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Indo–Japanese Collaboration on Artificial Intelligence

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1. Introduction

India's artificial intelligence (AI) ecosystem is experiencing rapid growth, driven by both an expanding talent pool and a strong governmental push for digital innovation. According to a NASSCOM report, the AI market in India is projected to reach US$ 17 billion by 2027, growing at a CAGR of over 25%. Recognising AI's transformative potential across sectors, the Government of India has taken active steps to position the country as a global hub for responsible and inclusive AI (Boston Consulting Group, 2024).

Policy initiatives such as the *National Strategy for Artificial Intelligence* by NITI Aayog, the *IndiaAI* Mission, and public investments in AI research centres underscore this ambition. In parallel, the Indian government has actively pursued global partnerships to scale innovation and build resilient AI infrastructure. A key example of this is the deepening AI cooperation between India and the US. This includes bilateral government frameworks. India and the US have initiated the Transforming Relationship Utilizing Strategic Technology (TRUST) initiative, which emphasises joint development and deployment of AI and other strategic technologies (White House, 2025). On the private sector front, companies like Microsoft and Google have significantly expanded their AI research and development operations in India. Microsoft, for instance, has launched AI skilling initiatives across Indian states, while Google has opened new AI labs in Bengaluru focusing on India-centric AI solutions.

While the US remains a key partner, India's foreign policy has consistently emphasised strategic autonomy and multilateralism. The ongoing and escalating

tariff war has reinforced this belief in New Delhi. In this context, partnerships with technologically advanced and like-minded nations such as Japan are both natural and necessary. Japan's leadership in areas such as robotics, semiconductor fabrication, and computing infrastructure positions it as a valuable partner for India's AI ambitions. Moreover, Japan's long-standing interest in Indo-Pacific collaboration and India's growing digital economy provide fertile ground for expanded bilateral cooperation in AI. The 15th Annual India–Japan Summit was a nod to this. During the two-day visit, Prime Minister Modi emphasised the importance of advanced cooperation in new and emerging technologies, including AI and semiconductors. At the same time, Japan pledged investments worth US$ 68 billion (Hindustan Times, 2025).

This paper aims to explore pathways for deepening Indo–Japan collaboration in AI. It begins by surveying the current state of India's AI ecosystem, including government policy frameworks, institutional support, and sectoral focus areas. Based on this analysis, the paper proposes two broad areas for collaboration. First, in the area of **supportive AI** infrastructure. Japan has demonstrated global leadership in high-performance computing, GPU technologies, and advanced electronics. Second, collaborating to enhance applications of AI in the healthcare sector. Building on NITI Aayog's identification of healthcare as a priority sector and Japanese expertise in this field, fruitful collaborations seem likely.

2. India's AI Ecosystem: Sectoral Overview and Strengths

India's artificial intelligence (AI) ecosystem is witnessing transformative growth, positioning the country as a significant player in the global AI race. With rapid digitalisation, a dynamic and increasingly tech-oriented startup base, and strong institutional support, AI is no longer confined to niche applications; it is steadily integrating into the mainstream economic and developmental activities. Sectors as varied as healthcare, agriculture, finance, and governance are seeing the early effects of AI-driven transformation, with growing expectations for both efficiency gains and enhanced service delivery.

At the heart of this momentum lies a fast-expanding domestic market that reflects not just demand for cutting-edge tools but a fundamental shift in how Indian businesses and institutions approach technology. The AI market in India is now characterised by ambitious growth projections, rising investment intentions, and a clear orientation toward applied, problem-solving innovation.

The following snapshot highlights key trends shaping India's AI market—ranging from projected market size and GDP contribution to adoption patterns across startups and enterprises. Together, these figures offer a macro-level view of where India stands in its AI journey and underscore the ecosystem's potential to act as a catalyst for inclusive economic growth.

Snapshot of the Indian Market

Figure 1: The AI Market in India

The domestic AI market is projected to reach US$ 17 billion by 2027.

Approximately 70% of Indian startups are integrating AI solutions into their products and services.

Impressive CAGR of 25–35%, according to *IndiaAI* and *Economic Times* estimates.

79% of Indian businesses plan to increase their AI investments within the next two years.

AI is anticipated to contribute approximately US$ 500 billion to India's GDP by the end of 2025.

Source: The Hindu Bureau (2025a, 2025b); The Economic Times (2025a, 2025b); BW Businessworld (n.d.); Sarkar (2024); The Indian Express (2023).

What sets India's trajectory apart is the scale and inclusiveness of adoption. While many advanced economies focus on high-end research or enterprise solutions, India's AI ecosystem is being shaped by grassroots-level innovation and commercial adaptability. The widespread adoption of AI among Indian startups and enterprises reflects a bottom-up momentum that is rare in emerging economies. While many countries focus AI efforts in large corporations or research institutions, India's diffusion across startup ecosystems and mid-sized firms signals a democratisation of AI usage. This openness enhances innovation and explains the rapid growth that is predicted for AI in India. Widespread adoption has lent the AI revolution in India an impressively fast pace and brings with it a great deal of opportunities.

Sector-Specific Trends

India's early sectoral experience with AI points to tangible benefits that go beyond productivity gains. In agriculture, AI-powered tools like precision farming sensors and weather prediction models are not only improving yields but also helping farmers make better-informed decisions on resource use, crop selection, and market timing. Such outcomes are crucial in a sector where margins are thin and risks are high, especially in the face of climate variability.

In healthcare, AI is enabling faster, lower-cost diagnostics and improving service delivery, particularly in under-resourced settings. Algorithms are being used to assist radiologists, screen for diseases such as tuberculosis and cancer, and enable telehealth platforms to triage patients. These applications are not meant to replace doctors but to augment clinical decision-making, thereby enhancing both the speed and quality of care. Similarly, in financial services, AI-driven fraud detection systems are helping firms respond to digital threats in real time, reducing risk and building customer trust in a sector that is rapidly digitising.

Figure 2: Sector Trends

Agriculture	AI-powered tools have resulted in a 20% increase in crop yields.
Healthcare	Data and AI in healthcare have the potential to add US$ 25–US$ 30 billion to India's GDP by 2025.
Finance	Financial services have benefited, with AI-based fraud detection systems preventing losses exceeding US$ 9 billion.

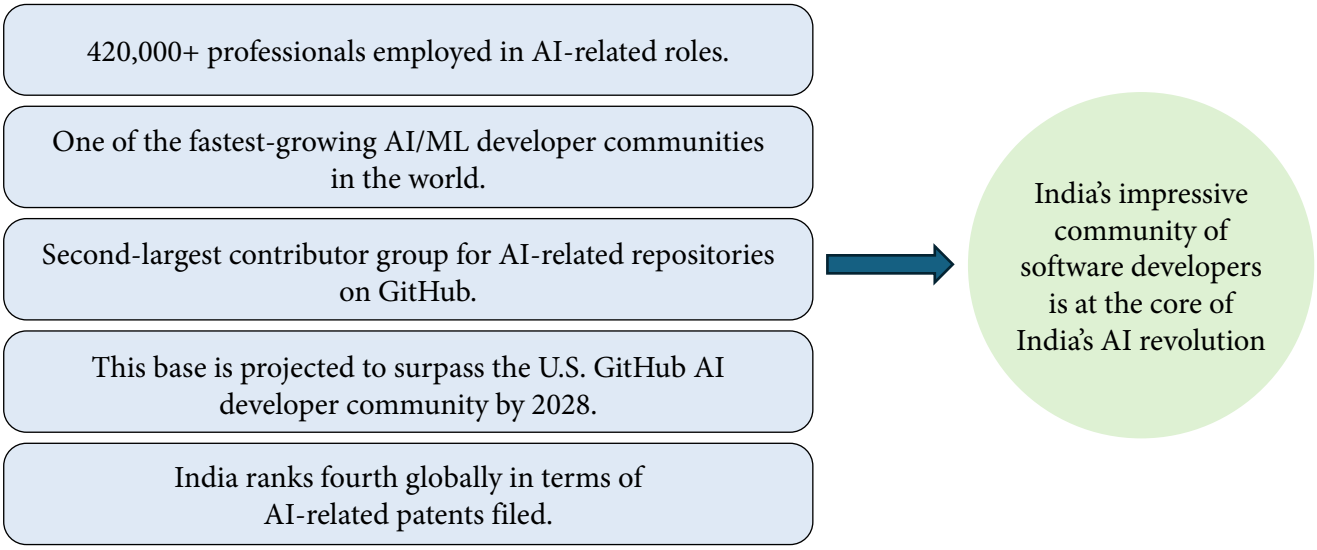
Source: TechSci Research (n.d.); NASSCOM (n.d.); Victoria (2025).

These trends collectively demonstrate that India is not just a consumer of AI solutions but an emerging site of AI-driven transformation across multiple layers of the economy. What distinguishes India's journey is the convergence of economic necessity, demographic advantage, and digital proficiency. India is tailoring AI adoption to its development priorities, especially in areas with significant social impact such as healthcare access, agricultural productivity, and financial inclusion. This focus underscores the dual role AI plays in India: a vehicle for innovation and a tool for development.

India's Key Strengths in the AI Landscape

However, the key question remains: is India well positioned to follow these early market trends and meet the lofty predictions for its AI industry? The answer is yes. India's rise in the AI domain is grounded in several unique strengths that reinforce its competitive edge globally.

Figure 3: India's Strength



Source: MarketBrew (2025); Press Information Bureau (2025a); NASSCOM (2020).

The quality and versatility of India's AI talent are recognised globally. This is evidenced by the increasing number of Global Capability Centres (GCCs) in India that are spearheading AI-driven solutions. Multinational companies such as Microsoft, Meta, Google, and TCS are leveraging their India-based R&D and engineering teams to develop proprietary AI products, train large language models (LLMs), and operationalise AI across functions such as supply chains, customer experience, and cybersecurity. These GCCs have moved beyond support roles to become core innovation hubs, contributing directly to global AI pipelines.

Importantly, the GCC model is no longer just about cost-arbitrage. India's AI talent pool is being tapped for strategic innovation, with engineers contributing to **LLM development, AI governance protocols, and embedded AI systems**. As Indian teams move up the value chain, India's position shifts from a back-end service provider to a **frontline innovator** in AI-driven transformation. Hence, as adoption deepens and policy frameworks mature, India is poised not only to expand its domestic capabilities but also to contribute meaningfully to the global AI landscape.

3. India's AI Push: Key Policies and Initiatives

India's AI policy has evolved steadily from broad strategic intent to detailed mission-driven action. Today, India is well positioned to become an AI hub and attract global collaborations.

Timeline

- **January 2018**
  AI for India Report Published by Ministry of Commerce.
- **June 2018**
  #AIForAll National Strategy Released by NITI Aayog.
- **May 30, 2020**
  Launch of National AI Portal *(INDIAai)* for AI updates, learning, and community engagement.
- **December 2023**
  India chaired and hosted GPAI, issuing the New Delhi Declaration on inclusive and ethical AI.
- **March 2024**
  Cabinet Approves *IndiaAI Mission* with a ₹10,372 crore budget to build national AI infrastructure, innovation centres, and domain models.
- **January 30, 2025**
  MeitY announced creation of the IndiaAI Safety Institute to oversee trustworthy AI R&D, based on Indian datasets and values.
- **January 2025**
  IT Minister announces India is building national foundational models with an 18,693-GPU facility, with 10-month deployment target.
- **February 2025**
  Union Budget allocates ₹500 crore to establish AI Centres of Excellence for healthcare, agriculture, education, sustainable cities, and expand AI research infrastructure.

NITI Aayog Priority Areas	
Healthcare	Education
Agriculture	Smart Cities

7 Pillars of IndiaAI Mission
Compute Capacity
Innovation Centre
Datasets Platform
Application Development Initiative
Future Skills
Startup Financing
Safe & Trusted AI

Source: ICRIER (n.d.); Sharma (2018); Press Information Bureau (2022, 2023, 2025a, 2025b); IndiaAI (2024); The Hindu Bureau (2025a, 2025b); The Economic Times (2025a, 2025b).

The country's initial entry into AI policymaking began with the publication of NITI Aayog's **National Strategy for Artificial Intelligence** in **June 2018**, titled **#AIforAll (Sharma, 2018)**. This document laid the conceptual foundation for national AI development, marking India's first comprehensive vision for using AI as a driver of social inclusion and economic growth. It identified **five high-impact sectors**—healthcare, agriculture, education, smart cities, and smart mobility—as priority areas, while also stressing the importance of ethical AI, data accessibility, and capacity-building.

The strategy was critical in framing the perception of AI in India as a **public good** and **development catalyst**. It advocated for responsible AI adoption and highlighted India's unique opportunity to leverage AI for inclusive growth, particularly given its demographic scale, diversity, and digital infrastructure. This early groundwork culminated in the formal

launch of the **IndiaAI Mission** in **March 2024**, approved by the **Union Cabinet** and spearheaded by the **Ministry of Electronics and Information Technology (MeitY) (Press Information Bureau, 2025b)**.

Public Investment and Resource Allocation in AI

India's strategic push in AI is backed by a steady scale-up of public investment across ministries and missions. This reflects a clear effort to build a self-reliant, integrated AI ecosystem. Instead of focusing only on high-end research or private-sector innovation, funding spans infrastructure, academic capacity, and applied R&D—ensuring broad-based and future-ready development.

The scaling-up of the IndiaAI Mission, along with parallel funding to Centres of Excellence and semiconductor research, signals a whole-of-government approach. Together, these initiatives aim to strengthen India's capabilities across the full AI value chain—from data, compute, and models to applications, talent, and regulation.

Therefore, what began as conceptual frameworks and strategic reports in 2018 is now materialising through clearly defined budget lines, national platforms (like AIRAWAT and INDIAai), governance bodies, and global engagement. This uptick in resource allocation demonstrates a clear commitment to building an AI-ready India not only through policy and vision statements but through sustained financial backing.

Moving forward, India's policy push must go beyond applications and instead focus on building the *entire ecosystem* that underpins compute capacity—ranging from semiconductor manufacturing to the supporting infrastructure around it. A strong focus on the full spectrum of activities that sustain chip building and large-scale compute will be central to unlocking and advancing India's AI ambitions. To build this holistic ecosystem, India needs to invest in chip fabrication, packaging and testing, supply of materials and equipment (including chemical and wafer suppliers), advanced cooling and thermal management (liquid cooling, ultra-pure water, efficient HVAC), and power and network infrastructure. For India, scaling up these capabilities will be essential not only to serve AI-heavy workloads but also to ensure supply chain sovereignty, cost-efficiency, and innovation in design and manufacturing over the next decade.

4. Building India's AI Ecosystem: Seeking Global Collaboration

India has made impressive strides in artificial intelligence (AI) over the past few years. However, meeting the ambitious goals outlined in initiatives like the IndiaAI Mission—ranging from building foundational models and expanding compute infrastructure to establishing AI innovation centres—requires support that goes beyond national borders. In particular, international collaboration is not just desirable but essential. Partnerships with like-minded countries like the US and Japan offer complementary strengths that can accelerate India's ability to compete globally on the AI frontier.

Table 1: Public Resource Allocation to AI Development in India (in ₹ crore)

Initiative/Mission	2022–2023	2023–2024	2024–2025	Concerned Ministry
IndiaAI Mission	0	173	2000	Ministry of Electronics and Information Technology (MeitY)
Centres of Excellence (CoEs) in Artificial Intelligence	16	110	200	Department of Higher Education
R&D in IT, Electronics, Components and Critical Building Technologies **(CCBT)**	877.09	1183.56	1249.75	Ministry of Electronics and Information Technology (MeitY)
National Mission on Interdisciplinary Cyber Physical Systems (NM-ICPS)	435	815	900	Department of Science and Technology (DST)

Source: Francis et al., 2025.

India–US Collaboration

The US–India TRUST Initiative, formerly known as the Initiative on Critical and Emerging Technology (iCET), provides a structured framework for joint action in AI, semiconductors, quantum computing, advanced telecommunications, and biotechnology. Under TRUST, both sides have placed an enhanced importance on AI, committing to work with the private industry to put forward a "US–India Roadmap on Accelerating AI Infrastructure" by the end of 2025.

Parallel initiatives, including the US–India Artificial Intelligence (USIAI) initiative, (Indo-U.S. Science and Technology Forum, n.d.) have elevated academic and industrial collaboration, especially on model development and workforce training (Department of Science & Technology, n.d.). These collaborations have enabled India to engage with advanced AI research, benefit from US-developed frameworks, and build the foundations for responsible AI governance.

Table 2: India-US Collaboration

	Initiatives	Focus Area
Government Supported Frameworks	• *Initiative on Critical and Emerging Technology (iCET)* →	*AI research, standards, and product development*
	• *US–India Artificial Intelligence (USIAI) Initiative* →	*R&D collaboration and developing an Al workforce*

	Initiatives	Focus Area
Private Sector Initiatives	• *Microsoft and Forus Health* →	*AI-enabled healthcare, diabetic retinopathy.*
	• *Google and Saahas Zero Waste* →	*AI-enabled waste management solutions, circular economy.*

Source: NITI Aayog (2018).

While India is partnering with the US in big ways to advance its local AI ecosystem, the partnership is not free of hurdles. The reliance of the US on Chinese hardware and imports to support its own AI ecosystem leaves the partnership open to supply chain disruptions. In this regard, a more robust partnership with Japan which focuses on computing hardware will be central to cushioning against such shocks (HT Business Desk, 2025).

China aims to triple its AI chip production in 2026 to reduce reliance on Nvidia. Huawei plans to start production at a dedicated AI chip plant by the end of this year, with two additional facilities expected to open in 2026. Combined, these three potential plants could exceed the production capacity of China's top chipmaker, Semiconductor Manufacturing International Corporation (SMIC). SMIC intends to double its manufacturing capacity for 7-nanometer chips next year, with Huawei as its largest customer.

Huawei, which is sanctioned by the US, is taking a leading role in enabling China's AI ambitions without using American technology. Huawei Technologies has unveiled new hardware, it claims can deliver world-class computing power without relying on Nvidia's advanced chips—a move that could ease China's supply constraints in artificial intelligence. Huawei is seeking to build a "supernode + cluster" computing solution using chip manufacturing processes available in China to meet the growing compute needs. A supernode is a high-performance cluster that combines multiple AI accelerators through ultra-fast interconnects. Huawei also introduced the Atlas 950 SuperCluster and Atlas 960 SuperCluster, which can scale to 500,000–1 million processors, making them the "largest AI compute clusters" globally.

Huawei unveiled the Atlas 950 SuperPoD and Atlas 960 SuperPoD, capable of supporting up to 8,192 and 15,488 in-house Ascend processors, respectively. The company claims these systems lead the world in processor count, total computing power, memory capacity, and interconnect bandwidth. (CEO Insights Asia Team, 2025).

Turbulent Times for Indo–US Collaboration

Despite important strides in advancing AI partnerships, recent developments, such as the Trump administration's tariff measures and the resulting strain in bilateral ties, have underscored the risks of over-reliance on a single partner (NITI Aayog, 2018). For India, this serves as a reminder that sustaining its technological growth and strategic autonomy requires diversifying partnerships, particularly in areas like semiconductors, artificial intelligence, and critical digital infrastructure (Sharma, 2025). Japan emerges as a natural partner in this regard—not only because it produces much of the advanced machinery and infrastructure that even the US depends on, but also because of its track record as a reliable, like-minded power.

Scope for Indo–Japanese Collaboration

Japan emerges as a strategic and complementary partner. Its strengths lie in areas where India currently faces capability gaps—semiconductor equipment manufacturing, AI-grade computing infrastructure, and robotics. Japan's Artificial Intelligence Bridging Cloud Infrastructure (ABCI), developed by National Institute of Advanced Industrial Science and Technology (AIST), is among the most powerful public-sector supercomputers globally, supporting open AI research with low energy use and exascale processing (Harris, 2024). Companies like Tokyo Electron Limited (TEL) and Renesas Electronics are central to the global semiconductor supply chain, producing fabrication equipment and system-on-chip solutions used in AI servers worldwide.

Even US companies lean on Japanese innovation to sustain their AI infrastructure. Recently, NVIDIA has partnered with Japan's Nidec Corporation for advanced cooling systems essential to high-performance GPU operations. Another initiative—Innovative Optical and Wireless Networks (IOWN®),[1] led by NTT and supported by partners such as Nvidia and Intel—promises to be the future of computing infrastructure. The initiative integrates photonic–electronic convergence devices across networks, data centres, and eventually within chips themselves. This transition not only reduces latency and carbon emissions but also enables more distributed, renewable-powered infrastructure. As a result, IOWN® has the potential to revolutionise compute capacity and drive the next wave of innovation across industries, from AI to advanced manufacturing.

These partnerships underscore Japan's role in backend infrastructure, reinforcing its centrality to global AI supply chains. As India continues to grow its compute capacity and AI ecosystem, Japanese collaboration will become imperative. Furthermore, a robust bilateral partnership between two Quad members in these areas would also help meet shared security objectives. This partnership also leaves open the possibility of evolving into a deeper **trilateral framework with the US** in the future.

5. Existing Collaboration Between India and Japan

In recent years, Japan—long respected for its precision technology and robotics—has emerged as a significant player in artificial intelligence, bringing ethical AI, automation, and deep learning expertise to India's startup ecosystem. Collaborations have expanded across sectors such as health tech, agritech, fintech, and logistics, where Japanese innovation is paired with India's vast and diverse datasets to create localised, high-impact AI solutions. Examples include predictive analytics for rural agriculture, automated diagnostics in tier-2 healthcare, and AI-powered tools for smart manufacturing and IoT.

Partnerships between Japanese companies, Indian incubators, and venture capital firms have gone beyond funding to include joint product development, mentorship, and research exchange. Japan's advanced hardware ecosystem—encompassing sensors, robotics, and embedded systems—complements India's AI software capabilities, enabling end-to-end innovation. Academic collaborations between Japanese universities and Indian institutes are also gaining momentum, translating cutting-edge research into market-ready applications.

The initial wave of startup funding and collaborative AI projects has laid a strong foundation for India–Japan technological engagement. The next step is to build on this base by creating opportunities for deeper, more meaningful collaboration—from long-term R&D partnerships and large-scale pilot projects to integrated policy frameworks that encourage joint innovation. Japanese firms are already

[1] "IOWN®" is a trademark or a registered trademark of NTT.

entering India's hardware and infrastructure space, not just as suppliers but as co-builders, and such investments will be critical to meeting the projected energy and hardware demand for AI compute clusters under the IndiaAI Mission. This sets the stage for a partnership that can scale in both scope and impact. This section highlights a few case studies of existing collaborations between India and Japan which are critical in India's journey of building a robust Artificial Intelligence ecosystem.

- Prime Minister Narendra Modi and Japanese Prime Minister Shigeru Ishiba held the 15th Annual India–Japan Summit in Tokyo, 29–30 August 2025.
- Japan pledged US$ 68 billion in private-sector investments in India over the next decade, focusing on infrastructure, digital, and technology sectors.
- Both sides agreed to strengthen semiconductor supply chains, expand collaboration in AI, space (joint lunar mission), and clean energy (hydrogen/ammonia).
- PM Modi visited a state-of-the-art data centre in Sendai. He was briefed about Tokyo Electron Limited (TEL)'s role in the global semiconductor value chain, its advanced manufacturing capabilities and its ongoing and planned collaborations with India.
- Plans to expand student exchanges, language programmes, and skilled workforce development, including a new Indian Consulate in Fukuoka.

Case Studies

Case Study 1: Semiconductor Materials/Equipment

TOKYO ELECTRON TATA ELECTRONICS

Tokyo Electron and TATA Electronics

- Tata Electronics and Tokyo Electron Limited (TEL) signed an MoU on September **10, 2024**.
- TEL will supply and deploy fabrication and packaging equipment for Tata's semiconductor facilities.
- Tata is investing **₹91,000 crore** in the semiconductor **fab in Dholera, Gujarat**, expected to start production by the **end of 2026.**
- The chips produced will have diverse applications, including power management ICs, display drivers, microcontrollers (MCUs), and high-performance computing logic, catering to growing demand in sectors such as wireless communication, artificial intelligence, automotive, computing, and data storage. (ETManufacturing Desk, 2025).
- Tata is also setting up a **₹27,000 crore ATS (Assembly, Testing, and Packaging) facility** in **Jagiroad, Assam (Kumar, 2025).**
- The collaboration gives Tata access to critical front-end (wafer processing) and back-end (chip packaging/testing) tools.
- TEL's technology will help ensure Tata's operations meet global manufacturing standards.
- This is a major step toward building a complete **semiconductor value chain in India**.

Source: The Times of India (2025); ETGovernment (2025).

Case Study 2: AI Data Centre

NTT, Neysa and Telangana Government

- NTT DATA (Japan), Neysa (Tokyo), and the Government of Telangana signed a **tripartite MoU** in **April 2025** to establish an **AI Data Centre Cluster** in **Hyderabad, Telangana.**
- The project involves an **investment of ₹10,500 crore (~US$ 1.25 billion).**
- The facility will have a **total capacity of 400 MW** of data centre infrastructure. It will host **up to 25,000 GPUs**, making it **India's largest AI compute facility.**
- The cluster supports **AI model training, inference, and enterprise AI workloads** across sectors.
- **NTT DATA** will lead infrastructure development, leveraging its global expertise in data centres. **Neysa** will provide a **cloud-native, modular AI acceleration platform** with GPU-as-a-Service. The **Telangana Government** will offer policy support, infrastructure access, and single-window clearances.
- The facility will feature **liquid immersion cooling** and aim for **500 MW total energy availability** using renewable and grid power.

Source: ETGovernment (2025).

Case Study 3: AI Applications in Healthcare

Qure.ai and Fujifilm

- **Qure.ai (India)** and **Fujifilm Japan** announced their partnership in **May 2021**. The collaboration integrates **Qure.ai's qXR** AI software with **Fujifilm's FDR Xair portable X-ray system.**
- The system uses the **EX-Mobile Expansion Unit** to enable **on-device AI processing.**
- The AI interprets **chest X-rays** to detect **tuberculosis, pneumonia, and other lung abnormalities.**
- Diagnoses are provided **in real-time** without the need for internet connectivity. The solution is designed for **point-of-care use in remote and low-resource settings**.
- Combines **Japanese imaging hardware** with **Indian AI innovation** for accessible healthcare.

Source: ETHealthworld (2021).

6. Avenues for Future Collaboration

India and Japan stand at a pivotal moment to deepen cooperation in artificial intelligence. Japan's strengths in semiconductors, data centres, high-performance computing, and robotics align well with India's focus on scaling compute capacity and real-world AI applications. The IndiaAI Mission provides a clear framework for structuring this collaboration across key pillars. The following table provides an overview of possible collaboration areas under three key pillars based on Japanese expertise and key players.

Table 3: India-Japan Collaboration

India AI Mission Pillar	Japanese Offerings	Japanese Players and their Strengths
Compute Capacity	Cutting-edge semiconductors	**Rapidus:** Developing 2nm AI chips. **Kioxia:** High-bandwidth memory (HBM).
	Semiconductor materials and equipment	**Tokyo Electron:** Semiconductor equipment manufacturer. **Disco:** Dicing saws and grinding machines. **Sumco:** Top manufacturer of silicon wafers globally.
Innovation Centre	Super computing	**Fujitsu:** Developing supercomputing in Japan and already operates a GCC in India.
	Data centre	**NTT Data:** Developing and operating AI workload tailored data centre in India.
	Data centre equipment	**Mitsubishi Electric, Daikin**: Provide advanced cooling system and energy-efficient technologies essential for high performance AI data centres. **Mitsubishi Electric, Fuji electric**: Provide power supply & distribution equipment such as inverters, UPSs, PDUs. **Sumitomo Electric, Hitachi Energy**: HVDC cable and system which are required for large-scale data centre infrastructure.
Application Development Initiative	Robotics	**FANUC**, **Kawasaki Heavy Industries**, **Honda**.

Source: Authors' compilation.

7. Conclusion

India's ambition to become a global hub for artificial intelligence is underpinned by strong domestic initiatives such as the IndiaAI Mission, expansion of compute capacity, and targeted sectoral programmes. Yet, achieving scale and resilience requires tapping into global strengths, particularly in areas where India faces structural gaps. Japan emerges as a natural partner in this effort, with expertise in semiconductors, high-performance computing, data centres, and robotics complements India's needs.

The complementarity between the two nations is clear: Japan anchors the hardware and infrastructure side of AI, while India contributes technical talent and diverse real-world applications. Together, they can build end-to-end AI ecosystems that are both technologically advanced and socially relevant. Importantly, at a time when heavy reliance on a single partner, such as the US, has exposed vulnerabilities to geopolitical shifts and trade disputes, diversification through Japan provides both strategic resilience and technological depth.

Early collaborations already demonstrate this potential. Japanese firms are partnering with Indian counterparts in semiconductor equipment, AI data centres, and healthcare applications. However, India–Japan collaboration in AI has so far been fuelled primarily by private sector investments and venture capital inflows, creating proofs-of-concept and

fostering cross-border synergies. While this early momentum is encouraging, sustaining and scaling it into a meaningful long-term partnership requires stronger government involvement. Public sector engagement can institutionalise collaboration, ensure alignment with national priorities, and extend the partnership beyond isolated projects into a strategic pillar of bilateral cooperation. This is especially critical in areas where AI functions as a public good—such as smart cities, agriculture, healthcare, and education—where private incentives alone may be insufficient. In contrast, enterprise-focused applications can continue to thrive on private partnerships, startups, and corporate innovation.

India's ambition to become a global hub for artificial intelligence is anchored in domestic initiatives such as the IndiaAI Mission, expanded compute capacity, and targeted sectoral programmes. Yet, achieving resilience and scale will require leveraging global strengths. Here, Japan is a natural partner. Its expertise in semiconductors, high-performance computing, data centres, and robotics complements India's assets—technical talent, rich datasets, and diverse real-world applications. Together, the two countries can build end-to-end AI ecosystems that are both technologically advanced and socially relevant, while also reducing India's overdependence on a single partner and adding strategic resilience.

In the recent India–Japan summit, Japan is expected to unveil a plan committing to an approximately **US$ 68 billion private-sector investment** in India over the next decade, targeting AI, semiconductors, clean energy, and talent exchange (Outlook Business, 2025). Furthermore, a separate AI Cooperation Initiative is expected to promote research partnerships, talent exchanges, and startup collaboration in artificial intelligence technologies. A "Digital Partnership 2.0" element would extend cooperation beyond manufacturing into semiconductors, AI, and other deep-tech fields.

Building upward from here will depend on proactive policy design, enabling frameworks for public–private partnerships, and deliberate government action to channel AI towards inclusive and strategic goals. Japan's contributions can be especially transformative in three pillars of the IndiaAI Mission: **Compute Capacity, Innovation Centres, and Application Development Initiatives.** Furthermore, academic and startup linkages should be leveraged to foster innovation flows in both directions.

Beyond technology, the partnership carries geopolitical weight. Both India and Japan share a commitment to open, secure, and responsible AI development. By aligning strengths across infrastructure, innovation, and governance, they can co-create resilient AI ecosystems that advance domestic priorities while shaping global standards. In essence, deepening India–Japan AI collaboration offers not just an economic opportunity but a strategic imperative.

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