenda?
- 5 How will we implement and update the strategy?

A well-defined AI strategy is the cornerstone of national AI efforts—it provides a clear roadmap for scaling AI interventions from pilot projects to nationwide programs. This pillar encompasses the development of a national vision, concrete goals and milestones, priority sectors, and actionable implementation plans, including governance, funding, and monitoring mechanisms. Before such a strategy can be meaningfully designed, it must be informed by a clear understanding of the country's unique influencing factors. These include its development priorities, digital maturity, talent availability, regulatory environment, and global alignment aspirations.

Development priorities shape the focus areas of a national AI strategy. Countries often focus their AI initiatives towards high-impact sectors tied to economic transformation, public service delivery, or social inclusion. Vietnam, for example, has linked its AI roadmap to national industrial upgrading and climate resilience goals.

Digital maturity reflected in the strength of a nation's Information and Communication Technology (ICT) infrastructure, data digitisation, and digital literacy, significantly impacts the feasibility and pace of AI adoption. In digitally advanced ecosystems, foundational elements like data interoperability, compute availability, and secure data-sharing frameworks accelerate AI deployment. In nations that are on the way to achieving digital maturity, initial phases of the national AI strategy must invest in building these enablers.

Local capacity and talent also play a central role. In countries with limited AI expertise, national strategies must incorporate capacity-building elements, often through

partnerships with academia and global institutions. Telangana's state government is spearheading initiatives such as the upcoming Global AI Academy under the unified Telangana AI Innovation Hub (TAIH) as well as existing programs through the Telangana Academy for Skill and Knowledge (TASK) aimed at AI literacy among students, faculty, and public sector employees to build a resilient, future-ready ecosystem.

Furthermore, an enabling **Regulatory and Data governance** environment is critical to fostering trust and ensuring safe experimentation. Countries like Vietnam and Egypt have introduced data protection frameworks and sectoral AI guidelines to support responsible adoption. Finally, aligning AI ambitions with international governance norms, such as the OECD AI Principles or the G7 Hiroshima AI Process, not only builds legitimacy but also ensures interoperability in a connected global economy.

Once the ecosystem context is clear, an AI strategy must address four core design questions.

What national outcomes are we trying to achieve with AI?

Answering this question anchors the strategy in development impact for the nation. It ensures that AI is not treated as a standalone innovation initiative, but as a lever to accelerate national goals such as improved healthcare, job creation, digital inclusion, or industrial competitiveness. Defining these outcomes guides funding, policy, and governance decisions across the strategy. For example, Vietnam has framed its AI roadmap to enhance productivity and competitiveness across key industries.

What is the timeline and what target should be set for AI adoption?

Timelines and measurable targets create a sense of direction and accountability and are critical for successful execution. By articulating a vision for 5, 10, or 20 years, countries can calibrate the scale and speed of AI rollout, while building in flexibility to course correct. Indonesia's Stranas KA, for example, aligns with its centenary goals for 2045. UAE's AI Strategy 2031 was among the first to define a phased national roadmap, including AI integration in policing and transportation, with clearly defined 5-year milestones⁸.

Who will lead and coordinate the AI agenda?

Governance is central to execution. Without clear institutional ownership, AI programmes may become fragmented or stalled. This question defines the leadership structure, whether through a national AI task force, a dedicated agency, or cross-ministerial secretariats. It also clarifies roles for the private sector, academia, and development partners. For example, Saudi Arabia has established the Saudi Data and AI

Authority (SDAIA) as a central body to steer AI programmes aligned with its Vision 2030⁹.

How will we implement and update the strategy?

Execution requires more than a plan; it needs a delivery mechanism that links strategy to action. This includes defining how pilots will be launched, scaled, and funded, how feedback will be incorporated, and how the strategy itself will evolve with technology to ensure that AI adoption is not static but adaptive. For example, Egypt integrated AI pilots within the existing digital transformation schemes of the respective ministries.

Structured and prioritised AI strategies serve as a north star for stakeholders including public agencies, academia, and private sector alike, clarifying roles, unifying efforts, and ensuring consistent progress. A strategy must be treated as a living document, requiring regular review and adaptive management in response to technological advances and national needs.

2.2 AI Competitiveness

Key questions Examined



MODELS

- 1 Should AI strategy prioritize local foundational models or adapt global ones?
- 2 Should governments directly invest in foundational AI or should they focus on enabling private sector R&D?



APPLICATIONS

- 3 Which sectors and use cases should be prioritized based on national needs?
- 4 What institutional mechanisms support the identification, development, and deployment of high-impact use cases?
- 5 How to ensure AI use cases move from successful pilots to sustained, scaled deployments?
- 6 How can governments involve citizens, innovators, and public institutions in the AI journey?

8. 'We the UAE 2031' vision | The Official Platform of the UAE Government

9. SDAIA | SDAIA and Vision 2030

Countries that achieve 'AI Competitiveness' can develop and deploy AI solutions that generate economic value, address local challenges, and potentially compete globally. This pillar covers both the creation of AI technology, such as foundational models and intellectual property, and the widespread application of AI across priority sectors.

AI Models (Foundational AI Technology and IP)

Are local institutions developing their own AI models, algorithms, or software that are innovative? This includes AI research breakthroughs and foundational models such as Large Language Models (LLMs), computer vision systems, or multimodal AI which can form the basis for multiple downstream applications. Countries that develop AI Intellectual Property (IP), tailored to their local context such as state-of-the-art speech recognition for regional languages or tools optimised for specific domestic industries, can better address national priorities and societal needs. For instance, Singapore's AI research body developed "SEA-LION," a family of LLMs for Southeast Asian languages, to bridge a gap not covered by large global models¹⁰.

Building such models requires a careful evaluation of underlying enablers. Adequate access to compute infrastructure and high-quality datasets is crucial. Countries like India have responded to this need through initiatives like the IndiaAI Compute Pillar, provisioning over 38,000 GPUs to support large-scale model training. Vietnam has taken a more distributed approach, piloting cloud credits and regional academic compute centres to enable broader experimentation.

Equally important is the strength of the domestic research ecosystem. In emerging ecosystems like Indonesia and Egypt, early-stage efforts are centred around building AI labs in universities and nurturing applied research teams. Moreover, competitiveness in foundational models does not mean isolation. Strategic international collaborations, whether through bilateral academic partnerships, development agency support, or open-source contributions, can accelerate progress.

Once these enabling factors are understood and strengthened, countries must make deliberate choices around foundational AI investments. A critical question is - should the national AI strategy prioritise the development of indigenous foundational models or focus more on leveraging and adapting global models for local needs? India's hybrid model illustrates a practical path, developing LLMs like BharatGPT (for general-purpose language tasks in Indian contexts) and Bhashini (for real-time speech translation and language accessibility), while

leveraging open-source models like LLaMA (for rapid deployment and customisation in specific use cases).

Equally important is the role of private entities in model development. Should governments directly invest in foundational AI, or should they focus on enabling private sector R&D through grants, infrastructure, and partnerships? Sahabat-AI, Indonesia's Bahasa-language LLM, was developed through a public-private partnership among Kominfo (Ministry of Communication and Informatics), GoTo, and Indosat, leveraging the SEA-LION open-source foundation. This initiative exemplified collaboration wherein the government provided strategic oversight and public infrastructure while private tech firms contributed compute resources, data access, and model development expertise, ensuring the model was contextually relevant and scalable.

AI Applications

While foundational models are crucial for long-term capability, national AI competitiveness also depends on how well AI is applied across sectors to deliver impact. This includes identifying high-potential use cases, building sector-specific solutions, and ensuring their widespread adoption in both public and private spheres. Competitive nations have numerous high-impact AI use cases in areas like healthcare (e.g., diagnostic systems), agriculture (precision farming), finance (fraud detection), manufacturing (smart automation), education (personalised learning), and public services (intelligent chatbots, traffic management).

The ability to deploy AI in these sectors, however, is not just a function of strategy, it is shaped by several contextual factors. Data availability and sectoral digitisation play a foundational role. Use cases supported by clean, structured, and accessible data scale faster and deliver higher-quality outputs. Vietnam's flood early warning system is a case in point; it was enabled by pre-existing satellite and environmental data and institutional coordination with local governments.

Sustainability is another key consideration. Many AI pilots remain just pilots because they lack post-deployment roadmap (maintenance, budgeting, and tuning of models). Long-term competitiveness depends on embedding AI solutions within operational workflows and service delivery models. This requires the training of frontline staff, stakeholder buy-in, and clear ownership structures.

The Regulatory Environment, particularly around procurement, also influences whether AI solutions can be scaled. If public procurement mechanisms are rigid or slow, innovations often stall.

¹⁰. SEA-LION | Empowering Open Multilingual AI for Southeast Asia

Furthermore, Ecosystem Coordination plays an essential role. Competitiveness requires multi-stakeholder collaboration among ministries, the industry, academia, and civil society. Indonesia's national AI roadmap incorporates cross-sector working groups to oversee implementation and scale-up. This helps ensure that promising AI use cases work in tandem with broader digital transformation efforts.

Once these enabling factors are addressed, countries must ask a series of strategic design questions. First, which sectors and use cases should be prioritised based on national needs? Prioritisation ensures resources are directed where they can create maximum impact. Egypt, with JICA's support, used a structured evaluation process to identify healthcare and energy as strategic focus areas. The decision was based on public service need, readiness of data infrastructure, and alignment with national development goals. Similarly, Saudi Arabia has prioritised AI for smart city management¹¹ and water resource optimisation¹².

The next question is what institutional mechanisms support the identification, development, and deployment of high-impact use cases? Without structured ownership and coordination, initiatives can become fragmented. Telangana AI Rising Grand Challenge offers an instructive example—it systematically crowdsources real-world problem statements from departments, shares curated datasets with startups, and supports funded pilots under the supervision of the Emerging Technologies Wing of the

Department of IT, E&C of the Government of Telangana. In April 2025 alone, over 240 startups submitted 420+ approach notes for potential AI solutions such as lung disease detection from X-rays, a Telugu and English conversant MSME chatbot for scheme access, and demand forecasting for bus routes, with several now progressing to pilot stage with respective state departments.

A further design question is how to ensure that AI use cases progress from successful pilots to sustained, scaled deployments? This involves planning for operational continuity, securing long-term funding, and integrating AI outputs into existing systems. For example, Vietnam is creating sector-specific playbooks to standardise the scale-up process. Similarly, Dubai's AI Lab supports the institutional scale-up of pilots through testbed frameworks embedded within government departments¹³.

Lastly, the question of community engagement must be addressed. How can governments involve citizens, innovators, and public institutions in the AI journey? Engagement fosters trust, ensures relevance, and enhances adoption. For example, Egypt's co-creation initiative with public hospitals involved medical practitioners and administrators in the design of an AI-powered smart diagnosis solution for the early detection of non-communicable diseases. This engagement ensured alignment with on-ground needs and institutional buy-in. In Singapore, the government engages communities through its Digital Readiness programme and host national AI dialogues to co-create inclusive services¹⁴.

11. SDAIA Supports Saudi Arabia's Smart Cities Transformation, Contributing to the Rise of 5 Saudi Cities in 2024 IMD Smart Cities Index | Saudi Press Agency

12. Water wise: Innovations securing Saudi Arabia's water future | King Abdullah University of Science and Technology

13. Artificial Intelligence Strategy Dubai | AI Lab | Digital Dubai

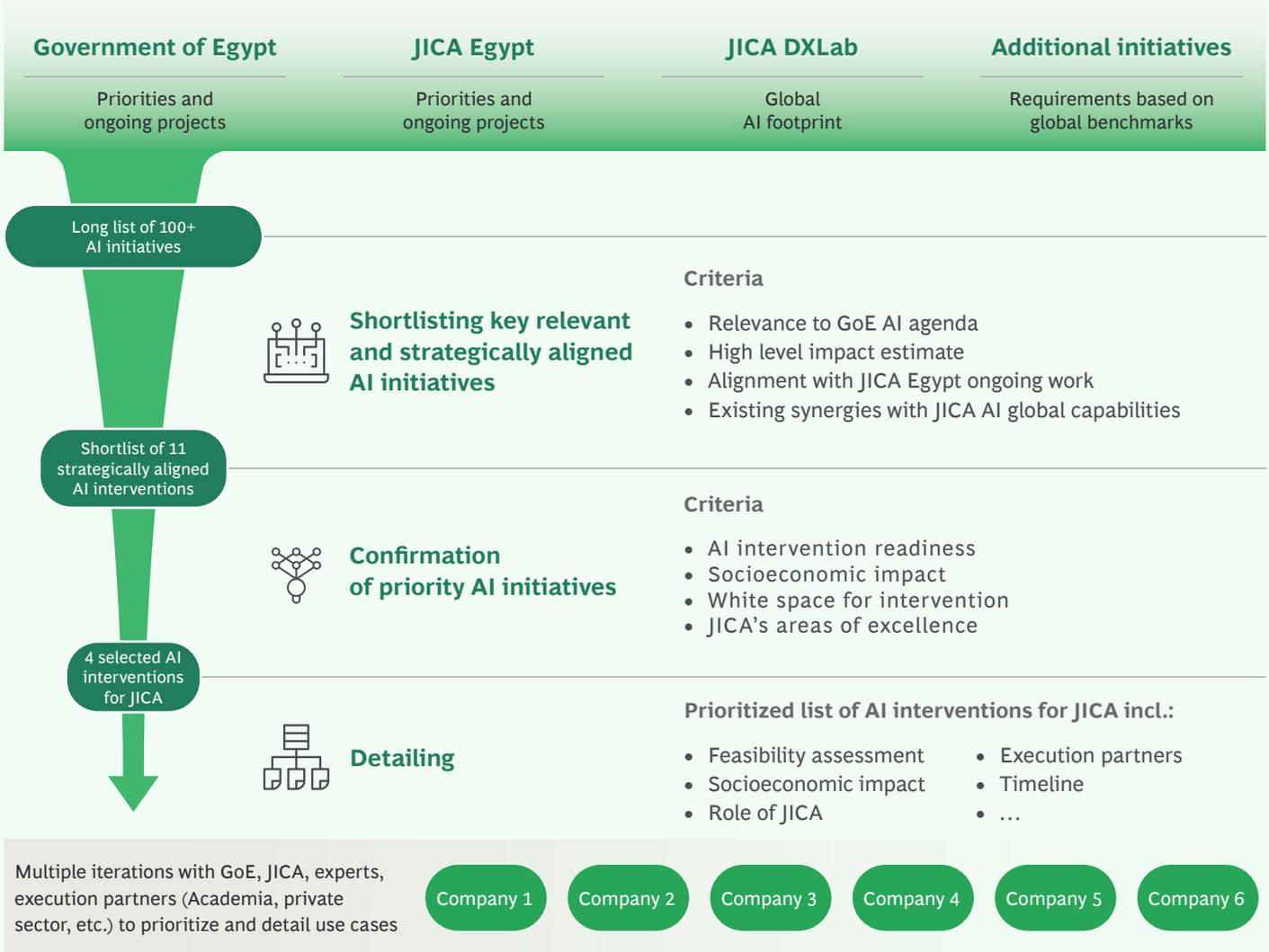
14. Digital Readiness | IMDA

Egypt: Prioritising High-Impact Use Cases

Egypt's AI Strategy (2019) offered a vision and needed an execution roadmap as its next step. In 2024, the Ministry of Communication and Information Technology (MCIT) partnered with JICA to identify high-impact AI use cases aligned with national priorities. From an initial longlist of

100+ use cases across multiple sectors, a multi-criteria framework was applied evaluating social impact, feasibility, and strategic alignment. This led to a shortlist of several high-potential projects, with four selected for pilot.

A collaborative and iterative process guided the selection of the key strategic interventions for JICA in Egypt



- **Smart Diagnosis & Early Detection (Healthcare):** AI-based radiology tools to detect cancer and cardiovascular risks in public hospitals.
- **Energy Grid Efficiency (Energy):** AI-powered demand forecasting and anomaly detection to optimise load and reduce loss.
- **AI Sandbox (Governance):** A platform for controlled testing of AI solutions in regulated environments.
- **Multidisciplinary AI Hub (Capacity):** Central hub for talent, compute, and research to support cross-sectoral innovation.

These initiatives were supported by JICA's feasibility studies, stakeholder consultations, and roadmap development. The Smart Diagnosis use case was prioritised for 2025 pilot implementation, supported by feasibility assessments, alignment with Egypt's Digital Transformation Strategy, and early buy-in from implementing ministries. This case exemplifies how targeted support, backed by structured evaluation and international expertise, can convert strategic ambitions into scalable national programmes.

2.3 AI Enablers

Key questions Examined



SKILLING

- 1 At what levels should skilling interventions be targeted, higher education, vocational training, or public sector capacity?
- 2 How can governments ensure that AI training leads to real employment and innovation outcomes?
- 3 How do we prevent brain drain and retain skilled AI talent?
- 4 How can government and industry collaborate in training?



FINANCING

- 5 At what stage and in which sectors should government interventions be targeted?
- 6 What are the major gaps that need to be addressed?
- 7 What role should the government and private sector play?

The success of any national AI strategy hinges on the availability of enabling resources—a skilled workforce to develop and apply AI technologies and financial support to translate innovations into impact. This pillar addresses these two foundational enablers: Skilling and Financing.

Skilling (AI Talent and Literacy)

Developing AI talent is essential across all layers of the ecosystem, from deep research in AI models and algorithms to applied knowledge among public servants, sector professionals, and policymakers. The success of skilling programmes depends on several enabling conditions.

First, **Workforce Readiness** is a key factor. Nations with large Science, Technology, Engineering, and Mathematics (STEM) graduate pools, such as India and Vietnam, have a natural advantage in scaling AI education quickly. Others may first need to strengthen foundational digital literacy before introducing advanced AI modules. Access to skilled

faculty, updated curricula, and AI-specific courseware determines the depth and speed of delivery.

Second, **Geographic Inclusion** matters. Skilling initiatives are often concentrated in capital cities or elite institutions, leaving rural or underrepresented communities behind. Governments need to consciously expand training networks into tier-2 and tier-3 cities to ensure equity. India's FutureSkills and Egypt's Digital Egypt Generations are examples of deliberate inclusion-focused strategies.

Third, **Training Infrastructure** must be in place, from computing labs and cloud access to digital platforms for online learning. JICA's support in Vietnam, for instance, includes curriculum development, ensuring that teaching capacity grows alongside student interest.

Once these foundations layers are in place, countries must focus on the following questions to design effective skilling strategies.

At what levels should skilling interventions be targeted - higher education, vocational training, or public sector capacity?

This question helps determine the reach and structure of a national skilling plan. Addressing only one level can lead to bottlenecks; a truly resilient ecosystem must span multiple layers. Vietnam is embedding AI courses at undergraduate and postgraduate levels while also upskilling working professionals through its National Innovation Centre. Similarly, Egypt complements higher education with executive training for ministry officials, enabling AI awareness among policymakers.

How can governments ensure that AI training leads to real employment and innovation outcomes?

Governments need to evaluate whether they aim to simply offer learning opportunities or want to build a full talent-to-employment pipeline. Singapore's TechSkills Accelerator

(TeSA) aligns national training programmes with industry needs through government and industry co-funded internships and placement support¹⁵. Germany's High-Tech Strategy ensures research-to-industry pipelines with dedicated AI innovation clusters tied to vocational training ecosystems¹⁶.

How can government and industry collaborate in training?

Effective AI skilling requires collaboration between the academia and industry to ensure relevance. Telangana's skilling model under the Emerging Technologies Wing and TASK, both sister entities under the State Dept. of ITE&C, includes direct partnerships with Nvidia, Microsoft, SAP, and IBM, where tech companies contribute industry-aligned content, training modules, and certifications, while the state enables access through public institutions, bridging technical content with employability and enabling workforce readiness.

Vietnam – Building Talent for AI Competitiveness

Vietnam's 2021 National AI Strategy set ambitious human resource targets—train 50,000 AI practitioners and rank among the top four ASEAN nations in AI readiness by 2030. To realise this, the Ministry of Planning and Investment (MPI), through the National Innovation Centre (NIC), partnered with JICA in 2024 to develop a national action plan for talent development.

JICA supported a landscape analysis which identified critical bottlenecks in advanced AI expertise, faculty development, and access to computing infrastructure. Based on this, the NIC launched:



AI curriculum reforms

(e.g., Hanoi University of Science and Technology), embedding AI majors and offering AI electives across engineering and business schools



Talent exchange programs

Programs enabling Vietnamese postgraduates to collaborate with Japanese research labs and vice versa



AI bootcamps and short courses

AI bootcamps and short courses, co-delivered with Big Tech, to train working professionals



Mentor and internship network

Mentor and internship network, placing trainees in AI startups supported by NIC's incubator

JICA's contribution included expert advisory on curriculum design, benchmarking against Japanese AI programmes, and strategic planning for Vietnam's AI Talent Development Programme. As of 2025, over 1,700 university students and 500 working professionals have completed AI certifications under this initiative. This integrated model—combining education, exposure, and employment pathways—offers a replicable template for other emerging economies.

15. TechSkills Accelerator (TeSA) | IMDA

16. High-Tech Agenda Germany

Financing (Startup and Ecosystem Support)

Building an AI ecosystem requires financial investment—not just an initial one-time investment, but sustained funding mechanisms. Financing needs span research funding, startup capital, funding for pilot projects in government, and even incentives for AI adoption in traditional industries. This pillar examines how governments and partners can ensure money is available at the right time for AI initiatives.

Multiple factors are considered in shaping how financing and support initiatives should be designed. While country specific context and the maturity of the investor ecosystem will inevitably influence initiatives, it is imperative to conduct a focused analysis, both qualitative and quantitative, to identify the existing needs of the startup financing and supporting ecosystem. This will help in identifying nuanced needs, some of which may be more systemic in nature and beyond just investments. Programmes targeting such ecosystem needs, for example—a ‘Fund of Fund’—which may prioritise specific sectors or global accelerator partnerships for market access, can help shape impactful initiatives.

Programme design and sustainability is another critical determinant. A transparent selection criteria, milestone-based disbursement, and strong post-funding support are essential to ensure effectiveness. For example, JICA-supported accelerators in Vietnam have paired capital with mentorship, increasing the success rate of funded pilots. Once these enabling conditions are in place, governments must address the following questions.

At what stage and in which sectors should government interventions be targeted?

This question is foundational in determining how public resources are allocated. Many sectors critical to public welfare, such as healthcare, education, and agriculture, struggle to attract commercial capital due to unclear

revenue models. In such cases, government-led funding is essential to unlock innovation. Egypt and Indonesia, for example, have created public programmes that support AI innovation in agri-tech and primary healthcare, domains that are crucial to inclusive development.

What are the major gaps that need to be addressed?

Identifying the right gap is just as important as allocating capital. Many ecosystems suffer from a ‘valley of death’ - a critical funding gap between early-stage support and achieving product-market fit. Similarly, startups outside major cities remain underfunded due to lack of monitoring and governance challenges and perceived lack of talent. Implementing initiatives which address such identified challenges of the ecosystem lays the foundation for scalable, high-impact startup activity. For example, In Telangana, the RevvUp accelerator, supported by the Telangana AI Mission (JV of Govt. of Telangana and NASSCOM AI) as well as MATH-ML/AI CoE of T-Hub (JV of T-Hub and Department of Science & Technology, Government of India), provide mentorship and funding support to growth-stage startups with regionally focused solutions. Singapore’s Startup SG Equity scheme addresses this “missing middle” by co-investing in seed-to-Series A startups, ensuring capital continuity across growth stages.

What role should the government and private sector play?

Clarifying roles between the public and private sector ensures financing programmes are not redundant or misaligned. Public funds can be used to de-risk early innovation through matched grants, subsidised loans, or guarantees. Vietnam’s Fast Track Pitch programme, for example, invites startups to solve national challenges while offering both seed capital and technical mentorship. These co-investment models allow private capital to operate within a guided innovation framework, aligning commercial return with policy outcomes. The UAE’s Mohammed Bin Rashid Innovation Fund provides government-backed loans with built-in risk guarantees, encouraging banks and VCs to invest in early-stage AI startups.

2.4 AI Infrastructure

Key questions Examined



DATA

- 1 Which high-value datasets should be made available for AI applications?
- 2 What should be the approach: centralized repository or federated architecture?
- 3 What legal and policy frameworks are needed to enable secure and ethical data sharing?
- 4 How can data owners be encouraged to share data and ensure sufficient data availability?



COMPUTE

- 5 What is our compute requirement for current and future AI needs?
- 6 Should compute infrastructure be provisioned through a centralized facility, network of providers, or a hybrid model?
- 7 Should compute capabilities be sourced domestically or through global providers?
- 8 How can compute access be democratized across institutions and geographies?
- 9 How will compute infrastructure be financed and maintained?

Reliable data and computing infrastructure are essential for enabling the development and scale-up of AI across sectors. In the absence of well-curated datasets or accessible compute capacity, even the most skilled talent and ambitious strategies will be constrained. This pillar addresses the two technical foundations that support AI ecosystems: Data Infrastructure and Compute Infrastructure.

Data Infrastructure

Data is the fuel that powers AI. Robust data infrastructure enables access to high-quality, diverse, and AI-ready datasets across sectors. It includes not only the datasets themselves, but also the platforms, governance

frameworks, and protocols to make data discoverable, secure, and usable by innovators.

Several factors influence the robustness of a nation's data infrastructure. Countries with ongoing **Digital Governance** programmes, such as digital ID or electronic health records, have a head start, as structured data already exists across departments. However, institutional readiness is equally important. Agencies must have the capability to clean, tag, and maintain data over time. Egypt's metadata standardisation process, supported by JICA, exemplifies how foundational work in data management underpins AI-readiness. In this context, governments must make several strategic decisions and answer the relevant questions. These include:

Which high-value datasets should be made available for AI applications?

This question determines the focus areas. Prioritising datasets based on national development goals, such as climate, healthcare, or agriculture, ensures alignment between data availability and AI deployment. Vietnam, for instance, is opening up agriculture and urban datasets aligned with its AI roadmap. Egypt is integrating diagnostic health data to support radiology-focused AI applications.

What should be the approach, centralised repository or federated architecture?

This is a core design decision. Centralised repositories enable ease of access and control, while federated systems can better preserve privacy and departmental autonomy. India's AIKosh platform offers a hybrid mode – contributors can either store data on the platform or make it accessible via APIs. Indonesia is piloting a federated government data catalogue under its Satu Data policy.

What legal and policy frameworks are needed to enable secure and ethical data sharing?

Clear privacy, consent, and anonymisation protocols are vital for building trust. Vietnam is introducing personal data protection rules to guide AI development. Telangana's TGDEx integrates consent-based access controls, developed in consultation with the state government and its partners, ensuring that data sharing remains compliant with evolving norms.

How can data owners be encouraged to share data and ensure sufficient data availability?

Encouraging data sharing often requires both top-down mandates and a clear articulation of value to data owners. When departments see a clear use case or benefit (e.g., better service delivery, visibility, or efficiency), they are more likely to contribute data. In Telangana, for instance, senior government leadership adopted a top-down approach to ensure departmental participation in the AI Sandbox initiative. This included direct engagement with line departments to demonstrate the platform's strategic value and alignment with their own operational goals. As a result, data from platforms like Open Data Telangana (ODT) and Agriculture Data Exchange (ADeX) was consolidated, alongside high-value datasets directly contributed by multiple departments.

Compute Infrastructure

Advanced computing capabilities are vital for AI experimentation, training, and deployment. Compute infrastructure includes High-Performance Computing (HPC) clusters, cloud environments, and edge computing facilities. Several key factors shape compute infrastructure readiness.

First, **energy and connectivity** must be reliable. High-performance compute environments are power and cooling intensive. Security and compliance are also critical. AI applications, especially in public services, must adhere to national cybersecurity standards and sectoral regulations. Additionally, platforms must provide user support, especially for first-time adopters or smaller institutions. Telangana's TGDEx AI Sandbox, for example, integrates user helpdesks and access protocols to ensure equitable access. With these in place, governments should address the following questions:

Should compute infrastructure be provisioned through a centralised facility, network of providers, or a hybrid model?

Geographic and operational needs drive this decision. Centralised clusters offer control and scale but may limit access in remote regions. Distributed nodes promote inclusion but can be harder to manage. Vietnam is adopting a hybrid model, combining a national AI compute backbone with regional access points. South Korea's National Supercomputing Center, manages high-performance compute resources and coordinates national-level services, including collaboration on disaster response and AI-based data systems, to enhance scalability and resilience across scientific and industrial computing needs¹⁸.

How can compute access be democratised across institutions and geographies?

Access must extend beyond elite institutions. Subsidies, compute credits, and regional portals are essential. The IndiaAI compute pillar, offering subsidised compute through its compute portal, is an example of how to extend resources to the AI community.

How will compute infrastructure be financed and maintained?

Financing models must consider capital costs and ongoing operational needs. Options include public-private co-investment, subscription models, or pay-per-use pricing. Egypt is exploring subscription-based cloud access¹⁹ while Indonesia is piloting community-managed green compute hubs to lower long-term costs.

18. Div. of National Supercomputing | R&D Services | KISTI

19. Ministry of Communications and Information Technology | Egypt

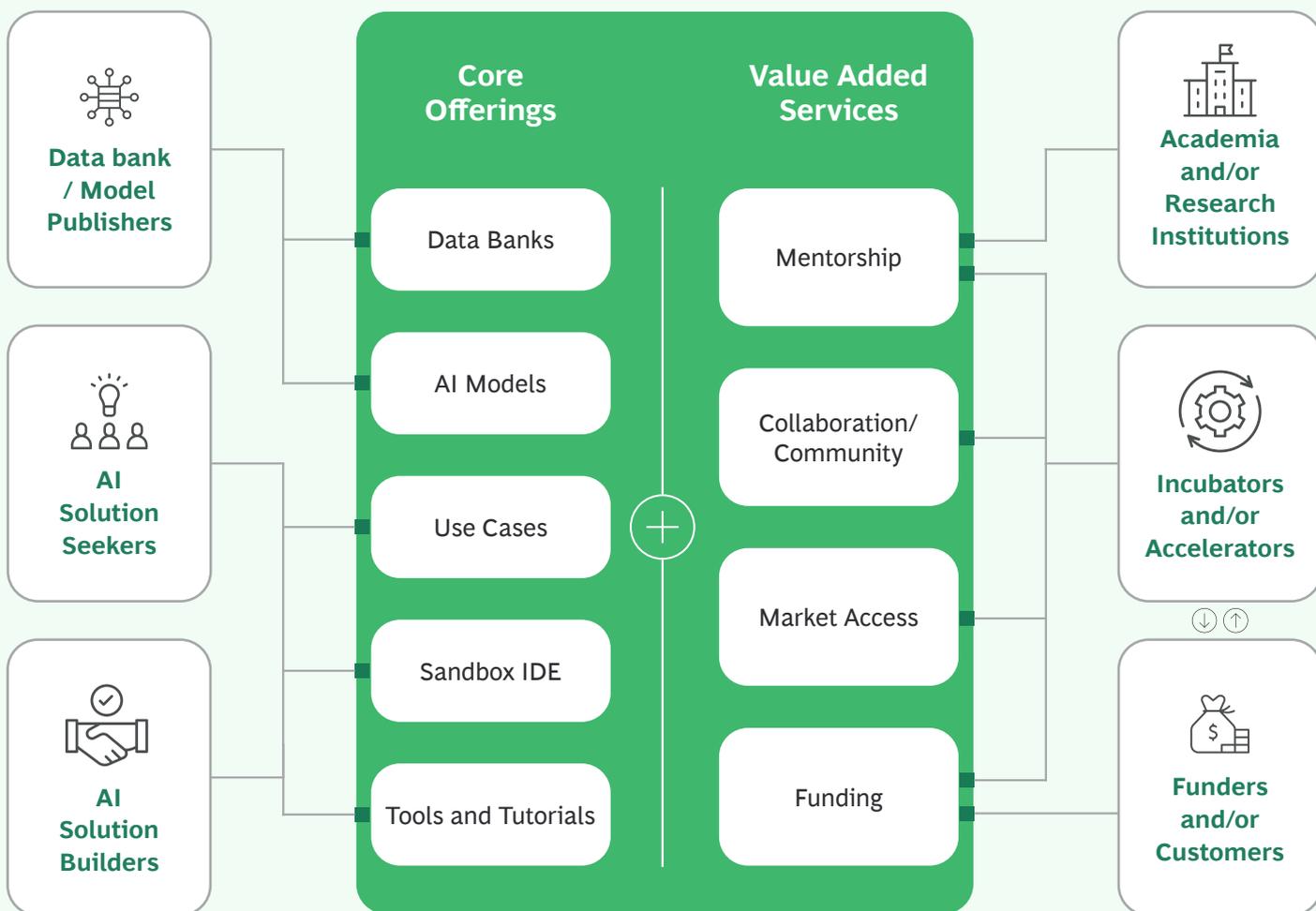
Telangana Data Exchange (TGDeX): India's first State-led DPI for AI

Telangana's AI infrastructure strategy illustrates how a state government can lead in operationalizing national AI goals. The state's TGDeX is an integrated asset that has both a Data Exchange as well as an AI Sandbox IDE. Through this approach the state is building scalable, inclusive, and governance-aligned infrastructure to support AI development across public and private sectors.

TGDeX, developed in partnership with JICA, serves as a state-level digital public infrastructure platform to support AI-led innovation. It offers de-identified, metadata-tagged datasets across multiple domains such as health, transportation, and agriculture. Role-based access, built-in

privacy safeguards, and API integrations allow innovators, including startups and universities, to explore real-world data while maintaining compliance with India's Digital Personal Data Protection Act.

The AI Sandbox IDE within TGDeX provides GPU-backed compute access and a secure development environment for prototyping AI solutions. It supports structured innovation challenges where public departments share problem statements and datasets with solution builders. Together, these features within the platform have enabled rapid pilot testing and fostered inter-departmental collaboration.



2.5 AI Safety and Governance: Responsible AI

Key questions Examined



RESPONSIBLE AI

- 1 Do we need new AI-specific laws, or can existing ones be adapted?
- 2 How should Responsible AI be enforced, through hard law, soft law, or co-regulation?
- 3 How can national AI frameworks align with global norms and incorporate local priorities and nuances?
- 4 Should tools for AI safety, explainability, and fairness be developed in-house or sourced from the wider ecosystem (startups, academia, open source)?

The final, but increasingly indispensable pillar of a national AI strategy is Responsible AI. As governments and societies begin to adopt AI more broadly, the need to build trust, ensure safety, and align AI with societal values becomes paramount. This pillar addresses both the governance (laws, principles, institutions) and the technical safeguards (explainability, security, risk mitigation) necessary to deploy AI responsibly.

Inadequate attention to this pillar can stall adoption, lead to backlash from civil society, or expose users to unintended harm. Responsible AI frameworks help ensure that the rollout of AI is fair, safe, transparent, and accountable. Here are some of the key elements of Responsible AI:

1. Ethical Frameworks and Principles: Most countries start by defining a national set of AI ethics principles, often grounded in international norms such as the OECD AI Principles or UNESCO's AI Ethics Recommendation. These principles typically include fairness, accountability, transparency, human oversight, and privacy. For example, Japan's Social Principles of Human-Centric AI emphasise inclusivity and dignity and have been shared across many of JICA's partnerships. Egypt developed an ethics charter as part of its AI strategy to embed these values early in policy discourse while Indonesia is working on national principles to encourage public trust. Such frameworks set the tone for national AI agendas.

2. Regulations and Guidelines: While ethical frameworks are foundational, implementation requires regulatory action. In this regard, countries have taken

different approaches - some integrate AI into existing data protection or consumer laws while others, like the European Union (EU), pursue dedicated AI legislation (e.g., the AI Act). Vietnam, through its Ministry of Justice and NIC, is studying the implications of OECD and GPAI frameworks as it drafts soft regulatory guidance tailored to national needs.

3. Institutional Governance: A critical challenge is determining who governs AI. Should it be a new regulatory body, an inter-ministerial committee, or should existing regulators (e.g., data protection agencies or telecom regulators) be given additional mandates? Egypt created a multi-stakeholder AI Council to coordinate ethics and policy efforts. Indonesia is considering such a body to consolidate oversight that is currently fragmented across Kominfo, BRIN, and other agencies. As models evolve, a common trend is the creation of multi-stakeholder advisory groups, bringing together the government, academia, private sector, and civil society to ensure balanced AI oversight.

4. AI Safety and Technical Measures: Responsible AI requires operational tools—frameworks for bias testing, explainability, auditability, and robustness of AI models. Especially in public-sector use, governments must demand high safety standards. India, under its Safe and Trusted AI mission pillar, is piloting indigenous tools for algorithmic audits and explainability reporting. Indonesia is integrating cybersecurity standards into smart city pilots to ensure resilience.

With these foundational elements in place, governments must navigate several strategic questions.

Do we need new AI-specific laws, or can existing ones be adapted?

Some countries, like Egypt, are reviewing existing ICT and consumer protection laws to incorporate AI-specific clauses. A hybrid approach is common—short-term reliance on existing instruments and soft guidance (e.g., procurement norms, sectoral codes) while long-term reforms build towards comprehensive AI regulation. Japan is integrating AI risk management into its existing digital governance framework. Singapore has adopted the Model AI Governance Framework as non-binding guidance with sector-specific adaptations.

How should Responsible AI be enforced, through hard law, soft law, or co-regulation?

This strategic choice impacts flexibility and enforceability. A purely regulatory model may stifle innovation, while a purely voluntary model may lack accountability. Vietnam is taking a soft law approach initially, issuing non-binding guidance, while assessing capacity for formal regulation. Japan, through JICA and the Hiroshima AI Process, is actively supporting training workshops across developing countries to build this capability. Indonesia has expressed interest in strengthening internal capacity to oversee smart city and public service deployments.

How can national AI frameworks align with global norms and incorporate local priorities and nuances?

Engagement in international efforts like GPAI, OECD, and the Hiroshima AI Process helps align policy with global standards. At the same time, countries must ensure that frameworks reflect local realities—such as linguistic diversity in India or religious and cultural sensitivities in Egypt. Co-designing national principles with civil society and academia helps strike this balance.

Should tools for AI safety, explainability, and fairness be developed in-house or sourced from the wider ecosystem (startups, academia, open source)? Most countries are adopting a hybrid model. Egypt's AI hub will host curated global toolkits initially while building local capabilities. India's Safe and Trusted AI pillar takes this further by supporting thirteen R&D projects led by IITs and startups to build indigenous tools for bias mitigation, explainability, privacy, AI auditing, deepfake detection, watermarking, and ethics frameworks.

Responsible AI is no longer optional, it is foundational. JICA, through its alignment with Japan's human-centric AI principles and Hiroshima Process, continues to support countries in crafting locally relevant, globally aligned frameworks for trustworthy AI.



Image generated by AI

CHAPTER 3

Practical Takeaways from Driving National AI Programmes

This chapter moves from “what” to “how,” showing stakeholders - how to translate national AI strategies into real-world programmes. The outlined imperatives, informed by real-world experience in implementing national AI initiatives, serve as essential guidance across the national AI programme, agnostic to any particular initiative. Drawing on insights from JICA's engagements—ranging from Egypt's AI rollout to the IndiaAI mission—this chapter introduces a "Preparation-Execution-Sustenance" framework, capturing key lessons from driving national AI programmes.

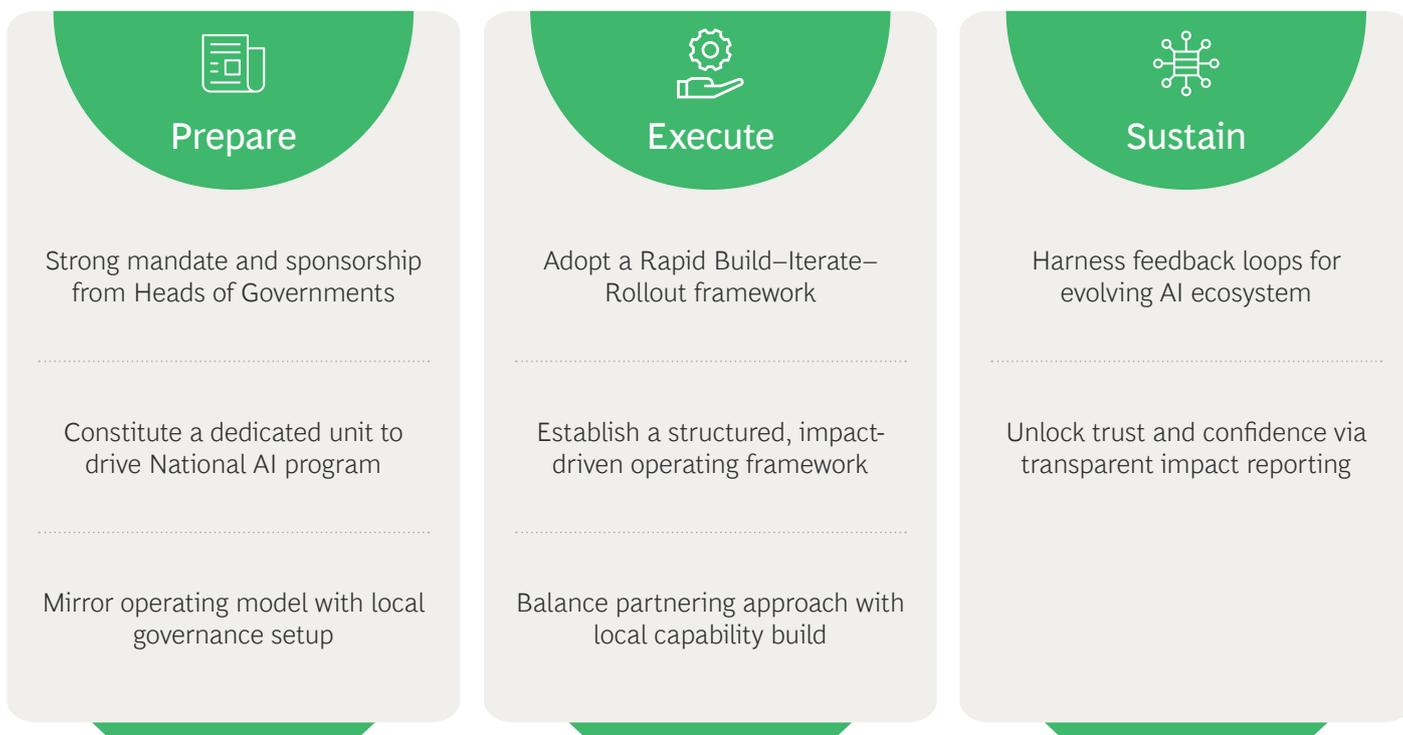
Preparation

1. Strong mandate and sponsorship from head of Governments

Securing the active endorsement of a head-of-state or Prime Ministerial Office (PMO) elevates the national AI agenda from a collection of pilots to a government-wide transformation. This top-down support empowers the mission to cut through inter-ministerial silos, fast-track regulatory approvals, and signal to private-sector partners that AI is a national priority. A clearly defined sponsorship charter, announced at Cabinet or PMO level, also clarifies accountability.

EXHIBIT 2

Key learnings from driving national AI programmes across the ‘prepare, execute and sustain’ stages



2. Constitute a dedicated unit to drive National AI program

Without a dedicated steering mechanism, well-meaning AI pilots risk becoming “one-off” proofs-of-concept that never scale. A central task force—staffed by senior representatives from key government departments, data-protection bodies, and private-sector liaisons—serves as the nerve centre for the entire national AI programme. To ground technical discussions in policy realities, the recommended task force may operate under published terms of reference that spell out decision rights, meeting cadences, and escalation protocols. By regularly reporting into the PMO (or equivalent), this group can keep AI squarely on the national agenda, resolving resource conflicts swiftly and ensuring that each ministry and stakeholder’s AI activity ties back to the overarching strategy, thereby preventing diluted efforts and resource drain.

3. Mirror operating model with local governance setup

Choosing from a centralised AI authority, federated structure, or a hybrid approach shapes every downstream decision—from who defines the key execution mechanisms to who owns the resources and who makes the key

decisions. Either of the choices has its own merits and demerits, for example, a centralised body can enforce uniform model-validation standards (such as bias thresholds and adversarial-testing requirements), but risks bureaucratic slowdown. A federated model lets individual ministries (or equivalent) set up specialised AI labs quickly, yet can hinder data-governance consistency. Some countries also select a hybrid model, customised to their local context. In such cases, a National AI Mission Office issues frameworks like ethical-AI and data-protection rules while sectoral AI councils (e.g., Agri-AI, Health-AI) or state specific AI programmes adapt those rules to their initiatives.

Execution

4. Adopt a Rapid Build-Iterate-Rollout framework

AI systems must evolve alongside shifting data patterns, user needs, and technical evolutions. A “sandbox-first” approach is suggested across pillars, where a minimal viable product is built and executed in controlled environments – this enables teams to validate design choices (e.g., platform architectures, data-labeling schemas, and inference thresholds) before allocating large-scale resources. Once validated, solutions are rolled out

incrementally - begin with small pilot cohorts, monitor real-time performance metrics (e.g., accuracy, latency, user engagement), gather feedback, and refine the way forward. This rapid cycle shrinks the time between ideation and impact, reducing the risk of large-scale failures, and ensures that each iteration embeds lessons learned, shortening path to scalable, high-confidence deployments.

5. Establish a structured, impact-driven operating framework

To keep projects on track and avoid surprises around bias, security, or regulatory compliance, countries must structure clear handoffs and risk-gate checkpoints for every phase. This starts with organising cross-functional squads (e.g., data engineers, policy leads, and ethics advisors) and defining a regular cadence during which progress is measured against predefined milestones. This is critical since AI projects frequently falter when novel risks emerge mid-stream or dependencies cause delay. Key Performance Indicators (KPIs) in this framework go beyond lines of code or server-uptime, for example, they measure quality of data sets sourced, actual financial support gathered against budgeted, reduction in data-annotation bottlenecks, and startups supported and timeliness of ethical clearances. By structuring every AI initiative against these impact metrics, stakeholders ensure that each sprint delivers a tangible, measured step towards national targets.

6. Balance partnering approach with local capability build

While domestic capabilities lay the foundation for local context, global partnerships can aid National AI programmes in benchmarking with best-in-class global standards and amplifying reach. Governments may engage with global AI labs and/or partner with multilateral institutions and renowned academic institutions to import established toolkits and leverage insights from existing programmes. Recognising the need to ensure sustainable operations and reduce reliance on external actors, extensive care must be taken to ensure contracts mandate joint teams, open-source deliverables, and clear knowledge-transfer milestones. This structured approach to capability building ensures that global partnerships not only contribute technical expertise but also help foster a resilient, self-sustaining ecosystem by driving domestic skill development.

Sustain

7. Harness feedback loops for evolving the AI ecosystem

Once initiatives are live, real-time feedback from the ground is crucial in keeping AI programmes relevant and aligned with rapidly changing contexts. Whether it's a crop-health prediction tool in rural counties or an AI-driven dashboard in an urban health network, stakeholders need mechanisms such as user surveys, focus groups, and usage analytics to capture both quantitative metrics and qualitative insights. Without systematic feedback, small errors compound until solutions and even national level strategies become ineffective. Embedding feedback loops allows teams to identify issues early, adjust direction, and continually refine both the technology and its deployment strategy.

8. Unlock trust and confidence via transparent impact reporting

Sustaining progress and ensuring trust among policymakers, industry leaders, and the public requires candid communication of successes, challenges, and roadmaps. Publishing easily digestible impact reports, featuring metrics such as number of applications and models built, startups supported, data sets acquired, policies rolled out, etc., demonstrate accountability and invite constructive scrutiny. Annual or semi-annual retrospectives, co-branded by the AI programme's office and key ministries, foster inter-regional learnings by spotlighting what worked (and what didn't) across different initiatives. Public dashboards and regular updates can signal that AI is managed as a shared public resource, not a black-box experiment, cementing citizen trust and encouraging further cross-sector collaboration.

Closing Reflections

Translating national AI strategies into meaningful outcomes requires structured execution, contextual governance, and continuous iteration. As showcased through diverse global examples, success hinges on strong sponsorship, agile operating models, and inclusive partnerships. Equally important is the ability to adapt through real-time feedback and implement transparent reporting for sustained stakeholder support. The "Preparation-Execution-Sustenance" framework offers a practical blueprint to not only launch impactful AI initiatives but also sustain momentum and create inclusive, future-ready ecosystems.



CHAPTER 4

The Road Ahead for AI in the Global South

While many countries in the Global South are in the early stages of defining or refining their AI strategies, the imperative to move towards implementation is becoming increasingly urgent. This playbook has laid the groundwork by highlighting the potential of AI in advancing national development priorities, introducing a structured framework for readiness, and capturing lessons from early-stage deployments. The path forward calls for deliberate, coordinated action to translate strategies into scalable, responsible, and inclusive programmes.

As countries move from strategy to delivery, AI implementation must now transition from vision-setting to system-wide operationalisation. This next stage of work demands structured collaboration, policy alignment, and focused investment. No country can embark on this journey alone as the role of external partners is critical in sustaining long-term momentum.

4.1 Call to action

For AI to deliver on its promise, governments must move with urgency and clarity towards scaled implementation - a phase that requires coordination, accountability, and systemic support across enablers. Once a national AI strategy is in place—aligned with the country’s development

objectives and institutional context—the following imperatives become critical to operationalising it effectively. Based on the learnings from ongoing JICA projects and international best practices, we outline the key priorities for governments, development partners, research institutions, and the private sector.

Governments

- **Integrate AI into national development plans.** Ensure AI initiatives align with broader economic and social goals, embedding AI considerations into sectors like health, agriculture, and education.
- **Institutionalise AI execution.** Set up empowered national AI missions or programme offices with the mandate to coordinate implementation, monitor progress, and ensure coherence across ministries, sectors, and levels of government.
- **Create enabling policy frameworks.** Adopt forward-looking data governance norms, promote responsible AI practices, and simplify regulations for startups and experimentation.
- **Forge multilateral partnerships.** Collaborate with experienced international partners to accelerate learning, adopt proven frameworks, and localise global best practices.

Development Partners

- **Catalyse early infrastructure and ecosystem building.** Support national data repositories, compute facilities, and AI sandboxes in partnership with governments.
- **Enable financing through strategic capital support.** Mobilise capital through blending investments by offering a mix of grants, concessional funding, and co-financing mechanisms that lower risk for private players and help scale critical AI infrastructure and ecosystem-building efforts.

- **Support country strategy co-design.** Offer technical assistance, benchmarking support, and policy alignment through initiatives like the Hiroshima AI Process.

Academic and Research Institutions

- **Anchor national AI talent development.** Establish sovereign AI education and research institutions focused on local priorities.
- **Act as bridges for knowledge transfer.** Facilitate partnerships with global universities and embed applied AI into sectoral curricula.
- **Establish innovation hubs.** Create centres that bring together students, researchers, and the industry to collaborate on AI projects and build startups.

Private Sector and Technology Providers

- **Co-develop scalable AI solutions for priority sectors.** Partner with governments and research institutions to build AI tools tailored to local challenges in areas such as agriculture, health, and education - ensuring usability, impact, and long-term adoption.
- **Enable responsible AI deployment through shared infrastructure.** Offer cloud platforms, APIs, and tools that integrate with national data and compute systems, while aligning with government-led governance frameworks and audit protocols.

AI offers a once-in-a-generation opportunity for the Global South to leapfrog development barriers—but realising this promise will require more than innovation. It calls for deliberate system-building—shared infrastructure, clear governance, skilled institutions, and coordinated execution anchored in national priorities. The journey ahead is not just about scaling technology, but ensuring it delivers inclusive, trusted, and lasting impact. With aligned action and institutional resolve, countries can turn AI from a tool of experimentation into a driver of equitable progress.

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Notes

A series of horizontal dotted lines for writing notes.

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