

India's AI Future(s)

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Summary

India's artificial intelligence approach must adapt to new geoeconomic realities that have seen power concentrated among a few companies and countries.

There is palpable awareness of the benefits and dangers of artificial intelligence (AI). Choices and tradeoffs exist for governments on how they would like to regulate and leverage AI to advance national interests. The Indian government also faces these choices. Historically, India's AI efforts have focused on government initiatives that seek to use the technology to advance development priorities. That approach and model appear untenable and inadequate in a world where private AI companies like Open AI and Microsoft are spearheading innovation around the technology giving themselves and their countries, especially the United States, immense power.

In 2018, India introduced its official AI policy and strategy. Titled [AI for All](#), the approach emphasised developing sophisticated machine learning capabilities to achieve development objectives in areas like healthcare, education, agriculture, smart cities and transportation. The hope and plan were to preserve and develop high-quality data sets to support research and innovation in these areas with little thought going into establishing rules and norms that dictate how the data was used and applied. That policy, however, came in 2021 when the National Institution for Transforming India Aayog drafted Principles for Responsible AI that would serve as the roadmap to create an ethical and responsible AI system in India. That policy outlined several principles that AI systems would have to incorporate before use. Discussions around AI regulation have also been woven around the draft Digital India Act 2023, an umbrella legislation that covers digital economy issues like cybercrime, data, online safety and intermediary regulation. This law should ostensibly cover AI, providing rules and guardrails on how to deploy AI through various applications.

This state-led and managed approach has to adapt and evolve given the epochal shifts occurring globally with respect to AI. Until 2014, most significant AI and machine learning techniques were developed by research networks in academia. That has fundamentally changed with industry and private sector firms like Open AI surging ahead. In 2023, there were nearly [23 private sector machine learning models](#), compared to just three produced by academic outfits. AI innovation increasingly requires large amounts of data, massive computing power and fiscal resources that most governments lack and private firms generally possess. Global AI investment was [US\\$92 billion \(S\\$122.3 billion\) in 2022, up from US\\$66 billion \(S\\$87.8 billion\) in 2021](#), with the proportion of firms deploying AI rapidly proliferating. AI is also being applied across the economy; in 2022, AI models were used to support initiatives in areas like green hydrogen and hydrogen fusion, generating new antibodies in public health research and exponentially improving software development.

In this fluid context, India confronts a dilemma when it comes to AI regulation. New Delhi has moved between adopting a light touch approach on AI and an interventionist one through initiatives intended to leverage AI for development purposes. The soft touch approach was ostensibly necessary to emphasise and drive innovation. The need to come with some principles is driven by the imperative to mitigate AI-centric risks, notably job displacement. Particularly concerning for India, given its vaunted information technology (IT) services industry, is the effects of AI on software and coding related occupations.

Yet, it is also for this very reason that India should adopt a relatively light approach that prioritises innovation. Now, India lacks the digital and research infrastructure for AI model development but it has a deep reservoir and pool of scientific and engineering talent and a growing consumer base. If these advantages can be leveraged, India could be at the forefront of cutting-edge AI applications that prudently use its IT sector and thriving digital economy. Another reason to adopt a light touch approach is to align ongoing efforts with the United States (US) that is driving the global AI innovation race. With the US-India Critical Initiative for Emerging Technologies (ICET), technology sits at the heart of the bilateral relationship with a heavy focus on AI. While the US has the capital and innovative potential to drive AI adoption and absorption, India has the people or talent, the scientists, engineers, and technologists to support US and Indo-US AI initiatives.

Undoubtedly, the US can support India's AI development, particularly through joint training and research initiatives, possibly through the newly established ICET. Moreover, this partnership assists India's efforts with the passage of the 2023 Digital Personal Data Protection Act that ensures copious amounts of data will be available for domestic firms to develop AI applications and services. That said, India must make concerted investments to improve domestic AI capabilities or what the government has referred to as '[sovereign AI](#)'. New Delhi has to expand and develop its AI compute infrastructure, and software and hardware aspects required to power AI applications.

Globally, AI regulation is accelerating with the European Union, China and the US competing to dominate AI development and markets. India has to position itself relative to where these approaches are but also by assessing where its strengths and advantages lie. Given the astonishing pace of AI innovation, this process and approach cannot wait long.

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