Public AI in Singapore:

Towards a Singapore AI-lines

Executive Summary

Singapore has built one of the world's most comprehensive national AI ecosystems, spanning government agencies, research institutions, and industry partnerships. Through initiatives like the National Multimodal LLM Programme, the SEA-LION family of models, and AI governance frameworks like AI Verify, Singapore has positioned itself as a regional AI leader.

However, Singapore's current AI trajectory faces three critical risks. First, funding sustainability challenges threaten long-term development as national investments pale compared to major powers. Second, technological dependencies on foreign models from Meta and Google limit true AI sovereignty. Third, the scale gap between Singapore and superpowers creates an insurmountable competitive disadvantage in developing general-purpose foundation models.

Drawing lessons from aviation history, this report proposes a "Singapore AI-lines" model inspired by both Airbus's successful consortium approach and the success of Singapore Airlines that did not require manufacturing. The critical insight is that AI models, unlike aircraft, are infrastructure itself. While planes are commodified products that countries can purchase and integrate, foundational AI models encode fundamental assumptions about language, safety, and access that shape all downstream applications.

The proposed Singapore AI-lines framework involves three strategic pillars. First, Singapore would provide Southeast Asian infrastructure and alignment layers, leveraging existing initiatives to ensure models are multilingual and culturally relevant. Second, Singapore would lead on governance, benchmarking, and safety protocols, serving as a regulatory hub for public-purpose models. Third, Singapore would pool resources through modular, co-owned compute infrastructure, participating in collaborative model development rather than attempting sovereign solutions.

Singapore stands at a crossroads. The window for securing meaningful participation in foundational AI infrastructure is narrowing as capabilities advance rapidly and geopolitical tensions reshape technology landscapes. By embracing the Singapore AI-lines model, Singapore can ensure its voice remains influential in shaping the intelligent systems that will define the next generation of human progress.

Table of Contents

Chapter 1: Singapore's Public AI Ecosystem

Singapore's AI ecosystem is government-led but not government-only. Its development spans a loosely coordinated mix of public sector initiatives, research institutions, civil society, and industry. This chapter provides a landscape view of the key players, programmes, and platforms shaping AI in Singapore today.

We begin with the government-affiliated organizations that lead national AI strategy and implementation (Section 1.1). This is followed by a selection of notable AI projects that demonstrate how these strategies are being realised in practice (Section 1.2). We then turn to the role of universities in advancing research and talent (Section 1.3) and also the broader ecosystem of communities, non-profits, and industry collectives contributing to AI development (Section 1.4). Finally, we examine how Singapore positions itself globally through its hosting of major AI conferences and convenings (Section 1.5).

Together, these sections map the state of public AI in Singapore—not only in terms of infrastructure and policy, but also in terms of experimentation, collaboration, and ambition.

1.1 The Civil Service and Public Service

Singapore's approach to artificial intelligence is shaped by its broader philosophy of governance: centralised, pragmatic, and outcomes-oriented. Understanding how AI development is organised begins with the structure of the public sector responsible for its implementation.

Singapore's public sector consists of **16 ministries** and **65 statutory boards**. Ministries set national policy direction, while statutory boards translate policy into action. A "civil servant" refers to those working within the government ministries, while "public servant" is a broader term encompassing all individuals employed by the government including those in statutory boards. Statutory boards operate with greater independence and flexibility which may allow them to respond more quickly to the rapidly changing demands of the AI landscape.

Three ministries are particularly relevant to the development and deployment of AI in Singapore:
1. **Ministry of Trade and Industry (MTI**)
2. **Ministry of Digital Development and Information (MDDI)**
3. **Prime Minister's Office (PMO)**

The following sections will give a quick overview of each respective ministry and the statutory boards they oversee.

1.1.1 Ministry of Trade and Industry (MTI)

MTI is responsible for driving Singapore's economic growth and ensuring the nation remains globally competitive. It plays a critical role by anchoring AI as part of Singapore's broader economic transformation strategy. Under MTI, there are **nine statutory boards**. MTI provides policy leadership while working through a network of statutory boards and government departments that support AI research and industrial adoption. Of these, four are especially relevant to AI:

1. **Department of Statistics Singapore (DOS)** – *Department of MTI*

As the national statistical authority, DOS develops and maintains a robust data ecosystem through shaping [standards for data governance](#) and interoperability that could be seen as the upstream foundations of AI applications. The government as a whole adopts a ["decentralized statistical system"](#) where data is collected in different ministries and statutory boards, and later consolidated by DOS to facilitate secure but clean data sharing across and beyond the government.

2. **Singapore Economic Development Board (EDB)** – *Statutory Board*

As Singapore's lead agency for attracting investment, EDB supports AI adoption by building industrial capacity and global partnerships. According to [EDB's website](#), "Singapore is on a mission to be the world's most AI-powered economy", and its recent initiatives reflect that ambition. In 2024, [Amazon announced](#) it would spend S$12 billion in Singapore by 2028 to expand cloud infrastructure and AI capabilities, one of the largest single tech investments in the country's history.

3. **Enterprise Singapore (EnterpriseSG)** – *Statutory Board*

EnterpriseSG focuses on developing local enterprises and positioning them for global competitiveness. It supports SMEs and startups in adopting AI through capability-building programmes, funding schemes, and accelerator initiatives. In the recent Budget 2025, the government announced a [S$150 million Enterprise Compute Initiative](#) to help local firms access the advanced computing resources needed for AI adoption and experimentation.

4. **Agency for Science, Technology and Research (A∗STAR)** – *Statutory Board*

A∗STAR drives public sector R&D and plays a key role in building Singapore's AI research foundations. Its institutes contribute across the AI pipeline from applied research at the Institute for Infocomm Research (**I²R**), to compute infrastructure and simulation at the Institute of High Performance Computing (**IHPC**), to online trust and safety at the [Centre for Advanced Technologies in Online Safety](#) (**CATOS**), to foundational research at the Centre for Frontier AI Research (**CFAR**). In 2025, CFAR had [18 papers accepted at ICLR](#), underscoring Singapore's growing presence in global AI research.

1.1.2 Ministry of Digital Development and Information (MDDI)

MDDI was established in 2023 through the merger of the Smart Nation and Digital Government Group (SNDGG) and the digital functions of the Ministry of Communications and Information (MCI). The merger was aimed at streamlining Singapore's digital governance and accelerating national digitalisation efforts. MDDI oversees **two statutory boards** and **two key agencies**:

1. **Government Technology Agency (GovTech)** – *Statutory Board*

GovTech is the primary technology agency responsible for building and maintaining digital infrastructure and services across the Singapore government. In April 2025, it launched the responsible AI (RAI) playbook, a technical guide to translate RAI policy/principles into practice.

A notable unit within GovTech is Open Government Products (OGP), a semi-autonomous team known for its agile, product-driven approach. OGP develops experimental, user-focused tools. For instance, Pair is an AI-powered writing assistant designed to help civil servants draft clearer, faster content. OGP also contributes to national open data efforts through platforms like data.gov.sg, which support data sharing and experimentation across the ecosystem.

2. **Infocomm Media Development Authority (IMDA)** – *Statutory Board*

IMDA regulates and develops Singapore's digital infrastructure while enabling innovation across the tech and media sectors. It plays a key role in advancing trusted AI through initiatives like AI Verify, an open-source toolkit for testing AI systems against governance principles. In 2023, IMDA launched the AI Verify Foundation to drive global collaboration on AI testing standards. IMDA also contributes to international AI governance and safety through frameworks like the Model AI Governance Framework for Generative AI and hosting the inaugural Singapore AI Safety Red Teaming Challenge in November 2024. At a UN summit in September, they also launched an AI playbook for small states to shape inclusive global discourse on harnessing AI.

3. **Personal Data Protection Commission (PDPC)** – *Agency under MDDI*

The PDPC is Singapore's primary authority for data protection, established in 2013 to administer and enforce the Personal Data Protection Act (PDPA) 2012. The PDPA sets out baseline standards for personal data management, including mandatory appointment of Data Protection Officers (DPOs) in all organizations. To guide responsible AI use, the PDPC issued advisory guidelines in 2024 on the use of personal data in AI recommendation and decision systems, clarifying how PDPA obligations apply to AI-driven processes.

4. **Cyber Security Agency of Singapore (CSA)** – *Agency under MDDI*

The CSA is Singapore's national authority for cybersecurity, tasked with safeguarding the nation's digital infrastructure, including AI systems. In 2024, CSA released the *[Guidelines on Securing AI Systems](#) and an accompanying [Companion Guide](#)*, offering a lifecycle approach to AI security that addresses both traditional and emerging threats like adversarial machine learning. These guidelines were refined through a [public consultation](#) process involving industry stakeholders. To promote robust cybersecurity practices, CSA [expanded its *Cyber Trust* certification](#) in 2025 to encompass AI, cloud, and operational technology security, providing organizations with a framework to demonstrate their cybersecurity maturity.

1.1.3 Prime Minister's Office (PMO)

At the strategic level, Singapore's AI efforts are guided by the Prime Minister's Office (PMO), which oversees long-term national priorities. The PMO comprises several agencies and two statutory boards.

1. **National Research Foundation** – *Department of PMO*

NRF sets Singapore's research and innovation agenda, coordinating national R&D priorities across government, industry, and academia. It plays a foundational role in advancing AI by funding key initiatives and building national capabilities.

The **National Supercomputing Centre (NSCC)** was established by NRF in 2015 to manage Singapore's national high-performance computing (HPC) resources. In 2024, [NRF committed S$270 million](#) to enhance NSCC's infrastructure, including the launch of the ASPIRE 2A and 2A+ supercomputers, to support AI workloads and nurture HPC talent.

NRF also oversees **AI Singapore (AISG)**, the national AI programme office launched in 2017 and hosted at NUS. AISG drives applied AI through initiatives like the 100 Experiments programme and the AI Apprenticeship Programme. In 2024, AISG introduced [SEA-LION](#), Southeast Asia's first large language model family, trained on regional languages and data to support culturally relevant AI development.

2. **Smart Nation Group (SNG)** – *Part of PMO, Administered by MDDI*

SNG was established in 2023 through the [merger](#) of the Smart Nation and Digital Government Group (SNDGG) and the Ministry of Communications and Information's digital functions. SNG oversees the [National AI Office](#), which was established in 2019 to set the national AI agenda and catalyse efforts across research, industry, and government stakeholders. In December 2023, SNG launched the refreshed [National AI Strategy 2.0](#) (NAIS 2.0), aiming to position Singapore as a leader in AI by focusing on three key shifts: from opportunity to necessity, from local to global, and from projects to systems. In 2024, they also launched a [public sector AI playbook](#) in collaboration with Govtech.

1.2 Notable AI Projects

The previous section outlined how Singapore's AI infrastructure is organised across ministries and statutory boards. But public sector structure alone cannot explain how national strategies take shape on the ground. In practice, AI projects in Singapore often emerge from cross-agency collaborations that blend research, policy, and industry partnerships. This section highlights a selection of initiatives that illustrate Singapore's distinctive approach to public AI development.

1.2.1 National Multimodal LLM Programme (NMLP)

Launched in 2023 with a [S$70 million investment](#) from the NRF, the NMLP represents Singapore's most ambitious national AI effort to date. It brings together **IMDA**, **AISG** and **A*STAR** in a bid to develop Southeast Asia's (SEA) first sovereign LLM ecosystem.

[**SEA-LION**](#) (Southeast Asian Languages in One Network) is a family of open-source LLMs developed by AI Singapore, designed to cater to under-represented population groups and low-resource languages in the SEA region. The SEA-LION models have evolved through several versions.
1. SEA-LION v1 (Dec 2023): pre-trained from scratch
2. SEA-LION v2 (Sep 2024): continued pre-training (CPT) based off the open-sourced Llama 3 model from Meta
3. SEA-LION v3 (Dec 2024): CPT on open-source models from Meta (LLaMA 3.1) and Google (Gemma 2).
4. SEA-LION v3.5 (Apr 2025): first hybrid reasoning models based off additional series of supervised fine-tuning (SFT) atop the existing SEA-LION v3 across multiple stages, culminating in a final tune using 1.5M reasoning traces of data from Deepseek

SEA-LION currently supports multiple languages including Burmese, Chinese, English, Filipino, Indonesian, Javanese, Khmer, Lao, Malay, Sundanese, Tamil, Thai, and Vietnamese.

To assess the performance of LLMs in Southeast Asian contexts, AISG also developed [**SEA-HELM**](#), a comprehensive benchmark suite for SEA languages. It builds upon Stanford's Holistic Evaluation of Language Models (HELM) and includes both adapted global (english) tasks and newly created datasets like *LINDSEA* for linguistic diagnostics, and KALAHI, a Filipino cultural benchmark co-developed with community partners. SEA-HELM emphasizes authenticity and inclusivity, with native speakers and domain experts involved at every stage of dataset design and evaluation. It supports multiple SEA languages—including Filipino, Indonesian, Tamil, Thai, and Vietnamese—and features a [public leaderboard to promote transparency.](#)

NMLP extends beyond text-based models with **MERaLiON**, Singapore's first multimodal model. MERaLiON pairs OpenAI's Whisper-large-v2 as the audio encoder with SEA-LION v3 as the language decoder, enabling speech-to-text reasoning in Southeast Asian languages. Microsoft is working towards integrating MERaLiON into Microsoft 365 productivity suite and Copilot, signaling early commercial interest. This progress highlights NMLP's potential to not only advance public-sector AI infrastructure but also to position Singapore as a developer of practical, regionally relevant AI tools for global platforms.

Yet, the project has not been without controversy. In late 2024, a group of Singaporean writers objected to IMDA's use of their works in LLM training datasets, raising concerns about intellectual property and consent. These tensions highlight an ongoing challenge: how to balance national ambition with ethical and cultural legitimacy in building generative AI.

As a whole, while NMLP might be framed as a national or "sovereign" AI initiative led by Singapore, NMLP is not inward-looking. Its ambition lies in positioning Singapore as a regional hub for responsible, culturally relevant AI. This regional orientation is both strategic and ideological, reflecting Singapore's view that competitive AI ecosystems in SEA will require local languages, values, and governance approaches to be embedded at the foundation level.

1.2.2 National AI Strategy (NAIS)

Beyond foundational AI research, Singapore tries to ensure AI benefits society and the economy through the NAIS. **NAIS1.0 (2019)** marked Singapore's formal entry into the global AI arena where the government launched **five National AI Projects** across key sectors of high value and national relevance—such as freight planning, municipal services, chronic disease management, education, and border operations—to demonstrate how AI could address complex, cross-sectoral challenges. It also established the **National AI Office** under the SNDGG to coordinate efforts across research institutions, industry, and government agencies. A third pillar of the strategy involved **talent development**, with investments in AI education and training programs.

NAIS2.0 (2023) was a refreshed strategy to address evolving challenges and opportunities in the AI landscape and structured around three key shifts in thinking:
1. From Opportunity to Necessity: Recognizing AI as essential to national competitiveness
2. From Local to Global: Positioning Singapore as a leader in AI on the international stage.
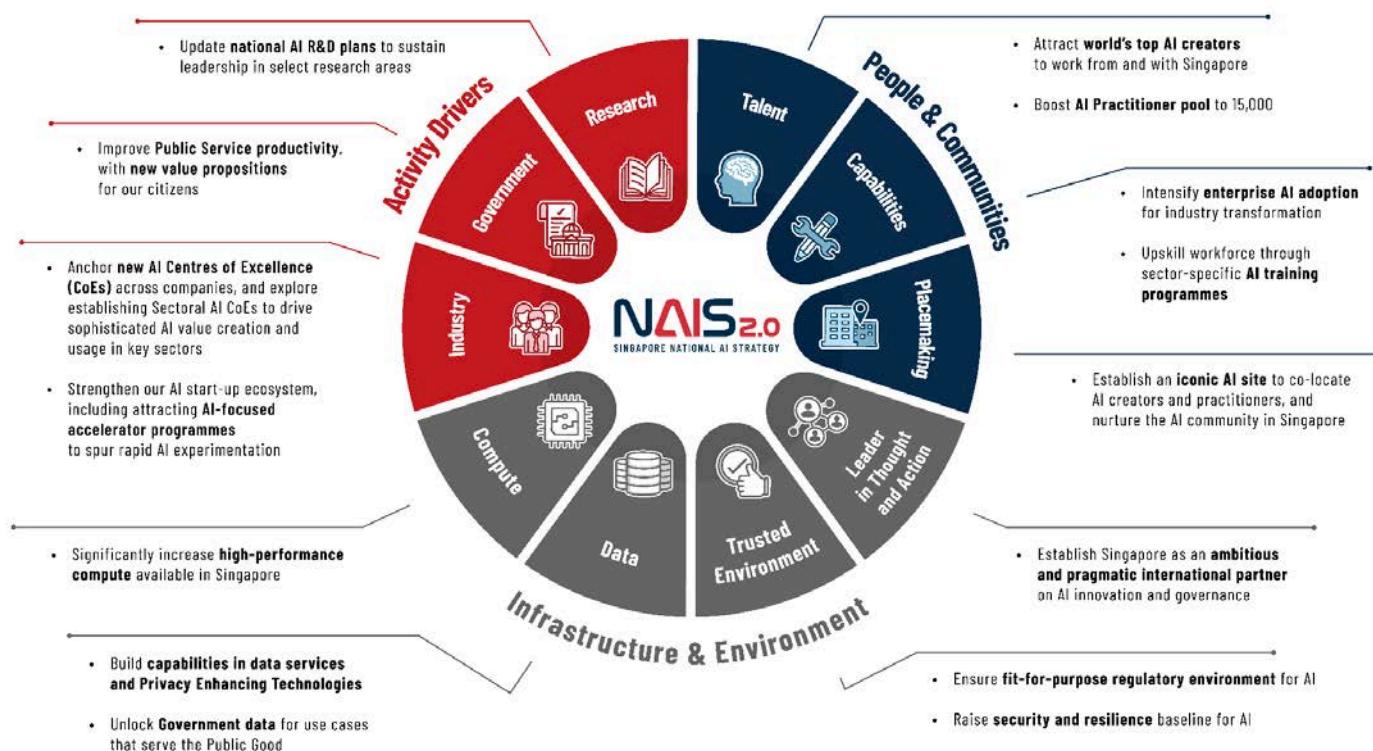3. From Projects to Systems: Transitioning from individual projects to integrated, system-wide adoption.

Fig 1. NAIS 2.0 Infographic (*file.go.gov.sg/infographic-nais2023.pdf*)

1.3 Universities: Research, Safety, and Talent Pipelines

Singapore's universities are pivotal in advancing the nation's AI ecosystem, not only by cultivating technical talent but also by spearheading research in critical areas such as AI safety, digital trust, and governance. With a compact yet highly international higher education system, Singapore has developed specialized nodes of AI research that significantly impact both national and regional AI strategies. These institutions also serve as key collaborators for government initiatives, industry partnerships, and open-source efforts.

1.3.1 National University of Singapore (NUS)

NUS houses the NUS AI Institute (NAII) which was launched in 2024 to "boost research for the public good". In 2025, they launched a new Bachelor of Computing in Artificial Intelligence and Acacia College, a new residential college dedicated to AI.

1.3.2 Nanyang Technological University (NTU)

NTU is home to the Digital Trust Centre (DTC) which was first setup in 2022 with an initial funding of S$50 million. In 2024, DTC was designated as **Singapore's AI Safety Institute**, becoming one of the first institutions in Asia dedicated to frontier AI safety. It conducts research on model interpretability, alignment, and systemic risk

1.3.3 Singapore University of Technology and Design (SUTD)

SUTD is home to the AI Mega Centre which does foundational and applied research and houses its own GPU clusters. In January 2025, SUTD announced a significant $50 million investment over the next few years to strategically reposition itself as a leader in human-centric AI, which they term "design AI". This investment will fund the development of a new in-house AI platform and support initiatives that integrate design, AI, and technology. This is a continuation of an undergraduate programme in design and AI which was launched back in 2020.

1.3.4 Singapore Institute of Technology (SIT)

SIT brings an applied, industry-facing perspective to AI education. In collaboration with NVIDIA, SIT launched its first Centre for AI in April 2024. This centre aims to bolster AI adoption across industries and develop an AI talent pipeline to contribute to Singapore's goal of tripling the number of AI practitioners within the next five years .

1.4 Communities, Non-Profits, and Industry Collectives

While Singapore's government has taken the lead in formal AI development, a vibrant layer of civic and industry-based organizations also shapes how AI is governed from the ground up. These groups—ranging from grassroots communities to industry bodies and think tanks—often work in the gaps left by the state: making technology more accessible, amplifying ethical debates, and convening cross-sector dialogue.

1.4.1 Lorong AI

Lorong AI is a co-working hub for AI practitioners in Singapore that is housed in a WeWork at Cross Street. It was launched by public servants in MDDI and GovTech and operates through a series of open workshops that brings the AI community in Singapore together. AI Toolsdays and AI Wednesdays are held biweekly and weekly respectively and are [open to the public](#).

1.4.2 Singapore Computer Society (SCS)

SDS was founded in 1967 and is one of the country's oldest and most established tech associations with over 50,000 members. SCS developed the [AI Ethics and Governance Body of Knowledge (BoK)](#) which provides an overview of AI governance issues and explores a risk-based approach to deploying AI. This was first launched in 2020 and subsequently updated in 2024. SCS also manages a [certification course on AI Ethics and Governance](#) with NTU.

1.4.3 Tech For Good Institute (TFGI)

Headquartered in Singapore, the Tech For Good Institute is a regional think tank focused on informing tech policy in SEA. In March 2025, they [launched their second edition](#) of a report on tech governance in SEA, covering AI governance in the, six major digital economies of the region (Indonesia, Malaysia, the Philippines, Singapore, Thailand, Vietnam collectively referred to as the SEA-6).

1.4.4 SGTech

SGTech is an industry association for technology companies, representing over 1,400 member organizations. While it spans the entire tech sector, its AI Chapter advocates for enterprise AI adoption, responsible AI, and data sharing frameworks.

1.4.5 Better.sg

Better.sg is a volunteer-run non-profit that brings technologists, designers, and civil society actors together to build digital tools for social good. Its mission is to "use tech to create a better Singapore," with AI increasingly becoming part of its toolkit.

1.5 AI Governance and Technical Conferences

Singapore has strategically positioned itself as a hub for global AI discourse by hosting major conferences that bring together researchers, policymakers, and industry leaders. These events serve multiple purposes: demonstrating Singapore's technical capabilities, shaping international AI governance norms, and strengthening the country's position in global AI networks. Three notable conferences illustrate this approach.

1.5.1 Singapore Conference on AI (SCAI)

SCAI has emerged as Singapore's flagship AI governance forum, organized by MDDI collaboration with the Topos Institute. The inaugural conference in December 2023 coincided with the launch of Singapore's NAIS 2.0 and brought together global leaders from government, industry, and academia to address pressing challenges in AI development and regulation.

What distinguished SCAI from other AI conferences was its unique collaborative methodology. Over three days, delegates engaged in a structured process designed to synthesize diverse expert perspectives, ultimately formulating **12 fundamental questions about AI**. These "SCAI Questions" were not merely discussion topics but intended as a comprehensive framework addressing foundational yet tractable areas of AI development and deployment. By positioning these conversations within a Southeast Asian context, SCAI offered regional perspectives often underrepresented in global AI discourse.

1.5.2 International Conference on Learning Representations (ICLR)

In April 2025, Singapore hosted ICLR, one of the world's premier technical conferences for deep learning research. This marked a significant achievement for Singapore's AI ecosystem, as ICLR typically rotates between North American and European venues. The government seized this opportunity by organizing Singapore AI Research Week to run in parallel with ICLR, maximizing the presence of international researchers.

1.5.3 Association for the Advancement of Artificial Intelligence (AAAI)

Singapore was selected as the host for AAAI-26 from January 20 to January 27, 2026 further solidifying its status in the global AI research community. AAAI is one of the oldest and most prestigious AI conferences, covering both theoretical advancements and practical applications. This will be the first time AAAI is held in SEA, demonstrating Singapore's growing influence in the field.

Chapter 2: Towards a Singapore AI-lines

The previous chapter mapped Singapore's public AI ecosystem, showcasing the government's ambitious vision and strategic investments across research, industry, and governance. This chapter examines the risks inherent in Singapore's current approach (section 2.1), gleans lessons from the aviation industry (section 2.2), proposes a collaborative "Singapore AI-lines" framework for international engagement (section 2.3), identifies key leaders who can drive this vision forward (section 2.4), and concludes with reflections on balancing ambition with pragmatism in Singapore's AI future (section 2.5).

2.1 Risks of Singapore's Current AI Trajectory

While Singapore has made impressive strides in developing its AI ecosystem, several structural limitations may constrain its long-term effectiveness and independence:

2.1.1 Funding Sustainability Challenges

Singapore's national LLMs from AI Singapore and A*STAR is funded primarily through the NRF, which must balance AI with other national priorities within constrained public budgets. Without a clear path to commercialization through widespread adoption and sustainable business models, this funding may prove insufficient for long-term development. The initial S$70 million investment in the NMLP, while substantial for Singapore, pales in comparison to the billions of revenue being generated by the global AI tech powers and being fed back to development.

2.1.2 Technological Dependencies on Foreign Models

Despite branding efforts like SEA-LION as a "sovereign" AI initiative, Singapore's national LLMs currently depend on underlying open-sourced models from Meta (Llama) and Google (Gemma). While there have been genuine innovations made that enable Singapore to fully exploit these models while avoiding some of the risks, there is still a long-tail risk that a fundamental dependency on foreign technology infrastructure limits Singapore's true AI sovereignty.

2.1.3 Risks in a Fragmented Global Order

The scale difference between Singapore's AI investments and those of major powers creates a nearly insurmountable competitive gap. While NRF allocates S$70 million to the NMLP, the United States has announced a [US$500 billion initiative](#) for "public AI" infrastructure — approximately 7,000 times more resources. This asymmetry extends beyond funding to data access, computational resources, and talent pools, making it unrealistic for Singapore to compete head-to-head in developing general-purpose foundation models.

2.2. Lessons from Aviation

2.2.1 The Case for an "Airbus for AI"

In the early 1970s, the global aviation market was dominated by two major American players, Boeing and McDonnell Douglas, who controlled 85% of the market. In response, several European countries launched Airbus, a state-backed consortium aimed at restoring industrial sovereignty and creating a viable alternative to U.S. dominance. At present, Airbus commands nearly 60% of the global market showing the viability of such a model.

In the realm of AI, a similar concentration as the aviation industry in the 1970s is evident. Leading AI models are predominantly American—such as GPT-4, Claude, Llama, Gemma, and Grok—or Chinese, like DeepSeek, Qwen, and Ernie. While Mistral, a French startup, initially appeared to offer a European alternative with its open-source models, its subsequent [$16 million investment from Microsoft](#) have raised concerns about its independence.

Would a consortium similar to Airbus, but for developing AI, work to decentralize AI dominance from the two global world powers? Given its track record in global diplomacy and digital governance, Singapore is well-positioned to evaluate and shape its strategic involvement in such an initiative. But should it participate—and if so, how? To answer that question, it helps to revisit another success story: Singapore Airlines (SIA).

2.2.2 The Singapore Airlines Model

Unlike Airbus, Singapore Airlines never built an aircraft. Instead, it became a category leader by focusing on international collaboration and shaping global infrastructure.

The [Open Skies Agreements (OSAs)](#) allowed Singapore Airlines to operate routes with minimal restrictions, access foreign markets, and build a global network far beyond what Singapore's domestic market could support. Singapore's strategic move was not isolation but active participation in shaping a cooperative, rules-based global order. The government aggressively pursued bilateral and multilateral OSAs from the 1970s onward, ensuring Singapore was embedded in international aviation systems. Without this cooperative framework, SIA's global expansion and its brand of excellence would have been severely constrained.

The lesson is clear: even a world-class national champion depends on collaboration. Success was not achieved despite international competition, but because of international cooperation. Having made impressive regional progress with initiatives like [Aquarium](#) to improve data access for SEA languages, and partners in Indonesia and Thailand building off SEA-LION to create the [Sahabat-AI](#) and [WangChan](#) LLMs, Singapore is attempting to repeat this playbook for AI.

While Singapore Airlines never built aircraft, Singapore still played a crucial role in shaping the infrastructure that made modern aviation possible. This distinction is key. Aircraft may have come from foreign manufacturers, but **Singapore helped shape the rules of the skies**, train the professionals who manage them, and ensure the systems were interoperable and safe. Through its work with the International Civil Aviation Organization (ICAO), its leadership in regional liberalisation, and its investments in air traffic control, safety protocols, and technical standards, Singapore had real influence over the architecture of aviation.

2.2.3 Planes Aren't Infrastructure. But Models Are

However, this raises the natural question: **if Singapore didn't need to build planes to lead in aviation, why should it be involved in an Airbus for AI to build new foundational models?**

The key difference lies in what the "infrastructure" of each industry actually is. In aviation, aircraft are modular and commodified. A country can purchase planes from Boeing or Airbus, integrate them into its operations, and still retain full sovereignty over flight routes, services, and safety protocols. Singapore Airlines thrived not by manufacturing aircraft, but by having a seat at shaping global infrastructure like Open Skies Agreements and standardized aviation systems.

But foundational AI models are not like commodified aircrafts. They are the most fundamental infrastructural components, akin to the standards shaping air traffic control systems. They shape what is possible downstream—not just how fast you go, but where you can go, what cargo you can carry, and who controls the gatekeeping mechanisms. Models encode assumptions about language, safety, alignment, and access. Even when open-source, they come with baked-in architectures, data biases, and capability constraints determined by the organizations that built them.

Singapore's current approach—building SEA-LION on top of foreign base models—has shown how much value can be added through smart adaptation. But this strategy still leaves Singapore downstream of critical upstream decisions. Technically, models can be swapped out. Strategically, the ability to shape how those models are designed, governed, and licensed remains concentrated elsewhere. It is the difference between flying the plane and shaping the airspace itself.

As AI becomes embedded in critical domains like law, education, finance, and healthcare, control over foundational model development increasingly resembles control over public utilities. Without a seat at the table where these models are built, Singapore's ability to ensure regional relevance, safety, and sovereignty will steadily erode.

Singapore Airlines had a voice in shaping global aviation infrastructure without manufacturing any aircrafts. However, Singapore AI-lines would only be able to achieve the same level of infrastructural influence if it becomes more involved in foundational model development.

2.3. How Could Singapore AI-lines Work with Airbus for AI?

Singapore cannot afford to be only an excellent operator of AI "airlines." Just as it helped shape global aviation frameworks to extend its reach far beyond its borders, it must now help build the foundational AI infrastructure that will underlie the next generation of global services. An Airbus for AI offers a shared pathway forward—allowing Singapore to co-develop, not just consume, the base infrastructure of intelligence.

To participate meaningfully in such a consortium, Singapore should not seek to go it alone or compete head-to-head with larger powers. Instead, it should play to its strengths: coalition building, infrastructure governance, and regionally relevant technical capacity. There are three practical ways in which a "Singapore AI-lines" could plug into an Airbus for AI initiative:

1. Provide Southeast Asian Infrastructure and Alignment Layers

Just as SIA offered world-class service on aircraft made elsewhere, Singapore can contribute the layers that make models safe, usable, and locally relevant. Through initiatives like SEA-LION, SEA-HELM, and Aquarium, Singapore is already developing alignment datasets, evaluation suites, and tooling tailored to Southeast Asian contexts. These can become a core regional layer within a broader Airbus for AI architecture—ensuring the models are multilingual, culturally attuned, and safe-by-default for a diverse user base.

2. Lead on Governance, Benchmarking, and Safety Protocols

Singapore's strengths in AI governance and digital trust position it well to shape the "airspace rules" for foundation models. The AI Verify Foundation, the Red Teaming Challenge, and regional leadership on small state AI governance all reflect deep institutional experience. In a collaborative Airbus for AI, Singapore could serve as a lead node for testing, auditing, and certifying public-purpose models—much like a regulatory hub that ensures safety and trust across jurisdictions.

3. Pool Resources Through Modular, Co-Owned Compute Infrastructure

Rather than overextending to build sovereign GPUs or full-stack model labs, Singapore could co-invest in shared compute nodes, research teams, and model checkpoints as part of a modular Airbus for AI effort. Similar to Airbus's distributed manufacturing across countries, foundational models could be trained collaboratively, with different states owning and governing distinct components. Singapore could take on responsibility for multilingual data curation, fine-tuning, and regional performance evaluation, ensuring its contributions are both distinctive and infrastructurally critical.

2.4 Potential Collaborators

This vision cannot be realized alone. It will require us to collaborate across government and industry. Below we profile three government leaders in AI who might be able to help us propel the global AI future towards genuinely serving public needs.

Dr. He Ruimin is Singapore's first Chief Artificial Intelligence Officer. He leads a multi-stakeholder effort in MDDI to implement Singapore's national AI strategy and coordinates AI policy across government. He holds both an engineering BS and a PhD in economics from MIT, reflecting his ability to bridge technical and economic perspectives. He sees Singapore's Smart Nation infrastructure as critical for AI growth and emphasizes enabling environments first. Internationally, he represents Singapore at the UN and ASEAN AI forums. His leadership ensures Singapore remains a trusted, influential partner in setting global AI norms and developing scalable public sector AI solutions.

Li Hongyi leads Open Government Products (OGP), Singapore's in-house tech lab driving rapid, open-source digital innovation across government. An MIT graduate and ex-Google PM, Li has pioneered a startup-style culture inside the public sector, delivering agile products like ParkingSG and FormSG that are now widely adopted. His open-source ethos aligns with building AI tools as regional public goods. Given his experience bridging tech and policy, and his drive to scale civic tech solutions internationally, Li is well-positioned to champion fast, citizen-centric AI deployments and cross-border collaboration.

Dr. Sun Sumei leads A∗STAR's Institute for Infocomm Research (I²R), advancing AI, communications, and sensing technologies. A prolific researcher with 300+ publications and 30+ industry-licensed patents, she blends technical excellence with practical impact. Dr. Sun has chaired national tech roadmaps and advocates for responsible, sustainable AI aligned with Southeast Asian needs. She fosters collaboration across academia, industry, and government, emphasizing that AI must prioritize societal benefit over hype. With her deep ecosystem ties and focus on foundational R&D, Dr. Sun is a key driver in building Singapore's robust, future-ready public AI infrastructure.

2.5 Conclusion

Singapore stands at a crossroads in its AI journey. While the nation has built an impressive ecosystem spanning government agencies, research institutions, and industry partnerships, the fundamental challenge remains: how to maintain relevance and influence in a field increasingly dominated by superpowers with vastly superior resources.

The aviation analogy offers a compelling path forward. Just as Singapore Airlines achieved global leadership without manufacturing aircraft, Singapore can become a major AI power without competing directly in the foundation model race. The key lies in recognizing that models, unlike planes, are infrastructure. This means Singapore must participate in shaping the foundational layer, not merely operate on top of it.

The proposed Singapore AI-lines model represents a strategic pivot from pure consumption to collaborative creation. By contributing Southeast Asian alignment layers, leading on governance frameworks, and pooling resources through international partnerships, Singapore can secure a seat at the table where the future of AI is being determined. This approach leverages Singapore's proven strengths in diplomacy, technical excellence, and institutional trust while acknowledging the reality of resource constraints.

The window for action is narrowing. As AI capabilities rapidly advance and geopolitical tensions reshape global technology landscapes, Singapore's current strategy of building on foreign foundations may prove increasingly precarious. The leaders profiled in this chapter possess the vision and capability to drive this transformation, but they will need sustained political support and international partnerships to succeed.

Singapore's AI future depends not on matching the scale of larger powers, but on crafting a distinctly Singaporean contribution to global AI infrastructure. By embracing collaboration over competition and governance over pure technical development, Singapore can ensure its voice remains heard in shaping the intelligent systems that will define the next generation of human progress. The question is not whether Singapore can afford to participate in an Airbus for AI, but whether it can afford not to.